ONZIEME RENCONTRE INTERNATIONALE DU GERPISA
ELEVENTH GERPISA INTERNATIONAL COLLOQUIUM

Les acteurs de l'entreprise à la recherche de nouveaux compromis ?
Construire le schéma d'analyse du GERPISA

Company Actors on the Look Out for New Compromises
Developing GERPISA's New Analytical Schema

11-13 Juin 2003 (Ministère de la Recherche, Paris, France)

MORE GLOBAL THAN EVER, AS LOCAL AS ALWAYS: INTERNATIONALIZATION AND SHOP-FLOOR TRANSFORMATION AT OYAK-RENAULT AND TOFAS-FIAT IN TURKEY[1]

Sebnem OZKAN

Under economic liberalization policies pursued more than two decades and increased regional integration with European markets since the EU Customs Union signed in 1996, Turkish economy, marked by severe successive crisis, has undergone significant industrial restructuring in the 1990s. Many firms have reexamined and altered their competitive strategies and production practices. A study of these changes, which are especially visible in auto and electronics sectors, provides interesting insights on globalization, new patterns of production and work organization.

This study aims to shed light on these issues as it focuses on two joint ventures at auto sector and two indigenously owned firms at electronics sector in Turkey[2]. It tries to

[1] The findings presented in this paper are primarily based on original fieldwork carried on by the author at two auto and two electronics plants as part of a dissertation project. This paper focuses on auto plants and only a very brief discussion and comparative analysis on electronics plants is provided at the end of the paper in Appendix 2.

The field research was conducted during May-November 2002 and 5-6 weeks were spent at each plant. The data were collected mainly through the following methods: extensive shop-floor access and direct observations of the production process and work practices; observations of various meetings, such as Kaizen and Quality Circle workshops and presentations, training sessions, and recruitment processes; in-depth semi-structured interviews with managers, team leaders, engineers, workers, and workplace union representatives; collecting relevant company documents; and at the Oyak-Renault plant working on the line in final assembly for a week in three different teams. A follow-up visit to the plants is scheduled for May-June, 2003 to further investigate some of the issues remained underdeveloped in this paper. Thus, this paper should be read as a preliminary analysis of initial findings.

[2] All four plants studied are located in the Marmara region, northwest of Turkey, an area that runs from Istanbul at its apex to Izmit and Bursa. It is a site of extensive industrialization and relative prosperity. The workers in both auto and electronics plants enjoy higher than average wages, social security rights, relatively higher job security as they are subject to the same collective bargaining agreement negotiated by the same employers' and labor union. Both plants in each sector are comparable size and have similar production requirements. Both auto plants, TOFAS-Fiat and OYAK-Renault, are in the city of Bursa, which is a major industrial and urban center. One of the electronics plants, Beko, is located in Istanbul, a city that is the heart of not only Turkish economy but also manufacturing activity. The other electronics plant, Profilo, is located in a small but industrialized town, Cerkezkoy, a one-and-half hour drive from Istanbul. The main industrial activity is textiles at Cerkezkoy. Koc Holding, the largest Turkish conglomerate, is the local partner in Tofas-Fiat and it owns Beko.

understand the dynamics and nature of changes in firms' competitive strategies, work organization and production practices, and workers' experience of these processes. Although it has a plant-level focus, this study argues for a multi-level analysis. It addresses the dynamics that link the process of work reorganization; diverse sectoral patterns of international reorganization of production; domestic macroeconomic and employment relations context; ownership structure of companies - especially the extent of independence to pursue product development, production and market strategies; and local labor market characteristics.

Although they all operate in the same national social and institutional milieus, the companies in electronics and auto sectors and their workers face fundamentally different sectoral and international dynamics. The former in boom and the latter in crisis, these sectors also diverge significantly in their mode of international integration with the world markets. A sectoral comparison highlights the relationship between dynamics of product market and shopfloor transformation and sheds further light on the dynamics of work reorganization and diversity of workers' experiences.

Despite this sectoral diversity, one of the most striking findings of the research is the greater difference between two indigenously owned electronics plants compared to two joint venture auto plants, which display striking similarities in their work organization based on teamwork.

A comparison between auto and electronics firms highlights the importance of (1) the mode of international integration and the ownership structure of the plants including the degree of independence in pursuing product policies and market strategies and (2) the nature of the product market and especially the degree of product market stability in analyzing the dynamics between work reorganization, experience of work and internationalization processes.

From the perspective of workers' experiences of these processes, four observations are noticeable:

1. Teamwork does not solely serve as a tool in solving technical issues. In fact, the foremost impact of work reorganization, based on teamwork, on workers' experiences is the transformed social relations of work. This highlights the crucial importance of the cultural dimension of work reorganization as a pivotal managerial tool in sustaining worker commitment and involvement through establishing direct communication with workers where team leaders and a few highly skilled workers play a central role;
2. Aside from this cultural dimension, for the majority of workers, work reorganization and new production practices, supposedly based on more labor participation, have a marginal meaning in terms of how workers perform their jobs despite the general trend in work reorganization towards increased integration of indirect tasks such as quality and maintenance within production. This is largely due to the fact that the majority of workers is denied a genuine participation[3] and that both formal and informal hierarchical control, exercised by team leaders with the help of a few highly-skilled workers, is redefined and intensified through teamwork;

[3] For the conceptual framework guiding my inquiries of "participation" see Appendix 1.

3. This, in turn, suggests a rather peculiar form of participation i.e., a "selective" participation, which only a limited number of skilled workers enjoy, and at the same time a "forced" participation, to which the majority of workers has to submit as part of a survival strategy on the shop-floor due to high unemployment and job insecurity context. This very nature of participation also reveals that the diversity in workers' experiences is more visible within plants rather than between plants;
4. Thus, workers' experiences and immediate concerns at work, to a greater extent, remain to be influenced by the larger context, especially in terms of job insecurity, alternative employment opportunities and compliant unionism, which, in turn, ensure conformity to standards.

This context, on the other hand, also sets the general milieu in which all four companies shape their flexibility strategies that are instrumental in their performance and thus, underlines the commonalties among these firms, in terms of rare shop floor, working-time and wage flexibility, despite the differences in work organization and production practices.

In accordance with the proposed multi-level analysis, I, first, introduce the general macroeconomic context and discuss the sectoral and employment relations characteristics to set the stage for the following micro-sociological analysis that focuses on work organization, production practices and workers experiences at the two auto plants situated within the internationalization strategies of car manufacturers.

TURKEY OVERVIEW: MACROECONOMIC AND EMPLOYMENT RELATIONS CONTEXT

Turkish economy has undergone significant changes since the 1980s as the economic development policy has shifted from import-substitution industrialization (ISI), pursued through the 1960s and 1970s, to export-orientation (EOI). Although the companies operating in Turkey have been subject to increased competitive pressures for more than two decades now, the entrance to the EU Customs Union in 1996[4] and the gradual erosion of tariffs since then have intensified this process and redefined the terms of competition. Not only the competition in the domestic market has increased with new entrants, albeit to a lesser extent at electronics sector, but also many companies have found themselves forced to compete in the export markets as the economic crisis and macroeconomic instability have become the norm in Turkish economy and the domestic market has contracted substantially.

Economic and financial crisis and macroeconomic instability has long been a constant characteristic of Turkish economy. In recent years, however, starting with the 1994 crisis, this has become a more acute problem affecting not only the economic well being of firms but resulting in dangerously high unemployment and tremendous social problems. Since the last

[4] Customs Union Agreement was signed with the European Union on Marc 6, 1995. This agreement has required the harmonization of administrative and regulatory structure of the industry with EU norms within a 5-year transition period. Quality certification, standardization measurement, accreditation, test and documentation have become the main concerns of firms.

economic crisis started in November 2000 and reaching its peak with the financial crisis of February 2001[5], the unemployment rate has risen dangerously[6].

With $2.01 labor cost per hour in manufacturing, Turkey was ranked 15th among the countries with lowest manufacturing labor cost in 1998. This picture has not really changed and the labor cost was recorded as $2.08 in the year of 2000.

Despite these adverse conditions, however, Turkey has not changed its long pursued dream of becoming an EU member. In fact, despite its complex sociopolitical and geopolitical relations, Turkey's economic relations have always been geared to Europe. The majority of exports have been oriented to European countries and the imports from Europe have never fallen below at least one third of total imports. The economic relations between Turkey and European countries, and the EU members in particular, have only intensified and accelerated in recent years, especially since the EU Customs Union agreement took effect in 1996.

The effects of increasing economic integration with Europe, and thus with the global economy, are particularly evident in auto and consumer electronics industry. Both automotive and electronics sectors' exports to the EU have increased significantly. Imports from the EU, however, have shown even a sharper increase since 1996. While the average share of auto imports from the EU was only 30% of all auto imports in 1980s, it increased to around 60% in 1996 and around 85% in 2000. Although the share of EU imports in consumer electronics sector has been lower, it still reached to %41.80 of total consumer electronics imports, ranking second after imports from East Asia (43.46%) in 2000.

Accompanying these changes, "flexibility" and "lean production" have become hotly debated issues in business and labor union circles. Judging by the content of campaigns and lobbying by both employers' and labor unions, seminars and meetings devoted to the subject, and the actual labor market and manufacturing indicators, flexibility has mainly meant "numerical and working-time flexibility" and labor market deregulation.

However, many firms (mostly large domestic firms and joint ventures), in their response to these new challenges, have undergone a significant restructuring process, which in many cases encompasses experimentation with team-based work organization and lean production practices albeit not necessarily as an alternative to the above mentioned flexibility strategies.

In fact, the research findings presented in this paper suggest that despite significant work reorganization, a high level of shopfloor and working-time flexibility and insecurity of employment set the general employment relations context largely due to a compliant trade unionism, macroeconomic instability and high unemployment.

Unionism and industrial relations institutions

The main character of Turkish industrial relations has commonly been described as state-corporatism developed in a highly authoritarian political culture significantly marked by

[5] There has been a tremendous devaluation after the latest financial crisis when the Turkish lira lost almost 50 percent of its value against dollar. Over a night, the Turkish lira went from $1=650,000TL to $1=1,200,000TL. Currently $1 is around 1,600,000 TL.

[6] Even according to conservative estimations, at least one million people became unemployed in 2001 and the total number of unemployed has reached to 2,335,000, the highest in Turkish economic history. The official unemployment rate of 6.3% in 2000 raised to 10.6% in 2001. 21.7% of the total unemployed is estimated to be people laid-off during the last economic crisis. Taking into account of the large informal sector, it has been argued that the unemployment rate might easily be around 27-30%.

three military interventions in 1960, 1971, and 1980, with the last one being instrumental not only in transition from ISI to EOI but also in consolidating the power of "official" unionism vis-à-vis its progressive challengers.

The union and collective bargaining structure is quite centralized and job classifications, wage categories and seniority clauses are specifically regulated. Even shop-floor representation is specified in the collective bargaining agreements negotiated at the sectoral level.

In both electronics and auto sectors, which are both recognized within metal industry, MIDS (Metal Industry Job Evaluation and Classification), created in 1981 and has continuously been developed since then, forms the bases of collective bargaining agreements, and thus it is applied in all four cases studied here (However, one of the electronics firms informally defies MIDS to "keep the labor cost down"). Under MIDS, each job in the metal industry is classified and graded according to several requirements of the job. Firms are also classified into four groups. All four plants studied here are at the same group, which has the highest wages. Under MIDS, for example, an assembly worker at TOFAS-Fiat or Oyak-Renault, is graded 5, whereas the similar job in a smaller firm is rated as grade 4.

In a recent joint report by TOFAS-Fiat and Beko HR departments, this system is criticized with regard to the classification of firms, which puts larger companies in an unnecessary disadvantage in terms of wage cost (That is why one of the electronics firms informally defies MIDS). The same report also suggests that MIDS and MIDS-based collective agreements have become increasingly incompatible with the new work organization and the new production practices since they do not allow any room for pay for performance. Managers and supervisors, however, create "innovative" ways to overcome this problem. These "innovations", yet, expand the area for paternalistic practices and control and also entail manipulation of MIDS itself and many participatory practices. In the absence of a performance-based payment system, which commonly supplements teamwork, the cultural dimension of teamwork, that is the transformed social relations, in which the team leaders perform a crucial hierarchical role in sustaining worker commitment and involvement, play a pivotal role. The words of one manager is quite illustrative:

"What is the point for them [referring to workers] to be more productive? There is no extra money in it. It is all determined by the collective bargaining. So, do you know what I do? For example, last year I promised them a picnic if they complete 1000 hours without any accidents. Or I give them a one-day paid sick leave when they need it for some other personal reason. Or I upgrade their ladder. Once, I helped three of them to write a suggestion so that they can receive a reward equal to their paycheck. But sometimes, I simply tell them the tea is on me or pet them on the shoulder"

Another crucial legacy of this highly centralized industrial relations and collective bargaining framework is the development of a non-workplace based unionism. Unions' survival is quite independent of their effectiveness at the workplace, lack of responsiveness to workers needs, and failure to act independently of management. Thus, despite very extensive and detailed labor law and regulation and the highly contractualized nature of collective bargaining, there still remains an ample room for informal rules at the shopfloor. In fact, management in many firms commonly acts with a free hand on the shopfloor with very paternalistic[7] and authoritarian managerial styles and ideologies.

[7] A closer look at the itemization of fringe benefits in the collective bargaining agreements gives valuable insight into the paternalism in labor-management relations in Turkey. It has also been argued that the nature of fringe benefits often plays right into the hands of the employers by diverting attention from low level of

The Labor Union: Turk-Metal

There are now four main union federations in Turkey: Turk-is[8], DISK[9], Hak-is, MISK, which diverge on the basis of political orientation. All four plants are organized by Turk-Metal, largest union in metal industry, affiliated with Turk-is. Turk-Metal was founded in 1973 and grew considerably in the second half of the 1970s, when it gained control of a few big plants in the metal industry. Then, after the military coup, the union gained recognition in workplaces, formerly unionized by DISK-affiliated unions. Among these were TOFAS-Fiat and OYAK-Renault. Turk-Metal had around 60,000 members in 1979. After the military coup of 1980, membership had reached 200,000 by 1987 and to 240,000 by 2000.

Mustafa Ozbek, well known with its close relationship with far-right nationalist groups, became the president of Turk-Metal in 1975 and still holds this position. This union autocracy has been sustained through various means such as appointment of local branch officials and workplace representatives by the national union in consultation with companies' management. Pursuing collaborative relations with management, Turk-Metal has also maintained management's support in the face of challenges to its position. In many cases, when workers protested against the union policies and wanted to leave the union, management have threatened workers with their jobs if they do not re-register with Turk-Metal. One such instance took place in 1998, when hundreds of workers withdraw their membership from Turk-Metal and started joining DISK affiliated Metal-Is. The events caused severe tension, especially at the auto plants studied here and not only many workers were forced to join back to Turk-Metal but many of them were fired. In electronics plants, the impact of 1998 events was more indirect.

The 1998 events, in the view of most autoworkers "*revealed the true nature of the relations between the management and the union*". Around 3,000 workers withdrew their membership from the union at Tofas-Fiat. Yet, the management "persuaded" them to return. All production managers and team leaders were mobilized to convince workers to return to their Turk-Metal.

During 1998 events, the management at Tofas-Fiat installed cameras all over the workplace including the cafeteria and rest areas to detect the "provocateurs". After 1998 events, new workplace representatives were appointed. And, around a thousand workers were fired. There was already an economic crisis and many workers believed that the events also provided the perfect alibi. One worker expressed the feeling of weakness against the management's attitude: *"They could have fired all 3,000"*.

---

the basic wages. Some of the items are: allowance for each child, for wedding of the worker and/or his/her dependent, for heating fuel; bonuses before two religious holidays; a clothing allowance; a lump sum for the birth of a child; a daily meal; a monthly stipend for each child in school; a lump sum payment to workers who must leave work for military service (An 18-month military service is mandatory in Turkey for men when they reach the age of 20. As will be discussed shortly, this provides companies with a rather peculiar flexibility in adjusting employment levels)

[8] Turk-is (Turkish Labor Unions' Confederation), founded in 1952, is the biggest federation with 32 member unions and 2.2 million individual members. Politically, Turk-is claimed a center and center-left position in the 1970s. Today, it occupies a center-right position though some constituent unions are still considered to be left- wing. Yet, Turk-is has long described its stance as "above party politics", which means pursuing good relations with governments. It has been considered as representing "official unionism" in Turkey since its foundation. Turk-Metal, which is organized in all four plants at the center of this research, is affiliated with Turk-is.

[9] DISK (The Progressive Workers' Trade Union Confederation) was founded in 1967 when several unions left Turk-is. During 1970s DISK was close to the Turkish Workers' Party and at the center of militant socialist trade unionism. After the 1980 military coup, DISK was banned and its possessing was confiscated. The ban against DISK was lifted in 1991. It now has 28 affiliated unions, covering around 300,000 members. Today, it adopts a rather less radical stance but is still regarded as leftist.

Similarly, the management at Oyak-Renault took drastic measures to convince workers to return to Turk-Metal yet the firing of "dissatisfied" workers was limited compared to Tofas-Fiat, amounting to around seventy workers in total. As one Oyak-Renault worker remembers:

"There was a big event happened here on September 18, 1998. The union failed to keep its promise of wage increase. We were very disappointed. So, we brought in a notary and withdrew our membership from Turk-Metal and started registering with the other union, Birlesik-Metal. But, do you know what happened? They called each and every worker to the administration building [referring to HR Department] and told us that they wanted Turk-Metal and that we have to go back to that union. And that's exactly what happened. And moreover, we had to pay the notary fee for two times; for withdrawal and re-registration. Many people were fired then. Well, Turk-Metal does whatever the management wants, so of course they would not want the other union".

It is important to note here that although the Trade Union Act of 1983 states that there can be no "closed shop", in practice there is. New recruits are sent to Turk-Metal's local branch to register with the union as a part of hiring process. In a high unemployment context, very few dare to refuse as these are considered to be good jobs, for which "*queues are formed at the factory gate if the word gets out that these companies are hiring*". Especially when compared to informal sector, employment in these companies means regular work and more importantly regular pay for that work. Besides, the workers also enjoy social security and a pension, and company specific benefits such as food cooperatives, subsidized loans, and a high social status (Nichols et.al; 2002).

The ideological roots of Turk-Metal's collaborative stance towards management clearly reflects in a speech made by Mustafa Ozbek, after the military coup in 1980, as he welcomed the coup and declared that it had "*torn away the masks of those speaking of a confrontation between capital and labor*" and that the coup initiated a period of national unity and harmony.

As a national union policy, Turk-Metal has adopted a very positive and cooperative approach towards the implementation of teamwork and other "participatory" production practices. Competitiveness is considered to be both a management and a union objective. A local branch official confirms this stance when asked about teamwork at Tofas-Fiat:

"It means to produce a bigger cake. We should base our relationship on dialogue. The factory is ours, together with workers and employers. Our principle is 'to make the cake bigger and then take our share".

A workplace representative adds: "*There is no tolerance here for those who wants trouble and disturb peace*".

These collaborative union-management relations, however, is based on managerial unilateralism. The involvement of workplace representatives is limited to a couple of joint committees, such as the disciplinary committee and workers' health and safety committee.

The union in none of the plants studied here was involved at all in the introduction of teamwork and other production practices. The following exchange, took place at Oyak-Renault, is quite illustrative:

Interviewer: When the UET structure [teamwork] and other practices, such as suggestion system, TPM, were introduced, how was the involvement of the union?

Interviewee (an HR manager): There was and is no such thing as union involvement. There is not such a thing in our industrial relations system. What happens is that the

management informs the union when necessary. Other than that, there is no union involvement in planning or decision-making on such issues.

Interviewer: Yes, but I understand that the implementation of these mechanisms has changed certain things. For example, workers have been given new responsibilities in terms of quality ... [interrupted by the interviewee]

Interviewee: Well, there have been negotiations with the union concerning working-time, for example, because that was something directly concerning the workers. Yet, the union does not have any authority over such issues as production philosophy or policy".

Aside from the fact that the union has a positive attitude towards teamwork, the legal guarantees of workplace representation is another factor in understanding why the union did not feel particularly threatened by teamwork. However, as will be discussed later, teamwork has fundamentally changed the social relations of work at these plants and the team leaders and a few highly skilled workers started to become the first reference of workers when they experience problems. Although, workplace representatives voiced their concern about the role of team leaders, they, nevertheless, seemed not to be bothered significantly as they drive their power from legal rights rather than membership support.

In addition to being left out in decision-making, these collaborative relations with management have also driven workers further away from the union. The majority of workers report distrust and even disgust against the union. Yet, this should not be confused with an anti-union sentiment as also observed by others since "Turk-Metal is characterized by a politics and practice which makes it open to question whether disaffection with it should be considered at least as progressive in democratic terms as support for it" (Nichols et.al.; 2002:17). It, thus, does not come as a surprise at all to see that management is rated more highly than the union in worker interviews.

This collaborative attitude of the union also explains why there is not an anti-union sentiment in any of the companies' management. However, one HR manager specifies the type of union these companies prefer: "*We are not for employing non-unionized workforce. Yet, the union should be one that recognizes the needs of Turkish industry in terms of flexibility and that is able to transform itself in this direction* (emphasis added)".

That is, now, these flexibilities, I turn.

FLEXIBILITY STRATEGIES

Aided by this compliant unionism and high unemployment, companies enjoy flexibilities peculiar to Turkey. These flexibility strategies, on the other hand, also shape workers' experiences to a much greater extent than the new work organization and production practices.

Firms enjoy numerical flexibility by manipulating seniority clauses and severance pay for older workers and the compulsory military service for young men, which make the adjustments in employment levels less of a headache for managers. Wages and severance pay are largely determined by seniority. During times of economic crisis and market contraction, many older workers are encouraged for early retirement, which they can not refuse since many of them need the severance pay they collect over the years to cover their dept. Early retirement is also made more favorable to workers by manipulating the compensation pay, which obliges companies to pay compensation to workers who are fired without cause but with notification. Especially, before collective bargaining period, which comes in every two

years, there are rumors and high anxiety among older, and thus, higher-paid workers as they fear that the company might ask them to retire.

It is also a common practice among all companies to hire workers before their age of military service. Most workers who finish vocational school are employed for short periods. For each new recruit there is an eleven-month trial period. When these workers are called for military service, they are laid-off with one or two months of compensation pay, without any legal obligation to hire them back after they complete their service. Yet, when new workers are needed, these previous employees provide a valuable pool. This practice not only functions as a screening tool but also creates enormous circulation at the shop floor yet a significant resentment among many production mangers, who complain about destabilizing effects of the practice. Since the wage increases are strictly regulated according to seniority rules set during the collective bargaining, companies could continuously feed in cheap and young workers to the shop floor[10]. This practice also helps the companies in buffering market fluctuations.

However, in recent years the most common form of flexibility is found in arrangements concerning working-time. High unemployment context provides companies with a more receptive and less antagonist workforce that accepts flexible working-time arrangements. Auto and electronics firms, yet, stand at the opposite poles on this issue and thus workers' experiences diverge significantly. Whereas the capacity and production increase is met by excessive overtime by electronics companies, auto firms implement reduced but adjustable hours and "forced vacation" due to severely reduced domestic demand and thus low levels of capacity utilization. In 2002, the capacity utilization was 61,8% at Oyak-Renault and 43% at Tofas-Fiat.

It is important to note that these working-time arrangements are reached through informal negotiations between management and workplace union representatives and there is not any written agreement since that would be considered illegal.

Flexible working-time at auto plants

During the time of the research, flexible working-time was the most, probably the only, important issue between the union and management. IR managers at both auto plants acknowledged the fact that these negotiations had been quite severe yet at the end the union had to accept the deal since the alternative was lay-offs. One workplace representative at Tofas-Fiat commented:

"*For the last two years or so, the company shoulders 600-700 people. How can we force them to do anything under these conditions?"*

Indeed, neither of the auto plants has resorted to massive lay-offs during the last crisis, largely due to flexible working-time arrangements. The management in both plants also did not want to loose the existing well-trained labor force. One of the production managers summarized why:

"*We are counting on exports and new models. You would damage the feeling of trust if you resort to such action. Now, they feel like they owe to the company. We have to do this sacrifice because time will come when we will ask them to show their loyalty and hard work.*

[10] The turnover rate at Tofas-Fiat was around 5% and the 6,8% of the workforce was under military service age in 2002. In 2001, a total of 186 workers left the company and 152 of them were for military service. The last time Oyak-Renault hired permanent workers was in 1999 and in 2001 the company hired 81 temporary workers, who were all under military service age.

If we recruit new workers each time we need to increase production, we have a lot of headache".

Although it is true that the last labor shed was during the 1994 crisis at Oyak-Renault and the 1998 crisis at Tofas-Fiat, and since then there has not been any lay-offs officially declared as caused by economic crisis, we should recall the events of 1998, where many workers were fired due to the dispute over the union. As many interviews reveal, this event, which was mainly about workers expressing their dissatisfaction with the existing union, was also used to get rid of the "surplus" and provided a justification for it.

Still, it is a fact that both auto companies continue to shoulder the burden of excess labor, largely thanks to flexible working-time arrangements. The fact that the auto companies have not resorted to lay-offs in recent years even in the midst of severe economic crisis is highly appreciated by workers, who see the working-time flexibility as not a "*company policy but the realities of the country*".

Oyak-Renault and Tofas-Fiat both reduced working-time and thus the pay workers receive but they adopted different plans. Oyak-Renault introduced a seven-and-a-half hours workday and started paying only 75% of normal wages. When workers are sent home on "forced vacation", the company pays only a fraction of the wages. The arrangements at Tofas-Fiat are more complex. Workers continue to work for nine hours but they take turns. While one shift comes one week, workers of the other shift wait at home, getting only 40% of the wages.

It is important to note here, for the purpose of understanding diverse workers experiences, that while Oyak-Renault's plan has turned out to be a more fair system as it distributes the compensation loss evenly across workers, many workers at Tofas-Fiat have found themselves in a desperate situation. Moreover, Tofas-Fiat's plan has created tensions on the shopfloor as the allocation of working-time has become a contested issue, where the team leaders and CPIs (team members who also play a significant role in task allocation as will be discussed later) started playing a pivotal role in determining the livelihood of workers.

The difference between working-time arrangements is largely due to different production systems. Whereas multiple models and versions are produced on a single assembly line at Oyak-Renault, Tofas-Fiat has dedicated lines for different models, which makes the allocation of labor a real problem especially in a fluctuating product market, where demand for specific models might vary significantly. Capacity utilization also varies between different shops due to the production of CKD and spare parts.

Moreover, Tofas-Fiat experiences problems in material supply, which often brings production to a halt[11]. The problems in supply chain also result in production of incomplete cars and missing components, which remain to be assembled later, usually by a few highly skilled rectification workers working overtime. One production manager suggests:

"*We try not to stop the line and production. Instead we adjust the production program accordingly when there is a shortage in material supply*".

Although problems in material supply are less pronounced at Oyak Renault, sometimes the line stops for technical problems. When I was working on the line in the morning shift, such a stop, lasting for one and a half hour, took place due to a problem in one of the conveyors. When I asked workers how the production loss was going to be compensated, they replied that the second shift would probably stay for overtime, revealing

[11] Tofas-Fiat management suggests that the main problem is with the imported components, which are managed by Fiat Auto in Italy.

the fact that overtime in such short notice is a common practice. And that is exactly what happened. The second shift stayed for overtime without any dispute and without any extra pay since they were already working in reduced hours. Similar shopfloor flexibility is also in place at Tofas-Fiat.

Although it is difficult to have multiple models produced on a single line in terms of the layout and material stocking, it definitely provides crucial flexibility. And, in the case of Oyak-Renault, it also makes the distribution of working-time easier and fairer.

The shift system and working-time arrangements are almost a mess at Tofas-Fiat. Different segments of production have different shift arrangements and workers are rotated, taking turns in forced vacation. Although team leaders try to be fair in administering flexible working-time, there is still unevenness because more skilled and multi-functional workers are given priority. There are workers, on the other hand, who do take "forced vacation" amounting to three or four months.

In terms of morale among workers and the enthusiasm on the shopfloor, there is a clear difference between the auto plants. Despite the common context of high unemployment and the contracting demand in the auto sector, the workers at Tofas-Fiat were far more worried about the future of the plant and their jobs, which they also believed the management tries everything to keep. One Tofas-Fiat worker, who has a brother working at Oyak-Renault, put the comparative situation at these plants into perspective for me:

"*Renault can guarantee production for the next four years when they start the production of the new model. Here, at Tofas, we do not hear any such good news about the prospects of a new model from the management*".

The conditions that these workers at Tofas-Fiat witnessed everyday on the shopfloor were no help either in reducing this feeling of insecurity as they saw long assembly lines for the low demand models stayed silently day after day.

This briefly sketched type of unionism and macroeconomic and employment relations context provide the type of flexibilities the companies enjoy and use as the main tool in cooping with uncertainties in material supply and fluctuations in the market in both good and bad times. Whether the market is contracting and the demand is on decline, as in the case of auto plants, or the production increases and the demand picks up, as in the case of electronics plants, the companies find their main source of competitiveness in the combination of these flexibility strategies, which have become increasingly crucial as the sectoral conditions have changed in recent years. That is what I turn next.

OVERVIEW OF THE AUTO SECTOR

The auto industry in Turkey, which developed under the ISI strategy, began production in the early 1970s. Initially, production was based on the assembly of imported parts with little local content. Relations between local firms and MNCs until 1980s were based on majority ownership by the local partner and licensing of usually outdated technology[12]. Since mid-1990s, nonetheless, the sector has gone under a significant transformation.

[12] Traditionally, auto manufacturers have operated in two segments, lower medium and medium. These two segments account for 90 percent of the market. However, in recent years there has been an increased effort in development of new models as the drive for exports have increased.

With an increasing export performance in recent years, the share of automotive sector in all exports was ranked seventh in 1998, fifth in 1999 and finally third in 2001. Oyak-Renault and Tofas-Fiat have played the largest role in sector's export performance.

In 1993 at its peak, auto production reached 348,274 units, with a total capacity of 395,000 unit per year. In the same year, however, only 6,900 cars were exported. Despite the increased capacity and production, however, the industry has never reached to the desirable economies of scale. And the average capacity utilization ratios have also remained very low compared to international standards. Although the auto industry has reached to a 700,000 capacity, total production was only 297,476 in 2000 and capacity utilization was realized as only 29.2% in 2001. Total production has never returned to its peak levels in 1993 due to successive economic crisis and contracting domestic market. Since 1993, however, the exports have showed a steady increase, reaching 142,288 unit out of a total production of 175,343 cars in 2001 as the companies had to orient their strategies and production towards export markets. Despite a large and promising domestic market, with a population of 70 million, which is far from saturation with only 60 cars per 1000 people in 2001, this market potential has not been realized[13].

Intensified liberalization since the late 1980s and the Customs Union in 1996, coupled with new entrants into the domestic market both through increased imports and new manufacturers[14]; the series of economic crisis; macroeconomic instability; and the resulting contraction in domestic demand[15] have brought production in many auto firms to a halt in recent years. The survival of auto plants under these conditions has increasingly been linked to their export performance largely determined by their multinational partners and their internationalization strategies.

In fact, the position of many auto plants within the internationalization strategies of their MNC partners has changed since the mid-1990s. Major firms operating in the Turkish auto industry have announced that the plants in Turkey are becoming "export bases" in their internationalization strategies, the target markets primarily being Central Asia, Middle East, North Africa but also European countries. The main reasons for the decision of incorporating plants in Turkey as export bases within internationalization strategies and continuous investment have been reported as skilled and low cost labor force, productivity, well-developed infrastructure, and geographical location. It has also been noted that Turkey is the most politically stable country in the region and production for domestic market is still highly profitable. Despite this intensified integration with the global economy though, Turkey's share in global auto exports has remained considerably small with only 0.4% in 1999.

---

[13] Average vehicle life is eight years and old cars have a significant market share for both financial reasons and availability of cheap repair labor. The vehicle park for passengers cars was 4,417,652 in 2000. It has been argued, however, that the main reasons behind the unrealized potential of domestic market are high sales taxes and the continuing oligopolist pricing. The sales taxes are currently 40-45% of the sale price in Turkey.

[14] There are seven major companies now operating and producing passenger cars in the Turkish auto industry: TOFAS-Fiat, OYAK-Renault, Toyota, Ford-Otosan, Opel (GM), Hyundai, and Honda. With the exception of Opel (GM), Toyota, and Honda, they are all joint ventures between major car manufacturers and Turkish capital and operate under foreign license.

TOFAS-Fiat is the largest in terms of both production and employment, followed by OYAK-Renault. These two companies have been holding 80-90 % of the market since the 1970s and accounted for 96 percent of car production in 1993. Although with the entrance of other producers their share has dropped to 81% in 1995, 80% in 1997, they are still the two largest auto manufacturers in Turkey.

[15] The severest demand contraction has been experienced in January 2002. To give an idea about the dimensions of the problem, it is worth noting that the number of total new car sales was only 848 in January 2002, whereas it was 8,443 same period the previous year. And worse, only 283 of the cars sold were domestically produced cars. Although this was not a typical month under crisis, it still illustrates the severity of domestic market contraction and the context in which the local producers try to survive.

Given this picture, it can be argued that although auto companies continue pursuing a production strategy oriented towards both domestic and export markets, with the increased competition due to new entrants and increased imports and the contracting domestic demand, many companies have been forced to orient their production towards exports. Many observers suggest that local producers are specializing on a single model in the medium-term and function as the export base of this model, and thus their export opportunities and performances are becoming increasingly dependent on their multinational partners. It has been argued that the car manufacturers view Turkey as a production base for small scale family cars to be exported while building their brand name through supplying complementary versions in the model range and luxury niche in the Turkish market from their European plants[16].

INTERNATIONALIZATION AND THE TRANSFORMATION OF AUTO PLANTS

As put in the "International Development" section of *Renault in Focus*, Turkey is providing a springboard for expansion into Eastern Europe, the Middle East, the Gulf States, and the Maghreb. In fact, Turkey has become an increasingly integrated site in auto firms' internationalization strategies. Especially since the mid-1990s, the two oldest joint ventures in Turkey, TOFAS-Fiat and OYAK-Renault, producing outdated models almost exclusively for the domestic market up until then, have pushed their export drive further. Both plants have also transformed their work organization and production practices.

This external and internal transformation of the auto plants cannot be understood without an analysis of the main auto manufacturers' internationalization strategies. In the 1990s, many auto companies realized that the future growth of the industry will involve developing countries and if they want to have a significant presence in these unsaturated markets they cannot solely rely on exports but need to plan and produce cars for and in these locations. Many have experimented with "matrix-type" manufacturing organization on a world basis, trying to combine the advantages of different locations. Fiat and Renault were no exceptions. The name of this new phase in internationalization strategies was "Project 178", also known as *Palio* for Fiat and *Megane* for Renault[17].

Since the late 1990s, within the "World Car" or "platform" strategies of both Fiat and Renault, the Turkish plants have been transformed into production poles of new models (producing Palio and Siena versions within "178 project" of Fiat and Clio Sedan and Megan Wagon versions of Clio and Megan family of Renault). Later, certain versions have exclusively been produced in these plants, such as *Megan Wagon* of Renault and *Doblo* of Fiat, around 90% of which have been exported. These plants have also become main CKD, power train, and components centers as they are inserted into the intra-company supply chains, where parts are exchanged between different plants. Thus, the internationalization

[16] There is a critical tension from the local producers' point of view between the MNCs' policy of building a brand image and plant's survival due to divergent interest between partners in terms of assembling locally or importing. The model allocation becomes a crucial issue not only for local plants' survival but also for the work experience and livelihood of workers. Increasing imports and thus number of different models available in the domestic market has also fueled this tension. Both Renault and Fiat want to be in the Turkish market with the full range of models but that means lesser market share for the locally produced versions. Not surprisingly the MNCs give priority to building brand names. This effort is also seen in the successful attempts of the companies to increase their share in the commercial wing of the partnerships (For both joint ventures, a separate company was set up to commercialize the Renault and Fiat cars).

[17] For a detailed analysis of Fiat's internationalization strategies and the "project 178" see Camuffo (date?) and Volpato (date?).

strategies of Fiat and Renault have led to the standardization of not only models and parts across different plants but also operations management and production practices.

This intensified integration into Fiat and Renault's internationalization strategies has also taken place within the context of, on the one hand, export-oriented growth policies of the Turkish state, associated with Turkey's accession into the European Customs Union in 1996, and on the other, dramatic contraction of the domestic market following successive economic and financial crisis since 1994 including exchange rate devaluation, high inflation, high unemployment, declining real wages and worsening income inequality. These plants have found themselves in an inescapable international competition as new producers and imports have also crowded an ever-contracting domestic market. Thus, a reconstitution of these localized automobile sites, internationally *and* internally, has become almost unavoidable for survival.

Parallel to, and largely as a reflection of, these changes, both plants have undergone a significant transformation of their work organization based on some form of a teamwork and introduced new production practices based, at least theoretically, on more worker involvement, such as Kaizen, Quality Circles, Total Productive Maintenance (TPM), SPC, and suggestion systems. They both followed the blueprint of their multinational partners and modeled their new work organization after the *Integrated Factory* of Fiat and the UET (*Unite Elementaire de Travail*) formation of Renault[18]. Yet, this transformation process has taken place within a rather different macroeconomic and employment relations context as outlined above.

The field study shows that work reorganization and new production practices, mainly pursued as a way to streamline with other subsidiaries and improve product and process quality and achieve higher productivity largely due to integration into "world car" or "platform" strategies, have yielded impressive results[19]. However, in contrast to arguments by some scholars on "high performance work organization", this improved performance does not seem to be based on genuine and comprehensive participation by broadly skilled and involved workers.

Despite certain differences, not surprisingly, the new team-based work organization in both auto plants fits overall into a model of "Mediterranean Lean Production (MLP)", developed primarily based on examination of Renault, Fiat and SEAT (Camuffo and Micelli; 1995).

MLP highlights the fact that hierarchy, especially at the lowest level, continues to play an important role in labor control contrary to the optimistic arguments in the literature on lean production. It suggests that lean production model might be different than traditional bureaucracies with its emphasis on transparency. However, its trust in objective and scientific way of organizing work belittles the important role that subjectivity and informal rules play. In that regard, MLP highlights the crucial hierarchical role played by team leaders, who, in fact, function as first-line supervisor, especially in managing labor relations.

[18] For a detailed analysis of Integrated Factory, see Camuffo and Micelli (1999) and for UET structure, see Freyssenet (1999).

[19] At Tofas-Fiat, the savings gained through such "participatory" practices as quality circles, kaizen and suggestion system reached to 42,494,000 Euro by 2002. Similarly, Oyak-Renault saved 2,551,000 Euro only through its suggestion system by 2002.

The team-based work organization introduced in both Tofas-Fiat and Oyak-Renault also reflects these characteristics yet with two important qualifications:

1. Despite the rhetoric of participation, it is *de facto* based on even *lower* worker involvement and depends more on the participation of team leaders *and* a handful of highly skilled workers, who function as the right-hand men of team leaders, not only in quality and productivity improvement efforts but also in managing employment relations;
2. a high level of shopfloor and working-time flexibility and insecurity of employment sets the general employment relations context largely due to a compliant trade unionism, macroeconomic instability and high unemployment. This employment relations context overridingly influences the dynamics of teamwork, production practices and thus workers' experiences.

Thus although one major consequence of increasing integration of these plants within multinational partners' internationalization strategies is a "transfer" of work organization and production practices, these "transformed" plants continue to have local bearings.

The research results also suggest that the new geographical division of labor within the companies and the nature of the plants' competitive insertion in international and regional markets play a significant role in the nature of the work organization and the application of new production practices. Although, there is a clear tendency towards increased involvement and direct responsibility of engineering and selective technical personnel in projects such as re-styling or adopting vehicles and components to local market needs, and such personnel even are increasingly participating in global product development teams, genuine worker participation in product and process quality improvement remains very limited. High product quality and productivity can still be reached through a combination of utilization of relatively cheap labor for quality inspection purposes and a heavy reliance on technical staff and a few skilled workers.

Another important factor contributing to this form of work organization is the fact that such highly internationally integrated production strategies arguably leave less room for improvement input by workers as they require higher control on and standardization of industrial processes by the multinational partner. This increased power of the multinational partners can also lead to conflicts with the local partner in other areas such as product and market strategies and intra-firm trade flows. And when such tensions reach critical points, leading to conflicts in launching new models and deciding the amount of production, they introduce additional instabilities and unpredictability to the production process, affecting not only the workers' experiences on the shopfloor but also their livelihood.

OYAK-RENAULT

When OYAK-Renault was founded in 1969 and started production in 1971 with a capacity of 20,000, it was mainly set to assembly outdated Renault models for the domestic market. Now, residing on an area of 443.000 square meter (with covered area of 186.000 square meter) Oyak-Renault is an integrated plant consists of press, body, paint, final assembly, and mechanics shops with the largest capacity (170,000 in two-shifts and 226,000 in three-shifts) among other Renault subsidiaries outside of Western Europe. It, currently, employs around 3000 workers, with an average age of 32,9 and average seniority of 9.9 years.

When the company was first founded, 44% of its capital belonged to French Regie Nationale Des Usine Renault. OYAK (The Armed Forces Pension Fund) owned 43% and Yapi Kredi Bank, a private Turkish bank specialized in housing credits, had 13 % of the equity. Now Renault owns the 51%, leaving OYAK with 49% after a long dispute, in 1997, between OYAK and Renault, who wanted to have the majority ownership of the commercial company to have a direct presence in the domestic market. Before settled, the dispute over the minority-majority ownership reached to such high levels that Renault refused to sign renewed production licenses for OYAK-Renault. Now, Renault owns the 49% of the commercial company, Renault-Mais, and OYAK has 51%.

Still, compared to Tofas-Fiat, Oyak and Renault have always had a more stable and trusting partnership. The most important factor explaining this difference seems to lie at the ownership structure of the partners.

As one of the HR managers put it: "*We are very integrated with Renault. We adopt the Renault culture. I love what Schweitzer* [Renault Chairman and CEO] *says: Copying is winning. That's what we do here, at Oyak-Renault, too. There is no need to invent the wheel again…. Oyak has always been respectful to Renault in issues concerning industrial aspects. Oyak just invested the money and let Renault govern the production. There may have been problems in the past but they have always managed to have a productive relationship*"

It was not much of a surprise for many observers, thus, when Oyak-Renault was always ahead of Tofas-Fiat in launching new models and putting them in the market along with a broader range of imports of new models from France. This gave the company the upper hand in the domestic market and has positively transformed its brand image, which has translated into a relatively more steady production that has also been proved to be crucial in terms of workers' experiences, especially in terms of more steady earnings and relatively higher expectation of job security. The performance difference between Renault and Fiat has also played an important role in their relations with local partners. While Renault reconstituted its power during the 1990s, Fiat has not been able to recover from its operational losses up to date.

When asked about their perspective on the main reasons in decision of choosing Oyak-Renault for the Project X84 (Megane II; the renewed Magane Family), many managers highlighted the fact that the plant had proved itself in terms of quality and cost with previous models, especially Clio Symbol and Megane SW. A couple managers, interestingly, though, referred to another aspect of the relationship between partners. One manager put it quite simply, as he also provided interesting insight on the new dynamics of the internationalization of production:

"*The main reason is self-finance. Argentina had to withdraw from the project because of this. The same is true for Brazil's position. Renault's aim is not economic development of these countries. We, on the other, hand, were able to prove that we can auto-finance the investments without any bank credits or loans. We are counting every lira. We even think twice before we use a coma in a sentence to see whether it is necessary to use the pencil for it! Because we know that they can take away the project if we spend senselessly. Not everything is up to us, though. A devaluation could make everything up-side down*".

Megane

The launch of Renault's Megane project in mid 1990s and the decision to incorporate Oyak-Renault as one of the main sites for its production was also a turning point for plant's reorganization. The production of Megane Sedan started in 1997, followed, in 1998, by

Megane SW, which was exclusively produced at Oyak-Renault. As the integration of the plant within the internationalization strategies of Renault based on "platform strategies" increased, Oyak-Renault continued to add new models to its repertoire: in 1999, Clio Symbol of Clio Family started to fill the assembly line and finally in early 2003, the production of a renewed version of Megane family, Megane II (Project X84) started. At the time of the research, Megane Sedan, Megane SW, and Clio Symbol were produced at the plant.

Throughout this period of increased international integration, the strategic importance of the plant in Renault's strategy has increased. The plant has not only become an increasingly integrated site in Renault's internationalization strategies but also a center for CKD, power train and main components, which it exports largely to Latin American and East European subsidiaries. In 2002, 75% of the cars were exported. That was a significant increase compared to just a few years ago when Oyak-Renault exported only 11% of its production in 1998.

It was not a coincidence that the export orientation and a new managerial focus on quality have gone hand in hand. Although the plant started experimenting with quality circles and the TQM philosophy in late 1980s, the real reorientation came in mid-1990s when the company transformed its work organization based on the UET structure of Renault. Thus, increased integration within Renault's internationalization strategies has also brought in significant changes in work organization and production practices.

Work organization and production practices at Oyak-Renault

Although the planning phases started in 1996-6, UET structure, a team-based work organization was fully implemented in 1996-7 in both operational and non-operational units. Through a substantial delayering and decentralization, foremen (*ustabasi*) and shift supervisors (*vardiya amiri*) were eliminated. The number of hierarchical levels between workers and the general manager was decreased to four.

UET is a form of teamwork and the basic structural unit employed all over the plant, including non-operational departments as well. The teams are linked to one another in a customer-supplier relationship and sign contracts with each other defining their expectations and responsibilities. So, in a sense it is possible to talk about some form of "mini-factories" yet with an important reservation, that is they are not separate profit centers in the strictest sense but still responsible for their cost, quality and productivity indicators. The size of UETs varies from 15 to 35 but never reaches to 70 or 90s, as is occasionally the case at Tofas-Fiat. Each team has a designated area with tables and chairs, surrounded by boards displaying various production and team indicators, such as the position of the team on the factory lay-out, list of team members, the polyvalence table, cost analysis, productivity indicators, suggestion system indicators, and quality indicator. Team meetings are also held in these areas.

With the introduction of UETs, parts of former central functions such as maintenance, quality, and material planning, have become the direct responsibilities of the teams. More crucially, though, the introduction of teams has fundamentally changed the social relations at work.

An UET consists of an UET leader, who is a white-color salaried employee appointed by the company, commonly a young two-year college graduate[20] and blue-color workers[21].

Among blue-color workers there are also two types of skilled and experienced workers: relief workers, called "*yedek* – meaning substitute in Turkish" and auto-controllers. *Yedek*s play a crucial role in teams. There are one or two *yedek*s in each UET, depending on the size of the team. They can perform all the operations in the team and also function as relief workers to fill in for absentees. Yet, absenteeism is not a big problem at all in auto plants. It is simply because "*no one wants to loose his job*" as put by one of the production managers. *Yedek*s also manage material supply and are responsible for minor maintenance.

More crucially, however, *yedek*s are the right-hand men of team leaders in managing relations with workers. They go well beyond their primary role as the trainer of team members. They are hand picked by team leaders. Although technical competence and skills are important, their role in sustaining peace on the shopfloor is also recognized by the leaders.

*Yedek*s are visible all around the shopfloor, communicating quality problems with other teams, handling material ordering, acting as a communication link between the workers and the team leader. They allocate the tasks among team members and ensure the smooth running of production. Thus, it becomes as much crucial for team members to have good relations with *yedek*s as with team leaders. *Yedek*s, who do not have any formal authority over other workers, symbolizes the importance of informal and unstructured hierarchy. (I will discuss a similar type of worker, CPI, when I introduced the work organization at Tofas-Fiat below. Let me note here, yet, that in contrast to CPIs, *yedek*s are not formally defined within work organization and UET structure; they informally perform the mentioned functions. Moreover, due to the larger size and peculiar composition of teams at Tofas-Fiat, CPIs' informal hierarchical role in managing relations with workers is more visible. Finally, due to the more complex nature of the administration of flexible working-time at Tofas-Fiat compared to Oyak-Renault, CPIs play a more significant role in job allocation and thus managing relations with workers).

There is a clear hierarchy between the UET leader and team members since the former represents the first layer of management. They are not operators and do not work on line, neither are they chosen by the members of the team. UET leaders are responsible for the smooth running of the production, following and updating the information posted on the boards, assessing workers' training needs but more significantly they play a crucial role in managing the relations among team members. Although many young in age, the UET leaders

[20] Many production managers expressed mixed feelings about the fact that team leaders are recruited externally from young college graduates. One production manager suggested that although it is a positive thing to have young, open-minded people as team leaders, there are also disadvantages as they are also very inexperienced in terms of managerial capabilities. Another concern voiced by one of the production managers was the fact that "*college graduates start getting bored after a certain time*". Some production managers also believe that promoting team leaders from within blue-color workers would provide some motivation for the workers.

[21] UETs at Oyak-Renault are different than the UETs at Renault's other plants in France in terms of its composition; that is there are not any fully integrated technicians in Oyak-Renault's UETs. In fact, UETs rank even lower than the teams at Tofas-Fiat in terms of the integration of technicians and specialists, whereas at French plants of Renault the integration of technicians is in its fullest compared to Italian plants of Fiat, where the link of technologists to teams remains functional rather than hierarchical. In this respect, Tofas-Fiat's work organization resembles its Italian counterparts more than the team structure of Oyak-Renault resembles its French counterparts. That does not mean, however, that the teams at Tofas-Fiat are exactly the same with the Italian counterparts; on the contrary, there are significant differences in terms of the composition of teams as will be discussed later. It is important to note here that the similarities between the teams at Tofas-Fiat and Oyak-Renault are more striking than the similarities between teams at French Renault plants and Italian Fiat plants, which are considered under the same label 'Mediterranean Lean Production'.

are still paternalistic figures whom the team members are encouraged to go as their first reference if they experience any conflict with teammates or a personal problem. There is an excessive load placed on the shoulders of the UET leader, who is the monocratic leader of his unit, as he is expected to answer for all aspects of the production process from mere technical issues to labor problems. One production manager suggests:

"*UET leader is the king of its territory. No one, let's say from methods or maintenance department, could walk into his space".*

Many workers confirm*: "no one could intervene without his approval*".

Interestingly, however, the majority of workers welcome the renewed role of first-line supervisors. In fact, all positive appraisals of the new transformed workplace are commonly based on two specific observations and experiences by the workers: a cleaner and safer working environment and better treatment by and friendly relations with immediate supervisors i.e., team leaders.

These transformed social relations, in which the team leaders play a crucial role in sustaining worker commitment, are the main sources of shopfloor flexibility. Efficiency and quality, without systematic and genuine worker participation, are also sustained through these relations. One UET leader suggests:

"*I know each and everyone of them [referring to workers in his team]; name, address, how many kids, how many brothers and sister they have. It is important to address people by their name, I mean, instead of calling them 'Hey, you'. You smile and then you say 'good job' or something, then they put their hardest effort all day long*"

This renewed and redefined supervisory role does not exclude more traditional strategies though as one production manager comments:

"*Before all these UETs , coaching etc., we were all over the shop-floor with a "whip" at hand. Taylorist manors, you know. Then, we dropped the attitude. But, yeah, there is still close supervision. Even closer than before since now we have a smaller number of workers to work with*".

Many worker interviews also confirm increased supervisory control not only over production process but also over labor. One comment typifies the views of most workers on the main changes UET structure has brought to their lives on the shopfloor:

"*Before, the supervisors and foremen were responsible from more men and they were usually late in reacting to problems in production. Now, there are fewer of us so we have closer relations. It is more friendly and better this way. Our team leader says that his door is always open to us and that we can talk to him whenever we have a problem…. He even helps when someone has a personal problem, like a gambling dept or something…. He also defends us against other teams or managers when they try to accuse us for the problems which are not necessarily our fault*"

Another manager provides a rather peculiar angle on the transformed dynamics on the shopfloor:

"*The owner of the worker is Oyak-Renault, not the union; union is only their representative. It should be us, the managers and the team leaders who should be dealing with and solving their problems. We should not be saying 'go to your union and let the union help you'. That is, in fact, what we have been doing for the last couple years*"

Still, another production manager has even stronger feelings about the "ownership of workers". He explains to me that he gets really "*pissed and angry if they go to the union*

before first coming to him". Yet, he is quick to add "*they can go to their union if it is something we can not solve. We are not shutting the door to that option. We give them the right to go to the union*"

It is interesting to note here that, many workers interviewed believe that their problems are solved by their team leaders even when the union representatives take initiative. In addition to further marginalizing union in workers' eyes, the close and friendly attitude of team leaders, who at times take the role of spokesperson rather than a supervisor, also naturalizes the work and production relations on the shop-floor.

This role of conflict management jointly performed by *yedek*s and the team leader helps to minimize conflict and contains it before it could spread to other teams, shops and potentially to the whole factory. Thus, in a sense UET structure increases reactivity not only to production problems but also potential labor conflicts by making team leaders and, to a greater extent, *yedek*s available all the time for workers' concerns and questions. It reduces collective space for conflict and its resolution and accordingly the opportunity for local union intervention in negotiating daily tensions at the workplace[22].

This type of social relations and the role played by the team leader is almost identical to the experiences I observed and gathered from interviews at Tofas-Fiat. In fact, as will be introduced below, although team leaders and *yedek*s are given different titles, the structure and function of teams at the Tofas-Fiat are almost identical to the ones at Oyak-Renault.

Integration of indirect tasks: a step forward towards multi-skilling and job-rotation?

It is true that the workers have become directly responsible for quality through the mechanism of "self-control" with the introduction of UET structure. Each operator carries a stamp with an individual code and marks the operations sheet with it as he completes his job verifying his own work. This stamp means that the job is completed without any problems. If, for some reason, the operator fails to do his job, he makes a note of it on the same sheet and let the product move along and the problem to be taken care of by the auto-controller, who is the second type of skilled and experienced worker in the UET. Auto-controllers make the final control of all the operations and, occasionally, help other workers when, for example, they fail to complete the operations in a timely manner or assemble the wrong component.

Auto-controllers check all the operations performed in the UET and try to correct the mistakes if they could or mark them on the control sheet if they cannot. The team leader collects these control sheets, including data on the type and frequency of problems and the code of individual workers who is responsible for the problem, at the end of the day to be analyzed. Auto-controllers at the end of the line do not report every incidence though, if it is something they can fix. They even help out line workers if the workers are late or miss something. So, the controller does not make a note of it and covers for the workers, either out of friendship or because it is easier to do the job rather than reporting it. One auto-controller comments:

"*I do not write every little thing. If we can solve the problem and prevent its reoccurrence by talking to the operator responsible for it, we do not make a note of it. Or, we communicate with the yedeks at other UETs so that they do not keep sending the same mistake down the line. I do not write down such things on the report card*"

There are also quality workers who are responsible for two or three teams and called by *yedek*s or auto-controllers for help when a more serious problem occurs. However, quality

[22] For similar observations at Fiat's Italian plants, see Pulignano (2002).

workers, who themselves are organized into separate UETs, are hierarchically linked to the Quality Department. This organizational framework continues to cause problems and frustrations. One production manager comments:

"*It is nice to have all these theory and training in group problem solving. But, what happens in reality is that the problems are not owned by everybody involved. On the contrary, some people start running away from responsibility and duty [referring to quality personnel]. Quality function is not linked to us. If it had been, we would have accepted the responsibility and started trying to solve the problems. But now, I can not order anything to quality people*".

The integration of quality within production units remains limited as the Quality Department continues to play an important role through its two separately organized functions: Operational and Central. The operational units reside at each production shop and they are responsible for process audits and problems on the line. They, however, also control the products. In the press shop, for example, quality workers, who also make quality control through sampling in every 200-300 units, do the surface and geometrical examination and approval of the metal parts. Similarly, in the body shop, quality units do the quality control of welding, geometry, and even the control over compliance to work standards by line workers. The central function of the Quality Department is mainly composed of new production and process projects and audits of UETs, TPM etc. The central unit is also responsible for the final control of the finished car and administering and analyzing customer supplied quality data.

Thus, although there is a clear tendency towards delegating workers more responsibility in quality through self-control, and other indirect tasks such as maintenance, through TPM, this does not mean the end of separate and centralized quality control and maintenance functions.

Moreover, although it is argued that TPM is applied throughout the plant and some workers, especially in more automated areas, have become members of TPM groups responsible for lower level maintenance functions, for the final assembly and other mainly manual operations, it simply means housekeeping, called "5s", limited to cleaning and oiling. TPM is more fully employed in the press and mechanic departments, yet a genuine worker involvement in maintenance activities is limited to a few skilled workers even in those shops. And, even for those few, TPM means a rather low level of involvement entailing primarily data collection. Maintenance at higher levels, such as repair and diagnosis, remains clearly distinct from team members.

Although there is a clear tendency to create a multi-skill workforce and many workers could perform an average of 3-4 different tasks within their teams, the de facto arrangement is to assign same posts to the same workers, unless they are needed in another station for reasons such as absenteeism. Thus, there is almost no periodic job-rotation. In fact, what arises from worker interviews is that many of them do not want to change stations since they think this would cause problems in terms of productivity and quality and put them into an unnecessarily unpleasant situation with the UET leader. The primacy of productivity and quality concerns was also confirmed in interviews with UET leaders. Almost all production managers interviewed support the strategy of creating a polyvalent workforce but they are also hesitant to practice job-rotation to its fullest extent because of productivity and quality problems they experience when they rotate workers.

Although polyvalence is formally valued and many workers received extensive training, de facto job rotation remains limited. It is commonly the team leader's discretion to decide the rotation and task allocation. The official objective on polyvalence is that every operator should know at least three different operations and every operation could be performed by at least three different operators. Many worker and manager interviews reveal

that this polyvalence mainly functions to allow filling in for workers who are late, absent, or in training.

When asked about whether the UET structure had changed the ways workers perform their jobs, one auto-controller in final assembly replies:

"*Not really. I mean, we have self-control now but that's about it".* When asked about job-rotation, he adds: *"Usually, people work at the same station. When someone is not in his post, I immediately recognize it. I say, 'OK. A yedek replaced this or that person'. I even recognize the replacements in other UETs. You know, no one can do the job as good as the person who does it everyday*".

In addition to limited job rotation, many workers continue to perform simple and monotonous tasks in short cycles, which do not leave much time even for minor maintenance and repair, which almost all workers are trained to perform. In interviews, workers describe their job and a typical day at work in a couple of easy steps. Work standards are determined and imposed by the engineering department and updated 3-4 times a year. Thus, workers are denied to provide input into the design of their jobs and the pace of work.

However, Oyak-Renault is currently at the initial stages of introducing a new production system, called SPR (French acronym for Renault Production System), which is mainly borrowed from Renault's new partner Nissan. Although, I was specifically and insistently requested not to ask questions about it, I was able to learn enough to suggest that SPR involves the delegation of industrial engineering functions, especially in terms of preparing work standards to the teams[23]. This, however, does not mean that the workers themselves will be deciding on the norms. On the contrary, despite the fact that SPR is based on the operator as its principle unit as opposed to team as the principle, the new system brings extensive standardization of operations, which are largely determined by the team leader. Team leaders observe the operations in detail and forms new standards describing the tasks in great detail. Workers, then, are retrained in newly established "dexterity schools" according to these new standards until they perform the operations in the required sequence and time. Workers are also given training on kaizen, to become kaizen group members once the standardization is completed.

One UET leader, whose team was chosen as one of the pilot sites for SPR suggests: "*SPR is standardization. The ways the operations are performed are not dependent on the person anymore; each movement, the sequences, and exact times are clearly defined in this new system. We have given extensive training to workers. In dexterity schools, we explain workers all these. But, many of them are so used to working in their own way all these years, so even if they want to learn the new ways, their habits take over most of the time. We have to be patient. Before, when two workers at two different shifts did the job differently, it was difficult to pinpoint the source of problems. What was important then was that the man does his job, no matter how. Standardization will put an end to this. It will, thus, improve quality*"

Although, management argues that increased quality is aimed by standardization, most of the workers think that SPR means, "making productivity", mainly meaning labor savings to

[23] There are four modules of SPR: (1) Standardization; (2) Management, which mainly entails training of UET leaders and middle managers in HRM practices such as "coaching"; (3) Quality; which entails a new quality system (AVES) based on customer's perception as the main source of identifying quality problems as opposed to internal data and a new supplier involvement program (ASIP – Alliance Supplier Involvement Program) aimed at cost savings and quality improvements in suppliers; and (4) performance management, which is also referred as "professionalization of operators" and entails one-to-one performance reviews of workers by the UET leaders, which is currently at an experimental stage and faces difficulties due to the lack of performance-based pay mechanisms.

many workers. "Productivity" is, indeed, a very politically charged and largely a negative concept for workers at both auto plants. One production manager comments:

"*I gathered all the workers and team leaders and tried to explain what SPR was. Then I asked whether anybody has questions. Not a single hand. Yet, I knew they were not comfortable. Then everybody returned to his post. In the afternoon, I was touring the sho-floor during the tea break. They start asking questions and more specifically asking whether this is a new way of "making productivity". So, you see, they look everything from the perspective of job security. Job security comes first, then wages. Even when we discussed the environmental policy and measures, they were skeptical and asking how this would end up with 'making productivity'*"

Another production manager adds: "*we do not explain SPR as productivity, it is explained in quality terms*". Yet, another remarks: "*Our primary expectation from SPR is productivity. We need to decrease the total labor time on the vehicle. Nissan is one of the best in the world in this regard. We are now, trying to learn and do what they have been doing for years*".

Off-line 'participatory' production practices

A formal structure for collective problem solving by workers is almost non-existent at Oyak-Renault. There are no QCs, which are one of the most visible practices at Tofas-Fiat. The only existing problem-solving groups, which are temporary bodies formed to solve specific problems, commonly consist of technicians and engineers. Production workers are involved in these groups when seen necessary. The management appoints the group members, although these groups are also open to voluntary participation.

Team meetings, which are highly irregular, and only called upon team leader's will, are overwhelmingly used for unilateral informative meetings where the team leader informs the workers about current events such as an upcoming inspection, safety issues, or quality problems. More importantly, though, these meetings function as a tool to create better social relations among team members, who are encouraged to share personal problems. Therefore, they further increase the scope of paternalistic practices.

The most visible tool for individual worker participation is the suggestion system, which was introduced in 1995. At the time of the research number of suggestions per person was 2,94, which was considerably low compared to other Renault plants, some of which have 8-10 suggestions per worker. The management targeted to have four suggestions and at least three approved suggestions per worker for 2002.

Many workers and managers confirmed that the introduction of suggestion system was difficult at first. One production manager put it this way:

"*It was difficult for the workers to voice their ideas and more importantly to write them down since that would mean leaving behind a written piece of paper with your name on it. They were hesitant. Some of them also accused their supervisors for tearing up their suggestions. Then, came some sort of polarization, like some people being considered as the 'leader's or managers' men'. Thus, there was certainly mistrust in many dimensions. When top management started showing its commitment, though, things started to improve*."

Still, participation in suggestion system remains limited despite monetary rewards.

TOFAS-FIAT

Tofas-Fiat is a leading automobile firm in Turkey. When it was founded in 1968, Fiat owned 41.5 percent of the equity and 22.5% belonged to Koc Holding. Other shares belonged to MKE (Turkish acronym for Machinery and Chemical Industry Association (25%), Turkish Business Bank (10%), and Aegean Petrol (1%). In 1995, the equity share of partners, Fiat and Koc Holding, was set at 37.86%, the rest, 24.28%, being scattered in the stock market.

From the date the production started in 1971 to assemble the Fiat 124 cars with an initial capacity of 20,000, TOFAS has come a long a way. Following successive investments, production capacity has rapidly increased and reached 250,000 in 2002. Build on an area of 927.975 square meter (with a covered area of 338.709 square meter), Tofas-Fiat is now an integrated factory from press to final assembly. Currently, the company employs 3530 workers with an average age of 31.9 and average seniority of 8,8 years.

As the plant has become increasingly integrated within Fiat'a internationalization strategies, the production of new models followed one another. Tofas, currently, produces restyled versions of Palio Weekend and Albea of the Palio family (Model 178)[24], Marea/Brava (started in 1999) and Doblo (started in 2000), a light commercial vehicle. However, although in limited numbers, it continues the production of obsolete models of Fiat's 131- family (_ahin, Kartal, Do_an - also known as the "bird series" because the names of models are all bird names), which are oriented dominantly for the domestic market but also for some low-income export markets such as Egypt and Azerbaijan[25]. Tofas-Fiat also produces and exports CKD, components, and spare parts.

[24] It is interesting to note here that the production of Palio Weekend was set to start in Turkey and Brazil at the same time in 1997. The initial plan for the Turkish plant was to produce and export Palio Weekend model to Europe and produce and export CKD to other subsidiaries producing Palio models. However, the sharp devaluation in Brazil in 1997 upset the plans. As the comparative cost competitiveness of the Brazilian production increased, Palio Weekend produced in Brazil were exported to European markets instead of the ones produced in Turkey. The devaluation in 2001 in Turkey, on the hand, reversed the situation when the export of Palio model was shifted back to Turkey from Brazil. This instance provides a telling example of how the dynamic interaction of domestic macroeconomic context and the internationalization strategies of car manufacturers has a crucial impact on the fate of distant production sites.

[25] It seems necessary to note here the troubled relationship between two partners, which has had significant impact on the shopfloor. Palio was a high investment project and the negotiations between the partners were severe about sharing the burden of this investment, which also delayed the production of the model at Tofas-Fiat. Furthermore, when the sales of the vehicle, especially in the domestic market, remained far below expectancy, Koc Holding, the Turkish partner, became furious. This troubled relationship affected the successive projects and especially the launch of Doblo, for which Koc Holding refused to shoulder much of the necessary investments. At the end, a facon relationship was established, where Fiat covered the cost of investment. However, the profit margin of Koc Holding remained substantially low due to this arrangement and the company decided to continue the production of its outdated models of the 131-Family, the Bird series, which still commended considerable demand and generated significant profit margins. The fact that Koc Holding also has another joint venture with Ford and that Fiat is seeking increased cooperation with GM does not help the situation at all and put further stress on the partnership. Especially since late 1990s when Koc Holding started to undertake large investments at its joint venture with Ford, this tension has increased.

"Project 178", The 'Palio'

With the launch of Fiat's "Project 178", the strategic importance of Tofas-Fiat plant increased. The objective of Fiat with *Palio* were numerous and interrelated. The following intentions, though, should be flagged out to understand the changes concerning Tofas-Fiat. The project was not aiming at world scale production of a single car but a family of models oriented towards needs of emerging markets. The creation of a production process on a world scale, thus, entailed also establishing an organizational learning process that would make possible a centralized design to be adoptive to local conditions and preferences, and thus managing the tension between standardization and adoptability. Fiat Auto had to ensure the absolute standardization of each version and while one dimension of this was to involve a selected group of suppliers on a global basis, the other was to integrate the manufacturing capacity of different plants within a new division of labor. A major undertaking of this project was to apply the work and production organization paradigm that Fiat had developed in its Italian plants to the sites involved in the project. Thus, *Integrated Factory* became the "reference paradigm for homogenizing manufacturing" and Tofas-Fiat a new site for the *Palio* (Camuffo, date?). The international and internal reconstitution of this previously localized auto plant was, thus, underway. It has progressively become a pilot site in Fiat's internationalization strategies producing not only a version of the new model but also turning itself into a main CKD, power train, and components center. This process of change has gone hand in hand with a radical transformation of its work organization and production practices.

Work Organization and Production Practices at Tofas-Fiat

The organizational change based on Integrated Factory model also coincided with Koc Holding's initiative in quality as the company had to acknowledge the need for exports, which became more obvious and inescapable after the 1994 economic crisis.

In 1994, the company started "TOFAS 2000 Project", as a part of Koc Hoding's initiative, which aimed at "Total Excellence" and introduced TQM into the agenda of Tofas-Fiat. "TOFAS 2000 Project" was shaped on the basis of EFQM (European Foundation for Quality Management) model, which entailed "management by goals" and "self-reflection" as the main pillars of company management. Especially the idea of "management by goals" found its concrete reflection in the implementation of *Integrated Factory* concept, which mainly aimed at linking the goals of the company in terms of cost and quality to the worker in a tangible way through the implementation of "lean production tools".

When *Integrated Factory* concept was introduced in operational units in 1995, shortly after the massive lay-off during 1994 economic crisis, it was received with anxiety but no apparent resistance from workers.

First, a substantial delayering took place and the number of hierarchical levels between workers and the general manager was reduced to five. More importantly, however, a form of teamwork was introduced.

Integrated Factory envisions a work organization based on teams governing a number of intertwined process like production, quality, maintenance and material planning, and thus integrating traditionally separate functions to increase the capability of fast reaction to production and quality problems.

Teams, called TUT[26] (Elementary Production Team) at Tofas-Fiat, were introduced in operational units[27] and linked to each other through a supplier-client relationship. Although initially envisioned to function as independent profit centers, due to problems in the accounting system, the company failed to turn each production department into such independent entities. Still, each team is responsible for the quality, cost and timely delivery of its product. In fact, the responsibility of functioning like a profit center is felt all around: "*Each team is a mini factory. We do not see the money coming and going but everything is reflected in terms of money* (A worker in final assembly)"

As will be discussed later, to achieve quality, cost, and delivery targets, such "participatory" lean production tools as TPM, kaizen, QC were also introduced and workers became responsible for the self-inspection and verification of quality of the product.

The TUTs, generally larger than the ones at Oyak-Renault, differ in size. The number of workers in a team varies widely from 15 to 60 and in some cases to 90 workers. A TUT consists of two salaried employees; TUT leader (*Capo Ute*) and a product/process technologist; one or two highly skilled workers called CPI[28] (integrated process coordinator – *Conduttori di Processi Integrati*); and blue-color workers.

Unlike the teams at other Fiat plants in Italy, TUTs do not have OPIs (*Operatori di Processi Integrati*) and logistic operator. One explanation for the absence of OPIs could be the low levels of automation and the continuing labor-intensive production at Tofas-Fiat thanks to available cheap and skilled labor and low levels of capacity utilization.

Team leaders are, in fact, first-line supervisors. They are salaried employees appointed by management, mostly among previous foremen and skilled blue-color workers. This is a crucial difference between Oyak-Renault and Tofas-Fiat since the leaders at Oyak-Renault are commonly young two-year college graduates.

Aside from their primary responsibility of ensuring the smooth running of production, TUT leaders are also given new responsibilities in terms of quality, and continuous improvement activities. As their responsibilities increase, team leaders refer to the help of CPIs even more. While team leaders are more involved in paperwork as there are more than twenty indicators they need to follow everyday, and in activities such as kaizen, QC, and suggestion system, CPIs become more intimately engaged with the daily production activities. TUT leaders also have a paternalistic image and play a crucial role in labor management with the help of CPIs.

Each TUT has also one technologist, a category that sets the work organization at Tofas-Fiat apart from Oyak-Renault. Technologists share responsibility with the team leaders except labor management and production targets. Initially, the company wanted to hire engineers as technologists, which is the norm in other Fiat plants. Yet, it was decided later that this would be too expensive and technologists were either internally recruited from technical staff or externally recruited from two-year technical college graduates. Like the TUT leaders, technologists are also salaried white color employees and appointed by management. In some teams, the team leader and the technologists are rotated, which helps them to build new competencies. Although initially each team was assigned a technologist, later some teams start to share technologists. They are mainly responsible in engineering and work standardization activities, planned maintenance, SPC, engineering analysis of continuous improvement activities such as kaizen and QCs, and developing solutions to technical

[26] TUTs are analogous to Fiat's UTEs (*Unita Technologica Elementare*).
[27] Tofas-Fiat, in contrast to Oyak-Renault, does not have a team structure in non-operational units.
[28] The percentage of CPIs to workers is between 5.1 – 6.2 %, the highest ratio is being in final assembly.

problems the TUT experiences. By decentralizing production engineering function and making technical staff readily available in teams, the management aims to increase reactivity to production problems. Still, although a team member, technologist does not hierarchically depend on TUT leader but is linked to production engineering. Many TUT leaders report that this causes problems as the specific content of responsibilities of technologists is determined according to the team's needs but the technologists remain hierarchically linked to engineering department.

Quite similar to the *yedek*s at Oyak-Renault, CPIs are the right-hand man of TUT leaders. Team leaders in consultation with production managers appoint them. The candidates are monitored by the team leaders extensively when they are tried for 3-6 months before a final decision is made. They are highly skilled and experienced blue-color workers with a mastering capacity of all the tasks within the team.

There is an excessive load on CPIs' shoulders, especially given the lack of an OPI and a logistic operator, which are part of a team at Fiat's other plants. The main function of CPIs was originally planned to be training. Although they still play the main role in training team members and developing their competencies, over time, CPIs have also appeared as informal hierarchical figures on the shop-floor as they play a crucial role in inter-personal communication within the team and function not only as a bridge but, at times, also as a "filter" between the workers and the team leader.

CPIs distribute jobs at the beginning of each shift, fill in for absentees, train team members and make sure that the workers comply with work standards, and coordinate material supply. Since the production schedule constantly changes, CPIs' decisive role in labor allocation becomes a key issue. Their decision not only significantly affects other workers' chance of developing competencies but also the duration of "forced vacation" in times of production reduction. During times of employment reduction, CPIs are also the main reference for team leaders. One CPI explains:

"W*e keep track of people, how they behave, how they are with co-workers, attendance and such things. These become handy when we are asked to give names, you know*".

CPIs interact with the up- and down-stream teams on issues such as filling in for absentees and quality problems. They play a key role in solving immediate quality and material supply problems. They react promptly to problems as they occur and try to fix them during a quick consultation with the worker in the post. If they decide that the problem is bigger than they can handle, CPIs notify the team leader.

One possible explanation for the more visible hierarchical role the CPIs play at Tofas-Fiat might be the large size of teams and the fact that there is an excess load on the team leaders' shoulders. Especially given the absence of OPIs and logistic operators, the scope of CPIs' functions extends. Yet, this broader range of activities leads CPIs to play a larger role in helping team leaders to manage the team compared to their counterparts at other Fiat plants and paves the way for the hierarchical function they play, albeit informally.

Although they have no formal hierarchical authority, CPIs are recognized as a specific professional category within the work organization, as opposed to *yedek*s at Oyak-Renault. Almost all CPIs see themselves close to management, so do many workers. However, the lack of formal authority puts them in awkward positions in their dealings with workers. Interviews with CPIs reveal the tension created by this situation. It is clear that many CPIs experience a conflict of interest between being a blue color worker and a union member on the one hand, and feeling part of the management team on the other.

Still, workers express themselves more freely to CPIs than team leaders. Although many CPIs reveal that they often experience a conflict of interest as being both a blue-color worker and having supervisory roles at the same time, team leaders suggest that it is easier for workers to welcome certain demands coming from *"one of them"* since the workers also more easily accept the legitimacy of CPIs' role originated from their acknowledged experience and skills.

TUTs in final assembly and body shop also have relief workers, called *joker*, the number of which could reach to four or even five in large teams. Moreover, despite the fact that each worker is held responsible for quality through the mechanism of self-control, each TUT also has a repairman (*tamirci*), functional equivalent of auto-controller at Oyak-Renault, who controls the product at the end of the line and corrects minor problems he can handle. He, then, reports the daily data of problems to the team leader at the end of the day. When a persistent problem is noticed by the team leader in his analysis of this data, the worker performing the relative operations is urged to be more careful and asked to mark a check (√) for this specific operation on a checklist prepared based on the data analysis. Each worker is also given a specific stamp, identifying individual worker, which they use to mark the operation cards attached to the car after they complete their job verifying the quality of the product. Through the implementation of self-control, the problems could be traced to the specific worker.

Despite the delegation of quality to teams, there are two different quality control functions, one for the product and one for the process, performed by a separate quality team responsible for multiple TUTs. These quality teams also consist of a team leader and 6-7 quality workers, who control the quality of the product. However, there are no CPIs in these teams. These teams are hierarchically linked to production quality department. They perform routine audits when they randomly compare the operation descriptions with the actual working of workers to make sure that they adhere to the operation standards. When they see a mismatch they open an investigation, which not only helps to control adherence to standards but also provides opportunities to tap into the improvements informally found by workers.

The company still keeps revision lines and areas, which are used not only for correcting the problems but also for completing the assembly of unfinished cars due to material supply problems.

Although there are attempts to integrate first-level maintenance with production through the implementation of TPM, maintenance is still a very centralized function. That is, the teams are provided with better access to maintenance workers as they are made more available to TUT leaders but maintenance workers are still hierarchically linked to the engineering department. Maintenance workers have their own TUTs and they work within"pool" logic as their team leader who assigns them to the production team in need coordinates them.

The availability of such broad range of indirect workers as CPIs, relief workers (*joker*), repairmen (*tamirci*), and quality workers limits not only de facto job rotation but also broader worker participation in off-line activities such as kaizen, quality circles, and even suggestion system. Most workers interviewed confirm that they have a certain post and do not change it much, unless it becomes a necessity due to absenteeism, which is a rare occurrence. As they are seen to have more available time and to be more skilled, team leaders choose the indirect workers, jokers and repairmen, for off-line activities.

Off-line 'participatory' production practices

Continuous improvement activities, such as kaizen (started in 1997), quality circles (started in 1984), and suggestion system (started in 1995) were introduced at Tofas-Fiat as a strategy to increase the functionality of teams since they "strengthen the logic and idea of working as a team". Each TUT is given quantitative targets for these activities, such as number of kaizens, QCs and suggestions. Yet, these activities fail in providing a genuine and comprehensive participation for workers.

TOFAS has a Continuous Improvement Office, hierarchically linked to the HR department, which administers and oversees the participatory practices. There is no such central administrative body at Oyak-Renault, probably due to the limited number of participatory activities and the absence of QC and kaizen. This office plays a crucial role in the process of organizational learning as it administers the information collection and distribution on continuous improvement activities and their presentation open to everybody. The office staff initially worked with an American consultancy firm, TBM, and to a lesser extent with JIPM[29]. The texts they use in training are all translated from TBM's collection. TBM is known as praising the Toyota Production System as the "one best way" and my long chats and interviews with the office staff at Tofas-Fiat reveals the fact that Toyota is the model in their head, which constantly makes them irritated since they see that Tofas-Fiat can not measure up to the model:

"*We could not become Toyota, no matter how hard we tried. We failed in production smoothing, most importantly. It all boils down to the problems in this country. Market uncertainty. It is difficult to have a standard production planning and schedule. Besides, it not all about us, Tofas-Fiat. Suppliers are also important*".

In fact, the function of the office is increasingly oriented towards the "supplier kaizen" as it has become increasingly crucial to ensure the supplier quality due to standardization requirements of the "178 project". The head engineer in the office comments:

"*When we started in 1997, it was very difficult. I mean, the resistance form production managers and engineers. Thanks to Jan Nahum [Tofas-Fiat's previous general manager]. He pressed the issue a lot. So, now kaizen in the factory functions on its own. Now, we have time to go to the suppliers*"

Indeed, kaizen and to a lesser extent QC activities are clearly visible, whereas the history of TPM, initiated in 1993, has its ups and downs. Each team has a QC but not each worker is a member. QCs are also on decline since management finds it expensive as the meetings are held after work and overtime is paid. Instead, kaizen and suggestion system are

[29] JIPM was founded in 1981in Japan to promote theory and practice of Total Productive Maintenance (TPM) and Maintenance Technology. JIPM provides the companies overseas with TPM Consulting. JIPM consultants visit a lot of companies all over the world to teach all the employees, from workers in line to the top, how to work efficiently, what to do to make a better workplace and how to improve quality without any losses and breakdowns.

Each year, JIPM offers TPM Awards to plants for exemplary TPM achievements. Beko, one of the electronics plants studied here, which is owned by Koc Holding received TPM Award in 2001. As defined by JIPM, TPM:

1. Aims at building up a corporate culture that thoroughly pursues production system efficiency improvement (Overall Equipment Efficiency :OEE) 2. Constructs a system to prevent every kind of loss to achieve "zero accidents, zero defects and zero failures", based on Gemba (actual site) and Genbutsu (actual thing) over the entire life cycle of a production system3. Covers all departments including production, development, marketing and administration4. Requires all and full involvement from top management to frontline employees 5. Achieves zero losses by overlapping small-group activities (excerpted from JIPM's website)

pushed more by management and the company encourages competition between departments and teams on these two activities. Kaizen groups meet over a week, secluded from production and complete the project in five days. The target of the project is given by management and specified quantitatively, such as 10% improvement in labor-time or area.

The Continuous Improvement Office is currently trying to reinitiate TPM once again under a different name and this time some of the production managers are supporting it. TPM is now tried on selective pilot areas and these specific equipment and sub-assemblies are visibly labeled as "champion candidates". These activities are described as a tool under the umbrella concept of "body production system", or "press production system" etc. "*to give the sense of ownership to each production areas*".

The head engineer of the Continuous Improvement Office remarks:

"*We had TPM before we had Kaizen but nobody felt like they needed it. When there was a problem in one of the machines, the manager would come and ask how much stock they had. If the stock level were 1700 for 800-unit daily production, he would leave relived. But, now after extensive kaizen activities, the shopfloor is demanding TPM loudly*"

The type of Kaizen activities he refers to are mainly 5-day intense process kaizen, aimed at improving layout and productivity through space and labor-time savings. There are various different types of kaizen, though, such as kobetsu kaizen, before-after kaizen. The team leader determines the content and the list of problems for Kaizen and QCs. One worker states:

"*One person determines and defines what should be considered as a problem. We, workers, cannot do that. That is a problem in this system*"

QCs are constant groups concentrating on issues and problems within the limits of the TUT area and thus they are unlike kaizen groups, who work on a specific project which could transcend the team's immediate area and dissolve after the job is done. Each QC has core members: the team leader, technologist, CPIs and the repairman/relief worker. Other workers are appointed by CPIs or the TUT leader if the issues are related to their workstation. Many CPI interviews reveal that majority of workers participate only once and generally reluctantly.

Although the suggestion system is more favored by workers, participation remains low, with 2,4 suggestion per worker in 2001.

There is a rather complex award system for participation in these activities but, in short, workers receive points for their contribution that are translated into a gift certificate that the workers could use in the company cooperative to purchase anything from food to home appliances. There are also non-financial awards, which have a more symbolic value and presented in a small party after the shift.

WORK ORGANIZATION, 'PARTICIPATORY' PRODUCTION PRACTICES AND AUTO WORKERS' EXPERIENCES

The analysis of work reorganization and 'participatory' production practices reveals mainly two points in terms of their impact on workers' experiences on the shopfloor. First, teamwork has primarily transformed social relations at work and meant better relations with immediate supervisors for workers, despite the fact that hierarchical control, both formal and informal, has increased. In fact, it is this very nature of hierarchical control and the cultural aspect of team teamwork that mobilize workers' commitment and effort, and thus efficiency

in production. Second, aside from this cultural aspect, teamwork and other 'participatory' practices have marginal meanings in terms of workers' experiences as the majority of them is denied an extended and meaningful participation, which only a few skilled workers enjoy. Thus, one can argue that teamwork has primarily transformed the role and function of first-line supervisors and a few highly skilled workers and had a limited impact on the majority of workers. It, thus, created diversity among workers.

The following exchange, took place at Tofas-Fiat, illustrates the nature and extent of participation in 'participatory 'activities by workers:

Interviewer: Could we talk about the involvement of workers in kaizen and QC activities? How do they participate in these projects and what kind of a role they play?

Interviewee (a team leader in final assembly): We do not have the luxury to include everyone, especially in terms of time limitations. The workers on the line do not need to know everything anyway because many problems are solved on paper. Then we come and explain them how they should be doing the job. But, sometimes, especially when a new version is to be introduced, we choose a worker, not anybody though, not someone who only screws bolts, but someone talented, intelligent. That would usually be the joker [relief worker] or tamirci [repairman]. We include them in these projects and eventually they start sharing their own ideas, sometimes even warn us whether it is difficult to assembly a certain part and things like that. After the project is completed, their mission is more difficult because we divide the job into small operations and they now have to teach and help others in the team"

Moreover, although team leaders try to mobilize workers and encourage participation in general, it is rather a finely defined one:

"*Of course we ask for their help to improve quality, to give suggestions and to detect problems at their source. Yet, no body welcomes a busybody in this factory. The workers help us around but they do not dare to speak nonsense about others' business and try solving others' problem (a team leader at Oyak-Renault – press)*"

I interviewed both workers who participated in these activities and who did not. I asked the reasons for participation and non-participation to both. The following comment is typical of the views on participation, which shows that involvement is largely at team leaders' discretion: "*My team leader thought I was appropriate for it*". The striking commonality in workers' response about non-participation is also typified in the following quote: "*The guys are coming to work here; they do not want any extra burdens. And some feel they are inadequate, I mean technically, and some really are. Team leaders decide who should participate anyways*"

Although skill level is an important criterion for being "chosen" to participate, it is not the only one. The following exchange with a young press worker, who is in his third year at Tofas-Fiat, provides interesting insight into the dynamics of participation:

"*The CPI, I guess, knows the daily production and target. We just follow the pace of the press. I guess, we load 400 sheets an hour".* He continues: *"I have not participated in a QC or kaizen yet. You have to be really experienced; I mean 5-6 years at least. Setters or fitters usually go. I mean, it should be someone who is not directly working on the press. Our CPI chooses who would join these groups anyway. I guess, it is not my turn yet or something. I do not know".* When I ask him whether he submitted any suggestions, he replies: *"No. I am always at the same place, so I know only what I am doing and I do not have much idea about other places. CPIs and setters, they know the whole process so they see things that can be improved. When you load a sheet in every 9 seconds, you do not have much left to think. But, if you mean like our ideas about safety etc., yeah, I gave two suggestions. I have not heard*

what happened though. Maybe someone else thought about it before me or maybe they will announce the results at the end of the year".

Then, I ask whether he would like to be included in these improvement activities such as kaizen or QCs and he suggests:

"*Yeah, of course, why not. I mean it is not like we cannot do it. I graduated from a good vocational school. It is just, for now we do not know much about that stuff*"

His experience and comments also underline the limited job rotation and continuing repetitive and monotonous work in short cycles, which, in turn, hinder effective participation for many workers. Job rotation remains limited at both auto plants as productivity concerns take primacy. Moreover, through audits for conformity and increasing emphasis on standardization, workers are deprived of significant input into job design.

It is a common perception among workers that the same people, usually a few skilled workers, participate in such activities. Many workers call them names, which indicate that they are workers with good relations with the team leaders. This is not surprising at all, since it is usually the right-hand men of team leaders, CPIs or *yedek*s, who get involved. The CPIs who participate in kaizen and QC activities commonly express that at the beginning these activities seemed simple and just about housekeeping but when they really started getting into it, they realized that it is much more deeper and important. Many clearly state that they enjoyed working with different people "from R&D to purchasing" and learning about different processes in the factory.

One CPI in the final assembly at Tofas-Fiat, provides an interesting insight into not only the profile of participants but also the mechanisms of defining the content of these activities:

"*One day, the manager of final assembly gathered us and asked why the department ranks the last in kaizen and QC activities. We told him that we are too busy with other things. Then, he gave us a list and told us 'these are QC problems'. That was it; we made 5 presentations the next round. Other CPIs are also my close friends so we worked well together. What counts the most was that our manager was very happy at the end of the day*"

The issues deserve to be on the agenda for QC or kaizen workshops are largely determined by cost-reduction concerns. Although quality improvement is one of the main targets in these participatory practices, economic priority of cost-reduction commonly takes over. The main function and end-result of these activities are generally cost-reduction mostly through labor-savings. One of the managers at Tofas-Fiat refers to quality circles as "cost circles" pointing to priority of cost-saving projects. My own observations at kaizen and QC presentations at Tofas-Fiat confirm this fact. Among around thirty such presentations I observed, twenty-five of them were about labor- and thus cost-savings and only a few were directly about quality improvement.

In fact, when workers are asked about such activities as kaizen and QCs, most of them reply by starting with what these mechanisms mean to them: "*They generally mean 'making productivity'*". Although they also recognize the fact that the shopfloor has become a cleaner place to work and there has been a decrease in work accidents and improvements in ergonomics, when they describe these activities, the emphasis is almost always on savings in labor-time. Some interviews also reveal a tension between different purposes in continuous improvement activities and hint implicit priorities:

"*We try to save in terms of labor, in terms of space so we try to combine operations. Then, however, in some places the guys are working too close to each other and that is dangerous. You know, the sparks from welding* (a worker from body shop at Tofas-Fiat)"

One important aspect of participation in such activities is that no matter how seldom line workers participate - and they are involved if the issues are directly related to their work station, they do it reluctantly but without open resistance. Some workers who participated in a kaizen activity revealed that it was not really their choice and they rather felt guilty since at the end it led to labor-time savings. Many, who reluctantly participated in kaizen activities also suggested that they tried not to help with labor-time and space savings and share their tacit knowledge on critical points that might lead to these savings. Many workers were hesitant to share their ideas also through the suggestion system as they witnessed that the number of workers has decreased substantially over the years and they related continuous improvement activities to firings. Interviews with workers and team leaders reveal that despite their reluctance, most of the workers cannot refuse to be involved. Participation in such activities are used as an informal criteria in deciding who would get the "forced vacation" or even who would get laid-off when the management asks for employment reduction. Thus, albeit limited, participation in these activities becomes part of the survival strategies on the shopfloor changes as they change the rules for securing employment. Yet, it clearly creates a conflict of interest for many workers. This also underlines the overwhelming influence of high unemployment context, job insecurity, and flexible working-time arrangements in shaping workers' experiences on the shopfloor as well as molding the actual nature of 'participatory' practices.

CONCLUDING REMARKS

The two oldest car factories in Turkey, Oyak-Renault and Tofas-Fiat, have undergone significant transformation in recent years. The plants' strategic positions have changed as they have become increasingly integrated within their multinational partners' internationalization strategies. This increased international integration has also been the main driver of work reorganization in these plants. As the internationalization strategies of both Fiat and Renault based on "world car" and "platform strategies" necessitated increased standardization of both products and operation management, the local plants also had to reconstitute themselves internally along the lines of their multinational partners' work organization templates.

However, this external and internal transformation has taken place within a context of severe domestic market contraction and high unemployment. The survival of the plants and thus the livelihood of auto workers have become increasingly dependent on exports and acquirement of new models, which at times, have led intense conflict between partners and destabilized production. Despite different profit strategies followed by Fiat and Renault, the position of the two joint ventures within their internationalization and market strategies has shown a striking similarity. Both plants have become export bases serving to the same regional markets and specializing in the lower middle and middle segments. Accordingly, these two plants have also shown striking similarities in their new work organizations.

The main impact of the transformation of work organization on workers has been the introduction of teamwork. It has primarily changed the social relations at work, as the team leaders have become pivotal figures on the shopfloor. As the team leaders are joined by a few highly skilled workers, who themselves have overtime appeared as informal hierarchical figures, the formal and informal control over workers has increased. This redefined hierarchy has, in turn, become the main driver of worker commitment and thus performance on the shopfloor and both companies have sustained required quality and productivity performances

without extensive worker participation. Interestingly enough, this renewed hierarchy has been welcomed by the majority of workers, who have enjoyed improved social relations with these new figures of authority.

Aside from this cultural aspect of work reorganization, however, a transformation officially based on more worker participation has remained as a promise yet to be delivered. Although both companies have significantly invested in training, *de facto* job rotation remained limited largely due to the primacy of productivity concerns.

Moreover, an extensive worker involvement in off-line 'participatory' practices has also been limited. Although Tofas-Fiat has introduced more mechanisms for worker involvement compared to Oyak-Renault, this has not created a substantially more extensive participation. Majority of workers has either called upon only when the issues considered involved their immediate workstation or never participated in these activities. Even during their limited participation, however, many workers experienced a conflict of interest as they are generally asked to contribute to cost-reduction activities, which have commonly been achieved through labor-time savings.

Since 1998, however, neither of the companies has resorted to massive lay-offs despite the severe economic crisis. They have decided to shoulder the burden of excess labor in order not to hurt the trust relationship between labor and management. Besides, they did not want to loose the trained labor force given the expectations of increased production and new models. However, the companies have continued to enjoy peculiar flexibilities to sustain their commitment to the unofficial no lay-off policies. While the manipulation of severance and compensation pay for older workers and that of military service for young workers have eased the gradual adjustment of employment levels, working-time flexibility informally negotiated by the labor union has helped the companies to cope with not only market fluctuations but also production inefficiencies such as material supply problems.

These flexibility strategies, administered almost effortlessly within a high unemployment context and compliant unionism, have shaped workers immediate concerns at work to a larger extent than the work reorganization and new production practices, whose dynamics have also been manipulated due to the influence of this context. The livelihoods of workers are negatively affected by flexible working-time arrangements, to a greater extent at Tofas-Fiat largely due to the differences in production systems between the plants. Both plants have ensured performance by mobilizing the competence and participation of a few highly skilled workers. Commitment and participation, albeit limited, of the majority of workers were sustained under the auspices of high unemployment and compliant unionism.

This study of the experience of two joint ventures and their workers highlight the importance of a multi-level analysis, which takes into account the dynamic interaction between internationalization strategies of the car manufacturers, the relationship between multinational and local partners, and the domestic macroeconomic and employment relations context in understanding the dynamics of work reorganization and workers' experiences of these processes. Despite this complex interaction of various factors, however, it can be argued that although integration within internationalization strategies played a major role in transformation of work organization, the *actual* nature of work and production practices and workers experiences have been shaped to a greater extent by the larger macroeconomic and employment relations context.

Appendix 1:

CONCEPTUAL FRAMEWORK FOR WORKER PARTICIPATION

STRUCTURE

1. Formal structure (teamwork, QC, kaizen, suggestion programs etc.)
2. Incentive structure (rewards, promotion, job security etc.)
3. Capability development / Empowerment structure (capability/capacity to participate)

   - skills (technical and non-technical),responsibilities (tasks),decision-making power

COVERAGE (inclusiveness of participatory practices)

Basis of participation:

- Who are involved and in what sections of production process?
- Profile of "insiders" (skills, education-level, age, union involvement)

SUBSTANCE

- What are the issues covered by participatory practices, issues discouraged?
- Whether participation is practically confined to technical issues (data gathering….) or has room for creativity (whether workers have challenging tasks)?
- Whether it necessitates more skills and for example communication with other workers/supervisors/even customers outside their work area?
- Whether participatory practices utilize workers' skills. (Multi-skilling, job-rotation) So, the number of certifications they have become less meaningful if they are still primarily performing limited tasks)

SUBJECTIVITY

- Culture/ideology of participation (whether workers value, legitimize participation or see it as "management's business? Whether managers see worker participation as legitimate? What are mangers' guiding assumption about workers' capabilities, rights?)
- Participatory skills external to workplace (political beliefs, involvement in official union activities, family responsibilities, time constraints…)
- Whether/when workers feel they are participating?
- Concerns about participatory practices?

COLLECTIVE OR INDIVIDUAL PARTICIPATION? (Union's role: Whether union is involved in any/all issues raised above?)

Whether formally negotiate any of these issues? Whether oppose/cooperate? Whether provides any training on those issues?

Appendix 2:
A COMPARATIVE PERSPECTIVE FROM ELECTRONICS SECTOR

A comparative analysis of two electronics plants raises two key issues that deserve further research and discussion:

First, the most striking research finding arising from a comparison of the four plants is that the work organization and production practices at two joint venture auto plants are almost identical to each other, whereas the two indigenously owned electronics plants have significantly different work organizations and production practices. While one of them implements a "nascent" teamwork and participatory production practices, the other continues production along the lines of a traditional work organization based on vertical supervision and an authoritarian management.

How can we explain that the Turkish subsidiaries of two different car manufacturers, pursuing different profit strategies, have almost identical work organizations, whereas two indigenously owned electronics companies pursuing similar competitive and market strategies differ significantly in the way they organize production?

Second, despite nuances between work organizations, the continuing, and in fact, renewed role of both formal and informal hierarchy at the lowest level, underlines the commonality of teamwork. Teamwork, where applied, means mostly better social relations at work from workers' point of view. Thus, the main difference between the three plants implementing teamwork and the remaining electronics plant organized in a traditional way is this cultural dimension of work reorganization. Aside from this cultural dimension, however, the immediate concerns of workers at all four plants are influenced, to a larger extent, by the larger context in terms of product market stability, unemployment levels, job insecurity and compliant unionism. Thus, different work organizations make little difference in the majority of workers' experiences. How and why is that possible?

Before I give my preliminary answers to these questions, let me, first, briefly introduce the electronics sector and the two plants under examination.

ELECTRONICS SECTOR AND COMPETITIVE CONTEXT

Although electronics is a dynamic sector that has significantly developed in the 1990s, its share in the economy is still small. In recent years, however, the electronics industry has developed sizable capacity especially in two sub-sectors: consumer electronics and telecommunications.

The share of electronics sector in total exports, though remained modest, continuously increased from 2.3 % in 1994 to 2.9 in 1996 and to %5.1 in 2000. Consumer electronics has been the most important sub-sector in electronics both in terms of its share in total electronics production and exports. Its share in total electronics production was %50,8 in 2000.

Consumer electronics was also the leading sub-sector in exports with its share of 62.7% in the same year. The most important consumer electronics product is television, with a production share of 96% in total consumer electronics production and an export share of 97% in total consumer electronics exports.

Although both auto and electronics sectors and companies are becoming increasingly integrated with the European markets, what is crucial for understanding the competitive context of the two electronics firms is the steady decline in the European TV manufacturers' share in production. In recent years, main European producers have started closing down their factories and shifted their production to Turkey. Although both electronics companies, Beko and Profilo, produce under their own brand name, they also started producing for these big European brands; Beko for Grundig and Profilo for Phillips. Turkish TV manufacturers (Beko, Profilo and Vestel) were the leading producers in the European TV market with a share of 40% in 2002.

In fact, both companies have progressively become main players in the European markets. Their production has increased significantly despite the economic crisis and contracting demand in the domestic market. To meet the increasing demand, both companies have increased their capacity through hiring new workers but also using excessive overtime.

However, as they become increasingly more competitive in export markets, the two companies have followed significantly different production and work organization practices under radically different company and HR cultures. Profilo continues its production based on a traditional work organization with a strong patriarchal and authoritarian management style. Although a large portion of workers remains secluded from genuine participation at both plants, Beko has taken significant steps towards implementing a participatory work organization, based on a "nascent" teamwork, and implemented an innovative way of developing a genuinely multi-skill workforce. However, these participatory practices at Beko have started taking the back seat as production has further increased.

WORK ORGANIZATION AND PRODUCTION PRACTICES

Beko

Beko was established in 1966 in Istanbul. It is indigenously owned and belongs to the largest Turkish Conglomerate, Koc Holding, which is also the local partner of Tofas-Fiat. Although PCs, satellite systems, and cash registers are among its product range, Beko mainly produces TVs (color TV, plasma TV, hotel TV systems).

The company has long been the leader in terms of domestic market share but its production has increasingly been oriented to export markets. Beko exported 74% of its production in 2001 and 66% of turnover came from exports. 85 % of its exports goes to the EU, where the products are also sold under the firm's own brand name, Beko.

Beko is the third largest TV producer in Europe and aims to be the first in 2005. It is also stated in many managerial interviews that the company also wants to reduce its dependence on TV production and broaden its product range.

Beko has been one of the few companies that could grow in the midst of economic crisis. With a 98% increase in production in 2002, Beko's share in total TV production reached to 48% and the company increased its turnover by %120 in the same year. The employment was also doubled reaching to around 3000 workers in 2002. During the time of the research, there was a continuous flow of new recruits. The management expects this trend in capacity increase to continue as the company strikes new agreements, which are attributed

to the quality and technology developments in recent years. Beko signed an agreement with a long-time previous customer German Grundig, which decided to close its plants in Europe, to become the exclusive producer of certain models. The management suggests that the long-time good relations with Grundig and the fact that Beko is now a known and trusted brand in Europe are the key factors behind this agreement. Although failed in the last minute, Beko wanted to buy Grundig before the company announced bankruptcy in April 2003. The company continues its search to buy other strong brand names such as Grundig to increase its market share. One of the most crucial aspects of Beko-Grundig collaborations, though, concerns after sales services. Due to a recent agreement signed in February, 2003, all Grundig dealerships in Europe will also serve for Beko brand TVs, making the network the largest in Europe with a total of 16,240 dealerships and services.

Work organization

Beko's pursuit of "quality" dates back to early 1980s. In 1983 it became the first company establishing Quality Circles in Turkey. Beko was also the first company, which received ISO 9000 and ISO 14001 in electronics sector. It has also won many national quality awards and in 2001, Beko became the first Turkish company that has won the award for TPM Excellence given by the Japanese Institute of Plant Maintenance (JIPM)[30]. TPM has, in fact, become the main pillar of company culture as its scope has expanded over the years.

The most substantial transformation, however, came in late 1990s. In early 1990s, Beko adopted TQM following Koc Holding's project of "Koc Excellence 2000: Consumer Centered Strategic Planning". In 1997, which was the main turning point in company culture according to many managerial accounts, Beko launched it sown "strategic management" program called BEST, which aimed diffusing TQM in the company with a more "participatory" nature and from a perspective of long-term planning. BEST entails a revision of the "vision and values" of the company in the light of "quality" and aligning all employees' interests with the company mission. It adopted the EFQM (European Foundation for Quality Management) model as the main method of implementing TQM, which is arguably based on substantial worker participation as one of its main pillars[31]. In 1998, Beko was among the twenty companies (including also TOFAS-Fiat), which adopted "lean thinking", developed by I.D.E.A.[32] of Koc Holding, which also operates as the Turkish branch of JIPM.

Within this framework of managerial reorientation, a comprehensive reorganization took place in 1999. Through a substantial delayering, the hierarchical levels between

[30] See, note 29 on page 29.

[31] BEST is fully developed after a benchmarking project with east Asian and European companies in 1995-96, which revealed that the company had a 35% dynamic cost gap. BEST was shaped based on the findings during this benchmarking strategy, which revealed that the company "has to reach to million unit level production capacity". To make sure the process is working, specific targets are set and ten-year projections reexamined and renewed if necessary each year. For example, BEST specified the cost gap to be zero in year 1997 and the total production to reach 2 million in 2000. The company records show that BEST has accomplished these missions and even surpassed them. The HR manager, who is also in charge of the administration of BEST recalls the feeling of purpose and goal during and after that benchmarking process: "*The most important was that it helped us to define where we want to go*". TPM methodology was also adopted as part of the BEST process. The HR manager suggested that, they "*especially liked it because it was an operational strategy oriented towards the shopfloor and aimed at eliminating waste and thus cost*"

[32] I.D.E.A. is the "Turkish" acronym for Analysis, Consultancy, Training and Research. Two anecdotes seems appropriate here: The president of I.D.E.A. spent a couple months in Japan examining production methods at Toyota before formulizing the "lean thinking" for Koc Holding. Among I.D.E.A.'s inspirations though, there were also two Americans: James Womack and Daniel Jones were the leading participants in the "Lean Summit" meeting held by I.D.E.A. on June 29-30, 1998.

operators and the general manager were reduced to four. More importantly, though, albeit very primitive, a team structure was also introduced at Beko.

The delayering process eliminated two most traditional hierarchical figures, the foremen and shift manager (*vardiya amiri* in Turkish). Main production areas were redefined as teams (*takim* in Turkish) and within each team units (*ekip* in Turkish) were introduced. There are five main areas of production: plastic die, PCB (control board), manual insertion, automatic insertion, and final assembly. Each production area forms a team, for example PCB is a team. Units are formed on the basis of assembly line structure; for example, one assembly line in manual insertion or final assembly is one unit.

The decentralization of non-productive functions to production units such as quality, maintenance and material planning is under way, albeit remains very limited. Engineering still plays a crucial role and commands a broad range of functions. There is still a pronounced antagonism between operational and engineering units, especially over design and quality issues. Many workers interviewed suggest, "*Engineering mistakes and design problems are [their] main source for suggestions*"

A unit is officially described as the "smallest unit of production which is based on self-governance" in the company handbook. However, the reality is far from this description.

Each unit consists of blue-color workers: an unit spokesperson, one or two relief workers depending on the size of the unit, a planner who is responsible for material supply, and production workers. A special room is assigned to units and the room is shared by all units in order. The unit members have their meetings in these rooms and 2-3 computers are available for workers to prepare their kaizen or TPM presentations after their shift ends. The unit meetings are called by the spokesperson with the permission of the team leader, usually in every two or three months to discuss any problems the unit members might have among themselves or if the spokesperson "*sense[s] that there is a negative electric in the unit*". When he sees necessary, the team leader also joins the meetings. TPM and Kaizen activities are also discussed in these meetings.

Unit spokesperson (*ekip sozcusu* in Turkish), initially selected and appointed by management among previous foremen or experienced workers, is responsible for task allocation in the unit. S/he also makes decisions how to fill in for absentees and has the authority to sign one-day paid leave of absence. More crucially though, they ensure the smooth running of production and listen and find solutions to workers immediate concerns, thus perform a crucial function in labor management. One spokesperson, who holds the position for the last four years since the unit structure was introduced and invested his 20 years in the company, explains his job in quite simple words: "*A spokesperson is someone who can not and does not think anything but production*".

That is largely due to the fact that the spokesperson is also the planner of the unit, whose job is to manage material supply and ensure the smooth running of production. It is important to note here why the planner is also commonly the spokesperson. What happened was that former foremen were appointed as unit spokesperson when the unit structure was first introduced. The company management promised elections for spokesperson the following year and kept its promise and held elections in every six months. However, the production managers i.e., team leaders, kept heavily influencing the elections. One production manager remarked:

"*There are planners in each unit and there are spokesperson. This causes double-headedness. That is why I am encouraging and persuading the workers to elect the planner. When they choose their spokesperson, they elect strange people and then we never can make*

the target production. So, I encourage them to elect the right people and that is usually the planner. Planners have more time available to perform the duties of spokesperson (emphasis added)".

The steady decline of TPM activities, acknowledged univocally by both managers and workers, also contributes to erosion of units as meaningful entities in many team leaders' view. One of them suggests:

"*TPM is an important activity that holds people together. Now, it is in decline, the workers are also not relating to each other anymore. After 4 p.m., they are not Beko workers. The company management decided not to pay overtime for the activities conducted after the shift ends. Company's attitude has changed after the reward*"

Due to this weak form of teamwork and lack of a genuine delegation at unit level, the team leader (*takim lideri*) i.e., the production manager of a specific area, remains the key hierarchical figure in managing shopfloor affairs. The following quote from one of the team leaders typifies the general attitude and discourse of managers and the extent of managerial control:

"*When I was offered the position, I had two conditions: first, no one could enter my lines without first consulting me; and second, I decide who stays and who goes. I spend my life here, I am here more than twelve hours a day. I know every one of them [referring to workers in that production area]. Every morning, I walk around the shopfloor, I say 'good morning', shake hands. That is important. You have to be able to relate to their level of culture*"

Although the main idea in reorganization efforts was to integrate industrial engineering, planning and maintenance within production units, this integration stopped at the level of teams (production areas). Accordingly, one industrial, one maintenance and one planning engineer were assigned to each team and hierarchically linked to the team leader. Quality function remained centrally organized and although each worker is held responsible for quality, the end-of-the-line inspectors remained in place and hierarchically linked to the quality department.

Thus the main change took place at the level of team (main production area). Team, thus, de facto, refers to an entity composed of multiple engineering staff and the team leader, who is the production manager of the area. In a sense engineering has become more closely integrated within production. Over time, though, there has been a diversion from the original allocation of engineering staff. While the number of engineers increased in some teams, some teams lacked sufficient engineering support and planning engineers were linked to the central planning after a while.

Due to increased capacity and production, the original layout of production was upset as additional lines were set up and many units were destabilized.

Off-line 'participatory' practices

There are multiple mechanisms that aim utilizing workers knowledge and contribution to productivity and quality issues at Beko.

Beko was the first company who introduced QC in Turkey. The company launched QCs in 1983 and continued this practice up until early 1990s. The QCs, however, were composed of white color employees; engineers and technicians.

Under the consultancy of JIPM, TPM activities were fully launched in 1997. The company announced TPM as the backbone of its operational strategies and aimed reducing maintenance cost, productivity increase and eliminate unscheduled stops. Among the main targets were to train production workers to perform autonomous maintenance so that the dependence on maintenance workers for lower levels of maintenance could decrease. When TPM was first introduced, the company informed workers that they will be utilizing mechanisms similar to the previous experiences as quality circles yet this time incorporating all employees.

Although, it is primarily a method developed for equipment maintenance, the "M" in TPM has evolved from maintenance to manufacturing to finally management. TPM is considered as a defining component of company culture at Beko both by managers and workers.

It was first introduced in pilot machines and lines. Then, TPM teams were formed in each unit and the membership was based on voluntary rotation. Units were given specific targets such as the number of kaizens, suggestions, F-tags etc., all of which are defined as tools of the TPM methodology.

There is a TPM Office at the plant, very similar to the Continuous Improvement Office at Tofas-Fiat, which functions as the administrative and coordinating arm of not only TPM but also kaizen activities. The monthly company newsletter serves as an important channel of communication of TPM activities, which almost always make the headlines. Around 7-8 pages of a total of 14 are devoted to the subject. A TPM Publishing Team composed of 11 TPM representatives who are blue-color workers prepares these pages.

Kaizen activities are incorporated within the stages of TPM program in 1998 and considered by the company as a "technique of TPM methodology". There are two types of kaizen activities: before-after and kobetsu kaizen. Whereas the subject of the former is easier problems which individual workers could develop solutions without extensive data analysis but utilizing their experiences and common sense, the latter necessitates a group project as it aims solving more acute problems.

There are 6 TPM representatives. They are older workers with around 13-14 years of seniority and appointed by team leaders. They function as the main link between the TPM office and the shopfloor in terms of training needs, kaizen presentations. Yet, their main function is to audit the compliance to work standards by workers. These TPM representatives keep working in production although some of them are in indirect functions.

Beko also has a well-developed suggestion system, introduced in 1996, for individual worker contribution. While initially the aim was to encourage as many suggestions as possible by setting quantitative targets for teams and units, later, the management tried to promote "real" suggestions instead of the number of suggestions. As a result the number of suggestions declined but the management claims the cost-reduction gains have increased.

The most crucial and interesting innovation at Beko, however, is the TPM Academy, which is considered to be an important mechanism for creating a polyvalent workforce. It was developed as a result of a benchmarking project with Mercedes-Benz. The trainers were recruited from area technical schools, which are known for their German style curriculum and education and, in fact, have strong ties with Mercedes-Benz in Turkey.

In the Academy, workers in groups of 30, selected through an examination in every three months, are given training. The workers are totally secluded from any production duties and concentrate only on their classes for the whole period of two months. They continue receiving their usual wages. The training focuses not only on overall understanding of TPM

principles but also on each worker's respective individual job, which enables workers to carry maintenance of the machinery and equipment they use. Each period of training focuses on a different subject. The first period, for example, was on automatic insertion operations and the second was on plastic injection operations.

The entry exam, administered by an outside agency, is based on measuring both knowledge and potential capacity for competence development. There are no specific criteria for eligibility to take the exam.

The management claims that the TPM Academy provides the basis for creating a genuinely multi-skill, multi-functional workforce. It also provides a crucial advantage and tool for workers to move upwards in the grade ladder as it enables workers to change their area of production. A TPM Academy graduate who can now be employed in automatic insertion or PCB can immediately move to grade 7 and go all the way to the last grade of 9, whereas the prospects of a worker in such low skill areas of manual insertion or final assembly are far more limited as s/he can move up to grade 5 the most. However, the most crucial benefit for the Academy graduates is the informally promised job security, which is also at the top of their list of expectations for attending.

While three classes were successfully graduated from the Academy, due to increased capacity and production, the management decided to discontinue with the training, at least until production is stabilized. In fact, despite the infrastructure for worker participation and the gains the company enjoyed over the years as a result of the participatory activities[33], they have been on a steady decline for the past year largely due to increased production. These activities have also lost the initial managerial support. The director of the TPM Office explains the situation:

"*TPM is now on decline. That, I can clearly say. Now, the production has increased and taken priority. We once recognized that we had to earn money from production and that earning money from money was not enough. That is how TPM started. But now business is good and we are making profits so why do we need TPM anymore? That is how the management sees it. They do not recognize it as a philosophy. Nobody has understood TOYOTA!*"

An analysis of Beko, which introduced participatory practices as part of its competitive strategy but failed to sustain these practices once its production and capacity increased, sheds light on the relationship between participatory practices and product market stability. In this case, workers are denied participation due to increased production and the primacy of meeting the production targets. Participatory activities took the back stage. Moreover, the workers started to work excessive overtime. They were also deprived of an even embryonic "industrial democracy" as the team leaders started manipulating the elections for spokespersons, again largely due to productivity concerns.

PROFILO

Profilo is also one of the leading OEM TV producers in Europe. The company started production with black & white TVs in 1972. Although it has widened the product range in the following years, TV is still the most important product. Profilo is indigenously owned by Profilo Holding, one of the largest conglomerates in Turkey, which is run by the Kamhi family. Despite its competitive status, however, the family "tries to sell the Profilo since

[33] In 1998, Beko was producing a TV in 15 minutes. The company claims that due to TPM methodology and kaizen activities, the total time has been reduced to 11 minutes.

1998". In fact, there are talks between the Profilo and Beko for a possible merger. Beko wants to have the majority ownership of Profilo. If it is realized, this would make the new company the largest TV producer in Europe. However, despite long talks between the companies and heightened optimism in recent months the merger has not been finalized yet. This creates an enormous amount of rumor and anxiety among workers at Profilo. They fear about possible job losses when and if management changes but they also clearly prefer to be under Beko's management as they see the company to be more stable since it belongs to the largest conglomerate in Turkey.

The company perceives the nature of and trends in TV OEM market as the following: high price sensitivity; distributors'/importers' increased preference to work directly with manufacturers; standard featured products; increasing demand on manufacturers to handle after sales service activities; and increasing demand for shorter lead-time and higher flexibility. The management claims to deal with these trends through continuous cost reduction activities in all areas from design to procurement, through adaptation of new technologies, attractive and up-to-date designs, shortened lead-times, adept management of after sales services, alliances with world wide leading firms.

Backed up by its own designs, Profilo produces a wide range of TVs with innovative customized designs, developed by in-house R&D department. The company produces its own brand but also under other brand names such as Sanyo, Akai, Siemens, Philips, Telefunken. The company has also many R&D and patent alliances with major companies from the U.S.A., France, Germany, Great Britain, Israel, and S. Korea.

Profilo started exporting in late 1980 and in 2002, the share of exports reached to 75%. The products of Profilo have reached a significant market share in the foreign markets, with more then 90% of the export going to the EU countries. Exports to West Europe markets are sold in leading chains such as Metro, Kaufhof, and Kaufhalle in Germany, Dixons in United Kingdom, Carrefour, Continent, and Champion in France. The company claims that the large customer portfolio helps it establish a continuous export flow to foreign markets. Profilo's share in the domestic market was 23% in 2002.

The company has built its new premises with the latest technology in its production and quality assurance systems. It has systematized, and organized its assembly lines using the new technology; thus increasing its efficiency and reliability. The managing director suggests that "with the availability of skilled and cost-effective manpower compared to international standards, Profilo has quickly increased its productivity, and has reached an efficient production level".

Work organization

In sharp contrast to Beko, there has never been an organizational restructuring at Profilo. The work organization is still primarily based on vertical supervision. The number of hierarchical levels between workers and the general manager is seven. Profilo also has five main production areas. Each production area is managed by a production manager, two deputy managers, one or two shift manager, and foremen.

Foremen are key figures on the shop floor. S/he is the one who makes sure that the production runs smoothly and the workers keep up with the pace. One foreman is usually responsible from two or three lines.

When asked about workers' responsibilities in quality, a foreman in final assembly replies:

"*They need to complete the operations as its is described and without missing anything. And we also try to encourage them to learn the previous and next operations so that they can fill in when those folks do not show up. This way, they can also control the previous operation to see whether it is done correctly*".

Esthetic control, which is basically quality control by eye, is the only responsibility of workers in terms of quality. There is also quality control at the end of each line. These control workers also have to keep track of problems and unplanned stops but as the production manager suggests, "*they do not because there is not enough time*". Each finished product is also controlled and tested afterwards.

There are only a few relief workers available on the shopfloor. There are two ten-minute tea breaks and that is the only time available to workers if they need to use the restroom. The engineering manager says: "*the cycle is 36 seconds here. If everybody takes ten minutes to use the restroom that means twenty TVs are lost*"

Absenteeism is not a problem in management's list. Yet the fact that there are no relief workers not only further intensifies the working day but also makes production even more difficult for workers when occasionally someone does not show up. In manual insertion and final assembly, the solution to absentee worker is to redistribute components or operations among the available workers. Sometimes the controllers at the end of the line or even the foremen fill in for absentees. The foreman is also responsible for the reallocation of components and operations in cases of absenteeism.

Industrial Engineering and Process Management Department plays a key role in determining production standards. It is responsible for not only quality and process control functions and calculation of standard times, preparation of operation cards[34], assessment of manpower needs and labor allocation but, curiously enough, also workers' training. The very brief period of experimentation with Quality Improvement Teams was also conducted under the decree of this department, which now administers the newly initiated suggestion system.

Off-line participation

Profilo briefly experimented with QCs, called Quality Improvement Teams, in 1996 but quickly disengaged with the practice. One manager commented that it was "*when things were easy and smooth*". Only eleven such teams were established. Even a brief look at the projects completed by these teams reveals that they focused on a very few, common sense type of improvements, such as energy savings and elimination of excess dirt.

Although Profilo received ISO certifications (ISO 9001 and 14001) in early 1990s, there is no mentioning of TQM or other related quality mechanisms. The head of Industrial Engineering and Process Management Department remembers when they received some consultation and training for TQM in 1992 and how they decided this was not something "*that would work for them*". He suggests:

"*We send some people to training groups. We had twenty such groups. When they come back, they start asking absurd questions and making requests that had nothing to do with improving quality. They asked, for example, why there were not any tea/coffee machines available and things like that. We want to be like Europe to early too soon without considering whether our conditions could tolerate such demands. So, it was a waste of time*

[34] It is interesting to note here that the procedure for preparation of operation cards explicitly warns the engineers to make sure that they describe "the order of operations in imperative form so that the workers should understand what is expected of them clearly"

and they filled people's mind with stupid ideas". He continues: "*In fact we wanted to have a career planning system for white color employees but the top management said that we will train these people and they will leave, so we gave up TQM*".

The only mechanism available for worker participation is suggestion system, which was initiated only two months prior to my field research. Management suggests that they tried suggestion system a couple times in the past but this time with financial incentives they expect more participation. "*First, we tried to give symbolic gifts because the top management did not see financial motivation as a good idea. Then we made a pyramid of incentives, TV being the top price. But, why would they [referring to workers] use their brain just for a TV? We received 40 suggestions in the last two months [clearly seeing the number of suggestions impressive] now that we are giving money*"

There are "suggest & solve boxes" on the shopfloor where workers could put their written ideas. Yet, it is difficult to argue that it provides an effective venue for workers to contribute their ideas as the limits of content are clearly set by management within this meager suggestion system.

DISCUSSION

What is the significance of this analysis of four plants in the European "periphery"? What does a comparison of these two electronics plants with each other and with the auto plants tell us about the relationships between internationalization of production, work organization, and workers' experiences of these processes?

This study provides an analysis of only four cases. Thus, it has its obvious limitations in terms of generalizations. However, is it still possible to draw some conclusions worth pursuing through further research? I believe, it is.

First, this study suggests that even under conditions of competitive product markets, firms can produce competitively using different work organization and production practices. So, it makes a general case for diversity.

Second, however, the analysis shows that this diversity is more visible at the electronics sector. Returning to the question raised before, "how can we explain that the Turkish subsidiaries of two different car manufacturers, pursuing different profit strategies, have almost identical work organizations, whereas two indigenously owned electronics companies pursuing similar competitive and market strategies differ significantly in the way they organize production?"

Although there might be a variety of factors to be taken into account, I think, the provided analysis highlights the pivotal role of the nature of international integration. The nature and mode of international integration of auto and consumer electronics sectors and companies in Turkey diverge significantly from each other. This study shows that although their strategic importance has increased in recent years, local auto plants have become more dependent on their multinational partners in terms of product, production, and market strategies. Governance structures in the global auto industry, which is increasingly oligopolistic, have increasingly concentrated power in main car manufacturers vis-à-vis their subsidiaries and local partners. The increased integration within main car manufacturers' internationalization strategies have pressured local producers to specialize in certain segments and versions and participate in intra-firm trades as production poles of specific components for these versions. This type of integration has heightened to pressures of standardization, which has forced the local plants to change their work organization based on the templates

provided by their multinational partners. Moreover, in this case, these organizational paradigms were already similar to each other in their origins. Combined with the homogenizing impact of the shared contextual framework, these already similar organizational paradigms have become more alike. Thus, this shared path has left less room for local variation between the two auto plants compared to the electronics firms, which have had far more independence in pursuing own product, production, and market strategies. Neither of the electronics plants was imposed a specific model of work organization. The analysis of auto plants shows how decisions in work organization and production practices were constrained by the nature of firms' location in the internationalized production chains. The character of those constraints and the possibilities demand further research and discussion yet it is safe to argue that sectoral governance structures and the nature of the product market are two key dimensions that should be accounted for.

For the comparative workers' experiences of work reorganization and new production practices, this study demonstrates that wherever the team structure is introduced, the main diversity is within plants rather than between them, despite the fact that teamwork primarily transforms the social relations at work for the better compared to traditional forms of work organization. The team structure in all three plants primarily transforms the role of first-line supervisors and a few highly skilled workers. As for the overall experience of work for the majority of workers, this analysis underlines the importance of examining not only the work reorganization and production practices but also, and in fact, to a greater extent, the larger structural context in which these occur. Thus, although the benefit of teamwork for labor is improved social relations with first-line supervisors, which clearly sets them apart from workers in a traditional plant, their immediate concerns at work are still largely shaped by the macroeconomic and institutional context, in terms of high unemployment, compliant unionism and the flexibilities available to the companies. However, within the common context and the shared problem of economic crisis and contracting domestic market, what sets autoworkers apart from electronics workers is mainly the nature of their firms' insertion into the internationalized product markets. Despite the overwhelming export orientation of production in all firms, the electronics companies have significantly higher independence and governance competence to pursue more aggressive product and market strategies. In a drastically contracting domestic market, this makes the whole difference in the world for the livelihood of workers.

SELECTED REFERENCES

Balcet, Giovanni and Also Enrietti (?) Partnership and Global Production: Fiat's Strategies in Turkey

Bonazzi, Giuseppe (?) *The Market in the Factory: Effects and Problems of Outsourcing at Fiat Auto*, unpublished manuscript

Camuffo, Arnaldo (?) Rolling Out a "World Car": Globalization, Outsourcing and Modularity in the Auto Industry

Camuffo, Arnoldo and Stefano Micelli (1995) *Mediterranean Lean Production? Supervisors, Teamwork and New Forms of Work Organization in Three European Car Makers*, unpublished manuscript

Camuffo, Arnoldo and Stefano Micelli (1999) "Teamwork and New Forms of Work Organization in Fiat's 'Integrated Factory'" in *Teamwork in the Automobile Industry: Radical Change or Passing Fashion?* (eds.) Jean-Pierre Durand, Paul Stewart and Juan Jose Castillo, pp.218-235.

Durand, Jean-Pierre, Paul Stewart and Juan Jose Castillo (eds.) (1999*) Teamwork in the Automobile Industry: Radical Change or Passing Fashion?* Macmillan Press, London.

Freyssenet, Michel (1999) "Transformations in the Teamwork at Renault" in *Teamwork in the Automobile Industry: Radical Change or Passing Fashion?* (eds.) Jean-Pierre Durand, Paul Stewart and Juan Jose Castillo, pp. 202-217.

Kennly M, D. and R. Florida (1995) The Transfer of Japanese Management Styles in Two US Transplant Industries: Autos and Electronics, *Journal of Management Studies* 32:6, pp: 789-99.

Nichols, Theo, Nadir Sugur, Ali C. Tasiran and Serap Sugur (January 2002) The Emergence of a New Generation of Workers in Turkish Industry: An Examination of Age Related Differences, *Center for Research into Economic and Social Transformation Working Paper Series* 21, Cardiff University School of Social Sciences

Pulignano, Valeria (2002) Restructuring of Work and Union Representation: A Developing Framework for Workplace Industrial Relations in Britain and Italy, *Capital & Class* vol.76, pp:29-64.

Tuckman, Alan and Michael Whittall (2002) Affirmation, Games, and Insecurity: Cultivating Consent Within a New Workplace Regime, *Capital & Class* vol.76, pp:65-93.

Volpato, Giuseppe (?) Fiat Auto: Towards Globalization