THE ROLE OF THE SMALL SCALE SUPPLIERS WITHIN THE DYNAMICS OF THE TURKISH AUTOMOTIVE INDUSTRY / A HISTORICAL PERSPECTIVE

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ABSTRACT

The objective of this study is to explore into the likely impact of subcontracting on the small scale/informal industries that are incorporated into the production process as suppliers of a decentralizing large scale industry. The topic has been widely debated in the literature, different schools of thought presenting quite contrasting perspectives. In this study, we examine the problematique within the context of the Turkish automotive industry, with an approach that highlights the factors that influenced the trajectory of the small suppliers, over the course of years. The emphasis is on the changes in the organizational rationale of the final-assemblers in the industry, as determined by the changes in the macro economic/regulatory conditions in the country.

The study finds that the Turkish case does not typically fit into the ideal and, sometimes, opposing frameworks presented by the leading three perspectives in the literature. By way of an analysis of the way production is organized by the assemblers, the nature of assembler-supplier relationships, the actual trajectory of the small suppliers examined, and the formal/informal dichotomy, the study focuses, instead, on how the seemingly opposing phenomena/characteristics may not always be mutually exclusive, but may exist side by side within the same entity, or as distinct components of the same process.

Within this general background, the study demonstrates that the trajectory of the small suppliers is neither characterized by absolute dynamism and progress, nor stagnation and destitution. It is rather a story of a transition from informality to formally recognized "small industry" status, though there are still drawbacks and constraints. The study concludes with policy proposals oriented to enhance the prospects of the small firms, and prepare a better future for this sector.

Thesis Supervisor: Lance Taylor
Professor of Economics
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CHAPTER I: THE ROLE OF THE SMALL SCALE SUBCONTRACTORS WITHIN THE PROCESS OF PRODUCTIVE DECENTRALIZATION: AN OVERVIEW

I. Introduction

What happens to small-scale/informal industries that are incorporated into the production process as subcontractors of a decentralizing large scale industry? Will they be better-off or worse? During the 1980s, as a result of an increased trend towards decentralization of production, worldwide, this problematique has been among the major focuses in the literature, leading to quite intense and highly challenging debate among the scholars. Indeed, there exist different schools of thought or different perspectives in the literature, whose studies have come up with quite contrasting results as to the likely impact of decentralization of production on the small scale/informal subcontractors. While some scholars are in the opinion that subcontracting is detrimental to the independent, innovative growth of the small subcontractor industries, others argue that it is not always so, but quite the contrary. Where does the answer lie? What should we expect? It is this very topic that we will try to examine, in this volume, by looking at the problematique within the context of the automotive industry in Turkey.
In drawing a framework as to how to approach the topic and come out with viable results based on a viable and comprehensive methodology, we referred primarily to three leading perspectives in the literature whose works encompass explanations regarding productive decentralization and the role of the small suppliers within the process. The first is the "lean-production" literature which examines the problematique within primarily the context of the automotive industry; the second is the "flexible-specialization" literature which presents a more general perspective and represents a pronounced optimistic outlook drawing attention to cases where dynamic and collaborative relationships exist between large units and small subcontractors; and the third is the "informal-sector" literature which examines the problematique within the context of the developing countries and represents a rather pessimistic outlook drawing attention to cases where exploitation is the major feature of the relationships between "formal" and "informal" industries. Although the first two of these perspectives are highly complementary and similar, the lean-production literature presents the rhetoric of the automotive industry, exclusively, whereas the flexible-specialization literature gives a more general picture by looking at the trends in the world economy as they influence the industries/industrial structures of different country contexts. As we will elaborate in this chapter, our attitude was to be as
objective and prejudice-free as possible and try to learn from each one of these leading perspectives in the literature, rather than refute or support any one of them.

An examination of the works of scholars along these lines led us to the conclusion that although case-studies conducted by different scholars might have yielded contrasting results, they are not necessarily mutually exclusive. In some cases, different conclusions are arrived at partly because the scholars choose to emphasize certain aspects of the phenomenon—which are quite true—at the cost of partial or overall neglect of others, and hence present correct but incomplete deductions/explanations. More important than that, however, an examination of the literature reveals that we should not in fact expect one unique/universal answer to the problematique. There simply does not exist a general predetermined formula such as subcontracting is/is not detrimental to the productive growth of the small scale/informal industries. Rather, the outcome—as some case studies also show—is dependent on a number of factors, and as these factors may change from one setting to another (in terms of the specific country, industry and the time period under examination), so do their outcome. Hence, the path of development or the fate of the small/informal industries working as subcontractors for a large industry is a variable. It may prove to be highly negative, or it may prove to be highly positive, and yet as
a third alternative, it may even prove to be both positive and negative, at the same time. It depends.

What are the factors, then, that determine the outcome? An inspection of the literature reveals that conceptually speaking, there are two major groups of such factors. The first group is the very heart of the issue as one broad factor by itself, and encompasses the whys and hows of the process of decentralization as adopted and conceived by the large industry, and the immediate role the small subcontractors assume within this process. Indeed, the scholars representing different perspectives in the literature all focus on and try to answer the question "Why a large scale industry chooses to subcontract work to smaller suppliers; what function the latter assume from the point of the decentralizing large industry, per se", as the most decisive and crucial factor in determining the impact of decentralization on the small subcontractors. Although not all perspectives explain the phenomenon in the same way, they all focus their attention on this question.

The second group, in effect, is composed of a set of factors that are "external", in a sense, to the immediate causes of the process of decentralization, but influence this process with respect to its impact on the small subcontractors. The works of different scholars highlight a few such factors as the most influential. They are: the organizational
capability of the small industry sector and the level of cooperation among the small enterprises; the extent of their market outreach including the extent of their clientele; the opportunity to have access, on the side of the subcontractors, to relatively modern technology; and support granted to the small producers by regional or central governments. These factors may be extended depending on the particular country and industry setting under examination, but their significance is that depending on one or more of such "external" factors, the impact of subcontracting on the small firms, and the path of development of the latter including the role they assume in their relationships with their large scale customers, may highly alter from one context to another.

The above set of evaluations and deductions have formed the general framework of our approach in this particular piece of work, the case of the automotive industry in Turkey. In order to come out with a broad picture encompassing all aspects of the phenomenon, this volume will approach the topic from the perspective of the set of factors, above, examine the impact of each in determining the path of development of the small/informal subcontractors, and do so by incorporating/questioning the main postulates of the leading perspectives in the literature.
II. Research Approach and Cumulative Conclusions

The evaluations in this volume are an outcome of the field-work conducted in six months in 1988-89, and one month in 1991 in the cities of Bursa and Istanbul where the automotive final-assemblers and most of their subcontractors (to be referred to as the "suppliers") are located. During these time intervals, of the total of 13 passenger-car or commercial-vehicle producers, we conducted extensive interviews with the leading three: the two passenger-car firms, Tofas and Oyak-Renault, the former a joint-venture with Fiat of Italy, and the latter with Regie-Renault of France; and one passenger-car and commercial-vehicle producer, Otosan, operating as a joint-venture with Ford of U.S.A.. The producers of such vehicles as tractors and motorcycles were not included in this study. We also conducted extensive interviews with 64 suppliers working directly or indirectly for the automotive industry, and operating in five major fields of production: metal casting (foundries); aluminum injection molding; plastic injection molding; machining; and metal stamping. It is important to note that all the suppliers interviewed came from an informal sector background (the unregulated sector of the economy) and many still displayed some of the characteristic features of this sector. The larger scale suppliers were again not included in this study. Apart from the 64, we also
interviewed an additional 20 small firms that work for the machinery industry for comparison. Finally, we talked to the directors of the associations representing the final-assemblers and the small scale and artisanal industries, plus government organizations established to support the small industries.¹

The questionnaires used during the survey, which may be referred to in Appendix 1, were prepared with the objective to capture both the path of development of the small/informal subcontractors over time, and the factors that influenced the process to the advantage or the disadvantage of the subcontractor sectors examined. In evaluating the data collected, our approach was not a typical statistical approach, but rather an approach that can be best described as a qualitative analysis supported by quantitative findings. In understanding both the front of the final-assemblers and that of the suppliers, we proceeded along this principle.

Based on the evaluation of the data collected, this volume has a number of inter-related messages to convey to the reader. The cumulative message is that in the case of the automotive industry in Turkey, the factors behind the process of productive decentralization and the impact of the

¹ For a more detailed description of the survey, see Chapter III.
process upon the small/informal subcontractors neither typically fall into any of the "ideal" frameworks drawn by the three leading perspectives in the literature that focus on this problematique, nor can be explained by any one of them alone. Rather, in the Turkish case, some of the factors and the consequences highlighted by different schools of thought co-exist, alongside with some other factors that are not elaborated by any. The argument, hence, is that it is not possible to explain the phenomenon in all cases and all contexts under examination within the framework of any one of the leading perspectives in the literature, alone.

Related to and complementing the first, the second depiction of this volume is that when looked at from the perspective of the "dichotomies" presented in the literature we examined, the Turkish case stands out rather as an intermediate case, which can be best described as an eclectic combination of the opposites. Indeed, the way the Turkish automotive industry operates, for example, is neither a typical case of mass-production, nor a typical case of lean-production or flexible-specialization. Again, it is neither exclusively collaboration and mutual-benefit based on long-term commitment, nor exploitation and subordination based on short-term commitment that characterize the relationships between the final-assemblers and the small suppliers. Similarly, it is neither absolute
dynamism and progress, nor stagnation and destitution that describe the path of development of the latter. Finally, the small suppliers display neither exclusively "informal", nor exclusively "formal" characteristics. As a cumulative impact of all the relevant factors that characterize the Turkish setting as we will see, instead, the Turkish automotive industry has developed as an entity in which conflicting phenomena/characteristics are not mutually-exclusive, in which they exist side by side. Hence, the argument is that it is not always an either/or case: rather, either and or may co-exist within the same entity, the emphasis shifting between the two from one period in time to another.

Related to the above, the third major message of this volume will be that in the case of an industry like the automotive industry which is dependent on thousands of components manufactured by hundreds of subcontractors operating in a wide range of completely different production fields, generalized explanations intended to encompass all subcontractor sectors may not always be true. Indeed, in the literature we examined, explanations regarding the impact of productive decentralization on the small/informal suppliers are usually presented to encompass all the subcontractors that work for a specific industry. They are industry-specific but general. What we found in the Turkish setting instead is that depending on such sub-sector-specific
factors as the specific raw-material input used in production; the significance of the particular component produced, within the final-product, with regards to quality and precision; the complexity of its production process and the extent it necessitates the incorporation of skilled-labor and/or engineering skills; the cost of technology renewal in the particular field of production; and the amount of operating capital necessary to run a business in that field, there may be significant differences between the path of development of different subcontractor sectors working for the same industry, or even the same final-assembler. Hence, the necessity for sub-sector-specific analysis.

These are the major messages of this volume, which will be elaborated and supplemented by others within the pace of the study. At this moment, we will suffice with these explanations, and go back to the literature to examine the three leading schools of thought and elaborate the depictions, of each, showing in what aspects we incorporated them in designing the specifics of our approach in this volume. Other scholarly work not discussed in this chapter will be subsequently incorporated in the following chapters.
III. Learnings from the Literature

1. Motivations Behind Productive Decentralization Vis-a-Vis Repercussions on the Small Subcontractors

As most scholars agree, in an analysis that revolves around the path of development of the subcontractor industries in any context, the emphasis needs to be on the factors leading large scale industries to adopt the strategy of decentralizing production, and the immediate role the subcontractors are given within the production organization of the decentralizing industry. But how should we or by incorporating what perspectives/concerns should we approach the topic? In drawing a framework of analysis in this volume, the works of the scholars representing the lean-production, the flexible-specialization, and the informal-sector perspectives were equally important, showing the way as to which specific concerns we need to take into consideration in examining the problematique. Although some of these concerns are common to all the three perspectives examined, certain prominent features of each particularly helped us in designing our framework as such:

Our approach in this volume will be a) attentive to the broader framework of the way industrial production is organized and incorporate the leading systems of production organization as "reference points" (lean-production
literature); b) attentive to the newly emerging patterns of production organization, with sensitivity to collaborative subcontracting (flexible-specialization literature); and c) sensitive to the structural characteristics of a developing country context, incorporating the dimension of exploitative subcontracting (informal sector literature). Let's now elaborate on each of these elements, by reference to the corresponding perspectives in the literature.

1.1 The Need For a Holistic Approach Incorporating Relevant Reference Points: Learnings From the Lean-Production Literature

The focus of attention of the lean-production literature is the rise of mass production in the advanced countries of the West, on the one hand, and that of "lean production" in Japan, on the other, the two revolutionary steps that determined and influenced the principles of motor-vehicle production around the world. In examining these two opposite ways of production organization, the lean-production literature has a number of inter-related messages to convey to the reader. First, that within the context of the automotive industry, there is no one unique way of

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1 For a comprehensive but at the same time a compact overview of the lean-production perspective, the reader may refer to The Machine That Changed the World, Womack, Jones, Roos, 1990, which is an outcome of the individual works of over 50 researchers who participated in the International Motor Vehicle Program (IMVP) at MIT. The discussions in this section are based primarily on this work.
organizing production, a way applicable to all country settings and all periods in time. Rather, the organization of production may highly differ from one setting to another depending on a complex set of economic, political, institutional and regulatory factors which may highly vary across countries or across different periods in time.

Second, that each possible way of organizing production is a coherent/consistent whole within itself vis-a-vis all aspects or structural components that make the whole. The way machinery is used; the way workers are incorporated into the production process; the degree of centralization/decentralization; and the framework of the relationships with the subcontractors, if any, for example, are all in harmony with each other, within the context of any particular production organization, each taking shape and operating in coherence within the logic of the system as a whole. A better understanding of any one structural component, particularly the role played by the subcontractors, hence, would be best achieved by a holistic approach examining the broader framework of the way production is organized as a whole.

A third message we derive from the lean-production literature, finally, is that given their historical role within the realm of the automotive industry, mass production and lean production stand out as relevant reference points.
in evaluating the relative stance of the industry at any
country setting under examination. To better explain the
learnings from the lean-production literature as they are
incorporated in this volume, let's now take a brief look at
under what conditions and operating according to which
principles mass production and lean production emerged in
two different settings in history, looking particularly at
the role of the subcontractors, in each, as a coherent
structural component of the logic of the system as a
whole.

Mass Production

Over the turn of the century, the particular conditions in
the United States resulted in the creation of an industry
what Henry Ford himself called as "mass production". A
huge, unsaturated market composed of a very large and ever
enlargening population of middle-income families ready to
direct their disposable income for cheap, durable cars; a
non-interventionist state; and limited competition (in fact,
no competition at the beginning, the Ford company being
almost the sole producer). Given these set of conditions,
what was on the agenda of the American automobile industry
was the production of a single model in very large

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3 Since mass production has also been a major topic of
study of the flexible-specialization theory to be referred
to later on in this chapter, in examining mass production,
we will incorporate some of the terminology of this school
of thought, as well.
quantities, for over a long time period, and with the lowest possible cost. The objectives were indeed realized with production volumes soon reaching the degree of "millions per year" per company.

The system of production that made ultra-volume production possible was based on an extensive division of labor with an army of unskilled/semi-skilled workers dedicated to perform simple tasks, repetitively, and on very expensive but dedicated machinery which was able, like the workers, to perform only one task ideally related to one model. On the condition that the scale of production was as high as possible, and the dedicated machinery was employed for the production of the same model until full productive capacity was reached (in the long run), this system allowed the attainment of "scale economies" yielding very low costs, and enabling maximum possible profits.⁴

A logical consequence or structural component of this system was a hierarchical organization based on clear "separation between conception and execution". To maximize efficiency and maintain continuity of the giant firm that emerged, all decision-making power was centralized in the hands of a group of managers at the top. A group of engineers, on the

⁴ Even when the GM company eventually made some revisions with methods to allow for model variation, this was still achieved within the principles of mass production (common components across different models to allow for scale economies).
other hand, assumed all innovative tasks such as product and process development, with the huge army of workers, at the bottom, required only to repeat their simple set of tasks as executioners. The simplicity of the tasks performed by the army of workers made the majority of the employees mere "variable costs", in this system, with no long-term job security. In low demand periods, many were simply laid off since it was very easy to replace them with new workers given that the tasks were simple enough to be learned by any new-comer immediately.

Within the mass-production system, a high degree of centralization (vertical integration) was not only possible but was also regarded as a highly instrumental tool in maximizing the returns to scale. Indeed, Ford and its successors realized almost 100% of all production in-house for a very long period after establishment. When they began to partially decentralize after the Second World War to relax bureaucratic rigidities inherent in total integration, on the other hand, their relationships with the suppliers, or the role given to the suppliers was in perfect harmony with the logic of the system as a whole.

Like the terms prevalent in-house, a strong hierarchy based on clear separation between conception and execution characterized the relationships between the large firms and the suppliers. The suppliers, many of which were small
firms, were merely required to produce specific parts according to the specifications provided by the final-assemblers; they did not participate in the product/component design processes; and like the workers employed by their customers, they were regarded as variable costs. Contracts were short-termed and easily canceled, during market down-turns, on short notice. From the perspective of the final-assemblers, therefore, the suppliers were targets of risk transfer and conceived as "outsiders". Regarded as such, they were played one against the other within a system of multiple-sourcing in order to cut prices down. Low profit-margins on the side of the suppliers, hence, were the rule. Overall speaking, this was a system of subordinate subcontracting, based on low-trust/short-term relationships.

Mass production, operating within the logic of the above framework, became a dominant system of production organization not only in the U.S. but also in the large markets of Europe. Such multinational firms as Fiat and Renault (the two companies that will be frequently referred to in this dissertation) soon followed the lead of their peers across the Atlantic. In the realm of the automotive industry in the "West", therefore, mass production was conceived as the only viable way of organizing production, and this understanding eventually influenced the industry in many other corners of the world, as well. However, not all
country settings led to this system as the only and necessary alternative for producing motor-vehicles. The case of Japan, as demonstrated by the lean-production literature, shows that there are/may be alternative ways of organizing production which may in fact be more efficient and innovation oriented than what mass production permits.

Lean Production

Indeed, when passenger-car production and the automotive industry, in general, gained momentum in Japan in the 1950s, the conditions producers were face to face with were highly different from the U.S. over the turn of the century. Japan was characterized by a much smaller market; an interventionist government; shortage of capital; lower income per capita; the existence, however, of different consumer segments as potential buyers of different models carrying different product characteristics; passenger-car production coming from a background of truck production which led (initially) to the production of both types of vehicles within the same complex; and very high degree of competition (there were 11 Japanese firms competing in the same market in the late 1950s).

Given these set of conditions, production of a single standardized model in very large quantities was out of the question in Japan. On the contrary, what was on the agenda
was the production of different models at the same time, and each in very low quantities. (Toyota's total production capacity by the mid-1950s, for example, was only around 20,000 vehicles per year \(^5\)). Heavy investment in very expensive dedicated machinery, and employment of an army of unskilled/task-dedicated workers were not viable alternatives for the Japanese producers. They needed much more flexible and affordable systems of production which would still allow cost competitiveness despite low volume production. In search for the most appropriate way of organizing production and gain success in the highly competitive and fragmented Japanese market, the Japanese producers, particularly the Toyota company, step by step developed a system of production which is referred, today, as "lean production".

In this alternative system to mass production, both the machinery used and the workers employed were endowed with a high degree of flexible productive power, which not only allowed for rapid and easy transfer to the production of different models/parts, but also made it possible to minimize investment and operating costs. Second, all cost increasing factors, the redundancies observed in the mass production system, including inventories and excessive number of workers, were eliminated. Third, in order to accelerate the process of product/process development and

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\(^5\) Nishiguchi, 1989: 111
gain rapid success in a very competitive market, the Japanese adopted the principle of unification of conception and execution by way of giving maximal decision-making and interventionist power to a force of multi-skilled workers who were expected to participate in the development processes. Fifth, both because of such function given to the workers, and as a result of the Japanese government's regulations which made it difficult to fire unneeded employees, the workers became not variable but fixed costs. The Japanese system of in-house production, in short, was the complete opposite of the dominant system of production in the West.

In Japan, low volume production and shortage of capital, of all the factors, did not allow for a high degree of vertical integration. Instead, an army of suppliers, small and large, immediately became an inherent feature of the system (at the Toyota factory, for example, by the mid-1950s around 60% of production was subcontracted ⁶). However, the role of the suppliers within the Japanese system was highly different from that observed within the system of mass-production.

In the Japanese market, while competitive pressures necessitated rapid improvements in quality and reduction in costs, low volume production and shortage of capital made it unfeasible, both vis-a-vis time and money, to centralize all

⁶ Mishiguchi, 1989: 112
R&D investments at the final-assemblers. The suppliers, hence, were incorporated into production as active participants of the product development processes, encouraged and assisted by their customers if necessary to do so. To lower the cost of production and achieve higher quality, there also emerged such practices as the "just-in-time (no inventories) and zero-defect delivery" exerting extensive pressure on the suppliers to perfect production. To achieve the targets, the suppliers worked in close collaboration with the final-assemblers, soon becoming indispensable features for the continuity of the system as a whole. Assuming such a function—encouraged also by the regulations of the Japanese governments regarding assembler-supplier relationships—they were tied to the final-assemblers with long-term contracts becoming—like the workers employed by their customers—fixed costs from the perspective of the final-assemblers. Overall speaking, this was a system based on synergistic problem-solving ⁷, high-trust relationships and long-term commitment.

Within such a framework, the possibilities for innovative growth on the side of the suppliers was not only much higher than those working for mass-production firms, but more than that, innovative growth was almost guaranteed. Indeed, the Japanese suppliers, most of which were small firms at the onset of production, eventually became larger scale firms.

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⁷ Nishiguchi, 1989
perfectly equipped with the tools and principles of lean production, themselves.

The motor-vehicle companies in Japan, particularly Toyota, stuck to and perfected the principles of lean production, over time, even when production volumes increased to levels comparable to the Western mass-producers. When they eventually began exporting to the rest of the world in the late 1970s/1980s, they were suddenly discovered as the "best practice" examples in terms of combining low cost, high quality, and product variety, their unique system proving to give them an unbeatable competitive edge over time.

Within the realm of the automotive industry, mass production and lean production have been the two leading ways of production organization, the motor-vehicle companies around the world influenced by each--albeit at different periods in time--either by way of direct investments or by imitation. Within the context of our dissertation, the two ways of organizing production are important not only because of their historical role as "reference points", but also because they demonstrate that being the consequence of the same factors prevalent within the country/market setting under examination, the structural components that make up each system of production organization are in harmony with each other, emerging from and operating in coherence with the logic of the system as a whole. To understand and
examine the problematique of why the suppliers assume the role they do in any context, therefore, there is the need to adopt a broader perspective and understand why and how a system of production organization operates the way it does as a totality, and what function this structural component assumes within the continuity of the system as a whole.

1.2 The Need to be Attentive to the Changing Patterns of Production Organization and Collaborative Subcontracting: Learnings From the Flexible-Specialization Literature

Our analysis so far focused on different country settings as stationary without incorporating the time dimension. History, however, is a complex set of interacting phenomena, characterized by continuous change, nothing being stationary or eternal. Even within the same country/market setting, the particular economic, regulatory, political and social factors that are prevalent in one period in time may so dramatically change, over the course of time, that they may lead to radical changes in the way industrial production is organized in that setting. Indeed, this is what has been observed in the case of some of the mass-production industries in the advanced countries of the West, which have been undergoing such significant transformations since the mid-1970s that they are no more mass-producers, but have become something else.
This phenomenon has been first observed and theoretically defined by the scholars representing the flexible-specialization perspective in the literature. According to these scholars, the mass-production model is increasingly becoming a non-viable system of production organization since the mid-1970s. Unlike the earlier periods, uncertainty, volatility and continuous change have become the major characteristics of the Western economies. The two successive oil crises, severe fluctuations in the exchange rates, increased competition at the world scale, saturation of the Western markets for standardized products, and an increasingly fragmented and changing demand composition/content have started to challenge the mass-production system which operates on the basis of long-term stability and predictability in the market.  

While many large firms responded to the changing market conditions, above, with strategies in accord with the mass-production paradigm, research conducted in such countries as the U.S., Germany, France, and Italy also revealed that "In the last 15 years, many of the largest multinationals have shifted strategy. Often without explicitly repudiating the mass-production model, they have begun to organize production on the lines of flexible specialization". The search for alternative ways to accommodate short production

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8 Sabel, Piore, 1984: 165-194
9 Sabel, 1988: 22
runs, short product life cycles, product proliferation, and rapid shift to new products as demand itself shifted, led these firms to gradually adopt novel organizational themes. The observed changes were indeed remarkable: incorporation of flexible/high productivity technology; breakup of hierarchical organizations that separate conception from execution; decentralization within the firm with the appearance of autonomous operating units each specialized in the production of a variety of products; the emergence of multi-skilled, multi-responsible work force able to shift from product to product, and contributing to the improvement of production within such practices as "job rotation" and "quality circles"; shifting to high-trust relationships within the firm, etc. 10.

A significant structural component of the new flexible-specialization way of organizing production was the decentralization of production by way of increased subcontracting to small scale firms. By subcontracting, not only the fixed costs the future utility of which has become more and more ambiguous are shared with outside firms, but also subcontracting to smaller firms specialized on a certain set of components made it possible to spread rapidly-increasing R&D costs, while facilitating better and

10 Sabel, 1988: 22-36
faster results vis-a-vis product and process development than what a high degree of vertical integration permits.

Given the motivations behind productive decentralization within this framework, the role and the fate of the subcontractors is completely different from what it is in mass production. The subcontractors are conceived, by their customers, as long-term partners who are expected to contribute to development processes, helped and guided by their customers, if necessary to do so. There emerge high-trust relationships between the large firm and the suppliers who soon develop into flexible-specialists, themselves, diversifying into new industries as their design capacity and flexible production facilities increase. Working as a subcontractor for a large firm within the new system, in sum, encourages and accelerates the innovative development of a small firm, integration and autonomy simultaneously characterizing assembler-supplier relationships.¹¹

The observations of the flexible-specialization literature as to the new approaches to production organization, productive decentralization and the changing role of the suppliers is confirmed by the scholars of the lean-production literature, as well. Within the context of the automotive industry, these scholars have also observed that some companies are moving away from mass production and

¹¹ Sabel, 1988: 3, 26-29; Sabel, Piore, 1984: 267-68
mastering the principles of lean production, instead, presenting a picture which is very similar to that drawn by the flexible-specialization scholars. The once-epitome of mass production, the Ford company of the U.S., is given as the best, but not the only, example. The phenomenon is not necessarily restricted to the advanced countries, either. The lean-production scholars have observed, for example, that at the Ford plant in the city of Hermosillo in Mexico "Mexican workers embraced lean production with the same speed as American workers at the Japanese transplants in North America and at Ford's own U.S. and Canadian plants." 12, and "Honda's motorcycle plant at Manaus, far up the Amazon, has clearly demonstrated that lean production can work in Brazil under the most demanding conditions,..." 13

Actually, in the case of the automotive industry, it is not only the established perspectives in the literature that document the changing patterns of industrial organization. The depictions of the scholars are confirmed by experts outside the established perspectives in the literature, as well. Prof. Walter Kunerth, Automotive Systems, Siemens AG, explains, for example, that "The dynamic now drives the (automotive) industry toward short production runs--less than 100,000 per year, short life cycles, and higher

12 Womack, Jones, Roos, 1990: 265
13 Womack, Jones, Roos, 1990: 270
technology content... We see four key areas as central to success in this environment: global technology, flexible technology, flexible manufacturing and quality... Secondly, the sources of technology can no longer be viewed as purely internal to the organization--increasingly, suppliers must be depended on for both technology and product delivery."

14 A report prepared by the Directorate for Science, Technology and Industry of OECD in 1990 highlights similar points: "Some analysts maintain that weaknesses in assembler-supplier relationships have been one reason the US and European automobile industries have lost market share to Japan... (However), in the past two or three years, US and European automakers have increased their outside purchases of auto parts from other firms in the attempt to gain higher quality for lower costs... (They) are moving away from vertical integration and towards the Japanese ratio of 80% external purchases... Responsibility for the development of new technologies and their incorporation into products is (also) gradually shifting from the automakers to the auto parts suppliers... Us firms are entering into longer-term relationships with parts companies and relying on them more heavily for design and improvements". 15 16

14 Kunerth, 1990
15 OECD, 1990
16 In the case of the automotive industry, however, the decentralized structure of production is increasingly resembling an "umbrella" system. The suppliers, referred to as the "first-tier" suppliers, who work directly for the final-assemblers, are more medium-to-large scale firms
What is the significance of these depictions within the scope of our analysis in this volume? Combining the observations of the flexible-specialization literature with those of the lean-production perspective, we understand, first of all, that the automotive industry is among those industries which is being influenced by the newly emerging approaches to production organization. Not all firms are moving in this direction, but some do including a few of those located in the developing countries. In this volume, therefore, it would be highly relevant to look at whether the Turkish automotive industry has been influenced by the trend, as well, and if so, to what extent, when and why. Looking at the industry from this point of view is also in coherence with our depiction, in the previous section, of incorporating mass production and lean production as reference points in evaluating the Turkish setting.

Related to the above, the second and the most important deduction we get by inspecting the flexible-specialization literature is that within the newly emerging system of flexible specialization (lean production), the process of

rather than smaller ones. In the automotive industry, investments for R&D are increasingly becoming too extensive and expensive for smaller firms to afford. The trend, therefore, is to work with bigger scale suppliers, directly, with the smaller ones operating as second/third-tier subcontractors. Nevertheless, even within the new structure, pressures from above encourage the smaller subcontractors to also adopt steady improvement and innovation as the basis of their production (Sabel, 1988; CECD, 1990).
productive decentralization emerges as a positive phenomenon with respect to the progressive and innovative development of the small scale enterprises. Indeed, this aspect of the phenomenon is particularly emphasized by the scholars in the flexible-specialization literature who argue that within the new way of organizing production, the small and the large firms compose a dynamic whole, each mutually benefitting from the collaborative linkages in between. By inspecting this literature (in combination with the lean-production literature), therefore, we get the impression that under the changing conditions in the world economy, there is much space for optimism vis-a-vis the impact of increased subcontracting on the small industries both within the contexts of the advanced and some of the developing countries. Following these observations, therefore, we will try to see in this volume if this is relevant to the Turkish setting, as well, and if so to what extent and, particularly, why.

1.3 The Need to be Sensitive to the Structural Characteristics of a Developing Country Context, Incorporating the Dimension of Exploitative Subcontracting: Learnings From the Informal-Sector Literature

Not all scholars have as optimistic visions as the flexible-specialization theory with regards to the likely impact of productive decentralization on the small industrial units.
At the opposite extreme are those researchers who focus their studies primarily on the developing countries and who represent the informal-sector perspective in the literature. As these scholars demonstrate, the developing countries exhibit highly different structural characteristics from the advanced countries of the West. Particularly the informal sector, or the unregulated sector of the economy, constitutes a much broader segment of the economic activities in the developing countries. The linkages between these enterprises and the "formal" sector industries may be highly different from what has been observed between small and large industries in the advanced countries. Indeed, although the informal-sector scholars have also observed an increased trend towards productive decentralization within the context of the developing countries since the mid-1970s, they have found out that the impact of the process on the small enterprises has been quite negative in most cases, let aside acting as a progress accelerating phenomenon.

As a part of the instability in the world economic environment since the mid-1970s, many developing countries have been experiencing very high rates of inflation, heavy debt burden, foreign trade deficits, and eventual adoption of IMF stabilization programs. Stagnation, fluctuations, rising costs have become a common denominator of these countries, many of which are trying hard to participate in the world trade by exports of industrial goods, shifting
from the traditional regime of import-substitution to one of integration with the outside world. ¹⁷

Some scholars have observed that one response of the large scale industries to stagnation, instability and rising costs has been increased decentralization of production, particularly by way of subcontracting to the informal sector enterprises. Unlike the case of flexible-specialization decentralization, however, the intention of the large firms in adopting such a strategy was not to engage in long-term, collaborative, and supportive relationships with innovative producers. Major motivation, here, was to exploit the sweatshop conditions in the informal sector in order to avoid the costs associated with state regulation of the labor market (such as minimum wages, social security payments and costs associated with regulations concerning working conditions) and other operating costs. In these cases, then, what attracted the large firms was primarily interscale wage differentials between the "formal" and the "informal" sectors, and the fact that the informal sector had the opportunity to avoid worker related costs, in general. Subcontracting also offered more "flexibility" than hiring regular workers, since contracts with the informal enterprises could easily be canceled, if fluctuating market conditions made it necessary to do so. A final function of subcontracting to the informal sector, scholars observed,

¹⁷ Sanyal, 1988; Taylor, 1985, 1986
was to weaken the power of organized labor by acting as an alternative model of employment (the "reserve army" argument).\textsuperscript{18}

When the large factory thus conceived subcontracting merely as a "mechanism for siphoning cheap, unprotected labor into modern production processes" \textsuperscript{19}, exploitation, suppression and one-sided dependency governed the terms of relationships between the large units and their subcontractors. According to some scholars, in fact, increase in subcontracting was no more than a process of "proletarianization" of the informal sector. The status of the subcontractors vis-a-vis the large factories was that of disguised wage workers. Under the illusion of self-employment, they were selling their labor power in return for very low wages, enabling a transfer of surplus value from the informal to the formal sector, at the national or international scale by way of multinationals. Surplus value transfer was also realized by way of unequal exchange mechanisms, with the commodities sold to the formal sector below their actual value. Under these conditions, then, what was observed in the subcontractor workshops was very slow output per head, very slow capital accumulation—often confined to the level of mere


\textsuperscript{19} Benton, 1989: 228
reproduction, the utilization of rudimentary technology, very low wages, and degradation of working conditions over time.  

In sum, given the industrial structure of the developing countries and the way they are incorporated into/influenced by the world economy, scholars argue, there is much space for exploitative subcontracting within the context of these countries, the linkages between the large units and their informal subcontractors retarding dynamism and innovative development of the latter.

Representing the pessimistic outlook, the depictions of the informal-sector literature are equally relevant to the Turkish setting as the other two leading perspectives examined. As we will see, the way Turkish economy was affected by the world economic environment since the mid-1970s has been similar, in many aspects, to what has been observed in the case of the other developing countries. Moreover, the informal sector enterprises have played significant role within the organization of the Turkish automotive industry since the onset of production. In analyzing the process of productive decentralization in the Turkish automotive industry and the role of the informal subcontractors within the process, hence, there is the need

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to incorporate and test the perspective of the informal-sector literature, as well. In other words, in this volume we will not only search for the positive implications of the phenomenon, but also look at the problematique from the perspective of whether the characteristics of exploitative subcontracting observed within the context of some of the developing countries exist within the context of the Turkish automotive industry, as well, and if so, to what extent and why.

2. **The Significance of the External Factors**

Our investigations so far concentrated exclusively on the side of the decentralizing large industry, looking at the motivations behind the process as they determine the role of the small enterprises. Although most scholars concentrate on this side of the phenomenon as the major factor in determining the fate of the small/informal subcontractors, there are other factors that need to be taken into consideration, as well. As defined before, these factors are rather "external" to the causes of productive decentralization, but influence the process with respect to its impact on the subcontractors. Some case studies show that depending on one or more such external factors, the path of development of the small/informal industries, including the role they play vis-a-vis the final-assemblers, may highly change from one setting to another. Let's
therefore now divert our attention from the front of the large industry, itself, and look at these external factors by reference to the three perspectives in the literature examined.

The significance of the external factors within the process of productive decentralization is elaborated by the flexible-specialization theory particularly in examining the Italian experience in the late 1960s. The case of Italy by that time is highly relevant to the context of the developing countries portrayed by the informal-sector theorists, whereby the motivations behind subcontracting were inherently detrimental to the innovative development of the small enterprises. What we learn from the Italian experience, however, is that even in such cases, there are ways for a break-through and enhance dynamism in the subcontractor sector, thereby challenging the view that impoverishment is the only alternative for small subcontractors operating under unfavorable conditions.

In the late 1960s, the Italian industry found itself in the midst of a radical labor movement accompanied by a wave of strikes. The large industries responded to the situation by an equally radical decentralization of production incorporating an immense number of small enterprises as subcontractors. The motive here was not to engage in long-term relationships with innovative producers. Subcontracting
was merely conceived as a temporary solution, to be followed by recentralization of production once the worker militancy had passed.

Given the motivations behind decentralization, the relationships between the large units and their subcontractors were not much different from the picture portrayed in the informal-sector literature. The subcontractors merely played the role of typical sweatshops suppressed under the hegemony of the large factories. By time, however, things began to change dramatically and to the surprise of every party concerned. The small firms began to organize in regional industrial districts and used their collective capacities to overcome some of the shortages and limitations of being small and overly dependent on their clients. They formed trade associations, unions, guilds, cooperatives and research centers. They cooperated with each other in other areas, as well, such as sharing inputs and subcontracting to each other when some firms had large contracts and others did not. Their organizations highly limited competition through sweating and instead encouraged competition by innovation. Soon, the workshops rapidly transformed into innovative, flexibly-specialized production units; the number of the clients increased which reduced their dependency on any one of them; they began to produce finished goods of their own for export markets; and increased their bargaining power vis-a-vis their clients.
Apart from a spectacular level of collective action and cooperation, another major factor that helped create dynamism in the small sector in Italy was the support provided by local and regional governments to the industrial districts where the small workshops were clustered. The municipalities in Italy had considerable scope of autonomy in establishing their own, locally based industrial policies. In cooperation with the businessmen and their workers, they provided the necessary infrastructure to the districts and also blocked profit-making through exploitation of labor which significantly contributed to upgrade the working conditions of the small workshops, subcontractors and independent businesses alike.\[21\]

The significance of the organizational capability of the small enterprises and of government support in enhancing dynamism in the subcontractor sector is elaborated by those scholars who examined the Japanese industrial development, as well. Before the early 1950s, the relationships between the Japanese final-assemblers and their small suppliers resembled, in many senses, again the framework drawn by the informal sector literature. The suppliers suffered from such practices, for example, as low prices for their products and delayed payments, the latter meaning the utilization of the subcontractors' capital without paying the due interest. By

\[21\] Sabel, Piore, 1984: 226-228;
time, however, the small industries began to organize exerting extensive pressure on the government to take a stance on their side. By 1953 and 1956, the Japanese government intervened with strict legislation to prevent unfair trade practices that openly worked to the disadvantage of the suppliers. Such an intervention on the side of the government would prove to be among the major factors that led to the establishment of the collaborative subcontracting relationships, in Japan, in the periods to follow.22

While in the case of Italy and Japan, among other examples, government support and collaboration among small enterprises played such significant role in enhancing dynamism in the small subcontractor sector, scholars in the informal-sector literature usually present a rather pessimistic outlook in looking at the context of the developing countries. These scholars are not only skeptic about the possibility of active government support to the informal sector when it comes to the LDCs, but they also emphasize that the size of the labor surplus in these countries is likely to encourage competition by sweating labor, restricting the capability of the informal enterprises to create an alternative dynamic of industrial growth by way of innovation and collaboration.23 Despite such pessimistic views, however, some recent studies

22 Nishiguchi, 1989: 124-133
23 Schmitz, 1989; Benton, 1990: 21
on the informal sector suggest that it is possible to expect informal economies of growth within the context of the developing countries, as well, depending on such factors as communal entrepreneurial spirit, access to modern technology, expansion of the clientele base including export orientation, and provided that the government is persuaded to grant some support.24

Case studies conducted by different scholars reveal, in sum, that although the path of development of small/informal subcontractors is directly dependent on the motivations behind productive decentralization, there are also other factors that may influence the outcome, the latter standing out, in some cases, as the major determinant. In analyzing the problematica within the context of the Turkish automotive industry in this volume, therefore, there is the need to search for the role played by the "external" factors, as well. In this volume, our objective along these lines will be to capture both those factors that encouraged the development of the small subcontractors and those that retarded the process. Based primarily on the information provided by the small suppliers interviewed, we will discuss the significance of each of these factors in determining the characteristics of the Turkish case.

24 Portes, Castells, Benton, 1989: 298-312
IV. The Structure of the Dissertation

The rhetoric of this dissertation has thus emerged by reference primarily to the three leading perspectives in the literature within the framework drawn above. In the following chapters of this dissertation, we will approach the Turkish case by incorporating the concerns summarized. Other scholarly work not discussed in this chapter will be subsequently incorporated in reinforcing our arguments. In presenting our case, each of the following chapters will undertake certain specific tasks emerging again from the discussions above. In specific terms, the content of each chapter will be as follows:

Chapter II will approach the topic from the perspective of the final-assemblers. This chapter will concentrate on the historical development of the Turkish automotive industry, examining the dominant features of the industry's production organization with reference to the economic, political, regulatory and institutional conditions in the country. Within this background, the chapter will examine the factors and motivations behind productive decentralization, looking at why and how the final-assemblers incorporated the informal suppliers into their production organization, demonstrating the changes that occurred within this context over time. In this endeavour, the Turkish case will be presented as a combined outcome such factors as local
content legislation; low volume production; dependency on
the multinationals; advantages of working with informal
sector enterprises; changes in the macro-economic/regulatory
environment; and changes in the extent of competition. We
will fortify our explanations, in this chapter, by reference
to the automotive industry in other developing countries. In
this endeavour, we will test the depictions of the three
perspectives in the literature with regards to how far we
can explain the Turkish setting by reference to any one of
them.

Chapter III will focus attention on the small suppliers,
themselves. This chapter will verify the path of development
of the suppliers interviewed, demonstrating that although
there have been observable development in the small supplier
workshops relative to their stance at the time of
establishment, the progress achieved was not a perfect one.
In our analysis, the five different production fields
examined will be separately portrayed and the suppliers
working for the automotive industry will be compared with
those working for the machinery industry. In this chapter,
based primarily on the information provided by the suppliers
interviewed, the "external" factors that encouraged and
discouraged the progress of the small suppliers will be
elaborated alongside with the advantages and the
disadvantages of working with the final-assemblers in the
industry. In this endeavour, we will draw attention to sub-
sector-specific analysis demonstrating that the "external" factors at work may be more complicated than what is usually elaborated in the literature.

Chapter IV will be a conclusion chapter. This chapter will look at the foreseeable future of the Turkish automotive industry and how the small suppliers are likely to be affected by what seems to be ahead. The argument will be that we should expect an increased emphasis on incorporating the recent trends observed in the automotive industry around the world, although evidence implies that there may be differences among individual firms in this respect. Conclusive remarks of the chapter will be on policy implications. We will search what the governments can do from now on to enhance the prospects of the small suppliers and prepare a better future for this sector.
CHAPTER II: THE HISTORY OF THE AUTOMOTIVE INDUSTRY IN TURKEY

I. Initial Stages

While motor-vehicle production had already begun in some countries in the world as early as the 19th century, the first ventures in this direction took place in Turkey only in the mid-1950s. Although there were various economic and social factors that led to this outcome, the key among them was perhaps the insufficiency of the available physical infrastructure, in the country, without which it is not possible to realize widespread transportation based on automotive products.

Indeed, with the establishment of the Republic of Turkey in 1923, the governments preferred to develop and improve the railway network as the basis for national transportation, while the highways were rather neglected. This policy continued until the year 1947, by when the government in power decided to restrict the role of the railways to export-oriented transportation, and develop the highway network, instead, for domestic transportation. Under the guidance of such a policy change and with the financial support granted by the American Marshall Plan, the highway network in Turkey was indeed soon enlarged. Between 1950 and 1960, while the total length of the railroad network increased by 3%, the corresponding increase in highways was
as high as 31%. As a result, while highways accounted for 50% and railroads for 42% of total transportation in 1950, their respective shares were 73% and 24% by 1955.¹

There were other factors, beside the development of the highway network, that encouraged the first investments in automotive products to take place in the mid-1950s. First, the 1950s was a period of mass migrations from the rural areas to the urban centers—primarily an outcome of rapid mechanization of agricultural production within the scope of the Marshall Plan—which suddenly increased the demand for intra- and inter-city transportation. Second, income per capita also relatively increased during this period due primarily to an increase in export earnings of agricultural goods. By 1947, income per capita was $138 to increase to $286 by 1955, and to $322 by 1956.² Third, oil prices were also very low, during this period, making highway transportation relatively cheap. Fourth, the new government that came to power in 1950 adopted a rather liberalized system of development, making it easier to import foreign products, including foreign vehicles.

As a result of all such factors combined, the country witnessed two inter-related developments vis-a-vis automotive products starting with the early 1950s: First, a

¹ Aksoy, 1990: 40-41
² State Statistics Institute publications.
sudden jump in the overall number of imported vehicles, and second, the first ventures in domestic automotive production.

Indeed, in the period between 1950-55, the passenger-car park in the country increased by 124%, the truck park by 127% and the bus/minibus park by 162%, all composed of imported vehicles.\(^3\) It should be noted, however, that although such a significant increase was realized in the automotive park in relative terms, in real terms, the size of the park was still low compared to some other countries. For instance, while there were a total of only 13,400 cars in Turkey in 1950, in 1955 it became a total of 30,000 cars which corresponds to as high as 803 persons per car, that year. As a comparison, the number of persons per car was 3 in the U.S., 16 in France, 64 in Italy, 141 in Brazil, 60 in Argentina, and 105 in Mexico in 1954.\(^4\) Similarly, the bus/minibus park in the country increased from a total of 3,750 units in 1950 to only 9,850 by 1955.

Although not high in real terms, the relative increase in the number of imported automotive products in the early 1950s was a strong enough signal to the domestic and foreign entrepreneurs that it would be worthwhile to experiment with

\(^3\) Aksoy, 1990: 43

\(^4\) Approximate figures. Own calculations from United Nations Statistical Yearbooks.
direct investment in the industry. The first venture was hence that of the Turk Willys Overland Ltd., in 1954, which was established to manufacture jeeps and pick-ups for the military. During the following years, particularly with the protectionist measures taken by the government in 1958, the number of automotive factories in Turkey increased to 5 by 1959. All were operating under foreign licensee or as joint-ventures with foreign companies, and were manufacturing commercial-vehicles, primarily trucks and light trucks, for the domestic market, as low volume assemblers of completely-knocked-down (CKD) units.⁵

The 1960s would be a significant phase for the automotive industry in Turkey. The new military government that took over was determined to accelerate the process of industrialization under a carefully designed model of import-substitution, based on a structure of 5-Year Development Plans. Being regarded as an engine of rapid industrialization, the establishment of a respectable domestic automotive industry was among the major targets of the model. The focus was primarily on passenger-car production and the objective was to succeed in the manufacturing of an original Turkish car which would be 100% composed of locally produced parts. Such an objective was basically a reaction to the "assembly" nature of the then existing domestic industry.

⁵ Aksoy, 1990: 42-44
Regarding it as a matter of prestige, the government ordered, in 1961, the production of a domestic car using the available public sector facilities, and indeed an almost 100% domestic car, named "Revolution" was designed and manufactured that year. Only the distributor and the carburetor of the car were obtained from abroad, with the rest of vehicle manufactured in Turkey. The manufacturing process, though, was based almost totally on labor-intensive craft principles, and the outcome was a total of 4 cars, only. The total cost per car was around 900,000 TL while a mass-produced American car cost only 27,000 TL that year.\(^6\) Despite such tremendous inefficiencies incurred in domestic production, however, the "Revolution" was taken as a proof that the country could indeed produce cars if adopted modern production facilities and strategies.

Immediately, a committee was formed to conduct feasibility studies regarding passenger-car production in the country. These studies revealed, however, that the level of domestic demand was too low to allow for cost-effective passenger-car production at minimum optimum scales. Consequently, despite the government's great expectations from domestic passenger-car production, the first 5-Year Development Plan, which was prepared to cover the 1963-67 period, did not include the establishment of a passenger-car factory among the targets.

\(^6\) Aksoy, 1990: 45
The Plan rather concentrated on the existing commercial-vehicle production, and adopted the strategy of absolute protectionism in this area to open way for capacity increase in the existing factories. Unfortunately, however, the protectionist policy did not yield the expected end-result, as 10 more factories were established during the 1963-67 period (to manufacture light or heavy trucks, pick-ups, buses or mini-buses mostly under foreign licensee or else as joint-venture with foreign capital) resulting in over-supply, idle capacity situation.\(^7\)

On the other hand, although the first 5-Year Development Plan did not target the establishment of passenger-car factories, one of the largest group of private sector companies, the KOC group, was in the opinion that the time was ripe for passenger-car production in the country. They decided to use the existing facilities of one of the group companies, Otosan, that was established in 1959 to produce trucks under American Ford license. Indeed, the first domestic car, called "Anadol" (from Anatolia) was produced in the company's facilities in 1966. Anadol was an interesting venture being primarily an end result of Turkish initiative and effort. The idea was to build a Turkish car with a fibre-glass body, a technique very rarely used in passenger-car production. Being so, it deviated from the

\(^7\) Aksoy, 1990: 48-49
typical assembly operations in developing countries based on the manufacture of the already-existing foreign models. Anadol was designed for Turkey (albeit by foreign designers), its production technique was adopted from the Reliant Company of England, and Ford Motor Company provided the engines and the transmissions. Production was highly labor-intensive, though, and total output did not exceed 7,200 units in any one year. In the end, after producing a total of 87,000 units, Otosan abandoned the project in 1982 due to the fact that Anadol could not compete against the more advanced manufacturing techniques to succeed in the 1970s. It should be noted, however, that despite the final failure of the car, Anadol was to be the first and the last "mass-produced" Turkish passenger-car that would be the outcome of domestic creative effort.  

The year 1964 was to be a very special year for the Turkish automotive industry. That year the government issued the "Assembly-Industry Decree" to control and encourage domestic industrialization, focusing primarily on the automotive industry. This decree can be interpreted as open intervention of the state to private sector production.

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8 Based on Nahum, 1988: 121-140

9 The decree embraced products other than motor-vehicles, as well. These products were radios, record players, tape recorders, automatic and semi-automatic telephone stations, refrigerators, vacuum cleaners, typewriters, calculators, elevators.
The most significant rule the decree imposed on the automotive industry was related to the level of local content to be attained in production. The government was determined to minimize the dependency of the industry on imported parts both to reduce the overall expenditure of foreign currency, and to encourage self-sufficient industrialization. The envisaged increase in local content was levied by way of "foreign-currency savings ratios" (FCSR) defined in the decree for each major product line.\(^{10}\) By the time the decree was issued, the FCSR did not exceed 23% in commercial-vehicle production which means that a locally produced/assembled vehicle saved only 23% in foreign currency expenditure by manufacturing the product in Turkey. The decree required that the FCSR be increased to 45-65% by 1967, to 55-75% by 1970, and to 75-85% by 1980 (depending on the type of vehicle concerned).\(^{11}\)

\(^{10}\) Foreign-currency savings ratio was defined as: the f.o.b. value of a vehicle minus the sum of the f.o.b. value of all imported parts and materials necessary to manufacture the product in Turkey and any other payments to be made to foreign firms or persons including licensee, royalty, patent, technical assistance payments, divided by the FOB value of the vehicle. This ratio thus designates how much foreign currency is to be saved in manufacturing the vehicle in Turkey. Such a formulation is rather an indirect assessment of local content compared to more direct formulations seen in some other countries. In Brazil, for example, the 1956 decree defined local content as the percent share of domestic parts in total weight of a vehicle; In Mexico, the 1962 decree defined local content as the percent share of domestic parts in total direct costs of a vehicle. The Turkish formulation is closest to the Argentinean case, in this respect, which set local content as a certain percentage of the c.i.f. value of a vehicle (Jenkins, 1987: 58)

\(^{11}\) Assembly Industry Decree, 1964
To ensure the expected increase in local content, the government also decided to control the importation of the necessary parts in the production of a vehicle, by issuing a list of importable and non-importable parts, every year. This list was to be prepared depending on the FCSR levels stated in the decree: as local content was increased by each year, the list of non-importable parts was to become longer.

By that time, it was also the government that provided/allocated foreign currency to domestic firms to realize their import needs. This allocation was done depending totally on the list of importable/non-importable parts. The 1964 decree stated that the government would not allocate the foreign currency share of a firm that did not attain the required FCSR.

Despite such strict rules imposed on the automotive industry, however, the existing commercial-vehicle producers were not very successful in realizing the required FCSRs during the first 5-Year Plan period. Consequently, after 1968, 4 such firms were closed by the government. Failure in attaining the required local content levels was probably owing foremost on the specific cost structures of commercial-vehicle production and the fact that there were too many firms in operation, with output per firm being too low compared to world standards.\textsuperscript{12} In commercial-vehicles,

\textsuperscript{12} In truck production, optimum capacity per factory is estimated at 15-20,000 units, and in bus production as 5-6,000 per annum, whereas by 1967, truck capacity in Turkey
the power-train (engine and transmissions) is the most significant cost factor, constituting up to 60% of a vehicle's cost in the case of trucks.\textsuperscript{13} The production of these components requires very expensive equipment, investment in which becomes justifiable only under very high production volumes.\textsuperscript{14} Given the extremely low output levels in Turkey, therefore, it was almost impossible for any of the firms to manufacture the power-train in-house which, had it been done, would have significantly raised the local content level. The firms in Turkey did not have the alternative to purchase their power-train from outside suppliers, either, because there were no engine or transmissions manufacturers in Turkey by that time.\textsuperscript{15}

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\textsuperscript{13} Interviews

\textsuperscript{14} In the U.K. in 1968, optimum production volume of diesel engines ranged between 70,000-600,000 units per year (depending on the type of technique used), with the transmissions' optimum being 250-300,000 units per year. Only high-volume mass-producers manufactured their power-train in-house, most other commercial-vehicle producers relying on outside firms manufacturing solely these components. Even the manufacturing of the power-train by very labor-intensive methods (which some of the "specialist" producers did) becomes feasible at a production volume of around 5,000 vehicles per year (Rhys, 1972: 90-93, 296).

\textsuperscript{15} It is interesting to note here that during the subsequent years, in the 1970s, the Turkish government, most probably taking into consideration the economies of scale involved in diesel-engine production, did not allow any of the commercial-vehicle manufacturers to produce their
Apart from the power-train, although by 1967 most producers were manufacturing the body elements of their vehicles in-house, the body itself may not be a major cost factor in commercial-vehicles—unlike the case of passenger-cars—especially if it is manufactured of fibre-glass (which was used by some manufacturers in Turkey) or else if production is labor-intensive (which was again the case in Turkey). Hence, its contribution to local content may be restricted. As for other components, it is possible to say that very low volumes of production did not justify to make investments to manufacture these components in-house, either. On the other hand, while the industrial infrastructure in the country was based on too primitive an artisanal production to allow for subcontracting, the commercial-vehicle producers did not put much effort to create a subcontractor sector by giving support to the existing infrastructure. Under such conditions, then, it became almost impossible to

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16 Rhys points out, for example, that small volume CV producers must operate mainly as vehicle assemblers, purchasing most of their components from outside firms, 1990: 296
attain the FCSRs required by the decree, during the first 5-Year Plan period.

While the automotive industry based on commercial-vehicle production was rather unsuccessful, during the First 5-Year Plan period, some other developments in the same period encouraged prospective passenger-car production. The 1960s was a period of fast growth up to 12% per annum. During the same period, the national highway network (including all roads) reached 150,000km. from a base of 106,442 km. in 1963. Meanwhile, the number of gas stations significantly increased all over the country, as well as the number of car repair workshops. Domestic tourism also began to become a habit of the population which was increasingly concentrating in the urban areas. All such factors combined resulted in a significant increase in the number of imported cars, during the 1960s, such that while the total car park in the country was 45,800 in 1960, it reached 125,400 in 1968. The increase in the car park was indeed considerable: while the number of persons per car, in Turkey, was around 600 in 1960, it became 268 in 1968, which, though still very high by world standards, can be regarded as a significant development considering that domestic population increased by an overall 22% during the same period.17

17 Own calculations from Pekarun, 1977: 10 and State Statistics Institute publications.
By the end of the first Plan period, therefore, the government decided that it would be economically feasible to start domestic passenger-car production during the second 5-Year Plan period (1968-72). As a result of the fast growth during the previous period, capital accumulation had also reached a reasonable level, both in the private and public sectors, to allow for investment in as complex a product as a passenger-car. To ensure success—and after particularly the experience of the "Revolution"—however, the government was by now in support of partnerships with established foreign producers to make use of their expertise. Coincidentally, the 1960s was a period during which the multinational companies, including passenger-car producers, were in a rapid process of increasing their investments worldwide.\(^\text{18}\) It was not too difficult for Turkish capital to find foreign partners, then, by the time the country decided to take serious steps in domestic passenger-car production.

The year 1968 thus announced the establishment of the first serious venture in domestic passenger-car production: TOFAS. TOFAS was to be a joint-venture between the Turkish KOC

\(^{18}\) While the auto multinationals had a combined total of 170 investments (including directly owned plants, joint-ventures or licensee agreements) in 42 countries in 1960, this number reached 430 investments in 70 countries in 1968.
Group of companies, to hold a share of 22.5% \(^{19}\); the FIAT company of Italy, with a share of 41.5%; a Turkish state company to control a share of 25%; a Turkish bank with a share of 10%, and another Turkish company with a share of 1%. The new company, which was to produce Fiat 124 cars under the Italian Fiat license, was established with a total initial capital of 180,000,000 TL, which corresponds to US$ 19,900,000, that year. Immediately the following year, another agreement was signed to announce the establishment of the second venture in domestic passenger-car production: OYAK-RENAULT.\(^{20}\) Renault was to be an interesting company in that it was a joint-venture between an organization founded by the Turkish military personnel, OYAK, to participate with a share of 56% in the company; Regie-Renault of France, to participate with a share of 44%; and other foreign shareholders who were to participate with a share of 3%. Renault, which was to produce Renault 12 cars under the French Renault license, was established with a total initial capital of 150,000,000 TL, corresponding to US$ 16,600,000, that year.

By the time the two companies were established on paper, the government wanted their prospective factories to be located

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\(^{19}\) Two of the commercial-vehicle companies in the country were also a part this group by then, including Otosan, which manufactured the Anadol cars in addition to minibuses and trucks.

\(^{20}\) To be referred to, from hereon, as Renault.
in a newly-planned "organized industrial district" on the outskirts of the city of Bursa--which is about 240 km. way from Istanbul. That part of the country was both rather underdeveloped (and the government preferred balanced inter-regional development in the country) and close enough to Istanbul to permit easy transportation and communication with the industrial and commercial center of the country. The two companies hence immediately engaged in the construction activities in the selected region, and by late 1971, all investments were completed and both the factories commenced with production.

With the introduction of the passenger-car production in 1971, the automotive industry gradually gained momentum in Turkey. The year 1971 would therefore be a milestone in the history of the Turkish automotive industry. Indeed, in a short period of time, Tofas and Renault accomplished to become role models for the other firms, in the industry, stimulating and encouraging industry-wide progress. Not only did they soon surpass all the other automotive firms in terms of volume of production, but they also led the industry in many other aspects, as well. Some of the people we interviewed during the field-work (including many of the suppliers) are in the opinion, in fact, that the history of the Turkish automotive industry begins by the early 1970s, and not before, by when Tofas and Renault commenced with production. In examining the development of the automotive
industry and the related subcontractor sectors in Turkey, therefore, it would be best to focus on the development of Tofas and Renault, and subsequently look at how the rest of the automotive industry gained momentum upon the positive impact of these two factories.

II. The Post-1970 Era: The Industry Gains Momentum With the Establishment of Tofas and Renault

The establishment and the subsequent pattern of development of Tofas and Renault coincide with a very unique period in Turkey's history of economic development. During the 20-year time interval between the early 1970s and the early 1990s, Turkey's economy experienced radical economic fluctuations and structural transformations, which took place within a sequence of three successive phases. In late 1971, by when Tofas and Renault commenced with production, the Turkish economy was in the second decade of the import-substitutionist, planned model of development that was adopted in the early 1960s. This model continued to prevail rather successfully until the year 1978, by when the country suddenly entered into a period of severe crisis. The crisis period, which lasted from 1978 to 1983, would be recorded as a special period in Turkey's economic, social and political history, not only because of the crisis, per se, but also because it signalled a radical but rather painful passage, in the country's overall model of development, from the
long-lasting import-substitutionism, to one of export-orientation, market orientation, and liberalism in the trade regime. Following the chaotic period of passage, the new model began to gain momentum by the year 1983, and since then succeeded to become a somewhat established and acceptable model of development, despite inherent social and economic problems.

Such prime fluctuations and changes in the economic life of the country between the years 1971 and 1992, had significant impact on all the industrial sectors of the economy, leading to a gradual, if not rapid, change in their product and production strategies. This would be so in the case of the Turkish automotive, and especially the passenger-car industry, as well. In examining the development of Tofas and Renault, therefore, we will divide the 1971-92 time-interval into three successive periods, corresponding to the three distinct phases of Turkey's economy during that time interval, and look at what kind of transformations the two firms went through in passing from one period to the other. Period I will cover the 1971-1978 interval of import substitution; Period II the 1978-1983 interval of crisis and transformation; and Period III the 1983-1992 interval of stabilized export and market economy.

The direction of development of any industry in any country changes, over time, as the factors that influence that development change, themselves. It would be so in the case of the Turkish passenger-car industry, as well, but with some reservations: by the time Tofas and Renault commenced with production in 1971, their medium-to-long term direction of development and product/production strategies were already determined, up to a considerable degree, under the impact of several major factors. The existence of these factors would be so decisive that the Turkish passenger-car industry would long be characterized, under their influence, by a decentralized system of production with much space for subcontracting; eclecticism in the production paradigm; and limited innovation orientation. Although the industry would eventually go through significant transformations in many other aspects of production, particularly the first two of these characteristics adopted during the early phases of establishment, persisted over time.

There were five interrelated factors that imposed such characteristics on the Turkish passenger-car industry. These factors were, specifically: government intervention; the protectionist model of development; the mission of Tofas and Renault vis-a-vis their parent companies abroad; the level and composition of demand; and low volume production. To
better demonstrate the development path of the two firms, therefore, we will begin our analysis by examining these factors, first.

1.1 Government Intervention

Of the factors that determined the path of development of Tofas and Renault, one of the most outstanding was the intervention of the Turkish government in their terms of production. Indeed, the establishment contracts of the two companies--orchestrated primarily by the Turkish government in accordance with the famous "Assembly-Industry Decree"--were comprised of very explicit targets and provisions, as well specific terms to ensure compliance with the requirements. First, the two factories were both to have an annual production capacity of minimum 20,000 cars. Second, Tofas (which had decided to begin in-house production with the body) was to commence with the manufacturing of the engine and the transmissions within at most 4.5 years after production started; conversely, Renault (which had decided to begin in-house production with the engine and the transmissions) was to commence with in-house manufacturing of the body within the same time period. Third, within 1.5 years after production started, or by the time each factory reached a production volume of 12,500 cars, the local content level in the final-product had to be a minimum of 67%. Within at most 5 years after production began, the
local content had to reach 85%. Fourth, provided that the two firms attained the above targets, they would be granted certain investment incentives, and CKD components to be used in production, as well as capital equipment and raw materials, would be imported with 80% tariff exemption. Fifth, the price of the final products would be fixed by the government, taking the average profit margin over ten years as 16.5%. Sixth, (in the case of Tofas) the dies to be used in the production of the body of a car were to be utilized until a minimum of 80,000 cars were produced, etc., etc. The two companies were also expected to engage in exports, if conditions permitted. They were obviously also subjected to the general provisions of the Assembly-Industry Degree (vis-a-vis list of importable parts, foreign currency allocations, etc.).

Government intervention to the manufacturing terms of automotive companies is by means unique to the case of

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Note that during the 1970s, the prices of the private sector products were in general controlled by the governments in Turkey. It is interesting to note, for example, that in 1970, "The Prime Minister made strong statements that...private sector firms unduly raising prices would be subject to various sanctions, including loss of incentives (exemption from duties on capital goods imports, investment priority status, and the like), restrictions in their activities within the framework of the Foreign Trade Regime, and even imprisonment." (Krueger, 1974: 316) In 1978, a Price Control Committee was established for the purpose. This committee would be abolished in 1980.

Summarized from the establishment contracts of Tofas and Renault, given in Aksoy, 1990: Annex 2. In the following years, export target would be set at 5% of output.
Turkey. In almost all developing countries, by the time the governments decided to spur domestic manufacturing of automotive products, they played a major role in determining the terms of production of vehicle producers. The provisions and accompanying incentives, however, significantly varied among countries, and so did the subsequent pattern of development of the manufacturing ventures. Local content requirements for passenger-cars, for example, ranged from over 90% in the case of Argentina, Brazil and Korea, to 62.5% in the Philippines, 60% in Mexico, 40% in Venezuela, 35% in Malaysia, and 30% in Peru, to be attained within usually a 3-6 year time period. Local content provisions were usually accompanied by restrictions on imported parts. Price controls are cited for the Malaysian, Brazilian and Mexican cases. Incentives, on the other hand, varied from tax incentives, credit incentives, complete or partial

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21 Decree dates are: 1956 in Brazil, 1959 in Argentina, 1962 in Mexico and Korea, 1963 in Peru and Venezuela, and 1973 in the Philippines. In Malaysia, although a 35% local content level was initially targeted (in 1971), the government did not take any firm steps to implement the program. For the Latin American countries, see Jenkins, 1987: 58-59; for the Asian countries, see Lim and Onn, 1983: 90-91; Kim and Lee, 1983: 289-92, Tolentino and Ybanez, 1983: Table 5.7 Note that local content formulas differ across countries. Some formulations are given in footnote 10. In the case of the Philippines, local content was defined as the f.o.b. value of components manufactured locally plus export earnings, divided by the f.o.b. value of a vehicle (Tolentino and Ybanez, 1983: 241).

24 Lim and Onn, 1983: 98; Baranson, 1969: 39; Mericle, 1984: 29
tariff exemptions, and foreign exchange incentives.\textsuperscript{25} As domestic industrialization was primarily intended to substitute imports, export orientation was not on the agenda, initially. In all these countries, export requirements and accompanying incentives became active during the 1970s.\textsuperscript{26}

How the varying provisions influenced the development of passenger-car manufacturing in different countries will be looked at in the subsequent sections of this chapter in analyzing the cases of Tofas and Renault. Suffice it to say, here, that in Turkey and elsewhere, government intervention would be among the major factors in shaping the production organization of vehicle manufacturers, playing a fundamental role in determining their path of development.

1.2 The Protectionist Model of Development

Apart from direct government intervention, an equally significant factor that would influence the trajectory of the passenger-car industry in Turkey would be protectionism in the foreign trade regime, a major characteristic of the planned/import-substitutionist model of development that the country adopted by the early 1960s. As a policy to foster

\textsuperscript{25} Kim and Lee, 1983: 289; Jenkins, 1987: 58; Mericle, 1984: 6

domestic industrialization in all import-substituting regimes, protectionism was activated, in Turkey, according to a schedule which was based on the industrialization targets set up in the 5-Year Development Plans. The major principle of the schedule was to commence with protectionism in any one industrial product by the time the country began to produce that product, itself. As experts indicate, protection afforded through quantitative restrictions and even prohibitions, in Turkey, considerably exceeded that afforded through tariffs and surcharges. Indeed, throughout the 1960s and 1970s, many goods were not importable, and there were limitations on those that were. The latter were divided among two major lists. The items on the "Liberalized List" were freely importable goods, whereas the "Quota List" restricted the quantities of individual items that could be imported. When domestic production of any one item began, the producer appealed for the transfer of the commodity to the Quota List or else for its removal from the list of legally importable parts, all together. As Krueger points out, hence, "An important feature of the import regime was that any commodity that did not appear on a list could not be legally imported. Thus, once an item was domestically produced, it was accorded virtually unlimited protection through the simple device of removing it from any import list".  

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The protectionist principles of the Development Plans, above, would no doubt be practised in the case of the domestic passenger-car industry, as well. It is stated, in fact, that in the early 1970s, by when Tofas and Renault commenced with production, the automotive industry was among the leading industries in Turkey in terms of the rate effective protection.\textsuperscript{28} Indeed, the trade regime almost completely banned car imports, so that during the 1970s, the main source of foreign vehicles in Turkey would be the Turkish workers employed in foreign countries who had the permit to bring in and sell cars purchased abroad. As a result, while the number of imported cars was 16,143 in 1968, in 1971 only 3,401 foreign cars entered the country, to follow the same pattern in the subsequent years.\textsuperscript{29} Tofas and Renault commenced with production, in other words, not having to encounter any serious foreign competition.

It is possible to say that a rigid system of protectionism was indeed necessary, by the early 1970s, to encourage the development of the Turkish passenger-car industry, which was only in its infant industry stage, by that time. However, the infant industry stage may take some time as a result of which the policy of protectionism may become a rather long-term policy. This was indeed what happened in the case of the Turkish passenger-car industry. Tofas and Renault were

\textsuperscript{28} Alpar, 1974: 807

\textsuperscript{29} Pekarun, 1977: 29
established under the wings of protectionism which would continue to prevail for a rather long time. Being thus protected from foreign competition, on the other hand, would not prove to have too much of a positive impact, on the development of the two firms, restricting and shaping, from the very start on, their progress in the long run.

1.3 The Mission of Tofas and Renault Vis-a-Vis the Parent Companies Abroad

Although the Turkish government would play a major role in determining the path of development of the Turkish passenger-car industry by direct intervention, on the one hand, and designing the overall model of development, on the other, perhaps the central factor that would determine the trajectory of Tofas and Renault was the status or the mission of the two firms vis-a-vis Fiat of Italy and Regie-Renault of France. Indeed, as was the case in other developing countries, Tofas and Renault were established almost like branch factories of their parent companies abroad, being completely dependent on these established producers in almost every aspect of production. When we look at the terms of endearment of Tofas with Fiat, and Renault with Regie-Renault, in fact, we see that they almost carry the characteristics of the relationships between a domineering "center" and a subordinate "periphery", leaving
little scope of autonomy for the latter to pursue a genuine line of development.

All specifications concerning the products, for instance, were provided by the parent companies, and the factories in Turkey would not be able to make any major changes, themselves. Second, the center would be the prime decision-maker vis-a-vis the technology to be employed in Turkey (which would be directly transferred, in some cases, from the very central factories abroad) and in designing the work groups, factory lay-out etc. Third, during the subsequent years, such strategic decisions as to whether to engage in exports or not would also originate from the parent companies. The status of the factories in Turkey, in other words, were to be primarily that of an executioner, the center of conception being located abroad.

It is possible to say that while such a dependence made it easier to overcome some of the difficulties that Tofas and Renault would have faced had they been independent producers, the outcome (combined with some other factors) would also be a considerable delay in innovation orientation, ultimately restricting their development. In examining the automotive industries in developing countries, Baranson observes that a dominant corporate attitude that is unreceptive to innovation is a basic hindrance to the
success of overseas ventures.\textsuperscript{30} During a considerable period of its history, the Turkish passenger-car industry would not be much different, in that respect.

1.4 The Level and Composition of Demand

The level and composition of demand by the time Tofas and Renault commenced with production, was another factor that would play significant role in determining the future of the two firms. Unlike the market conditions in the advanced countries, the Turkish market was far from being saturated, in the 1970s, vis-a-vis industrial products, and above all passenger-cars. Despite the rapid increase in the number of imported cars during the 1960s, the total car park in Turkey had reached only 137,771 by 1970, corresponding to 258 persons per car, much above the prevailing figures even in some other developing countries. In 1970, the number of persons per car was 15 in Argentina, 16 in Venezuela, 24 in Uruguay, 41 in Mexico, 43 in Brazil, 56 in Chile, and 60 in Peru.\textsuperscript{31} In the Turkish case, then, most families, including the middle-income group, did not own any car. This means that the aggregate demand was quite uniform, being composed basically of demand for family cars, with no pressure on the prospective passenger-car producers for model sophistication and variation. This was even more so considering that the

\\textsuperscript{30} Baranson, 1969: 17

\textsuperscript{31} Jenkins, 1987: 103
income per capita in Turkey was only US$ 383, by that time. The aggregate demand, then, was not only uniform, but also quite low, which the government further helped reduce, in 1970, by announcing a high increase in taxes due on customers.\textsuperscript{12}

As it usually takes time for any unsaturated and relatively low income market to transform into a market of sophistication, the suppliers that are face to face with such markets are pretty restricted, vis-a-vis medium-to-long run production strategies, not having much of an opportunity for change. It would be so in the case of the Turkish passenger-car industry, as well: The level and composition of domestic demand by the time Tofas and Renault made entry to Turkey's economy, would have significant impact on the product/production strategies of the two firms, rather in the long run. The low level of domestic demand would lead, above all, to the establishment of Tofas and Renault as low volume producers, which is the last factor that played significant role in determining the trajectory of the Turkish passenger-car industry, from the very start on.

1.5 Low Volume Production

Corresponding to the rather low level of domestic demand by the early 1970s, Tofas and Renault were established as very

\textsuperscript{12} Aksoy, 1990: 62
low volume producers. Their initial production capacity was only 20,000 cars per year, each, much below the world optimum by that time, assessed between 400,000 to 2,000,000 cars. Although the two firms increased their capacity over time, they never reached the world standards as the pace of increase in domestic demand did not permit them to do so. As the optimum figures show, on the other hand, passenger-car production is among the leading industries in necessitating high volume production both to achieve scale economies and be innovative/creative at the same time. Low volume production, therefore, is usually a disadvantage, in passenger-car production, in contrast to some other industrial sectors.

Indeed, except for the case of the highly customized, luxury car producers, very low volume production may highly restrict the innovative development of the passenger-car producers, prevent the most efficient utilization of the available technology, and lead to the simultaneous adoption of different production paradigms, which may not prove to be a very efficient system of production, either quality- or cost-wise. It was only the Japanese producers who, by their unique techniques of lean production, succeeded to incorporate innovation, high productivity and quality in smaller-scale production. However, Tofas and Renault were guided by Fiat and Regie-Renault who--being

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33 Jenkins, 1987: 70; Rhys, 1972: 289
mass-producers, per se--were not equipped with the techniques observed in Japan. Combined with the oligopolistic supply structure and protectionism, therefore, the fact that the two factories were established as low volume producers in a low demand market played a rather restrictive role on their path of development, which proved to display, over time, all such characteristics of low volume production.

In late 1971, then, Tofas and Renault commenced with production within an economic/ regulatory environment whose framework, vis-a-vis passenger-car production, was drawn by the five factors discussed above. These five factors, combined with the more general features of the import-substitutionist model of development, imposed some distinctive production characteristics on the Turkish passenger-car industry, which proved to be rather long-term characteristics surviving over time. The path of development of the Turkish passenger-car industry can best be traced, therefore, by a thorough analysis of the emergence of each of these inherent characteristics within the background of the specific conditions of the 1971-78 period.

1.6 Decentralized System of Production

One of the distinctive characteristics that Tofas and Renault adopted in the early stages of their development was
a decentralized system of production with much space for subcontracting. Indeed, while their parent companies, Fiat and Regie-Renault, displayed a highly integrated system of production organization in the early 1970s, Tofas and Renault were already working with about 100 suppliers, each, as early as 1975, only 4 years after they commenced with production. By 1978, when local content reached 70-75%, approximately 50% of the total cost of the locally produced components was accounted for by purchases from the suppliers—whose total number had reached up to 150-200 per firm. The suppliers' share in local costs would reach 65-70% by 1991, by when local content increased up to 90-95%.

The adoption of a decentralized system of production, however, was not exactly a voluntary choice of the Turkish passenger-car producers. It was rather an outcome of some of

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34 In describing Fiat in the early 1970s, Rhys makes the following comments: "Amongst the major European producers Fiat probably attains the highest degree of self-sufficiency....Fiat, or the subsidiaries and affiliates it has established over the years, makes most of its own electrical parts, brakes, carburetors, diesel injections and injection pumps, rubber products, paint and enamel. In addition, the firm has its own steel making complex which ranges from blast furnaces and strip mills through to foundries and forges... The company has the most elaborate organization for metal making and shaping of any motor vehicle producer in the world." (Rhys, 1972: 169). Note that Fiat's subsidiaries, most of which are owned by Fiat, itself, work primarily for this company, many only for Fiat. An estimate of Fiat's degree of vertical integration by 1971 is 75% (interviews). In the case France, Rhys points out that by 1972 these companies (including Renault) purchased 35% of the total value of the average car from outside, manufacturing the rest in-house. (Rhys, 1972: 138).

35 Interviews
the factors, above, which led Tofas and Renault to adopt such a strategy. The most decisive of these factors was the government's requirement to increase the local content in domestic car production up to 67% within as short as 1.5 years after production began. By the year 1977, local content had to reach 85%. The government did not state, however, how the two factories would attain the required local content levels. The only provisions were that both factories were to produce the body and the engine/transmissions in-house, but, in contrast to some other country cases, there were no provisions as to in-house production versus subcontracting when it came to the rest of the vehicle components.

Indeed, in some developing countries, particularly in those where local content targets were rather ambitious, the governments directly fostered the rise of a supplier sector by restricting vertical integration. In Mexico, for example, the 1962 decree restricted in-house production to assembly operations, machining of engine blocks, and any manufacturing operations in which the firms had been engaged prior to the decree (which was very limited). Again in the Philippines, the 1973 decree stated that domestic subcontracting would be preferred to vertical integration, and the decree was equipped with the necessary mechanisms to

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36 Bennett and Sharpe, 1984: 207
ensure the promotion of subcontracting. Similar decree requirements were in effect in the Brazilian case, as well. While these provisions are cited among the major factors behind the rise of an auxiliary industry in these countries, there were no such provisions in the Turkish case, and yet we observe a similar development in Turkey.

Why? The Turkish passenger-car manufacturers explain their preference in favor of vertical disintegration, by that time, by the local content requirement, financial difficulties and the cost of production concerns. A more technical explanation, which would put the concerns of the producers in perspective, could perhaps be made in the following way:

First, Tofas and Renault were both established as, and considering the level of domestic demand, were likely to remain as very low volume producers. At an annual production capacity of 20,000 cars, they would be operating under severe diseconomies of scale, and their costs would be at least 75-100% higher than that of a foreign car produced by factories having optimum capacity. Particularly, capital costs per unit manufactured would be very high. Giving an example from Europe, Baranson indicates that at an annual

37 Tolentino and Ybanez, 1983: 242, 279
38 Jenkins, 1987: 63
39 Interviews
output volume of 60,000 cars, investment cost per car would be 82% higher than that of a factory producing 180,000 cars. The difference would be 900% when output is 3,000 cars. Second, studies conducted in the early 1970s revealed that low volume producers which are required to increase local content in a short period of time, would be faced with still additional costs which could be considerable. In analyzing the New Zealand case, for example, Baranson points out that most firms found it unprofitable to manufacture cars with more than 40% domestic content, because increased costs of domestic production outweighed realizable profits. Baranson also points out that vertical integration intensifies the diseconomies of small scale production.

Excessive cost increases due to the diseconomies of small volume production under challenging local content requirements would probably not have distressed Tofas and Renault had they the liberty to fix the prices of their products themselves, on the one hand, and had they operated in a higher income market, on the other. The first factor is particularly important. As indicated before, the prices of Tofas and Renault cars were fixed by the government, and

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40 Baranson, 1969: 39
41 Baranson, 1969: 63
42 Baranson, 1969: 64
43 Baranson, 1969: 26
this practice continued until 1980. During this period, we see that price increases in passenger-cars were kept below the rate of inflation. While the average rate of inflation was 19.6% during 1972-75, for example, during the same period, average annual increase in the prices of passenger-cars was around 7% (minimum 3%, maximum 10%).\textsuperscript{44} Moreover, the establishment contracts of Tofas and Renault stated that prices would be fixed on the assumption of maximum capacity utilization, without taking into consideration the negative impacts of low capacity operation.

Under these conditions, then, cost of production must have been a major concern for the producers, who would seek out ways that would allow cost savings. They would try to economize on labor and capital as much as possible. The two factories had already made major investments to produce the body (Tofas) or the engine and the transmissions (Renault), which are the most costly components of a passenger-car demanding huge investments (and requiring very high volumes of production for cost-effective production). To keep the rate of return on fixed investments high, and to shorten the

\textsuperscript{44} Own calculations from Pekarun, 1977: 154. Note that after the government abandoned the policy of fixing prices in 1980, the increase in passenger-car prices began to exceed the rate of inflation, especially during the boom years. During 1986, for example, while the inflation rate was 35%, passenger-car prices increased by 42% (Ulagay, 1987: 149-150). Similarly, during the 1.5 years between mid-1991 and September 1992, while the rate of inflation was around 121%, the increase in passenger-car prices was up to 198%, in some cases. (Own calculations from price lists published in the newspapers).
amortization period, then, Tofas and Renault would prefer to utilize the available infrastructure of outside firms rather than tying-up further capital in in-house production.

In fact, it is possible to say that even if there were no price ceilings, low volume production, per se, was likely to encourage a decentralized structure under the required local content levels. Capital accumulation would be too limited to allow for integrated investments in in-house production, which, had it been done, would still result in low rate of return on fixed investments, unless of course the producers demanded astronomically high prices for their products which only the specialist producers in the world had the liberty to afford. Hence, concerns about cost savings would still be on the agenda. Indeed, it has been observed, throughout the world that, in order to survive as profitable ventures, low-volume vehicle producers are much less integrated than high-volume producers.45 46

45 In the case of Alfa Romeo and Lancia in Italy, for example, Rhys points out that these two companies were too small to have their own components industry. Any attempt to do so "would have entailed huge investments and such high costs of production that to cover them prices would have been at such a level as to price the companies out of the market." (Rhys, 1972: 170). See also pages 131-132, 176.

46 A major difference between the low volume producers operating in countries like Turkey and those operating in the advanced countries was that the latter had much greater liberty to purchase their components from abroad, if they wished to do so, not operating under local content requirements. Domestic sourcing, hence, was not mandatory.
We should point out here that as we will follow below, vertical disintegration in the Turkish case encompassed a large number of small scale suppliers, most of whom were in fact artisanal producers operating on the margins of informality. This was particularly so during the early phases of the passenger-car industry, when a great majority of the suppliers were very small firms. One of the factors that led to the incorporation of the small firms was the fact that there were not many sophisticated producers in the country by that time. However, interscale wage differentials must also have attracted the assemblers, as yet another factor encouraging vertical disintegration. In 1970, while the average annual wage in large manufacturing enterprises was 13,800 TL in Turkey, it was 6,000 TL in artisanal establishments, while the medium-sized firms displayed a picture that is pretty close to that of the large manufacturers, with an average annual wage of 12,700 TL. It was also accounted that the workers in artisanal units did not have the benefit of a social security system, either. Working with small producers, hence, must have allowed considerable labor cost savings. Nevertheless, as we tried to demonstrate above, this was not the only factor that encouraged vertical disintegration in the Turkish case. Fixed capital savings were equally important. Watanabe also emphasizes the importance of economizing on capital,

47 Interviews
48 UNIDO and SESRTCIC, 1987: 18-19
indicating that "Reliance upon subcontractors for part of the production processes enables the parent firm to concentrate all the resources available to it on a limited field. Together with utilization of the "scattered" capital possessed by small subcontractors, this considerably enlarges the production capacity of the industry in question." 49

By the early 1970s, however, it was perhaps easier for Tofas and Renault to adopt a strategy of subcontracting than to put it in practice. A passenger-car is a very unique consumer product being composed of as many as at least 4,000 different parts the production of which requires a certain level of sophistication. The car manufacturers point out, however, that by the early 1970s, there were very limited number of firms in the country that were developed enough to produce passenger-car components. Tofas and Renault therefore realized that they simply had to create their own suppliers, themselves, out of the informal-artisanal infrastructure.

Starting as early as the first years of production, the engineers of Tofas and Renault, accompanied, in some cases, by foreign engineers assigned by Fiat and Regie-Renault, began to train some selected artisanal firms teaching them the utilization of new technologies, production planning,

49 Watanabe, 1971: 56
and methods to upgrade the quality of production. Once some among them were finally selected as possible suppliers, Tofas and Renault made them advanced payments, in some cases, to upgrade their technological infrastructure. If, after a period of trial, they were more or less satisfied with the quality of the product any one or group of suppliers provided, they stopped importing that part of the car from abroad, localizing its production. It is important to indicate here once more that investing in the available infrastructure of the small firms by way of technical assistance and advanced payments (which were no doubt paid back) must have cost the assemblers much less than it would have had they engaged in building their own facilities in-house.

This process continued throughout the 1970s, during which Tofas and Renault step by step localized the production of many parts of their final products. We should note, however, that there also gradually appeared larger scale suppliers in the country which were established, during the period, upon the momentum induced particularly by passenger-car production. Indeed, artisanal production has its limits. It is not possible to manufacture the most complex, or the most crucial parts of a vehicle in artisanal workshops. The

50 An engineer we interviewed summarized the development during this period as "The artisan was producing saucepan covers. Now, he was in the position to produce wheel covers, in contrast!".
larger suppliers—the biggest of which were usually partnerships with foreign companies or else operated under license—hence concentrated on such components as cast-iron engine blocks, brake system parts, shock absorbers, wheels, drive shafts, engine bearings, radiators, pistons, fuel and air filters, convex safety glass, electrical components, etc.\footnote{51} As a result of such ventures, the efforts of Tofas and Renault vis-a-vis particularly the smaller suppliers, and the completion of a major portion of the second phase in-house investments—Tofas to produce the mechanical components, Renault the body—the Turkish passenger-car industry accomplished significant progress during the period. By 1978, local content had reached up to 70-75\%, the number of suppliers increasing to 150-200 per firm. As cited before, the suppliers' share in the total cost of the locally produced parts was approximately 50\% by that time. While the share of the larger companies in total purchases from the suppliers surpassed the share of the small firms, the latter would constitute the majority of the suppliers in terms of total number.

\footnote{51} Some of these larger ventures were initiated by the KOC Group of companies which Tofas and some of the commercial-vehicle manufacturers were/are also a part of. Note, however, that these suppliers are completely independent companies and work for the automotive industry, in general, not only for the KOC Group producers. For instance, in 1988, Doktas—a KOC Group company, which is by far the largest private sector foundry in Turkey—was meeting as high as 80\% of Renault's needs, as well as serving many other commercial vehicle producers, aside from supplying the KOC Group vehicle producers. (Interviews).
We should immediately note here that extensive assistance from the assemblers to particularly the small suppliers is not unique to the Turkish case. In examining the case of the Latin American automotive industry, Jenkins notes, for example, that "In many cases the relationship between the terminal firm and its supplier is not an "arms's length" relationship where the terminal buys parts off the shelf. The nature of vehicle production makes it necessary for the parts which the terminals buy to meet detailed specifications in terms of dimensions, tolerances etc... Whereas in the advanced capitalist countries the terminal may be able to provide its suppliers with technical specifications and leave production in the hands of the supplier, in the Third World generally it has found that a much greater involvement in the suppliers' operations is required and terminals are engaged in providing technical assistance to their suppliers on an extensive scale... In Latin America too there is extensive involvement by the terminals in the production decisions of their suppliers... In Mexico in the early sixties (for example) a product engineer from the terminal was involved in the selection of suppliers, discussion of the specifications for parts, encouraging suppliers to apply industrial engineering techniques, selection of testing equipment and assistance with suppliers' specification to sub-suppliers."\(^{52}\) In this sense, therefore, what we observe in the case of the

\(^{52}\) Jenkins, 1987: 130-131
automotive industry in Turkey and in other developing countries deviates from both the mass-production model as documented in the literature, and also from the described nature of large-small enterprise relationships as documented in the informal sector literature.

What was happening on the side of the commercial-vehicle producers? Although upon escalating pressure from the government vis-a-vis increase in local content, on the one hand, low volume production, on the other, the commercial vehicle industry had begun to engage in local outsourcing after 1968, the CV producers did not spend much of an effort, those days, to upgrade the production conditions of their suppliers most of which were artisanal workshops. Our interviews in Turkey suggested that the CV producers began to spend more vigorous effort to train and financially assist their own suppliers rather during the 1970s, being stimulated particularly by the achievements of Tofas and Renault who were to become the role models of the automotive industry. As a result, during the 1970s, both the local content and the overall product quality in commercial vehicle production also increased. According to Pekarun's study, by 1976 local content ranged between 70-77% in buses, 60-66% in trucks, 54-70% in minibuses and light trucks, and 50% in truck-tractors.\(^5\) Although most of the suppliers

\(^5\) Pekarun, 1977: 149. Note that upon the requirement of the government, CV producers were by now importing their engines on a CKD basis which also contributed to the
serving the CV industry were small producers, part of the increase in local content was accounted also by the larger scale suppliers, above, many of which were working for both the passenger-car and the CV industries.

It is estimated that by 1978, the overall number of suppliers serving the automotive industry in Turkey (passenger-car and commercial vehicle producers combined) reached 900. The importance of the local content requirement in triggering such a rapid growth of the supplier industry can perhaps be best demonstrated by inter-country comparisons. In Malaysia, for example, during 1974-1979, 11 firms were operating in the automotive industry with total annual output ranging between 48-61,000 units. Local content target by 1979, however, was only 27.5% (and even then it was not vigorously pursued by the government). As a result, the total number of suppliers in Malaysia was only 75 by 1979. The industry relied mostly on imported parts. In Turkey, 14 firms were producing motor vehicles with a total output of 80,800 units in 1978, which is comparable to the Malaysian case. However, as given above, the number of suppliers in the Turkish case was as high as 900, the same year. In general, as local content

increase in local content. See also footnote 15.

54 Aksoy, 1990: 65
55 Lim and Onn, 1983: 91, 96-97, 132
56 OSD, 1989
targets increase, so does the number of suppliers. By 1981-82, the number of suppliers was around 1,800 in Brazil, around 1,000 in Argentina, around 500 in Mexico and Colombia, 150 in Peru and 200 in Venezuela. The required local content levels decrease in approximately the same order, and so does the realized local content levels. In all these countries, most of the suppliers were also small scale firms, although the share of the larger suppliers in total purchases of the assemblers surpassed that of the small ones, similar to the case we observe in Turkey.

1.7 Limited Innovation, Focus on One Model

Aside from a decentralized system of production with much space for subcontracting, another major characteristic that the Turkish passenger-car industry assumed during the early stages of its development was limited innovation and R&D, which emerged particularly in the form of focus on one model. Such a characteristic was the combined outcome of some of the factors discussed above, and as these factors persisted over time, so did their outcome.

In 1971, Tofas commenced production with Fiat 124 (under the name Murat 124) and Renault with Renault 12 cars. Tofas continued to produce the 124 until 1977, when it was

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57 Jenkins, 1987: 72
58 Jenkins, 1987: 126-130
replaced by the Fiat 131 (Murat 131) model. Once the new model was introduced, Tofas ceased to produce 124, to return to it only in 1983. Murat 131, on the other hand, continued to be produced up to date, without any major modification in the model until the year 1988. It was the same for the Renault factory. Renault focused on a single model, Renault 12, until 1985, without any major changes on that model until, again, 1988. Murat 131 and Renault 12 were introduced in sedan and station wagon versions (Murat 131's station wagon was introduced in 1981), accompanied by 2 different versions vis-a-vis engine cylinder capacity (plus some derivatives with regards to accessories, in the 1980s). We should also note that in the case of both factories, any major modifications on the existing models originated from the parent companies in Italy and France, with relatively limited contribution on the part of the staff in Turkey.

One of the factors that restricted innovation orientation at Tofas and Renault was no doubt their dependency on the parent factories vis-a-vis product specifications. Such a reliance, which would continue throughout the years, restrained the development of effective R&D activities in Turkey. However, there were other factors, as well. One of them was the level and composition of demand by the time Tofas and Renault were established. Indeed, as indicated before, Tofas and Renault were facing, by the year 1971, a very unsaturated and a predominately low income market,
composed primarily of demand for durable family cars. Murat 124, 131 and Renault 12 were successfully responding to such demand characteristics which did not change, to any considerable extent, until the mid-1980s. For a very long time after establishment, therefore, Tofas and Renault did not face much pressure, from the demand side, for model sophistication and variation. Besides, the foreign cars brought in by the Turkish workers abroad increased in number, over the course of years, and these cars were responding to the needs of the more diverse customer segments. In 1975, for example, 13,676 foreign cars entered the country (total domestic production was around 67,000 cars that year), and it is indicated that a significant portion of these cars were very expensive luxury cars. The remaining but smaller portion, on the other hand, consisted mainly of small cars like Volkswagen, which again responded to a different market segment than did the domestic alternatives.\textsuperscript{59}

In spite of the status vis-a-vis the parent companies abroad and the demand characteristics Tofas and Renault were to respond to, however, had the two factories not been functioning in a basically protected market and exposed to foreign competition, instead, they would perhaps have had the chance to develop as more innovative producers. Large scale commercial importation being banned, Tofas and Renault

\textsuperscript{59} Pekarun, 1977: 28-29
were protected from the competition of cheaper but higher quality foreign cars that would respond to the same target market segment as the products of the two factories. Hence, the companies in Turkey did not spend as much effort as they could have, during the 1970s, to increase the quality of their cars, on the one hand, and to decrease costs in in-house production, on the other. Indeed, although the Turkish cars were not up to world standards either quality, cost, and therefore, price-wise, they sold anyway as they were the only products in the market. This factor, in return, played significant role during the 1970s, in preventing Tofas and Renault from developing into truly innovative, research oriented producers like their peers in the outside world.

Among all the factors that restricted innovation in the Turkish passenger-car industry and triggered reliance on a single model, however, one of the most decisive was the fact that Tofas and Renault were established as very low volume producers. Indeed, as studies conducted in the early 1970s revealed, low volume producers, who can not exploit scale economies, would be faced with increasing costs if they produced more than one model at the same time. According to these studies, with a total production volume of around 25,000 cars per year (Tofas and Renault during the 1970s), the total cost of assembling more than one model would be close to twice as high as the cost of assembling one model,
only.\textsuperscript{60} (It was again the Japanese producers who, through their unique techniques, succeeded to efficiently integrate multi-model approach in relatively low volumes of production. But again, the guides of Tofas and Renault were not the Japanese, but the mass-producers of Europe).

Second, despite being low volume producers in terms of the overall productive capacity, Tofas and Renault were both employing very expensive, high-capacity mass-production machinery/equipment in certain phases of their production, particularly in their body shops. In order to minimize costs and maximize profits, however, low volume producers using such technology have to focus on any one model for a longer period of time than high volume producers. Pratten's 1971 study shows, for example, that while the unit cost of manufacturing the body of a car in a factory producing 500,000 cars per year would drop to 60 units within a period of 2 years, a factory producing 25,000 cars per year had to keep on producing the same body for more than 10 years to come to the same cost level, and amortize the initial fixed investments.\textsuperscript{61} A change in the model would otherwise result in significant, and usually unaffordable, increase in unit costs as Tofas itself experienced in 1977. When this factory

\textsuperscript{60} Cited in Aksoy, 1990: 92

\textsuperscript{61} Pratten, 1971: 136
shifted from the production of Murat 124 to 131 that year, unit costs increased by 57%.

The inhibiting impact of low volume production incorporating expensive high-capacity mass-production equipment, would perhaps be best demonstrated by comparing the passenger-car producers in Turkey with the commercial-vehicle producers. As discussed before, commercial-vehicle production in Turkey was actualized in numerous small factories none of which had the chance to grow into reasonably big producers for a major part of their history. Unlike Tofas and Renault, hence, these producers could in no way afford to incorporate any type of expensive mass-production technology in their production. As a result, commercial-vehicle production was, and still is, labor-intensive to a considerable extent, including the operations in the body shops. This situation gave considerable amount of freedom to the commercial-vehicle producers to operate on more flexible grounds: despite being low producers, they were at least not restricted by the pressure to amortize investments in any expensive mass-production equipment. Consequently, especially when compared to Tofas and Renault, the commercial-vehicle producers in Turkey were not only able to engage in multi-model production (in the 1970s, the common trend was to produce 3-4 different types of vehicles, with

\[superscript]\text{62}\] Figure taken from Aksoy, 1990: 101
different versions of each vehicle at the same time), but they were also able to engage, up to a certain degree, in innovative efforts, experimenting with the design of their products. We should note, however, that such experimentation was rather trivial, during the 1970s, when the market was closed to foreign competition. The commercial-vehicle producers began to be flexibly innovative rather after the mid-1980s, when the government relaxed the policy of protectionism vis-a-vis automotive products.

1.8. Eclecticism in the Production Paradigm

Apart from a decentralized system of production and limited innovation, a third distinctive characteristic that the Turkish passenger-car industry adopted during the 1970s, was, what we prefer to call, eclecticism in the paradigm of production. Although the industry went through significant transformations over time, this distinctive characteristic also persevered, in principle if not in form.

Indeed, the paradigm of production characterizing the Turkish passenger-car industry has never fitted into the framework of any one of the established models of production. It was not, for example, a real case of mass production, nor was it a typical case of lean production/flexible specialization. From the very start on, instead, Tofas and Renault incorporated some characteristics
of both the models at the same time, in addition to some other characteristics that do not typically fall into the borders of any one of them. The production in Turkey can best be described, therefore, as an eclectic combination or unification of different paradigms of production at the same time.

Taking one example: By 1977-78, Tofas and Renault had both completed a major portion of their investments in in-house production. Above all, they had both established their own body shops, leading all the other firms in the Turkish automotive industry with regards to capital-intensive production. However, the stamping presses the two firms used in manufacturing the body components of their cars, were very expensive, high-capacity mass-production machinery, which were ideal for advanced, high volume producers. The latter operated exploiting the system of "transfer lines", in which several presses, each usually using one die throughout the year, operate in coordination with the others to give the final shape to any one body component. Here, each transfer line is ideally dedicated to the production of only one such component. In car manufacturing, there is the need of several stamping operations to give the final shape to any one component of the body, and the technique of transfer lines is ideal to achieve the best result, efficiency- and cost-wise.
Tofas and Renault, however, could not really enjoy the advantages of the transfer lines in their own body shops. If they operated their presses the way high-volume producers did, with only one die per press and an annual production volume of only 25-30,000 units, each press would be utilized much below its annual capacity which is up to 2,000,000 strikes.\(^3\) That would result in intolerably high unit costs. The only way to increase the capacity utilization of the stamping presses and decrease unit costs, then, was to operate with the minimum possible number of presses, on the one hand, and use each press in a much more flexible way, on the other. The system they used is called the "batch" technique.

In this system, the incorporation of the transfer lines into production was highly different from their deployment by high-volume producers. Here, each stamping press in any one transfer line operated with one die, until a certain volume (batch) of the particular component processed was attained. As the last unfinished component was transferred to the next press in the line for the next phase of its production, the die in the first press was changed (which took as long as 5 hours, then) to proceed with the production of another body component. When the whole process for the first component was completed, the item was sent in batches to the stock house, to be eventually transferred to the final-assembly

\(^3\) Rhys, 1972: 288-89

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line. The same process continued for the other components manufactured in the same transfer line.

The batch technique, thus adopted by Tofas and Renault from the very start on, was a typical instance, by itself, of eclecticism in the production paradigm. It was simply the flexible utilization of the mass-production machinery, observed also in the case of the low volume producers in other developing countries.\(^6^4\) Actually, the Toyota factory in Japan also started with deploying the presses in a similar way. However, with continuous experimentation, Toyota’s engineers succeeded to reduce the set-up time of the machinery to such a great extent that they ended up with completely flexible instruments with high efficiency yields, which can no more be described as the flexible utilization of mass-production machinery. Indeed, by the late 1950s, it took only three minutes to change the dies at the Toyota body shop, which used to take as long as a day initially.\(^6^5\) In contrast, during the 1970s, the set-up time of the machinery was as long as 5 hours in Turkey, and although some adjustments have been made over the years, what was achieved was not really sufficient. At the Tofas factory, for example, the set-up time of the presses was 1.5-2 hours by the early 1980s, and 45 minutes by 1991, which—though a

\(^{64}\) See Baranson, for example, on Argentina. (Baranson, 1969: 47).

\(^{65}\) Womack, Jones, and Roos, 1990: 51-53

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great achievement compared to the earlier years—was still much above what was attained at Toyota as early as the 1950s. It is possible to say, therefore, that particularly during the 1970s, the batch technique as it was used in Turkey resulted in some inefficiencies, as Baranson also detected in the case of Argentina. Nevertheless, we should not forget that it was still a much more efficient system for low volume producers like Tofas and Renault than the ideal mass-production way of deploying transfer lines, and the unit costs thus incurred were still less that they would have been in the latter case.

The batch technique in the body shops was not the only instance of eclecticism that characterized the passenger-car production in Turkey. The overall process of passenger-car manufacturing, itself, displayed an eclectic combination of different paradigms of production at the same time. Indeed, while Tofas and Renault used expensive stamping presses in their body shops, low volume production led the two factories to economize on fixed capital in other phases of production, as much as possible. They adopted completely labor-intensive techniques, for example, in welding the body components. Similarly the machining workshops incorporated both dedicated mass-production and cheaper universal machinery which allowed flexibility, while necessitating

"Interviews. (Another big difference, of course, is that Toyota operates on the basis of just-in-time production in in-house activities which means no inventories)."
some labor input. The assembly line was again highly labor intensive. Jenkins describes similar production characteristics for the case of the low volume Latin American passenger-car manufacturers. 67

For Tofas and Renault, such an eclectic structure that allowed minimum reliance on mechanized production techniques was a feasible system of production, in the 1970s, especially given that the cost of labor was rather low in Turkey. Indeed, although wages in the unionized sector did increase considerably during the period, they were still far too low compared, for example, to the wage levels in the countries where the parent companies of the two firms were located. While in 1975, the average hourly wage in manufacturing was $2.67 in France, and $2.62 in Italy, it was only $0.66 in Turkey. 68 Consequently, despite, for example, the flexible utilization of the mass-production stamping presses resulted in inefficiencies, the incorporation of labor into the process (in changing the dies) made it possible to keep the negative impact of such inefficiencies on average costs, to a minimum. In fact, it was again the same availability of cheap labor that made it possible for the commercial-vehicle producers in the country

67 Jenkins, 1987: 74-75

68 Own calculations from United Nations Statistical Yearbooks.
to set up and survive on completely labor-intensive methods in their own facilities.

In sum, the most prominent aspect of the 1971-78 period with regards to the Turkish passenger-car industry was the adoption of certain identity traits, by the step by step internalization of the three characteristics discussed above. We should briefly note here, however, that the same period had also been a rather stable and vibrant period in Turkey's economy, with an average growth rate of 7% per year, income per capita increasing from US$ 351 in 1971, to US$ 1,155 in 1977. Consequently, Tofas and Renault had the opportunity, during this period, to slowly increase their production capacity, as well. By 1977, they had a combined production capacity of 65,000 cars per year, of which 35,000 pertained to Renault and 30,000 to Tofas. The volume of production of the two factories had increased to a total of 52,880 cars in 1977, Renault operating close to full capacity. Together with Anadol, total passenger-car output in the country reached 58,245 units that year. The commercial-vehicle producers, a total of 12 firms by then, were also doing well. They had accomplished to increase their total output from 11,659 in 1971, to 40,416 in 1977.

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69 Tofas, however, was operating below capacity between 1976-78, with actual volume of production of around 20,000 cars per year, only. This period was a period of adaptation, for Tofas, which shifted from the production of the 124 model to the new 131. The rather low volume of production was primarily an outcome of such an adaptation.
Of the latter figure, 19,774 were trucks, 13,115 light trucks, 5,619 mini- and midi-buses, 982 buses, and 926 truck-tractors.\(^7\) In short, during most part of the 1970s, the automotive industry, like many other industries in Turkey, had the opportunity to enhance and expand, without having to face major fluctuations in the economy. Unfortunately, however, the period of smooth development did not last very long. By the beginning of 1978, things began to change, a period of chaos replacing that of stability.


The vitality of the Turkish economy during the 1971-78 period was accomplished in the midst of a world-wide economic crisis which had influenced most countries in the world following the Arab oil embargo of 1973-74. With a significant decrease in the supply of and a tremendous increase in the price of oil, the economies of many countries entered into a phase of, which we might call, chaos, by the mid-1970s, experiencing very high rates of inflation, stagnation and an eventual recession. The steady growth of the Turkish economy during that time period, therefore, was already surprising, exhibiting, to be more precise, a little suspicious picture.

\(^7\) OSD, 1989
Indeed, the economic dynamism in Turkey during the 1971-78 period was an outcome of short-term political choices rather than being a symptom of health. Turkey's political life from 1974 onwards was characterized by a succession of weak coalitional governments none of which remained in power too long. In order to gain popular support and create a positive image on the public, each of these short-term governments preferred to artificially protect the Turkish economy from the impact of the world economic crisis by way of certain policy tools at their command. Although the policies of the governments seemed to be successful for a while, by 1978 the same policies led to a crisis, in Turkey, that would be even more intense than was experienced within the boundaries of many other country.  

With the economic crisis in 1978, Turkey entered into a phase of chaos and change, embracing a dramatic flow of events incomparable to any other period in the country's

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72 Economists usually regard 1977 as the beginning of the crisis in Turkey by when the government suspended transfers of currency abroad as a result of foreign exchange constraints. In terms of some other economic indicators, as we will see, however, 1977 was still to be a relatively stable period during which particularly the industrial sector achieved a reasonable growth rate; the inflation rate was not much different from the trend in the early 1970s; and imports continued to expand both in terms of volume and value. This situation would dramatically change beginning with 1978. Hence, in terms of influencing domestic economic performance, we regard the crisis to begin with the year 1978, rather than 1977.
history. The crisis would be followed by a long break in political democracy, accompanied by a radical shift, in the country's economic orientation, towards becoming an open market economy. The crisis and transformation period, and the subsequent phase in Turkey's economy, would have very strong impacts on all the economic sectors in the country, including the automotive industry. In order to understand such a significant period and follow its consequences on domestic motor-vehicle production, therefore, from now on in our analysis we will priority to an examination of the Turkish economy, and subsequently incorporate the changes in the automotive industry as a derivative of the changes in the country.

As most economists agree, the intensity of the crisis that hit Turkey in the late 1970s was owing foremost on the policies followed after the 1973 oil embargo. Indeed, the 1970s' coalitionary governments were preoccupied with gaining popular support by way of maintaining steady growth in Turkey regardless of what was happening beyond the borders of the country. To this end, they made use of certain policy tools which proved to be pretty effective, for a while, in keeping the world crisis outside the boundaries of Turkey. First, despite the three-fold increase in oil prices, the governments continued to import as much oil as the economy needed while subsidizing oil in supplying it to the domestic market. The prices of oil and its
derivatives, in Turkey, remained almost the same during most part of the 1970s. Second, the Turkish currency was kept highly over-valued and the product prices of the State Economic Enterprises (SEEs) heavily subsidized in order to ensure cheap inputs to the economic enterprises. As a result, the budget deficit would significantly increase throughout the period. Third, and most important of all, instead of adopting policies to increase export earnings, the governments preferred to obtain an increasing amount of foreign loans from international finance centers in order to meet the increased import burden of the country. While Turkey's total foreign debt was US$ 1,960 million in 1970, it reached US$ 11,419 by 1977. Of this, approximately 53% was composed of short-term loans.\footnote{Krueger and Aktan, 1992: Appendix Table 17}

While the economy kept growing during the period as a result of such measures and policies, the fact that the Turkish governments were artificially injecting momentum to the economy by way of heavy reliance on foreign loans was worrying the international finance centers. The IMF warned Turkey and demanded the adoption of a stabilization program composed of policies to restrict government spending, decrease the budget deficit, reduce the rate of growth, and encourage export orientation. Turkey's other foreign donors were also exerting pressure declaring that they would stop lending money to Turkey unless the IMF's
requirements were met. As seen in Table 1, however, inclusive of 1977, the expansionary policies continued to prevail. Although the increase in GNP was lower that year compared to the previous years, industrial output accomplished an increase of 9.9%. Imports continued to expand both in value and volume, including oil imports. Public sector investments also increased by 13.5%. The rate of inflation, on the other hand, was around 24%, which was not much different from the trend during the first half of the 1970s.

By the end of 1977, however, Turkey's borrowing capacity had reached its limits with commercial arrears reaching close to 2 billion dollars, and foreign lenders declined to make further loans to the country. 74 Turkey was now in the position to meet its import needs and pay back its liabilities by using whatever foreign currency was left available at the Central Bank: not much. The social-democratic coaltionary government which came to power at this point announced a devaluation of 30% which encouraged an increase in export earnings by 30.5%. Such an increase, however, was far from meeting the foreign currency needs. Imports declined by 21% in 1978, including oil imports which declined by 8.4% in volume. The situation worsened in 1979 (Table 1).

74 Dervis and Robinson, 1978: 38-47

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TABLE 1

% INCREASE/DECREASE:
SOME ECONOMIC INDICATORS

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<td>64</td>
<td>107.2</td>
<td>36.8</td>
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Sources: For GNP growth (at 1968 prices) State Institute of Statistics Publications; Change in exports and imports calculated from Krueger and Aktan, 1992, Appendix Tables 14, 15; Change in oil imports calculated from data in United Nations Commodity Trade Statistics; Change in industrial output (at 1968 prices), Krueger and Aktan, 1992, Appendix Table 1; Change in public sector investments (at 1968 prices), Krueger and Aktan, 1992, Table 4; Inflation rate (whole sale price index), Barkey, 1990, Table 5:14, and Ulagay, 1987, Table 6.1.

With oil shortage, majority of the economic enterprises in the country began to work far below capacity which resulted in a decline in such significant inputs as raw materials and electricity. As a result of input shortage, the increase in industrial output slowed down in 1978, to decline by -5.7% in 1979. Overall growth rate of economy was -0.4% that year.
Private sector firms began to lay off workers, and the country witnessed a rapid rise in the bankruptcy rate. In 1978 and 1979, a total of 37,405 and 32,326 workers were laid off, respectively, while the number of firms that went bankrupt in 1978 increased by 336% over 1977.\textsuperscript{75} The rate of inflation, on the other hand, was rapidly taking off (Table 1). In the meanwhile, the IMF was still not satisfied with the performance of the Turkish governments, demanding a full-fledged adoption of its stabilization program.

The recessionary trend during 1978-79 no doubt affected the performance of the automotive industry, as well. Moreover, by 1978, the government put a limit on the imports of the private sector firms, so that with the new regulation, the industrial establishments were able to realize only 55% of their import needs in dollar value.\textsuperscript{76} As a result of input shortage and import restrictions, Renault's production, after a peak of 33,668 in 1977, dropped by 9% in 1978 and a further 37% in 1979.\textsuperscript{77} The decline in bus/minibus production was 32%, and in truck/light truck production as

\textsuperscript{75} Sonmez, 1985: 43-45

\textsuperscript{76} Interviews

\textsuperscript{77} Note that Tofas was in a process of shifting from one model to another during 1976-78, as a result of which this company was already working much below capacity by 1977 (see footnote 70). Hence, although Tofas' production seem to rise during 1978-79, it is only a rise relative to the 1977 level. Actually, Tofas' 1978 production was 33%, and 1979 production 27% below the pre-adjustment 1975 level (OSD, 1989).
high as 42% in 1978. By 1979, commercial vehicle production was still 30% below the 1977 level.\textsuperscript{78} The passenger-car firms express that despite a steady increase in demand during the 1978-79 period, they by and large put aside new investment projects, and adopted the strategy of size-reduction, instead. By 1979, the overall employment in the automotive industry was 23% below the 1976 level.\textsuperscript{79} The industry entered the year 1980, in sum, with very pessimistic visions about its future.

24 January, 1980: a date which would be recorded as perhaps the most significant date in Turkey's economic history since the establishment of the Republic in 1923. On 24 January 1980, the right-wing coalitionary government that came to power in late 1979, announced a package of new economic decrees which were completely in line with the recommendations of the international finance centers led by the IMF. The cumulative target of the package was to step by step transform Turkey from being an inward-oriented, inefficiently operating, government controlled and subsidized import-substitutionist economy to one of an open market economy oriented towards exports and the outer world. The package, the architect of which was Mr. Turgut Ozal who was then the Undersecretary of economic planning, was composed very powerful tools, indeed.

\textsuperscript{78} OSD, 1989
\textsuperscript{79} SPO, 1987: 29

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First, by such means as interest rate liberalization
80, restricted subsidies to the agricultural sector, and
controlled increase in wages 81, domestic demand would be
suppressed to avoid high rates of inflation and to
discourage the economic units from operating merely for the
internal market. Second, by way of high devaluations, cheap
credit and other incentives, the economic units in the
country would be encouraged towards exports. Third, by
removing subsidies to the SEE's, liberalization in SEE
product prices and an eventual privatization, the public
economic enterprises would be converted into efficiently
operating units instead of being a heavy burden on the state
budget. Fourth, to encourage efficient production and
quality orientation in the private sector, the long-lasting
tradition of protectionism would be step by step removed, to
be replaced by liberalization in the foreign trade regime.
Fifth, Turkey's borders would be opened to foreign capital
investments by way of new incentives. Sixth, the Price
Control Committee which had been responsible for controlling
the prices of private sector outputs was to be abolished in

80 Interest rate liberalization was actually not a part
of the original 24 January package. It was to be
supplemented to the package by the month of July, that
year. (Krueger and Aktan, 1992: 51-52). Note that since the
1960s, interest rates were under the control of the
governments which followed the policy of keeping the
interest rates below the rate of inflation to provide cheap
money capital to the growing industries.

81 This last item was also not a part of the 24 January
package. It would become effective after the military
takeover in September.
order to return private sector pricing to market forces, etc... Openly the traditional system of economic development was about to be abandoned and no one could guess what the new system would bring.

The month of January witnessed a 49% devaluation and a tremendous increase in the prices of SEE products and oil, reaching up to 400%. A first package of incentives for exports—composed of tax rebates, tariff exemptions on import needs of export-oriented industries, and cheap credit—was also on the agenda. The government also took the first steps to encourage foreign capital investments. Again, the first steps for trade liberalization were announced, which included an expansion in the coverage of the "Liberalized List", the government declaring that the list of importable goods was to be further expanded in the near future. In July, finally, the borrowing and lending rates of the commercial banks were entirely liberalized, to be determined by market forces. 82

The 24 January decrees and the subsequent implementations were highly welcomed by the international finance centers, particularly the IMF. By mid 1980, observing that the new government was this time serious about following its

82 For the content, goals and implementation of the 24 January and supplementary economic measures, see Krueger and Aktan, 1992: 39-47; Boratav, 1989: 121-124; Sonmez, 1985: 54-86; Ulagay, 1987: 45-50.
recommendations, the IMF signed a standby with the Turkish government for SDR 1.25 billion—six times Turkey's quota and the largest credit extended by the IMF to that date.\textsuperscript{83} As a result of the government's implementations, exports were also expanding. However, the second increase in oil prices would have negative impact on the economy. Together with the restrictive impact of the rise in SEE prices and oil on purchasing power, both the overall growth rate of the economy and industrial output continued with the downward slope in 1980 (Table 1). On the side of the automotive industry, the decline was as high as 32% in the case of commercial-vehicle, and 28% in the case of passenger-car production. The rate of inflation, on the other hand, jumped to 107.2% that year, the highest ever in Turkey's economic history. Deteriorating economic conditions were moreover accompanied by an escalating political chaos and discontent, which assumed armed confrontations on the streets, dozens of people being killed every day.

On September 12, 1980, the Turkish military dissolved the parliament and declared itself as the sole power in the country. That very same day, the leaders of all the political parties were arrested and put into prison. Political associations and the leading labor union were disbanded, and the leaders arrested. While the streets

\textsuperscript{83} Krueger and Aktan, 1992: 45
resumed peace and safety, a period disregarding basic human and democratic rights came to power.

During the first two years after the military take-over, the Turkish economy proceeded along the stabilization and transformation principles of the 24 January decrees, Mr. Turgut Ozal being appointed as the Deputy Prime Minister and the Minister of State in charge of economic matters. During this period, Mr. Ozal would be highly successful in implementing his program. First of all, aggregate demand and, consequently, the rate of inflation were taken under control via interest rate liberalization, suppression of organized labor and hence the wage levels under the military rule, reduction in government spending and tight monetary policy. In the meanwhile, IMF and other international donors extended further loans to Turkey during the period. As a result of continuing devaluations (starting with May 1981, the Central Bank was given the authority to set exchange rates daily) and incentives, export earnings of the country also increased significantly, with the share of industrial goods in total exports reaching 60% in 1982. The country was by now meeting its import needs, industrial output increasing by 7.6% in 1981. (Table 1). Although this did not mean an increase due to new investments, at least the export oriented enterprises were now operating with higher capacity utilization compared to the previous years.
On the side of the domestic market oriented industries, including the Turkish automotive industry, however, things were not necessarily very bright. Despite the steady increase in GNP, total motor-vehicle production in 1982 was still 42% below the level in 1977. Capacity utilization ranged between 25-55%.\footnote{Aksoy, 1990: 70} Below-capacity production was almost completely due to the government-induced decrease in aggregate demand, this time, which would be the major concern of the industry during the 1981-82 stabilization period. Consequently, most of the firms in the industry continued with the strategy of making no new investments vis-a-vis capacity increase, and were rather on the conservative side vis-a-vis product related investments. It is possible to say that the major undertakings, during the period, pertained to two of the commercial-vehicle producers which made investments to produce diesel engines for their vehicles.

Despite presenting a pessimistic picture, however, the 1981-82 period was not necessarily a period of overall decline and downfall for the Turkish automotive industry. It was also a period during which the firms in the industry began to adopt strategies to adjust to the changes and transformations in the country's macro-economic regulatory context, which eventually proved to be beneficial both for the industry and the consumers in Turkey.
First, observing the inconsistency in the domestic market and given the new export incentives, some of the vehicle producers began to increase their exports. While in 1979, total vehicle exports including tractors was US$ 34.3 million, by 1981 passenger-car and commercial-vehicle exports, alone, reached $104.6 million, which adds up to US$ 121.2 together with component exports of the manufacturers. While export volume was still very low and can not be interpreted as a sign of full-fledged export-orientation (a total of 5,651 passenger-cars and 1,371 commercial-vehicles were exported in 1981), it was still 300% above the 1979 export volume.85 Commercial vehicle exports went primarily to the Middle East and North African countries, while Renault, which was ahead of Tofas vis-a-vis export-orientation, was exporting mainly to the North African countries, during this period.86

Second, after a long period of operating in a closed market protected and heavily subsidized by the government, the industry began to consider increasing efficiency in production. An engineer of the Renault factory expressed, for example, that "Before 1980, we were relatively at ease and extravagant. After 1980, we became efficiency-conscious vis-a-vis finances, personnel, energy consumption,  

86 Interviews
production, inventory etc. In finances, the problem was high interest rates. In response, the company increased its equities to decrease dependency on the banks and enhance self-reliance to the extent possible. We also conducted studies vis-a-vis personnel efficiency, and to enhance standardization in supplier production." 87 The Tofas representatives we interviewed also emphasized the same concerns. Taking the signals and warnings vis-a-vis further trade liberalization, these firms also began to consider model variation as well as upgrading the quality and the design of the existing model range. Although they were not, yet, in a position to undertake major investments along these lines, some steps were still taken. Tofas, for example, introduced the station wagon version of its prime model Murat 131 in 1981, also introducing a different version of the sedan vis-a-vis accessories. We also see model upgrading on the side of the commercial-vehicle producers, though model revisions were undertaken, in most cases, without major investments in in-house production.

The revisions in the strategic outlook of the automotive industry in the post-1980 period encompassed the relationships with the suppliers, as well, although the change, this time, was not necessarily a positive one from the perspective of the suppliers. As indicated before, during most part of the 1970s, the final-assemblers were

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87 Interviews
highly supportive of their suppliers, granting them technical as well as financial support in the form of advanced payments. Many of the suppliers we interviewed complained, however, that the situation began to change since the early 1980s. Advanced payments were abandoned, to be gradually replaced by payment on credit or else delays in payment. When payment was made, on the other hand, it was at the rate of the time of delivery, and did not increase taking into consideration the rate of inflation between delivery and payment. By 1987, the delay in payments would reach 1.5 months, and payment on credit would extend up to 2-3 months. The suppliers also expressed that since the early 1980s, it became increasingly difficult to reflect the increase in production costs on the prices of their products.

The suppliers we interviewed were in the opinion that the changes in the price and payment schedules of the assemblers were primarily an outcome of the increase in interest rates and input prices, and fluctuating rates of inflation that became prominent since 1980. By way of the new schedules, the final-assemblers were able to transfer the burden and the risk of the unfavorable market conditions on to the suppliers, who were "discovered" as an alternative source of finance and cheap credit. One supplier expressed his view as: "In the past, we were under technology constraints, but then it was easy to collect your money. We were using the
advanced payments of the assemblers. Since 1982, the situation reversed. Now, they are using our money." It is important to note that the risk transfer aspect of subcontracting would continue to prevail later in the 1980s despite the fact that the assembler-supplier relationships would assume more of a partnership characteristic during that time period.

While the automotive industry was undergoing strategic changes and revisions, the Turkish economy approached the end of 1982 under the framework of Mr. Ozal's remedies for stabilization and export orientation. Although the domestic-market oriented industries were having a hard time, the rest of the economy was doing well, and a certain strata of people seemed to be happy about their lives as they began to obtain their interest earnings on deposits. By the end of the year, however, something rather unexpected happened. The private "bankers", the offsprings of financial liberalization, who had collected a significant portion of the people's savings under promises of higher returns on deposits than official banks, suddenly went bankrupt, one by one, unable to pay their liabilities to the customers. Banker after banker fled the country, leaving a confused and angry crowd of people behind them. Being taken responsible for the whole situation, Mr. Ozal, the architect of Turkey's

88 Interviews
new model of development, resigned from his post as the Deputy Prime Minister and Minister of State in charge of economic affairs. 89

With Mr. Ozal's resignation, a new period opened in Turkey's political and economic life in 1983. This new period would be characterized, first of all, by a gradual, albeit restricted, passage to political democracy. A second characteristic of the new period would be a more controlled implementation of the 24 January decrees, while leaving room for the sustained development of the domestic market oriented industries, as well. It is possible to say, therefore, that from 1983 onwards, not only the export-, but also the primarily inward-oriented economic units, including the automotive industry, accomplished significant growth and improvement, more willingly accepting and taking more effective measures to adapt to the new economic system of the country. This does not mean that the 1983-1992 period was not without problems and fluctuations. It was. However, despite the problems, it was a period during which the pains and scars of the 1980-82 period of passage were gradually left behind, and the new economic regime began to be implemented gaining the support of an increasing fraction of the population.

89 Ulagay, 1987: 66-67

During the 1981-82 period, the new regime of export-orientation had been implemented under the wings of a military rule which had suppressed labor union power as well as political activities in the country. The population, however, was becoming increasingly restless, and the European allies of Turkey were exerting pressure, urging Turkey to return to a democratic rule. By the beginning of 1983, the government in power announced that there would be parliament elections at the end of the year.

With the elections in prospect, the government adopted a more relaxed attitude, during 1983, vis-a-vis the monetary and fiscal restraints on economic activity. Interest rates were brought down, and government spending increased substantially. The policy of price liberalization in SEE products was also kept under control. As a result, while aggregate demand increased, cost of production was reduced, opening way for revitalization of the domestic economy. Another factor that contributed to the economic momentum, starting with 1983, was that fraction of the population whose disposable income significantly increased due to interest earnings. An important portion of the income of this fraction of the population was to be oriented towards

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90 Krueger and Aktan, 1992: 46; Ulagay, 1987: 86, 175
contribution to the increase in aggregate demand.91

Under the cumulative impact of the factors above, the domestic economy indeed revitalized during 1983. As seen in Table 2, the industrial output increased by 8.0% that year, from a base of 4.8% the previous year (Table 1). The domestic market-oriented industries were highly relieved and accomplished significant increase in capacity utilization. The trend was observed in the automotive industry, as well. Total passenger-car production increased by 36% and commercial-vehicle production by 26%, that year.92 Although the production volumes were still below the pre-crisis period, the automotive industry more or less regained optimism about its future, though the firms in the industry, particularly the passenger-car producers, were still rather cautious with respect to undertaking comprehensive investment projects.

The end of the year arrived and the elections were held. We should note here that only those political parties selected by the military council were permitted to participate in the elections. There were three such parties, only. Two were those sponsored by the military itself, while the third party was the Motherland Party founded by Mr. Turgut Ozal

91 Ulugay, 1987: 168-172
92 OSD, 1989


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after his resignation from the government. A great majority of the voters, regarding it mostly as a chance to move forward with a civilian rule, preferred Mr. Ozal and his
party. Ozal, hence, was once more in the forefront, this time as the Prime Minister of the country.

Within the first few months of his government, Mr. Ozal started a full-fledged economic program in line with the 24 January decrees. Interest rates were again increased, foreign exchange regulations made more liberal, incentives for exports elaborated, as well as incentives for foreign capital investments. SEE prices were also increased substantially, and tax privileges granted to these enterprises were abolished.\footnote{Krueger and Aktan, 1992: 225-229; Ulagay, 1987: 75-76, 86} In 1984, exports increased by 24.5% with the share of industrial goods in total exports reaching 72.1% (Table 2), from a base of only 27% in 1978. 52% of the exports went to the OECD--mostly the European--countries, while 36% went to the Middle East. Turkey's process of transformation into a free market economy oriented towards exports was gaining increased momentum.

By the beginning of 1984, Mr. Ozal also introduced a program to accelerate the process of liberalization in the foreign trade regime. With the new program, all goods that were not on the newly introduced "Prior Approval List" and the "Prohibited List" (the latter to be completely abandoned in 1985) were to be eligible for imports without restrictions, though some are to be subjected to additional fund taxes
(the "Fund List"). Tariffs were also reduced by an average of 20%. Although the overall tariff and other surcharges were still high, the steps taken by the Ozal government were strong enough warnings to the domestic industries that they better took the necessary measures to increase their competitiveness, soon.

While Ozal and his government were thus taking significant measures to accelerate Turkey's transformation into a free market, outward-oriented economy, the domestic market oriented industries were also accomplishing considerable progress. Aggregate demand continued to increase under Ozal's government giving momentum to the economy. There were two major factors behind the increase in aggregate demand. First, like the government in 1983, Ozal also adopted a more relaxed attitude towards certain stabilization-oriented components of the post-1980 economic regime, particularly with respect to government spending. From 1984 onwards, government spending continuously increased by way of extensive infrastructure projects most of which were sponsored by foreign finance centers. Second, the disposable income of that portion of the population living on interest and foreign trade earnings kept increasing, being directed, to a great extent, to consumption in the country. In fact, this factor would be prevalent throughout

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94 Krueger and Aktan, 1992: 52, Table 10
95 Ulagay, 1987: 89-90
the 1980s, becoming a major impetus for the growth of the
domestic market oriented industries.

The above-described framework of policies and
implementations continued to prevail until the end of 1991
with the Motherland Party in power for 8 successive years.
The economic conditions in the country did not change much,
during this period, except that the rules and the
institutions of an open-market economy became more and more
prevalent with each year. Eventually, for example, a stock
market was established in the country; Turkish currency
became convertible in the world financial markets; tariffs
and surcharges on many imported goods were gradually reduced
resulting in an inflow of all kinds of foreign consumer
goods; incentives for foreign capital investments were
elaborated, resulting in a significant increase in the
inflow of foreign capital\textsuperscript{96}; and Turkish exports continued
to increase, though not at a consistent pace, with the share
of industrial goods in total exports reaching up to 79% (Table 2). In the meanwhile, domestic economy by and large
continued to preserve its vitality (though there were low
growth years) (Table 2), domestic market oriented industries
accomplishing significant progress.

\textsuperscript{96} Annual inflow of foreign capital increased from US\$ 271.4 million in 1984, to US\$ 1,470.5 million in 1989
(TUSIAD, 1990: 78-81, 181).
Aside from accelerating the process of economic transformation, the Motherland governments, under Mr. Ozal's leadership, also took some steps, during the 1980s, with respect to establishing political democracy in the country. From 1986 onwards, the political arena was more or less resembling the 1970s parliamentary regime, with two new parties, in-line with the center/right-wing and the social democratic parties of the pre-military period, competing against the Motherland Party. In 1987, the ban against ex-political leaders was lifted, resulting in their reentry into the political arena. In 1990, finally, the limitations on freedom of speech and political organizations were relaxed.

The process of political and economic transformation under the Ozal rule, however, was not to be a perfect one. Alongside, what might be called, accomplishments, there were problems, fluctuations, and inconsistencies, as well. The inflation rate, for example, significantly increased during the Motherland governments, reaching up to 70% by the late 1980s, and becoming a major concern of both the consumers and the producers. Some private sector firms, including some of the bigger ones, went bankrupt, during the period, due primarily to the high interest rates. The governments increasingly relied on foreign loans to sustain economic momentum, with the country's foreign debts, a significant

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97 Boratav, 1989: 124
portion of which was short-term loans, increasing to US$ 49 billion by 1990, from a level of US$ 18.4 billion by when Ozal came to power in late 1983.\textsuperscript{98} On the other hand, the limitations imposed on labor union activities—via the 1982 Constitution and the subsequent decrees—continued to prevail, the workers to a great extent dispowered of their bargaining power during most part of the 1980s. Together with the governments' policies favouring industrial development to the disadvantage of the agricultural sector, the suppression of labor power resulted in an ever increasing inequality in income distribution. By the late 1980s, Turkey was ahead of most countries in the world—including South Korea, Kenya, Malaysia and Nigeria—in this respect, drawing even the attention of and leading to a warning from the World Bank.\textsuperscript{99}

Despite all such inherent problems, however, the Ozal governments were highly successful in establishing the idea of an open market economy, making it acceptable as Turkey's new path of development. It is possible to say that by the end of the decade, the people of Turkey were on the whole adjusted to the new economic system, although they were demanding a more egalitarian income distribution and a

\textsuperscript{98} OECD, 1993. Some observers are in fact in the opinion that Ozal's major ""accomplishment"" was to elevate Turkey's credibility in international finance centers, and secure massive foreign loans. See, for example, Ulagay, 1987: 219, 229-230, and Boratav: 1989: 130

\textsuperscript{99} Cumhuriyet, 9 June, 1989

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solution to the problem of high inflation rates. Their concerns led to the reshaping of Turkey's parliament and leadership structure in late 1991, when the Motherland Party lost the parliament elections held in October, to be replaced by a coalitionary government formed under the leadership of the center/right-wing Right Path Party with the other leading party in opposition, the Social Democratic Populist Party. The change in the government, however, would not result in a change in Turkey's economic orientation, the new government by and large pursuing the principles initiated during the previous era.

3.1 The Automotive Industry During the Post-1983 Period

Turkey's economic transformation that gained momentum under Prime Minister Mr. Ozal from 1984 onwards influenced and encompassed all the economic sectors in the country, including the automotive industry. Already in 1983, the government in power had announced a revised version of the famous Assembly-Industry Decree by which some of the rules imposed on the automotive industry were fairly relaxed. The most important policy change that would influence the industry, however, would actualize during 1984-1985, by when the Ozal government took the first steps towards trade liberalization in automotive products. First, the list of non-importable motor-vehicle parts to be used in domestic products was shortened. By the end of 1985, the regulations
vis-a-vis local content were completely abandoned, and it became possible, from then on, to import all motor-vehicle parts. To protect the domestic suppliers, however, the government adopted an initial policy of imposing very high tariffs and surcharges on imported components, warning the suppliers that within a few years the tariffs were to be significantly reduced.¹⁰⁰

Apart from motor-vehicle parts, the government also took the first steps, in 1984, towards liberalization in motor-vehicles, themselves. Most importantly, it became possible to import used vehicles, that year, spurring a significant increase in imports, particularly in commercial vehicles. The concerns of the domestic producers, however, led the government to impose special fund charges on imported vehicles by mid-1984, which resulted in a decrease in the import momentum. Nevertheless, the government continued with its liberalization program, so that by 1985, it became possible to import all automotive products without any restrictions. To protect the domestic final-assemblers, however, the government again imposed high tariffs and surcharges and particularly increased the fund taxes ¹⁰¹. It is significant to note that although the new charges curbed the entry of foreign vehicles into the country after

¹⁰⁰ Interviews

¹⁰¹ Which all together added up to 137% of the c.i.f. price of cars and buses in 1985, compared to 116% in 1983 and 119% in 1984 (Krueger and Aktan, 1992: Table 12).

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1985, the government's determination about removing protectionism in the foreign trade regime, in general, together with the liberalization moves in motor-vehicle imports, were strong enough warnings to the domestic producers that a full-fledged foreign competition would soon be on the agenda.\textsuperscript{102}

Under the challenge of approaching foreign competition and taking encouragement from domestic economic revitalization, investments in the automotive industry gained momentum by the year 1984. The leaders in this respect were again the two passenger-car firms, Renault and Tofas. Starting with 1984, Renault and Tofas both followed continuous and extensive investment programs, leading all the other firms in the automotive industry. It is possible to say, in fact, that the 1984-1992 period was the most dynamic period of the Turkish passenger-car industry not only in terms of new investments, but also in terms of experiments with new shop-floor control techniques, as well as revisions in relationships with the suppliers. By the end of the decade, the industry was able to confront foreign competition successfully, fairly leaving behind some of the identity traits, but, above all, the operation mentality of a protected backward industry. The development of Tofas and

\textsuperscript{102} Interviews; SPO, 1987: 23; OSD, 1988: 29; Demirci, 1985: Introduction, 8
Renault during the 1984-1992 period, therefore, deserves a closer examination.

Let's take a look at the Renault factory, first. By the beginning of 1984, the Renault factory adopted a new investment program which consisted of a few components. The company was in the opinion, first of all, that it would not be feasible to expect success against foreign competition in the domestic market with the existing model, Renault 12. It was an outdated model, and needed some revisions. Besides, in line with the country's new model of economic development and taking encouragement from the new export incentives, Renault was intending to increase its exports, whereas Renault 12 did not sell much in export markets, either. The company executives decided on two inter-related strategies to overcome the problem. First, after a long period of focus on a single model, they decided to expand their product range to include Renault 9 and Renault 11—both Regie-Renault models of the early 1980s which had achieved remarkable success in Europe and the United States. Second, the old model, Renault 12, underwent some changes to become more sophisticated, though the major design characteristics of the car would remain the same by that time.103

The new-models-related investments were launched by the beginning of 1984, and in 1985 the company commenced with

103 Interviews
the production of Renault 9. Two years later the second model, Renault 11 was to be introduced to the market. Both models gained success especially in export markets, the company extending its export outreach to include Bulgaria, Yugoslavia, and Portugal, accompanied by exports of vehicle components to Spain and Argentina. By 1988, the company's exports, including component exports, would reach US$ 33,000,000. Although the overall export volume was very low, 5,300 cars that year, it was still significant enough for a low volume producer like Renault. By the end of the decade, around 12% of Renault's total production was oriented towards exports, with 25 employees out of every 100 working for export-related production.104

We should note here that although the foreign competition factor, both in export markets and soon-to-be in the domestic market, was highly significant in influencing Renault's product related strategies, the composition of the domestic demand was equally significant in shaping the company's decisions vis-a-vis product range. Despite the fact that the two new models were successful in export markets, the demand composition in the domestic market was not very different from the beginning of the 1970s when the Renault factory first commenced with production. By 1984, the number of persons per car was 53, in Turkey, which was much above the corresponding figures in even most Latin

104 Interviews
American countries. Indeed, by 1980, the number of persons per car was 9 in Argentina, 10 in Venezuela, 15 in Mexico and Brazil and 25 in Chile. As the company executives we interviewed expressed, then, even by the mid-1980s the domestic demand in Turkey was still oriented towards strong, family type cars. Renault's new models, on the other hand, did not exactly respond to such a demand composition, Turkish customers preferring Renault 12 over the new models. The Renault company, hence, never abandoned Renault 12, but introduced a highly revised and modernized version of the model in 1988. It proved to be wise decision, after all, not to abandon the old car but to re-upgrade it: The new version would be highly appreciated in the Turkish market, two thirds of Renault's total sales being composed of Renault 12 as late as 1990.

The second component in Renault's investment package, from 1984 onwards, was capacity increase. From 1975 to 1984, Renault's annual production capacity remained the same at 35,000 cars, the years of crisis preventing investment for capacity expansion. With the country's economy gaining a certain degree of stability and with a steady increase in aggregate demand, however, the company decided, by late 1983, that it was time to increase its production capacity.

105 Calculated from the data in the United Nations Statistical Yearbooks.

106 Interviews
From then on, Renault was engaged in capacity-related investments, and by 1988 annual capacity reached 60,000 cars.

The third component in Renault's investment package would be related to productivity increase and modernization of the production process and technology. Renault was aware that it would not be possible to compete against foreign products with the existing quality and productivity level. Specifically, the cost of production had tremendously increased, since the declaration of the 24 January decrees, as a result of continuous exchange rate adjustments, high interest rates and increase in the prices of SEE goods. Consequently, from 1984 onwards, while experimentations with the existing technology to increase productivity gained momentum, on the one hand, the company was at the same time engaged in a process of technology upgrading, on the other. Though we do not have exact figures as to the outcomes of these endeavours, the company representatives we interviewed expressed that they have achieved increase in productivity and quality as a result of their ventures vis-a-vis technology and process upgrading.

While the post-1983 period would thus be a phase of modernization, renewal and experimentation for Renault, the other passenger-car company, Tofas, would follow a similar path, during the period, adjusting itself to the same
changing conditions in Turkey's economy. First of all, taking encouragement from the revitalization in the country, Tofas made a total of US$ 58 million investment, between 1985-1988, to increase its annual production capacity from 30,000 to 75,000 cars. Tofas was also aware that its current model, Murat 131, would not have much chance against on-the-threshold foreign products. Murat 131, like Renault 12, however, was a family-type which sold well, and thus, instead of abandoning the model, the company preferred to introduce a new version of it to the market. The new version, which would include a completely new body design, was released in 1988 and proved to be highly successful in the market. Total sales volume was about 60,000, that year, accomplishing an 11% increase over the previous year.

Apart from capacity and product-related ventures, Tofas also made new investments, during the post-1983 period, to renew and modernize its technology, with quality and productivity concerns in mind. New stamping presses were purchased, and with subsequent adjustments, the set-up time of the machinery dropped to 45 minutes, by 1990, from 1.5-2 hours in the early 1980s. The company also added 20 CNCs to its machining workshop to allow for higher precision, productivity and flexibility, and the painting process was remarkably modernized. Tofas, now, is very proud of its
painting shop, stating that it is among the top 10 painting shops in Europe vis-a-vis quality and productivity.\footnote{Interviews}

The changes in Tofas' in-house production from 1984 onwards were not restricted to the new investment projects. With the approaching foreign competition in the domestic market, the Tofas factory also became increasingly concerned with the workers' performance, beginning to experiment with new shop-floor methods adopted from the "lean-producers" or "flexible-specialists" of the world. Quality circles, job-rotation, and intensified formal training to empower the workers with multi-skills, for example, were to be on the agenda of the Tofas factory, during this period, quality circles encompassing around 5% of the workforce by 1990. The company executives are highly satisfied with the new shop-floor practices. We were informed, for example, that while the productivity target in terms of hours/car was 80.2, for 1990, what was actually achieved was 78 hours, the increase in productivity owing completely to the quality circles—though the practice yet encompassed a small portion of the workforce. We should immediately note here that similar experimentations with labor relations on the shop floor were undertaken at the Renault factory, as well.

It should be noted here that while Tofas and Renault accomplished significant progress, during the 1980s, making
revisions, above all, in their operating mentality, their progress would still be a limited one. They were not very successful, first of all, in refining or elevating the eclectic nature of their production, some of the rather obsolete components of the production process continuing to prevail throughout the decade. Indeed, alongside the steps taken vis-a-vis modernization, mechanization, higher productivity and flexibility, the two companies continued to rely on labor-intensive, mostly outdated methods (their evaluation) in some phases of their production. By 1989, for example, the welding process was still highly labor intensive, even almost artisanal. Again, alongside the newly incorporated CNCs, the machinery in the tooling workshops were mostly outdated. In the Renault factory, for example, a great majority of the machine tools, around 700 of them, were being used since the early 1970s, without undergoing much of an alteration since then. Even in the modernized body workshops, the "batch technique" was still used in pretty much the same way as the 1970s, incurring--though much lower than the previous decade--still high inventory costs. Robotics, which became an indispensable feature of car manufacturing in many countries, were not used, at all. Hence, despite the fact, for example, that there have been significant improvements in productivity performance over the course of years, what was eventually accomplished was still behind world standards in absolute terms. By 1990, hours/vehicle was 78 at Tofas which is the same as the worst
performing plants in a group of four developing countries that were included in the IMVP study. 108

The company representatives we interviewed were particularly blaming low volume production as the major factor that restricted the incorporation of advanced techniques/technology in certain phases of the production process. Indeed, although Tofas and Renault increased their production capacity from 1984 onwards, their production scale was still too low to allow for the incorporation of some of the advanced techniques used worldwide. However, an equally significant factor was no doubt the availability of very cheap labor, in the country, which made it possible to partly offset the negative consequences of reliance on labor-intensive processes. Indeed, under the impact of the restrictions imposed on labor union activities, the cost of labor kept decreasing throughout the 1980s: while in 1979 the average (daily) wage in the organized sector was US$ 8.41 in Turkey, it would drop to US$ 3.28 by 1986. By the beginning of 1987, the real minimum wage was only 45% of its level in 1963. 109 According to a study, in 1988 the auto industry workers in Turkey had to work for 6 hours 14

108 As a contrast, the best plant performance in Japan was 13.2 hours/vehicle, the worst 25.9 hours; the best in North America was 18.6 hours/vehicle, the worst 30.7; the best in Europe was 22.8 hours/vehicle, the worst 55.7; and the weighted average of the four developing countries (Brazil, Mexico, Taiwan and Korea) was 41 hours/vehicle (all figures pertain to 1989). Womack, Jones and Roos, 1990: 85

109 Ulagay, 1987: 249, Table 11.8
minutes to buy 1 kg. of meat, while in South Korea they had
to work for 3 hours 14 minutes, in Spain 1 hour 24 minutes
and in Australia 51 minutes to make the same purchase. 110
For Tofas and Renault, hence, it was highly feasible to rely
on man power wherever possible in the production process,
despite the fact that the two factories were at the same
time in a continuous process of modernizing their
production.

Apart from eclecticism in the production paradigm, a second
major feature of the Turkish passenger-car industry
inherited from the early years of establishment was limited
R&D orientation. It is true that under the conditions of the
post-1983 period in Turkey's economy, Tofas and Renault were
engaged in a process of upgrading their products, increasing
productivity and product quality, making revisions on the
shop-floor, becoming, in short, more research-oriented
establishments. However, their dependency on the parent
companies abroad would restrict the transformation of the
two companies into genuinely innovative and creative
entities, product-related R&D, in particular, to be highly
limited in Turkey. Indeed, Tofas and Renault never had the
chance to go beyond what, they themselves call, making
"cosmetic changes" in their products, major design/component
changes/upgrading to originate at Fiat and Regie-Renault,

110 Cumhuriyet, 9 June, 1989
rather than the factories in Turkey. It is our opinion, in fact, that had Tofas and Renault not operated as branch factories of established mass-producers, they would have a higher chance to seek out better ways to improve the production process, more appropriate for low volume production, achieving, perhaps, higher productivity levels than what has been accomplished so far.

Looking at the path of development of Tofas and Renault during the post-1983 period, in sum, one detects significant parallelism between the two companies, which is not surprising since both were operating under similar status, and were under the influence of the same changes in the country's economy. Despite the parallelism, however, the two companies at the same time diverged from each other, during the period, with respect to two major aspects of production. First, while Renault adopted the strategy of product variation from 1984 onwards, Tofas did not expand its product range until the end of the decade, preferring to concentrate on the revised version of its old model,

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It is interesting to note, for example, that by 1986, of the 2,327 employees working at the Renault company, the total number of engineers (apart from the 17 manager-engineers) was only 29. The performance of Tofas was not much different, the engineers (apart from the 46 manager-engineers) adding up to 40, only, out of the total of 3,292 employees (SPO, 1987: Appendix 7/3). In contrast, by 1985, the Hyundai company, which was by then designing all parts of its cars except for the platforms, was employing 84 engineers only in its Machine Tool Department, and 150 engineers only in its Parts Development Department (Amsden, 1989: 176-179, 184).
instead. The prime factor behind this difference was most probably the fact that Tofas—under the auspices of its parent company, Fiat—did not adopt the strategy export orientation, during the 1980s, in line with the transformations in the country's economy. Tofas preferred to be a domestic-market oriented company, and as Murat 131 had proved to be an ideal car for this market, the company was under no pressure, unlike Renault, to expand its product range.

The second major difference between Renault and Tofas was related to the relationships with the suppliers. Under the impact of the accelerated transformation in Turkey's economy from 1984 onwards, while the Renault factory made significant revisions in its strategic outlook regarding the supplier sector, the changes at Tofas, in this respect, would not be as discernible. Renault was in the opinion that despite the progress achieved by the domestic supplier sector over time, it would not be possible to achieve success against on-the-threshold foreign products unless the suppliers also accomplished further progress, themselves. Looking at its production, now, from under the spectacles of quality and productivity consciousness, the company decided to make some changes in its approach to the suppliers. The

112 Although Tofas began to reproduce its original model Murat 124 in 1983, the production volume of that model was so low—around 1,500-1,600 per year—that it is possible to regard Tofas as a producer of one model, only.
major change on the agenda was the decision to abandon the mass-production strategy of multiple-sourcing, and begin working with a smaller number of suppliers, instead, with whom a closer cooperation was to be established. The role model was again the "lean-producers" of the world. Indeed, although Renault's total suppliers had reached around 300 in the 1970s, from 1984 onwards, the company step by step decreased the number of its suppliers to settle around a total of 160, by 1989, despite the fact that production volume continuously increased during this period.\footnote{We should note here that although most of the suppliers abandoned were the small scale ones, around 40% of Renault's suppliers in 1989 were still small workshops employing around 30 workers.}

While cutting down the number of its suppliers, Renault also succeeded, as intended, to engage in closer relationships with the remaining ones. Technical assistance to the supplier sector intensified, and the company initiated a highly strict supplier-auditing system, demanding higher quality, lower costs and precision delivery. Renault has a separate division in its Istanbul office—the city that accommodates a great majority of the suppliers of the automotive industry—that is responsible for technical assistance to the suppliers, and is even in a process establishing a formal supplier-training "institute" to conduct training activities on a regular basis. In the meanwhile, the company abandoned, to a great extent, the
strategy of laying off some of the suppliers in slack times, preferring, instead, to decrease the volume of its orders in low sales periods.\textsuperscript{114}

On the other hand, while we also observe increased technical assistance to the supplier sector and a more pronounced emphasis closer relationships with the suppliers at Tofas, in some other aspects this company remained closer to the principles of mass-production, rather than the new approach adopted by the Renault factory. Indeed, the number of Tofas' suppliers, mainly the small scale ones, continued to increase, during the 1980s, to reach around 400 by 1990, while Renault, whose production was pretty close to Tofas, had a total of only 160 suppliers, the same year. The difference was primarily because the Tofas company increasingly relied--most probably under the impact of the dramatic rise in costs during the decade--on the strategy of multiple-sourcing in majority of its car parts involving small scale production. The company intensely played one supplier against the other, preferring, in some cases, low price over quality. Our interviews in Turkey suggests, indeed, that Renault is in general more demanding and meticulous about quality in working with the small firms, than its competitor, Tofas.

\textsuperscript{114} Interviews
It is possible to say that the difference between Tofas and Renault vis-a-vis their approach to the suppliers was again an outcome of the fact that apart from the domestic market, Renault was producing for export markets while Tofas was not. Indeed, despite the government's steps towards trade liberalization, foreign competition in automotive products did not become an effective reality in Turkey until the end of the decade, this factor not being on the agenda of the Tofas factory throughout the 1980s. On the other hand, because Renault increasingly oriented itself to exports, foreign competition was on the agenda of this factory throughout the same period. It is possible to say, therefore, that the concern to increase competitiveness in export markets was the prime factor behind Renault's adopting the described strategies vis-a-vis the suppliers, but the new strategies automatically influenced domestic-oriented production, as well. The impact of foreign competition, therefore, was and would be a significant factor in shaping the Turkish automotive industry, becoming a major motivation in accelerating progress.

It is important to note here, however, that despite the differences between the two companies, Tofas and Renault both pursued similar strategies, during the 1980s, with respect to the schedules they employed in transactions with the suppliers. The period 1983-92 was consistently a period of high interest and inflation rates resulting in higher
costs and a heavy burden of operating capital. According to the suppliers we interviewed, hence, the risk transfer aspect of assembler-supplier relationships continued to prevail and even intensified, during the period, becoming a major concern of particularly the small supplier sector. It became more difficult for the suppliers, first of all, to reflect the increase in production costs on the prices of their products. According to some suppliers we interviewed, for example, there would sometimes be as high as 20% difference between the prices of small firms and larger suppliers who were bargaining for the same vehicle components. Second, the delay in payments reached 45 days after delivery, and when payment was eventually made, it was, in most cases, at the rate of the time of delivery, and did not increase parallel to the rate of inflation between delivery and payment. In this way, the assemblers were not only keeping their own costs down, but were also transferring the burden of inflation on to the suppliers who, in the latter's point of view, were merely used as a source of finance.

Looking at the strategy of the Turkish passenger-car industry vis-a-vis the small suppliers in the 1980s, therefore, one notices a two-sided approach, each side of which had quite opposing impacts on the supplier sector:

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115 By 1988, for example, the interest rate on bank credits was 120%, while the total cost to the producers was as high as 150% (Tezer, 1989: 89).
while the suppliers benefitted from increased technical assistance under a more or less partnership status, they were at the same time increasingly dispowered financially because of the practices regarding prices and payments (though the latter was to be more accentuated in the case of Tofas). The governing terms of assembler-supplier relationships, hence, assumed a more discernible eclectic nature, under the conditions of the 1980s, accomplishments and progress to be accompanied by limitations and drawbacks.

Let's make a brief note here that the eclectic nature of assembler-supplier relationships is actually not restricted to the Turkish case, but is apparently prevalent in the case of the automotive industries in other developing countries, as well. In narrating the case in Latin America, for example, Jenkins draws attention to a close involvement of the terminals in the suppliers' operations, pointing out that the relationship between the terminals and the suppliers is not the typical arm's length relationship observed in the advanced countries. He also emphasizes, however, the rather adverse impact of price and payment schedules the suppliers are compelled to operate under.\textsuperscript{116} In the case of Korea, again, while it has been documented, on the one hand, that the automotive companies rendered impressive technical assistance to the small suppliers

\textsuperscript{116} Jenkins, 1987: 131-132; see also pages 94-95 of the dissertation.
inciting remarkable progress in this sector, it was also recorded that the profit margins of the suppliers were squeezed as a consequence of the assemblers' market power. Given such observations, hence, it is possible to say here that the automotive industry under developing country conditions, deviate, in many cases, from the typical models in the literature, some of the seemingly diametric characteristics attributed to different models of production simultaneously characterizing assembler-supplier relationships.

Let's return back to the Turkish case, though, and look at what other developments awaited the automotive industry during the decade. While Renault and Tofas, the two established passenger-car producers, were going through a process of adjusting to the changing conditions in the country, the Turkish passenger-car industry welcomed a third venture, by the mid-1980s, initiated by one of the commercial-vehicle producers, Otosan. Apart from the rather unsuccessful "Anadol" project, Otosan was basically a producer of trucks, light trucks and minibuses, operating under the American Ford license. By the early 1980s, however, the company decided that it would be worthwhile to widen its product range to include "Ford Taunus" among its products. Investments for the new project began in late 1983, and the first cars were introduced to the market in

\[117\] Amsden, 1989: 184-188
1985. The initial annual capacity was 10,000 cars, and Otosan did not increase its capacity to any significant extent, since then. This company, therefore, never became a serious competitor of Renault and Tofas, not making much an impact on the production strategies of the two established producers.

Despite the rather low volume of production, however, Otosan's venture in passenger-car production had significant impact on the company's own production strategies, itself. Being operating in a closed market, Otosan, as a commercial-vehicle producer, was rather relaxed about product quality, until then, like its numerous peers in the domestic market. With Ford Taunus, however, Otosan realized that it should upgrade its quality perspective if the company meant to survive against Tofas and Renault which were in a continuous process of improving the quality of their products.118

Otosan's new approach to quality would influence, above all, the company's relationships with the suppliers. The company representatives we interviewed expressed that they became more demanding about quality after the Taunus project gained momentum. Technical support to the supplier sector intensified, while the company became more meticulous in selecting the new suppliers. By the year 1989, Otosan had a total of 370 suppliers, most of which had accomplished

118 Interviews
significant progress owing, among other factors, to Otosan's assistance. As a result, not only the company succeeded in its new venture in passenger-car production, but also the overall quality of its commercial vehicles increased.

Although the orientation towards quality in Otosan was primarily an outcome of the company's new venture in passenger-car production, it was also encouraged by the governments' determination, in the 1980s, vis-a-vis trade liberalization. Indeed, the other commercial-vehicle producers in the country also became more quality-conscious, during the decade, realizing that foreign competition would soon be on the agenda. We see, for example, that starting particularly with the mid-1980s, new products were introduced to the market--some being brand new models directly adopted from the parent companies abroad, while many were redesigned versions of the old vehicles upgraded both vis-a-vis appearance and product technology. The change in the Traffic Law in 1985 which updated the regulations as to vehicle dimensions and gross vehicle weights also contributed to the spur in design/quality upgrading in the CV sector.\footnote{Tezer, 1989: 87-88} Some experts are in the opinion, in fact, that by the late 1980s, commercial-vehicles produced in Turkey were fairly close to the advanced country products in terms of product quality.\footnote{SPO, 1987: 18}
From mid-1980s onwards, capacity expansion also gained some momentum, in the commercial-vehicle sector, to accomplish a 29.2% increase between 1983 and 1988, in contrast to the -7.6% decrease between 1980 and 1983.\textsuperscript{121} According to the above experts, in fact, some of the commercial-vehicle producers were operating pretty close to optimum capacities, by 1987, if we take the European manufacturers as the basis of comparison.\textsuperscript{122} In addition, two firms commenced with the manufacturing of their own diesel engines, during the period, though as a general trend, production was still based on the in-house assembly of CKD engines. However, despite the capacity increase and the revitalization of the domestic economy, the existence of too many producers (as many as 11) competing in similar market segments, resulted in highly low capacity utilizations which ultimately restricted investments to upgrade technology in the commercial-vehicle sector.\textsuperscript{123} In 1986 and 1987, for example, total annual CV capacities were 89,700 and 91,800 units while production, these years, was 34% of the capacity at 30,890 and 31,722 vehicles, respectively. In a few cases, capacity utilization was as low as 5%.\textsuperscript{124} As a result, commercial-vehicle production in most cases remained to be

\begin{itemize}
\item[\textsuperscript{121}] Calculated from SPO, 1987: Tables III and IV; Unsal, 1989: Table 3
\item[\textsuperscript{122}] SPO, 1987: 55
\item[\textsuperscript{123}] SPO, 1987: 19
\item[\textsuperscript{124}] Calculated from SPO, 1987: Tables I and II; Unsal, 1989: Table 3
\end{itemize}
highly labor-intensive throughout the 1980s.\textsuperscript{125} There is no doubt, though, that apart from low capacity utilization, the availability of very cheap labor in the country, during the decade, must also have encouraged reliance on labor-intensive methods in this sector.

The increased emphasis on quality improvement, on the one hand, and model expansion and upgrading, on the other, influenced the assembler-supplier relationships in the commercial-vehicle sector, as well. Technical support to the suppliers was on the agenda, whenever needed, and the assemblers became more insistent on quality- and technology-upgrading in working with the small firms. Though not generalizable, some of the small suppliers we interviewed stated that they recently received financial assistance from their customers in incorporating new technology. While supporting and encouraging their suppliers in terms of the technical aspects of production, however, the economic conditions of the 1980s invited the CV producers to adopt, at the same time, the same financial strategies vis-a-vis the suppliers that we see in the passenger-car segment of the industry. In this respect, it is possible to say that the CV producers were closer to Tofas than Renault. Multiple-sourcing, late payments and price increase below the rate of inflation were highly practised by the commercial-vehicle producers. These strategies, therefore,

\textsuperscript{125} Interviews; SPO, 1987: 18
were a common denominator of almost all the automotive final-assemblers, in Turkey, regardless of the characteristics of in-house production. 126

During most part of the 1980s, in sum, the Turkish automotive industry was in a process of preparation for the approaching foreign competition, on the one hand, and adopting new strategies to adapt to the rapid transformation of the domestic economy along the lines of market orientation, on the other. Thus approached the year 1989, which would be a significant year for the industry. By 1988, the government warned the motor-vehicle producers that tariffs and other charges on imported motor-vehicles were soon to be radically reduced which was expected to result in an immediate inflow of foreign products. This time, therefore, foreign competition was to be a reality, very soon. Apart from the foreign competition factor, a second event, in 1989, equally worried the domestic producers. That year, primarily taking encouragement from the governments' incentives for foreign capital investments in the country, three established foreign companies announced that they decided to engage in passenger-car production in Turkey. These companies were Toyota, Peugeot, and Opel. In fact, the Opel company immediately commenced with investments, announcing that by 1990, it was going to release a rather new model, Vectra, to the Turkish market. From the

\[126\] Interviews; See also Bakirci, 1989: 46-47
perspective of the two existing passenger-car companies, Tofas and Renault, therefore, it was not only direct foreign competition by way of exports, but also competition with new producers in Turkey that was on the agenda.

In 1988, Renault and Tofas had already introduced to the market the redesigned versions of their old models, but the two companies were in the opinion that even after the renewal, the old models would not be able to respond to all consumer segments in the market. Since the beginning of the 1980s, there had especially appeared a rather large new consumer segment whose disposable income had significantly increased, over the years, by way of interest, banking and/or foreign trade earnings. These consumers would not be satisfied with the existing family-type models of Tofas and Renault, preferring to purchase, instead, either more luxurious imported cars—once trade liberalization in motor-vehicles gained momentum—or the products of the newly-to-be established companies which were intending to manufacture new and higher quality models in their bases in Turkey. The two companies decided, therefore, that it was high time to include, in their product range, a completely new model which would appeal to the new consumer segment of the decade, making it easier to compete against the products of other companies, domestic or foreign.
By the beginning of 1989, Tofas and Renault had already decided on what new models to produce. Tofas decided on Fiat's Tempra model, which was a brand new car not released to the market, yet, even in Italy. Renault, on the other hand, decided on Renault 21, which was a little older model than Tempra, but a more modern car compared to Renault's existing model range. Unlike their previous models, however, both companies decided to initially import all parts of the new models from their parent companies to assemble in Turkey, and subsequently proceed with the new-model oriented investments. On the immediate agenda of the two companies was instead an investment project oriented towards capacity expansion to reach 100,000 cars per year, each. Both the companies commenced with the capacity expansion project by early 1989.127

In the meanwhile, throughout 1989, the government step by step reduced the tariffs and surcharges on imported motor-vehicles, culminating the process with a radical reduction by the end of the year. The impact was stronger than expected with an immediate inflow of foreign products. In 1990, bus imports increased by 420% and truck imports by 140%, by dollar value, and 297% and 139%, respectively, by weight.128 The increase was even more dramatic on the side

127 Interviews
128 Calculated from United Nations Commodity Trade Statistics
of the passenger-cars. While a total of only 7,000 cars were imported in 1989, in 1990 the number jumped to 70,000, recording a 900% increase over the previous year, which also corresponds to the increase by weight. By dollar value, the increase was 567%. The market share of imported cars, that year, corresponded to 37.5% of the total. The long-awaited foreign competition was finally on the agenda, a wide range of foreign products suddenly governing the streets of Turkey.

Interestingly, however, such a sudden inflow of foreign vehicles into the country did not necessarily have a negative impact on the production of the existing domestic factories. On the contrary, in 1990, majority of the automotive firms in Turkey achieved higher production rates than the previous year. While total production in 1989 was 146,513 vehicles, it jumped to 209,150 vehicles in 1990. On the commercial-vehicle side, the increase was 109% in midibuses, 62% in buses, 51% in trucks, 43% in light trucks, and 39% in minibuses. On the passenger-car side, Tofas sales reached 90,000 and Renault sales reached 70,000, in 1990, accomplishing an average of 42% increase over 1989. These companies operated pretty close to full capacity, that year.

129 Cumhuriyet, 29 December, 1990; Gunes, 24 December, 1990

130 Gunes, 24 December, 1990
As far as the passenger-car industry is concerned, there were a few factors behind the accomplishment. First, the market in Turkey significantly grew in size, over the years, reaching a capacity that was big enough to absorb both domestic and imported cars. Indeed, despite the growing inequality in income distribution, the government policies of the 1980s created a rather big population stratum which was governing a significant amount of disposable income. The consumers that were at the upper end of this stratum formed the market segment for the rather luxurious imported cars. On the other hand, the major portion of the domestic passenger-car production was composed of family-type cars which succeeded—after the changes in design and increase in quality—to respond to the needs of the majority of the consumer segment. The East European cars which constituted as high as 33% of the imports 131, in contrast, were both cheaper and of lower quality than Turkish products, appealing only to that segment of the population located on the rather lower ends of income distribution. Despite the sudden inflow, hence, the imported cars did not necessarily threaten the market share of the domestic producers. The post-1983 strategies of the producers vis-a-vis their products proved to be successful, after all, Turkish passenger-cars accomplishing to preserve and even enlarge their market share against foreign products.

131 Cumhuriyet, 19 November, 1990
Despite the success of the existing models, however, the Turkish passenger-car producers were determined to further increase their market share by penetrating into particularly the more luxurious segment of the car market. By the end of 1990, Tofas released its new model Tempra, and Renault, Renault 21, which were both highly appreciated by the Turkish customers. At that time, Opel, which was a completely foreign capital initiative, had completed its investments, and with an initial annual production capacity of 10,000 cars, released its model Vectra which proved to be equally welcomed in the market. Although the initial production volume of all the three models was quite low, their success in the market would encourage the three producers, particularly Tofas and Renault, to increase the production volume of the new models over the following years.

The success of the Turkish automotive industry against foreign competition was not limited to the passenger-car producers, only. The commercial-vehicle producers were doing pretty well, as well. A prime factor that increased the competitiveness of the CV sector was no doubt the fact that production in this area of the automotive industry, in Turkey, was almost completely artisanal, depending primarily on human labor. Given that the cost of labor consistently decreased in Turkey throughout the 1980s, reliance on labor-intensive methods became an advantage of the domestic
producers against foreign alternatives. Moreover, the commercial-vehicle producers modernized the design of their products during the decade, offering up-to-date and better quality models to the market. As assessed by the SPO study referred to earlier, product quality in the commercial-vehicle sector reached fairly close to foreign products by the end of the decade. The high growth rate accomplished in overall economic performance in 1990 (Table II) no doubt also contributed to the increase in the production of the CV industry.

While foreign competition in automotive end-products became a reality in 1990, the same year the government took a major step vis-a-vis liberalization in vehicle parts, by reducing tariffs and surcharges on these products, as well. Although such a step could have been a serious threat to the domestic suppliers—primarily the small scale ones who might have lost their competitiveness against foreign products—it did not prove to be so in reality. Despite the reduction in tariffs, the Turkish final-assemblers did not much alter their strategy of working with the domestic suppliers. Although in 1990 imported vehicle components were 60% above the 1987 figure by weight, and 48% above by dollar value, the increase was still much below that recorded in motor-vehicles, themselves, and reflects primarily the

\[\text{132 Calculated from United Nations Commodity Trade Statistics}\]
increase in the production volumes of the domestic producers rather than a shift to imported parts.

Our interviews in Turkey suggest that there were two major factors that encouraged the assemblers to maintain their relationships with the suppliers. First, many motor-vehicles produced in Turkey were/are redesigned versions of rather old models whose production was already terminated in the countries of origin. Hence, even if the assemblers preferred to do import the parts of these vehicles, they would not be able to do so. More important than that, however, is the fact that vehicle parts produced by the domestic suppliers were still cheaper than foreign compatibles given the availability of cheap labor, in Turkey, particularly in the case of the small suppliers. As we will see in the next chapter, despite the significant progress achieved by the small supplier sector over time, these workshops continued to preserve some of their informal sector characteristics, especially vis-à-vis labor relations on the shop-floor. According to a representative of one of the vehicle producers we interviewed, for example, in 1990 while the average annual cost of a worker employed by the automotive assemblers was around 15 million T.L. or US$ 5,119—the worker himself receiving a net of US$ 3,413, which corresponds US$ 284 per month—a worker's average monthly wage in the small supplier sector was only US$ 136-170, that year, which is roughly half as much as the net wage of a
worker employed by an assembler. It was estimated by some of the small firm owners we interviewed, moreover, that around 80% of those employed in small workshops worked without access to social security benefits. Under these conditions, then, it is our opinion that even with zero tariffs and surcharges, the domestic supplier sector would still be competitive against the import alternative, liberalization, in this area, not likely to have much of an impact on final-assembler/supplier relationships.

We should note here that the availability of cheap labor in Turkey is obviously not limited to the small supplier sector. Even in large scale suppliers which operate according to the regulations of the law and pay similar wages to their workers as the final-assemblers, the cost of labor is still very low resulting in high competitiveness against imported parts. Indeed, it was mainly because of the availability of such cheap labor in Turkey that an increasing number foreign companies made contracts with the Turkish suppliers, towards the end of the decade, to produce vehicle parts both for the Turkish and, particularly, for foreign markets. The exports of the medium-to-large scale domestic suppliers to particularly the advanced country markets significantly increased during the period, surpassing, according to some sources, that of the final-assemblers. Cumulatively speaking, hence, liberalization

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133 Dunya, 1989: 11
in vehicle components did not have much of a negative impact on the domestic suppliers, large and small, who continued to play a significant role in the production organization of the Turkish automotive industry. By 1990, there were a total of about 1,000 suppliers working for the motor-vehicle assemblers in Turkey, the industry displaying an more decentralized structure than the earlier years of establishment.

III. Conclusion

In trying to capture the role of the small scale suppliers within the dynamics of the Turkish automotive industry, this chapter approached the topic from exclusively the perspective of the final-assemblers in the industry, looking at the motivations/factors behind decentralization within the broader framework of the way production is organized. With emphasis on the outlook on the small subcontractors, we tried to capture the strategic changes in the structural organization of the final-assemblers, over time, in response to the changes in the macro economic/regulatory conditions in the country. Our base of verification, here, has been the data/information provided mainly by the final-assemblers and partly by the suppliers, which were evaluated by superimposition on the available literature on the automotive industry and the evolution of Turkey's economy.
Our analysis along these lines led us to the conclusion that neither the characteristics of in-house production organization nor the nature of assembler-supplier relationships within the context of the Turkish automotive industry typically fit into the frameworks drawn by the three perspectives in the literature taken as reference points in this study. The Turkish case rather demonstrates that conflicting characteristics may co-exist within the same entity, hence drawing attention to the shortcomings of referring to ideal models in evaluating the stance of a developing country like Turkey. Even the final-assemblers operating in these country contexts tend to categorize their status within the boundary of any one of the established production paradigms, describing themselves, for example, as mass-producers while they actually are not. Established paradigms of production may be so strongly embedded within the intellect's structure that it becomes difficult to question their applicability and assume a more flexible conceptual framework.

The Turkish final-assemblers, most particularly the passenger-car producers, display a highly symbiotic production organization whereby mass-production, lean-production and even traditional craft methods are co-utilized, the industry not falling within the boundaries of exclusively any one of them. When the idea is to make flexible utilization of the mass-production technology while
utilizing multi-purpose universal equipment to allow for cost savings and flexibility, on the one hand, and rely on labor-intensive craft methods, while experimenting with the "new" approaches to the organization of labor on the shop-floor (in the 1980s), on the other, we can not talk about typical mass-production. However, if we can not detect a continuous-process research-orientation as the prime motive behind the existence of an enterprise whereby particularly product development is restricted to "cosmetic" revisions; if we are talking about still high inventory costs and low productivity performance; if we can not detect the notion of the "firm as a community" whereby the workers are given utmost initiative and responsibility to interrupt and innovatively contribute to the production process, we can not talk about lean-production either. What we are talking about, instead, is an intermediary case which can be best described as an eclectic combination of the opposites. In this regard, the commercial-vehicle sector in Turkey displays a much more consistent structure operating predominantly within the craft paradigm--though as some of the producers we interviewed point out, the techniques they have incorporated are mostly obsolete.

Our study also revealed that given the factors behind the adoption of a decentralized structure, the role assumed by the small suppliers or the terms of the relationships between the automotive final-assemblers and their small
suppliers have a number of characteristic features in Turkey which again do not typically fall into the framework of any of the three perspectives examined. First, in the Turkish case, subcontracting has never been a short-term or temporary strategy, nor has it necessarily emerged as a product of the changing world economic conditions since the late 1970s. In the Turkish case, rather, decentralization as a strategy emerged in the early 1970s more as a technical necessity—a combined outcome of local content legislation, price controls and low volume production in a low income market—that made investment feasible only if the producers economized on both labor and fixed capital. Subcontracting was one of the best solutions to the problem, complementing the strategies of the assemblers vis-a-vis in-house production. The system operated as a whole, in this regard, each structural component emerging from the same conditions and concerns the producers were compelled to organize production under.

While some of the conditions that led to subcontracting in the 1970s continued to prevail during most part of the 1980s—most notably low volume production accompanied by high tariffs and surcharges even though the local content legislation was officially abandoned in 1985—subcontracting also assumed an additional role, during the period, as a mechanism of risk transfer on, particularly, the small supplier sector. Hence, beginning with the mobilization of
the industry around local content legislation, subcontracting has always been on the agenda as a viable strategy in Turkey, though, as we will try to explore in the final chapter, it may assume a different structure under the conditions of the 1990s.

In looking at the relationships between the final-assemblers and their small suppliers in the Turkish case, we detect that their terms of endearment display a much more complex picture that what is usually implied in the literature:

a) On the one hand, the sweatshop conditions prevalent in the small industry/informal sector always attracted the large firms in subcontracting out to this sector as a cost decreasing, profit maximizing factor. Though not phrased as such, it is stated by the final-assemblers that one of the reasons why they work with small enterprises is that labor costs are much lower in the small industry sector than they are within their own premises. Hence, so far it has been to the advantage of the final-assemblers that the small suppliers remain informal at least as far as shop-floor control systems are concerned. In this sense, it is possible to say that in the Turkish case, as well, the large firms conceived subcontracting as a means to siphon cheap labor into the production process similar to what has been observed by some scholars in their analyses of some other developing countries;
b) On the other hand, given the nature and the complexity of the product—a motor vehicle—plus the available industrial infrastructure in the country and the factors that made decentralization almost compulsory, the final-assemblers were as much dependent on their suppliers as vice-versa which led to a significant resource transfer not only from the latter to the former, but in the opposite direction, as well. In this case, resource transfer was in the form primarily of technical training accompanied by advanced payments, in the earlier periods. Technical training concentrated particularly on the improvement of the production techniques, new equipment usage, raw-material processing, and production planning, same as what has been observed in the case of the automotive industries of many other developing countries. The final-assemblers, in other words, actually invested in their suppliers, the latter also benefitting from the relationship in between. In this sense, therefore, collaboration was also a characteristic of the prevalent subcontracting relationships;

c) Under the conditions of the 1980s (approaching foreign competition, new models, on the one hand, and dramatically rising costs and high inflation, on the other) resource transfer on both ways became much more apparent and took more tangible shape during this period. Increased technical assistance accompanied by stricter quality standards, on the one hand, and late payments, low price assessment and
increased multiple-sourcing (except for Renault), on the other;

d) Despite the fact that the suppliers were in a sense kept at arms' distance with seemingly no long-term commitment on the side of the final-assemblers (the longest contract term has been one year, to drop to a few months in the 1980s), mutual dependency and resource transfer led to the establishment of long-term commitment, in practice. It is declared by the final-assemblers we interviewed that the majority of the small firms that they worked with by the late 1980s, have been their suppliers since early-to-mid 1970s;

e) Because of limited product-oriented innovation on the side of the Turkish factories, most discernible in the case of the passenger-car producers, on the other hand, the suppliers were not required to contribute to product design processes. They operated, in most cases, according to the specifications provided, encountering no pressure to invest in R&D activities for product development. In this sense, hence, one-sided dependency characterized the relationships in between.

In short, the way the small suppliers took part in the production organization of the Turkish automotive final-assemblers simultaneously displayed certain features of all
the three frameworks drawn by the leading perspectives in the literature. It has never been an either/or case in Turkey: rather either and or co-existed, the emphasis shifting between the two from one period in time to another. This picture we get by looking at the nature of subcontracting relationships in the Turkish case, has certain implications regarding the trajectory of the small suppliers over time. To put it in another way, by looking at this picture, alone, one expects to find certain specific features to characterize the process of development of the small supplier sector. It will be the task of the next chapter to look into these implications and follow the actual trajectory of the small firms concerned, upon the background of the particular factors that influenced their path of development over the course of time.

"What happens to small scale/informal industries that are incorporated into the production process as subcontractors of a decentralizing large scale industry? Will they be better-off or worse?" In examining this problematique within the context of the automotive industry in Turkey, the last chapter approached the topic from exclusively the perspective of the final-assemblers in the industry, concluding the analysis by commenting that the nature of subcontracting relationships in the Turkish case has certain implications regarding the trajectory of the small suppliers. What are these implications, or to be more specific, what do the framework of assembler-supplier relationships insinuate as to the course of development of the small supplier sector over time? Let's begin our analysis by taking a brief look.

First, one expects that with regards to production techniques, type of technology used, product quality etc., there must have been observable development in the small supplier sector, subcontracting relationships, in this sense, having worked to the benefit of the small suppliers. On the other hand, however, one also expects to find the persistence of informal sector characteristics vis-a-vis shop-floor control systems, subcontracting, in this sense,
having played a retarding role vis-a-vis the development of the small suppliers. Similarly, again, one expects that given the payment and price mechanisms the suppliers have been subjected to since the early 1980s, there must not have been sufficient capital accumulation on the side of the small suppliers, most of which should be face to face with serious financial problems. In this sense, therefore, subcontracting should have been rather detrimental to the dynamic growth of the small establishments. On the other hand, however, one expects long term commitment, or long term work guarantee in relationships with the automotive final-assemblers which must have encouraged the small suppliers to direct their available resources to automotive-specific investments. In this sense, again, one expects that subcontracting has worked to the benefit of the small suppliers. Finally, however, one does not expect to find a very innovative small supplier sector as far as product development is concerned, subcontracting, in this sense, having suppressed the dynamic development of the small firms.

The task of the present chapter will be to answer these questions by examining the actual data/information obtained from the small suppliers, themselves, tracing their actual path of development over time. In other words, by an evaluation of primarily the information revealed by the suppliers, themselves, we will see if the implications of
the last chapter, above, indeed reflect what has happened in real life. In this endeavour, we will not only evaluate actual development from the perspective of the nature of subcontracting relationships, but try to see what other factors have influenced the path of development of the small supplier sector. We will hence look at the "external factors", examine the extent of their impact on the small supplier firms, looking particularly at the way the small firms have been influenced by the changes in Turkey's economic orientation in the 1980s. Our analysis will incorporate the three perspectives in the literature, demonstrating, again to what extent we can explain the story of the small suppliers examined, within their domain.

I. Research Approach

The verification base of the analyses in this chapter has been the field-survey that took place during 6 months in 1988-89, extending from the month of December to the month of June. During this time interval, we conducted extensive interviews with 64 small suppliers working for the automotive industry all of which were located in the city of Istanbul. Although some of the leading automotive companies such as Tofas and Renault are located in Bursa, over 80% of their suppliers operate in Istanbul, the city leading all the other cities in the country vis-a-vis the number of industrial establishments it accommodates.
In selecting the suppliers to interview, our prime principle was to make sure that the sample was not necessarily composed of those firms which accomplished progress. The research began with one firm (which was among the least developed of those interviewed), whose owner referred us to other supplier/s he knew, and the next ones interviewed referred us to still others, so that all the 64 firms were thus found by way of a chain of references one after the other. We found out that this method of locating the suppliers to interview was in fact better than selecting them, for example, from a list to be provided by the final-assemblers. Making an appointment through a reference person of similar status (who in most cases actually made the appointment for us, himself), establishes a more friendly relationship between the interviewer and the interviewed person, who is more inclined to trust a stranger if sent by a friend he knows.

In selecting the firms to interview, a major criterion we used was to make sure that each firm interviewed came from an informal sector background. A reliable measure for "informality" in Turkey is to look at whether the owner of the firm has an artisanal background. There exist hundreds of thousands of artisanal workshops in Turkey most of which typically fall into the informal sector category vis-a-vis labor relations on the shop-floor, registration status (a
representative of one of the organizations embodying the artisanal sector stated, for example, that more than 40% of all artisanal workshops in Istanbul were not registered, operating off the books), lack of access to formal credit institutions and formally distributed raw material, etc. We were hence biased, at the beginning, thinking that we should interview only those firms who either came from an artisanal background, or were still artisanal. However, we realized, as research proceeded and as we will see later on in this chapter, that many small firms whose owners are engineers, university graduates, or technicians also exhibit many such characteristics attributed to the informal sector. Hence, we decided to include, in our sample, small firms with different owner-background, not restricting the study to the artisans.

The most difficult part in selecting the firms was to make the decision as to which fields of production to include in the survey. There are thousands of suppliers (second-tiers included) working for the automotive industry operating in many different fields of production, and interviewing all the fields would neither be feasible, nor realistic within the time period allocated to the survey. After talking to a few experts who knew the industry well, we decided to concentrate primarily on those firms producing aluminum parts, and the survey began with these firms.
The reason for giving priority to aluminum parts production was that among all the fields operating for the automotive industry, this field is neither the easiest nor the most difficult in terms of accomplishing progress when it comes to small enterprises. As we will see later on, aluminum parts production usually necessitates some engineering knowledge whereas many small firm owners come from an artisanal background. However, it is relatively easy and affordable to adopt capital-intensive techniques, in this field, which, compared to some other fields of production, minimizes dependency on qualified labor, and hence worker-related mistakes. Also, in terms of the complexity of material-processing until the final product is ready, or the number of production steps to be controlled in achieving product quality, this field of production stands in the middle (more towards the difficult category) compared to some other fields. Cumulatively speaking, therefore, it is in one sense easy, but in another sense highly difficult for a small firm to come to a certain sophistication level in aluminum parts production. At the same time, there are many aluminum products manufacturers in the country which operate with very primitive techniques. Hence we decided that to be able to see or whether working for the automotive industry as subcontractors encouraged or discouraged progress in the small supplier sector, aluminum parts production would be among the best fields to look at. Of the total of 64
suppliers interviewed, therefore, 28 or 44% were those in this field.

Of the rest of the firms, second place was given to the foundries and plastic injection molders. As we will see again later on, iron casting is among the most difficult fields of production in terms of accomplishing progress, whereas plastic items production, in Turkey at least, is among the easiest. Hence, 13 firms, or 20% of the sample were foundries, and 11 firms, or 17% were plastic parts producers. Finally, we included 7 metal stamping workshops, and 5 machining workshops in the sample, 11% and 8% of the sample, respectively. Although especially the last two fields are rather underrepresented in the sample, in quantitative analyses in this chapter, data obtained from these workshops will be reflected only as part of the total, in percentage evaluations regarding the whole sample. In qualitative analysis, on the other hand, we will use not only the information obtained from these workshops, but also the information obtained from the final-assemblers, and the organizations representing the small firms in Turkey. Hence, in qualitative analysis regarding different fields of production, various sources of information will be incorporated.

To be able to make a reliable assessment as to the extent of development over time, we decided that a good way would be
to establish a basis of comparison, or to form a sample that would allow comparative analysis. Our major task was to see the extent of progress achieved by the suppliers that work directly for the final-assemblers, referred to as the first-tier suppliers in the literature. As a base of comparison, we decided that while giving priority to these suppliers in the sample, we should also include those firms that work indirectly for the automotive industry, the so-called second-tier suppliers. Hence of the total of 64 suppliers interviewed, 47 or 73% were first-tier suppliers, and 17 or 27% were second-tier suppliers. The second-tier suppliers interviewed were selected among two fields, only: 71% aluminum parts producers and 29% foundries, these two fields, together, forming 51% of the first-tier suppliers interviewed.

In addition, we decided that in order to capture the impact, on the small firms, of working for the automotive industry, we should also interview a certain number of firms that do not work for the automotive industry, but as direct suppliers for another industry. The industry selected was the machinery industry, which, unlike the automotive final-assemblers, is composed of relatively small to medium sized firms in Turkey. In this way, we would be able to see if it proved to be better or worse to work as suppliers for large scale firms as opposed to small ones. The machinery industry was selected also because this industry, manufacturing many
different machines such as textile machinery, lathes, various injection molding machinery, stamping machines, construction equipment and many others, serve hundreds of industrial establishments in Turkey, small and large. It is a relatively new field of manufacturing, controls a very large customer base, and is considered to be among the most promising fields of small industry production. In addition to the 64 suppliers working for the automotive industry, hence, we interviewed a total of 20 small firms working for the machinery industry. Of these, 60% were aluminum parts producers, and 40% were foundries. With the inclusion of these firms, hence, the total sample size became a total of 84 firms. We should note here that with the addition of these 20 firms to the second-tier automotive suppliers we interviewed, we established a sample size of 37 firms, which formed a sufficient sample base to compare with the 47 suppliers that worked directly for the automotive industry.

A final concern we incorporated in selecting the firms to interview was related to the specific location of the firms in the city. This concern was an outcome of the fact that the status/position of the small enterprises in Turkey vis-a-vis the government is best reflected in the existence of a great number (to the degree of hundreds) of government-supported small industry estates in the country. These estates, which are perhaps the only tangible forms of government support to the small industries in Turkey, are
introduced and frequently promoted, by official circles, as highly effective means to encourage the development of the small enterprises. Given their total number all over the country and the fact that many small enterprises operate in very primitive premises—if not located in one these estates—one gets the impression that small industry estates would indeed have a positive impact on the development of the small enterprises. In forming our sample, hence, one of the concerns was to include both those enterprises operating in these estates, and those located elsewhere. In Istanbul, however, there were only 4 such estates accommodating a total of 1,712 small enterprises, and we found out that the majority of the suppliers working for the automotive industry were not located in these estates. Hence, of the total of 64 automotive suppliers interviewed, 38% were located in a small industry estate, and 62% located somewhere else.

Besides the actual content of the interviews, in sum, the above discussed principles/concerns were taken as guidelines in selecting the firms to interview. The questionnaire used during the interviews was prepared to capture both the actual path of development of the enterprises, over time, and the factors that influenced the process to the advantage or disadvantage of the firms concerned. Besides trying to understand a firm's field of production in detail, topics such as relationships with the customers, government
support, labor relations on the shop-floor, and collaboration among small enterprises were extensively discussed. Many of the questions asked requested information pertaining both to the present and the past, the latter covering the time the enterprise was first established and its last 8-10 years. The reader may refer to Appendix 1 for the actual questionnaire.

Each interview took about 4 hours, and many times discussions revealed more crucial information than was intended to be covered by the questionnaire. Almost all the interviews were conducted with the firms' owners, with the exception of a few which were conducted, with whom we can call, the foreman, due to the absence of the owner himself. These rather limited number of interviews with the workers, however, were very useful particularly in learning about the actual labor relations on the shop-floor.

We should make a note here that all the 84 suppliers interviewed worked for other industries besides working for either the automotive or the machinery industry. We found out that this is typical of the small industries in Turkey, so much so that it is almost impossible to find a small firm working for only one industrial field. Among the other fields served were white-goods industry, electronics industry, construction industry, food industry, sanitary equipment industry, etc. However, the major portion of each
firm's production was usually composed of production either for the automotive or the machinery industry. Also, in order to capture the impact of the major industrial fields selected (the automotive or the machinery industries) on each firm, during each interview we particularly discussed the relationships with the customers in these fields, and the positive or the negative impact of working for these industries as compared to the other fields served.

As a first-glance general outlook on the composition of the total sample, the reader may refer to Table 1. As seen in this table, of the total of 64 automotive suppliers and of the total of 47 first-tier suppliers interviewed, respectively 22% and 30% work only and directly for the passenger-car industry (which means that they do not work for the commercial-vehicle producers, at the same time). Of the same totals, 23% and 32%, respectively, work only for the commercial-vehicle producers. The rest work for both types of final-assemblers at the same time. Of the same totals, again, 40% work for the Tofas and/or Renault factories. On the other hand, 42% of the total of 64 automotive suppliers, 38% of the total of first-tier suppliers, and 53% of the second-tier suppliers come from an artisanal background, as compared to 64% of those who work for the machinery industry. Of the same totals, owners who are technicians (graduated from secondary technical schools) constitute 16%, 15% and 18%, respectively, as compared to
TABLE 1

<table>
<thead>
<tr>
<th>Number of Firms</th>
<th>Auto. Total</th>
<th>Auto. FT</th>
<th>Auto. ST</th>
<th>Mach. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only PC, FT</td>
<td>22%</td>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only CV, FT</td>
<td>23%</td>
<td>32%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tofas &amp; Ren.</td>
<td>40%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner: Artisan</td>
<td>42%</td>
<td>38%</td>
<td>53%</td>
<td>65%</td>
</tr>
<tr>
<td>Owner: Tech.</td>
<td>16%</td>
<td>15%</td>
<td>18%</td>
<td>20%</td>
</tr>
<tr>
<td>Owner: Uni.Grad.</td>
<td>11%</td>
<td>15%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Owner: Engineer</td>
<td>31%</td>
<td>32%</td>
<td>29%</td>
<td>15%</td>
</tr>
<tr>
<td>Average no. of Workers</td>
<td>23</td>
<td>28</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

Auto : Automotive Industry  
Mach : Machinery Industry  
FT : First-tier suppliers  
ST : Second-tier suppliers  
Total: FT + ST  
PC : Passenger-car  
CV : Commercial-vehicle

20% of those working for the machinery industry. Owners who are engineers or university graduates (other than engineering) together constitute 44% of the total automotive suppliers, 47% of the of the first-tier suppliers, and 29% of the second-tier suppliers, as compared to their 14% share (all engineers) in the machinery group. To give an idea about the size of the firms interviewed, average number of workers (per firm) employed by the 64 automotive suppliers by the time the interviews took place was 23. Of these, the average number of employees of the first-tier suppliers was
28, of the second-tier suppliers 10, and of the 20 firms working for the machinery industry, the average number of workers employed was 5. The reader may also refer to Table 2 for the type of motor-vehicle components manufactured by the firms in each of the five fields of production examined.

The data and information obtained from the 84 small enterprises interviewed were evaluated, from a comparative perspective, to find out what was the actual path of development of these groups of firms over time, and why. The analytical method we used was not a typical statistical analysis. Our objective here was basically to capture if there has been observable difference between the trajectory of the first-tier automotive suppliers, the second-tier ones, and those working for the machinery industry, and if so in what aspects, and how. We particularly wanted to find out and demonstrate if it has been to the benefit of the small industry sector to work for a large scale industry like the automotive one. In this endeavour, our analysis in this chapter, as the reader will discover, will be one which can be best described as qualitative analysis supported by quantitative findings. The latter will mainly be percentage evaluations regarding each group of producers covered, which will be supplemented by qualitative information generously revealed by the firms visited. In particularly evaluating the five major fields of production included in the survey, qualitative analysis will be the prime method.
### TABLE 2

Examples of motor-vehicle parts produced by the small suppliers interviewed:

<table>
<thead>
<tr>
<th>Aluminum Parts</th>
<th>Cast Iron parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>- rear-view-mirror support</td>
<td>- inlet manifold</td>
</tr>
<tr>
<td>- wind-shield wiper arm</td>
<td>- engine parts</td>
</tr>
<tr>
<td>- oil sump</td>
<td>- air-compressor parts</td>
</tr>
<tr>
<td>- gear box cover</td>
<td>- water pump</td>
</tr>
<tr>
<td>- gear box control-mechanism support</td>
<td>- exhaust manifold</td>
</tr>
<tr>
<td>- door locks and mechanisms</td>
<td>- radiator fan</td>
</tr>
<tr>
<td>- fuel tank cover</td>
<td>- cylinder head cover</td>
</tr>
<tr>
<td>- door handle</td>
<td></td>
</tr>
<tr>
<td>- km. gear</td>
<td></td>
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<td>- thermostat parts</td>
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<tr>
<td>- engine parts</td>
<td></td>
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<tr>
<td>- radiator fan housing</td>
<td></td>
</tr>
<tr>
<td>- heater valve</td>
<td></td>
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<td>- water-pump</td>
<td></td>
</tr>
<tr>
<td>- oil-pump housing</td>
<td></td>
</tr>
<tr>
<td>- steering system parts</td>
<td></td>
</tr>
<tr>
<td>- starter cover</td>
<td></td>
</tr>
<tr>
<td>- window regulator</td>
<td></td>
</tr>
<tr>
<td>- jack gears</td>
<td></td>
</tr>
<tr>
<td>- fuel filter</td>
<td></td>
</tr>
</tbody>
</table>

| Machined Parts:                                       |                                                       |
| - leaf-spring rings                                  |                                                       |
| - gear selector                                      |                                                       |
| - gear box gears                                     |                                                       |
| - differential gears                                 |                                                       |

<table>
<thead>
<tr>
<th>Plastic Parts:</th>
<th>Stamped Metal Parts:</th>
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<tr>
<td>- radiator fan</td>
<td>- door-locking mechanism</td>
</tr>
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<td>- radiator grille</td>
<td>- window regulator mechanism</td>
</tr>
<tr>
<td>- heater unit</td>
<td>- hand-break arm</td>
</tr>
<tr>
<td>- door handles</td>
<td>- wind-shield wiper mechanism</td>
</tr>
<tr>
<td>- signal and rear-stop</td>
<td>- radiator fan</td>
</tr>
<tr>
<td>- side lamps</td>
<td>- commercial-vehicle body stamping</td>
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<td>- various tanks</td>
<td>- bumper</td>
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<td>- plastic tubes</td>
<td>- wheel cover</td>
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<td>- steering rod covers</td>
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<tr>
<td>- door-pillar moulding</td>
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II. The Structure of the Chapter

The present chapter will be composed of 3 major sections. Section 1 will examine the trajectory of the small suppliers for the automotive industry, based on comparisons between the first-tier suppliers, the second-tier ones, those that accomplished progress, those that did not, and the suppliers working for the machinery industry. Revolving around a comparative analysis perspective, we will discuss, in this section, the characteristics of small industry production covering such topics as production techniques, technology, registration status, relationships with the customers, the clientele base, shop-floor control systems, innovation, business management, access to credit sources, access to raw-material sources, etc. We will present the trajectory of the small suppliers working for the automotive industry in Turkey as a story or process of transformation from informality to formally recognized "small industry" status. In this endeavour, we will discuss the concept of the "informal sector", and describe the shape it takes in the case of Turkey.

Section 2 will concentrate on the "external" factors that encouraged and discouraged the development of the small suppliers interviewed. In this section, we will cover such factors as central and local government support, the organizational level of the small enterprises, collaboration
versus competition, access to export markets, customer/product diversification, and rapid development of a machinery-manufacturing sector in the country. We will also look at how the small industry sector has been affected by the changes in Turkey's economy since the beginning of the 1980s, demonstrating that there is not much regard for the small enterprises in Turkey as far as the governments' attitude is concerned.

Section 3 will evaluate and compare the five different production fields included in the survey, discussing the specific characteristics, of each, as influencing an enterprise's potential for progress. We will particularly emphasize that in examining the trajectory of small enterprises working for a large scale industry, it would not be correct to make evaluations intended to cover all the sub-sectors working for that industry. We will demonstrate that depending on such factors as ease of access to new technology, difficulty of the production process, the amount of operating capital necessary to run a business, and the attitude of the final-assemblers towards a particular field of production, there might be significant differences between the path of development of different supplier sectors working for the same industry, or even the same final-assembler.
III. Survey Results/Evaluation

SECTION 1: The Path of Development of the Small Supplier Sector and the Impact of Assembler-Supplier Relationships on the Process

Our first task in evaluating the data obtained from the 84 small enterprises interviewed was to make an assessment as to whether the firms accomplished progress over time, evaluating each firm one by one. As the prime criteria in making this assessment, we took into consideration primarily the following factors, which, as we will see later on, proved to be a correct base of assessment to start with. The factors included were:

1) whether the firm increased its production capacity, to an observable degree, since it was first established and/or over the past 10 years (depending on when the firm was established),
2) whether there has been progress, during these time intervals, in the firm's capability to produce more complex or difficult products,
3) if there has been an increase in the number of machines/equipment used by the firm, over time,
4) if the firm adopted more modern/advanced machinery and equipment, over time,
5) if the production techniques became more modern, over time, 
6) if the firm was able to internalize more phases of the production of a product, over time, and 
7) if the firm became able to attain/prepare, in-house, higher quality raw-materials, over time. 

In order to follow why we particularly looked at these factors, we will now present a portrayal of the production characteristics/techniques of each of the five fields of production included in the survey.

1. Production Characteristics ¹

1.1 Aluminum Sand Casting/Injection Molding

Of the total of 40 aluminum parts producers interviewed during the survey, 15 were using the "sand casting" technique. Of the 15, only 3 were producing automotive parts, the rest of the firms working for the machinery industry. Sand casting is a rather rudimentary technique in aluminum parts production, although some products (large and heavy ones) need to manufactured this way. In this method, a negative mold in the shape of the final product, called the

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¹ The descriptions of the five fields of production to follow depend on our own observations during the survey and the generous information provided by the firm owners we visited.
"model", is first placed into sand. If the product is to have hollow spaces in itself, items called "cores" are placed into the model. The sand is pressed and subsequently the model is taken out, the sand taking the negative shape of the model. Into the hollow space thus formed, the raw material, molten in a furnace, is poured by ladles, the material assuming the shape of the final product. When the material cools down and hardens, the semi-finished product is taken out of the sand. The next step is to remove the "burrs" from the surface. The product is sometimes also surface-treated by exposure to sand blow, to remove the impurities formed on the surface during sand-casting. Some items subsequently need "heat-processing" to make the material more durable. The final step is machining to attain the precise dimensions shown on the blue-prints. Some items may also need "coating" for appearance. We should note that in addition to pure aluminum itself, the majority of the enterprises use zinc alloy (aluminum + zinc + copper) which is relatively easy to prepare even in small enterprises, compared, for example, to alloy making in the foundries.

Sand casting is highly labor-intensive and a very inefficient technique of aluminum parts production when it comes to relatively high-volume orders. The alternative is to use injection molding machinery, and of the 40 firms interviewed, 25 (all of which were working for the automotive industry) were using this alternative method by
the time the interviews took place. In injection molding, the molten metal is poured by ladles into an injection machinery which injects and presses the material by very high-tonaged coercion pressure into dies (molds) made of steel, and when the material hardens, it is taken out of the dies to pass through the same subsequent steps as sand-casting, above. Injection machinery are easy to operate not requiring much of a skill level, and one person per machine is sufficient to run the production. There are differences among these machines in terms of "tonnage" capacity, and in terms of the sequential pressure the machine is designed to exert during injection. To attain higher quality products, it is more desirable to use the machines that exert pressure within a sequence of two or three times.

Operating according to the above principles, both in sand casting and in injection molding there are significant differences in the way the enterprises operate. Although sand casting is a highly rudimentary technique, it may still assume a relatively more sophisticated nature depending on how the enterprise handles different phases of the production process. It is possible, for example, to adopt completely labor-intensive techniques or incorporate mechanized processes which increase both product quality and productivity. While some firms have adopted, over time, devices/equipment/machinery to sift the sand, to compress it after the model is placed into it, to manufacture the cores,
and to remove the burrs, for example, most others handle these completely manually. Similarly, the type of cores used differ among enterprises so that while many still use only sand cores, others have incorporated, over time, the resin or linseed oil cores which are more expensive to produce, but yield much better results in terms of ease of production (and hence efficiency) and product quality. Again, it is possible to make the raw material itself more durable and hard by using air-removing tablets and the inclusion of such materials as titan and magnesium, but many firms do not apply these methods because they can not control the heat of the raw material molten. We should note here that due to the very low efficiency levels, many aluminum sand casters in Turkey can not accumulate enough capital to incorporate even the mechanized processes described in this paragraph. Hence, being a sand caster, per se, is usually an indication of underdevelopment.

On the other hand, although injection molding is a step ahead of sand casting in terms of production technique, being an injection molder, per se, is not an indication of being a sophisticated producer, either. There are many injection molders in Istanbul which operate in tiny premises with one or two machines, only, using, in some cases, primitive machinery which are operated manually. As a comparison, there are firms which have succeeded, over time, not only to upgrade the machines they use, but have
incorporated, under their own roofs, other phases of the production process in addition to injection molding, itself. Typically, for example, a small aluminum injection molder would order the steel dies used in production to other firms specialized in die-making. Similarly, the firm would not undertake post-injection machining of its products, either subcontracting this process to other firms, or else leaving it to the customer. In contrast, there are aluminum injection firms which have established, over time, a die-making and a machining department, thus realizing some of the most crucial steps of the production process within their own premises. Of these, die-making is particularly significant. It was declared by the firm owners that in-house manufacturing of the dies not only yields better results vis-a-vis dimensional precision, but also decreases die costs by up to 75%, the cost of a purchased die varying between US$ 275 to US$ 550. Even in die-manufacturing, on the other hand, there are differences among firms in terms of the equipment used. While some firms use conventional machine-tools/equipment, other have incorporated, over time, more advanced machinery such as electrolytic corrosion equipment for higher precision and productivity.

Another significant aspect of aluminum parts production is related to raw material preparation and quality control. Many small aluminum injection molders (and sand casters) in Istanbul are neither equipped with the basic knowledge
regarding the preparation of good quality material, nor are they equipped with the equipment that would allow the attainment of higher quality. As in achieving better quality zinc alloy, the correct usage of "additives" necessitates some metallurgy-engineering knowledge whereas the majority of the small enterprise owners are ignorant in this respect. Also many enterprises use ages-old floor furnaces whereas it is possible to adopt revolving furnaces, or better, electric-arc furnaces which significantly increases efficiency and product quality, while enabling better control of the alloys and the additives. Indeed, one encounters quite a few number of small injection firms--many of which come from an artisanal background--which have succeeded to upgrade themselves, over time, with regards to incorporating better methods and equipment for quality raw material preparation. Similarly, while many firms test the quality of the material by visual inspection, some firms have adopted equipment to test the product's resistance to pressure and to observe whether there is air entrapped in it.

In sum, in evaluating whether the aluminum parts producers interviewed have accomplished progress over time or not, we looked at such factors as whether the firm have abandoned the sand casting technique, to adopt injection molding, instead; whether the machinery/equipment used have been upgraded, over time; whether the processes such as core
manufacturing and the removing of the burrs have been mechanized; whether the firm has succeeded to undertake different phases of the production process such as die-manufacturing and post-injection machining; whether the firm shifted from simple furnaces to, particularly, electric-arc ones; and whether the firm improved in-house material-preparation and became more quality conscious adopting more advanced quality control equipment.

1.2 Foundries

The production technique of the foundries can simply be described as iron sand casting which is based on the same production steps and principles as aluminum sand casting, above. Foundries constitute the oldest type of small industry production in Turkey, hundreds, or perhaps, thousands of them existing in Istanbul, alone. A great majority of these establishments are tiny workshops which operate with the mentality and equipment that have been used for centuries, establishing a community of completely traditional production. Almost all the production steps are highly labor-intensive, in these workshops, similar to what we observe in the case of many of the aluminum sand casters. All of them use the ages-old simple cupola furnaces which operate on the principle of melting iron directly on top of heated coal. Cupola furnaces—which are simple enough to be designed and manufactured by any regular artisan, himself—
allow neither the usage of high quality iron nor alloy making, and are not suitable for continuous-process production. As for product quality control, a great majority of these workshops apply as primitive a method as knocking the product on a hard surface and observing whether it is broken or not. Surpassing all the other small industry/artisanal workshops in terms of the number of enterprises it accommodates, the foundry sector is perhaps the most underdeveloped segment of small industry production in Turkey, in terms of the quality of production.

Although the foundry sector displays such a picture of underdevelopment, however, it is possible to encounter individual workshops that have more or less made a breakthrough, over time, having adopted more advanced techniques and equipment. Aside from having mechanized many of the production steps and having thus attained higher productivity levels (some having incorporated such advanced techniques as "hot-box" core-making), these workshops have managed to abandon the cupola furnaces they once operated with, and incorporated induction furnaces, instead. When it comes to the foundries, the induction furnace, by itself, is an indication of significant progress. It not only makes it possible to melt the material in a much shorter period of time and allows flexibility in production, but also allows the use of high-quality iron and alloy-making by way of temperature control. An induction furnace, hence, is a must,
in many cases, to attain better quality products. Even that is not sufficient. During the preparation of the material and after the product is cast, it has to be tested vis-a-vis durability and composition, and as to whether there are hollow spaces left in it or not. At least a microscope, and in many cases, more advanced testing equipment, need to accompany an induction furnace. We should note that the delicate processes thus involved in "non-conventional" iron casting usually necessitate the sensitive knowledge and approach of a metallurgy engineer--although there are also those coming from an artisanal background who succeeded to incorporate, over time, the more advanced techniques and equipment, abandoning the traditional mentality they first began with.

In evaluating whether the foundries interviewed accomplished observable development over time or not, therefore, we specifically looked at whether the firm was able to shift from manual processes to mechanized ones, over time; whether it shifted from cupola furnace to the induction alternative; whether the firm was able to attain good quality material; and as a measure for quality-consciousness, whether it has the minimum quality control equipment or at least sends its products, on a regular basis, to test centers available at various locations in the city (at the universities, bigger firms or the government-sponsored testing center located in one of the small industry estates).
1.3 Plastic Injection Molding

Plastic parts production is a capital-intensive process, per se, and is composed of different production techniques ranging from injection molding to vacuum processing and finally to extrusion, each technique suitable for different types of products. Majority of the small enterprises in Istanbul, however, are either vacuumers or injection molders, and all of the 11 firms interviewed during the survey were using the latter technique.

Plastic injection molding operates along almost the same principles as aluminum injection molding, so much so that even the machinery used in each look similar. Despite the similarities, however, there are also significant differences between plastic and aluminum injection molding. First, unlike the latter, plastic injection molding does not require a separate furnace, the material molten by and inside the machinery, itself. Second, it is not possible to make alloys in plastic. Once the material is purchased (plastic raw material is available in granulated form), it is only heated, at low temperatures, to remove excess humidity, becoming ready to be put in the machinery. Therefore, the quality of the final product is directly dependent on the origin of the raw material, itself, rather than further material processing and control at the workshop. Third, unlike aluminum (and for that matter,
unlike all metal products, we should say), plastic products are not (can not be) subjected to post-injection machining. And fourth, quality control devices are much less crucial in plastic injection molding than the aluminum alternative. In can be said, in sum, that plastic injection molding is an easier process than aluminum injection molding, and hence attracts more entrepreneurs than the latter.

Indeed, in Istanbul, the number of plastic injection molders is said to be at least twice as much as aluminum injection molders. This does not mean, however, that these firms are all quality producers. On the contrary, the majority of the injection enterprises in the city operate in very small places with one or two simple machines, some of which literally rely on labor power to operate (the worker turns a handle). They produce simple items such as home products and toys, and are referred to, by bigger producers, as "staircase firms", meaning that even as tiny a place as a stair case platform would be sufficient for these enterprises to start and run a business. This category firms would typically either not engage in die-making at all and order them to outside firms, or else would rely on the customers for the provision of the dies. It was estimated by some of the firm owners we interviewed that there are hundreds of such tiny injection molders in the city.
In contrast, one also encounters firms which have succeeded to upgrade themselves, over time, both vis-a-vis the type of injection machinery they use, and vis-a-vis incorporating advanced die-making equipment. The machinery used in plastic injection molding is categorized as "manual", "semi-automatic" and "full-automatic" depending on how the dies are opened and closed, and how the product is taken out of the machine. While many firms operate with only with the first two types of machinery, some others succeeded to incorporate the full-automatic alternative, instead, significantly increasing their productivity. Perhaps more important than the machinery, itself, however, it is the dimensional precision of the dies (molds) that determines product quality in plastic injection molding. This factor is in fact more crucial in the case of plastic injection than the aluminum alternative since plastic products can not be subjected to post-injection machining. To this end, it is important that the die-makers work in close cooperation and contact with the injection-molders and know the properties of the product well. Hence, those firms that are determined to accomplish progress, internalize the die-making process, many incorporating such advanced machinery as electrolysis corrosion equipment. As in aluminum parts production, moreover, it was expressed by the firm owners that it is up to 80% cheaper to produce the dies in-house than ordering them to outside firms. We should make a note here that die-making is a much more complex process than operating an
injection machine, requiring high levels of technical skill and experience. It would therefore not be wrong to say that at a plastic injection firm, the die-making department, if there is one, stands out as the prime department of the firm rather than the injection department, itself.

In evaluating the plastic injection molders, in sum, we primarily looked at--other than some general considerations/criteria used in assessing all the firms interviewed--whether the firm has upgraded its injection machinery over time; whether die-making was internalized establishing a separate department for the purpose; and whether the firm was able to incorporate, over time, advanced equipment and machinery for die-manufacturing.

1.4 Metal Stamping

Metal stamping is among the most widespread fields of small industry production in Turkey. The number of small metal stampers in Istanbul, alone, is said to be over a thousand. A great majority of these enterprises, however, are tiny workshops employing around 5 to 8 workers, each, and they produce simple products such as folder wires, trash cans, hand tools, etc. As far as small industries are concerned, the production technique of metal stamping is said to be simpler than many other fields. First, metal sheets, purchased in rolls, are cut in "guillotine" presses, and
then transferred to stamping machinery to be given shape. Stamping presses operate on the principle of pressing dies on the sheet metal giving it the form of the product. There are two kinds of stamping machinery. The first is the "eccentric" presses which exert sudden pressure on the metal, and are used for such operations as cutting, bending, folding and punching. The alternative is the "hydraulic" presses which exert slow pressure, in contrast, and are used in giving depth to the metal. After the metal assumes form in the presses, its surface is sometimes cleaned by grinding. In most cases, there is also post-stamping welding, and some products, not all, necessitate machining and/or painting and coating.

Due to the simplicity of the majority of the products manufactured by the small metal stampers, the dies used in metal stamping are usually much easier to manufacture than those used, for example, in aluminum and plastic injection molding. Simple tools such as files, saws and drillers are sufficient, in many cases, to manufacture the dies. Hence, unlike the other two fields, it is not unusual for a small metal stamper to manufacture the dies used in production, himself. We should also note that although metal stamping requires some pre-stamping and product-specific calculations in order not to damage the machinery, such calculations are easy to learn by any worker in a short period of time, metal
stamping standing among the easiest fields in terms of skill-acquisition.

Although many small metal stampers in Istanbul are equipped with the machinery and equipment described in the paragraph above, there are still differences among the enterprises vis-a-vis production sophistication. One area of difference is related to the machines the workshop employs. While some machines yield much better results in terms of attaining better precision and surface quality, a typical metal stamper would employ the more widespread simpler and cheaper alternatives. Another area of difference is related to the products and hence the manufacturing of the dies. While most metal stampers are equipped with simple tools for die-making, those that are engaged in the production of more complex products have incorporated machine-tools, instead. Overall speaking, however, when it comes to small metal stampers in Istanbul, the difference among enterprises in terms of production sophistication is smaller than what we observe in some other production fields. In evaluating specifically the metal stamping workshops visited, hence, our major criterion as to whether a firm accomplished progress over time or not, was simply whether the firm upgraded its machinery and engaged in the production of more complex products.
1.5 Machining

As a sector, the machining workshops constitute one of the most developed fields of small industry production in Turkey. Their workers are usually more qualified than those employed by other fields, and unlike, for example, the small metal stampers, above, most are usually able to produce/process complex products. These workshops either machine semi-processed products manufactured by metal-related fields of production; or directly machine raw steel themselves; or else, engage in both, as many of them do. Their task can simply be described as giving dimensional precision and final shape to metal products. There are two major areas in which machining is different from the other four fields of production examined: First, that unlike all four, there is no use of dies or molds, in machining, in giving shape to the product; and second, unlike aluminum sand casting/injection and the foundries, machining does not involve raw material preparation. Machining, hence, might be considered to be a relatively easy field of production, but this is not exactly so. On the contrary, compared, for example, to plastic injection molding or metal stamping, machining is a field which necessitates the incorporation of highly skilled labor, and it takes a few years of shop-floor experience for a worker to become a master in his profession.
The machinery used in machining is categorized into two broad groups. The first is composed of, what is called, "universal" machinery which is multi-purpose, flexible machinery able to machine many different types of products. Typical examples are lathes, milling machines and planes. In these machines, the material is fixed into the machine and is delicately processed, by the worker, who gives the material fine dimensional precision by carefully manipulating the machine. It is this type of machinery, therefore, that is dependent on the skill level of the worker in terms of attaining the required product quality. The second type of machinery used--single-purpose, product-specific machinery--is, in contrast, independent on the worker's skill level, and is much less widespread, in the small industry sector in Turkey, than the flexible alternatives. We should note here that the computer-controlled, high-precision and high-flexibility machines (CNCs) are extremely rare in the small machining workshops in Turkey. They are said to be too expensive for small enterprises to afford.

The major difference among machining workshops in terms of progress accomplished over time is reflected particularly in the life span of the machine-tools used. Whereas some workshops operate with old models manufactured as far back as 25 years ago, most others have incorporated newer versions which are more advanced in terms of both
productivity and product quality. It is declared by the machining workshop owners that particularly in the case of the universal machinery, new models respond much faster and better to the worker who operates the machine. Also, whereas some workshops operate with only a limited number of machinery—a lathe, a milling machine and perhaps a few simple tools—again most others have succeeded to broaden, over time, the variety of their machinery, attaining the capability to produce many different products at the same time. In evaluating the machining workshops, therefore, we primarily took into consideration these two factors, looking at whether the firm upgraded its machinery over time, on the one hand, and incorporated a greater variety of machine-tools, on the other.

2. Survey Results: Positive Connotations

The above cited factors, hence, were taken as the major reference criteria in the assessment of the firms' trajectory in each field of production examined. In the case of each firm, in addition, we also looked at whether the firm's production capacity increased, and whether the firm attained the capability to produce more complex or difficult products, over time.

As seen in Table 3, the outcome of our assessment of the suppliers using the criteria, above, was indeed striking or,
TABLE 3

<table>
<thead>
<tr>
<th>% ACCOMPLISHED PROGRESS</th>
<th>Auto. Total</th>
<th>Auto. FT</th>
<th>Auto. ST</th>
<th>Mach. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>64</td>
<td>47</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Accomplished Progress/General</td>
<td>63%</td>
<td>77%</td>
<td>24%</td>
<td>20%</td>
</tr>
<tr>
<td>Significant Progress/General</td>
<td>50%</td>
<td>60%</td>
<td>24%</td>
<td>5%</td>
</tr>
<tr>
<td>Alum. Parts Prod.</td>
<td>81%</td>
<td>24%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Only PC</td>
<td>86%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only CV</td>
<td>67%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tofas &amp; Ren.</td>
<td>83%</td>
<td>90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner: Artisan</td>
<td>48%</td>
<td>62%</td>
<td>12%</td>
<td>15%</td>
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</tbody>
</table>

Auto : Automotive Industry
Mach : Machinery Industry
FT : First-tier suppliers
ST : Second-tier suppliers
Total: FT + ST
PC : Passenger-car
CV : Commercial-vehicle

rather, promising. The indication was that as far as progress in terms of these criteria is concerned, it proved to be highly beneficial for the small firms to work as suppliers for the automotive industry, as long as they were affiliated with the industry as first-tier suppliers. Indeed, of the 47 first-tier automotive suppliers, as high as 77% accomplished progress, over the course of time, and we should note that progress recorded by 60% of these suppliers was significantly high. In contrast, only 24% of
the 17 second-tier automotive suppliers and 20% of the 20 suppliers working for the machinery industry (all first-tier suppliers) showed any progress. We should note that over 80% of all the 84 suppliers interviewed were founded before 1980, giving them enough time to improve their production. The differences in the rate of progress recorded by different groups of suppliers, therefore, is not an outcome of variations vis-a-vis date of establishment.

The wide gap in the rate of progress becomes particularly visible when looked at the aluminum parts producers that constitute the largest group of the five fields examined. Of the aluminum parts suppliers working directly for the automotive industry, 81% recorded progress as compared to 24% of the second-tier suppliers and only 10% of those working for the machinery industry. As noted earlier in this chapter, a vast majority of the aluminum parts producers in the country employ highly primitive techniques/technology displaying a widespread neglect for quality production. Hence, the progress recorded by the first-tier automotive suppliers is a strong indication that working for this particular industry accelerated/encouraged the transition to more advanced technology and techniques rather than having retarded the process. This is particularly so considering, as we will see later on in this chapter, that some of the "external" factors such as government support, export-orientation, and exceptional organizational level among the
small industries—that helped achieve dynamic growth in some
country contexts—were absent in the case of the small
enterprises in Turkey.

Although the automotive suppliers display such a promising
picture, however, there is significant difference in the
progress rate recorded by firms working for different types
of final-assemblers. The survey revealed that while 86% of
the first-tier passenger-car suppliers accomplished progress
over time, the rate drops to 67% in the case of the first-
tier commercial-vehicle suppliers. Although the second
figure is also an indicator of considerable progress, the
difference reflects the pioneering role of the passenger-car
industry vis-à-vis encouraging industrial development in the
country.

The positive impact of the automotive industry on the
technical/technological development of the small firms
becomes more clear when we look at the progress accomplished
by firms coming from an *artisanal* background. It can be
assumed that improving the production conditions would be
most difficult for those firms whose origin is artisanal.
Having no formal education in the field and representing a
community of traditional production techniques, the artisans
would have lower tendency to change their production habits,
and it is indeed so when it comes to the majority of the
artisanal producers in Turkey. But when we look at the
first-tier automotive suppliers with artisanal background, we find out that 62% of them accomplished progress over time. In contrast, only 12% of the artisans working indirectly for the automotive industry and only 15% of the artisans working for the machinery industry recorded any progress.

Although in assessing the trajectory of the firms, we have so far considered primarily the technical aspects of production, the data collected from the suppliers reveals that progress encompasses some other areas, as well. As seen in Table 4, for example, in the firms that recorded technical progress, the average number of employees has increased from 10 to 35 during the time interval between the date of establishment and 1988-1989 when the interviews took place. In contrast, the average number of employees per firm increased only from 5 to 8, during the same time interval, in those firms that did not accomplish progress. Among the suppliers of the machinery industry, on the other hand, the average number of employees per firm was only 5 by the time the interviews took place. Similarly, while the shop-floor area increased from an average of 169 to 1000 square meters, in those firms that recorded progress, the increase was from 90 to only 334 square meters in those that did not. The contrast between the developed and non-developed firms is reflected in the value of the firms' fixed capital, as well. By the time the interviews took place, the firms that
TABLE 4

<table>
<thead>
<tr>
<th>GROWTH</th>
<th>Auto.</th>
<th>Auto.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>P(+)</td>
<td>P(-)</td>
</tr>
<tr>
<td>40</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

| Average no. of Workers (1989) | 35 | 8 |
| Average no. of Workers (DE) | 10 | 5 |
| Average Work Area (sq.met) (1989) | 1000 | 334 |
| Average Work Area (sq.met) (DE) | 169 | 90 |
| Value of FC Thousand $ (1989) | 364 | 30 |

Auto: Automotive Industry
P(+): Firms that accomplished progress
P(-): Firms that did not accomplish progress
DE : Date of establishment
FC : Fixed capital

recorded progress were controlling an average of 364 thousand dollars fixed capital, while this value was only 30 thousand dollars for the rather stagnant firms. It is possible to assume that the latter figure roughly reflects the value of the fixed capital the developed firms themselves had started with when they were first established. Hence, they succeeded to increase their fixed capital by more than 12 times over the course of years.
### TABLE 5

<table>
<thead>
<tr>
<th>DYNAMISM</th>
<th>Auto. Total</th>
<th>Auto. FT</th>
<th>Auto. ST</th>
<th>Mach. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>64</td>
<td>47</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Employee Contrib. Productivity/Quality Improv.</td>
<td>61%</td>
<td>70%</td>
<td>35%</td>
<td>20%</td>
</tr>
<tr>
<td>Follows Tech. Innovations</td>
<td>70%</td>
<td>72%</td>
<td>65%</td>
<td>40%</td>
</tr>
<tr>
<td>Follows Innov. Foreign Exhbt.</td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follows Innov. Domestic Exhbt.</td>
<td>24%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follows Innov. Foreign Period.</td>
<td>16%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follows Innov. Domestic Period.</td>
<td>27%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follows Innov. Prof. Organizat.</td>
<td>16%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Auto : Automotive Industry  
Mach : Machinery Industry  
FT : First-tier suppliers  
ST : Second-tier suppliers  
Total: FT + ST

Another area that the suppliers of the automotive industry display a far more advanced state than those working for the machinery industry is related to dynamism on the shop-floor. An indication of such a dynamism is whether the workers of the firm contribute to productivity and quality improvement by applicable suggestions which are indeed implemented. As seen in Table 5, 70% of the owners of the first-tier
automotive suppliers have responded positively when asked this question. They are happy with their employees in this respect and encourage their innovative contributions. In contrast, only 35% of the second-tier suppliers, and only 20% of those working for the machinery industry have declared that their workers actively contribute to the improvement of the firm's production. The majority of these firm owners, in fact, do not even expect any such contribution and did not put any effort, so far, to create a work environment that would encourage the workers to improve and implement their creative potential.

The automotive suppliers, in general, display a more dynamic picture vis-a-vis openness to technical and technological advancements/innovations in their field of production, and many times directly apply what they learn within their own premises. Our survey yielded the result that 72% of the first-tier, and 65% of the second-tier automotive suppliers follow new developments in their field by way of visiting foreign or domestic exhibitions, reading foreign or mostly domestic periodicals, or by way of attending the seminars organized by their professional organizations. We should note here that although the second-tier suppliers have recorded a much lower progress rate in many aspects, openness to new developments in their respective fields is quite high among this group, as well. In contrast, following innovations in the field drops to 40% among the firms
working for the machinery industry most of which have apparently did not feel the need to update their knowledge. As we will see later on, the tendency of the automotive suppliers to be more open to and inquire into the advancements in their respective fields of production is highly a result of the attitude of the automotive final-assemblers, themselves, who encourage their suppliers to improve their production by way of incorporating new techniques and technologies initiated in each field of production examined.

In the case of many of the first-tier automotive suppliers, openness to innovative developments often times yielded tangible results and did not stay as abstract acquired knowledge. These firms, unlike the suppliers of the machinery industry, not only have updated their production techniques/technology and adopted the habit of experimenting with new methods, but some among them have actually designed their own machinery, as well, copying, in most cases, the machinery they inspected in foreign or domestic exhibitions or else read about in professional periodicals. These firms declare that by designing their own machinery, not only they were able to lower technology costs, but they also achieved much better results vis-a-vis both efficiency and product quality, designing the machinery that would best suit to their needs. Ironically, such a dynamism is hardly encountered among the firms that work for the machinery
industry despite the fact that they, themselves, are producing machine parts.

The automotive industry's positive impact on the small industry sector, is expressed by the suppliers themselves, as well. When we asked those firms that recorded progress, over time, what factors encouraged their development, for example, majority of the firms highlighted either their own perseverance and determination to accomplish progress or the development of the automotive industry in the country. We should note that almost all these firms work also for other industrial fields and not only the automotive industry. Hence, the suppliers' own emphasis on particularly the automotive industry as a major factor behind their development is a legitimate indicator that the industry played a significant role on the technical/technological development of the small enterprises. The owner of one of the firms visited in fact stated that the automotive industry contributed so much to his firm's progress over the course of time that he now has full self-confidence as a producer, ready to work even for the defense industry.

The producers' appraisal of the positive impact of the automotive industry is clearly reflected in the supplier-assembler relationships as documented by the survey and summarized in Table 6. Upon the declaration of the suppliers, we found out that of the total of 47 first-tier
TABLE 6

<table>
<thead>
<tr>
<th>ASSEMBLER-SUPPLIER RELATIONSHIPS</th>
<th>Auto. FT</th>
<th>Auto. FT</th>
<th>Auto. FT</th>
<th>Mach. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>47</td>
<td>36</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>FA Support (+)</td>
<td>49%</td>
<td>61%</td>
<td>11%</td>
<td>15%</td>
</tr>
<tr>
<td>Tofas &amp; Ren.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA Support (+)</td>
<td>58%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only CV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA Support (+)</td>
<td>40%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA Demand:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Imp (+)</td>
<td>74%</td>
<td>68%</td>
<td>100%</td>
<td>44%</td>
</tr>
<tr>
<td>FA Demand:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technol.Imp (+)</td>
<td>60%</td>
<td>61%</td>
<td>40%</td>
<td>31%</td>
</tr>
<tr>
<td>Average no. of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years With FA</td>
<td>11 yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Auto: Automotive Industry
Mach: Machinery Industry
FA: Final-assembler
FT: First-tier suppliers
ST: Second-tier suppliers
P(+): Firms that accomplished progress
P(-): Firms that did not accomplish progress
CV: Commercial-vehicle

suppliers, 49% received/receives technical and/or financial support from their customers in the automotive industry. The rate increases to 61% in the case of those firms which accomplished progress over time. In contrast, only 15% of the firms working for the machinery industry declared that they received any kind of support from their customers.

There is significant difference among the automotive final-
assemblers, however, vis-a-vis support granted to the suppliers. While 58% of those firms working for Tofas and/or Renault received some kind of support, for example, the rate is 40% for those working only for the commercial-vehicle producers. The difference reflects, again, the pioneering role of passenger-car production in encouraging industrial development in the country.

We should note that those that received support from their customers were very enthusiastic in narrating their experience and expressing their appreciation of the automotive final-assemblers. To give a few examples, the owner of one firm working for the Otosan company (producing both passenger-cars and commercial-vehicles) stated that he went to Germany with an engineer from Otosan to visit a plant producing door-lock mechanisms. This visit significantly helped him improve his own production of door-locks for the company. Again, two suppliers of the same company explained that in 1976, a British technical team working for Otosan trained them, showing ways to improve the quality of their production. Still another confirmed that the Tofas company helped its suppliers particularly in the 1970s because the company had to create its own supplier base given that there were very few sophisticated producers in the country by that time. Stories like these are told
about other motor-vehicle companies, as well, particularly the passenger-car producers.\textsuperscript{2}

Not all firms that recorded progress over time have received such an apparent support from their customers, though. In fact, 39\% of those that accomplished progress declared that they did not. However, many of these firms explained that even though they did not receive much of a support, they upgraded their production, themselves, in order to remain as the suppliers of the automotive industry. Indeed, one firm working for the machinery industry stated, for example, that the Renault company would not work with a firm like his, because their production performance is not good enough. Many of the firms working for the machinery industry, in fact, agree that the automotive industry would not welcome them unless they accomplish observable improvement in their production thereby proving that they are dependable enough to produce motor-vehicle parts.

It is not only via direct support that the automotive industry encouraged the small suppliers to improve their production. As seen again Table 6, of the 47 first-tier suppliers, 76\% declared that their customers stubbornly

\textsuperscript{2} Note that the small firm owners are particularly enthusiastic in narrating the 1970s because they accomplished a major breakthrough during that time period. Hence, although technical assistance was also on the agenda from mid-1980s onwards, the previous decade seems to be more vivid in the memories of the suppliers, having almost symbolic connotations.
insisted on improvement in product quality, and 60% declared that the customers asked them to upgrade their technology. As a comparison, 45% of the suppliers of the machinery industry stated that their customers demanded increase in quality, and only 30% stated that they demanded the incorporation of more advanced technology. We should again note that those developed suppliers of the automotive industry who did not receive any complaint about the quality of their products (32%) or the technology they use (39%), pointed out that by very hard work and devotion, they themselves improved their production, and that is the reason why they did not receive any complaints from their customers.

The quality consciousness of the majority of the suppliers of the automotive industry is reflected in their access to different raw material sources, as well. A vast majority of the small enterprises in Turkey have the habit of using scrap material which is cheap but is usually very low in standard vis-a-vis quality. The suppliers of the machinery industry interviewed during the survey exhibit this tendency. As seen in Table 7, as high as 90% of these enterprises utilize scrap metal they purchase from informal raw material sources, and 85% use only scrap material. In contrast, the usage of scrap material drops to 23% among the first-tier suppliers (which they deplete in the production of non-automotive products) and only 6% of these firms use
<table>
<thead>
<tr>
<th>RAW MATERIAL SOURCES</th>
<th>Auto. FT</th>
<th>Auto. ST</th>
<th>Mach. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>47</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>SEE</td>
<td>79%</td>
<td>76%</td>
<td>15%</td>
</tr>
<tr>
<td>Imported</td>
<td>45%</td>
<td>6%</td>
<td>15%</td>
</tr>
<tr>
<td>Scrap</td>
<td>23%</td>
<td>65%</td>
<td>90%</td>
</tr>
<tr>
<td>Only Scrap</td>
<td>6%</td>
<td>29%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Auto: Automotive Industry  
Mach: Machinery Industry  
FT : First-tier suppliers  
ST : Second-tier suppliers  
SEE : State Economic Enterprises

Only scrap metal. Even in the case of the second-tier automotive suppliers the usage of scrap metal is quite low. The access to high quality raw material obtained from formal sources, on the other hand, is remarkably high. 79% of the first-tier and 76% of the second-tier automotive suppliers were utilizing raw material manufactured by the state economic enterprises (SEE) by the time the interviews took place. Again, 45% of the first-tier suppliers were using imported raw material. In contrast, only 15% of the firms working for the machinery industry were using SEE products, and again 15% had access to imported raw material. When asked, the automotive suppliers stated that it was exclusively the demand of their customers that forced them to give up their old habit of scrap material usage, and shift to higher quality raw material, instead. We should
notice that even the second-tier suppliers who did not accomplish much of a progress in many aspects, at least adopted quality consciousness by way of high quality raw material usage upon the demand of their own customers. Apparently such a demand was almost exclusively absent in the case of the suppliers of the machinery industry.

As a good indicator of the progress accomplished by the automotive suppliers over time, I would like to cite, here, our experience at the Turkey/Second Small and Medium Scale Industries Export Promotion Project, funded by the World Bank and initiated in 1989. As the project team, we had decided, upon the results of my dissertation field-work, that automotive suppliers could have the potential for export success if further encouraged and assisted. To see whether we were correct in our assumption, we sent samples of products of certain selected firms (all first-tier ones) to various European countries where they were introduced to potential buyers. The results were more encouraging than we had expected. First, the products of the Turkish automotive suppliers--most of which were small companies--were welcomed as highly satisfactory for the after-market in Europe. More importantly, however, experts reported that they may be welcomed even by the original equipment producers, including Mercedes Benz. This objective evaluation of the productive capacity of the small automotive suppliers in Turkey is a legitimate indication that these firms have indeed
accomplished quite some progress over the course of years, breaking through the confines of traditional production prevalent in the case of most small producers in the country.

We should cite here that of the factors that encouraged the development of the automotive suppliers, one of the most significant was that the relationships between the final-assemblers and their suppliers display continuity in the long-term. This was already declared by the final-assemblers, but the survey also confirmed it. Indeed, the suppliers interviewed stated that they had been working for the same customers in the automotive industry for 11 years, on the average, which is by far longer than their affiliation with any other customers. This does not mean, though, that the actual official contracts were also based on the long-term. In fact, in most cases, they were not. The contracts with the automotive final-assemblers covered a period of only 3 months, each, but they were always renewed subsequently. The suppliers stated that before the 1980s, contract periods was longer, covering at least one year. The fact is that the final-assemblers keep the contract period short as a buffer against market fluctuations that became a characteristic of the Turkish economy after 1980. However, investment in the suppliers in the form of technical and, sometimes, financial assistance led to a mutual dependency, establishing long term commitment in practice. Indeed, when
asked what the advantages of working for the automotive final-assemblers are, the responds of the suppliers concentrated on two points: a. they encourage technical development, and b. their orders are continuous, offering long-term work guarantee. Such a confidence, in return, encouraged the suppliers to direct their available resources to automotive-related investments expecting that it would prove to be worthwhile to do so, in the long run. Those producing machinery parts, on the other hand, did not express any such confidence in their customers stating that they perceive their relationships to cover rather the short run.

The question at this point is why the difference between the automotive final-assemblers and the machinery manufacturers in terms of the attitude towards the suppliers? Why the insistence on quality improvement and technology renewal accompanied by technical assistance and long-term commitment, on the side of the automotive assemblers, but not on the side of the machinery producers?

In our opinion, one of the most decisive factors in determining the difference is related to the "nature" of the products, what A. Hirschman defines as "latitude in performance standards".¹ A motor-vehicle is a type of product that does not allow a large margin or tolerance for

¹ Hirschman, 1986: 18-22
poor performance during its production. There is a minimum level of tolerance for poor performance, a level which necessitates a certain level of production sophistication for the product to be safely used by the customers. If production precision and quality is below that level, the likelihood of serious accidents endangering the very life of the user significantly increases. Hence, in incorporating the small industries into the production process as suppliers, the automotive assemblers had no choice but insist on visible improvement in production performance, assisting their suppliers wherever and whenever it was necessary to do so. Such a significant resource transfer to the suppliers, in return, encouraged the establishment of long-term assembler-supplier relationships as it would be time and money consuming to replace the existing suppliers with new ones.

In contrast, a machine's tolerance for poor performance during its production is much higher than what a motor-vehicle would permit. Poor production performance in the former case would be frequent break-down of the machine which, though highly inconvenient, would not necessarily result in calamities. Hence, a machine, by nature, has a higher tolerance for low quality. This aspect is particularly aggravated in Turkey where the machinery sector is composed of small to medium scale firms most of which operate within the traditional habits of small scale
production. Moreover, the customers of the machinery industry, themselves, are usually domestic small scale industries most of which take frequent machine breakdowns for granted, preferring low costs to quality performance. Although there are exceptions to the case (there do exist some firms which are quality producers, even exporting their products to the European countries), the machinery industry in general operates within a vicious circle that encourages poor quality, a characteristic reflected also to assembler-supplier relationships. There is almost no need for any type of investment in the suppliers, and it is easy to replace any supplier with a new one. It is hence not surprising that the suppliers of the machinery industry showed very poor progress record compared to what we observed in the case of those working for the automotive industry.

3. Is Reality All That Bright?

In our analysis so far, we tried to demonstrate that the assembler-supplier relationships within the context of the Turkish automotive industry had highly positive impacts on the development of the small suppliers. While this picture we have drawn perfectly reflects reality, there is another side to the story which needs to be yet narrated, a side which is not as encouraging. The data and information provided by the suppliers reveals that vis-a-vis three major areas, the same assembler-supplier relationships have worked
to the disadvantage of the suppliers concerned, suppressing their dynamic development. As our data indicates, these areas are: 1. innovation in product development, 2. price and payment mechanisms, and 3. labor relations on the shop-floor. Let's now focus our attention on each of these aspects, following why and how they emerged alongside with the more positive facets of assembler-supplier relationships.

3.1. Lack of Innovation in Product Development

As discussed in Chapter 2, the automotive companies in Turkey are/were almost totally dependent on their parent companies at the "center"s when it comes to product development. Whenever the design of a current model was to be modernized or a new product to be introduced to the market, it was the parent companies who undertook most of the design and engineering tasks. The assemblers in Turkey operated/operate according to the blueprints provided, exercising their creative capacity only when it comes to minor changes in the products such as door handles, rearview mirrors, signal lights, alloyed wheels, etc.

As would be expected, such a dependency on the centers was automatically transferred to the assembler-supplier relationships within Turkey. Of the total of 47 first-tier suppliers interviewed, only 8 among them stated that their
customers are open to suggestions vis-a-vis design changes in the motor-vehicle parts they produce. The rest declared that their task was mainly to manufacture according to the specifications provided, although experimentation with the production processes (not the products) was welcomed and encouraged. Given that a significant portion of the suppliers' production is devoted to orders from the automotive companies, the widespread practice of production according to the blueprints has subdued product innovation, in general, discouraging penetration to the market with products of own design and creation.

Indeed, as we will see later on in this chapter, although the automotive suppliers produce a great variety of products at the same time, it is very rare to encounter firms that market their own design products. In fact, only 9% of the first-tier suppliers have declared that they marketed their own products, and in almost all these cases it was just a one-time attempt, soon abandoned because of failure in the market.

We should note here that if one the reasons for the observed lack of innovation in product development is the suppressing effect of reliance on specifications provided by others, an equally significant factor, as declared by the firms interviewed, is the price and payment mechanisms the suppliers were/are subjected to. Almost all the firms
visited stated that marketing one's own product/s would bring about promotion and inventory costs whereas they were already experiencing cash shortage as a result of the ongoing price and payment schedules imposed upon them by their customers in the automotive industry.

3.2. Adverse Price and Payment Mechanisms

This brings us to the second aspect in assembler-supplier relationships which openly worked to the disadvantage of the small suppliers working for the industry. As discussed in Chapter II, upon the pressure of the rather unfavorable economic conditions in Turkey during the 1980s (particularly the high interest and inflation rates), the automotive final-assemblers adopted the strategy of making payments to their suppliers in 45 days after delivery, or else in promissory notes. When payment was made, however, it was usually at the rate of the time of delivery, and did not increase following the rate of inflation between delivery and payment. The six-monthly price increase granted to the small suppliers, moreover, was almost always kept below the rate of inflation. While the small suppliers accepted these conditions as a result of low bargaining power (the strategy of playing one supplier against the other), the payment and price mechanisms they were subjected to became a major theme of concern and complaint.
Indeed, the suppliers we interviewed were highly sensitive when it came to this particular aspect of their relationships with their customers. Almost exclusively, they phrased their feelings using a widely used Turkish saying: "the big fish swallows the smaller ones". They were in the opinion that the automotive industry—or else the large scale industries, in general—was using the small ones as a source of credit. By way of payment and price mechanisms, they expressed, the large industry was able to decrease reliance on high cost bank credit and by keeping input prices low, they increased their own profits. The suppliers especially complained that while the raw material prices were increasing on a daily basis in the country (a topic we will discuss later on), the customers were willing to compensate only a certain portion of the increase. The result was shrinkage in the suppliers' resources, reflected primarily as their number one problem, "cash shortage", which ultimately limited their potential for further growth. Many suppliers expressed, as a comparison, that they usually do not face such payment/price problems in working with small scale customers such as those marketing after-market spare parts. The small customers, they expressed, are more understanding and more willing to compensate cost increases, as a result of which profit margins might be higher in business with the small customers.
We should note, though, that despite the complaint, 79% of the first-tier automotive suppliers interviewed told that they would still prefer to work for the automotive final-assemblers. First, despite the rather adverse price and payment schedules, the overall profit levels accrued in working for the automotive customers were higher than the profit levels attained in business with smaller firms—the higher volume of the orders of the automotive companies partly compensating for the loss brought about by the adverse price and payment schedules. As the production volumes of the assemblers increased over time, so did the volume of their orders from the suppliers, who usually manufacture a couple of vehicle parts for the same assembler thereby maintaining reasonably high production volumes. In fact, as the suppliers we interviewed expressed, this factor is the prime motivation behind growth. The bigger the enterprise, the higher the volume of orders, the higher the profits. The small suppliers also express, as a second factor behind their preference in favor of the automotive assemblers, that to be able to accomplish any progress in terms of the technical aspects of production, at all, it would be best to work for the automotive industry. As a matter of fact, this opinion is in general shared by small scale industries in Turkey.
3.3. Informal Labor Relations On the Shop-Floor

Although from the point of view of the suppliers it is primarily the price and payment schemes that stand out as the major negative aspect of working for the automotive industry, perhaps an even more detrimental repercussion is related to labor relations on the shop-floor. We discussed in Chapter II that one of the factors that led the automotive final-assemblers to work with the small suppliers was the widespread informal practices, within the small industry sector, vis-a-vis labor recruitment. By subcontracting work to small industries that were able to avoid a significant portion of worker related costs, we argued, it became possible to lower production costs. It was hence to the advantage of the final-assemblers that the small enterprises remain informal when it came to labor relations on the shop-floor, preferably not taking any visible steps for better and more fair employment practices.

The survey results confirmed our point of view. While the automotive suppliers recorded significant progress in many aspects of production, the survey showed that they did not accomplish much of a progress when it comes to practising informal labor relations on the shop-floor. This does not mean that there was no improvement. Compared to those working for the machinery industry, in fact, the first-tier automotive suppliers offered better terms of employment to
their workers by the time the interviews took place. Overall speaking, however, there was yet much to accomplish, many more steps to take in order to establish a just and fair work environment for those employed.

Minimum official monthly wage in Turkey by the time we conducted the interviews, in 1988-1989, was $132. As seen in Table 8, the average wage paid to the workers by the first-tier automotive suppliers equalled exactly this amount, which is higher than the average of $116 prevalent among those working for the machinery industry. However, in 30% of the first-tier automotive suppliers interviewed, the workers were asked to work more than the officially accepted 45 hours per week in return for the average wage they received. In some cases, regular work hours reached up to 60 hours per week without overtime payment. Although the proportion of the firms imposing more than legally accepted work hours was much lower, in the case of the automotive suppliers, than the dramatic 65% rate prevalent among the suppliers of the machinery industry, it is an indication that informal practices are still in existence among the automotive suppliers, as well.

Of the workers, who suffer most from the unfair terms of employment are no doubt the apprentices. Employment of child workers under the age of 18 is highly widespread among the small industrial establishments in Turkey, including those
TABLE 8

<table>
<thead>
<tr>
<th>WAGES</th>
<th>Auto. FT</th>
<th>Auto. ST</th>
<th>Mach. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>47</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Average Wage</td>
<td>$132</td>
<td>$132</td>
<td>$116</td>
</tr>
<tr>
<td>Minimum Wage</td>
<td>$27</td>
<td>$27</td>
<td>$27</td>
</tr>
<tr>
<td>Maximum Wage</td>
<td>$810</td>
<td>$270</td>
<td>$270</td>
</tr>
<tr>
<td>Wage = hrs/wk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More Than Legal</td>
<td>30%</td>
<td>41%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Auto: Automotive Industry  
Mach: Machinery Industry  
FT: First-tier suppliers  
ST: Second-tier suppliers  
SEE: State Economic Enterprises

working for the automotive industry. When asked these firms, however, what they paid to the apprentices, the responds revealed that the wage (without housing—which is uncommon in Turkey) was only $27 a month, on the average, which was even below the already low official rate of $84 a month. The survey showed that there was no difference between different groups of suppliers in terms of wages paid to the apprentices. Moreover, the apprentices were employed off the books, in most cases, without access to social security benefits, and there was no difference, in this respect, between the automotive suppliers and those working for the machinery industry.

The topic of employing workers off the books (that is, without making the officially required payments to social
security) is the number one issue that the suppliers interviewed were most sensitive about. Although they all declared, when asked, that all their workers were registered to social security, a few outspoken firm owners stated that it would be more realistic to expect the registration rate to cover only 20-30% of the employees. This evaluation, they expressed, would be true in the case of the first-tier automotive suppliers, as well. What many firm owners frankly stated, however, was that regardless of the actual wage paid to an employee, the owner would register him to social security declaring his wage rate as minimum wage, not the wage the employee actually receives. In this way, the owner minimizes the amount he has to pay to social security. As would be expected, those who are mostly disadvantaged by this practice are the skilled workers. Although these workers are usually registered to social security, their access to the system's benefits is limited. Among the first-tier automotive suppliers, for example, skilled workers may receive as high as $810 per month. On the books, however, they appear to receive only $132, the minimum wage, which results in lower retirement allowance and pension and other benefits.

It is not only vis-a-vis wages and access to social security that the workers' rights are violated in the small supplier sector. Perhaps even more important is the physical conditions of the work environment, itself. As any objective
eye can easily notice, there is not much regard for the workers' safety and health when it comes to the majority of the small suppliers. What we observed, for example, was that no precautions were taken to protect the workers from hazardous smoke that is generated during iron casting or aluminum and plastic injection molding. When one enters these workshops, the first thing one notices is an extremely dense smoke. As a precaution against poisoning, workers are merely served yogurt every day.

There is no doubt that a major factor that prevented the suppliers from abandoning informal practices in labor relations is that their workers are not unionized. In none of the firms we visited was there the presence of a labor union. The small firm owners have the power to keep labor unions outside their premises: it is easy to accomplish. What these firms really need and rely on are the skilled workers. These workers are pretty much happy about their lives given that at least their wages are reasonably high (up to $810 a month). The workers who would benefit most from a labor union are the unskilled workers including the apprentices. However, the firm owners can easily replace these workers with new ones if he notices an intention for unionization. In fact, this is indeed what happens in many cases. Our survey revealed, for example, that in a firm employing around 30 workers, the labor turnover was quite high among the unskilled workers, and it was quite low among
the skilled ones. An unskilled employee would typically work no more than 2 years in a firm, whereas a skilled worker would be employed for 13 years or more. We should note, however, that in terms of the average labor turnover, the automotive suppliers still display a better performance than those working for the machinery industry. Whereas an employee's average number of years with his firm is around 5 years in the case of the first-tier automotive suppliers, it drops to 2 years in the case of the suppliers of the machinery industry. This is an indication that although the majority of the workers do not have access to many of the benefits available to organized labor, those employed by the automotive suppliers are somewhat more content with their terms of employment than those working for the machinery suppliers.

Although lack of unionization is a major factor behind the persistence of the sweatshop conditions within the premises of the small suppliers, it is our opinion that an equally influential, albeit indirect, factor is the adverse price and payment schedules the suppliers are subjected to in transactions with the final-assemblers. Our survey suggests in general that all factors, including unfair terms of trade in assembler-supplier relationships, that keep profit levels lower than they might have been, have the potential to encourage counterbalancing via informal labor recruitment practices.
4. Formal/Informal Dichotomy in the Turkish Case

Given the fact that the small firms working for the automotive industry operate beyond the reach of the labor unions which leads to, in many cases, what might be called "sweatshop" conditions, it is possible to categorize these firms as "informal sector" enterprises. Despite this side of the story, however, these workshops have at the same time succeeded to leave behind some of the other most prominent features that are usually attributed to the informal sector in the literature. By the time the interviews took place in 1988-1989, a significant portion of these firms displayed informal and formal characteristics at the same time, though the trend, in most cases, was in the direction of incorporating more of the formal sector traits. Their story, in fact, can best be defined as a process of transition from informality to formally recognized "small industry" status, though the process is yet not complete.

In the literature on the informal sector, the informal enterprises are referred to as constituting the "unregulated" sector of an economy operating outside the framework of official legislature and without having access to institutions/benefits available to formal enterprises. Their value-added is not enumerated in national statistics, they are underrepresented in industrial censuses, they avoid/evade officially due taxes, they operate beyond the
reach of labor unions, and they do not have access to formal credit institutions and raw material sources. In addition, informal production is usually considered to be labor-intensive because of very low levels of capital accumulation which does not permit the incorporation of mechanized processes. It is also assumed that while such policies as overvalued currency makes it possible for formal enterprises to incorporate foreign machinery/technology at relatively low costs, the informal enterprises do not have access to such benefits, either. In sum, they constitute a closed community of their own operating beyond the formal, visible sphere.

It is important to note here that the stories narrated by the first-tier automotive suppliers as to their trajectory over the course of years, suggest that the majority of these enterprises indeed fell typically into the informal sector category during the earlier phases of their establishment, displaying many of the features attributed to the sector, above. The data/information obtained during the interviews showed, however, that in terms of gaining a formal identity, significant breakthroughs have been accomplished within this group of suppliers, over time, which becomes particularly visible when compared to their counterparts working for the machinery industry. By 1988-89, most of these enterprises were no more operating within the playground of the informal
sector, though in such issues as labor recruitment there was yet much to accomplish. Let's take a look.


As our analysis so far tried to demonstrate, the trajectory of the automotive suppliers from the perspective of the technical/technological aspects of production is characterized by significant progress with regards to passage to capital-intensive production. We have seen that a great majority of these enterprises succeeded to mechanize many phases of their production, considerably updating and expanding their machinery park. One related aspect that is yet to be mentioned, however, is the rate of access of these suppliers to foreign machinery and equipment. As we will elaborate later on in this chapter, by the time the interviews took place in 1988-1989, as high as 57% of the first-tier automotive suppliers had already incorporated foreign machinery and equipment into their production, while the rate was only 23% among the second-tier and 15% among the machinery suppliers. If labor-intensivity and lack of access to foreign capital goods are taken as indicators of informality, therefore, the suppliers of the automotive industry have gone far beyond that point when assessed against the two criteria.
4.2. Enumeration and Legal Status

Let's now look at these enterprises from the perspective of how far they are enumerated and how far they operate within the legally accepted framework designated by Turkish legislature. For an industrial enterprise to gain a legal status in Turkey, it has to be registered to and/or given business license by three major groups of institutions. First, the enterprise should receive a registry number (a business I.D. number) and register to either the Chamber of Industry, the Chamber of Commerce, or the association of artisans representing the enterprise's particular field of production. Second, it has to register to the tax department to pay the due taxes. Third, it has to apply to and get a license (permission) from the municipality to commence and continue with production activities. Legally speaking, therefore, unless an enterprise completes all the three procedures, it does not gain a full legal status.\(^4\)

When looked at the supplier groups in our sample (Table 9) from the perspective of the first registry obligation, above, we see that by 1988-1989, of the 47 first-tier automotive suppliers visited, 79% were registered to either one of the chambers of industry or commerce, 17% were registered to artisans' associations, and only 4% were not

\(^4\) Interviews. See also Taskiran, 1983: 25-30; Yalcin, 1983: 49-56; Kotar, 1986: 74-78
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>47</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Registered to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ind/Commerce Chambers</td>
<td>79%</td>
<td>47%</td>
<td>25%</td>
</tr>
<tr>
<td>Registered to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artisans Assoc.</td>
<td>17%</td>
<td>47%</td>
<td>40%</td>
</tr>
<tr>
<td>Non-registered</td>
<td>4%</td>
<td>6%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Auto: Automotive Industry
Mach: Machinery Industry
FT: First-tier suppliers
ST: Second-tier suppliers

registered, at all. We should note that of those firms registered to either of the chambers—which are among the most established organizations in Turkey—46% were highly tiny enterprises employing less than 15 workers, and 36% were coming from an artisanal background. In the case of the suppliers working for the machinery industry, on the other hand, the rate of registration to either of the chambers drops to 25%, the rate of registration to artisans' associations increases to 40%, with as high as 35% of the enterprises not registered, at all. In other words, while almost all the firms working for the automotive industry hold a legal stance, vis-a-vis the first obligation, a significant portion of the machinery suppliers does not.
Although it seems to be quite possible to avoid registration to the chambers or the artisanal associations, it is almost impossible for any visible industrial establishment in Turkey to avoid registration to the tax department and completely avoid tax payments. The post-1980 governments were determined to increase the tax revenues by way of such measures as raising the rate of the existing taxes, introducing new taxes such as the value-added tax, and encouraging businesses and people to demand invoice in all transactions. One of the highly effective means the tax department used to minimize tax evasion prevalent among small businesses, on the other hand, was the creation of, what is called in Turkey, an "army" of tax officers whose job is to visit each neighborhood, and each firm that is visible to the eye in that neighborhood, to check, first of all, if the firm pays taxes, at all, and second if the taxes paid reflects the actual revenue of the firm. The small firm owners seem to be almost terrorized by this "army", and in fact some firm owners I visited became suspicious, at the beginning, that I might also be a tax officer inspecting the firm under the guise of a student identity! Complete tax evasion, therefore, seems to be close to impossible. (A major exception to this rule would be the "cottage industries" which use the home environment as the work

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5 With the exception of very small establishments whose total annual sales do not exceed 120,000 TL—which corresponds to $628, as of January 1983. According to the decree passed in 1983, such firms are exempt from tax by law (Yalcin, 1983: 50).
place. These firms have the chance to illegally avoid taxation).

While complete tax evasion is highly impossible, however, it is highly possible to avoid paying the full amount of tax that would normally be due if one operated completely according to the books. There seems to be two ways of doing this. One, by simply not paying the tax assessed by the tax department, but in this case, there are fines and charges and it is not possible to practise this method on a continuous basis. The second way is the more widespread alternative, and it seems that most small firms in Turkey use this method. They simply operate on the basis of non-invoice transactions with some customers and keep two ledgers, one documenting the actual total sales, and the other showing only the invoiced sales which becomes the basis for tax payment, thereby minimizing a firm’s tax liabilities.⁶

If a firm is to be regarded "informal" because of the "tax minimization" method, above, then it would not be wrong to assume that the majority of the 84 firms in our sample would be informal from this perspective. Nevertheless, there are

⁶ Note that according to the 1983 decree, firms whose total annual sales are between 120,000 TL and 1,440,000 TL—which correspond to $628 and $7,539, respectively, as of January, 1983—are taxed on a lump-sum basis and are not required to keep ledgers (Yalcin, 1983: 51). None of the enterprises we visited, however, were in this category.
significant differences between the first-tier automotive suppliers and the other firms in the sample in terms the *extent* of tax evasion. The automotive final-assemblers always work on the basis of invoice transactions in purchasing parts from their suppliers. Given that a significant portion of the suppliers' production consists of parts manufactured for the automotive industry, these suppliers do not have the chance to "minimize" their tax obligations as much as those firms whose customers are small firms practising the same method. It would not be wrong to say, therefore, that working for the automotive industry discourages tax evasion, and to the extent that it does so, it encourages the acquisition of a "formal" identity vis-a-vis legislature.

While in terms of the first two registry obligations the suppliers of the automotive industry display a rather "formal" status, in terms of the third obligation, they do not. Apparently, by the time the interviews took place, most of the suppliers we visited were operating without a license from the municipality, or had only a temporary license. In fact, what has been told us by many firm owners was that a great majority of all small industries in Istanbul operate without license from the municipality. Contrary to what might be expected, however, this situation is not necessarily the result of any preference on the side of the small industries to work without a license. On the contrary,
majority of the suppliers we visited expressed that the cost of operating without a license is much higher than operating with one, and hence, while they would prefer to get a license, it is the municipality that does not grant it.

The story has two sides to it. If an enterprise is established in a neighborhood where industrial production is not allowed, or else production conditions are hazardous to the safety and health of the workers or the neighborhood, the municipality has the right not to grant license to that enterprise. As discussed before, the performance of many of the enterprises we visited were highly poor in terms of the second criterion, and hence it is not surprising that they are not approved by the municipality. However, the other side of the story is that the municipal officers seem to highly exploit their power not to grant a license to an enterprise, in order to increase either their own personal and/or the municipality's revenues. It is highly surprising, for example, that one of the small industry estates in Istanbul funded by the Ministry of Industry, itself, is not granted a license by the municipality. As many other firms in the city, the firms in this estate were given only temporary license (if they were given, at all) which needs to be renewed every year (with no guarantee of renewal) and the firm owners have to make payments to the municipality upon each renewal. It is said that most of the time, bribery is involved in order to be able to get a temporary license.
or else to continue production without a license. The small firm owners express that they feel highly insecure operating under these conditions, and are highly discouraged vis-a-vis making new investments to enlarge their premises. The municipality may any time decide to ban the unlicensed enterprises and order their abolitionment without offering an alternative location. In fact, as we will see later on, this is indeed what actually happened in the case of one of the largest small industry districts in Istanbul, a case which was cited rather as a sad story by many of the small enterprise owners we visited.

Hence, while many of the small industrial establishments in Istanbul can not obtain a license because of their "informal" habits, operating without a license is not necessarily an indication of informality in all cases. It is possible to say, in fact, that what is really the problem in many cases is the rather unsound attitude of the municipality which seems to be devoid of affection and understanding towards the small enterprises in the city. The firm owners are in the opinion that there is almost no effort on the side of the municipality to help upgrade the production conditions of the small enterprises which are merely regarded as a source of income. Based on our own observations and the stories narrated to us, therefore, we are in the opinion that first, "informality", if it indeed exists, is aggravated by the attitude of the municipality.
and second, that it would not be correct to base assessments regarding formality/informality by looking at an enterprise's status vis-a-vis the municipality.

In sum, evaluating the sample firms from the cumulative perspective of all the different aspects discussed so far, our conclusion is that by the time the interviews took place, the automotive suppliers displayed a highly "formal" status in terms of compliance with the Turkish legislature, although the stories the owners of the firms narrated about their earlier days of establishment suggest that many were by an large operating outside the legal framework by that time. It is not only in terms of legal status, however, that many of these suppliers have stepped beyond the framework of informality. Their performance in terms of access to "formal" institutions, a topic highly elaborated by the informal sector literature, is also very promising.

4.3. Access to Formal Institutions

Among the institutions whose clientele consists primarily of the formal sector establishments are the state economic enterprises (SEE's) that provide the necessary raw material inputs to the manufacturing industries in the country. As we have already seen, as high 79% of the first-tier and 76% of the second-tier automotive suppliers in our sample were using SEE raw material by the time the interviews took
place, displaying pretty low levels of dependency on scrap material purchased from informal sources (Table 7). Although we interpreted their performance, which is in sharp contrast with that of the machinery suppliers, as an indication of quality consciousness, it is also a manifestation of a transition to formal sector practices. As discussed before, the catalyzer, in this case, was the automotive final-assemblers whose insistence on higher quality production not only motivated their direct suppliers, but also influenced, albeit indirectly, the behavior of the second-tier suppliers, as well.

Let's now look at the access of the suppliers in our sample to formal credit sources, another criterion that is often elaborated in the literature in comparing the formal and informal sectors. Informal enterprises are often portrayed as having no access to official credit institutions, relying mostly on loans obtained from informal money lenders. The performance of the first and second-tier automotive suppliers we visited, however, highly deviated from this picture, resembling more the behaviour of formal sector enterprises. As seen in Table 10, 57% of the first-tier and 47% of the second-tier automotive suppliers in the sample declared that they have used business-related bank credit at least once. In contrast, the rate drops to 20% in the case of those working for the machinery industry whose performance is much closer to typical informal enterprises.
<table>
<thead>
<tr>
<th>ACCESS TO CREDIT</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Number of Firms</td>
</tr>
<tr>
<td>Credit Usage</td>
</tr>
<tr>
<td>Bank Credit</td>
</tr>
<tr>
<td>Frequent Usag.</td>
</tr>
<tr>
<td>Bank Credit</td>
</tr>
<tr>
<td>Credit Usage</td>
</tr>
<tr>
<td>Informal</td>
</tr>
<tr>
<td>Inf.Cred.Usag.</td>
</tr>
<tr>
<td>Among all Owner: Artisans</td>
</tr>
<tr>
<td>Inf.Cred.Usag.</td>
</tr>
<tr>
<td>Among all Owner: Engineers</td>
</tr>
</tbody>
</table>

Auto : Automotive Industry
Mach : Machinery Industry
FT : First-tier suppliers
ST : Second-tier suppliers

Though in many cases bank credit has been used only once or twice (frequent bank credit usage is pretty low as seen in the table), access to bank credit means that many of the automotive suppliers have at least been approved as legitimate credit receivers, which is not the case when it comes to the majority of the small enterprises in the country.¹

¹ As we will see later on in this chapter, infrequent usage of bank credit is more a result of such factors as very high interest rates which discouraged the automotive suppliers from applying to bank credit on a regular basis, rather than being an indicator of an inertia on the side of these enterprises. See also ISO, 1987: 41-42, 55-59 on how
We should note here that as in the case of access to formal raw material sources, the automotive industry had some role to play in facilitating access to bank credit, the industry indirectly encouraging passage to formal sector practices. Some commercial-vehicle assemblers make their payments in "promissory notes" instead of cash payments. Their suppliers whom we have interviewed stated that the banks may accept the notes obtained from large scale firms, including the automotive assemblers, as a letter of guarantee and become more willing to grant credit to those holding these notes. The banks' attitude towards notes obtained from smaller scale firms, on the other hand, is not the same. We should immediately note here, though, that the role of the automotive industry is but a limited one. In many cases, the banks require more tangible guarantees (like mortgages) than mere notes from the assemblers, which, together with high interest rates, discourage many firms from using bank loans on a regular basis.

While, despite the limitations, the performance of the automotive suppliers in terms of access to bank credit is pretty promising, obtaining loans from informal money lenders—which is considered to be among the prime characteristics of the informal sector in the literature—is pretty uncommon among these suppliers. In fact, in the high interest rates in general restrict the access of small industrial establishments to bank credit.
Turkish case, low dependency on informal credit sources seems to be a characteristic of the small industrial establishments, in general. As seen in Table 10, only 15% of the first-tier, 24% of the second-tier automotive suppliers, and again only 15% of those working for the machinery industry have declared that they have used credit from informal money lenders, at all. Although particularly the last group of firms pretty much fit into the informal sector category in many aspects, they too deviate from the model when it comes to informal credit usage.

The major factor that discourages firms from applying to money lenders is the extremely high interest rates. Many firms we visited stated that in 1988-1989, the annual interest rate charged by the money lenders varied between 96% - 144% which is, in most cases, above the already high bank rates which varied between 62% - 130%, the same period. The firm owners stated that instead of being indebted to money lenders, they prefer to apply to the family sources if and when they need cash to run or expand their businesses. The strong solidarity ties which characterizes the Turkish family makes it possible to avoid dependency on informal credit sources, and encourages "cooking the dish with one's own oil", a Turkish saying expressed by many firm owners we visited.
An interesting result of our survey is related to the attitude of the firm owners with different backgrounds to the utilization of informal credit. As seen in Table 10, while only 9% of the first-tier automotive suppliers with artisanal background have utilized loans from the informal money lenders (which is lower than the average), the rate increases to 20% in the case of those firms whose owners are engineers (which is above the average). The performance of the artisanal firms in trying to keep dependency on informal sources to a minimum is above all an outcome of their determination--frequently verbalized during the interviews--to break through the limitations of informal sector production. The relatively high rate of informal credit utilization among owners with engineering background, on the other hand, is an indication that informal practices are not necessarily limited to the traditional artisanal sectors. Contrary to what is sometimes encountered in the literature, in other words, the educational background of a small firm owner is not always an appropriate criterion in assessing whether a firm falls into the informal sector category, or not.

4.4. Enterprise Management and Division of Labor

Let's now divert our attention from the linkages to the external context, and look at what is happening within the enterprises, instead. Among the characteristics of the
traditional artisanal/informal industries in Turkey, two of the most typical are related to enterprise management and division of labor. What we encounter in almost all these enterprises is a one-man show, the owner(s) undertaking all the management responsibilities in addition to actively participating in production, itself. The division of labor, on the other hand, would typically be based on differences in the skill level of the employees rather than on factory-style technical division of labor based on specialization. There are "master artisans, journeymen and apprentices" who take part in all phases of the production, and the ultimate goal is to train each worker so that he will be competent enough to produce the good in question alone by himself. Although enabling some flexibility, both the practices result in inefficiencies and can be considered as signs of underdevelopment, usually abandoned as an enterprise becomes more established and "formalized".

Our survey yielded the result that while a significant portion of the first-tier automotive suppliers, in our sample, still operate within the informal framework with respect to the two criteria above, there are nevertheless many enterprises who succeeded to make a breakthrough abandoning their old habits. As seen in Table 11, for

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\( ^6 \) i.e when the production process is divided into distinct parts and each laborer is specialized in the production of certain parts, only. There would be teams of workers headed by a foreman, with one or more supervisors overseeing the whole production process.
### TABLE 11

<table>
<thead>
<tr>
<th>OWNER ROLE AND DIVISION OF LABOR</th>
<th>Auto. FT</th>
<th>Auto. ST</th>
<th>Auto. FT, P(+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>47</td>
<td>17</td>
<td>36</td>
</tr>
<tr>
<td>Owner in Production</td>
<td>60%</td>
<td>82%</td>
<td>53%</td>
</tr>
<tr>
<td>Owner Only Manager</td>
<td>40%</td>
<td>18%</td>
<td>47%</td>
</tr>
<tr>
<td>Div.Lab: Artisan</td>
<td>51%</td>
<td>94%</td>
<td>44%</td>
</tr>
<tr>
<td>Div.Lab: Factory</td>
<td>49%</td>
<td>6%</td>
<td>56%</td>
</tr>
<tr>
<td>Owner Artisan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Div.Lab: Artisan</td>
<td></td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Owner Uni.Grad.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Div.Lab: Artisan</td>
<td></td>
<td></td>
<td>41%</td>
</tr>
</tbody>
</table>

**Auto**: Automotive Industry  
**FT**: First-tier suppliers  
**ST**: Second-tier suppliers  
**P(+)**: Firms that accomplished progress

Example, the owners of 40% of the first-tier automotive suppliers declared that while during the earlier phases of their establishment they were actively taking part in production, by the time the interviews took place, they were acting as managers, only. The rate is much lower in the case of the second-tier suppliers with only 18% of the owners acting as managers, only. However, given that the majority, 60%, of the owners of the first-tier suppliers still took part in production by the time the interviews took place, it would not be wrong to say that the owner(s)'s role within the enterprise is among the areas that these enterprises are
closer to informal sector practices rather than the formal sector ones.

The same holds true for division of labor. As seen again Table 11, 51% of the first-tier automotive suppliers were operating on the basis of artisanal division of labor, by the time the interviews took place, as opposed to technical division of labor based on specialization. Even many of the first-tier suppliers (44%) that recorded progress in terms of the technical/technological aspects of production could not shift to division of labor predominant in the case of the formal sector enterprises. Although the rate is much lower than that prevalent among the second-tier suppliers, 94%, it is an indication that vis-a-vis division of labor, there is yet much to accomplish in the case of the first-tier suppliers, as well. We should note that the artisanal division of labor observed in the Turkish case dates back to centuries ago, and is not the same as the division of labor described in the flexible-specialization literature (a team of multi-skilled workers able to shift from product to product). Its prevalence in the Turkish case, hence, is a sign of stagnation and underdevelopment rather than being a sign of a shift to a higher-degree mode of production.

An interesting result of our survey is that firm owners with artisanal background seem to have a higher tendency to abandon artisanal division of labor than do firm owners who
are university graduates. As seen in Table 11, of the first-tier suppliers with artisanal background which have recorded progress in terms of the technical aspects of production, only 20% were operating on the basis of artisanal division of labor by the time the interviews took place. The vast majority of these firms, 80%, had already shifted to the alternative technical division of labor, instead. In contrast, artisanal division of labor was prevalent in as high as 41% of those technically developed first-tier suppliers whose owners are university graduates. As an explanation to the performance of the owners with artisanal background, it is possible to say that these owners put more effort to abandon their old habits in order to change their status as traditional producers, particularly to gain more respect in their relationships with the automotive suppliers. The prevalence of artisanal division of labor among the firms whose owners are university graduates, on the other hand, is another indication that the educational background of a firm owner may not always be a correct criterion in assessing whether the firm falls into the informal sector category, or not.

5. Conclusion

A comparative analysis of the data/information generously presented by the 84 firms during interviews in 1988-89 suggest that the small suppliers working directly for the
automotive industry have accomplished significant progress, over the course of years, many breaking through the confines of the informal framework, to become fairly established and formalized small industries. Their trajectory, however, neither typically falls into the framework drawn by the informal sector literature, nor does it fall into that of the flexible-specialization perspective. Their story is one of a transition to a more dynamic structure in many aspects, though with respect to innovation in product development, labor recruitment practices, enterprise management and division of labor there is yet many more steps to take. In their case, progress and stagnation existed side by side, whereby progress encompasses a much wider spectrum than does stagnation.

The automotive final-assemblers had strong and multi-dimensional impact on the trajectory of their suppliers, directly or indirectly contributing to their path of development. Vis-a-vis technical/technological aspects of production and quality-consciousness their impact was direct and positive, while their influence was indirect but again positive in such areas as status vis-a-vis legislature and access to formal institutions. By way of payment and price mechanisms, however, their impact on the investable resources of their suppliers has been a negative one, which was partly compensated by high-volume orders and the fact that their relationships with the suppliers extended to the
long-term. On the other hand, while it is not possible to say that they directly generated the prevalent informal labor recruitment practices, one can trace an indirect linkage between the persistence of informality, in this respect, and the adverse price and payment schedules adopted in transactions with the suppliers. In general, the assemblers benefitted from the lack of labor unions within the small supplier sector, as a means of cost reduction. As far as the second-tier suppliers are concerned, finally, the impact of the automotive industry was indirect but positive in stimulating at least quality-consciousness by way of encouraging access to formal raw material resources.

SECTION 2: The Impact of the External Factors

While the framework of assembler-supplier relationships stands out as a major factor in determining the path of development of the small supplier sector, some other factors that are external to these relationships also had significant impact on the trajectory of the suppliers. Among these factors are government policies and implementations, collaboration versus competition among small suppliers, organizational level of the small industries, the development of a machinery manufacturing sector in the country, export orientation, and customer/product diversification. The impact of these factors on the supplier sector is highly complex and multi-dimensional, some factors
encouraging progressive development, while others restraining it, and some others having both positive and negative effects, at the same time. In this section we will concentrate our attention on these external factors, demonstrating the subtleties of each in terms of influencing the trajectory of the small suppliers examined. Our discussions in this section will also establish the basis of policy recommendations to be elaborated in the final chapter of this dissertation.

1. Government Policies and Implementations

While scholars representing different schools of thought may disagree on the issue of the likely impact of assembler-supplier relationships on the trajectory of the suppliers, almost all agree that local and/or central government support in various forms is crucial in accelerating dynamism within the small enterprise sector in any country context. When one looks at the Turkish governments' attitudes towards the artisanal and small industry sectors from this perspective, one gets the impression that there is considerable concern for these sectors in Turkey, as well. There are various public institutions whose target clientele are primarily the small industries, and the government representatives always express concern for small establishments in their addresses to the public. Looking at small-industry oriented implementations on the surface, in
fact, one may easily come to the conclusion that Turkey is among the leading developing countries in the world vis-à-vis government support to the small industries.

Our field-work among the automotive suppliers during 1988-89 revealed, however, that government support for the small industries is rather an illusion, or at best, highly ineffective. In fact, in the case of the local government in Istanbul where all the firms in our sample were located, what one encounters is government harassment rather than any support. Before examining the stance of the central government, therefore, let's begin our analysis with a brief look at the attitude of the local government, first.

As far as the municipality in Istanbul is concerned, this institution, as we discussed earlier, perceives small industries as a source of increasing its revenues rather than as respectable establishments which deserve to be promoted. During the interviews in 1988-89, the owners of all the 84 small firms expressed, without exception, that local government was simply a barrier against their development. Let aside having concrete and applicable promotion policies, the firm owners declared, the local government was not even concerned with improving the physical infrastructure of the small industry neighborhoods. Frequent electricity and water cut-downs were among the regularities of everyday life, and there was almost no
effort to upgrade the roads that serve these neighborhoods. The small industries were rather treated as inferior establishments to be discouraged and avoided as much as possible. The experience of one of the small industry localities in the city is particularly illustrative, and we would like to cite this rather sad story, now, as a good example of the local government's outlook on the small industries in the city.

One of the biggest small industry neighborhoods in Istanbul was established by the water channel known as the historic Golden Horn and had been in existence for many decades. There was no doubt that this site was not very suitable as a small industry location. In 1985, the local government notified the residents of the neighborhood that industrial production was going to be banned in the neighborhood in 6 months. However, not only 6 months was too short a time period for industries to move to another location, but also the local government did not propose an alternative site which could have relieved most of the enterprises in the neighborhood. Many were artisanal establishments too small to afford moving to another site on their own. Not surprisingly, they did not/could not take any steps to move to another location. By the dateline, and on rather sudden notice, the municipality teams came to the site and forced the owners and workers out of the premises, eradicating the establishments, together with the machinery and equipment in
some cases, by bulldozers. One of the firm owners we have talked to said that the local government offered only $4,500 to him as a compensation. He added that many of the enterprise owners could not afford to restart their businesses afterwards, and that there were even those who were subsequently institutionalized not being able to shoulder the rather tragic reality.

Given the attitude of the local government towards the small industries in the city, what these establishments want from the municipality, using their own phrasing, is just to stay away from them. They prefer no interference, at all, even if the interference might be a positive one in the form of support. They simply do not trust the local government, and based on their decades-long experience, they do not believe that the local government has either the potential or the desire to promote the small establishments in the city.

The authority that the small enterprises highly trust and expect support from, instead, is the central government, the "father state", but they were highly disillusioned in this case, as well. Most of the firm owners we visited were in the opinion that not only the Turkish governments could have taken much more effective steps to promote the small industry sectors in the country, but more than that, some of the governments' implementations, particularly with the new economic orientation after 1980, in fact openly worked to
their disadvantage. Let's therefore now shift our attention to the side of the central government, and look at the policies vis-a-vis the small/artisanal industries discovering their impact on the suppliers examined.

In Turkey, the government has had a two-sided impact on the trajectory of the small and artisanal industries. There are various public institutions established to support these industries, on the one hand, but the small enterprises are rather overlooked in certain policy issues that have direct influence on their well-being, on the other. The public institutions whose mission is to promote the small enterprises, however, are far from being successful in rendering their mission, which means that overall speaking, government access and support to the small industry sector is either minimal, or else, there is no support, at all. Let's take a closer look.

1.1. The People's Bank of Turkey

Among the institutions oriented towards the small enterprises in Turkey is the People's Bank of Turkey, "HalkBank". HalkBank was founded by the state, in 1933, to meet the financial needs of the small enterprises in the country. Until the 1980s, in congruence with the objectives of the import-substitutionist era, HalkBank more or less accomplished its mission in terms of offering low cost
credits to its target clientele. According to the small enterprise owners we visited, for example, HalkBank interest rates were around %3-7 during the first half of the 1970s, and around 20% by 1979, whereas the rate of inflation ranged between 16-30% and 64%, respectively, during the same time periods. However, the Bank offered credits mainly to cover the operating expenses of an enterprise, rather than its investment expenses, and also the financial capacity of the Bank was far below the actual demand of the target clientele. In 1978 and 1979, for example, total credits disbursed by HalkBank to small enterprises equalled only 2.0% and 2.2% of all credits disbursed by all banks in the country.9 10 These figures were far below the actual contribution of the small enterprises to the country's economy. By 1980, the share of only those enterprises employing less than 10 workers in total value added in Turkey was 11.5%, whereas the share of those enterprises employing less than 50 workers in total output of the

9 Calculated from Afacan, 1983: Table IV; and Alpugan, 1983: Table 4

10 Although Halkbank is not the only institution via which the Turkish state disburses credits to the artisanal/small industries in Turkey, the bank is by far the major source. In 1978 and 1979, for example, of the total credits that went to the small establishments, Halkbank accounted for 68% and 69%, respectively. Note that even if the other institutions are taken into consideration, the share of total credits disbursed to the small establishments still remains to be minimal. In 1978 and 1979, for example, total credits disbursed to this sector constituted only 2.9% and 3.2% of the total credit volumes in the country. (Alpugan, 1983: Table 4 and Afacan, 1983: Table IV).
private manufacturing sector was as high as 37.7%.\textsuperscript{11} The Bank's outreach, hence, was highly limited compared to the clientele base.

The change in Turkey's economic orientation after 1980 influenced and encompassed HalkBank, as well. Like all SEE's in the country, HalkBank became more of a market and profit-oriented entity, fairly leaving behind the original mission of offering subsidized credit to small enterprises. First, HalkBank interest rates were gradually increased to reach 62\% by 1989, almost the same as the inflation rate that year.\textsuperscript{12} Second, to protect itself from the risky economic environment, HalkBank augmented the collateral requirements on credits to be extended to small enterprises. An enterprise's own premises and its machinery, however, were not accepted as a collateral. Only real estate other than the enterprise itself was acceptable. For most small enterprises this requirement meant, in practice, that they would have no chance to reach the Bank's credits, at all.

\textsuperscript{11} SIS, 1992; and UNIDO and SESRTCIC, 1987: Table I

\textsuperscript{12} There were some exceptions to the rule, though. Small enterprises in certain backward regions of the country were offered subsidized credit with as low as 20\% interest rate. A vast majority of the small enterprises in the country, however, are not located in these regions. Those in Istanbul which accommodates around 40\% of all small industries in Turkey, for example, are outside the range of subsidized HalkBank credits.
From their perspective, HalkBank became more or less like any other commercial bank in the country.\textsuperscript{13}

The idea behind HalkBank's new orientation was not only to transform the Bank into a rationally operating market-economy unit. As the suppliers we interviewed were also well aware of, the more general idea was to impose market principles on the operation of the small enterprise sector (as well as on the rest of the economic sectors, in the country). The policy makers of the new era were in the opinion that an economy can not afford to accommodate inefficient economic units whose existence depend on special protection. Those enterprises which could not survive in a market economy, simply should not. What was suggested to the small enterprises, instead, was to grow bigger by way of mergers which was believed to be a viable and rational way to adopt to the new economic orientation of the country.

According to the small enterprises we interviewed, however, the government did not offer help to encourage mergers. Consequently, the impact of the observed changes in HalkBank merely resulted in even more limited access to the Bank's credits than before. Among the first-tier automotive suppliers in our sample, for example, only 38\% declared that they used HalkBank credit since their date of establishment,

\textsuperscript{13} For HalkBank policies, see also TESK, 1988: 58-59; SIDO, 1987: 6-7; and UNIDO and SESRTCIC, 1987: 39-41
and only 21% used it after the major changes in the Bank's implementations took place. Many of these firms declared, moreover, that the amount of credit offered by the Bank was too limited to generate any positive effect. To be able to secure an amount that would help them undertake a major investment, for example, they were required to declare mortgage beyond their capacity. As far as the firms we interviewed are concerned, hence, HalkBank played no positive role in encouraging progress. In fact, it would be more realistic to assume that it played a negative role, discouraging progress.

We asked the first-tier automotive suppliers their opinion about government support for the small industries in the country. As seen in Table 12, not only a great majority of the suppliers were in the opinion that the governments, so far, have neglected and/or discouraged the small industries rather than granting support, but also their complaints focus primarily on the implementations of HalkBank and the other SEEEs as the most suppressing factors. These suppliers are in the opinion that increasing the Bank's financial capacity together with a return to subsidized credit would be among the most effective means to encourage the development of the small enterprises in the country.
<table>
<thead>
<tr>
<th>Number of Firms</th>
<th>Supports 19%</th>
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<tr>
<td>Discourages or Neglects 81%</td>
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Complaints About Government Policies:

- HalkBank interest rate is very high 28%
- HalkBank Mortgage Requirement 11%
- HalkBank Credits Are Insufficient 11%
- SEE Raw Material Is Very Costly 23%
- Difficulty in Direct Access to SEE Raw Material 21%
- High Taxes 15%
- The Government Supports the Large Industries 15%
- No Government Support for Mergers Among Small Indust. 11%
1.2. SEE's Producing Raw Material Inputs

Table 12 shows that the complaints of the first-tier automotive suppliers about government policies/implementation focus as much on the SEE's producing raw material inputs for the manufacturing establishments in Turkey as on HalkBank. As far as the 5 fields of production included in our survey are concerned, there are 7 such major SEE's in Turkey that produce aluminum, zinc, pig iron, plastics, sheet metal or steel, and they are among the largest industrial establishments in the country, 5 of them ranking among the first 50 largest enterprises by 1986 in terms of total annual sales.\(^\text{14}\) Before the 1980s, the mission of these SEE's was basically to accelerate import-substitution industrialization by supplying low-priced subsidized inputs to the domestic industries. Some of these SEE's operated more like non-profit establishments, with expenditures usually exceeding sales revenues, and being so, were among the main factors behind the budget deficit. After 1980, however, the changes in Turkey's economic orientation influenced and changed the operating principles of these SEE's, as well. They abandoned their original mission, and gradually reorganized to become more profit-oriented, or else, self-sufficient market-economy units, though their transformation is yet far from being complete.

\(^{14}\) ISO, 1987: 4-6
Of the major changes concerning SEE policies after 1980, the most radical was the removal of subsidies and liberalization of SEE product prices. According to the suppliers we interviewed, SEE product prices began to increase dramatically since price liberalization, sometimes even on a weekly basis. The small firm owners we interviewed were complaining that the increase in the prices of SEE raw materials was even above the rate of inflation, reaching, in some cases, up to 130% in 1988 whereas the inflation rate was 68% that year. Sometimes, in fact, SEE prices were above those of imported raw material (particularly if the latter originated in East European countries). The small firm owners expressed that combined with the on-going price and payment schedules imposed by their customers in the automotive industry, the increase in SEE product prices had significant negative impact on company performances, resulting in considerable shrinkage in profit levels. One owner stated, for example, that the automotive final-assembler he works for only accepted to compensate for 75% of the increase in his raw material input costs whereas the actual increase was above 130%.

It is not only by way of high product prices, however, that the small suppliers are adversely affected by the on-going SEE policies. More important than that is the fact that it is highly difficult for these small enterprises to secure direct access to SEE raw material inputs. The SEEs require
full cash payments by the time an order is made and do not accept purchase on credit. For large scale industries, this requirement does not create much of a problem. For the small suppliers who are under constant pressure of "cash shortage" (highly a consequence of assembler-supplier relationships), however, it is close to impossible to meet the cash payment requirement. They almost never have enough cash to make the due payments all at once. Moreover, many times raw material delivery from the SEE factories takes 2-3 months even if cash payment is made, resulting in interruptions in production. Under these conditions, many small suppliers are left with the only choice of purchasing SEE raw material from the middlemen, the traders, who purchase raw material directly from the SEEs and sell them to small enterprises accepting purchase on credit. Indeed, of the 47 first-tier automotive suppliers in our sample, the majority, 53%, declared that they purchase SEE raw material via the middlemen on the basis of purchase on credit. The cost of this alternative, though, is considerably high because the interest rate imposed by the middlemen might be even above the interest required by official banks. By 1983-89, for example, sheet metal purchased from the middlemen cost as high as 225% of the factory price. This means that the suppliers' unit raw material costs were even higher than the large scale assemblers if they used the same SEE raw material inputs.
If one of the consequences of extremely expensive access to SEE raw material is shrinkage in the resources of small enterprises, it is our opinion that the other equally significant consequence is highly likely to be strengthening of the sweatshop conditions often observed in the small supplier firms. Particularly given the price and payment schedules imposed by the customers, the high share of raw material in total costs is apt to encourage a counterbalance by way of minimizing labor costs through informal labor recruitment practices.

Cumulatively speaking, the SEEs negative impact on the small supplier firms is much stronger than HalkBank's policies. The automotive final-assemblers require the use high quality raw material in the production of motor-vehicle parts which makes the suppliers dependent on SEE raw material. The other alternative, imported raw material, is usually more expensive than SEE products even if the latter is purchased from the middlemen. Hence, although many suppliers do use imported material (in some cases this is mandatory either because a particular raw material is not produced in Turkey, such as spherio iron, or else SEE quality does not exactly meet the quality requirements of the assemblers,

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15 The exception is East European raw material which usually costs less than SEE factory prices. However, East European material may sometimes be of low quality and hence is not always dependable.
which is usually the case in plastics), they are rather
dependent on SEE material. In other words, the suppliers
have almost no chance to avoid the negative impacts of SEE
policies. HalkBank's negative impact on the small
enterprises, in contrast, is rather indirect. The small
firms are not dependent on the Bank, they merely can not
reach its credit base which indirectly restricts their
growth potential.

1.3 Small Industries Development Organization: SIDO

Of the public institutions established to support and
promote the small/artisanal industries is Turkey, one of the
most publicized is the Small Industries Development
Organization, or SIDO. SIDO was officially founded in 1983
according to an agreement reached between the Turkish
government and the United Nations Industrial Development
Organization. Functioning under the supervision of the
Ministry of Industry and Trade, SIDO was originally
established with highly idealistic objectives in mind,
envisioned to develop into a powerful organization with
effective impact on the target small industry sector. It was
expected to generate employment, to mobilize capital and
vocational skills, to create entrepreneurs, to help create
linkages between the small enterprises and large scale
industries, to help develop backward regions, and to create
income (especially export income). The organization was to render consultancy and supporting services to the small industrialists for the administrative, financial, technical and technological problems they face covering a wide spectrum of areas from the selection and analysis of raw materials to the marketing of products. According to the SIDO representatives and the organization's pamphlets, SIDO was highly successful in carrying out the original missions in the cities of Gaziantep and Ankara, particularly in terms of encouraging quality production and promotional activities. SIDO centers in these cities are well equipped with quality control, testing and analysis devices that would otherwise not be feasible investments for the individual small enterprises. SIDO also puts considerable effort in helping small firms to participate in international fairs where Turkish products are introduced to potential buyers. In general, SIDO employees seem to be proud of their organization and are in the opinion that SIDO's endeavours proved to be quite productive.

A more objective evaluation would be, however, that despite the efforts which deserve appreciation, SIDO did not exactly develop into an organization with effective outreach, and its impact on the small industry/artisanal sectors remained to be highly limited particularly as far as country-wide

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16 SIDO, 1987: 7-9
impact is concerned. In our point of view, SIDO's original objectives seem to have remained mostly on paper although the organization has branch centers in a total of 5 cities in Turkey, and is planning to extent its outreach to cover 9 more regions.

Istanbul is a good example to illustrate our point of view. Istanbul is among the cities where SIDO has an operating center and one expects the SIDO center in the city to be particularly active and dedicated to the accomplishment of the organization's objectives given that Istanbul leads all the other cities in Turkey in terms of the number of small industries it accommodates (40% of the total). Our own observations at the SIDO center in 1988-89 revealed, however, that SIDO's activities in Istanbul are at a very modest scale and the organization is definitely not properly equipped and staffed to reach even a small fraction of the tens of thousands of small industrial establishments in the city. A significant portion of the 84 small enterprises we visited during the survey, for example, did not even know that SIDO existed, and of the total of 64 first- and second-tier automotive suppliers, only 7 firms declared that they had access to SIDO services. Their access, however, was

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17 See also TESK, 1988: 56
18 SIDO, 1988
19 Akgun, 1988: 6
usually not on a continuous basis and the services they received were not satisfactory. One firm owner stated that the SIDO center in Istanbul even sometimes sends the material samples to Ankara, for analysis, because the center in Istanbul is not equipped with the necessary devices. As far its Istanbul branch is concerned, therefore, it would not be underestimating to state that SIDO has had no role to play, so far, in the development of any of the 84 enterprises we visited, although 38% of these enterprises were actually located in a small industry estate where SIDO has an office.

Despite SIDO's inertia, however, small firm owners in Istanbul are in the opinion that a government-supported organization like SIDO could in fact have a significant role to play in accelerating dynamism and innovation within the small industry sector, if appropriately empowered to expand its outreach. They do appreciate SIDO's original objectives and they believe that the organization accurately addresses the small firms' most crucial needs. Moreover, SIDO charges only symbolic fees for the services it renders which is by itself a topic of appreciation. Cumulatively speaking, therefore, although SIDO is not a success story so far, it was a correct to step to begin with, and carries the potential to develop into an effective organization if financially strengthened to improve the quantity and quality of its services.
1.4. Support to the Small Industry Estates

Perhaps the most successful case of government support to the small/artisanal industries in Turkey is that of the small industry estates. These districts first appeared in Turkey in the early 1950s, and by that time, they were typical grass-roots phenomena rather than products of government policy. Small workshop owners joined by some merchants were imitating housing cooperatives to form industrial districts on their own. By the early 1960s, they drew the attention of the government, and official support began in 1964. Since then, government support has been modulated through cooperatives formed by artisans and workshop operators registered at artisanal associations, and covered a wide spectrum of areas from assistance in acquisition of land and layout design, to the provision of construction credits and help in the supply of infrastructure and service facilities. During the 1965-88 period, 303 such estates throughout the country had received government support, and by the end of 1987, 176 of these estates were already in operation, accommodating a total of 48,382 workshops, and 127 more were under construction, expected to accommodate 31,000 more.\(^\text{20}\)

Both the government officials in charge of the small industry estates division, Ministry of Industry and Trade,

and the academia in Turkey are highly in favor of the small industry estates and are in the opinion that these districts have a number of advantages. They ease the relocation of the small industries away from the urban core and they provide positive externalities of concentration as firms become more accessible, enjoy better and cheaper services, and create easier and stronger ties with each other than they would if scattered.\footnote{UNIDO and SESRTCIC, 1987: 53-54; Afacan (2), 1983: 326-329} We should add here that both the firm owners and their workers have a better feeling of belonging to an industrial community, if located in any of these districts, motivated at least by the pleasant orderliness of the small industry estates which is the first thing that catches the eye when one visits these districts. The workshops are planned and built according to industrial standards, the roads are clean and usually well maintained, and there is often a community center accommodating the construction cooperative that runs the estate, an infirmary, restaurants, banks, hardware stores, SIDO, and the like, none of which is encountered in the case of the firms scattered around the city. In the small industry estates, it is highly common for workshop owners to even design a garden of their own creating a nice atmosphere both for the workers and the customers. The small industry estates in Turkey, hence, are definitely worth visiting.
While one should praise the governments' efforts to promote the small industry estates, however, the actual role of these districts in encouraging progressive development is not always very clear. By 1989, there were 4 such small industry estates funded by the government in Istanbul which were accommodating a total of 1,712 firms, and of the 64 suppliers of the automotive industry included in our sample, 38% or 24 were located in one of these estates. Our survey revealed, however, that while the rate of progress vis-a-vis both growth and technical/technological aspects of production was as high as 66% among those located elsewhere in the city, the rate drops to 42% in the case of those located in this estate. Majority of the 24 firms operating within the estate were highly backward establishments, displaying lower performance standards than those scattered around the city. Our survey suggested, hence, that operating in a small industry estate does not necessarily enhance or strengthen the likelihood of progress.

The result of our survey, though, is not sufficient to make any generalizations as to the impact of these districts on the small/artisanal establishments in Turkey. The available literature suggests, in fact, that there are many more success stories in Turkey than failures.\(^{12}\) Secondly, once the construction of a government funded small industry

\(^{12}\) UNIDO and SESRTCIC, 1987: 56
estate is completed, it is the estate's own cooperative and not the government that is responsible for effective management. Indeed, our discussions with the firm owners confirmed that the small industry estate we visited was rather poorly run, and many of the highly promising initial projects (such as a joint venture to produce machinery for export which was supported by the government via provision of subsidized foreign machinery and equipment—many of which were eventually sold to enterprises outside the estate) were simply abandoned because of ineffective management. Some firms also complained that the estate had a rather rigid design, with no space between workshops, which limits the potential for individual firms to expand if they wish to do so. No matter what the underlying reasons are, however, the important point is that from the perspective of the 24 firms in our sample, operating within a small industry estate did not make much of a difference as a positive factor encouraging development.

2. The Organizational Level of the Small/Artisanal Industries

While government support/neglect is a significant factor in determining the path of development of small enterprises, case studies conducted in various countries demonstrate, as we discussed in Chapter I, that the organizational level of the small firms is an equally important factor. When one
looks at the small industrial establishments in Turkey from this perspective, one first gets the impression that the small industrial firms in Turkey have a spectacular capability for collective action which should have yielded some tangible results in terms of upgrading the working conditions of the sector. Just as the disillusionment with government support, however, a little detailed inquiry into the topic shows that what is seen on the surface does not necessarily reveal what is really the case as experienced by individual firms in real life.

Indeed, the small enterprises in Turkey, particularly the artisanal ones, seem to be very well organized, their interests safeguarded by numerous organizations established to help promote dynamic development and secure government support. This is not very surprising because the artisanal establishments in Turkey come from a very strong background of collective action and effort, dating back to the Ottoman times, and the artisans in the country are still very proud of the Ottoman "guilds" which were the basis of industrial production for many centuries. Perhaps with the impetus coming from the past, some of the more concerned members of the artisanal community have put considerable effort to organize the community during the "modern Turkey" era, as well, the result being the myriad organizations we encounter today.
First come the professional organizations. These are in the form of associations, unions and federations supervised by the Confederation of Petty Traders and Artisans of Turkey which is the top institution. The law requires that all petty traders and artisans register to the association representing their particular field of production, and by 1987, a total of 1.5 million petty traders and artisans were recorded as registered (It is said, though, that a great portion of the target enterprises are still not registered). These professional organizations have established their goals as meeting the common demands of their members; ensuring professional development; and conveying the demands of their members to the relevant ministeries and public institutions. By 1987, the total number of these professional organizations had already reached several thousands, represented by 3,700 associations, 68 unions, and 10 petty traders and artisans federations operating under the umbrella of the Confederation at the top.\textsuperscript{23}

Next come the economic organizations, or the cooperatives. The artisan cooperatives are pretty widespread in Turkey, and could have been the loci of effective collective action. Founded mostly by firm owners with artisanal background, these cooperatives pursue the objectives of providing cheap raw materials to their members, finding new markets for

\textsuperscript{23} Interviews
their products, securing affordable technology, and encouraging quality production. Encompassing particularly such areas as metal works, wood works, weaving and clothing industries, as many as 658 such cooperatives were established in Turkey between 1964-1984.  

Third come the construction cooperatives. The objectives of these cooperatives are to organize small firm owners interested in operating in small industry estates; seek and secure government support; supervise the construction itself; and subsequently manage the estate once construction is completed. By 1985, over 250 such construction cooperatives had received government support in Turkey.  

We should note here that membership to either the economic or the construction cooperatives does not necessarily require an artisanal background. Small firm owners who are engineers, university graduates or technicians are also welcome to participate in any of these cooperatives, although artisans usually outnumber others in the membership base.

While the number of organizations encompassing the artisanal industrial units in Turkey is counted by thousands, our discussions with the automotive suppliers revealed that their actual impact on the welfare of the fellow members is

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24 Ozguc, 1986: 95
25 SIDO, 1987: 4
not always very impressive. As for the professional organizations, above, the firm owners were in the opinion that apart from representing the interests of the artisanal community in various boards, these organizations were highly inept to generate any visible positive impact on the performance of individual artisans. To put it more specifically, they said that being a member of their respective associations did not affect their trajectory, at all. Some of the directors of the artisanal associations we interviewed were complaining, on the other hand, that many artisans are not aware of the benefits of being a member of an association, and usually remain detached after they complete the registration process. Ironically, however, this complaint rather puts the blame on the associations themselves since it is indication that they have failed to attract the attention and the trust of the membership base.

Apart from the professional organizations, many of the cooperatives in Turkey also seem to be highly unsuccessful in accomplishing their objectives, drawing the complaint of the target small enterprises. Of the total of 64 suppliers of the automotive industry in our sample, for example, only 34% were members of cooperatives, and only 14% were members of non-construction "economic" cooperatives. The small firm owners, including those who held a membership, expressed their opinion that the cooperatives in Turkey, particularly
the economic cooperatives, are usually idle organizations, with no observable impact on their members, and hence there is no point in becoming a member whose only impact is additional burden in the form of fees. Many small firm owners were in fact in the opinion that those who run the cooperatives usually safeguard their own interests, and not that of the members, by using the organization to secure benefits for their own. Given, however, that membership to a cooperative is voluntary, in contrast to the professional organizations, it is not only those in power but also the members who are responsible for the way cooperatives operate. The firm owners usually prefer to remain passive and simply expect the cooperative to run properly, without using their own supervisory power and rights. This situation is an indication of a rather lack of effective organizational capability and collective action, on the side of the small enterprises in Turkey, although the existence of a vast number of organizations implies the opposite.

The type of organizations we discussed so far usually target the artisanal firms in the country rather than the "small industries" which differ from the artisanal units in terms of higher production capacity, higher reliance on capital-intensive production and technical division of labor, higher growth potential and the owner usually acting as a manager, only. While a great majority of the automotive suppliers in our sample began as artisanal units, most shifted, as our
analysis showed, to a "small industry" status, over time. They do not consider themselves as artisanal any more, and indeed a great majority of these firms, as we discussed before, take part within the body of the chambers of industry or trade, rather than various associations embodying the artisanal establishments. The owners of these small industrial firms are in the opinion, however, that particularly the chambers of industry in the country are oriented towards the larger scale industries and that the small industry sector is rather overlooked within the body of these organizations. They expressed that there is the need for a separate chamber encompassing the small industries, only, but so far there has been no serious initiative, on the part of the small firms, to establish a chamber of their own.

The same holds true for the suppliers of the automotive industry. There exists an organization representing the automotive suppliers, the "Association of Automotive Parts Manufacturers", but the membership base of this organization is composed exclusively of the medium to large scale suppliers, encompassing a total of 150 suppliers out of the estimated total of 1,000. Although the smaller suppliers have a much less bargaining power against their customers than larger scale ones, they have not so far put any effort to establish an organization of their own which might have

26 SPO, 1987: 70
had a role to play in securing better price and payment schedules in relationships with the final-assemblers.

In short, the existing organizations in Turkey established to address the needs of the small enterprises had, on the one hand, no positive impact on the trajectory of the suppliers we interviewed, and while by definition most of these organizations exclude a significant portion of these enterprises, there has been no effective effort to initiate alternative organizations, on the other. Our conclusive remark, hence, is that in terms of establishing and maintaining effective formal organizations, the performance of the artisanal/small industries in Turkey has not so far been promising, and that there is yet much to be done, on their side, in terms of assuming the responsibility on their own shoulders, instead of expecting others to act on their behalf.

3. Inter-Firm Cooperation and Competition

While the small enterprises seem to be highly passive in terms of the formal/organized forms of collective action and cooperation, their performance is pretty encouraging when it comes to the informal/unorganized ways of inter-firm cooperation, as it takes place in the routine of every day life. To catch the picture as to how inter-firm relationships operate in the Turkish case, we asked the 84
enterprises in our sample if they cooperate with other small firms in solving technical/technological problems they face, and in such other areas as helping each other in cases of raw material shortage or finding customers. Our survey revealed that the performance of particularly the first-tier automotive suppliers is highly impressive, in this respect, and stands out as a significant factor contributing to the progress achieved, by this group, over the course of years. As seen in Table 13, as high as 70% of these suppliers declared that they cooperate with other firms in such technical issues as upgrading production techniques, incorporation of new technology, and improving product quality, while the rate is 47% among the second-tier automotive, and 40% among the suppliers of the machinery industry. Our discussions with the first-tier suppliers showed that the firm owners with engineering background have a special mission in this regard. Having the formal education which is highly trusted and respected by other firm owners, they act almost as free, informal training centers that many firm owners refer to whenever they face technical problems. In fact, it would not be incorrect to say that the engineers offer others the services that organizations like SIDO should, compensating for the deficiency of effective formal consultation centers.

The automotive suppliers cooperate with other firms in areas other than technical issues, as well, and the performance of
TABLE 13

<table>
<thead>
<tr>
<th>INTER-FIRM COOPERATION &amp; COMPETITION</th>
<th>Auto. Total</th>
<th>Auto. Ft</th>
<th>Auto. ST</th>
<th>Mach. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>64</td>
<td>47</td>
<td>17</td>
<td>20</td>
</tr>
</tbody>
</table>

Cooperates With Other Firms: Tech
- 64% 70% 47% 40%

Cooperates With Other Firms: Non-Tech
- 76% 74% 82% 45%

Raw-Material Sharing
- 63%

Custmr Transfer/Subcontracting
- 66%

Financial Support
- 14%

Equipment Sharing
- 14%

Price Cutting (+)
- 75%

Auto : Automotive Industry
Mach : Machinery Industry
FT : First-tier suppliers
ST : Second-tier suppliers
Total: FT + ST

both the first- and second-tier suppliers are highly promising in this respect. Table 13 shows that 74% of the first-tier, and 82% of the second-tier automotive suppliers cooperate with other firms in non-technical areas whereas the rate drops to 45% in the case of the suppliers of the machinery industry. Non-technical cooperation concentrates mostly on raw-material sharing and finding customers for each other, as well as subcontracting work to each other if
any one of the parties is not as lucky in finding contracts on his own. Though declared by a small percentage of the firms, cooperation also covers such areas as sharing equipment and financial support.

While the level of inter-firm collaboration as practised by the automotive suppliers in Turkey, particularly the first-tier ones, is pretty impressive, it should also be noted that the cooperation portrayed does not usually take place among firms working for the same large-scale customers, and usually takes place among firms located in the same neighborhood or the small industry estate. It is locational in essence. As for relationships among firms working for the same final-assemblers, what is narrated by the small suppliers we interviewed was that these relationships, if any, were based on competition via price-cutting, rather than any collaboration, at all.

Indeed, as seen again Table 13, as high as 75% of the first-tier automotive suppliers in our sample declared that there may exist price-cutting among firms working for the same final-assembler(s), and that although there has been some efforts, in some cases, to reach an agreement as to abandon the practice, the efforts proved to be futile. As a matter of fact, all the firm owners we talked to were in the opinion that price-cutting ultimately works to the disadvantage of all the suppliers concerned, each supplier
experiencing significant reduction in profit levels as a result of the on-going practice. Despite the complaint, however, there did not evolve any sustained organized action, so far, against it.

There is no doubt that the strategy of the final-assemblers to play one supplier against the other, contributes to the persistence of price-cutting. One of the reasons why the small suppliers take part within the production organization of the Turkish automotive industry is that they accept to work with lower profit levels than larger scale suppliers, a routine encouraged and sustained by the final-assemblers. Nevertheless, the experience of other countries suggest that organized collective action on the side of the small suppliers can be a very effective means to prevent such practices as price-cutting, and that much can be accomplished in the Turkish case, as well, provided that the suppliers exert collective pressure under a leadership, taking the support of the government on their side. If accomplished, such an action would not only result in higher potential for growth and progress, but is also likely to help prevent informal labor recruitment practices as the latter is encouraged, among other factors, by low profit levels due to price-cutting. In general, all factors that ultimately result in lower profits, have the potential to encourage compensation via informal labor recruitment practices.
4. Product/Customer Diversification

The works of scholars on those small industry conglomerations which evolved as active, dynamic entities, point cut to product/customer diversification as a factor encouraging progress. Working for different customers at the same time decreases dependency on any one them, thereby increasing the individual bargaining power of a small enterprise owner against his customers. Producing a variety of products also enhances innovation and encourages improvement in quality, thereby attracting new customers. While confirming this point of view, however, the Turkish case also shows that diversification may reach extreme points, in which case its impact on individual enterprises may be both positive and negative, at the same time, not necessarily and exclusively acting as a factor encouraging progress.

All of the 84 small firms we interviewed in Istanbul were highly aware of the fact that customer diversification helps prevent certain risks that dependency on a limited number of customers generates. It was their own statement that by diversifying into different customers, preferably into customers in different industries, it is possible to partially avoid the impact of market fluctuations (as all industries are not influenced by market down-turns at the same time), the impact of adverse price and payment
mechanisms, and the unfavorable strategic changes, in any one of their customers, as to the relationships with the suppliers. Almost all the enterprises put their theory into practice, as well, working with a wide range of clients in different production fields ranging from the automotive industry, machinery industry, while goods industry, sanitary equipment industry, construction industry and customers in other fields.

The same holds true for the first-tier suppliers of the automotive industry. While the main body of the production of these suppliers consist of parts produced for the automotive final-assemblers, they work with other customers, as well. In their case, a significant portion of the other customers are those firms which market motor-vehicle spare parts in the after-market. The first-tier suppliers we interviewed stated that while the individual orders of the marketing firms are much smaller than that of the final-assemblers, they may offer better price and payment schedules than the final-assemblers. The marketing firms, most of which are also small scale enterprises, themselves, are usually more inclined, for example, to compensate for the increase in costs due, primarily, to the increase in input prices. Their disadvantage, however, is that their orders are too small, on the one hand, and working for these firms does not encourage technical progress because
marketing firms do not much emphasize quality production, on the other.

Although working for a variety of customers may partially help prevent the risks of dependency, however, in the Turkish case it generates more disadvantages than advantages because the number of customers, and the number of different products manufactured for the customers, are by far too large to be efficiently accommodated with the available technology. This is a general trend. There is no difference, in this respect, among different groups of firms. Indeed, as seen in Table 14, by 1988-89, the average number of customers per firm was as high as 57 in the case of the automotive suppliers that accomplished progress over time, 34 in the case of those that did not accomplish progress, and again 57 in the case of the suppliers of the machinery industry, majority of which were underdeveloped. Product diversification was even more exaggerated. Average number of different products a firm produced within one single year was as high as 241 in the case of the first group, 370 in the case of the second group, and a dramatic 585 in the case of the suppliers of the machinery industry.

Although working for such a large number of different customers helps small firms attain full capacity utilization, production lot for the great majority of the customers is usually very small resulting in frequent shift
<table>
<thead>
<tr>
<th></th>
<th>Auto. P(+)</th>
<th>Auto. P(-)</th>
<th>Mach. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>40</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>Average no. of Customers</td>
<td>57</td>
<td>34</td>
<td>57</td>
</tr>
<tr>
<td>Average no. of Products</td>
<td>241</td>
<td>370</td>
<td>585</td>
</tr>
</tbody>
</table>

Auto: Automotive Industry  
Mach: Machinery Industry  
FT: First-tier suppliers  
P(+): Firms that accomplished progress  
P(-): Firms that did not accomplish progress

From product to product. However, while allowing some flexibility, the "universal" machinery employed in the automotive suppliers we visited was not really designed to easily adjust to a rapid shift from product to product. In the metal-stamping workshops, for example, it took about 2 hours to change the dies, alone, and even after then, there is a time elapse for the workers to adopt to the new product and attain the required specifications. In plastic and aluminum injection, the process took from 2 hours to a full day. Consequently, product/customer diversification, in the Turkish case, results in significant inefficiencies and although the suppliers are in search of methods to better accommodate diversification, it seems that there is much more to be accomplished. So far, the merits of diversification is not fully incorporated, its disadvantages
perhaps outweighing its advantages. A closer and more detailed case by case study would better reveal which pair of the scale is heavier, and what the optimum level of diversification would be given the technological characteristics of the small firms in Turkey.

5. Export-Orientation

In the literature concentrating on the trajectory of the small/informal enterprises, export-orientation is also cited as another progress-encouraging factor. Being exposed to the stricter requirements of the outer world and evading, at least partially, the dependency on the possibly adverse terms of the domestic customers, the scholars argue, the small firms might have a better chance to grow and cultivate via export-orientation. During our survey in 1988-89, therefore, we inquired into the extent of export-orientation among the small-scale suppliers of the Turkish automotive industry, as well, and found out, to our surprise, that this factor was almost missing in the Turkish case. Of the 47 first-tier suppliers we visited, only 15% declared they have exported their products, and even in these cases, exporting was not a steady practice. It took place more as an isolated case, undertaken once or twice.

Our finding was rather surprising because a subsequent research we conducted within the scope of the Small and
Medium Scale Industries-Export Promotion Project
(administered by the TURK-EXIMBANK) revealed that motor-
vehicle parts produced by the Turkish suppliers would be
highly welcomed even in advanced industrialized markets. It
was hence neither the quality nor the price of the Turkish
products that prevented successful export-orientation. There
must have been other factors.

Indeed, our discussions with individual enterprises
revealed, first of all, that the small suppliers, as
individual producers, had no access to the information about
potential markets, nor about the procedures of export-
orientation. For them, independent exporting was a risky
business and necessitated a reorganization within the firm
which might prove to be a futile effort, after all. They are
unwilling to take the risk. The other alternative is to
engage in exporting via the numerous export-trading
companies in the country, and all the firms in the sample
that did engage in exporting, before, used this alternative,
but were all highly disappointed. Exporting via another
company resulted in minimal profits because the main bulk of
the export gains remained with the export-trading company,
instead of the actual producer. While almost all the firm
owners we visited were highly enthusiastic about exporting,
and were in the opinion that export-orientation would
encourage further progress, therefore, they had so far had

27 See also ISO, 1987: 81-83
no chance to put their expectations into practice. Their potential as producers implies, however, that if supported and encouraged perhaps by non-profit government organizations, as an alternative to private export-trading companies, the small scale automotive suppliers in Turkey are likely to succeed in the export business. This topic we will bring up in the final chapter of this dissertation, in discussing possible ways of government support to the small industry sector in the country.

6. Ease of Access to Domestic/Foreign Machinery

Among the external factors that helped accelerate the process of growth and development among the small suppliers of the automotive industry in Turkey, one of the most instrumental was ease of access to foreign or domestically produced machinery. As we have discussed earlier in this chapter, since the early 1980s, the machinery industry significantly expanded in Turkey, particularly in terms of the increase in the number of small and medium scale enterprises the industry accommodates. In Istanbul, one encounters numerous machinery producers in all the small-industry neighbourhoods, the industry incorporating numerous other firms as subcontractors, within an umbrella structure. Although many of these producers operate within highly poor production standards, there are firms which have accomplished to adhere to quality production, some even
exporting to the European countries. For the firms in other industrial fields determined to improve their own production performance, it is not difficult to spot the quality producers among the numerous machinery manufacturers. The suppliers of the automotive industry we interviewed told, moreover, that the prices of the machines produced in Turkey were much below that of similar machinery manufactured in Europe. Domestic products were up to 50% to 70% cheaper than the European alternatives. As to satisfaction with the domestic machines, the automotive suppliers we visited split into two groups. Some were very happy with the made-in-Turkey machinery, whereas some others were complaining that the machines frequently broke down.

For those who are not happy with the made-in-Turkey machines, there does exist the foreign alternative. In the literature on the informal sector, it is often assumed that the small/informal enterprises in a developing country context do not usually have access to foreign machinery, particularly machinery manufactured in the advanced industrialized countries. It is rather a privilege of the large scale formal enterprises. This is not the case in Turkey. As stated before, 57% of the first-tier automotive suppliers we visited were employing foreign machinery and equipment by the time the interviews took place in 1988-89. Why then the Turkish case deviates from the picture drawn in the literature?
There are two factors behind the ease of access to foreign machinery. First, Turkey is among the prime sources of labor of the majority of the West European countries. There are millions of Turkish workers residing in Europe. Many of these workers purchase used machinery from the factories in Europe, and sell them to the small firms in Turkey when they visit the country during the vacation periods. Such used machines are said to be cheaper than the new domestic products, and their performance is highly satisfactory. Many of the first-tier automotive suppliers we visited were employing such used machinery originated in Germany, Italy, Sweden, and Switzerland.

The second source of foreign machinery of the small enterprises in Turkey is the East European countries. Turkey has considerable trade relationships with East Europe. By 1989, 9.5% of Turkey's imports originated in the East European countries.\textsuperscript{28} Among the commodities imported, are various machines whose clients are particularly the small and medium scale industries in Turkey. East European products are usually affordable, and they are also brand new products unlike the West European alternatives brought in by the Turkish workers. Many of the automotive suppliers we visited declared that they use such East European machinery, with the countries of origin cited as the Soviet Union, Hungary, Czechoslovakia, Romania, and Bulgaria.

\textsuperscript{28} TUSIAD, 1990: 146
The availability of both domestic and foreign machinery has no doubt played a significant role in the development of the first-tier automotive suppliers we visited, making it possible to shift to capital-intensive techniques as opposed to the traditional labor-intensive production observed in the case of many small enterprises in Turkey. We should note, though, that the impetus, here, was mainly the insistence of the final-assemblers on the attainment of higher quality and productivity, as well as the determination of the suppliers to upgrade their production in order to preserve their status as the suppliers of the automotive assemblers. Otherwise, the same availability of domestic/foreign machinery did not have much of an impact on many other enterprises in the country—such as the majority of the second-tier automotive and the first-tier machinery suppliers in our sample—who neither have the means nor the desire to shift to capital-intensive techniques, continuing to exist mainly as sources of cheap but low-quality products within the confines of traditional production.

7. Joint-Enterprising

While the governments' recommendations to the small enterprises in Turkey, in support of growth by way of mergers, was not practised to the extent desired and envisaged, most enterprises we visited, during our survey, did experiment with joint-enterprising, though rarely in the
form of mergers. Our discussions with the firm owners revealed that in so far as partnerships extended to the long-term on a sustained basis, joint-enterprising proved to be a progress-encouraging factor.

Indeed, with the exceptions of a few, almost all the 64 suppliers of the automotive industry (first- and second-tier combined) formed partnerships with others at one point in time or another. In many cases, however, joint-enterprising was soon abandoned primarily because the partners did not adhere to the innate rules of joint-enterprising. The problem, in most cases, was failure to assume the responsibilities, on the part of some of the partners, who were reluctant to offer their share of energy and effort in order for the enterprise to gain any benefits from joint-enterprising. Those who assumed most of the work naturally preferred to draw their share of capital, after a while, and continued as independent producers. This is a common story, narrated and experienced by many small enterprises we visited in Turkey.

Not all the stories are as discouraging, though. There are some joint-venture firms whose partners succeeded to abandon the ideology of individualism, typical of small entrepreneurs, undertaking partnership as a long-term commitment, foreseeing its advantages. Most of these firm owners who were successful in joint-enterprising expressed
TABLE 15

<table>
<thead>
<tr>
<th>ENTERPRISE STATUS</th>
<th>Auto.</th>
<th>Auto.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P(+)</td>
<td>P(-)</td>
</tr>
<tr>
<td>Number of Firms</td>
<td>40</td>
<td>24</td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint-Venture</td>
<td>53%</td>
<td>29%</td>
</tr>
<tr>
<td>Family</td>
<td>35%</td>
<td>17%</td>
</tr>
<tr>
<td>Single Partner</td>
<td>12%</td>
<td>54%</td>
</tr>
</tbody>
</table>

Auto: Automotive Industry
P(+): Firms that accomplished progress
P(-): Firms that did not accomplish progress

that partnership was instrumental in accomplishing progress. Above all, partnership allowed them to incorporate more advanced machinery as well as expand their machinery park, that would be much more difficult to accomplish should they have remained as independent entrepreneurs. The quantitative results of our survey confirm this point of view. As seen in Table 15, of the automotive suppliers that accomplished progress in terms of the technical/technological aspects of production, 53% are joint-venture enterprises. If we regard partnerships among the same family members as one form of joint-enterprising, then the rate reaches 88%, with only 12% of the firms that accomplished progress operating as single partner enterprises. In contrast, 54% of the enterprises that did not accomplish progress, over time, are one-man-show firms, implying that if successfully operated, joint-venturing may indeed have a positive impact on an
enterprise's trajectory, increasing prospects for growth and development.

8. Conclusion

In comparison to case studies conducted in different parts of the world whereby some factors external to assembler-supplier relationships are cited among the major agents of growth and progress within the small enterprises sector, the Turkish experience stands out rather as an in-between case, displaying neither a highly promising nor a totally discouraging picture. As far as government support to the small industries is concerned, for example, what we encounter in Turkey is total negligence almost to the degree of harassment, in the case of the local government, accompanied by sympathy, some support, but disregard in certain policy formations, on the side of the central government. Overall speaking, the Turkish governments did not so far play much a positive role in shaping the trajectory of the small firms we visited. Given the experience of some other countries, it seems that there is, first of all, the need to effectively empower the existing public organizations established to support the small industries, and to directly include the concerns of the small industries in shaping up general macro policies. If activated, such an orientation on the side of the Turkish governments could play a significant role in promoting the
sector, even helping achieve better terms of relationships between the small suppliers and their customers.

Our survey also suggests that despite the outstanding number of organizations representing the interests of the small/artisanal industries in Turkey, the outreach of many of these organizations might in fact be highly limited, with not much of a positive impact on the clientele base. In this case, the responsibility lies highly on the shoulders of the small enterprise owners, themselves, who, as a group, display rather lack of effective organizational capability and collective action, most preferring to remain passive when it comes to collective effort. In the case of the suppliers we examined, such an inertia is among the factors that aggravates the low bargaining power of the small suppliers against their customers, encouraging the persistence of unfair terms of trade in assembler-supplier relationships.

While customer/product diversification beyond reasonable limits, lack of export-orientation, and competition via price-cutting can also be cited among the factors whose impact on the trajectory of the suppliers have been rather negative, their impact is partly compensated by the existence of significant inter-firm cooperation that takes place within the pace of every day life, as an informal, unorganized form of solidarity among individual enterprises.
Similarly, the opportunity to have access to affordable domestic and/or foreign machinery and, in so far as successfully operated on a sustained basis, joint-enterprising stand out, in the Turkish case, as effective agents of progress. It is our opinion at this point, however, that the most definitive of all the external factors in the Turkish case would be a more extensive and well-planned government support, via which not only the small industries could be promoted for better performance, but also some of the other external factors could be altered and/or enhanced to yield a more positive picture in terms of their impact on the small industries. This topic, we will explore into in the following chapter, in discussing prospects for the future.

SECTION 3: A Comparison of the Five Fields of Production In Terms of Potential for Progress

In our analysis of the trajectory of the small suppliers working for the Turkish automotive industry, our approach, so far, has been to present and capture the general picture as pertains to the supplier sector as one big group, without much inquiring into individual fields of production (supplier sub-sectors) as independent topics of examination. While our portrayal captures many of the commonalities that are relevant to all the five fields covered during the field-work, however, our interviews with both the final-
assemblers and the suppliers in Turkey also revealed that in terms of potential for progress, there might in fact be significant differences among different supplier sub-sectors which should not be overlooked if we want to present the complete picture. In the literature we examined, the trend is usually to advance general explanations intended to encompass all the suppliers that work for a specific industry. We found out, instead, that particularly in the case of the highly complex industries, such as the automotive industry, which encompasses hundreds of suppliers operating in many different fields of production, generalized explanations might not always reflect all facets of reality. At this point in our analysis, hence, we will divert our attention from the generalities, and explore into the specifics, instead, trying to observe the trajectory of each of the five fields of production examined, capturing the factors that were behind the observed differences.

In a comparative assessment of the trajectory of different supplier sub-sectors working for a specific industry, the most reliable sources of information would perhaps be the final-assemblers themselves, as they are the ones who have had direct/first-hand experience with all the supplier sub-sectors over a prolonged period of time. Hence, in exploring into the different supplier sub-sectors covered during our survey, we referred primarily to the evaluations of the final-assemblers in the Turkish automotive industry, and
asked them to rank their suppliers. Our discussions along these lines revealed that 1. from the perspective of the final-assemblers, not all the small suppliers accomplished the same rate of progress over the course of years, and 2. the final-assemblers distinguish between different fields of production in giving out work to small suppliers. As seen in the first column of Table 16, for example, almost all the three final-assemblers we interviewed (Tofas, Renault and Otosan) agree that the small plastic parts producers they work with lead all other small suppliers in terms of progress recorded over the course of years: they are highly happy with the quality of the motor-vehicle parts purchased from the plastics sector. Some of the final-assembler representatives we visited stated, on the other hand, that most of the metal stamping workshops they work with did not accomplish much of a recordable progress. They are pretty much happy with the machining workshops, but have serious reservations in working with the small foundries. As for the aluminum parts suppliers, although the final-assemblers are also highly satisfied with the progress recorded by this sector, their rating still lies below the plastic parts producers.

On the other hand, while the number of small firms incorporated as suppliers in each field of production more or less reflects the final-assemblers' ratings in terms of progress accomplished, there are still exceptions. Although
### TABLE 16

<table>
<thead>
<tr>
<th>Small Suppliers</th>
<th>(ranking 1-5 in order of importance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic Parts Producers</td>
<td>1</td>
</tr>
<tr>
<td>Machining Workshops</td>
<td>2</td>
</tr>
<tr>
<td>Aluminum Parts Producers</td>
<td>2-3</td>
</tr>
<tr>
<td>Foundries</td>
<td>4</td>
</tr>
<tr>
<td>Metal Stamping Workshops</td>
<td>5</td>
</tr>
</tbody>
</table>

Auto: Automotive Industry  
FT : First-tier suppliers

The small metal stamping workshops are appraised as the least developed of all the small suppliers, for example, they lead all the others in terms of their total number in the supplier base (the second column in the table). On the other hand, in line with the appraisal as to progress accomplished, the final-assemblers are more at ease in giving out work to many plastic parts producers and machining workshops (except for the Renault company which does not subcontract out any machining work), while particularly the foundries and, following them, the aluminum parts producers are among the least represented in the supplier base, the final-assemblers preferring to work with larger scale suppliers in these two fields of production.
The question at this point is, why the differences? Our interviews with the final-assemblers and their suppliers suggested that there are not a few, but a number of factors behind the stated differences, and that each field of production is influenced by one or more of these factors in a different way. As far as the Turkish case is concerned, we detected the most prominent of these factors as: the specific raw-material input used in production; the complexity of the production process/technique and the extent it necessitates the incorporation of skilled-labor and/or engineering skills; the cost of technology renewal in each particular field of production; the amount of operating capital necessary to run a business in that field; and the significance of the particular motor-vehicle component/s produced, within the final product, with regards to quality and precision. Let's now look at each of these factors, one by one, following how they influence/d the trajectory of the different supplier sub-sectors covered during the survey.

1. The Specific Raw-Material Input Used in Production

The significance of the raw-material input in influencing the trajectory of a particular field of production, is specifically relevant to the rapid development of the plastic parts suppliers as assessed by the final-assemblers, above. As a world-wide trend in motor-vehicle production, most motor-vehicle parts used to be produced of metals, in
the past. Since the late 1970s, however, we have been observing an increased trend towards shifting to plastics, instead, because plastic parts are both lighter and also cheaper to produce than the metal alternatives. The trend encompassed the automotive producers in Turkey, as well, which began to put more emphasis, since the beginning of the 1980s, on replacing metals with plastics. Motor-vehicle components such as bumpers, door handles, mirror housings, radiator fans, fuel tank covers, and inner moldings, among many others, began to be all produced of plastics. 

The introduction of plastics had a positive role to play on the plastic parts suppliers in Turkey who began to gain more importance, from the perspective of the final-assemblers, as a field of production representing the future with expanding opportunities. Not only an increased number of plastic parts suppliers were incorporated into production with each year, but also the final-assemblers particularly supported and encouraged the development of the plastics sector by offering concentrated technical assistance. Although this does not mean that suppliers operating in some other fields of production were not offered as much support, the fact that the future of the motor-vehicle suggests an even more emphasis on plastics, created a somewhat more bias in favor of the plastic parts suppliers. Alongside with other factors

29 Interviews
to be discussed below, hence, the raw-material itself, per se, has been highly deterministic in influencing the progress recorded by the plastics sector, over time, which is assessed to be more pronounced than that accomplished by the small suppliers operating in other fields of production.

2. The Complexity of the Production Process

Our inquiry into the production characteristics of the five supplier sub-sectors, as summarized in Section 1 of this chapter, also suggested that the mastery of the art of production and hence the potential for progress is also highly dependent on how complex a production process is in a particular field, relative to other fields of production. In general, the more complex a production process is and the more phases it is composed of, the more difficult it becomes to go beyond a certain level of production sophistication. Though not always true, the reverse argument is also valid in that the fewer steps a production process is composed of, the easier and faster it becomes to record progress in the attainment of higher precision and quality, in that field. Let’s take a look.

Of the five supplier sub-sectors covered during the survey, a typical example to the first case would be the foundries, or the process of iron sand casting. Iron sand casting is among the most laborious, and difficult processes of
production, whereby the quality of the final product is dependent on the attainment of accuracy in each of numerous consecutive production steps: raw-material/alloy preparation in the furnaces (including lab testing in most cases); preparation of the sand to attain adequate surface hardness; preparation of the models to the accurate dimensions; preparation of the negative model in the sand; manufacturing of the cores; pouring the raw-material into the negative model; removal of the burrs; sand-blasting; heat treatment; and finally machining for dimensional precision. There are too many steps to control. In contrast, plastic injection molding, for example, consists basically of two steps—manufacturing of the dies and injection molding, itself—of which the most significant and the elaborate process is the manufacturing of the dies, the molding process being completely machine-dependent. Aluminum injection molding, on the other hand, lies in between the two contrasting fields of production, in that although many of the discrete steps entailed in sand casting are eliminated in aluminum injection molding, it still requires alloy preparation in the furnaces, some lab testing, and post-injection machining.

In general, the less complex a production process is, the easier it becomes for a small enterprise to acquire expertise in and perfect its production. This is one of the reasons why the final-assemblers, particularly the
passenger-car producers, are more confident in working with the plastic parts producers, less so in incorporating the small aluminum injection molders, but are particularly cautious in working with the small foundries. (The only exception to our arguments, above, is the metal stamping workshops. Although metal stamping is a highly simple production process, most metal stampers working for the automotive industry are appraised as not having accomplished much of a progress. In fact, metal stampers do not fit into any of our arguments, below, emerging, in each case, as exceptions. Their case, however, is rather unique and we will review them under a separate heading in examining the final factor to be discussed in this Section).

3. The Extent Production Necessitate the Incorporation of Skilled-Labor Versus Skilled-Labor Supply

Closely related to the complexity of the production process, a third factor that influences the potential for progress in a particular field of production is the extent production necessitates the incorporation of skilled labor versus the skilled-labor supply, in that field, in the country context we are examining. As far as Turkey is concerned, a good example to the more fortunate sectors, in this respect, would be the machining sector. Machining is a completely skill-dependent mode of production in that the expertise of skilled workers is perhaps the most significant input, in
this field, in achieving precision manufacturing. Consequently, the prosperity of this sector is dependent foremost on ease of access to skilled-labor, more than that, ease of access to a formally trained workforce. The latter problem is to a great extent solved in Turkey via a network of technical schools that offer adequate training in various professions, including the art of machining. Hence, the suppliers operating in those fields of production which require expertise in machining, such as the machining workshops, themselves, and aluminum and plastic injection molders (in the manufacturing of the dies), do not usually face much of a problem in finding and incorporating skilled workers.\textsuperscript{30} The availability skilled labor, in return, acts as a catalyzer of development, giving these particular fields of production significant advantage over others, in terms of accomplishing progress at a faster rate.

The foundry sector, however, is not as fortunate. While iron sand casting is also a field of production which is preeminently dependent on skilled labor in the attainment of product quality and efficiency, skilled labor supply, in this field, is highly limited in Turkey. Although the foundry sector is among the oldest fields of production, the existing technical schools do not offer as comprehensive

\textsuperscript{30} Indeed, almost all the first-tier automotive suppliers, in our sample, operating in these fields of production were employing graduates of technical schools by the time the interviews took place.
programs in this field as they do in some other fields, the foundry sector evolving more as a self-dependent field of production. What is predominant in this sector is on-the-job training, which is usually limited to the acquisition of centuries-old traditional techniques. As a result, the small foundries usually operate without adequate human infrastructure which ultimately restricts their development, and discourages the final-assemblers from increasing the number of small foundries they work with. This is particularly so considering that many of the cast-iron parts are among the most crucial components of a motor-vehicle, requiring much higher levels of technical expertise than do most other motor-vehicle components.

4. The Extent Production Necessitates Engineering Skills

Apart from the complexity of the production process and the availability of skilled labor, the extent a particular production process requires the incorporation of engineering skills is also significant in determining a small enterprise's potential for progress. With the exception of those enterprises whose owners are engineers, themselves, recruiting engineers—or for that matter, any university graduates—is highly uncommon among small enterprises, which rely primarily on the owner/s' and skilled workers' expertise and experience in the attainment of product

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31 Interviews
quality. This is partly because engineers prefer to work with larger scale enterprises where there are better opportunities for promotion and access to comprehensive fringe benefit packages. Some fields of small industry production are not necessarily disadvantaged by this situation because engineering input is not very critical in these fields. In some other fields, however, it becomes highly difficult to improve product quality and the production process if there is no chance to refer to an engineer's expertise on a constant basis.

Of the five fields of production examined during the survey, iron casting and aluminum injection molding constitute the latter group. As discussed before, an inherent part of these two fields is raw material analysis and alloy preparation, which is pretty difficult to achieve without the supervision of a metallurgy engineer. Of the total of 24 first-tier suppliers of the automotive industry operating in these two fields and included in our survey, however, only 9 were employing metallurgy engineers by the time the interviews took place. While most of the enterprises that did not employ engineers also recorded progress over the course of years by hard work, engineering input borrowed from other enterprises, and technical guidance offered by the final-assemblers, there is no doubt that their progress could have been faster and more pronounced if they had recruited engineers, instead.
On the other end of the spectrum are the plastic injection molders and the machining workshops. In contrast to iron sand casting and aluminum injection molding, plastic injection molding and machining do not require much of an engineering input in the attainment of higher quality production. In fact, in many cases, the expertise of skilled workers is usually more crucial, in these fields, than what an engineer can offer. Hence, even though recruiting engineers is highly uncommon among the plastic injection molders and the machining workshops, as well, it does not have much of a restrictive impact on the performance of these enterprises. We should immediately note here, though, that the disadvantage the foundries and the aluminum injection molders face, could have been highly compensated for had they had access to the engineering expertise of such government-funded organizations as SIDO. This topic we will again look into in the following chapter, in discussing possible policies the governments can adopt in promoting the small enterprises.

5. The Cost of Technology Renewal

Our survey among the small enterprises in Turkey revealed that a fifth factor that contributes to the variations among different production sectors vis-a-vis potential for and accomplished progress, is the differences, among sectors, in terms of the cost of technology renewal/expansion (fixed-
capital investment). Indeed, some fields of production can be considered to be more fortunate than others because the cost of expanding the technological infrastructure is much lower, in these fields, relative to the others. Although exceptions do exist, the less costly technology renewal is in a particular field, the easier it becomes for a small enterprise to record progress in that field; the more costly technology renewal is, the more difficult it becomes.

In foundry production, iron sand casting, for example, the type of furnace an enterprise employs is the most significant production equipment. It is almost possible to predict a foundry's future merely by looking at what type of furnace the enterprise uses. A great majority of the small foundries in Turkey employ the centuries-old cupola furnaces, which are very cheap equipment to incorporate, but their capacity is very limited. For higher capacity, higher quality and efficient production, the most advanced technology is the induction furnace, which is almost like a magic wand in iron sand casting. By itself, this furnace has the ability to open a completely new chapter in the life of a foundry. However, many small foundries in Turkey are unable to incorporate the induction furnaces, not only because their full exploitation usually requires some engineering expertise, but also because these devices are too expensive for most small enterprises to afford. In Turkey, there is only one firm which manufactures these
types of furnaces, and the price this firm requires for its products is minimum $70,000 per unit. There are also the foreign alternatives, but foreign furnaces are at least twice as expensive as the domestic furnaces. Considering that the total dollar value of the fixed capital a small foundry controls is around $20-30,000 in Turkey, investment in even one single furnace is far beyond the reach of most small enterprises. The induction furnace is only an unattainable aspiration when it comes to a great majority of the small foundries.

As a comparison, plastic injection and machine-tools used by small enterprises usually cost between $14,000-$27,000, each, which means that with the same money that a foundry has to invest in one single furnace, it is possible to purchase up to 10 plastic injection or machining equipment. Assuming the rate of capital accumulation to be the same across different fields of production, hence, it requires much less time to incorporate new equipment in the plastics and the machining sectors, than it takes in the foundry sector. Aluminum injection molding lies in between. Aluminum injection machinery costs minimum $30,000, each, with more advanced/higher-tonaged machinery requiring at least $55,000. While cheaper than an induction furnace, aluminum injection machinery is still considered as a costly investment which requires more capital accumulation than that realized by many small firms. The variations among
different production fields in terms of the cost of technology renewal/expansion, therefore, is almost directly reflected in the relative rankings vis-a-vis progress accomplished, and should be considered as a significant factor in inter-sector comparative analyses—particularly if access to official credit sources is as limited as in the case of Turkey.

6. The Amount of Operating Capital Necessary to Run a Business

Small suppliers operating in some fields of production are more fortunate than others not only because technology renewal (fixed-capital investment) is relatively less costly in their fields, but also because the amount of operating capital necessary to run a business is much smaller in these fields relative to the others. Indeed, our survey in Turkey revealed that there may be significant differences among different supplier sub-sectors in terms of the required amount of operating capital, and the smaller that amount is, the easier it becomes for an enterprise to record progress and growth in a given period of time. The amount of operating capital, on the other hand, is determined, first and most, by whether production involves raw-material processing or not. In general, enterprises that do not have to invest in raw-material require much less operating
capital, in Turkey, and have a higher chance, than others, of recording progress at a faster rate. Let's see why.

Of the five fields of production included in our survey, a great portion of the operating capital required in the foundry, aluminum and plastic injection molding (and also metal stamping) sectors consists of raw-material expenditure. In these sectors, raw-material inputs may constitute up to 75% of the production costs, by far outweighing all other cost factors. Given the rapid increase in raw-material prices in Turkey, the interest paid to the middlemen, and the fact that the final-assemblers are willing to compensate only a certain portion of the increase in raw material prices, the suppliers in these fields of production are under constant pressure of increasing operating costs. Although the common solution is to keep labor costs to a minimum by way of informal labor recruitment practices, meeting raw-material expenses still create a major problem for most small suppliers in these sectors who often complain that high operating costs ultimately restrict their capability to make technology-related investments.

In contrast, many machining workshops working for the automotive industry do not have to invest in raw-material, because their job is to merely process the semi-finished motor-vehicle components manufactured by other small
suppliers. In their case, the final-assembler acts as an intermediary between the initial and the final phases of the manufacturing process, the machining workshops not having any direct relationship with the former-phase suppliers. As a result of such a division of labor among different supplier sectors, the machining workshops are to a great extent relieved of the hardship brought about by increasing raw-material prices, which means that it becomes much easier to both accumulate capital and to direct it to technology acquisition in the machining sector, than it is in some other sectors. In other words, the machining sector is endowed with, what we might call, a liberty that other supplier sectors can not capitalize on, and such an inter-sector difference is one of the reasons why many machining workshops succeeded to expand their businesses at a faster rate than many other small suppliers.\footnote{32}

We should note here that while in the Turkish case we examined, it is primarily the machining workshops that have such an advantage, it is possible to propose a more general argument that would be relevant to other industry/country/supplier contexts with similar disposition. It is hence our opinion that in any high-inflation

\footnote{32} Not all tooling workshops that work for the automotive industry have the liberty described in this paragraph, though. Some tooling workshops do need to purchase steel to manufacture certain motor-vehicle components such as shafts or bushes. These workshops face the same raw-material-originating problems that most other suppliers do.
environment, suppliers of a particular industry who do not have to invest in raw-material inputs, have a certain degree of advantage over others who do, even if both group of suppliers work for the same industry or even the same final-assembler.

7. The Significance of the Particular Motor-Vehicle Component Produced With Regards to Quality and Precision

In our discussions, so far, our explanations encompassed either the foundries, aluminum/plastic injection molders, and/or the machining workshops, while we did not forward any argument about the case of the metal stampers. This was deliberate, because the metal stamping sector abides by almost none of our arguments, above, emerging, in each case, as an exception to the rule. Metal stamping is not a complex production process; it does not require a highly skilled work force; it does not require much of an engineering input; and as far as Turkey is concerned, metal stamping machinery is highly affordable. Given all these conditions, one expects the metal stampers to be among the most developed of all the small suppliers working for the Turkish automotive industry. Yet, from the point of view of some of the final-assemblers we visited, of all the supplier sectors working for the Turkish automotive industry, the metal stampers are in fact the least developed. In explaining
their case, therefore, there is the need to refer to some other criterion that has not been considered so far.

Motor-vehicle components differ from each other in many ways. Some are load-bearing, some are not; some are visible to the eye as trim elements, some are not; some are composed of many intricate parts, each, whereas some others are much simpler; in some, dimensional precision is crucial to achieve, whereas in some others there is more room for higher tolerance, etc. The variations are particularly pronounced in the case of a passenger-car, which is composed of thousands of different parts. Our survey in Turkey revealed that the final-assemblers are more insistent on quality and compliance with the specifications if the component produced is to be load-bearing, difficult to produce, is a trim element visible to the eye, or else is a relatively complex assembly-product whose operation is dependent on the attainment of precision in each of its sub-components. Many of the plastic, aluminum, and machined metal motor-vehicle components fall in one or more of these categories which means that the final-assemblers are particularly careful about the attainment of quality when it comes to these motor-vehicle parts. It is exactly at this point that the stamped metal parts diverge from the rest, whereby we catch the clue as to why the suppliers of these products lag behind others in terms of progress accomplished over the course of years.
In a motor-vehicle, there are numerous stamped metal parts and many of these parts carry none of the characteristics that would encourage the final-assemblers to demand quality production from the suppliers of these parts. There are numerous (in fact, a couple of hundred) stamped metal brackets, supports, covers, for example, that have much higher tolerance for low quality than most other motor-vehicle components. When it comes to such products, what the final-assemblers specifically look for and prefer is low costs and not necessarily high quality, and hence technical progress and adeptness is not a criterion in working with the suppliers of these parts. On the contrary, it is possible to say that the final-assemblers prefer the metal stampers to remain as small and "informal" as possible, because growth and progress would increase at least overhead costs which is not desirable. When it comes to most stamped metal parts, therefore, instead of working with a smaller number of bigger suppliers, the final-assemblers prefer to work with a very large number of micro enterprises, instead. The latter are the producers of the cheapest motor-vehicle parts, ever, and hardly have the chance to accumulate enough capital for investment. Hence, what we observe is that while the metal stampers are the most widely represented in the supplier base, the high tolerance of many stamped metal parts for poor quality discourages progress among the metal stampers, who are said
to be the most "informal" all small suppliers working for
the Turkish automotive industry.

8. Conclusion

The case of the Turkish automotive industry suggests that in
analyzing the impact of productive decentralization on the
trajectory of the small suppliers, generalized explanations
intended to encompass all the suppliers that work for a
specific industry or a final-Assembler, may not always be
adequate in capturing the distinct realms of individual
supplier sub-sectors. What we should expect to find,
instead, is the presence of a number of sub-sector-specific
factors, depending on which there is likely to be some
variations among supplier groups in terms of both potential
for and accomplished rates of progress. In the Turkish case,
we identified seven such factors as the most prominent, and
found out that each of the five supplier sectors we
examined, has been influenced by one or more of these
factors in a different way. Other country/industry contexts
would no doubt unveil other similar factors that would help
broaden our perspective and present more comprehensive
explanations in our analyses.

As far as the Turkish case is concerned, plastic injection
molders emerge as the most developed and perhaps the most
fortunate of all the small suppliers examined, whereby
almost all sector-specific factors operate to the advantage of this sector. What specifically distinguishes these suppliers, though, is the fact that plastics are replacing metals in the manufacturing of many motor-vehicle components. The machining workshops are also among the more developed supplier sectors, and what particularly distinguishes this sector is the fact that many machining workshops do not face the problem of raw-material acquisition, which to a great extent relieves these suppliers from the hardship brought about by increasing operating costs. As for aluminum injection molders, although the progress recorded by this sector is highly satisfactory, aluminum injection molding is a more difficult production process, necessitates engineering input, and its machinery is more expensive to incorporate which, together with increasing operating costs, make it more difficult to accomplish progress in this field relative to some others. The foundries, on the other hand, are the most unfortunate of all the suppliers, almost all sector-specific factors operating to the disadvantage of this supplier sector. Finally, the metal stampers represent the most extreme case, whereby only one single factor—the specific product characteristics of the stamped metal parts—determining the trajectory of these suppliers, who seem to have no chance for a breakthrough. It is our opinion that their only hope lies in a change in the final-assemblers' strategy with regards to this particular sector or else in export-
orientation, an alternative we will discuss in the following chapter on the possibilities for the future.
CHAPTER IV: POSSIBILITIES AND PROSPECTS FOR THE FUTURE

In the previous chapters, we looked into the evolution of the Turkish automotive industry and the trajectory of the small firms working for the industry, trying to capture those factors that influenced both the assemblers and their suppliers over the course of years. In this chapter, we will conclude our explorations by extending our vision from the past and the present into the future, by searching what developments we might expect of the Turkish automotive industry and what possibly awaits the small suppliers within this framework, on the one hand, and policy implications, on the other, based on the experiences of other countries and Turkey's own realities. The chapter will be composed of two sections: Section 1 will concentrate on the strategies likely to be adopted by the automotive industry and their probable impact on the small suppliers, and Section 2 will explore what the governments can do to prepare a better environment for the small suppliers and broaden their prospects for the future.

SECTION 1: The Turkish Automotive Industry: What is Ahead?

Since the early 1980s, the Turkish automotive industry has been in a process of adapting itself to the chances in Turkey's economic orientation towards becoming a liberalized economy. As discussed in Chapter II, the most significant
policy change that influenced the industry since then had been the gradual removal of the protectionist measures which exposed the industry to foreign competition in the domestic market. Although the final-assemblers in the industry were rather skeptical about trade liberalization and were highly worried about loosing their market share to imported vehicles, however, improvements in productivity, product quality together with design renewals and new models enabled the motor vehicle producers to successfully compete against the foreign alternatives. In the case of the passenger car segment of the industry, the establishment of two new factories in the country—of which Opel commenced production in 1990 and Toyota's construction is rapidly advancing—had as much to contribute to the improvements in the two leading assemblers—Tofas and Renault—as did trade liberalization. What is accomplished so far should not be undermined. Indeed, quite in contrast to concerns about loosing market share, the automotive industry in Turkey, particularly the passenger car producers, significantly increased their production capacity since trade liberalization, achieving increased sales volumes each year. By the end of 1992, the country had a combined annual passenger car production capacity of 300,000, and commercial vehicle production capacity of was 120,000 by the end of 1990.

Our interviews with the final-assemblers, their announcements to the media, and official studies conducted
on the Turkish automotive industry suggest that we should expect the industry to be more competitive and even more ambitious in the future than it is at present. A few factors are likely to contribute to the future of the automotive industry. First, despite the fact that the disposable income of a significant portion of the population has been declining since the 1980s, annual demand for automotive products, particularly passenger-cars, is predicted to increase more rapidly than ever. Even the passenger-car producers whose forecasts are usually pessimistic expect passenger-car demand in Turkey to reach 1 million units by 1995. Official projection of the government circles, on the other hand, is around 700-800,000 units for the same year.\(^1\) Although we do not have data on the possible increase in the demand for commercial-vehicles, increased economic activity in Turkey during the recent years suggest that domestic demand for commercial-vehicles is also likely to increase.

A second development that the automotive industry will have to adapt to in the near future, is the 1973 agreement reached between Turkey and the European Community with regards to the complete removal of tariffs on all product categories, including motor-vehicles, by the year 1996. This agreement is part of Turkey's appeal to become a member of the Community. Although Turkey's full membership in the near future is highly questionable, the 1973 agreement is mostly

\(^1\) Cumhuriyet, 24 and 28 November, 1990
likely to be put into effect, considering particularly that tariffs have already been significantly reduced since 1984 by when liberalization in foreign trade regime gained momentum.

Third, the priority given by the Turkish governments on export-orientation and establishing closer economic relationships with the outside world is gaining a new direction with the culmination of the socialist regimes in the East European countries and the USSR. These newly liberalizing countries, especially those of Turkish origin in Central Asia, are now considered by both the politicians and the private capital in Turkey as the new target markets for Turkish export products. Turkey's own recent experience towards becoming a more liberalized economy, the proximity of these markets to Turkey, and the existence of a relatively more developed industrial infrastructure in Turkey, have also led many of these countries to seek out Turkish guidance in their own restructuring, and to develop closer economic relationships with Turkey, in general. The appearance of such potential markets has been influencing all sectors in the country, including the automotive industry, which seem to be enthusiastic about expanding their production capabilities via the opportunities offered by the new markets in the vicinity. It should be noted that the Turkish governments have been taking important steps to encourage Turkish exports to the new republics in the
region. The TURK-EXIMBANK, for example, has so far made agreements with the 8 Turkic republics in Central Asia which encompasses the extension of a total of US$ 975 million worth of credit to these countries, at least half of which is to be used in financing their imports from Turkey. ¹ Similar agreements have been reached with the former socialist republics in East Europe, as well.

Fourth, as researchers have been observing in the case of the automotive industries in other developing countries, the transnational companies have been increasingly integrating their production operations worldwide. The developing countries have been a part of this globalization movement, some earlier some later, since the adoption of trade liberalization, export-orientation regimes. Production merely for the domestic market (of each developing country) is being replaced by the strategy of expanding capacity via export-orientation, on the one hand, and division of labor among different production units (of the same transnational or its affiliates) depending on costs of production differentials, on the other. Inter-country flow of complete units or components has been taking a much more complex pattern with the inclusion of the developing countries into the international transactions of the transnationals. ² Turkish automotive industry is being influenced by this

¹ Cumhuriyet, August, 1993
² Jenkins, 1987: 189-239

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pattern since the country joined the club of ex-import-substitutionist countries. Indeed, our interviews with the final-assemblers and media news on the industry gave us the impression that the parent companies of the Turkish manufacturers have been considering to incorporate their operations in Turkey more closely into their globalization programs.

In light of the combined influence of the above factors, the Turkish motor-vehicle producers, particularly the passenger-car producers, have adopted a number of strategic decisions both to be more competitive and to better prepare for and utilize the potentials that seem to be ahead of Turkey in the near future. Upon the anticipated increase in the domestic demand for passenger-cars, the expected removal of all tariffs in trade relationships with the European Community, together with Toyota's ongoing investments in the country as a joint-venture with one of the leading Turkish holdings (planned initial annual production capacity is 100,000 cars) have led the two leading passenger-car producers, Tofas and Renault, to engage in new investments to further expand capacity, on the one hand, and to modernize production, increase productivity/product quality and expand model spectrum, on the other. Tofas, for example, has planned to complete a total of $500 million worth of new investments by 1995, as a result of which the annual production capacity of the company's existing facilities is
envisaged to reach 200,000 cars. Tofas is also considering to include at least two new Fiat models in its product range. The project for one of the models is completed and involves the establishment of a new plant in Bursa which will have an additional annual capacity of 200,000 units, and entails a total of US$ 1.5-2.0 billion new investments.\textsuperscript{5}

Renault is also undergoing new investments of similar magnitude. Aside from general considerations to increase competitiveness, a specific factor that affected this particular company, according to a newspaper article published in late 1990, was Renault-France's defeat to German Volkswagen in entering into partnership with the Skoda company in Czechoslovakia. According to the article, after the defeat to Volkswagen, Renault-France has decided to increase its investments in Turkey and former Yugoslavia and initiate the production of a small car, originally intended for the factory in Czechoslovakia, in the latter two countries, instead.\textsuperscript{6} With the turmoil Yugoslavia, however, it is highly likely that Renault-France will give higher priority to the operations in Turkey.

\textsuperscript{4} Tofas, 1992
\textsuperscript{5} Hurriyet, July, 1993
\textsuperscript{6} Gunes, 13 December, 1990
We would like to make a note here that while tariff-free trade integration with the European Community has been among the major concerns of the motor-vehicle producers in Turkey, the study conducted on behalf of the State Planning Organization in 1987 demonstrates that the Turkish automotive industry would not have any major problems, at least cost-wise, even if tariff-free trade were to actualize that year. According to this study, in 1987 the cost of Turkish passenger-cars were 28% cheaper than the pre-tariff c.i.f prices of similar imported cars. In minibuses, the difference was calculated to be 30%, and in trucks as 5%.

The experts who participated in the study were in the opinion that a major disadvantage of the Turkish products, hence, was not high production costs, but rather their old-fashioned designs and relatively lower product quality.⁷ Considering the scope of the investments undertaken by the producers in Turkey since then and the success against imported vehicles in the recent years, therefore, we might conclude that Turkish manufacturers are rapidly overcoming the disadvantages they had in the past.

With the momentum gained during the last couple of years, together with Turkey's new role in her vicinity and the intention of the parent companies (TNCs) to integrate their operations in Turkey more closely with their operations worldwide, another major strategic change that is on the

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⁷ SPO, 1987: 59-60
agenda of the Turkish motor-vehicle producers, now, is penetration to foreign markets. Tofas, for example, is in a process of increasing the local content of its new model Tempra, upon which the company will begin exporting this car to Italy. Tofas executives also informed us that Fiat is considering to broaden its globalization program around the strategy of concentrating the manufacture of certain components of each model in specific countries where the production is the most efficient cost-wise. The components manufactured in these countries will then be exported to the other countries where the same Fiat models are produced. Within this plan, Tofas is most likely to concentrate on engine production. Aside from such plans, Tofas is also considering exporting its products to the new republics of the former USSR, and initiated its first exports to the Central Asian Turkish republics in 1992. Though yet at an experimental stage, exports to these countries are likely to expand in the future.

Renault is also in the process of elaborating its export strategies. As discussed in Chapter II, this company had embraced the strategy of opening to export markets, by complete units and components, much earlier than Tofas did. By 1988, around 10% of Renault's production was already going to export markets. Since the beginning of the 1990s, however, Renault has adopted a more vigorous export program. The company has particularly been considering again the
former USSR countries as the new target markets and initiated first exports in late 1990. A newspaper article announced this event under the title "Renault's (i.e. Renault-France's) stepping stone to the Soviets is Turkey"."\textsuperscript{8} Actually not only the existing companies, but the Toyota company in Turkey also announced that they might be considering exporting to the new republics in the region after the factory commences production. Similar programs are on the agenda of the commercial vehicle producers, as well.\textsuperscript{9}

With the opportunities and challenges of the near future, the manufacturers in Turkey are not only expanding their investment programs, but are also becoming more attentive to the Japanese-initiated principles vis-a-vis the organization of labor on the shop-floor. The "lean" approach of the Japanese manufacturers to production is becoming highly popular, nowadays, and is being discussed in various panels and conferences that focus on the future of the Turkish automotive industry.\textsuperscript{10} As mentioned in Chapter II, the two leading passenger-car companies have been experimenting with the "new" approaches to the organization of labor on the shop-floor, and have begun practising such methods as quality circles and job rotation since the mid-1980s. They

\textsuperscript{8} Gunes, October, 1990

\textsuperscript{9} See, for example, Tezer, 1989: 87

\textsuperscript{10} See, for example, Teker, 1989
are likely to expand such practices to include more of the labor force, in the future, as company directors have observed that the new methods had positive impacts on workers' motivation and productivity. Tofas executives informed us, for example, that the company is planning to completely shift to auto-inspection in quality control. In this method, the distinct teams of quality inspectors are dissolved and the workers are empowered to check for quality, themselves. As exemplified in Japanese motor-vehicle production, product quality and efficiency are significantly increased via the auto-inspection approach to quality control.\(^{11}\) Tofas is developing a training program to prepare its workers for the new approach, and has partially commenced with implementation in certain phases of its production.

Within all these new developments and prospects for the future, the framework of assembler-supplier relationships in the Turkish automotive industry as well as the future of the small suppliers are no doubt undergoing some changes. A number of factors need to be considered at this point. Let's first look at what the impact of reduced, and eventually, zero-tariffs on vehicle components is likely to be on the Turkish suppliers, in general. As discussed in chapter II, despite significant reduction in tariffs on vehicle components since 1989, the final-assemblers have not so far

\(^{11}\) Womack, Jones and Roos, 1990: 55-58
shifted from suppliers to imported parts at any major scale because domestic components are competitive cost-wise, Turkey being a low-wage country. Tariff-free trade is not likely to change this situation. As a matter of fact, according to some studies, what is on the agenda of some of the European producers is to seek out new suppliers in low-wage countries like Turkey and that some foreign supplier firms are in search of establishing partnerships with the firms in Turkey.\textsuperscript{12} From the perspective of the final-assemblers, moreover, working with domestic suppliers in close proximity enables significant flexibility in a rapidly diversifying market like Turkey. It is therefore our opinion that the Turkish suppliers are highly unlikely to lose their share to foreign manufacturers in the future, although we might expect a slight increase in the share of components shipped from abroad.

Rather than a shift to imported components, what is on the agenda of the Turkish final-assemblers, these days, is to encourage/impose improved standards in domestic supplier production as a complementary to the efforts to increase quality and efficiency in-house. Some major steps have already been taken, and the leaders in this respect are again the two passenger-car companies, Tofas and Renault. Both companies are increasing technical assistance to the suppliers, and more than that, Renault is in the process of

\textsuperscript{12} Automotive Engineer, 1989; Dunya, September, 1990
establishing a formal "technical institute" to train the workers in the supplier sector on a regular basis, and in order to more closely integrate the suppliers into the production process. Both Tofas and Renault have also developed an audit program to rank the suppliers, and set up specific targets for each supplier vis-a-vis quality and efficiency. The Japanese practice of just-in-time delivery (to minimize inventory and to impose, ideally, zero-defect production) has also been on the agenda, for some time, and some of the suppliers, though yet limited in number, are already operating in line with this principle. More vigorous plans such as establishing computer links with the suppliers are also considered.\textsuperscript{13} Although it is possible to say that the commercial-vehicle producers in Turkey have not yet adjusted themselves to such new approaches in assembler-supplier relationships, past experiences and the concerns about increasing competitiveness are likely to influence these producers to follow the lead of the passenger-car companies in the near future.

While it is our opinion that it will be to the benefit of all the suppliers in the industry when the scope of the recent practices is broadened, the future role of the small suppliers within the new organizational themes is not that definite. As far as the passenger-car companies are concerned, there seems to be two diverging approaches to the

\textsuperscript{13} Interviews
small suppliers. On the one hand is the stance of the Renault company. Following the worldwide trend since the 1980s against multiple-sourcing and in favor of establishing longer term and closer relationships with a limited number of suppliers, the Renault company in Turkey has been reducing the number of its suppliers since 1985. By 1991, the company had a total of 160 suppliers and the target is to further reduce this number to around 100 by 1995. Most of the suppliers cut are the small scale ones. The Renault company is in the opinion that working with larger scale suppliers will increase the likelihood of success in the soon-to-intensify competitive environment the company is preparing for. Scale advantages of larger suppliers together with the resources they command for potential R&D and other investments make them preferable. Some are also joint-ventures with foreign companies or else operating under foreign licensee which further increase their potential for progress in the future. As far as Renault is concerned, therefore, although the suppliers' share in total production is not anticipated to drop, there will be a highly limited space for small enterprises within the future supplier network of the company.

Tofas, however, is not following the same route. Quite opposite to Renault, Tofas' suppliers have steadily increased in number over the course of years to reach a total of 400 by 1991. Small suppliers constitute a
significant portion of this total. Our interviews with the company representatives suggested that there is so far no plan to shrink the supplier base. Although Tofas also appreciates and encourages the advantages the larger scale suppliers have as manifested in such endeavours as joint-venturing with foreign firms, working with the small suppliers and multiple-sourcing are still viable strategies for this company. It is our impression that one of the strong reasons that encourages Tofas to maintain its large base of small suppliers is the informal recruitment practices still predominant within this sector. Hence, while the company is on the one hand adopting new methods to encourage and require improved production standards from its suppliers, including many of the smaller ones, informality vis-a-vis labor relations on the shop-floor continues to be an attractive asset, on the other. It seems, therefore, that small enterprises will keep their share in Tofas' overall supplier base in the near future and our discussions with various professionals who know the industry well suggested that the commercial-vehicle producers in the country are also not likely to abandon the small firms, at least not in the short run. As far as the near future is concerned, therefore, except for the case of Renault, the small firms will continue to preserve their role within the organizational structure of the automotive industry as first-tier suppliers.
If we extend our vision into the long run, however, we may not encounter the same picture. If the final-assemblers pursue their current export strategies and when competition in the domestic market intensifies, more of the assemblers may find that the advantages of working with bigger firms outweigh those of working with small enterprises. Already, an increasing number of medium and large-scale suppliers are negotiating with foreign firms for joint-enterprising in Turkey, and such firms are likely to proliferate in the future. With the new technologies to be transferred to these suppliers and increased scale advantages, the larger firms may significantly increase their share in the overall supplier base of the Turkish automotive industry. What we would then observe is the emergence of an umbrella structure with the final-assemblers directly associated with medium and large-scale firms, the small enterprises linking to the chain as second/third-tier suppliers at the bottom. Some of the motor-vehicle producers in the advanced countries are already moving towards such a structure, and the trend may become more widespread in the future encompassing the automotive industries in countries like Turkey, as well.

It is difficult to anticipate, at this point in time, what exact organizational structure the Turkish automotive industry will actually assume in the long run. What we can probably say, though, is that the small firms are likely to be better-off if the current organizational tendencies
extend into the future. The small suppliers will then gain from direct access to the technical outreach of the assemblers, whereas if an umbrella structure takes over, they will be deprived of the benefits of direct ties to the industry. In the case of the first alternative, the small firms are also likely to improve in such areas as enterprise management and division of labor to attain the efficiency standards expected by the final-assemblers. It is our opinion, however, that no matter which organizational structure the automotive industry eventually adopts, what is the least likely or the most difficult to change in the future will be the unfair terms of trade in assembler-supplier relationships and the informal labor recruitment practices predominant in the small supplier sector. Studies on the evolution of the automotive industries in such diverse countries as the Philippines, Korea, Indonesia, Thailand, Brazil and Japan show that unfair terms of trade in assembler-supplier relationships is one area that the final-assemblers (or the large firms, in general) are the least willing to abandon. On the other hand, unless the factors—including the unfair terms of trade—that encourage the small firms to persist on sweating labor change, the small firms would not be willing to give up informal labor recruitment practices. With proper policy tools, however, the governments can make a change, and it is this topic that we will look into in the following section which will discuss what role the governments can play, from now, in
creating a more favorable environment for the small suppliers and enhancing their prospects for the future.

SECTION 2: Proposals to the Government

In almost all countries in the world, developed and developing alike, where small industries accomplished exemplary progress, effective government support is cited as having played a key role by creating a suitable environment for small firms to flourish. Government support has taken many forms ranging from extending affordable credit to the small enterprises, to granting technical/managerial assistance and training, encouraging small enterprise organizations, and inclusion of the small firms in macro policies, in general, including export-promotion programs/incentives. In some country contexts, aside from such broader policy tools, the small firms operating as suppliers for larger enterprises also benefitted from governments' regulations vis-a-vis assembler-supplier relationships which prohibited terms of trade that worked to the disadvantage of the small firms. Observing different country experiences, in sum, scholars are almost exclusively in the opinion that government support is crucial in order for small enterprises to operate under more favorable conditions and to more effectively contribute to a country's economy.
As discussed in Chapter III, Turkey is not one of those countries where governments played an effective role in promoting the small enterprises including those working for the automotive industry. Our survey showed that what has been accomplished by the small suppliers in our sample, so far, was owing primarily to the positive aspects of the assembler-supplier relationships, on the one hand, and the determination of the small firm owners to improve their production capabilities in order to continue working for the automotive industry, on the other. Though the small firms recorded significant progress over the course of years, as an end result, there is no doubt that with effective government support their progress could have been much more pronounced. The task at this point is to learn from past experiences and to prepare a better future for the small firms given their most pressing problems and the identity they have gained over the course of years. As the small firm owners we visited themselves express and expect, there is the need to develop an effective policy program.

It should perhaps be emphasized here that the contribution of the small industrial establishments in Turkey's economic and social life has rather been underestimated by the governments, which is probably the reason why this sector has so far been neglected in the government-sponsored promotion programs which usually favor larger establishments. By 1980, for example, small firms employing
less than 50 workers constituted 99% of all the private sector manufacturing establishments in Turkey; their share in total employment was as high as 62.5%; and they accounted for 37.7% of the total output of the private manufacturing sector.\textsuperscript{14} Yet, a survey conducted in Istanbul in 1987 demonstrated that of the 86 small firms covered during the survey, only 9% had access to the governments' incentive programs, while the rate increased to 35% in the case of the medium scale industries.\textsuperscript{15}

The role the small firms' play in Turkey's economic and social life is in general understated in official circles, perhaps because some facets of their contribution may not be easily captured in quantitative terms. As manifested in a study, Turkey has a young population, the median age being 19.4 and those younger than 24 years of age, constituting 60% of the population. Of the latter group, 60% are economically active as part of the labor force--instead of pursuing formal education--and most are estimated to be employed in the small industry sector. Although there is no doubt that their employment conditions are from being desirable in financial terms, the small firms in Turkey nevertheless act as alternative educational institutes, emerging as an important means for the younger generations

\textsuperscript{14} UNIDO and SESRTCIC, 1987: Table I
\textsuperscript{15} ISO, 1987: 71-81

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to acquire a profession.\textsuperscript{16} Both in quantitative and in less visible terms, therefore, the small enterprises are important actors of Turkey's economy, and deserve government attention and support within a well-designed policy program.

It is our opinion, however, that although comprehensive policy plans covering a wide spectrum of promotion tools would be ideal in any context, it would not be realistic to expect the Turkish governments to adopt and implement a broad program if it involves high costs, or to put it in another way, if it necessitates a substantial increase in government spending. Many such plans regarding the small industries have always been on the agenda in Turkey, and have been included in the 5-year development plans, but remained primarily on paper in many cases. Hence, it is our opinion that to ensure implementation, policy suggestions should have realistic and realizable targets, and rather than being all-inclusive, should focus on those key problems which, once solved, would directly or indirectly relieve the target groups from some of the other problems they face.

Looking at the difficulties, the weaknesses, and the expectations of the small suppliers in our sample from the perspective of the above approach to policy formation, we propose a promotion program whose outlines and principles are summarized below. The guiding principle in drawing the

\textsuperscript{16} Akkayan, 1988
proposal's framework was to arrive at effective solutions with minimum possible costs. Although the proposal's target is the suppliers of the automotive industry, in particular, many of its elements would be applicable to most other small industries in Turkey, as well. It might therefore be conceived as a general promotion program targeting a broader clientele.

1. Financial Policies

There is no doubt that one of the pressing problems of the small industries in Turkey, including those in our sample, is inadequate access to formal credit institutions. The small firms and their organizations expect an increase in the amount of credit available to this sector, on the one hand, and significant decrease in interest rates and relaxation in guarantee requirements, on the other. Much of the expectations focus on HalkBank, the only government-established bank whose target clientele are the small enterprises. However, in a high inflation environment like Turkey, a policy orientation that would truly address the financial needs of the small firms to the extent they envision, would entail considerable costs and pressurize available resources, and the governments would be reluctant to adopt as radical a program as the small enterprises expect. The issue has been repeatedly expressed to each successive government since long, with not much of a
response, and it would not be realistic to expect dramatic changes in the governments' attitudes in the future, either.

Even though radical policy changes to allow substantial resource allocation to the small firms are rather questionable, there are still alternative ways to help ease the financial problems of the small enterprises sector. One of the alternatives that the governments could embrace is to encourage the establishment of a small-enterprises bank by the small firms, themselves. There are already successful examples of such grass-roots financial institutions in some countries like India, and during the First Small Enterprises Symposium in Turkey in 1990, the small firms expressed, for the first time, an intention to establish their own bank in Turkey, as well. However, looking at the rather poor performance of the small firms in Turkey, so far, in terms of establishing and maintaining effective organizations on their own, the new idea that emerged during the Symposium may as well remain an utopia if governments do not render some support. Government support should focus particularly on developing the legal framework for the initiative and providing technical expertise in drawing the operational and organizational principles and structure of the new institution. Particularly, technical expertise on a sustained basis would be the most valuable input to ensure success. If indeed accomplished, a Small Enterprise Bank has

17 Chen, 1984; Gunes, 5 December, 1990
the potential to effectively address the financial needs of the small firms, and hence deserves attention and active government support.

A second policy alternative that the governments could adopt to reduce the financial problems of the small enterprises in Turkey is to neutralize those factors that prevent adequate capital accumulation and aggravate the need to depend on outside sources for internal financing. As discussed in Chapter III, our survey among the suppliers of the automotive industry revealed that unfair terms of trade in assembler-supplier relationships via delayed payments and low compensation for cost increases combined with very expensive access to formal raw material sources via the middlemen result in cash-shortages, limit capital accumulation, and significantly increase operating costs. Competition among the small suppliers via price-cutting further intensifies the problem. Meeting particularly the operating expenses stand out as the number one problem, and the suppliers we interviewed almost exclusively expressed that they need access to bank credit to cover, above all, increasing operating costs.

The above picture suggests that the level of demand of the small suppliers for bank credit is actually a magnified one, and could be reduced if the governments intervene into the picture by targeting the source of the problem. It is
possible, for example, to regulate assembler-supplier relations to safeguard the interests of the small suppliers, on the one hand, and grant the small suppliers direct access to SEEs producing raw materials thereby eliminating the middlemen, on the other. The governments can also encourage competition via increasing efficiency and product quality, rather than price-cutting. By way of such promotion tools, which will be discussed in more detail below, the governments can create a favorable environment for small firms to be more self-sufficient and less dependent on bank credit in preserving and improving their production conditions. It is our opinion that by targeting exactly those factors that amplify the need for affordable bank credit, the governments would not only help reduce the financial problems of individual enterprises, but would also ease the potential customer pressure on the Small-Enterprises Bank, and likewise Halkbank, in the future, enabling these financial institutions to more efficiently disburse their available resources.

2. Possible Ways to Prevent Informal Labor Recruitment Practices

The policy tools above have the potential to encourage the establishment of more egalitarian working conditions for those employed in small firms, aside from alleviating the financial problems of the small enterprises. Informal labor
recruitment practices predominant among the small industries in Turkey not only create an unfavorable work environment for the employees, but also inhibit the progressive development of a small enterprise, itself, by depressing worker efficiency and encouraging high labor turnovers. There is no doubt that it will be to the benefit all parties concerned if sweating labor ceases to be a characteristic of small industry production, and the governments can trigger such a process by initiating the necessary conditions for small firms to take positive steps in this direction.

While one possible way to approach the problem is to make it inconvenient for firm owners to persist on informal labor recruitment practices via various forms of penalties and stricter inspections, it is our opinion that a more effective and democratic way would be to target those factors that encourage sweating labor rather than the end product, itself. In general, all factors that restrain profit levels encourage counterbalancing by way of sweating labor. In the Turkish case we examined, the most prominent of these factors are unfair terms of trade in assembler-supplier relationships, very expensive access to SEE raw materials, and price-cutting among the small suppliers, the same factors, in other words, that magnify the demand for bank credit. By targeting and changing these factors as an alternative to stricter measures, hence, the governments would "hit two birds with the same stone", as a popular
Turkish saying goes, alleviating the financial needs of the small firms, on the one hand, and creating an environment that would make sweating labor less essential, on the other.

A second way to discourage informal labor recruitment practices on the shop-floor is to offer intensive training programs to firm owners on wage-efficiency correlation. It is true that giving low wages to the workers and cutting down non-wage premiums make it possible to lower the share of labor costs in unit costs. However, an increase in wages and other benefits may be a significant incentive for the workers to work harder and be more attentive to the work, on the one hand, and to regard employment with an enterprise as a long-term commitment, on the other. As a result, efficiency may increase, while the rate of defective production and labor turnover may fall. Contrary to what most small firm owners expect, the impact of such changes on an enterprise is likely to be a decrease in the share of labor costs in unit costs despite an overall increase in wages and other premiums.

Indeed, we compared the foundries in our sample having similar technological infrastructure and worker skill levels, and with similar raw material expenses, from this perspective, and found out—when adjusted for differences in working hours and capacity utilization—that in a number of
cases, wages constituted a smaller portion of the unit cost in those enterprises that gave higher wages to their employees than those enterprises where employees, of the same skill level, received lower wages. While the average monthly wage when we conducted the interviews was 245,000 TL, in three of the foundries it was above average ranging between 300,000 TL, and 375,000 TL. In these firms, productivity in terms of tonnage per worker per hour (the amount of raw material processed in an hour per worker) ranged between 11-15 kg/worker/hour, while labor cost per unit material processed ranged between 60-125 TL/kg. In a few firms which payed average wages, on the other hand, productivity was much below the first group ranging between 5-9 kg/worker/hour, while the cost of labor per kg processed was much above the first group ranging between 216-281 TL/kg. While this finding was not applicable to all the enterprises we compared, it was significant to demonstrate that increasing wages and other premiums is not as alarming an alternative as most small firm owners imagine. The firm owners need to be educated and encouraged in this direction, however, and the governments can play an effective role, in this regard, by offering compact training programs via existing organizations like SIDO.
3. Towards Better Terms of Trade in Assembler-Supplier Relationships

As the discussions above suggest, in order for the governments to create a more favorable environment for the small suppliers of the automotive industry, in particular, and of the large scale industries in the country in general, unfair terms of trade in assembler-supplier relationships should be one of the key areas of focus of a small-industry promotion program. The adverse price and payment mechanisms the small firms have been subjected to since the beginning of the 1980s are actually not restricted to the case of Turkey. Studies on the automotive industries in other country contexts show that delayed payments to the suppliers and under-pricing of their products are/have been widely used by the assemblers, worldwide. While the small firms continue to suffer from such practices in many countries, however, the case of Japan shows that governments can play a major role in preventing unfair terms of trade, and we strongly recommend that the Turkish governments follow the same route.

In his Ph.D. dissertation, "Strategic Dualism: An Alternative in Industrial Societies", Toshihiro Nishiguchi gives a good portrayal of the case of Japan. By the mid-1950s, upon pressures from small business organizations, the Japanese government intervened into subcontracting
relationships by a set of regulations that banned/discouraged unfair terms of trade in assembler-supplier relationships. In 1956, the "Law on The Prevention of Delay in the Payment of Subcontracting Charges and Related Matters" was enacted, and was subsequently ameliorated in the following years. A prime target of the law was delayed payments to the suppliers. The law put a deadline for payments and required that the assemblers abandon such practices as withholding payment after the deadline; demanding unfair discounts; unreasonable price bargaining; acts of retaliation; premature set-offs of costs of raw materials and others; and payment in promissory notes that are difficult to negotiate. The assemblers were also required to pay interest to the suppliers if payments were made after the deadline. In case of non-compliance with the regulations, the names and offenses of the assemblers were to be made public as a social punishment, and a judgement of the case was to take place. Besides such regulations, the government's agents had the right to carry out examinations, including hearings and on-the-spot inspections, and such investigations proved to be highly instrumental in ensuring the implementation of the law. The investigations took three forms: periodic, special and subcontractors' investigations. Inspections based on appeals from subcontractors were also conducted.\(^\text{18}\)

\(^{18}\) Nischiguchi, 1989: 124-132
The legislature had significant impact on assembler-supplier relationships in Japan, which significantly improved after the enactment of the Law. It is interesting to note that "the Article specifying the public announcement of law violators has played an important role in inhibiting large, established firms from sliding into unfair practices since they are as much concerned with their own reputation and social image as with their profitability".\textsuperscript{19} Nishiguchi concludes that the "government policies to protect small subcontractors significantly contributed to the continuation of a system (of collaborative subcontracting) which might have been eliminated--or at least altered--under more \textit{laissez-faire} arrangements" (brackets ours).\textsuperscript{20}

As the author and other researchers highlight, and as we discussed in Chapter I, there were no doubt some other factors in the Japanese case that led to the emergence of a distinctive system of assembler-supplier relationships in this country. Government intervention, however, was a significant input, and we believe that the interests of the small suppliers in Turkey need to be safeguarded via similar measures. We therefore strongly recommend that a committee, including the representatives of the small suppliers, be formed without delay and draw the framework of a legislature

\textsuperscript{19} Nishiguchi, 1989: 131

\textsuperscript{20} Nishiguchi, 1989: 132
for fair subcontracting practices in Turkey. If enacted, such a legislature has the potential to be one of the most instrumental tools to broaden the prospects of the small firms in the future.

4. Enabling Ease of Access to Formal Raw Materials Sources

Indirect and expensive access to SEE raw materials via the middlemen is the second major factor in the Turkish case that inhibit the development of the small industries and necessitates immediate resolution within the scope of the promotion program. While the governments so far have rather overlooked this particular problem, ease of access to SEEs would have a number of positive repercussions on the small industries as discussed above, and thus deserves special attention. There are two simple tools the governments may adopt, at this point, neither of which requires a return to the pre-1980 policy of subsidizing SEE product prices and both of which would still relieve the small firms of the raw-material originating problems they face. One of the solutions is to change SEE sales policies which require full cash payments by the time an order is made, by authorizing these institutions to accept purchase on credit, as well. This would eliminate the middlemen and make it possible for small enterprises to directly access the SEEs. The SEEs would require some guarantees, however, in return for the risk they will assume in accepting purchase on credit. The
problem would be partly solved if the Small-Enterprises Bank is authorized to offer the guarantees required.

A second way to help ease raw-material originating problems of the small firms is to allocate special quotas for small industries in the annual sales programs of the SEEs, thereby making sure that the resources indeed go to the actual producers rather than the middlemen. The latter have well-established networks in Turkey and their control over SEE resources is likely to continue if the SEEs change only their payment requirements. Special quotas, hence, should accompany sales on credit in order to ensure that raw materials reach the target clientele directly. It is our opinion that even these two simple changes in SEE policies, which would not have any negative consequences on the SEEs themselves, would significantly help small industries to operate under more favorable conditions, while contributing, as highlighted in the previous sections, to the resolution of some of the other problems they face.

5. **Empowering the Small Industries Development Organization: SIDO**

As discussed Chapter III, the Small Industries Development Organization, SIDO, was one of the most positive steps taken by the governments to promote the small industries in
Turkey, but the organization did not prove to be a success story, so far. If one of the reasons for the outcome was inadequate resource allocation to SIDO, it is our opinion that an equally significant reason was the fact that "the governmental units are staffed with inexperienced personnel, suffer from high management and staff turnover, and are subjected to political pressures" as Liedholm and Mead suggest in their paper "Small Scale Industries in Developing Countries: Empirical Evidence and Policy Implications".\textsuperscript{21} Despite its weaknesses, however, SIDO has the potential to offer critical services to the small industries, is highly appreciated as a concept by the small firms themselves, and needs to be promoted and become an effective agent of small industry development.

There is no doubt that increasing resource allocation to SIDO would be the prime means to empower the organization. However, past experiences imply that financing SIDO through the Turkish state's internal revenues to the extent the organization requires, would mean substantial increase in expenditure, and would not be much welcomed by the governments. An alternative is seek out assistance from foreign institutions, but the latter would also be unwilling to grant assistance unless they are convinced that SIDO can administer/utilize the allocated resources efficiently, and

\textsuperscript{21} Liedholm and Mead, 1987: 114

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indeed this is what happened in a number of cases in the past.

The problem originates, in our point of view, from the fact that SIDO is a typical public institution. It carries all the negative characteristics summarized by Liedholm and Mead, above, which prevent the organization from becoming as effective as it could be. The solution, in our point of view, is to make SIDO a more autonomous organization supported, rather than, run by the government. In principle, it should be an organization of the small firms, rather being an organization for the small firms. Aside from government officials, small firm owners should be represented in its administrative board, with effective decision-making power as to the allocation of the organization's resources. The governments should provide technical support staff and some financing, as they do now, but should not actively intervene into the organization's internal affairs. SIDO should be able to act on itself to reach out financial sources, and could, in fact, receive some support from the small industries, themselves, once it becomes more accessible and establishes closer ties with the target clientele. We believe that foreign financial institutions would also be more willing to grant assistance to SIDO if the organization assumes the proposed identity. When it comes to supporting the small industries, many foreign assistance institutions prefer to work with
autonomous organizations, as some country studies show, rather than operating through standard government institutions.

Under the proposed identity, we recommend that SIDO narrow down its targets and activity program, rather than aspiring to accomplish a wide range of objectives at the same time. It is our opinion that SIDO would be most instrumental if it focuses foremost on training and technical assistance. Based on our study of the small suppliers in our sample, training programs should concentrate on wage-cost correlation, enterprise management and the negative effects of competition via price-cutting. SIDO should also focus on expanding its technical staff to incorporate more qualified engineers and provide the engineering expertise small firms are most in need of. The organization would need to increase the number of its quality control/testing centers, as well, by expanding its technological infrastructure. For effective and efficient outreach, finally, we recommend that priority be given to Istanbul in SIDO's outreach program as the city leads all the other cities in the country in terms of the number of small enterprises it accommodates. It is our opinion that if the organization directs its resources to the proposed areas rather than trying to address all the problems the small industries face, it will become much more effective than it is at present which would probably
encourage the small firms to grant some support to the organization, as well.

6. Export Promotion

After years of endeavour and hard work, the small suppliers of the Turkish automotive industry have attained a certain level of production sophistication which, though not perfect, enables them to produce as complex products as motor-vehicle parts at reasonable quality standards. Now they are at a point at which with the technical help of an organization like SIDO—or else within such on-going projects like the Small and Medium Scale Industries Export Promotion Project of the World Bank which envisions to incorporate foreign technical expertise to assist the Turkish firms—they can rapidly improve their production capabilities to attain the standards required even by the foreign producers. As stated before, the European automotive factories are seeking out suppliers in low-wage countries like Turkey, and the small suppliers we interviewed have the potential to be among those firms as our research during the World Bank Project, above, revealed. Even the metal-stampers working for the Turkish automotive industry, which are appraised as the least developed of all the small suppliers, have the potential to succeed in the export markets because they manufacture simple items with very low costs which might be highly attractive to some customers. There is at
least the possibility to reach out the after-market in Europe, where components produced in Turkey are likely to be welcomed. If indeed accomplished, export orientation would have a number of positive impacts on the small suppliers, by broadening their prospects for the future, helping expand their production capacities and bringing a new dimension to their world.

As discussed in Chapter III, however, while the potentials of export orientation are well recognized by the small firms we interviewed, they conceive exporting as a rather risky business which they know nothing about, and do not want to engage in exports via the existing export-trading companies which acquire the major bulk of the export gains, themselves. This is true for most other small industries in the country, as well. In other words, the available options of reaching out export markets discourage many small firms from considering export orientation at any major scale. In addition, when it comes to motor-vehicle parts, the individual capacity of small firms is too limited to meet the volume of demand of potential customers, which further restricts access to foreign markets. There is the need to organize groups of firms into networks that would together meet the demand of the buyers.

Though problems exist, there are possible ways or solutions, but each requires some government support to actualize. One
way is to establish non-profit export-houses within the organizational structure of the Export-Promotion Center, a government organization which provides various services to firms considering export orientation, particularly information about export markets. Export-houses could assume the role of an intermediary between the firms in Turkey and the buyers, help establish business connections, and provide information to the buyers as to the potential firms in Turkey that could be organized into networks. The Export Promotion Center already has a number of offices in Europe, and these offices can broaden their activities to more vigorously spot potential buyers. Export-houses do not need to have more ambitious objectives than listed, and could be very useful if they succeed in these limited number of areas.

An alternative to government-launched export-houses is to encourage the establishment of joint-venture export-trading companies by the small firms, themselves. There are already a few such companies in Turkey which have proved to be highly successful in gathering together the resources of the small enterprises, and it is nowadays highly recommended in various panels that the governments support the establishment of such initiatives at a much wider scale. Among the demands from the government are the administration of the existing export-incentives to the small industry sector via the export-trading companies of the sector:
granting assistance to these companies in establishing permanent trade centers abroad; and discouraging by-pass exporting via the other export-trading companies in the country.\footnote{Cumhuriyet, January, 1991} If encouraged, such initiatives would automatically assume the responsibilities of the export-houses, above, and in fact be less costly to the governments than the other alternative. We therefore recommend that the governments grant the guidance and the support demanded, thereby opening a pathway for the joint-venture export-trading companies to encompass a wider clientele and expand their outreach. We strongly believe that small firms operating in less traditional fields, such as the manufacturing of motor-vehicle parts, would be willing to take part in such initiatives and would embrace the concept as a viable alternative to reaching out export markets. We would like to make a final note here that in gaining success in export markets, it is important that the small firms have the opportunity to easily access the SEEs producing raw materials on a regular basis, and hence the recommendations regarding the SEEs above, would have a positive impact on export orientation, as well.

7. **Conclusion**

It is our opinion, after examining the production conditions of the suppliers of the automotive industry, that the above
approach to promoting the small industries in the country would help solve the most crucial problems the small firms face, while not much challenging the available resources of the Turkish state. We believe that the program has realizable targets and could have significant impact on the target clientele. It is a step to begin with, and as some momentum is gained and resources expand, in the future, its scope can be broadened to encompass some other areas, as well.

We believe that the program above also has the potential to encourage small firms in Turkey to more actively gather their resources through collective effort and establish stronger solidarity ties than what has been accomplished so far. Nevertheless, it is still up to the small industries themselves to effectively utilize the benefits the program offers, and much depends, in this regard, on the leaders of the sector who should take the initiative in inviting active participation at a wider scale. A most instrumental tool, at this point, would be the establishment of a Small Industry Chamber in the country to encompass those firms that have gone beyond the confines of traditional artisanal production. We also recommend that the small suppliers, including those of the automotive industry, establish associations of their own to ensure the implementation of the Fair Trade Legislature. Examples of such organizations exist in other countries and have been highly functional in
accelerating the implementation of the policy programs. The small firms in Turkey should be mobilized to follow their lead and assume some responsibility on their own shoulders, as well, becoming active contributors instead of being mere spectators in preparing a better future for themselves.
BIBLIOGRAPHY


Aksoy, T., Ortak Pazarla Muhtemel Bir Entegrasyon Isiginda Turk Otomotiv Sanayii Yatirimlari (The Investments of the Turkish Automotive Industry in View of a Probable Integration With the European Common Market), OSD Yayinlari, Istanbul, 1990

Alpar, C., Turkiye'nin Planli Donemde Imalat Sanayini Koruyucu Dis Ticaret Politikasi (The Protectionist Foreign Trade Policy During the Planned-Economy Period in Turkey), Ankara Iktisadi ve Ticari Ilimler Akademisi, Ankara, 1974


Amsden, A.H., Asia's Next Giant: South Korea and Late Industrialization, Oxford Univ. Press, New York, NY, 1989


Baranson, J., Automotive Industries in Developing Countries, The Johns Hopkins Press, Baltimore, Maryland, 1969


Cumhuriyet, daily newspaper, "Petrol-Is'in arastirma raporu: Gelir dagiliminda Nijerya'dan bile geriyiz" (The research report of the Oil Industry Workers Labor Union: In income distribution we are even behind Nigeria), 9 June, 1989

Cumhuriyet, daily newspaper, "Turkiye, otomobile doymuyor" (Turkey is insatiable for passenger-cars), 19 November, 1990

Cumhuriyet, daily newspaper, "Ithalat, bizi yenemez" (Imports can't defeat us), 23 November, 1990

Cumhuriyet, daily newspaper, "Yilda 1 milyon otomobile dogru" (Towards 1 million passenger-cars a year), 24 November, 1990

Cumhuriyet, daily newspaper, "Hukumetin arabas sevdasi" (The government's automobile ambition), 28 November, 1990

Cumhuriyet, daily newspaper, "1991'e girerken otomobil: 20 yil sonra uyanan dev" (The passenger-car (industry) approaching 1991: The giant that wakes up 20 years later), 29 December, 1990

Cumhuriyet, daily newspaper, "Kucuk ihracatci atakta" (The small exporter on attack), 30 January, 1991

Cumhuriyet, daily newspaper, "Kredi destekli ihracat ve yatirim" (Credit-supported export and investment), 10 August, 1993


Dunya, daily newspaper, "Otomotiv ve Yan Sanayi Eki" (The Automotive and Ancillary Industry Supplementary), 1989

Dunya, daily newspaper, "Gelismis ulkeler parca uretimlerini AGU'lere kaydiriyor" (Advanced countries are transferring component manufacturing to the LDCs), 21 September, 1990

Gunes, daily newspaper, "Renault'nun Sovyetler'e sıçrama tasi Turkiye" (Renault's stepping stone to the Soviets is Turkey), 23 October, 1990

Gunes, daily newspaper, "Esnaf, kendi bankasini kurma egiliminde", (The small entrepreneurs want to establish their own bank), 5 December, 1990

Gunes, daily newspaper, "Renault Turkiye'ye yatirimi artiracak" (Renault to increase investments in Turkey), 13 December, 1990

Gunes, daily newspaper, "Otomotiv sanayii iyi uretti" (The automotive industry production (in 1990) was satisfactory), 24 December, 1990

Hirschman, A., Rival Views of Market Society and Other Essays, Viking, New York, NY, 1986

Hurriyet, daily newspaper, "Koc-Sabanci gumruk savasi", (Koc-Sabanci tariff war), 31 July, 1993


OECD, "Internationalization of Industrial Activities: Case Study of the Automotive Parts Industry", Directorate for Science, Technology and Industry, draft paper, 1990


OSD (Automotive Manufacturers Association of Turkey), *Turk Otomotiv Sanayii Hakkinda Genel ve Istatistiki Bilgiler Katalogu* (General and Statistical Information on the Turkish Automotive Industry), OSD Yayinlari, Istanbul, 1988

OSD, various individual tables prepared by the association in 1989


Pekarun, I., Otomotiv Sanayi Arastirmasi (Automotive Industry Research), Turkiye Sanayi Kalkinma Bankasi Yayınları, Istanbul, 1977


Pratten, C., Economies of Scale in Manufacturing Industry, Cambridge Univ. Press, 1971


Sabel, C.F., "The Reemergence of Regional Economics", MIT, 1988


383

SIDO, "SIDO", pamphlet introducing the organization, 1988

SIS (State Institute of Statistics (of Turkey)), various publications


Sonmez, M., Turkiye Ekonomisinde Bunalim (Crisis in Turkish Economy), Belge Yayinlari, Istanbul, 1985

SPO (State Planning Organization (of Turkey)), AET Karsisinda Turk Kara Nakil Araci Sanayii (The Turkish Motor Vehicle Industry Facing the EC), Ozel Ihtisas Komisyonu Alt Komite Raporu, 1987

Taskiran, N., "Dunyada ve Turkiye'de Esnaf ve Sanatkar, Kucuk Isletme Statusunun Kriterleri, Esnaf ve Sanatkarin Onemi" (The Criteria in Turkey and the World (used for the definition of) Small Enterprises and the Importance of these Establishments), in 1983 Dunya Kucuk Isletmeler Yilinda Esnaf ve Sanatkarimiz (The Petty Traders and Artisans in Turkey in the 1983 World Small Enterprises Year), Izmir, 1983


TESK (The Confederation of the Petty Traders and Artisans of Turkey), Avrupa Topluluklarina Giris Asamasinda Turk Kucuk Isletmelerinin Durumu, Karsilasacaklari Sorunlar ve Cozum Yollari (On the Threshold of Joining the EC, the State of the Small Enterprises in Turkey, the Problems They Will Face and Possible Solutions), TESK Yayinlari, No.11, Ankara, 1988

Tofas, press conference text, Izmir, 27 August, 1992


TUSIAD (Turkish Industrialists and Businessmen's Association), The Turkish Economy '90, TUSIAD, Istanbul, 1990


UNIDO and SESRTCIC (Statistical, Economic and Social Research and Training Center for Islamic Countries), "Small and Medium Sized Manufacturing Enterprises in Turkey", paper submitted to the Third Ministerial Consultation on Industrial Cooperation Among Islamic Countries, Istanbul, 1987

United Nations, Commodity Trade Statistics and Statistical Yearbooks, various years

Unsal, N., "Dunya'da, Gelismekte Olan Ulkelerde ve Turkiye'de Otomotiv Sanayiindeki Son Gelismeler" (The Latest Developments in the Automotive Industry in the Advanced, Developing Countries and Turkey), paper presented at the 2nd. Automotive and Allied Industries Symposium, Bursa, 1989


APPENDIX 1: The Questionnaire Used During Interviews with the Small Firm Owners

GENERAL AND HISTORICAL

1. Name of the firm.

2. a) Date of your birth.
   b) Place of your birth.

3. Your educational background.

4. a) When did you establish this workshop in this small industry estate/neighborhood?
   b) What were you engaged in before? Where? When?

5. a) Do you directly take part in production in your workshop now?
   b) If not, was there any period in the past when you directly participated in production?

6. a) In Turkey, a distinction is usually made between an "artisan" and a "small industrialist". Within which of these categories do you consider yourself? Why?
   b) Are you registered to The Confederation of the Petty Traders and Artisans or The Chamber of Industry or The Chamber of Commerce? If "yes", when did you register to this organization?

7. a) Do you have any partners in your business now?
   b) If not, did you ever consider establishing, or participating in a joint-venture firm?

8. a) What is total closed area of your workshop now in square meters?
   b) How big was your workshop when you first established your business?

THE PRODUCTS

9. a) How many different kinds of products do you produce now? What are they?
   b) How many different kinds of products were you producing when you first established this workshop? What were they?
   c) If working for the automotive industry, what percentage of your production is composed of automotive-related products, and what are they?

10. a) If there occurred a decrease in the number of products by time, what led to the decrease?
    b) If, on the contrary, there occurred a significant increase, why did you start producing this many products?
11. a) What is your total production capacity, now, in terms of kg. or tons of raw material you can process in a month?  
    b) What was your total production capacity in 1980 and/or when you first established your business?  

12. a) What is the total volume of production you realize, now, in terms, again, of kg. or tons of raw material processed per month?  
    b) What was your total volume of production in 1980 and/or when you first established your business?  
    c) If there has been an increase in the volume of production over time, what factors contributed to the increase?  

13. Has there been an improvement in the quality of your products over time? If yes, what factors contributed to the improvement?  

14. Do you export or have you ever exported any your products?  
    a) If yes, when did you first start producing for export markets? How did it become possible? Do you/did you directly export yourself, or via an export trading company? Which countries do you/did you export to? Do you plan to increase your export capacity?  
    b) If no, did you ever consider opening to export markets? Do you have any such project for the future?  
    c) Is opening to export markets difficult in any way? What are the advantages of export-orientation?  

15. a) Did you ever consider becoming a producer of final-goods of your own instead of operating mainly as a subcontractor? Would you prefer that?  
    b) Do you have such a project for the future?  
    c) Were you ever engaged in/did you ever experiment with marketing own-design products?  

TECHNOLOGY  

16. a) What kind of technology/production technique do you employ right now? What types of machinery/equipment? How many of each?  
    b) Does your technology permit you to produce different types of products? How? How long does it take to shift from product to product (what is the set-up time of the machinery, in particular)?  
    c) What is the rate of defects in your production right now?  
    d) Is your machinery/equipment domestic or foreign origin?
17. a) Since when have you been using this technology/technique? (When did you renew your technology? Which processes/machinery were renewed?)
   b) What kind of technology did you have before?

18. A. If the technology has been renewed in the near-past:
   a) In what ways did your production improve with this new technology? For instance, (1) it made it possible to produce a greater variety of products, or (2) made it possible to produce more of the same products and decreased unit costs, or (3) improved product quality.
   b) Did you yourself develop the new technology, or did you get it from elsewhere?

B. If the technology hasn't been changed for a long time:
   a) Was it because you didn't consider it necessary to renew your technology, or because it was difficult to do so?
   b) Even if there hasn't been a major renewal of technology, did you make some minor adjustments, or minor changes in the production process? Like what? Did you yourself design such changes?

19. Do you plan to shift to a new technology in the near future?
   A. If yes, what kind of technology is it going to be? What will its advantages be?
   B. If no:
   a) What are some of the difficulties you face when it comes to technology renewal? (1) For instance, is the technology you might think of shifting to expensive? What is its market price today? (2) Or, do you think it would be difficult for your workshop to adapt to the new technology? (3) Or, would the new technology increase operating costs?
   b) Let's say you had the opportunity to renew the technology, what aspects of your production would you like to improve with a new technology/technique?

20. a) Can you follow the technological developments in your field? How?
   b) Is there any initiative or cooperation, among small firms in your field, to develop technology or improve product quality? Did you/do you participate in this endeavour?

21. What is the total value of your fixed capital, now, in TL (Turkish Lira)?
FINANCE

22. a) Which raw materials do you use? Are they produced in Turkey or imported?
   b) Where do you obtain your materials from? Do you have any difficulty in obtaining the necessary raw materials?
   c) What do you pay for kg. of each raw material you use?
   d) In buying the raw materials, do you make your payments in cash or on the basis of purchase on credit?

23. a) Do you think your cost of production is high?
   b) If yes, what factors are responsible for high cost of production?
   c) Since when has it been like this? By what percentage per year has the cost of production been increasing during this time period?
   d) In your production, what is the share of (1) raw materials, (2) electricity and/or diesel fuel, and (3) labor, in total costs?

24. a) What can a firm do to lower the cost of production?
   b) Did you yourself try any of these?

25. a) Does the price of your products follow the increase in costs? Has there been any change by time, in this respect? (Emphasize "since 1980").
   b) Has there been any increase or decrease in your profit margins (Emphasize "since 1980").

26. a) Is your workshop self-sufficient, financially, or do you sometime need credits? For what kind of expenditures do you need credits most? For instance, (1) to meet operating costs, (2) to purchase raw materials, (3) for technology renewal, (4) to pay your debts, etc.
   b) When you first established this workshop, or afterwards, did you ever get credits from the People's Bank of Turkey, any other bank, or private money-lenders?
   c) If yes, when was it? Were you happy with the terms? How did you utilize that credit?

27. a) Do you think access to credits has become easier or more difficult since you first started your business? For instance, access to People's Bank credits?
   b) What do you think can/should be done to increase the outreach of the People's Bank of Turkey?
CUSTOMERS

28. a) How many customers do you have right now?
   b) What is the scale of your customers and what kind of firms are they? For instance, (1) final-assembly plants, (2) suppliers of the first group, and (3) marketing firms?
   c) If option (2) is applicable, which final-assemblers do these firms work for?
   d) Among your direct customers, could you give the names of the biggest? What percentage of your production goes to these firms?

29. a) How many customers did you have when you first started as a subcontractor (or when you first established your business?)
   b) What was the scale of these firms, and which were the biggest?
   c) In sum, how long have you been directly working for the automotive final-assemblers that are among your customers right now?

30. What are the advantages of having a number of customers, instead of a few? What are the disadvantages?

31. If option (3) of 27 is applicable, do you prefer working for the marketing firms or the manufacturers? Why?

32. a) How long a period do the contracts or agreements you make with the automotive final-assemblers cover these days?
   b) Has there been any change, in this respect, by time? Can we say, for instance, that the contracts used to be longer-term, in the past, than they are nowadays?

33. a) In your business with the automotive final-assemblers, how do you agree on price? Is the final price usually closer to your initial assessment or the final-assembler's proposal?
   b) Do you have any problems as far as the payments from your customers are concerned? Are the payments made in time and in the right amount, for instance, as agreed on the contracts?
   c) Do you face any problems in delivering your products to your customers in time and in the required quantities?

34. Has there been any increase or decrease, by time, in the quantity or the variety of the products demanded by your customers (specifically the automotive assemblers)? Why, do you think, such a change occurred?
35. Do you contribute to the design of the products you supply to your customers, or operate mainly according to the blueprints provided?

36. a) Did you receive any support from any of your customers during the process of establishing this business?
   b) If yes, what kind of support was it? For instance, financial support, technical assistance, provision of technology or raw materials, etc.

37. a) Did you receive any **financial support** from any of your customers since you established this business?
   b) Any support in the form of raw material provision?
   c) Any support to improve product quality, to increase efficiency, to improve the technology, or to experiment with new products?
   A. a) If yes, when was it? Or, does it occur frequently?
      b) What aspects of your production improved with this support?
   B. a) Even if you didn't receive any technical support from any of your customers, did any among them ever ask you to renew your technology, improve product quality, and/or to experiment with new products?

38. a) From the perspective of what we have discussed so far, which of your customers do you like to work with most?
   b) Do you prefer to work with large-scale (specifically automotive) firms, or smaller scale ones?

**EMPLOYEES**

39. a) How many employees do you have right now?
   b) How many did you have when you first established your business?
   c) How long have your employees been working with you, on the average?

40. a) What is the status of your employees: Are they "workers" or "apprentices"?
   b) If there are both, what is the difference between them? How many "workers" and how many "apprentices" are there?
   c) Is there any other employee status in your workshop?
   d) As a summary, how many skilled and unskilled workers do you employ now?

41. What is the educational level of your employees? Are there any graduates of technical schools among them?

42. Can you describe the division of labor in your workshop? Do the employees assume similar or different responsibilities?
43. Do your employees sometimes make contributions to improve the product quality, the technology or the production process? For instance, do they at all come out with ideas on these aspects of production? Have such ideas been put into practice?

44. a) What is the average, minimum and maximum wage in your workshop?
   b) Do your employees have access to social security benefits?

45. a) How many days is your workshop active per week?
   b) How many hours per day?
   c) Specifically, how many hours per day does an employee work on the average?
   d) Is there overtime work? If yes, do your employees receive extra payment for overtime work?

46. a) Are any of your employees members of a trade union?
   b) Of an apprentice organization?

THE SMALL INDUSTRY ESTATE OR THE NEIGHBORHOOD

47. a) Are you happy with being in this SIE/neighborhood? What are some of advantages of operating in this SIE/neighborhood?
   b) What kind of common facilities exist here? Do you use any of these?
   c) Are there any insufficiencies in this SIE/neighborhood?

48. How is the general atmosphere as far as the relationships among the workshops in this SIE/neighborhood are concerned? Is there any collaborative effort to solve common problems? For instance, (1) do you subcontract to each other, (2) share equipment, (3) help each other in times of financial difficulties, (4) collaborate with each other in solving production problems or in incorporating new technology/techniques, etc.?

49. How are your relationships with other small industries that are not located in this SIE/neighborhood, compared to your relationships with the firms that are located here?

50. a) How are your relationships with the other small firms working for the same customers (particularly the automotive assemblers)? Do you cooperate in any way?
   b) Is there price cutting among the small firms working for the same final-assemblers? If yes, has there been any effort to prevent the practice?
ARTISAN ASSOCIATIONS AND STATE SUPPORT FOR SMALL INDUSTRIES

51. a) There are about 700 artisan cooperatives in Turkey today. Are you a member of any of these? Are you happy with its services?
   b) If no, why didn't you prefer to become a member of a cooperative?

52. Are you happy, in general, with the activities of the artisan organizations, such as the Confederation, in Turkey?

53. a) There is an organization called the "The Small Industries Development Organization", or SIDO. It is an organ of the Ministry of Industry and Trade. Do you know about it? Did you receive support from SIDO at any point?
   b) If yes, what kind of support was it? Was it helpful?
   c) What other kinds of support would you expect from an organization like SIDO?

54. a) Are there any other government activities to help promote the small industry, or the artisanal sector? Did you yourself have access to any of these activities?
   b) Do you think there has been an increase in the measures taken by the government to promote your sector?
   c) Specifically, do you think the government supports or discourages your sector?
   d) What are your complaints about government policies regarding your sector?

55. a) Have you received any support from the municipality so far?
   b) What, do you think, the municipalities can do to promote the small-scale subcontractor sector?
   c) Which, do you think, would be more crucial in the development of your sector: central government or municipality support?

SYNOPSIS

56. a) Let's make an overview of our conversation like this: As you know, Turkey has adopted a new economic strategy since 1980. A series of measures have been taken to promote export orientation and liberalization. How has the small industry, or the artisanal sector--particularly the subcontractors in your field--been affected by all these developments?
b) How about your own workshop? Can we say that cumulatively speaking you witnessed a positive or negative development in your situation since 1980?

c) What are the major problems of the small industry sector, particularly of its subcontractor segment? How, do you think, these problems can be solved?
APPENDIX 2: The Turkish Automotive Industry: General Information on Firms / February 1988

<table>
<thead>
<tr>
<th>FIRMS</th>
<th>YEAR PRODUCTION COMMENCED</th>
<th>FOREIGN CAPITAL SHARE</th>
<th>NO. OF WORKRS</th>
<th>PRODUCTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TOFAS</td>
<td>1971</td>
<td>Fiat 41.5%</td>
<td>4,080</td>
<td>PC</td>
</tr>
<tr>
<td>2. OYAK-RENAULT</td>
<td>1971</td>
<td>Regie-Renault 44%</td>
<td>2,942</td>
<td>PC</td>
</tr>
<tr>
<td>3. OTOSAN</td>
<td>1959</td>
<td>Ford 30%</td>
<td>2,123</td>
<td>PC,TR,LT,MI</td>
</tr>
<tr>
<td>4. OTOMARSAN</td>
<td>1968</td>
<td>Mercedes Benz 54.8%</td>
<td>2,461</td>
<td>BU,TR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leyland-Volvo</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cummins 35.7%</td>
<td>1,504</td>
<td>TR,LT,MI</td>
</tr>
<tr>
<td>5. B.M.C.</td>
<td>1966</td>
<td>M.A.N. 8%</td>
<td>1,394</td>
<td>TR,TT,BU</td>
</tr>
<tr>
<td>7. OTOYOL</td>
<td>1967</td>
<td>Magirus</td>
<td>--</td>
<td>TR,LT,TT,MB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deutz</td>
<td>590</td>
<td>LT,MB,MI,BU</td>
</tr>
<tr>
<td>8. OTOKAR</td>
<td>1963</td>
<td>Chrysler Int S.A.</td>
<td>--</td>
<td>TR,LT</td>
</tr>
<tr>
<td>9. CHRYSLER</td>
<td>1964</td>
<td>Int. Harvester</td>
<td>10%</td>
<td>TR,LT,BU</td>
</tr>
<tr>
<td>11. A.O.S.</td>
<td>1966</td>
<td>Peugeot</td>
<td>--</td>
<td>LT,MI,MB</td>
</tr>
<tr>
<td>12. KARSAN</td>
<td>1966</td>
<td>Bedford</td>
<td>--</td>
<td>TR,LT</td>
</tr>
<tr>
<td>13. GENOTO</td>
<td>1965</td>
<td>--</td>
<td>113</td>
<td>TR,LT</td>
</tr>
</tbody>
</table>

PC: Passenger cars  TR: Trucks
LT: Light trucks   MI: Minibuses
MB: Midibuses      BU: Buses       TT: Trucks tractor

Source: OSD, 1988