

LABOR CONTROL IN DEPENDENT DEVELOPMENT

A Case Study of the Brazilian Electronics Industry in Rio Grande do Sul

by

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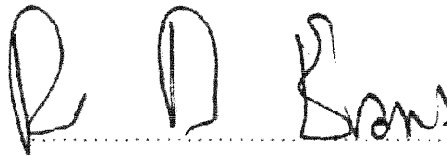
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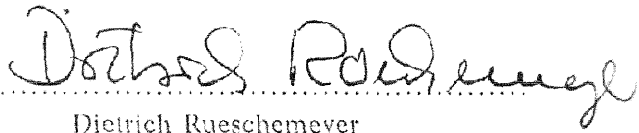
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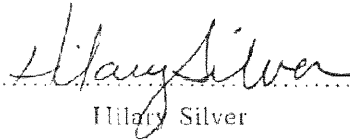
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TABLE OF CONTENTS

<i>Introduction</i>	1
<i>Chapter I. Theory and Methods</i>	8
<i>Chapter II. Historical Perspectives on Import-Substitution Industrialization, Union Structure and Labor Control in Brazil</i>	59
<i>Chapter III. Wage and Labor Turnover</i>	94
<i>Chapter IV. The Union as an Actor</i>	145
<i>Chapter V. Labor Differentiation at the Workplace</i>	212
<i>Chapter VI. Conclusions</i>	281
<i>Appendix</i>	312
<i>References</i>	325

List of Tables

Table 2.1	Brazil: GNP Growth Rates.....	90
Table 2.2	Minimum Wage Evolution in Some Capitals - 1960/1978.....	91
Table 2.3	Inflation Rates in Brazil.....	92
Table 2.4	Average Monthly Real Minimum Wage in Selected Capitals - 1960/1978.....	93
Table 3.1	Ratios of Real Monthly Average Wages per Employees in Selected Industries over Real Average Monthly Wages per Employee in the Total Manufacturing Industry - RGS, 1970/1980.....	131
Table 3.2	Real Industrial Value Added per Employee in Selected Industries and in the Total Manufacturing Industry, in 1,000 cruzeiros of 1977 - RGS, 1970-1980.....	131
Table 3.3	Jobs, by Ranks of Minimum Wage - RGS, 1976.....	132
Table 3.4	Jobs, by Ranks of Minimum Wage - RGS, 1983.....	133
Table 3.5	Jobs, by Ranks of Minimum Wage by Gender - RGS, 1976.....	134
Table 3.6	Jobs, by Ranks of Minimum Wage by Gender - RGS, 1983.....	135
Table 3.7	Employment in the Electric Industry and in the Total of the Economic Activities, By Gender - RGS, 1976/1983.....	136
Table 3.8	Gini Coefficients of Wage Distribution - Metallurgical, Mechanical, Electric and Communications Materials Industries and Total of the Economic Activities - RGS, 1976/1983.....	137
Table 3.9	Monthly Wage Means by Gender in Minimum Wages - Metallurgical, Mechanical, Electric and Communications Materials Industries and Total of the Economic Activities - RGS, 1976/1983.....	138

Table 3.10 Labor Turnover Rate for Total Jobs - RGs, 1980/1983.....	139
Table 3.11 Average Length of Stay on the Job - Total Jobs - RGS, 1980	140
Table 3.12 Total Labor Turnover Rate by Gender - RGS, 1980	141
Table 3.13 Reason of Dismissal, by Gender - RGS, 1976.....	142
Table 3.14 Reason of Dismissal, by Gender - RGS, 1980.....	143
Table 3.15 Percentage of Employees by Year of Admission, by Gender - RGS, 1980.....	144
Table 4.1 Wages and Supplements.....	191
Table 4.2 General Labor Conditions	198
Table 4.3 Job Position at the Workplace.....	206
Table 4.4 Union Legitimacy	209
Table 5.1 Firms' Factory Regime: Main Characteristics	279
Table A.1 Establishments, Production Employees, Real Wages and Real Industrial Value Added - Electric and Communications Materials Industry - RGS, 1970/1981	313
Table A.2 Establishments, Production Employees, Real Wages and Real Industrial Value Added - Metallurgical Industry - RGS, 1970/1981	314
Table A.3 Establishments, Production Employees, Real Wages and Real Industrial Value Added - Mechanical Industry - RGS, 1970/1981	315
Table A.4 Establishments, Production Employees, Real Wages and Real Industrial Value Added - Total Manufacturing Industry - RGS, 1970/1981.....	316

List of Illustrations

Figure A.1 Evolution of Average Real Monthly Wages - Electric and Communications Materials Industry - RGS, 1970/1981	317
Figure A.2 Evolution of Real Industrial Value Added - Electric and Communications Materials Industry - RGS, 1970/1981	318
Figure A.3 Evolution of Average Real Monthly Wages - Metallurgical Industry - RGS, 1970/1981	319
Figure A.4 Evolution of Real Industrial Value Added - Metallurgical Industry - RGS, 1970/1981	320
Figure A.5 Evolution of Average Real Monthly Wages - Mechanical Industry - RGS, 1970/1981	321
Figure A.6 Evolution of Real Industrial Value Added - Mechanical Industry - RGS, 1970/1981	322
Figure A.7 Evolution of Average Real Monthly Wages - Total Manufacturing Industry - RGS, 1970/1981	323
Figure A.8 Evolution of Real Industrial Value Added - Total Manufacturing Industry - RGS, 1970/1981	324

INTRODUCTION

Historically, labor control has assumed different forms across nations. In addition, labor control has been a recurring topic of debate in the social sciences. Among the most provocative contributions among the many works on the subject are the studies by Edwards (1979) and Gordon et al (1982). Within the two perspectives articulated by these authors, capitalist relations of production are relations of exploitation insofar as they involve contradictory interests. It is in the capitalist's interest to obtain the maximum amount of work done from the labor power that he has purchased without increasing the cost of labor, but workers will resist any attempt to intensify their efforts at work beyond a minimum in a situation where they do not control their own labor process and the product of their labor. The contradictory nature of the relations of production thus brings about the problem of labor control. As stated by Edwards:

These basic relationships in production reveal both the basis for conflict and the problem of control at the workplace. Conflict exists because the interests of workers and those of employers collide, and what is good for one is frequently costly for the other. Control is rendered problematic because, unlike the other commodities involved in production, labor power is always embodied in people, who have their own interests and needs and who retain their power to resist being treated like a commodity...(1979:12).

In his analysis of the process that shapes the labor process and the labor market in capitalism, one of Gordon et al's (1982) major arguments is that institutional innovations must also be considered. These authors distinguish three basic periods in the history of labor transformation in the United States: proletarianization, homogenization and segmentation. According to this interpretation, the concept of labor segmentation was formulated to express a dual economic structure at the level of the labor market, which is divided along industry lines, and which corresponds to the historical pattern of capital accumulation in its monopoly stage. Each labor segment involves distinctive forms of labor organization and/or co-optation. At the micro level, the process of labor segmentation will create divisions amongst workers at the workplace. Edwards (1979) proposes a typology

consisting of three basic segments within firms: the "independent primary", the "subordinate primary" and the "secondary workers".

This study focuses on the recent evolution of forms of labor control in the context of the system of industrial labor relations in Brazil. Recent changes in the international division of labor between the core and periphery of capitalism have brought questions centering on whether or not "newly industrialized countries" such as Brazil should continue to be treated as part of the "periphery" to the forefront of current theoretical debate. Without going so far as to say that there is no difference in the pattern of capital accumulation between core and periphery, questions concerning the basis on which can we draw a dividing line between the "Developed World" and the "Third World", and questions concerning the direction in which this division may move in the near future remain open to further exploration. In particular, and of interest to this study, the central question asked is to what extent is it possible to predict trends in the process of the evolution of labor relations in an industrialized dependent country like Brazil based on the experience of an industrialized hegemonic country such as the United States.

The study of the evolution of industrial labor relations in the context of a dependent country such as Brazil becomes interesting as a contribution to this debate. As proposed by Evans (1979a: 10), the Brazilian case shows that changes in the international division of labor made such ideas as "the periphery" or "the Third World" obsolete, insofar as the economies of certain countries can no longer be characterized by the export of primary goods to the center in exchange for manufactured goods, as suggested in the concept of "classic dependence". According to this view, Third World countries that have undergone industrial diversification form part of the "semi-periphery". The Brazilian case of industrial growth --along with some other Third World countries in the Latin American import-substitution model of industrialization such as Mexico, and those in the Asian export-led model of industrialization such as Korea, Taiwan and Singapore-- suggests that

development based upon industrial capital accumulation is very possible in the periphery. Furthermore, the development of industrial labor relations in these countries brought about new social problems which are quite similar to those encountered in advanced industrialized countries in many important respects. Increased union mobilization, worker demands for participation in workplace organization and better wages in Third World countries like Brazil provide ample evidence of this. Moreover, events such as the recent breakdown of military regimes in certain Latin American countries and the current demands of segments of the Korean population for free presidential elections suggest that dependent development does not require authoritarian political regimes in order to be successful. Peripheral countries are likely to undergo a process of development based upon diversified industrial growth under democratic regimes, insofar as they have sufficient resources and markets.

Originally, the central purpose of this thesis was to analyze of the effect of state action on labor conditions in Brazil during the seventies and early eighties until the collapse of the military regime in March, 1985. It was expected that political changes taking place within the authoritarian regime beginning with a slow process of liberalization in the early seventies, would affect labor in the sense that a new "era" of labor control -- similar to the system of bureaucratic control described by Edwards (1979)-- would give rise to a process of labor segmentation in the most advanced industrial sectors during the final years of authoritarianism in Brazil. It was assumed that in the context of the political opening ("abertura"), state labor control would become less rigid, allowing for greater union capacity in terms of bargaining within relatively free market conditions. It was also expected that in response to worker pressure, employers would promote labor segmentation, as a strategy to weaken union strength. In the same vein, we expected that two sub-periods could be distinguished between 1970 and 1985: a "repressive period" from 1970 to 1978, and a "period of transition" from 1979 to 1985.

Significant migration toward industrial urban areas occurred during the fifties and sixties, leading to an increase in the size of metropolitan areas during the sixties and seventies. In addition, the economically active population allocated to urban employment between 1960 and 1980 increased in size in association with the recovery and growth of Brazilian economy during the late sixties and early seventies. In view of these factors, we assumed that a massive expansion of urban wage workers had taken place in Brazil during the last three decades. We also assumed that this process was consolidated after 1970 when, for the first time, employment in non-agricultural activities became higher (25 percent) than the employment in agriculture and related activities (20 percent) for the total of the Brazilian population of 10 years of age or more in 1970 (FIBGE, *Tabulações Avançadas do Censo Demográfico*, 1980). In 1980, the data gathered by the Demographic Census of Brazil revealed an even higher proportion of urban employment (34.8 percent) relative to rural employment (15 percent) within the total Brazilian population of 10 years of age or more (FIBGE, *Tabulações Avançadas do Censo Demográfico*, 1980). At the political and institutional levels, this process of economic change was accompanied by the emergence of the authoritarian regime in the sixties and its subsequent consolidation in the early seventies. Among other measures, this regime enforced the existing corporatist union structure with few (albeit significant) modifications and the official wage policy. Based on the historical developments of the time, one of our central hypotheses was that the first sub-period (between 1970 and 1978) corresponded to a process of institutional homogenization of labor under the aegis of repressive control of the working class by the state.

Worker resistance to state labor control increased during the the period of "political opening" initiated in 1974. By the late seventies, nationwide worker mobilizations prompted the government to introduce a new and less rigid wage policy, at the same time as new repressive measures were taken to bring labor under control. Thus, we assumed that in the face of a less stringent control of wages by the state, and the increasingly

independent worker organization, a new sub-period could be distinguished between 1979 and 1985. This sub-period would be characterized by an increasing level of union bargaining capacity, which enabled the unions to challenge management imposed labor conditions at the workplace. As a consequence, it was expected that the employers' response to the increasing union capacity would involve the development of bureaucratic control. This in turn would entail a process of transition toward labor segmentation, as opposed to the homogenization that characterized the previous sub-period, a time when labor conditions were largely defined by official norms. While these expectations provided a useful orientation for the fieldwork conducted in 1986, when confronted with the empirical reality of Brazilian labor relations we were forced to modify our initial expectations substantially.

As the field work at industrial firms progressed, we were not able to find firm evidence of the development of labor segmentation à la Edwards' (1979). This would have involved the creation of protected segments in the labor market with distinct characteristics such as higher wages, job security and, most importantly, more or less permanent linkages between worker and job when compared to the more competitive situation of "secondary workers". Rather, the data we obtained at the company level suggested that labor segmentation was not important as a management strategy for labor control in the context of Brazilian dependent development. This is in contrast to the role of labor segmentation in labor control in the monopoly stage of capital accumulation in the United States, a core country.

However, the field work carried out did reveal that gender segregation was a very significant factor in the creation of divisions in wage levels and job prospects at the workplace. The importance of gender segregation in creating divisions among labor in the Brazilian firms first emerged from the interviews and observations "in loco", and was later confirmed through our analysis of the aggregate data. Recurrent practices of

discrimination against women led us to consider patriarchy in a broader societal context wherein the division of gender roles is continually re-defined and re-shaped. Although our empirical research was limited to the world of labor, our findings suggest that rather than being an isolated phenomenon, gender segregation in the labor market, at the workplace, and at the union, forms part of a general process of the structuring of social relationships along gender lines. As a process involving the economic subordination of women, patriarchy contains a political instance, and its ideological formulations are part of, and shaped by, the "cultural hegemony" in a given society.

In order to better comprehend the results from this research on labor control in the private companies we studied in Brazil, where bureaucratic control was not fully developed, we looked to the analysis of the state as an alternative factor of labor control. If the capitalist mode of production is based on asymmetric labor relations, and if profit is the principal goal of capitalist production, then some form of labor control will be developed by the capitalist in order to extract the maximum labor done from the work force without increasing the cost of labor. In the Brazilian firms we investigated, much of the regulation of labor conditions at the workplace, including wages, relied largely on existing legislation. In actual fact, our findings indicated that in spite of recent political changes, the state still played an important part in labor control, in particular in the case of industrial wage workers through the reinforcement of the state sponsored union system. The empirical information did confirm our previous assumption that union capacity was indeed growing stronger. Nevertheless, we verified that the corporatist union system, based as it was on financial dependence on the state, was still a mechanism of state labor control. State capacity for labor control was still strong even after political liberalization and the first symptoms of the collapse of the military regime in the early eighties. This made other, more expensive forms of labor control, unnecessary.

The results of this research do not negate the work of Edwards (1979), Gordon et al

(1982), and others who have extensively analyzed labor control in advanced industrial societies. However, our results do suggest some important limitations to the generalization of their results. As the Brazilian case clearly shows, capitalist industrialization may proceed under institutional frameworks quite different from those observed in the United States. Moreover, these variant institutional frames in turn have direct consequences on the evolution of labor control.

CHAPTER I
THEORY AND METHODS

1. Introduction

The purpose of this study is to analyze the recent evolution of industrial labor control in the context of the broader system of labor relations which prevails in Brazil. The electronics industry in Rio Grande do Sul was chosen as the empirical site of this investigation. In its broader sense, the concept of labor relations transcends relations of production. In capitalist societies, industrial labor relations are related to class relations, and therefore, to asymmetrical power relations associated with domination and subordination. At any given historical conjuncture in capitalist society, industrial labor relations are mediated by existing forms of labor control, forms that reflect the balance of forces expressed by power relations. The comprehensive scope of the concept of labor relations --which incorporates relations of domination and subordination in the labor process-- is the reference point for this study. In capitalist societies, relations of production begin with the act of exchange in the labor market between the capitalist and the worker. Through this act, labor power becomes a commodity: the capitalist buys the worker's capacity for work. The distinction between laborer, labor power and labor, as defined by Marx (1968: 201-210), has significant consequences for the analysis of relations of production in that: "labor power becomes a commodity, but the laborer does not" (Rueschemeyer, 1986: 73). The worker is a human being who may exercise discretion in his/her work, must be trusted where he/she cannot be controlled, and who can discuss and conspire (Rueschemeyer, 1986: 73).

Once the wage-for-labor power transaction has been completed, the capitalist must strive to extract actual labor, i.e, work done from the labor power he owns. As capitalist relations of production are also conflictual relations, the organization of the labor process poses the problem of labor control. As defined in Edwards:

"Control" is here defined as the ability of capitalists and/or managers to obtain desired work behavior from workers. Such ability exists in greater or lesser degree, depending upon the relative strength of workers and their bosses. As long as capitalist production continues, control exists to some degree, and the crucial questions are: to what degree? how is control obtained? and how does control lead to or inhibit resistance on a wider scale? At one extreme, capitalists try to avoid strikes, sit-downs, and other militant actions that stop production; but equally important to their success, they attempt to extract, day by day, greater amounts of labor for a given amount of labor power (1979: 17-18).

One problem with what is otherwise a clear exposition of labor control is that it only considers those agents directly involved in relations of production: capitalists and/or managers and workers. As Rueschemeyer points out, it is also important to consider the action of parties other than these two in the process of labor control:

Not only can the state, autonomous in variable degree from the interests and demands of the parties, insert itself into the struggle, but professional groups within management may define themselves as separate from owners and executives as well as from workers in production, or skilled workers may constitute a distinct group at odds in its interests with both management and less skilled workers. The constitution of the relevant parties, the definition of their interests, their understanding of trends and possibilities, and the emergence, escalation and quiescence of conflicts over the organization of work are all interrelated in complex ways. The form such struggles take, as well as their outcomes, thus are likely to be more historically contingent than simple common sense would lead us to expect (1986: 78-79)

Furthermore, any social agent's choices and capacity for action will also be limited by structural constraints. The power of capitalists will depend on their labor and product market position, on a legal order that guarantees property rights, on a state apparatus that regulates labor relations and on a system capable of establishing the "cultural hegemony" of the dominant class. On the other hand, worker power resides essentially in its capacity for collective organization, particularly into unions and political parties (Rueschemeyer, 1986: 75). There are, however, considerable obstacles confronting any attempt by workers to organize collectively, ranging from the "free rider" problem identified by Olson (1965), to structural limitations imposed by competition in the labor market, the action of the state and cultural definition of social solidarities. Each of these

play an important role in fragmenting the working class into different segments. In addition, this fragmentation can be powerfully reinforced by employer strategies of labor control at the workplace.

Consideration of structural factors is of particular importance when the analysis turns to labor relations in dependent countries such as Brazil. In the Brazilian case, the process of import substitution industrialization (ISI) was accompanied by considerable state intervention in the economy and in the labor market. Since the fifties, heavy industrialization through capital-intensive investments led by multinational corporations enjoyed a labor market characterized by a large pool of low-wage labor. Although autonomous from each other in variable degree and at different economic and political conjunctures, state labor policy in Brazil has indirectly reinforced management's strategies of labor control at the workplace during the period under analysis. More specifically, the state has controlled labor in Brazil through the corporatist union structure.

In this study, the following factors of labor control will be focused:

- (1) state policy:
 - a) directly and indirectly in the form of labor policy;
 - b) indirectly, as it affects industrial growth;
- (2) management strategies;
- (3) union structure;
- (4) gender segregation.

The questions we address are: 1) how is labor controlled under conditions of dependent development, in a country such as Brazil? and 2) how does labor fare under these same conditions of dependent development?

All industrial firms must find effective means of labor control in order to extract the maximum possible effort from the workforce without increasing the cost of labor. While

there has already been a great deal of work done on labor control in advanced industrial societies, we have only a limited understanding of the ways in which mechanisms of labor control are affected under conditions of dependent capitalist development.

This study focuses on the process of labor differentiation as an outcome of factors of labor control as opposed to the homogenization of the labor force implied by earlier forms of control. An important theme that runs through much of the recent work in developed countries is that in modern, large scale, oligopolistic industries labor control moves in the direction of bureaucratic control characterized by internal gradations by skill and pay. This form of differentiation, in turn, implies a division of the labor force into different segments. Labor differentiation can take different forms. One of these is the segmentation of the labor market into different non-competing sectors (Gordon et al, 1982).

However, segmentation between the primary and the secondary sectors is only one form of differentiation. A lacunae in recent theory on labor segmentation is that it has failed to provide an adequate explanation as to the basis upon which workers can be divided into different segments. Although ascriptive characteristics such as race, ethnicity and gender have been considered as factors in the definition of the secondary segment of the labor market, they have not been fully elaborated in terms of factors that create divisions among workers. In the case of gender, for instance, labor segmentation theory has focused either on the market position of female workers (Edwards, 1979; Gordon et al, 1982) or on their job content (Doeringer and Piore, 1971). The situation of women in the broader society as a factor of labor control has been inadequately dealt with by these theories.

On the other hand, Piore (1980) does point to the possibility of variation among firms in core and peripheral sectors of developed economies. According to this perspective, while core industrial sectors will consist predominantly of firms with stable market position (stable segment of demand), factors such as subcontracting of a variety of parts producers

and rapid expansion of demand or differences in product lines, may create the possibility for the existence of firms in the same industry that are located in the unstable segment of demand. In a similar vein, the peripheral sector does not consist solely of firms within the unstable segment of demand. Small firms in peripheral industries may hold quite certain product market positions, due to factors such as the specific nature of the product or even geographic differentiation. In addition, differences in uncertainty among industries of the peripheral sector should also be taken into consideration. Some industries in the peripheral sector might even resemble the core industrial sector in terms of position within the division of labor (Piore, 1980: 68):

Dualism which runs throughout a number of product markets is, like dualism in the labor market, probably less often a result of technology per se than of the tendency for different industries to find in the same institutional and legal arrangements a means of resolving the problem of separating demand into stable and unstable components (Piore, 1980: 68).

Nevertheless, the main focus of Piore's argument is on the dualism in the product market, rather than in the labor market. Product market dualism derives from three basic factors: 1) the extent of the market; 2) the division of labor; and 3) productivity (Piore, 1980: 69). Although this line of argument might be extended to an analysis of the labor market, it seems that Piore (1980) is more concerned with the production process than the labor process and the social relations of production that this involves. By focusing primarily on the product market, Piore's (1980) model does not allow for the possibility of similar types of subdivisions (in terms of stable and unstable segments) within industries in underdeveloped countries. Thus, in the case of developed economies, the existence of markets with different degrees of *stability* will give rise to differences among firms within the same industry. Yet, in the case of underdeveloped economies, the existence of different industries with different *market sizes* will produce differences among industries, not within industries (Piore, 1980: 69).

In their explanation of the organization of internal labor markets, Doeringer and Piore

(1971) focus their analysis on improvements in the economic efficiency of the corporation. The analyses of Edwards (1979) and Gordon et al (1982) emphasize labor control. In the present study, labor differentiation will also be analyzed as a result of strategies of labor control, such as in bureaucratic worksystems. Bureaucratic control involves the differentiation of jobs at the workplace and the development of promotion ladders. This has two principal effects: (1) the creation of divisions amongst workers that limit possibilities for establishing a common set of "understandings" that could lead to collective action; and (2) the creation of worker loyalty to the company by means of job career enticements within the firm. It is important to point out that these two outcomes do not necessarily occur simultaneously, nor does one necessarily lead to the other. It is possible that job differentiation will create divisions among workers without increasing their loyalty to the company in cases where job career prospects are non-existent or where job ladders are not clearly structured within the company. In addition, it is our argument that within the core industrial sector, jobs structure involves another, finer form of differentiation between labor market segments in the advanced sector and within the firm's internal job hierarchy. This appears in the form of dispersion of wages, low turnover, and the creation of internal promotion ladders.

One of the central questions of this thesis is: are advanced industrial sectors in dependent developing countries also characterized by this form of labor control? If so, we would expect to find the existence of a primary segment, at least in the more advanced industrial sectors (in terms of productivity, technology and relatively secure product market position). We would also expect an increasing gap in average wage levels between industrial sectors (some of which will not yet have developed bureaucratic control and will, therefore, be characterized by homogeneous low wages), between segments even within the advanced sector, and wage dispersion among primary segment jobs in the advanced sector.

If we do not find evidence of bureaucratic control, we must then ask: what alternative

means of labor control are employed? Our hypothesis is that in the setting of dependent countries such as Brazil, alternative means are more likely to involve the repressive and organizational capacity of the state. In addition, we hypothesize that ascriptive characteristics, including gender, may be used to create segments even in the absence of other elements of bureaucratic control. Both these alternatives will be discussed further below.

According to Edwards (1979), the "primary" sector in advanced capitalist countries such as the United States represents the labor market in the more dynamic industries that enjoy an oligopolistic product market position. This labor market is characterized by higher wages and greater job stability and security than the labor market in those industries characterized by competitive product markets. Labor segmentation into "primary" and "secondary" sectors creates non-competing worker layers. The principal effect of labor segmentation is that it increases possibilities for labor control through the division of the working class.

In core capitalist countries, large corporations have developed systems of bureaucratic control. According to Edwards' definition:

... bureaucratic control ... rests on the principle of embedding control in the social structure or the social relations of the workplace. The defining feature of bureaucratic control is the institutionalization of hierarchical power. "Rule of law" - the firm's law - replaces "rule by supervisor command" in the direction of work, the procedures for evaluating workers' performance, and the exercise of the firm's sanctions and rewards; supervisors and workers alike become subject to the dictates of "company policy". Work becomes highly stratified; each job is given its distinct title and description; and impersonal rules govern promotion. "Stick with the corporation" the worker is told, "and you can ascend up the ladder." The company promises the workers a *career* (1979: 21).

The generalization of technical control resulted in worker resistance through unionization in large scale in American industry during the pre-WW II period. This in turn led to a re-organization of worksystems in large firms on the basis of bureaucratic control, as management strategy to neutralize worker organized action through the union.

In some cases, bureaucratic control was organized to prevent unionization. In Edwards' terms, bureaucratic control "has proven especially effective in forestalling unionism" (1979: 21).

We would also expect to find evidence of labor differentiation as an outcome of the development of bureaucratic forms of labor control in Brazilian firms in the form of protective labor market measures similar to Edward's protected shop floor worker layer in his definition of "subordinate primary workers" (1979: 171). However, because this study will analyze the recent evolution of industrial labor relations in a dependent country, we shall introduce a modified interpretation of Edwards' (1979) labor segmentation theory. The concept of labor segmentation was originally developed to provide an explanation of industrial labor relations in advanced countries during the monopoly stage of capitalism. Both Edwards (1979) and Gordon et al (1982) used the United States for their case studies, a society where there is a long tradition of liberal democratic government. In this country, union organization is relatively free from state regulation, and labor bargaining is more likely to be affected by market forces than by state regulation. This is not the case in a dependent country such as Brazil.

In the context of the U.S., it is not all that surprising that Edwards (1979) and Gordon, et al (1982) focus their analysis on the role of capitalists and/or managers and workers in the labor process. In the case of Brazil, however, associated dependent industrialization relied on direct foreign investments, external loans to finance increasingly necessary imports of machinery and technology, and on state intervention in the economy by means of policies such as the establishment of tax barriers to protect "national similar products" in the domestic product market. Politically, between 1964 and 1985 Brazil was ruled by an authoritarian regime. During this period, union organization and labor negotiations were controlled by the state. During the first ten years of the military dictatorship, state labor control was quite strict. The corporatist union structure in Brazil

integrates unions into the state apparatus (more specifically, the Ministry of Labor) by making them financially dependent on the state. Furthermore, labor legislation and wage policy mean that market forces have less of an effect on labor negotiations than does state regulation in Brazil than in a country such as the U.S.

Thus, there are reasons to believe that other types of labor control are used in the context of dependent development. In the process of Brazilian import-substitution industrialization (ISI), extended state labor regulation through the corporatist union structure, labor legislation and wage policies accounted, in large part, for labor control. The state's use of the juridical and legislative apparatus as a mechanism of labor control in Brazil was reinforced, after 1964, by the authoritarian regime's use of the repressive apparatus to restrain labor mobilizations. A major concern of the state's labor policy was to reduce inflation.

The Brazilian corporatist union structure subordinates the unions directly to the Ministry of Labor. Through this system, the state controls the process of union organization, its activities and application of its financial resources. We will return to this point later on. In spite of this control, important political changes occurred during the seventies, that resulted in the liberalization of the regime. In 1979, worker mobilizations and changes in government strategy resulted in a more flexible wage policy and, in certain cases, a less rigid application of the law by the juridical apparatus (the Labor Courts). Thus, a key concern of this study is the extent to which the liberalization of the political regime in Brazil affected labor. The discussion will focus on changes in labor conditions from when the regime was more repressive toward labor. To a certain extent, changes in the political regime also brought about a redefinition of the balance of forces in labor relations in terms of union reactivation and firm's strategies of labor control. The character of Brazilian industrialization --based as it was on low-wages, a large available labor force and state extended intervention in the labor market-- suggests it would be

fruitful to look at the interrelations between supply and demand or between internal and external labor markets, as do Blackburn and Mann (1979). In this study, labor differentiation --i.e, labor market segmentation and internal job hierarchies-- will be analyzed as an outcome of labor control, but in particular: (1) state action; (2) management's strategies; (3) union action; and (4) gender segregation as part of the existing pattern of patriarchy.

Keeping in mind that the process of labor transformation is conditioned by historical and structural constraints and by broader power relations, the focus here is on labor conditions. Special attention will be paid to the role of the state, especially in its capacity to control unions via the state-sponsored trade-union system. At the union level, the focus is on union power enhancement in the negotiation of improved labor conditions post 1979. We would expect this to appear in the form of protective measures in the labor market that aim to neutralize the effect of worker competition. At the workplace, we would expect the emergence of bureaucratic labor control. Our focus will be on the creation of new job positions within the firm's internal hierarchy, promotion ladders with wage structures concomitant with internal labor training programs, and the use of "scientific methods" of worker evaluation as products of managerial strategies of labor control.

Edwards' (1979) labor segmentation theory did not focus on gender segregation as a factor in the division of the working class. The work situation of women was explained through use of the concept of secondary workers, an explanation that focuses on worker position in the labor market and that is also employed to explain the position of other, less favored workers in the labor market (both male and female) such as racial and ethnic minorities. The problem of sexual discrimination is inadequately dealt with by this theory.

And yet, labor conditions are markedly unequal when gender is taken into consideration. The issue of how it is that gender segregation, as a form of labor control, affects labor differentiation is of particular importance. According to the theory of labor

segmentation, women workers are expected to occupy typically "secondary" jobs. In Edwards, the "secondary labor market" is:

... a distinct market, characterized both by different market outcomes and different market processes. It contains low-paying jobs of casual labor, jobs that provide little employment security or stability and for which the links between one job a worker may hold and the next are slight. These are dead-end jobs offering little opportunity for advancement, requiring few skills, and promoting relatively high voluntary turnover. Neither seniority nor education seems to pay off. And since employers have little investment in matching workers and their jobs, they feel free to replace or dismiss workers as their labor needs change (1979: 170).

For the purposes of this study, however, the analysis of the labor conditions pertaining to female workers in the labor market will be inserted within the context of patriarchy. Patriarchy is a concept that will allow us to transcend the focus on the labor market towards a broader view of gender segregation in society, as a process of structuring social relationships on the basis of gender. An analysis that contrasts forms of gender segregation in the labor market in a dependent country such as Brazil with those in a core country such as the U.S. will hope to be informative. Such contrast will clarify the effect of patriarchy on female labor prospects in these two very different social contexts.

2. Theoretical Framework

2.1 Theories of Labor Control

Broadly speaking, the concept of industrial labor relations transcends the work situation because it involves the ensemble of institutional arrangements that shape and change the relations of production. The transition from competitive to monopoly capitalism, the formation of market oligopolies and changes in the pattern of industrialization undoubtedly affect and transform labor relations. However, at any given level in the development of the productive forces, particular historical forms assumed during the process of labor transformation have been mediated by institutional

arrangements (Gordon et al, 1982: 15-16), whereby decisions and choices are made on the basis of power relations. State regulation of labor and product markets, unionization and corporate strategies of labor control modify labor relations (Rueschemeyer, 1986: 95-96), by departing from free market conditions and bringing relations of domination to a more visible instance in the redefinition of labor.

Theoretical models in the analysis of labor control and worker resistance in contemporary industrial labor relations have for the most part emerged from studies carried on in the setting of advanced industrialized capitalist countries, characterized historically by liberal democratic political regimes. Alternative approaches for the analysis of labor relations in the periphery of capitalism have focused mostly either on relations of production in agriculture (assumed as the main "locus" of the economic activity) or in the particular mode of subordination of colonial or neo-colonial agrarian structures to capitalist accumulation. One example is the model of "pure plantation economy" (Best, 1968). This model assumes that peripheral economies are essentially "externally-propelled" (Best, 1968: 283), with predominantly mercantile connections with the metropole. Each plantation is self-sufficient in its "hinterland" operations, and almost completely independent from the rest of the economy (Best, 1968: 307). In this theoretical framework, plantation is a total economic and social institution (Best, 1968: 305,318) where relations of production are based upon slavery or strict indenture. According to the plantation economy model, labor control assumes thus authoritarian character, which is centered upon the figure of the landowner, who retains, in practice, almost absolute power over the land and the population living under his dominion.

As indicated by Thomas (1968), in spite of some shortcomings, this theory provides useful insights for the analysis of the "modus operandi" of economies where production was or is still organized on the basis of plantation systems. In fact, Best's model was elaborated on the basis of Caribbean case, where production activity has largely relied

upon plantation economies inherited from the colonial period. In several Caribbean countries, plantation systems assumed the shape of enclave economies, which most apparent characteristics were external control and weak ties with the national economy. On a more contemporary version, plantation economies correspond to the model of "classical dependence" (Cardoso and Faletto, 1969), which is essentially characterized by agricultural exports and manufacture imports. In the Brazilian case, a number of aspects of sugar plantations settled during the colonial period in the Northeast, as well as during the early phase of coffee plantations were quite similar to Best's description of the economy of plantation. Brazilian economy was still based upon agricultural exports during the Monarchy, the First Republic and until the fifties. It was only after the mid fifties that capital accumulation centered on industrial growth was consolidated in Brazil. In this sense, Best's (1968) model can indeed contribute to clarify the basis upon which relied both the social organization of production and the system of political domination during the phase of "classical dependence" in Brazil.

For the purpose of the present study however, one problem with what is otherwise a fruitful approach is that it only considers those cases of peripheral countries which economies are organized on the basis of agricultural exports, and where predominant labor relations have not resulted in a complete separation between labor power and laborer. Furthermore, this model does not account for the case of peripheral countries that underwent a significant process of industrialization, such as in Brazil. Brazilian economy is no longer an example of "classical dependence". More specifically, this study focuses on labor control in Brazilian firms in the electronics industry, a technologically advanced industrial sector where labor relations are based upon wage labor. It seems thus that the concept of plantation economy is not adequate for the analysis of labor control in that case. Considering that this study concerns the recent development of forms of labor control in the context of Brazilian dependent development, the concept of "associated dependent capitalist development" (Cardoso, 1975a) appears to be more appropriate to characterize

Brazilian contemporary economy and the new methods of labor control that evolved along with the process of industrialization.

Other theories formulated for the analysis of capitalist mode of production in peripheral economies have for the most part focused on the process of re-definition and subordination of forms of non-wage labor (such as in the case of the peasantry) to capital accumulation. This is the case, for instance, of the theory elaborated by Samir Amin (1972, 1973, 1974) on the basis of the process of development in African countries. According to this theoretical framework, the capitalist mode of production in the periphery consists of heterogeneous forms of surplus extraction, which are integrated into a single system and have in capital accumulation their common meaning (Amin, 1973: 258). In this process, the peasantry is rendered into agricultural labor subordinated to capital:

By means of [capital domination of the peasantry], the dominant capital neutralizes the ground rent, that is, unravels the threads of land ownership. It proletarianizes the peasant. This will keep only formal land ownership, not real ownership. He also maintains the appearance of a mercantile producer who offers his products in the market. In fact, however, he sells his workforce, and this sale is obscured by the appearance of mercantile production (Amin, 1974: 42).

Importantly, this form of subordination of the peasantry to capital through the product market is not only to the economic advantage of the capitalist. It is also a form of political control. The formal ownership of the means of production will keep the peasantry apart from the proletariat and thus avoid a possible emergence of a peasant-proletarian alliance based on common interests against the capitalist (Amin, 1974:47). Amin's approach assumes that the transformation of labor relations in the process of capital accumulation in peripheral countries is incomplete. Differently from core capitalism, non-wage labor relations are re-shaped in peripheral capitalism according to the needs of accumulation. This incomplete process of proletarianization (Amin, 1974) results then in specific forms of labor control in the periphery, as opposed to the core of capitalism.

This theoretical formulation is undoubtedly fruitful for the analysis of the forms assumed by labor control in the process of capital accumulation in peripheral countries, where heterogeneous social relations of production are combined in a complex manner. In the present study, however, the focus is on an advanced industrial sector in Brazil, where capitalist labor relations have been fully developed. Moreover, Brazilian history of industrialization suggests that methods of labor control in the manufacturing sector emerged and developed as responses to the specific problematique of industrial labor relations in a dependent industrializing country. In this sense, other approaches, more connected to the constitution and transformation of industrial labor relations at the workplace seem to be more adequate for the purpose of this study. Thus, although elaborated on the basis of the case of the United States, the contributions of Edwards (1979) and Gordon et al (1982) to the analysis of the process of labor transformation appear to be among the most suggestive, in that these authors propose a theoretical framework that comprehends both the macro level of capitalist accumulation and the micro level of labor relations at the workplace.

In their account of the historical process of shaping strategies of labor control in the United States, Gordon et al (1982) distinguish three major stages: 1) early proletarianization; 2) homogenization; and 3) segmentation. According to this theoretical formulation, the worksystem in large scale corporations with relatively secure market position moved towards "structural" control during the monopoly stage of capitalism, as opposed to the previous, more direct, "simple" control of the competitive stage of capitalism. In the case of the U.S., "simple" control characterized industrial labor relations during the nineteenth century. By late nineteenth and early twentieth centuries, the process of capital concentration undermined the efficacy of "simple" control in large corporations. Large scale production increasingly assumed a social character, by bringing "under one corporate roof" a growing number of blue collar workers and intermediate supervisory jobs, such as foremen, general foremen, supervisors, superintendents and

other officials (Edwards, 1979: 19). This gave rise to what Edwards called "structural" forms of control. These assumed two basic shapes: "technical" control, which is more embedded in the physical structure of the labor process, and "bureaucratic" control, which involves the social structure of the labor process. Both shapes of "structural" control entailed institutional arrangements at the workplace and hence became less visible to the worker. The Ford assembly line consists the classical image of "technical" control. As defined in Edwards:

... *Technical control* involves designing machinery and planning the flow of work to minimize the problem of transforming labor power into labor as well as to maximize the purely physically based possibilities for achieving efficiencies. Thus a social dimension, the inherent class nature of capitalist production, is added to the evolution of technology.

Technical control is structural in the sense that it is embedded in the technological structure or organization of production

... Technical control emerges only when the entire production process of the plant or large segments of it are based on a technology that paces and directs the labor process. When that happens, the pacing and direction of work transcend the individual workplace and are thus beyond the power of even the immediate boss; control becomes truly structural (1979: 112,113).

Machine pacing and technical direction through continuous flow production, workers' performance evaluation, discipline and reward are the three basic elements of "technical" control, which rests on traditional hierarchical control principles:

Piece-rates effectively punished operatives who lagged behind the output standard, but alongside the piece-rates stood the foremen's power (Edwards, 1979: 115).

Hence, "simple", more direct forms of labor control co-existed with "technical", more hierarchically organized forms of labor control. At the same time, increased automation allocated a large number of shop floor workers to similar job positions in the factory, which resulted in homogenization of work conditions. This common situation at the workplace created the possibility of emergence of a common understanding among workers of their social position and hence the possibility of organized resistance. By homogenizing labor

conditions beyond the firm level, technical control gave rise to worker resistance through growing unionization. By the late thirties, increased conflict at the workplace resulted in the organization of the C.I.O. At that time, some large firms characterized by mass-production such as GE introduced worksystems mutually administered by management and unions (as junior partners), in response to growing union capacity. In the American history of labor, unionization promoted the emergence of bureaucratic control as management response to worker resistance in large companies.

Thus we see that increased labor homogenization broadened workplace conflict and soon revealed its own failures as a system of labor control. Although technical control continued to be used in some industries or even for some tasks in nearly all industries, a new system was required, which would consolidate during the post-1945 period. This new system was bureaucratic control (Edwards, 1979: 130-131). It is noteworthy that while in some corporations such as GE bureaucratic control was introduced *after* unionization, other companies such as IBM and Polaroid organized their worksystems on the basis of bureaucratic control *before* unionization, as a method of keeping workers away from the union, through the creation of career prospects within the firm. This strategy proved its efficacy along the years: firms such as IBM and Polaroid remained non-unionized. As opposed to the previous homogenization process, bureaucratic control gave rise to a process of labor segmentation. As stated in Edwards:

... bureaucratic control is embedded in the social and organizational structure of the firm and is built into job categories, work rules, promotion procedures, discipline, wage scales, definitions of responsibilities, and the like. Bureaucratic control establishes the impersonal force of "company rules" or "company policy" as the basis for control (Edwards, 1979: 131).

There was some overlap between "simple" and "bureaucratic" systems of labor control however, and the former continued existing side by side with the new and more complex form (Edwards, 1975). This situation gave rise to a dual economic structure consisting of the core and the peripheral sectors (Edwards, 1979; Gordon et al, 1982). In the labor

market, this division corresponds to two basic segments, the "primary" labor market and the "secondary" labor market. In Edwards' formulation, the "primary" labor market is subdivided into the "independent primary" and the "subordinate primary" (1979: 166).

The secondary labor market involves and is defined by the casual nature of the employment. Low pay, high labor turnover, lack of job security and almost non-existent prospects of job promotion characterize the secondary segment of the labor market. Harsh labor conditions, a virtually non-existent internal job structure and the lack of union presence at the workplace are maintained through "simple" forms of labor control.

The subordinate primary labor market involves shop floor workers. Although routinized and subject to machine pacing, these jobs offer substantial returns to experience and schooling. Moreover, subordinate primary workers enjoy employment protection against cyclical unemployment through unions. Continued connections between laid-off workers and their jobs distinguish subordinate primary workers from secondary workers.

The independent primary labor market involves professional and craft work. Independent primary employment creates occupations with well-defined job ladders and patterns of movement between jobs, and correspondingly higher wage structures on the basis of educational requirements and experience. Here, job switches from one employer to another are regular mechanisms for moving upward during one's professional career. In addition, independent primary workers enjoy a considerable capacity for initiative and work self-pacing.

Hence, large firms with oligopolistic power in the product market (core sector) tend to introduce new forms of factory regime through the creation of internal labor markets with well-defined professional ladders and corresponding wage perspectives. These internal job markets are insulated from the external labor market. This represents a movement beyond Taylorism and other industrial relations schemes. These more "bureaucratic"

systems of labor control are based on systematic norms for recruitment, screening, selection, promotion and firing procedures and according to criteria such as skill, and most importantly, seniority. They have been institutionalized within firms in dynamic sectors of the economies in core countries. High wages, monetary and non monetary incentives, job stability and job security constitute key elements in this strategy of enhancing workers' identification with the company and in particular, in keeping them apart from their unions.

Thus, a new factory regime based on the principles of "industrial peace" has been implemented at the firm level in order to guarantee the control of the labor process in its economic (productivity, quality and work pace enhancement), political and ideological dimensions (related to labor discipline). With the introduction of such systems of labor control, uncertainties stemming from the external labor market that may cause discontinuities in the labor process (either technical or disciplinary) are reduced through internalization within the firm. At the same time, mutual expectations between workers and management are established, fostering a common concern with the welfare of the company. This common concern in turn neutralizes the possible emergence of autonomous forms of labor organization within the workplace and at the union.

The contributions brought about by Edwards (1979) and Gordon et al (1982) theoretical formulation are informative but it is important to point out that the dual conception of economy presents certain rigidities for which easy theoretical answers, not to mention empirical evidence, cannot be found. Baron and Bielby (1980; 1984) for instance, call attention to problems arising in regard to the empirical generalization of the dual or segmented economy, as divided into "core" and "periphery" industries. These authors argue that "most organizations are situated somewhere between the extremes of segmentation's 'periphery' and 'core', resembling each to some degree" (1984: 471).

On a more theoretical level, the dual market model poses serious difficulties for the explanation of the structure of society as a whole, especially with regard to its static

conception of the two basic segments. In this sense, Blackburn and Mann's (1979) observations are quite suggestive. They argue that the dichotomies "internal" and "primary" labor market vis a vis "external" and "secondary" labor market, be it in Doeringer and Piore's (1971) "micro" terms or in the more "macro" structural terms of Edwards (1979) and Gordon, et al (1982), should be considered as a "cross-cut", rather than as two segments apart:

... the explanations would seem that the labour market contains not one but several hierarchies that can often cross-cut each other.... Thus there may be effective segregation only at the extreme of the market: secondary workers will only rarely have jobs which offer high rewards on all dimensions, and primary workers will rarely have generally "bad jobs", but in the middle there is considerable overlap (Blackburn and Mann, 1979: 27-28).

More dynamic approaches have been recently suggested on the basis of a more flexible view of the concept. Ryan (1981), for instance, proposes a differentiation between the macro and micro levels, suggesting that segmentation among workers takes place at the micro level, and that it might change periodically or possibly be reverted. In addition, these shifts do not necessarily correspond to a steady process of segmentation at the structural or macro level. Ryan argues that segmentation occurs when "individuals of similar achieved productive potential receive markedly different access to employment or job rewards, including both pay rates and opportunities for training, experience and pay increases" (1981: 5). Hence, segmentation creates non-competing groups, since the primary is conceived, theoretically, as being the protected sector.

On the other hand, Storper (1982) and Wood (1984) observe that the social processes involving and affecting the relationship between workers and employers at the workplace cannot be narrowly interpreted as being determined in a simplistic way by the structure of production or by the formal rules governing the workplace. That is, both workers and employers are actively involved in the labor process, thus creating a specific social life of the workplace which cannot always be predicted by these two dimensions.

The fragile character of such forms of labor control in the core countries has been pointed out in the literature (Edwards and Scullion, 1982). For example, the privileged market position of the firm may be broken, or the company (or one of its subsidiaries) may reduce its activities and, consequently, many workers are fired. Such occasions often reveal the class contradictions in the worker-management relationship and lead to the emergence of collective and/or individual forms of worker resistance.

2.2 Labor Control in Brazil

Theoretical models for the analysis of labor control in core countries are highly suggestive, but the application of these models to labor conditions in a dependent society like Brazil is problematic. Brazilian import-substitution industrialization has been marked by state intervention in the economy and the labor market since the decade of the thirties. During this time, the state has defined labor relations through minutely detailed legislation and wage policies.

As indicated in numerous studies, the role of the state has become increasingly complex in contemporary capitalism, particularly after the thirties (Carnoy, 1984). Increased state intervention in the economy, both in production and distribution has highlighted the state's organizational structure as an arena of conflict (Rueschemeyer and Evans, 1985; Cardoso, 1975c). As pointed out by Carnoy, the growth of the state has led scholars to elaborate diverse and sophisticated theoretical models, in order to better understand the "new" social role of the state (1984: 4). The expanded role of the state has been observed particularly in the case of developing countries. Comparative approaches focusing on the state apparatus have demonstrated that differences in state capacity have fostered diverse economic and political outcomes in the process of development under conditions of dependence (Rueschemeyer and Evans, 1985).

At a more abstract level, Gramsci (1971) proposes, in his "Notes on Politics and The

Modern State", an enlarged definition of state which comprehends both the political society and the civil society. In this interpretation, the concept of political society refers to the government apparatus, that is, the coercive apparatus of state, which consists of the administration, the courts, the state bureaucracy, the army and the police. Thus, in a *strict sense*, the concept of state coincides with political society (or government), in that it consists of power apparatus, that is, apparatus of command. The concept of civil society comprehends the private apparatus of hegemony (direction), which consists of cultural, political and economic apparatus (Buci-Glucksmann, 1978). The exercise of hegemony is materially based: "it is rooted in the class structure" (Carnoy, 1984: 75). Hegemony is originated in the factory (Buci-Glucksmann, 1978: 89). As stated in Carnoy, "hegemony is not a pole of consent in contrast to another of coercion, but a *synthesis* of consent and coercion" (1984: 73). Thus, in its enlarged sense, state is:

... political society + civil society, that is, hegemony protected by the armour of coercion (Gramsci, 1971: 178; Carnoy, 1984: 72).

State thus involves an ethic and cultural component, in the sense that the dominant political and cultural hegemony is built through educational structures, such as the school, which has positive educational function, and the courts, which have repressive, negative educational function (Gramsci, 1971: 174). As consent "protected" by coercion, the exercise of hegemony shapes the relationship of domination and subordination between social classes. However, rather than being a static cohesive force, hegemony is a contradictory relationship which is subject to struggle (Carnoy, 1984).

Gramsci's theoretical formulations seem to be suggestive for the analysis of the role of state in late-industrializing, dependent economies, and in particular in the case of Latin America. As pointed out by Stepan (1978), in the context of Latin American dependent development, the national bourgeoisies have not been able to emerge as hegemonic classes, compared to the hegemonic situation achieved by the bourgeoisie in England and in the United States, for example. In that pattern of late dependent industrialization, the state

(political society) has played a large role in the mediation of conflict between classes. In such systems, the coercive (command) structures of state have been enlarged, while state's educational (ethic and cultural) component for direction, although present, has been limited. In order to better understand the mode of articulation between state and society in Latin American countries, Stepan (1978) proposes the utilization of the concept of organic statism as a model of governance:

Organic statism, in theory, accords an important role for the decentralized political participation of semi-autonomous functional groups The model of organic statism implies "limited pluralism" in the community

.... Organic-statist concepts of the priority of the political community and of the state's responsibility for the common good imply strong constraints on laissez-faire market individualism

An economic formula congruent with organic statism is thus one in which the state plays a decisive role in constructing the parameters, rules, and infrastructure of a market economy. In addition, the limits to "egoistic individualism" and "state centralism" posited in the model leads to a key role for intermediate self-managing "labor-capital" functional groups that are assumed to be a modern organic-statist industrial formula for arriving at the harmonious integration of the component parts of the economy (1978: 41-42).

Ideologically, this model is meant to ensure integration from above (the state in strict sense) of functional parts into a solidaristic whole. However, the building of strong control mechanisms by state initiative will, in fact, restrict the participation of functional groups, which violates the supposition of decentralized group autonomy. Furthermore, the organic-participatory component of the model will allow some self-managing groups to acquire control over other groups, which violates the organic harmony of the model (Stepan, 1978: 43).

Thus, political regimes bearing organic-statist principles will present a political tendency for greater control (especially of the working class) through "manipulative corporatist politics". At the same time, these regimes will present a tendency in economic policy to allow greater freedom to entrepreneurial action. "Such regimes thus become

authoritarian-corporatist capitalist regimes" (Stepan, 1978: 45). It is noteworthy how Stepan distinguishes organic statism and corporatism: while organic statism is an abstract model of governance which involves a normative approach to politics, corporatism is "a set of policies and institutional arrangements for structuring interest representation" (1978:46). Organic statism thus may become a guide and a rationale for corporatist policies, which may rely more heavily on coercion and therefore give rise to "exclusionary corporatism", or on hegemony in civil society and therefore give rise to "inclusionary corporatism" (Stepan, 1978: 52). Most importantly, Stepan suggests that corporatism as a structure is a set of characteristics that may be present in varying degrees. In the author's words:

... there are no fully corporate systems, but rather there are political systems, in some sectors of which (usually the working class) corporatist rather than pluralist patterns of interest representation predominate (1978: 70-71).

The theoretical framework proposed by Stepan (1978) is particularly suggestive for this study. The history of import-substitution in Brazil has been marked alternatively by "inclusionary" and "exclusionary" corporatist policies in the settlement of institutional arrangements for the regulation of industrial labor relations. In this sense, it is possible to argue that whereas Brazilian state was characterized by a predominantly "inclusionary corporatism" during most of the period between 1946 and 1964, "exclusionary corporatism" characterized predominantly the state during the period between 1964 and 1985.

During the thirties, Brazil was a dependent capitalist society, relying heavily on agricultural exports. The import-substitution industrialization (ISI) effort required strong state intervention on the economy. In the early stages of industrialization, a major goal was to facilitate access to the two fundamental factors of accumulation: capital and free labor for a non-hegemonic industrial bourgeoisie, within a project of self-sustained development. Thus, state regulation of the labor market and, particularly, of industrial

workers' wages has accompanied Brazilian industrialization since the earliest phases of import-substitution. Horizontal industrial growth was "exhausted" by the mid fifties (O'Donnell, 1973: 62). At that time, Brazilian industrialization moved toward an "associate dependent model" (Cardoso, 1975b: 58) with the incorporation of a strong third partner, the multinational corporations. The supply of cheap and docile labor once again became a major factor in attracting direct foreign investments.

Government control over labor was reinforced after the 1964 military coup, through the close surveillance of union activities by a repressive state apparatus. This was a period of economic recovery and growth effort. Wage control was viewed by the regime as strategic in cutting back inflation. Worker resistance was manifested in a number of ways during the years of military dictatorship. However, it was only during the late seventies that the labor movement re-emerged nationwide in the context of the end of the Brazilian "miracle" and the regime's political "opening". Internal contradictions within the state apparatus led the regime to initiate a gradual liberalization in the early seventies. This was accomplished through measures such as partial amnesty, a lifting of press censorship, reformulation of the party system, and finally, through the incorporation of the regime's safeguards in the constitution through the National Security Law. These political changes eventually gave way to working class pressure for liberalization which resulted in a slackening of state control over organized labor. This allowed new forms of worker mobilization to emerge, with unions emphasizing labor organization at the workplace.

State responses to the labor demands that emerged from the wave of strikes during 1978, 1979 and 1980 (for the most part centered on wage issues) followed a "stop-and-go" strategy. This is indicated by the contrast between reinforcement of the anti-strike law in 1978, a repressive measure, and the partial concessions in wage policy appearing in 1979, a conciliatory measure. In the year of 1980 however, direct wage negotiations (that is, regardless existing legislation) between management and labor were prohibited

(Cardoso, 1986: 149).

Thus, new methods of procedure in management-worker relation became institutionalized in some firms in the most dynamic sectors. These changes continued throughout the seventies while the economy kept growing (Tavares, 1973; Almeida, 1975; Alves, 1985; Pastore and Skidmore, 1985; Cardoso, 1986). For example, there were wage negotiations at the enterprise level and a recognition, in some firms, of factory committees and shopstewards. In spite of the limiting effects of discipline imposed by the state (through repression of worker mobilization, retention of the old labor legislation and the corporatist union structure), new forms of labor control were gradually being incorporated at the private level.

The economic recession and massive unemployment of the early eighties was accompanied by increasing job insecurity and wage loss in the face of a skyrocketing inflation. A number of the concessions gained by labor were reversed. Yet the collapse of the military regime in the early eighties (Martins, 1986) coupled with the recovery of economic growth in 1984 reopened the possibility of negotiations for improved labor conditions in the workplace.

In a dependent country like Brazil, the introduction of new labor conditions as well as the possibilities of worker organization are largely limited by state control. Therefore, it is plausible to expect that the process of transformation of labor relations in Brazil will take a different path than in the core countries. In addition, the industrial labor conditions in Brazil, a peripheral country, are characterized by a large-scale employment of an unskilled and semi-skilled labor force (Aragão, 1985), high labor turnover, and low wages. At the firm level, studies indicate an absence of both the "ports of entry" and the formal criteria for promotion procedures that characterize internal systems of professional progression in core countries. On the contrary, possibilities of entry to the firm at any level of the internal hierarchy and a high inter-firm mobility of the labor force have been typical of the

industrial labor market in Brazil. This description also includes the most dynamic sectors, such as the auto industry in São Paulo (Humphrey, 1977). Moreover, the ability of workers to negotiate better wages and labor conditions had been quite restricted by the authoritarian corporatist union organization during the military regime in Brazil. These factors are indicators that the restructuring of labor relations, with new job perspectives at the workplace, will not take the same shape in Brazil as in the core countries.

Thus, it is theoretically plausible to expect that bureaucratic forms of labor control in Brazil might have led to a differentiation of the labor force, although unlike that in core capitalist countries. Core capitalist countries are characterized by liberal democratic regimes and union strength in collective bargaining. In Edwards' interpretation, such methods of labor control in core countries have been the creation of a non-competing "subordinate primary" worker "fraction" (1979: 163), and internal labor markets which are relatively independent from the external labor market. Entrepreneurs in the core countries have relied on these methods of labor control which keep workers apart from their unions.

Brazil is a dependent country. During the period under analysis, Brazil was ruled by an authoritarian political regime. State sponsored trade unions' capacity for labor bargaining was lower than in core capitalist countries like the U.S. In the interpretation of Edwards (1979) and Gordon et al (1982) labor segmentation in the U.S. created non-competing worker "fractions" in the labor market. In the Brazilian case, conversely, we assume that the characteristics of dependent development coupled with state intervention in the labor market resulted in a closer interaction between external and internal labor markets than it would be expected by the theory of labor segmentation. In this sense, it is expected that bureaucratic forms of labor control within firms have been developed in Brazil after 1979. However, considering that the institution of the guarantee fund by length of stay on the job (the FGTS) was kept intact until 1986, our assumption is that it

was still being used as the main instrument for workers' firings and/or sudden job position changes. In other words, this means that seniority rules will play a less important role in Brazilian firms.

The history of labor control in Brazil, a dependent society, leads one to consider also the possibility of alternative practices of labor control, most particularly through state regulation of labor relations and close surveillance of unions. State labor control coupled with the unstable conditions of economic growth has fostered peculiar characteristics in the management-worker relationship in Brazilian firms. In these circumstances, the process of differentiation in the industrial labor force rests on a still more fragile base than in the core countries. Therefore, the possibility of its reversal cannot be neglected. The uncertainty regarding the future growth of the country's economy and the absence of job guarantees are constant reminders to the individual worker in Brazil of the possibility of change in his/hers occupational prospects.

2.3 Labor Control and Patriarchy

Ascriptive personal attributes are also pointed out in Edwards' (1979) theory of labor segmentation - in effect, as forms to exploit, divide, and control the working class. This is the case of gender segregation in the labor market, whereby women are allocated systematically to jobs with lower pay than men.

Studies in core capitalist countries have consistently shown that job segregation by gender which allocates women workers to female-dominated jobs, has historically been a means of lowering women's earning levels. Female labor force earnings are considered only as complementary to household income. In the manufacturing sector, women largely filled low level job positions within firms, encompassing unskilled and semi-skilled tasks. Such jobs tend to be casual and dead-end; they are jobs without chances of promotion. These jobs best characterize the "secondary" labor market (Edwards, 1979).

It is important to observe that gender has been used in a particularly complex way to divide the working class, since it cuts across other labor force characteristics, such as age, skill and education (Lamphere, 1985). Because this is so, gender segregation is a major concern in the present analysis of labor differentiation. Indeed, labor market segmentation theory has not been able to take into account the female labor force problematique in its whole complexity and this has been pointed out in the literature on female labor conditions (Kenrick, 1981). According to Hartmann (1982), patriarchy is a more adequate concept, since it precedes and is re-shaped by capitalism either in the sexual hierarchy of the domestic division of labor, or in the subordinate condition of the female labor force within the labor market. Hartmann conceptualizes patriarchy as being:

... patriarchy [is] a set of social relations which has a material base and in which there are hierarchical relations between men, and solidarity among them, which enable them to control women. Patriarchy is thus the system of male oppression of women (1982: 447).

Hartmann's critique to Engels' *The Origin of the Family, Private Property and the State* points out that although Engels acknowledged "that men oppress women in the family he did not see that oppression as based on the control of women's labor" (1982: 447). In addition, Hartmann suggests that although patriarchy does have a material basis, it is not always coordinated with the economic system "where gender stratification based on sex differences is produced and reproduced" (1982: 447). In Kenrick's (1981) view, Hartmann's concept of patriarchy is centered on the perception of men's control of women's labor. Importantly, Kenrick (1981) proposes to enlarge the concept by taking into account the *political instance* of the phenomenon. Patriarchy is thus also a process of *political domination* along gender lines. Kenrick (1981) argues that political forces have constructed the conditions under which women have been assigned to subordinate roles in society. As such, they have supplied the labor market as a weaker labor force.

In our understanding, patriarchy is the structuring of social relationships along gender lines. It is economically based, and its ideological formulations make part of the "cultural

hegemony" in a given society. Furthermore, we understand that as a process of political domination along gender lines, patriarchal practices are fundamentally mediated by *institutional instances*, such as in the family, in the labor market and at the workplace. In a more general manner, patriarchy in capitalist societies has been reproduced both at the levels of state (in its enlarged sense) and of the economic structure. In the same vein, the concept of social structure of classes is thus prior to patriarchy, because patriarchal relations are re-shaped by class relations in capitalist societies. In other words, patriarchy does not divide equally all women in all social classes: its effects will tend to be stronger at the bottom of the social structure of classes. Patriarchy therefore will tend to produce more important consequences for working class women, compared to upper class women.

In Brazil, the policy of low wages which was imposed by the military government after 1964 led to a deterioration in the income of unskilled and semi-skilled workers. This had the effect of drawing women into the labor force mostly in manual, unskilled and low-paying jobs in order to contribute to family income.

The female participation in the total economically active population increased in Brazil, from 20.8 percent to 31.3 percent between 1970 and 1981 (FIBGE, *Tabulações Avançadas do Censo Demográfico*, 1970; *Anuário Estatístico do Brasil*, 1982). During the same period the participation of women in the total workforce increased from 36.7 percent to 42.3 percent in the United States (ILO, 1971, 1982). There was a significant increase in the proportion of women in the economically active population in each country during that decade. The proportion of female workers in the economically active population increased over ten percentage points in Brazil and by almost seven percentage points in the U.S. during the decade in question. On the other hand, whereas female participation in the labor market represented almost two-fifths of the total labor force in the U.S., in 1970, it represented only one-fifth of the total labor force in Brazil, in that year. In 1981, the female participation represented over two-fifths of the total labor force in the U.S.,

while in Brazil it was nearly one-third of the total labor force.

The female participation rates in the female economically active population in Brazil and in the U.S. were also different, in 1981. The participation of women in the active female population was 32.9 percent in Brazil in 1981 (FIBGE, Anuário Estatístico do Brasil, 1982). In the U.S., the rate of female participation in the female economically active population was 39.8 percent in 1981 (ILO, 1982). Thus, whereas the rate of female participation was one-third in Brazil, in the U.S. the rate of female participation was near two-fifths in 1981.

In the manufacturing sector as a whole, female participation in the total labor force in Brazil was 24 percent in 1980. In the U.S., female participation in the ensemble of manufacturing industries was 32 percent in 1980 (UN, 1984). This means that the proportion of female workers in the manufacturing industry as a whole was lower in Brazil (nearly one-fourth of the total) than in the U.S. (almost one-third of the total) in 1980.

Women workers' participation in the labor market (particularly of unskilled and semi-skilled female workers) follows a "life cycle" pattern. There tends to be a high level of participation at early ages during the unmarried years, a decrease during the reproductive and child rearing period, with a return to higher rates of participation when children reach school age (Oppenheimer, 1982; Bergen, 1985). This seems to hold for both for an advanced country like the U.S. and a peripheral country such as Brazil. However, differences in this process of female participation in the labor market in each country are important.

In Brazil, 33.4 percent of all women under 30 years of age participated in the female economically active population in 1981. The participation rate for all women of 30 years of age or more was 32.2 percent in Brazil in 1981 (FIBGE, Anuário Estatístico do Brasil, 1982). In the U.S., 33.2 percent of all women under 30 years of age participated in the

female economically active population in 1981. Thus we can see that the participation rates for females less than 30 years of age were similar in both countries in 1981. However, the participation rate for women 30 years of age or more was 45.6 percent in the U.S. in 1981 (ILO, 1982). Therefore, the rate of participation of women 30 years of age or more in Brazil was lower (nearly one-third), when compared to the rate of participation of women 30 years of age or more in the active population in the U.S. (nearly half).

These data suggest that a significantly higher proportion of women participate in the female economically active population in a core country like the U.S., when compared to a dependent country like Brazil. Furthermore, these data indicate that more women of 30 years of age or older in the U.S. stay or return to the labor market after child bearing and/or enter the labor market for the first time than in Brazil. This suggests that the effects of women's position in the "life cycle" on their participation in the labor market are stronger in a dependent country like Brazil, when compared to a core country like the U.S.

With respect to industrial labor conditions, the increased incorporation of women workers into the industrial labor force during the "heavy" phase of import-substitution industrialization (ISI) in Brazil, a dependent country, seems to have assumed rather similar characteristics to those in the U.S., a core country. In the American electronics industry, for example, women have reportedly been hired for low-paying positions on the assembly line, to perform repetitive tasks at jobs with very limited chances of promotion (Backman, 1962; Brecher, 1979; Sayer, 1986). This similarity is most evident when the labor conditions of female industrial workers in Brazil are compared to those of minority and immigrant female workers in the U.S.

In her study of several American industries (textile, apparel, toys, jewelry and jewelry cases), where immigrant female workers are concentrated, Lamphere points out that:

... the progressive expansion of the work force, increased use of machinery replacing labor, increased concentration, increased deskilling ... have occurred in the historical development of capitalism in the United States and all have effected women in the labor force. Women have been increasingly incorporated into productive labor as wage laborers, their work has been transformed and eliminated by new technology, they have come to work in larger and larger firms, and their work has become increasingly deskilled (1985: 17).

In addition, on the basis of observations at an American electronics company with a significant proportion of Portuguese immigrant female workers (40 percent of all women workers in the factory), Bookman states that:

... management's control was also derived from how production was organized. The most significant aspect was the social division of labor, as seen in the sexual and ethnic segregation of the workforce. Most production departments were either all men or all women, and the women's departments were predominantly Portuguese (1984: 4).

In analyzing the effects of patriarchy at the workplace, each of the two above authors emphasizes the necessity of a holistic approach to understand patriarchy, as opposed to an unidirectional, "narrow gender model" (Bookman, 1984: 17). Patriarchy effects female labor conditions by forging gender segregation in the labor market and at the workplace. In turn, the increased levels of female participation in wage labor effects the sexual division of labor in the family as well (Lamphere, 1985).

In this sense, women are not necessarily passive in the face of practices of gender segregation. As pointed out in Bookman:

... women can mount a successful campaign of resistance both in the family and in the workplace, and ... their resistance in one area strengthens their ability to resist in another (1984: 17).

On the other hand, it is noteworthy that the efforts of women workers to organize and to resist imposed labor conditions both at the union and in the workplace have confronted a series of obstacles and have not resulted in significant improvements. As Lamphere (1985) suggests, in American manufacturing industry, the tenuousness of the effect of women's action cannot be attributed simply either to their family position (as wives,

mothers or daughters) or to cultural values. When the conditions of work for the female labor force in the manufacturing industry in a peripheral country are the concern, workers' competition in the labor market (in a context of a large labor pool), job stratification within firms and the restrictions posed by state regulation regarding job conditions, wages and workers' organization must also be accounted for.

Women have recently increased their participation in union and labor movements in Brazil. However, few results have been achieved, and many women still earn lower wages than men although performing similar tasks. At the workplace, managers are aware of the possible difficulties faced by women workers stemming from their family charges. This has led to the adoption of recruitment and screening criteria that give preference to young and single women without children, and/or mothers with school age children. Since female workers generally have lower levels of education than men, they also have fewer job choices. The combined effects of such restrictions on job opportunities for women have resulted in a higher level of female conformity to workplace discipline, especially among those women whose wages are necessary for their family's support.

The concept of patriarchy is thus comprehensive, in that it refers to a global process of organization of social hierarchies along gender lines. In capitalist societies, patriarchy has been constantly revitalized and re-shaped through the social structure of classes. In this sense, the concept of patriarchy will serve as a theoretical reference in the analysis of the process of creating gender divisions amongst workers. However, because this study will focus on labor differentiation in the labor market and at the workplace as a consequence of specific forms of labor control, the analysis will be delimited to the world of labor. Thus, labor differentiation by gender will indeed be considered in the organization of the labor process at the workplace and in the creation of distinct job prospects in the labor market. Nevertheless, the extent to which patriarchy consists into a basic principle of sexual division of labor in society as a whole will not be fully examined in this thesis. A

theoretical explanation of the particular characteristics of patriarchal relations in Brazilian society would require to consider other dimensions of the problem, such as the role of the Catholic Church in relation to marriage and family, the relationship between gender and other forms of structuring social stratification, such as in race relations, as well as the role of women in the domestic division of labor. Although recognizing that the analysis of gender segregation in the labor market and at the workplace requires a comprehensive approach, this investigation will be restricted to how ideological formulations at the level of the "cultural hegemony" and recurrent practices of female labor force discrimination have been continually reinforced in Brazilian society.

3. The Empirical Research

At the industry level, this empirical research focuses on labor differentiation in the electric and communications materials industry in the southernmost state in Brazil, Rio Grande do Sul. The electric and communications materials industry has played an important role in the industrial structure in this state, particularly as a supplier of intermediate and durable goods to public enterprises and private firms located in other industrial areas in Brazil, especially São Paulo, the core industrial center of the country. In this process, a new state policy - the Informatics Policy - was created and has stimulated technological innovation in some firms in the sector, which began making equipment and parts for the computer industry and related services within the country.

That manufacturing branch follows the general characteristics of the manufacturing sector in Rio Grande do Sul, where small and medium-sized firms predominate (FEE, 1976). Thus, in 1980, 40 percent of the labor force in the electric and communications materials industry was employed in small firms (12 percent in firms with 5 to 49 employees and 28 percent in firms with 50 to 249 employees), contributing 52 percent of the industrial value added in the branch (11 percent from firms with 5 to 49 employees

and 41 percent from those with 50 to 249 employees). In that year, medium-sized firms (250 to 499 employees) employed 12 percent of the labor force in the branch and produced 8 percent of its industrial value added. A few larger firms (over 1000 employees, on average) accounted for 47 percent of the labor force and 40 percent of the industrial value added of the branch (FIBGE, Industrial Census, 1980). The higher productivity rate (industrial value added over number of employees) in the 50 - 249 range may be explained by the emergence of new firms during the course of the seventies, with a capacity for a rapid rate of initial growth. This is illustrated by the increase in number of firms with 5 or more employees in the sector between 1970 and 1980, from 86 to 124, respectively. (FIBGE, Industrial Census, 1970, 1980).

The real industrial value added of the electric and communications materials industry in Rio Grande do Sul increased more than three times between 1970 and 1980 (FIBGE, Industrial Census, 1970, 1980). The dynamism of such growth can be attributed, in part to the shift that occurred in this industry during the seventies, from final consumer goods to intermediate goods, oriented towards an inter-enterprise product market.

Since the electric and communications materials industry is one of the most dynamic industries in Rio Grande do Sul, it is plausible to expect some differentiation of labor conditions in this industry, in terms of the "primary" labor market. This would imply higher average wages, lower wage concentration around the Minimum Wage and greater job stability in this industry, when compared to the total manufacturing sector in Rio Grande do Sul.

The empirical analysis of labor differentiation at the workplace focuses on firms in the electronics segment of the electric and communications materials industry in Rio Grande do Sul. The electronics industry was chosen for the analysis of labor differentiation at the workplace because these firms have benefited from the state policy of "market reservation" for the computer industry. Through this policy the state provided these firms

with a product market, in order to stimulate the indigenous development of technology for an autonomous national computer industry (mini and microcomputers). The "market reservation" policy favored some firms to enjoy an oligopolist market position. This diminished the necessity to minimize labor costs and brought about new possibilities for these firms in the control of the labor market. Labor differentiation is specifically expected in firms of the electronics segment, resulting from internal strategies of labor control.

Hence, four firms were selected from the electronics segment, according to size, ownership and length of existence, all located in the Metropolitan Area of Porto Alegre, the state capital. These firms are among the most technologically advanced in the industrial structure of the region. One of them, a small, locally owned and relatively new enterprise, is unique in its product market specialization. This firm makes hard disks and disk drives, among other products, for the computer industry in Brazil. Another is a subsidiary of a multinational company, installed in Rio Grande do Sul more than 30 years ago. This firm makes electronic components. This plant is highly automated, with diversified lines of production and with a technology that is mostly developed in the firm's home country. The subsidiary is the largest of the firms studied, and also the largest firm of its kind in the area, with a stable position in the product market. Therefore, this firm is locally the main reference in this industry's labor market.

The two remaining firms are locally owned small enterprises, both engaged in research and technological development for the manufacture of peripheral equipment for computers. These firms make modems for computer systems. Although one of these firms has a longer existence (about 20 years) than the other, which was created as direct outcome of the Informatics Policy, both operate in a more competitive product market, when compared to the two firms previously mentioned. Their largest buyer is Embratel, a state owned telecommunication enterprise.

The product market is quite diversified and therefore differentiated by more competitive and more oligopolized segments. Thus, the performance of each of the four considered firms in the product and in the labor market differs according to each one's own characteristics.

Differentiation amongst firms is expected, as employers' responses to their labor market and to the workers' demands through specific strategies of management-worker relations have varied in accordance to the resources of individual firms. At the level of the workplace, a high formalization of the management-worker relation is expected, with systematic rules of organization of the labor process in internal labor markets only in large firms and/or in firms with some oligopolistic market power, but not in small firms, facing very competitive markets. In the electronics industry, it is predicted that larger and/or more oligopolist firms have enjoyed greater flexibility in the control of the labor market and to partially incorporate workers' demands. This would have resulted in bureaucratic control with the creation of internal labor markets. Therefore, higher wages than the union's wage floor, internal programs of labor training and systematic rules for recruitment, screening and promotion procedures based on experience and skills are expected in these firms.

In addition, union action is particularly evident in this industry. The local metalworkers' union, one of the largest worker organizations of this kind in Rio Grande do Sul has constantly pressed for better wages and for the introduction of new provisions in their labor collective agreements, especially with respect to wages, job stability and job security. Interestingly, after 1979 the local metalworkers' union intensified its action in negotiations with managers through a more participative presence of workers in the general assemblies, by the yearly renewal of their collective agreements, as well as through recourse to strikes. In the context of the political "opening", this posed new challenges to managers in the annual negotiation of collective contracts.

Female worker participation is quite significant in this industry. In 1980, this participation was 35 percent (FIBGE, Demographic Census, 1980) in the total labor force of the electric and communications materials industry in Rio Grande do Sul, which was five percentage points higher than in the total manufacturing sector in that state.¹ This makes it possible to analyze the effects of gender segregation on labor differentiation. Female jobs in this industry are expected to be typically low-paying, as an effect of practices of gender segregation resulting from the existing socio-cultural pattern of sexual division of social roles based on patriarchy. This would result in lower female wages and job stability, when compared to men, in the electric and communications materials industry's labor market as a whole. In addition, lower female worker organization in the defense of their interest is expected both at the union and in the workplace, when compared to men.

In firms in the electronics industry, it is expected that managers have recruited the female labor force for low-paying job positions, with higher rates of labor turnover, when compared to men. In other terms, we expect:

- an overall female manual labor force qualification lower than the male labor force;
- a higher proportion of women workers in the lowest job positions within firms, with correspondingly lower pay;
- a higher rate of female labor turnover, when compared to male labor turnover;
- a lower female participation in internal labor training programs, and
- lower chances of job promotion and improved wage prospects for women, when compared to men.

¹ In the total manufacturing sector of the State of Rio Grande do Sul in 1980, the female labor force participation was 30 percent of the total labor force (FIBGE, Demographic Census, 1980).

In sum, it is expected that gender segregation has been institutionalized as a basic criterion of labor differentiation within firms.

4. Empirical Indicators

At the level of the union, the analysis of the effect of union action on labor differentiation was based on a case study of the Porto Alegre metalworkers' union. Copies of yearly collective agreements were obtained from the union for the years between 1970 and 1986. Their contents before and after 1979 will be compared. The year of 1979 is taken as a reference point in this study because of the nationwide worker mobilizations and changes in wage policy that took place during that year.

In addition, open-ended interviews with both the head and the female officer of the union board for both the current and the previous terms were held. These totaled four tape-recorded interviews averaging two hours each. The format of the interview with the two union board heads consisted of:

- (1) a brief history of the union after 1964;
- (2) a description of the union (territorial area, membership, activities promoted, benefits offered);
- (3) union mobilization issues: wage campaigns, 40 hour week work, strikes, and so forth;
- (4) the description of workers' jobs and corresponding wages, by age, sex and skills in firms within the electronics industry, with examples;
- (5) the major worker demands regarding labor conditions and wages: workplace environment, health and safety, daily work hours, breaks, meals, night shifts, overtime, sick leave, and so forth;
- (6) female participation at the union;
- (7) union participation on the definition of labor conditions at the workplace:

- worker-management committees, shop stewards, factory committees, and so forth;
- (8) union participation in hiring and firing procedures: seniority criteria and so forth;
- (9) union participation in the definition of wages and labor conditions through collective agreements: main clauses;
- (10) changes in union mobilizations during the last ten years.

The interviews with the two female officers of the union board were more informal. Although there was an interview guide, informal conversation proved to be more than adequate. These two interviews were specifically aimed toward obtaining information on women's participation at the union, and at the description of female labor conditions at the workplace. Particular emphasis was given to female workers' position in the family, and how this effected their participation in the labor market and at the union.

In addition, open-ended interviews with labor lawyers were carried out. They were aimed at the clarification of worker rights in labor legislation and wage policy, as well as at any important changes since 1970. Two lawyers of the Porto Alegre metalworkers' union were interviewed, one male and one female, in order to elicit the meaning of the various clauses in the metalworkers' collective agreements and the main issues in workers' individual claims at the Labor Court. The interview with the union's female lawyer was more specifically oriented to clarify female workers' gains through collective agreements, as well as the content of their labor claims at the Court. These interviews were tape-recorded and lasted approximately two hours. Complementary interviews with two experts on labor law were carried out as well.

The analysis of labor differentiation in the workplace was based on a study of four firms in the electronics industry in the Porto Alegre Metropolitan Area. These firms were selected according to three basic criteria: (1) size (number of employees: large vs. small); (2) length of existence (older vs. new ones) and (3) ownership (multinational vs. local

capital).

At the firms, open-ended interviews with executives and/or personnel managers were carried out, in order to obtain information about the organization of the labor process at the workplace and the relationship between the legislation and the actual definition of the labor conditions of shop floor workers. At each of the four selected firms, two interviews were tape-recorded, averaging approximately two hours each.

The interview format was designed to elicit, basically:

- (1) a brief history of the firm;
- (2) the firm's size (number of employees), ownership, technology (R&D), product market and growth during the last ten years, approximately (when existing before); and
- (3) labor process:
 - a) technology: worker dexterity required; machinery maintainance; worker health and safety; environment safety;
 - b) labor recruitment and screening criteria: formal education; previous job experience; written tests; internal training; personal relations; sex; age; family status;
 - c) internal job hierarchy: number of shop floor job titles within the firm (factory workers); wages by job title (approximately); description of each task;
 - d) promotion procedures: seniority; skills; internal training; personal or disciplinary criteria; age; sex; economic and non-economic incentives;
 - e) gender differentiation: number/proportion of male and female workers; workers' average age by sex (approximately); job distribution by sex on the shop floor; recruitment criteria by sex; wages by sex (approximately);
 - f) differentiation amongst male workers: skill levels; age; family status (single vs. married); wages;

- g) differentiation amongst female workers: skill levels; age; family status (single vs. married; single mothers vs. married mothers; young mothers vs. mothers of school age children); wages;
- h) stability on the job: age; sex; family status; job position; skill; discipline;
- i) female stability on the job: age; family status; skill;
- j) dismissal procedures, in case of lack of "just cause": seniority; skill; sex; age; family status;
- k) establishment of labor conditions in the firm: legal system; collective agreements; human relations department; "worker participation" procedures (factory committees or others); major changes after 1979 (when is the case);
- l) facilities at the plant's site: cafeteria; ambulatory or similar; public telephone and so forth;
- m) health services system offered by the firm;
- n) employees' circles or associations created or supported by the firm.

Secondary data sources were used as well. In Census publications, statistical data about the electronics industry are aggregated at the level of the electric and communications materials industry. In order to place the information obtained in the interviews and in the collective agreements in a broader context, data on the number of establishments, the number of employees, and on the wages and industrial value added in the electric and communications materials industry in Rio Grande do Sul from 1970 to 1981 were obtained from the Industrial Census, published every five years, and from the industrial research (the Pesquisa Industrial), published annually. The real value of wages and of industrial value added were calculated on the basis of IGP (the General Prices Index, from FGV - the Getulio Vargas Foundation) and are based on Brazilian currency values of 1977 (1977 = 100). On the basis of IGP, real average wages and real industrial value added per employee were also calculated. These data were compared to the real average wages per employee and to the real industrial value added per employee in the

total manufacturing sector in Rio Grande do Sul. Three points in time were studied: 1970, 1975 and 1980.

Some firms currently operating in the electronics industry are classified in the Industrial Census as mechanical industries. On the other hand, metalworkers' unions basically comprise the metallurgical, mechanical and electric industries. Thus, data on wage evolution was used for these three industries. The inclusion of data on the metallurgical, mechanical and electric and communications materials industry allowed comparisons among industries in the metal-mechanical sector and a broader view of the wage behavior in the metalworkers' labor market across time.

In addition, data on wage distribution and labor turnover were obtained from RAIS (the Annual Report of Social Information). These data are made available by the Labor Ministry. The information is collected through questionnaires addressed to all establishments, including state enterprises. The proportion of responses has ranged between 70 to 80 percent. However, most of the establishments that have not filled out these questionnaires are micro firms (from 0 to 4 employees), whereas most of the juridically organized enterprises, whose employees are covered both by labor and social security legislation have answered the RAIS' questionnaires on a regular basis (Tagliassuchi and Vergara, 1985).

Data from RAIS on wage distribution for the total number of jobs and by gender were available only for the years of 1976 and 1983. Thus, changes in the wage distribution within the electric and communications materials industry were analyzed in these two points in time, 1976 and 1983, for the total number of jobs and by gender. As a summary measure of the wage distribution, the Gini coefficient was calculated for the total wage distribution, for male and female wages in 1976 and in 1983. Wage means were calculated for both sexes in these two points in time as well.

Data on labor turnover rates and for job average length of stay on the job for the total number of jobs in the electric and communications materials industry in Rio Grande do Sul were obtained from RAIS for the years of 1980 and 1983. Data on labor turnover rates by gender were obtained from RAIS for 1980 only. However, it was possible to obtain data from RAIS on the number of dismissals and the reasons for dismissal, by gender, for 1976 and 1980. In addition, it was possible to obtain data from RAIS for the number of employees by year of admission and by gender in 1980.

These data were compared to the total of the economic activities in Rio Grande do Sul. For the reasons discussed previously, data for the metallurgical and mechanical industries were included as well.

Other secondary data sources consisted of business magazines, which provided information on the recent evolution of the electronics industry in Rio Grande do Sul and its connection to the computer industry in the Brazilian domestic market. These magazines also provided lists with information about firms in this industry. Examples are *Quem É Quem* (Visão, various issues) and *Informática* (published by Zero Hora newspaper). An official report on the Informatics Policy, especially focused on the goals of that policy for the State of Rio Grande do Sul was used, as well. This report was helpful in locating the position of the electronics industry in Rio Grande do Sul within the product market of the Brazilian computer industry and also provided a more complete list of firms in the sector, with number of employees, lines of production and location. The selection of four firms for the present study was based on information obtained in *Quem É Quem* (Visão, 1983), a business magazine, and in official report published by BADESUL (1982).

The analysis of events in the history of the P.A. metalworkers' union since 1970, such as campaigns of mobilization, was drawn largely on the basis of information obtained in Colombo (1985). Pichler (1983) provided information on the legal procedures of collective contracts in Brazil and their changes after 1964, as well as material on a number of

collective contracts in the Porto Alegre Metropolitan Area. The classification of the clauses of the P.A. metalworkers' collective agreements in the present study was based in good part on Almeida's (1981), Pichler's (1983) and Leite's (1984) methodology. This methodology consists essentially in classifying the clauses of collective agreements into three types: (1) wages and supplements; (2) labor conditions (except wages); and (3) union power (enhancement of the union capacity as a representative of workers' interest). Complementary information on the P.A. metalworkers' union activities and main mobilization campaigns was collected from local newspapers.

5. Organization of the Thesis

Chapter II provides the historical backgrounds for the system of industrial labor relations in Brazil. Brazilian industrialization is characterized by import-substitution (ISI), where direct foreign investments play important role. Labor conditions are extensively regulated by the state. Evidence of state labor control reinforcement by the authoritarian regime, and also of changes in state labor control during the last years of the authoritarian rule are emphasized, especially regarding the wage policy. The main concern in this chapter is to discuss possible implications of changes in the state labor control for bureaucratic control.

In Chapter III, data on wages and job stability in the electric and communications materials industry in Rio Grande do Sul are analyzed, in order to obtain evidence of labor differentiation by wages and job stability in the electric and communications materials industry, when compared to other industries in the metal-mechanical sector and in the total of the activities in the State of Rio Grande do Sul. These data are compared by sex and across time, in order to uncover evidence of gender segregation and also to reveal any increase or decrease in wages and job stability in the total labor force over time and by gender. This evidence will be compared to similar information about the ensemble of

activities in Rio Grande do Sul.

Chapter IV examines the local metalworker union as an actor in the process of transformation of work conditions, with particular emphasis on negotiations for higher wages and job security measures through yearly renewed collective agreements. The focus is on the extent to which workers, through a state-sponsored trade union, have been able to modify their labor conditions. Particular attention will be focused on the period following the political changes of the late seventies. A central issue concerns whether or not a "protected" worker "fraction", as in Edwards' (1979) formulation of subordinate primary workers was created as a form of resistance to state and management imposed labor control. Female workers' participation in the union is highlighted, regarding their role in the union's internal organization and in the formulation of worker demands.

In Chapter V, management's strategies of labor control in the organization of the labor process within the firm are analyzed through an illustration of four case studies in the electronics industry. The main concern is the extent to which management's policies have developed bureaucratic forms of labor control at the workplace, if at all, through the creation of segments among workers. The analysis of observed differences and similarities among firms emphasizes these firms' structural characteristics, such as size and product market, as well as differences in management's choices in the organization of the factory regime in each particular firm. The effects of patriarchy on labor control at the workplace are particularly emphasized.

The concluding chapter reviews the main arguments of this thesis concerning bureaucratic control. The focus is on how management's policies of personnel, the state-sponsored union system and the existing pattern of patriarchy affect the development of forms of bureaucratic labor control in a dependent country like Brazil. This evidence will be contrasted against the background of core countries, in particular the U.S. The main concern in this final chapter is not to present a finished theoretical model for the analysis

of labor differentiation in a dependent country such as Brazil, when compared to an advanced capitalist country such as the U.S. Rather, some plausible explanations about factors that promote and those that inhibit and even substitute for bureaucratic control will be posed.

6. Contributions

The originality of labor segmentation theory and its contribution to the study of labor lies in the fact that it considers the problematique of labor relations in capitalist societies as being not only market determined (as an outcome of the relationship between supply and demand) but also as a result of the social relations of classes. In this regard, the studies of Edwards (1979) and Gordon et al (1982) have proven fruitful. These authors have stressed the importance of institutional innovations in the analysis of the process of change in labor relations, both at the level of the general conditions of the labor market and at the level of the workplace.

However, as pointed out previously, it is important to recognize that labor segmentation theory also presents some shortcomings and these need to be confronted and rethought. Earlier the difficulties arising from the rigidity of the concept of a dual economy, both at the theoretical and the empirical levels was elaborated. In addition, we would like to stress here three other points.

First, most studies in this field have not addressed the problems related to gender segregation in the labor market, or have done so only in a secondary way. As Kenrick (1981) and Hartmann (1982) point out, most authors in the theory of industrial labor relations have not considered the forms whereby the ideology of women's subordinate position in society and management policies of workplace organization are combined and mutually reinforced in promoting gender divisions amongst workers. In this sense, labor

segmentation theory only partially explains the process of labor differentiation by gender, insofar as this theory limits the explanation of gender segregation to either female labor force situation in the labor market or female job content. A comprehensive view of the position of women in the labor force is needed, as emphasized in Bookman (1984) and Lamphere (1985). The situation of women workers in the labor market is not simply determined by the relationship between demand and supply. Female workers are discriminated in the labor market and at the workplace primarily as women.

The second point is related to the state's role in forging the overall conditions of labor. Indeed, in the literature on labor segmentation most authors, regardless of variations in their approaches, have focused their analyses on the initiative of private economic actors (that is, on the relationship employer-employee), leaving the state in a secondary role. In other terms, it is necessary to consider state structure, and the actions undertaken through its apparatus, as agencies of regulation, control and even repression of labor relations and labor organization. The consideration of state is particularly important in the study of labor relations in dependent development, compared to a liberal *laissez faire* context like in the U.S. Moreover, the understanding of the political content of conflicts and tensions involving labor relations requires the consideration of the type of political regime and the correlation of forces within it in particular conjunctures (Gramsci, 1971). In this sense, Rueschemeyer's (1986) emphasis on the analysis of power relations in the study of division of labor has broadened the possibilities for theoretical formulations concerning industrial labor relations, by revealing more clearly the political setting of the relations of production.

Finally, indirect factors arising from the international situation should also be considered. Most works based on the concept of labor market segmentation have been formulated for the context of the conditions of work in core countries (Europe, Japan and the United States). However, it is important to observe that such a theory might need some modification when applied to the periphery of capitalism, where jobs and wage

opportunities are somehow related to direct foreign investment, state ability and limitations in obtaining financial loans in the international economic community, capacity of "know-how" imports and creation, exports chances not only of agricultural, but also of manufactured commodities to markets in the advanced countries, and so on. In peripheral countries like Brazil, the indirect effect of state interference in the economic growth on labor cannot be neglected in the analysis of labor relations.

Actually, these factors - the effects of state action and of the international situation - aside from the actions undertaken privately by social agents directly involved in labor relations (employers, their intermediate staff and subordinate employees) are particularly important in the case of dependent countries like Brazil. For instance, Pastore and Skidmore (1985) have pointed out that the upsurge of the strike movement in the late seventies in Brazil occurred during the process of a political "opening". However, this was also precisely a period when the impact of world economic change on the country's economy was by no means favorable for labor unrest. According to these authors, the Brazilian economy was undergoing its most serious economic recession in half a century, and signs of recovery did not begin to appear until mid-1984. This resulted in high rates of unemployment and repressive reaction of the political regime toward labor mobilizations, even in the most advanced sectors of economic activity where unionism is highly organized, such as in the automobile industry and the banking network.

It seems, therefore, that the history of labor transformation in Brazil must have taken some peculiarities that still have to be explained. In fact, Humphrey's study (1984a) has shown the absence of factors of privilege and security for motor vehicle industry workers, which are of crucial importance in the definition of a primary labor market. According to the author, although wages are relatively high in the motor vehicle industry, other aspects, such as unstable employment, harsh supervision, intensive work and limited promotion prospects are not of the sort defined by the concept of a primary labor market. These

findings may indicate the existence of interchangeability of job positions among manual workers in Brazil, where the differences in job content between unskilled and semi-skilled workers may not be clear cut.

All this suggests that the present study, based on empirical research in a technologically advanced industry, in a dependent country like Brazil during a period of authoritarian political regime, might be helpful in providing new information about factors affecting the process of labor differentiation in that country, namely, state, management's policies, union mobilization and practices of patriarchy. The concern here is with how these factors have acted in promoting or, conversely, hindering the emergence of labor conditions similar to those of a "primary" labor market, in the conditions of dependent development. If so, interest should center on those factors which have been the particularities of such a process. If not, the questions should be why not? and in what ways is labor controlled in a modern industry in a newly industrialized country like Brazil.

Chapter II

**HISTORICAL PERSPECTIVES ON
IMPORT-SUBSTITUTION INDUSTRIALIZATION,
UNION STRUCTURE AND LABOR CONTROL IN BRAZIL**

1. Dependent Development in the Context of Import-Substitution Industrialization

On the basis of the periodization proposed by Aragão (1985), two basic cycles are apparent in the Brazilian import-substitution industrialization: the first cycle, lasting from 1930 until 1954, is characterized by the substitution of light consumer goods. The second cycle, lasting from the mid fifties until the present¹ is oriented toward the substitution of intermediate, capital and durable consumer goods. During the second cycle, the replacement of durable consumer goods in the internal market assumed a major role, led by the automobile industry (along with other industries, such as electrical appliances, on a lesser scale). Yet, the economic policy followed by the post-1964 governments put a stronger emphasis on the import-substitution of intermediate and capital goods, which in many cases was associated to the building of a defense industry² (Alves, 1984).

Thus, whereas the first cycle of import-substitution involved the import of machinery and equipment to internally produce final consumer goods, mostly by national companies, the second cycle required a greater reliance on the direct investments of multinational corporations in the country's manufacturing sector. This is because it involved the import

¹ Aragão (1985) closes the second period in 1970. For reasons to be explored below, it is understood that the cycle of "heavy" import-substitution industrialization has been extended through the seventies and the early eighties.

² Despite the fact that this process has not dislocated the prior role of the automobile industry in the industrial structure of the country, it is still worthy noting, since it has had a direct effect on the emergence and expansion of the computer and micro-electronics industry in Brazil.

of more complex and capital intensive technology, as well as exchange contracts for technology transfers, technical assistance and manufacturing licenses from multinational companies.

The second cycle of import-substitution began with a policy of rapid industrialization set by Kubitschek's government (Aragão, 1985), and gave rise to what Cardoso (1975b: 58) called the "associated dependent development model". This pattern of capital accumulation was further reinforced and consolidated by the "outward-looking" (Bacha, 1980: 33) economic strategy followed after 1964, whereby direct foreign investment was seen as source of capital and technology, as well as organizational capability that would guarantee the dynamism of the economy. Thus, after 1964, along with the transportation equipment, electrical machinery and appliances and mechanical industries, already settled during the late fifties, the industries of rubber, chemicals and non-metallic mineral products became a part of the leading sectors of industrial growth (Bacha, 1980).

The "heavy" cycle of import-substitution industrialization resulted in the national integration of regional product markets, which was possible through the development of the transportation and communications networks in the country. In the manufacturing industry of Rio Grande do Sul, high rates of growth were observed for the chemical industry and the metal-mechanical sector, the latter constituted by the metallurgical, mechanical, electric and communications materials and transportation materials industries. In the metal-mechanical sector, for example, the annual rates of employment growth between 1949 and 1970 were greater than the average growth of employment in the total manufacturing industry in RGS during the same period. The annual rates of employment increase were 17.4 percent for the electric and communications materials industry, 9.9 percent for the transportation materials industry, 8.5 percent for the mechanical industry and 5.1 percent for the metallurgical industry between 1949 and 1970. Whereas, the average annual rate of employment increase for the total

manufacturing industry was only 3.2 percent in RGS, during the same period. In addition, the participation of the industrial production value of the metal-mechanical sector in the industrial production value of the total manufacturing industry in RGS increased from nearly 7 percent in 1949 to 20 percent in 1970 and to nearly 25 percent in 1975 (Brumer, 1981).

The industrial production in the state of Rio Grande do Sul became increasingly specialized in intermediate goods, such as steel wires, agricultural machinery and parts, machinery for the shoe and leather industries, power transformers and bodies for trucks and buses. Most importantly, the integration of the economy of Rio Grande do Sul into the national market took place as a peripheral regional economy, oriented toward and subordinated to the product market of the industrial center of the country, located in the state of São Paulo (Brumer, 1981).

The expansion of direct foreign investment within the country, its joint ventures with local private companies and its agreements with state enterprises (such as in the petrochemical industry and in mining activities) produced a monopolization of production and markets, and resulted in capital centralization in the Brazilian industrial structure (Bacha, 1980; Aragão, 1985). The participation of foreign firms in the total value of Brazilian fixed assets is not large, since a good part of their resources has been applied to the purchase of existing facilities. The fiscal policies that have been adopted to attract foreign investments offer many advantages to foreign firms (Alves, 1984). The evidence of their predominance in the most dynamic industrial sectors is given by their "bigness, technological dynamism, access to credit sources, asset concentration and market dominance" (Bacha, 1980: 28).

At the same time, the role of the state as an economic actor was extended after 1964, basically as an infra-structure provider, through the activities of public enterprises such as Eletrobrás, Embratel, Siderbrás and Petrobrás, at the federal level. This pattern of

development opened two new possibilities of growth for the position of domestic firms in the division of the industrial production structure. These consist of either the opportunity to operate in the inter-firm market as suppliers of intermediate goods for multinational corporations (such as the automobile industry) or the opportunity to operate in the market for durable consumer goods, as partners of joint ventures with multinational corporations. Hence, as Evans and Queiroz (1977) clearly demonstrated, the relationship between national and multinational capital in the "deepening" of industrialization (O'Donnel, 1973) became complementary rather than conflictive, in many cases.

Once the rules of the game were established by the military regime's economic policy of openness to foreign capital, the country recovered its economic growth (after 1967), with high rates of GDP increase until the mid seventies (Cardoso, 1975b; Bacha, 1980; Almeida, 1982; Alves, 1984). However, the new pattern of accumulation required a much higher level of capital goods and spare parts imports, for the assembling activities of durable consumer goods. Furthermore, the economic policy induced local investors to search for foreign loans and financing sources (by restricting credit to the private sector through measures such as increasing the internal interest rate). This in turn began to aggravate problems in the balance of payments. As a counterpoint, policy makers stimulated export activities, in order to generate foreign currency to pay the increased list of capital goods imports in addition to royalties and the interests on debts which seriously affected the deficit. Thus, the problems associated with the higher interest rates in the international market after the oil crisis of the early seventies were just pivots in the slow down of Brazil's economic growth after 1974, and the subsequent recessive economic policy of the late seventies and early eighties. Brazil's trade deficit was rooted in the economic pattern of growth itself (Bacha, 1980).

In order to confront the crisis, which was accompanied by increasing internal inflation rates, a plan to reduce economic activity in order to equilibrate the balance of payments

was followed. This was done through restrictions on imports and increases on exports. However, the high external interest rates could hardly be caught up by the increase in foreign currency stemming from export activities, even in years characterized by a favorable balance of trade, while internally, the policy of economic recession produced unemployment on a large scale and while inflation rates continued to increase rapidly.

The heavy import-substitution industrialization in the context of the tightening ties of dependence on foreign capital, produces goods that assume the feature of luxury goods in the periphery, although slated for mass consumption in core countries. As Evans (1984) points out, by holding privileged positions in the production of consumer durables, the multinational corporations play a major role in shaping consumption patterns and in the structure of the productive apparatus as well. This gives way to a "restrictive and exclusionary industrialization" (Cardoso, 1975b: 76). In fact, as asserted by the referred author, such a pattern of industrialization is based on transfers of machinery and equipments from core countries to LDCs (less developed countries) to make goods while technological control remains in the multinational corporations' home-countries. In this sense, the "know-how" transfers to the industrial sectors in the periphery are reduced to simple operations and maintenance activities, making it possible to use the available unskilled and semi-skilled labor force in these countries, through a quick training.

Capital-intensive technology, required in the heavy import-substitution industrialization, has been provided, in Brazil, mostly by multinational corporations. The introduction of technical progress has brought about new organizational factors in the workplace, generally referred to as "scientific management", at the same time that it has involved a process of labor "deskilling" and "reskilling".

In the case of the labor market, as Aragão (1985) has pointed out, competition among peripheral countries for foreign investments has led to the formulation of policies oriented toward offering a series of advantages, including a cheap and suitable labor force. The

availability of a cheap and weakly organized labor in peripheral countries has filled the interests of both the multinational corporations and private local companies. This is because most jobs in the manufacturing sector employ semi-skilled and unskilled labor force, in the context of industrialization based on technological dependence. At the same time, the pressures of organized labor for higher wages and benefits in developed countries, and the worldwide competition amongst multinational corporations for new markets, have driven them to invest in technological innovation and relocation in new sites through a fragmentation of production processes and redeployment. According to Aragão's (1985) research, because foreign companies in Brazil rely most heavily on their home-country engineers, technicians, scientists and R&D activities, job chances for Brazil's own skilled labor are quite reduced in these firms. Similarly, local modern companies with high technological dependence also offer limited opportunities for skilled labor. In the case of less technologically dependent industries (such as beverage, food, textiles), Aragão has found that their low degree of technological complexity leads them to rely heavily on unskilled and semi-skilled labor as well.

In addition, in order to counteract the increasing costs of equipment imports and know-how transfers, wages were kept at low levels. Indeed, the first post-1964 government economic plan (PAEG, 1964-1966) set a rather rigid wage policy as one of its basic priorities in order to control inflation (Martins, 1979; Alves, 1984). This established a pattern of income distribution strongly concentrated in the top 20 percent income rank, which is composed of 15 percent from the high-middle class and 5 percent of the wealthiest (Alves, 1984). Increasing the purchasing power of this group guaranteed the dynamism of the market for durable and luxury consumer goods (Cardoso, 1975b; Almeida, 1982; Alves, 1984). In the case of workers and their families, however, the effects of this process of dependent development were felt in a quite different way, as the literature on the deterioration of the living conditions and the life chances of the working class

demonstrates.³

There was a significant increase in female participation in the labor force during the seventies. In her study on the process of women's incorporation in the labor force in Brazil during the industrialization period between 1872 and 1982, Saffioti (1984) pointed out that the number of women in the total economically active population nearly doubled between 1970 and 1980. On the basis of data from Demographic Censuses, this autor indicated that the female participation in the total economically active population increased from 6,154,806 in 1970 to 12,038,930 in 1980 in Brazil. Most of the increase of working class women's participation in the labor market resulted from the deterioration in the living conditions of low-income families. In these circumstances, many women entered the labor market in low-paying jobs of the service sector. For example, 20 percent of the total of women in the female active population were employed as house helpers in Brazil in 1980 (Saffioti, 1984).

Nevertheless, the dynamism of Brazilian economic growth from the late sixties to the mid-seventies also opened new job opportunities for female workers in the manufacturing sector. Thus, in addition to the textile and apparel industries, where female labor force has been present in significant proportion since the emergence of these industries in Brazil, new jobs were created for the female labor force in industries which rapid growth occurred during the heavy phase of import-substitution, such as the electrical-electronics equipment

³ See, among other studies, Ferreira, Cândido Procópio et al, 1975, São Paulo, 1975: *Crescimento e Pobreza*, Edições de Loyola, S. Paulo; FIBGE, 1979, *Brasil - Indicadores Sociais*, vols. I and II; FIBGE, 1981, *Condições de Vida da População de Baixa Renda na Região Metropolitana de Porto Alegre*; Knight, Peter T., 1981, "Brazilian Socio-Economic Development: Issues for the Eighties", World Bank Reprint Series, no. 203; Sanders, Thomas G., 1982, "The Problems of Nutrition in Brazil"; "Brazilian Population in 1982: Growth, Migration, Race, Religion"; "Economic and Social Characteristics of Brazilian Population", UFSI Reports, South America, ns. 16, 42 and 43, respectively; Evans et al, 1985, "The Political Economy of Contemporary Brazil: A Study Guide", Latin American Institute. The University of New Mexico: Albuquerque.

and auto-parts industries (Saffioti, 1984). This autor showed that in the total of the female economically active population, the participation of women in the total industrial sector (including manufacturing, gas, electricity and construction) increased from 10.4 percent in 1970 to 15.2 percent in 1980. Thus, the proportion of women workers in the female economically active population employed in the industrial sector increased in nearly fifty percent in Brazil between 1970 and 1980.

On the other hand, insofar as the "associated dependent" pattern of accumulation promoted technological innovation and product market oligopolization in the most dynamic industries, it also fostered changes in strategies of labor control, to a certain extent. In order to assess the latter, it is necessary to consider the post-1964 labor policy in Brazil, through which the state simultaneously intervened in the economy while maintaining its control of labor.

2. Authoritarian State and Labor Control in Brazil

From the thirties onward, the cycles of import-substitution industrialization in Brazil have been accompanied by an expanded role of the state (Evans, 1984). Many measures were undertaken by the state, such as those directed to the protection of the domestic market and the negotiations of the terms for the multinational corporations' investments within the country. In addition, measures directed to the support for export activities were also undertaken by the state, in order to face the external debt and the payments for technological transfers. Overall, these measures of state intervention in the economy have been pointed out as evidence of the important role performed by the state during the process of import-substitution industrialization. Furthermore, the state itself has turned into a direct economic actor, by investing in infra-structural projects (energy, petrochemical, communication, mining) which, depending upon the scope of the investment, have also involved multinational corporations.

The combination of increased state intervention in the process of capital accumulation under conditions of economic dependence with a tradition of bureaucratic and centralizing state (Cardoso, 1975c) resulted in a reorganization of state apparatus, especially during the period of consolidation of "heavy" import-substitution industrialization in Brazil. This reorganization would shape the basic features of Brazilian authoritarian state installed in 1964. According to Cardoso, the major components of authoritarian state apparatus in that country consisted of: 1) the interests of oligopolistic capital (multinational corporations); 2) the strengthening of state enterprises; 3) the increase of governmental arena of decision making; and 4) state control of civil society (1975c: 196).

The changes in state organization resulted thus in a political regime which balance relied upon state capacity to define and maintain rules of social and political command of "the excluded", to guarantee appropriate rewards to dominant classes (including the interests of both private and public bureaucracies), and to elaborate specific ideological formulations capable of inducing practices of reproduction of the "status quo". The new situation of hegemony involved at the same time maintaining the rules of political exclusion by means of coercion, capacity of delivering adequately economic and social demands of the dominant classes and, to a lesser extent, the demands of subordinate classes. Expansionism, discipline and repression consisted thus the basis upon which relied the new authoritarian state (Cardoso, 1975c).

The expansion of political society implied in strict control of civil society organizations, especially union and party activities. The limited forms of interrelationship between private and public interests gave rise to new methods of articulation between private economic and public administrative decision making sectors. This new system consisted of the organization, on a temporary basis, of what Cardoso named "bureaucratic circles of power" (1975c: 201,206), whereby private economic forces which benefitted from the regime (such as export-oriented manufacturing sectors, construction industry, export-

oriented mining sectors, large multinational corporations and finance capital) were politically articulated to state apparatus. Differently from the case of lobbies, these "circles of interest" were more heterogeneous in their composition (involving entrepreneurs, state officials and military, for example) and their motivations were not exclusively economic. Importantly, "bureaucratic circles of power" were centered on top state officials such as, for instance, the Ministers of Finance, Transportation, Mining and Energy, among others. Moreover, "bureaucratic circles of power" represented a mechanism of cooptation, whereby members of dominant classes were incorporated into the system of decision making at the level of state apparatus "quae personae", as opposed to the system of corporatist representation (Cardoso, 1975c: 208). Hence, while this form of articulation between privileged sectors of dominant classes and state apparatus forged a pluralistic connotation in the political regime, authoritarian corporatist policies were designed to control subordinate classes, in particular the urban industrial working class. This is especially the case of state labor control through corporatist union structure.

Brazilian union organization, as it was institutionalized from the thirties onward, differs significantly from the Western conception of union organization. As indicated by Rodrigues (1981), in the liberal Western version unions are conceived as autonomous, voluntary and permanent wage workers' associations for the defense of their interests before employers. However, the post-1930 Brazilian experience shares a common path with Third World countries (Deyo, 1981), and its union structure and functions stem from the state, rather than the labor world properly.¹

Brazilian urban union structure was formalized in Section V of the Consolidation of Labor Legislation (the CLT) in 1943, during Vargas' dictatorship. This document was

¹ Decree n.19770 of 1931, defined the union as an organization of cooperation with state, and established financial control of the unions by the Labor Ministry (Antunes, 1981: 59).

inspired in Mussolini's fascist legislation, in particular the labor laws of the *Carta del Lavoro*, and lasted until the collapse of the military regime with few changes (Antunes, 1981: 60; Alves, 1984: 236). The union system in Brazil is organized by industry in the private sector (unionization is banned in the public sector) according to major branches of activity, with the exception of liberal professionals who can join unions organized according to their college degree. Official recognition by the Labor Ministry is required. The principle of unitary union determines the official recognition of only one union for each industry branch (or branches) or profession in each geographic localization, which consists of the municipalities, in most cases. The law establishes in minute details the internal functioning of the unions,² whose organization is conceived in a corporate manner, through a vertical structure constituted by federations and confederations.³ Horizontal inter-union associations are illegal. For example, a local metalworker union cannot articulate its activities with other unions, such as apparel worker union or even another metalworker union. The various metalworker unions located within one state can only have their activities coordinated through the Federation of Metalworkers of that particular state. Articulation among different worker categories of the same economic sector is legally permitted only through federations and at the top of the union structure, that is, at the level of confederations. In the example above, our Federation of Metalworkers will make part of the CNTI (the National Confederation of Industrial Workers) along with all Federations of industrial manufacturing workers of the remaining states of the country.

Hence, differently from the case of the United States, Brazilian union system is organized on the basis of geographic divisions, which renders illegal any type of nation-

² In December of 1984, the standard guideline was abolished.

³ While federations group all unions of each worker category at the state level, the confederations group all federations of workers in the same sector of activity at the nation level.

wide union organization. It is noteworthy that this corporatist union structure, based as it is on authoritarian principles, creates the possibility for the existence of unions independently from membership participation. By means of the unitary union tax, this system renders the union to a state-sponsored organization. In addition, according to the union electoral legislation of 1974⁴ the union board retains all control over the electoral process, a factor that strenghtens the probability of re-election or election of candidates supported by the union board. Such restrictive aspects of union representativeness are reproduced at a still greater degree at the levels of the federations and confederations. At these levels, the electoral procedure is indirect. In the case of federation members' election, each union is represented equally by one delegate, that is, one vote, regardless the number of workers represented. This gives small unions as much weight in worker representation as large unions located in areas with significant industrial worker concentration. In the case of the confederation, each federation, again, is represented by one delegate (in general, the president of the federation), with the right to one vote.

Hence, in this system, the officers of federations and confederations respective boards might keep their mandates for a lifetime. For example, the president of an union might be appointed by his colleagues at the board of directors to be the union's representative at the federation. At the federation, the same person might be appointed as delegate at the confederation. Considering that the union electoral system allows the board of officers to control the electoral process, the officer in our example is likely to be re-elected and, therefore, continue to be his union's representative at the federation and the confederation. Furthermore, as pointed out by Alves (1984), the government not only has power to legally recognize unions, as it can also create unions without membership. These are the so-called "ghost unions", which participation at the levels of federations and confederations

⁴ Portaria n.3437, abolished in March of 1986.

on the basis of equal representativeness will result in one more obstacle to the activity of more militant unions (Alves, 1984: 238).

In Brazil, one of the main instruments for subordinating unions to the state apparatus is the unitary union tax, which is collected and redistributed by the Labor Ministry and represents the major financial resource for most unions. This unitary tax compels every worker to contribute one annual work day for the benefit of his/hers union, regardless of effective membership. This mechanism allows state control of the use of the union's financial resources, by defining the list of items and limiting the percentage of expenditures (such as medical and dentistry assistance, organization of cooperatives and educational programs) of each union's budgetary plan⁵ (Alves, 1984: 239).

Furthermore, the official norm determines intervention in the union by the Labor Ministry in case of inadequate use of these financial resources, which frequently implies in withdrawal of the board of directors. This state-sponsored union system provides unions, as well as their federations and confederations, with the opportunity to develop quite complex administrative structures that are not dependent on the support of the rank and file members, once budgetary approval is obtained from the Labor Ministry.

All wage workers have their basic labor conditions and wages regulated by the Consolidation of Labor Legislation (the CLT) and by the several laws and law-decrees formulated after 1964. Thus, in juridical terms, little is left for the union action in the defense of worker interests. Nevertheless, the active role of unions has not been

⁵ The unitary union tax is collected by the Labor Ministry. It corresponds to one day of work deducted from all wage workers, regardless union membership. The Labor Ministry regulates the use by the unions of the financial resources stemming from the union tax. They can be applied only for certain activities such as those involving social assistance (for example, medical and juridical assistance) and leisure (for example, construction of sports gymnasium or vacation facilities). They cannot be used for political activities, including the organization of strikes. According to this system, the unions' budgetary plan must be submitted to the approval of the Labor Ministry.

unimportant in the recent history of labor relations in Brazil, as will be explained later. A pyramidal structure of a Labor Justice (from federal to local levels) was also institutionalized as a means of channeling labor disputes, whereby the state performs the role of arbitrator between the parties, at the same time that workers' mobilizations are driven away from the workplace.

During the liberal democratic political regime that followed the enactment of the constitution of 1946, and until the military take over in 1964, the Labor Justice enjoyed autonomy from the Executive branch of government in the proceedings for wage arbitration, although Minimum Wage levels were also considered, in addition to other issues such as productivity, in the final "referendum" of the new wage adjustments. However, soon after the installment of the authoritarian regime, the Labor Justice lost its normative power. As a consequence, key offices came to be occupied by appointed officers and the arbitration system at the Labor Courts was directly subordinated to the government wage guidelines. Nevertheless, the system of selection of judges through qualifying examinations persisted. This permitted some political and ideological independence of judges from the official labor justice doctrine, as well as its corresponding interpretation and application of the law. This would appear more clearly later on, in the late seventies and early eighties when worker mobilization was resumed in the context of the regime's policy of gradual liberalization. Some regionally located Labor Courts became more autonomous from the state and would sometimes legitimate worker demands.

Legal strike practices have been practically denied by the Brazilian labor legislation since the beginning. Although this right was permitted between 1946 and 1964 (Decree n. 9070), it was quite limited and involved a long procedure through a law suit. In 1964, the Decree n. 9070 was replaced by the Law n. 4330, which not only restricted the right to strike still more, but also provided clear rules for punishment (through intervention in unions, and the prosecution and imprisonment of their leadership), in cases of officially

declared illegal strikes. Moreover, in 1978 the Law-Decree n. 1632 introduced new restrictions on the right to strike that determined the reinforcement of the prohibition and repression of strike practices at any level of its organization (Almeida, 1982; Alves, 1984).

Labor legislation in Brazil has been pointed out in the literature as a form of state political control of the working class, and of intervention in the labor market. The vertical organization of unions directly subordinate to the Labor Ministry; the institution of the Labor Courts, which have taken from the unions the initiative of negotiation of labor conditions; the institution of the unitary union tax, making unions financially dependent upon the state; the anti-strike law and the institution of the Minimum Wage have all allowed the state to control the labor market, in terms of wages and the conditions of labor, as well as to hinder the development of grassroots movements in the labor world, by disconnecting the unions from the the workplace (Rowland, 1974). In other words, the corporatist organization of labor has provided a means for channelling workers' demands through the state apparatus. Vianna (1976), Ferrante (1978) and Barcellos (1983) have also demonstrated that the labor legislation has consistently represented a policy of labor control, particularly of the urban working class. The corporatist organization of the unions restricted the potential for organized action for large segments of the urban labor force.

As Erickson (1977) has observed, Brazilian corporatism is not equivalent to a tripartite decision making system, as in some industrial European countries (Lehmbruch, 1979; Schmitter, 1979; Panitch, 1979). Rather, the Brazilian version of corporatism is directed at providing state control over the working class in a unidirectional way - from the top down, in order to restrict any labor bargaining on the private level beyond that which is foreseen by law. In Vianna's (1976: 19) interpretation, it corresponded to a "publicization" of the "private", in the process of establishing the ideology of "neo-liberalism" in Brazilian polity, from the thirties onward. In a non-hegemonic capitalist society, where the social order is highly sensitive to subordinate classes' mobilizations, the

establishment of a Labor Law "publicizes private relations in the labor market, and converts the conditions of labor force sale, from a mercantile fact into a juridical fact". Yet, if this may hold for the constitutional order from 1946 to 1964 in Brazil, in the "second version" of the corporatist organization of labor, under the authoritarian regime, the conditions of labor force sale assumed a more immediate political meaning, as an "issue of national security". The earlier ideal of class harmony and collaboration through the union structure was no longer at stake, in the face of the regime's wage policy which aimed at the control of wage increases as a way to hold back inflation. During the period previous to the military regime, the Minimum Wage levels were defined by Minimum Wage Committees (22 in total, one for each region of the country) which were created in 1936, and were made up of an equal number of representatives for employers and employees and coordinated by one direct representative of the President of the Republic. These Committees were replaced in 1967 by the National Council of Wage Policy. As Vianna (1976) pointed out, the percentage of wage readjustment became a direct outcome of an act of power of the Executive.

According to the legislation, specific labor conditions (including wages) for each worker category belonging to the same union (independently of membership) may be defined through labor collective agreements which are set between the parties' unions (employers' and employees'). Separate agreements, on the company level (or group of companies) are also provided for by the legislation and involve the workers' union as well. Once the accord is reached, the resulting collective agreement is registered and filed at the regional labor department (the "Delegacia Regional do Trabalho"), or ratified at the Court, although the latter procedure was not required by the 1967 legislation (Pichler, 1983: 52). In case of the absence of agreement between the parties, a law suit follows, which is addressed through the Labor Court. Once the formal dispute ends, either by conciliation or Court arbitration, the resulting agreement is applied to all workers of the involved category and their respective employers, with the strength of law.

The practice of law suits in collective agreements has been the most common legal procedure for addressing collective labor disputes in Brazil, especially regarding wage readjustments. The post-1964 wage policy lowered the efficacy of more direct negotiations through collective agreements, since employers could support their arguments with the official guidelines for wage readjustments, and allege the illegality of the workers' demands (Alves, 1984). However, little could be obtained through collective agreements addressed through the Labor Court, particularly during the most rigorous years of the authoritarian regime, since the government guidelines were quite specific with respect to the calculation of wage revisions.

In addition, in 1965, a new legal device was created regarding job stability, which replaced the former job stability system. According to the Decree n.62, from 1935 (Vianna, 1976), later included in the Consolidation of Labor Legislation, all wage workers could reach stability on the job after working for ten years for the same employer. That is, workers who had been employed for ten years by the same employer could not be fired, unless in cases of "just cause".⁶ In cases where the employee was fired without "just cause", the employee's dismissal involved the payment of an amount corresponding to the highest monthly wage for each year of work, in addition to correspondingly vacations and also the 13th wage after 1962. In cases where the employee had less than ten years on the same job but more than one, the firing procedure should be justified before the Judiciary. Otherwise, the employee should receive a payment corresponding to one of his/her highest monthly wage for each year of work within the firm, plus vacations and, after 1962, the 13th wage. This system did not assure job stability because few workers reached ten years on the same job, and those who were fired without "just cause" did not

⁶ These cases involved situations such as firm closing or necessity to decrease the firm's staff or when the employee's behavior had harmful consequences to the company, such as robbery and destruction of equipment.

have any legal guarantee of reintegration (Vianna, 1976). Still, it made the practice of firing employees juridically complex and relatively expensive, especially in the case of large scale dismissals.

The guarantee fund by length of stay on the job (FGTS) facilitated the procedures for firing without just cause and released employers from their former charges. Instead, a proper account for each employee was created, controlled by the federal government, for the deposit of 8 percent of the firms' monthly payrolls to be paid from the firms' own resources. If fired without just cause, the worker was able to withdraw his/her fund,⁷ plus 10 percent over its total value, to be paid by the firm.⁸ Given the high inflation rate, this legal instrument released the firms from part of the expenses with firing procedures at every dismissal, for the fund has been previously discounted. Moreover, it was now possible for the firms to avoid legal processes and expenses when firing employees. The result was essentially a decrease in employment stability.

Although legally optional, the FGTS system became a norm in labor contracts, as a condition for hiring. As a consequence, labor turnover increased because the new legislation made it easy to fire and re-hire workers. It was also a factor in keeping wages low because the total readjustment obtained through a collective agreement only includes the labor force employed at the time of the Court's decision. According to existing jurisprudence, employees hired after the agreement have their wages adjusted on the

⁷ The legislation establishes conditions to withdraw this fund, such as being unemployed for more than three months. In case of a wedding, funeral or home purchase, a withdrawal by the employee is allowed as well. For home purchase, however, the withdrawal of the fund is only permitted for home purchase through the public financing system, which was centralized by the National Bank for Household (the BNH, which folded in 1986).

⁸ It is debatable whether or not the value received by the worker is significantly different than in the previous system, considering the 10 percent additional, the interest rate (on a lesser scale) and, until February 1986, the monetary correction for inflation (abolished with the "Plano Cruzado").

proportion of 1/12, that is, as many 1/12 fractions as the number of months (or more than 15 days) remaining between the date of the new hiring and the next agreement. This means that new employees will be paid a lower wage than older employees. Yet, in 1976 the jurisprudence incorporated a clause on the substitute workers' wage, which aims at the defense of wage levels of the job positions at the workplace. However, insofar as companies do not have their internal job hierarchy organized into career levels according to the Labor Ministry's requirements and recognized by this agency (COAD, 1986), and workers do not have any control over job allocation at the workplace, the situation of worker substitution at the company level becomes difficult to identify, for any task change may characterize a different job position. Hence, the formal regulation of the substitute worker's wage is not, by itself, a guarantee of wage levels and, therefore, it does not always protect workers' wages in the face of labor turnover. Furthermore, the high workers' mobility from one job to another and from one worker category to another has acted as a weakening factor in their organization. This leads to instability among the unions' rank and file, intensifying job competition amongst workers.

3. The Wage Policy

Although figuring in Brazilian legal institutions since the constitution of 1934, the first official Minimum Wage table was not published until 1940 (Vianna, 1976). It was conceived as a "minimum biologic" for one adult worker's⁹ daily expenses in food, housing, clothing, hygiene and transportation, with differentiated values for each officially defined region within the country, until its national unification in 1984 (Saboia, 1985), which met an old workers' demand.

⁹ In the Constitution of 1946, article 57, this concept refers to the worker and his family, constituted by four persons (two adults and two children).

Since its institutionalization, the Minimum Wage has regulated the wages of most semi-skilled and unskilled urban workers (its legal extension to the countryside did not occur until 1963), as a reference for the definition of beginners' wages and future increases. As observed by Vianna (1976), the Labor Justice apparatus came to perform an essential role in this process. In the context of an absence of free collective contracts with a conception of strikes as "anti-social resources", workers' wage demands were thought to be appropriately channelled through law suits at the Labor Court on the occasion of their collective agreements.

Actually, workers' mobilizations, inter-unions associations and strikes became frequent from the second Vargas' term onward (1950-1954). By the early sixties, the "nationalist-developmental" coalition became fragmented under the pressure of the end of the "easy" phase of import-substitution industrialization and the emergence of the new, exclusionary coalition (O'Donnell, 1973: 88). In response to these events, it sought popular support and pressed for an increase in the political regime's tolerance regarding labor demands. At that time, the Labor Court had a significant degree of autonomy from the Executive power, since it did not have legal limitations in arbitrating the percentage of wage adjustments (even though the official Minimum Wage was used as reference). In this sense, workers could exert a certain margin of pressure on the definition of their wage levels (as, for instance, regarding the rates of productivity). Nevertheless, as pointed out in the literature, the Minimum Wage has been historically defined below inflation rates, which determined a declining tendency in its purchasing power, with the exception of the years of 1956 and 1959 (Alves, 1984). As a consequence, it has had a downward effect on the general wage level of unskilled and semi-skilled workers. As a reference point for industrial wage readjustments, the Minimum Wage represented a very low floor for those categories of workers in relatively low-skill job positions.¹⁰

However, it was under the authoritarian rule of the military regime that the wage policy became more effective as a device of state control of the labor market. Through a number of Decrees and Law-Decrees from 1965 onward, the regime set new rules for the arbitration of collective agreements, with the aim of promoting a uniform wage policy (Martins, 1979). These new norms were seen by the ministers who participated in their elaboration as wage disciplinary rules, to guarantee equal treatment to all workers, with the intent of keeping the wage readjustment indexes from depending upon the bargaining power of each worker category (Martins, 1979). As previously mentioned, the former Minimum Wage Committees were disbanded and the Labor Court became directly subordinate to the wage guidelines of the Executive.

The wage policy set by the government had, as its reference for the yearly wage readjustment indexes, the calculation of the inflation residual forecast for the twelve months following the wage readjustment date, the calculation of an average real wage, corresponding to the average of real wages earned during the two last years before the readjustment date, plus an additional percentage corresponding to the increase in productivity. Later, in 1971, these calculations were slightly modified, through the application of the Law n.5451, which was created in June 1968 (Saboia, 1985). According to this law, the calculation of the wage readjustment began to include a factor of correction for the inflation residual. Yet in 1974, the procedure of wage readjustments was modified by the Law n.6147, which changed the calculations of the average real wages from 24 to 12 months preceding the readjustment date.

This wage policy soon came to be known as a "wage squeeze policy". Brazilian

10 Yet, some authors have also emphasized the pervasive effects of the Minimum Wage on skilled labor. According to Oliveira (1972), by equalizing all workers at the bottom, the Minimum Wage converted skilled workers into the situation of unskilled ones. Also in Vianna's (1976) interpretation, the Minimum Wage especially degraded the wages of skilled workers.

economy recovered after 1967, with high rates of growth from 1968 to 1974 (Table 2.1), but the Minimum Wage was held down and frequently calculated on declining rates (Table 2.2). As it can be seen by comparing tables 2.2 and 2.3, the yearly Minimum Wage readjustments were continually set below the inflation rates. This effectively lowered the workers' purchasing power, even during the years of positive variation in the real value of wages.

The increase in the average of monthly working hours for each worker to obtain the legally defined minimum food basket between 1959 and 1978 is clear evidence of the Minimum Wage's loss of purchasing power. While 65 hours and 5 minutes were needed for that purpose in 1959 (index = 100), in 1974 the average raised to 163 hours and 32 minutes (index = 251.27), and finally decreased a bit to 137 hours and 37 minutes (index = 211.45) in 1978 (DIEESE, in Alves, 1984).

Wage losses were particularly aggravated in 1973 and in 1974, by the manipulation of the official indexes, in those years, for the calculation of the inflation residual forecast for the twelve months following the wage readjustment¹¹ (Alves, 1984; Saboia, 1985). Thus, as can be seen in Table 2.4, in 1970 the variation of the real value of the Minimum Wage was negative in Rio de Janeiro and Porto Alegre (being positive in São Paulo). However, in 1971, when the 1968 law was applied (Law n.5451), the variation of the Minimum Wage became positive, in Rio and Porto Alegre (although negative in São Paulo), although quite low, and by 1972 it was positive for all the three capitals. Yet, the miscalculation of the yearly wage readjustment indexes in 1973 and in 1974 had a stronger effect on the Minimum Wage values in 1974 and wages generally, when the value of the Minimum Wage dropped by -5.72 percent in Rio, -3.86 percent in São Paulo

¹¹ Later, in 1977, the government admitted the manipulation of the official statistics regarding the inflation in 1973 and in 1974 (Alves, 1984).

and -5.53 percent in Porto Alegre.

Workers' protest had little effect by then; the anti-strike law was enforced by the regime and there were a series of intervening acts directed against unions in addition to the prosecution of unions' leaderships by the Military Justice (the "IPMs", military police inquiries) during the antecedent years. These events served to accomplish the task of labor demobilization. With the end of the last two strikes in 1968 (Weffort, 1972) and the Fifth Institutional Act of December of the same year, the regime achieved its highest level of political stability, supported by a quite complex repressive apparatus.

4. Changes in State Labor Control During the Period of Authoritarian Rule in Brazil

Different studies, among them Bacha and Taylor's (1980), have pointed out that the government's Minimum Wage policy was not able to control the labor market completely. In the industrial sector, for instance, the wages for skilled job positions drifted from the minimum, and those in managerial positions have had real wage gains (Bacha, 1975). It has also been shown that the share of industrial workers earning only the Minimum Wage decreased between 1970 and 1980 (FIBGE, 1970 and 1980 Censuses). Nevertheless, Bacha and Taylor's time series using data for the period from 1952 to 1973, demonstrate that average wages in the manufacturing sector of the city of Rio de Janeiro significantly responded by approximately 50 percent, to changes in the Minimum Wage. According to their data, each unit of cruzeiro subtracted from the Minimum Wage represented a subtraction between 48 and 66 cents from the industrial average wage.

The downward pressure on unskilled and semi-skilled workers' wages in the manufacturing sector can be partially explained by market determination. In the Brazilian case, the elasticity of the labor supply, the low demand for labor relative to its supply and

the unstable conditions of economic growth are doubtless factors to be considered. In addition, as already noted, state action as a factor of intervention and regulation of the labor market must be taken into account. A third and by no means less important factor says respect to labor organization.

As Bacha and Taylor have posed, whereas in the pre-1964 period "the unions had a say about wages", a "government fiat determined them" during the subsequent period. In fact, repression of popular mobilizations was harsh during the early seventies and effectively impeded workers' action through their unions. According to the literature, these conditions led workers in large firms to carry out their demands at the workplace level. Despite the fact that most of these actions lacked any sort of integration with the unions, they brought about historically new possibilities for the labor movement, through their involvement with specific problems at each workplace (Almeida, 1975). The workers' new practices of resistance consisted of procedures such as direct bargaining within firms, outside the control of the Labor Court. A new kind of pressure was brought about by the workers: to slow down the pace of the labor process (the "turtle operations"), whereby some demands came, in fact, to be attended to by employers, and sometimes by the government (Almeida, 1982). Thus, in 1974, an electoral year, in which the opposition was growing stronger in the major urban areas, the government passed the Law n.6147, rendering the negotiation of wage anticipations legal for all worker categories. As acknowledged by many analysts, this represented a form of cooptation, whereby the government attempted to gain workers' trust, particularly among those in less organized categories. Nonetheless, in the context of the "political opening" and the end of the "miracle", the mobilization of wages campaigns increased and workers became more involved with their unions in some categories. Hence, when the new union movement emerged in 1978, it had accumulated some experience from the previous efforts at reorganization, which involved learning new bargaining procedures at the workplace, and the renewal of unions' leaderships, some of them still under the government's

intervention.¹² The 1978-1980 strikes, pushed by metalworkers in the ABC region of São Paulo, the country's core industrial area, had a "snow-ball" effect over other blue collar and also white collar categories across the country. Their major demands related to better wages and labor conditions, such as job stability and union immunity for factory committee members (Alves, 1984).

The state and the employers' reaction was not benevolent, and lay-offs of mobilizations' leaderships followed, as well as new interventions in unions, with board members arrests and loss of mandates. Shortly after the 1978 strike, the government passed the Law-Decree no.1632, which prohibited strikes in activities defined as being in the national security interest. Practically all activities were classified under this label (Almeida, 1982), and the legal concept of strike was enlarged, including any attitude that might lead to the total or partial stoppage of normal activity, including the slow down of its normal pace.

In 1979, the government attempted to incorporate some of the workers' demands by introducing a new wage policy, through a series of laws and decree-laws from 1979 to 1984 (Pastore and Skidmore, 1985). Basically at issue was an automatic semestral wage adjustment, based on the consumption price index (the INPC). The law also introduced a differentiated system of wage readjustment by wage brackets, in a progressive scale that was supposed to favor those in the lowest bracket (up to 3 Minimum Wages). As pointed out in Pastore and Skidmore (1985: 94-96), the main changes were as follows:

- a) Law 6708/Oct.1979: 110 percent of INPC for those making 1-3 MW;
100 percent of INPC for those making 3-10 MW; 80 percent of INPC for

¹² In some categories leadership of the "old style" (the so-called "pelegos", a term which use comes from the populist period, to refer to union leaders who performed the role of cushioning the relationship between the state and the union's rank and file) were still running the unions, some of them for over 20 years. However, they also had to adapt somehow their pattern of political behavior somehow, in the face of emerging labor unrest.

those making more than 10 MW.

b) Law 6886/Dec.1980: 80 percent for 10-15 MW; 50 percent for 15-20 MW; 0 percent for more than 20 MW. According to Pastore and Skidmore (1985), "the latter group received the adjustments equivalents to those at up to 20 times the MW, but nothing beyond".

c) Decree-Law 2012/Jan.1983: 100 percent of INPC for 1-3 MW; 95 percent of INPC for 3-7 MW; 80 percent of INPC for 7-15 MW. The rest were unchanged.

d) Decree-Law 2024/May1983: 100 percent of INPC for 1-7 MW. The rest were unchanged.

e) Decree-Law 2045/Jul.1983: 80 percent INPC for all brackets. Illegal any negotiation above that level.

f) Decree-Law 2065/Oct.1983: 100 percent of INPC for 1-3 MW; 80 percent of INPC for 3-7 MW; 50 percent of INPC for 7-10 MW.

g) October 1984: 100 percent of INPC for 1-7 MW; 80 percent of INPC above 7 MW with bargaining permitted only up to 100 percent.

It is noteworthy that the Law 6708 of 1979 also allowed for negotiation regarding productivity rates (which was one of the demands posed nationwide by the union movement) to be added over the INPC index. The new policy of wage readjustment was widely criticized because it represented a redistribution of wages leaving profits virtually untouched. On the other hand, the consumer price index regulating the Minimum Wage was calculated by a governmental agency that systematically set the indexes below their real levels. So, although the new wage policy may have represented some real gains, when compared to earlier policies, it still kept workers' wages below the cost of living (Almeida, 1982). Nevertheless, through the semestral wage readjustment and its indexation, the government in fact was able to calm down the workers' grievances and decrease the number of strikes.

However, as posed by Pastore and Skidmore (1985), if the period from 1964 to 1977 was one of close state control of labor through the enforcement of legislation and repression, by 1978 new trends appeared, characterized by the emergence of a new labor militancy and a "stop-and-go" policy of liberalization by the regime. Actually, these were the years when inter-union associations began rebuilding, and new forms of workers' organization at the national level were created, such as CONCLAT (the Working Class Congress), later on divided into CUT (the United Central of Workers) and CONCLAT-CGT

(the Congress of the Working Class and the General Confederation of Labor), in spite of the legal prohibition of them which was in effect at that time. In the context of the "political opening", divisions between state apparatuses began to appear. In some instances, the application of the labor legislation by the Labor Court became less inflexible, as for example, the recognition of the legality of strikes, in a few cases, despite the Labor Ministry's narrow limits of tolerance regarding the "new unionism".

5. Recent Interpretations of Labor Control in Brazil

The interest on the analysis of labor relations at the level of the factory has increased and become the subject of many studies in Brazil, particularly from the mid-seventies onward, when the emergence of new forms of labor organization and mobilization (both at the union and the workplace levels) led some scholars to search for more detailed dimensions of the labor world.

Studies focusing on specific worker categories and/or labor relations at the workplace have flourished (Vianna, 1984), such as those by Almeida (1975; 1981), Lopes (1976), Fleury (1978), Pereira (1979), Fleury and Vargas (1983), Acero (1980 and 1983) and Humphrey (1977, 1984a, 1984b). The "loci" of the empirical research within the country have also been diversified with the emergence of new regional studies. This is in contrast to the previous "locus" concentration on industrial labor relations in São Paulo and to a smaller degree, in Rio de Janeiro (Vianna, 1984).

Labor cooptation and repression have often been pointed out by writers as constants in the history of Brazilian industrialization, and in several combinations at each political conjuncture, as strategies of labor control. In the factory world, the preeminent role of coercive forms over consensual forms in the management-worker relationship has been a common observation in recent studies (Vianna, 1984). In spite of that, many studies have

suggested that workers have resisted both state and management imposed labor conditions in various ways. Worker resistance has taken more informal and individual forms such as absenteeism and job quitting. In addition, there have been various degrees of organized collective action, such as slowing down the pace of production, going on strikes and undertaking action through unions.

The transformation of the pattern of accumulation in the Brazilian manufacturing sector since the mid-fifties, the emergence of new forms of labor organization during the course of the seventies and the changes of state strategies of labor control from the late seventies onward have been cited by scholars as evidence of the changes in industrial labor relations in Brazil.

Some studies have based their explanations for this process of labor transformation on dualistic hypotheses. This may be either in the sense of Doeringer and Piore (1966), centered on the concept of internal labor markets, or in a more structural approach, having the concept of labor segmentation as the reference, as in Gordon et al (1982).

According to Tavares (1973), the Brazilian industrial complex underwent a process of "structural heterogeneity" (in terms of technology and productivity), which tended to promote a differentiation amongst workers' layers. In a similar vein, Almeida (1975) pointed out that the "structural heterogeneity" led to a division within the working class, between workers in "modern large firms" and those in "traditional" firms. Thus, new labor demands stemmed from the labor process in "modern firms" (such as in the automobile industry), and would ultimately lead to the relative autonomy of workers from the state and also to forms of participation in the firms' management, which would challenge the labor legislation and the corporatist union structure. Yet, workers in traditional industries (textile, apparel) tended to largely rely on the "status quo" of the state apparatus in settling their labor disputes. As a consequence, follows the argument, the "new unionism" in Brazil emerged as an expression of this economic and political cleavage within the

working class.

Morley et al (1977) have pointed out the existence of internal labor markets in Brazilian firms (in Doeringer and Piore's sense), with job mobility taking place through processes of "learning on the job", as opposed to "on the job training" and formal programs of labor training.

Taking the argument still further, Pastore and Skidmore (1985) have claimed that a "new era" of labor relations has existed in Brazil since the late seventies. By observing improved labor organization and a corresponding increase in the pressure power of workers in large firms, particularly multinational corporations, the authors state that managers in these firms can no longer rely simply on dismissals to reduce their payrolls and workers' pressure. Instead, direct negotiation, the recognition of shop stewards and the creation of labor-management committees are preferred in firms where productivity and product quality are essential. This is particularly the case of export-oriented industries, for which standardization and high quality are "sine qua non" factors in competing in the international market. Thus, in large companies, human resources and personnel departments have been improved by the use of "scientific" standards to set rules for hiring and promotion, at the same time that procedures of labor bargaining have been introduced at the workplace. Furthermore, according to the authors, the creation, in the Brazilian manufacturing sector, of new forms of labor relations at the workplace, involving quality of life circles, productivity committees, and employee associations, has followed the example of firms in core countries, as methods to undercut workers' support for unions, through enhancing their attachment to the company.

Without denying the suggestive contributions of these studies, which were inspired by theories formulated in order to explain the process of shaping industrial relations in core countries, it is important to observe some shortcomings in their conclusions.

In his study on industrial relations at two plants in the Brazilian automobile industry, Humphrey (1977) found that skilled labor was not a dominant feature in the sector. High wage levels, compared to other industries, were paid to relatively low-skilled workers with few chances for internal promotion, and set according to quite complex and differentiated internal wage structures, in which labor training and job experience were relatively unimportant. According to the author, this reflects management strategies of internal discipline, by exposing workers to job competition, rather than to internal labor markets.

In the theory of labor segmentation, the automobile industry is considered part of the "primary" sector "par excellence". However, Humphrey's findings suggest that in Brazil this is not the case. High levels of labor turnover, "ports of entry" to the firm at any level of the job hierarchy, easy worker replacement, harsh discipline, precarious safety and health conditions at the workplace and the absence of any significant internal system of labor training do not characterize a "protected" segment of the labor market. On the contrary, it rather reminds the "secondary" sector in the labor segmentation theory.

Using Humphrey's arguments regarding forms of labor control in industrial relations in Brazil as a reference, it might be argued that in spite of the apparent anachronism of the labor legislation and the corporatist structure of the unions (Almeida, 1975; Erickson, 1977), and considering the emergence of new forms of organization of the labor process in dynamic industries, the first were, in fact, means of imposing labor discipline under the aegis of the authoritarian regime. In contrast to core countries, like the U.S., where industrial labor discipline has historically been carried out, by and large, at the private level of the corporation (Edwards, 1979; Gordon et al, 1982), in the forms of Taylorism, Fordism and, in more contemporary fashion, bureaucratic control, in peripheral countries like Brazil, this role has substantially been assumed by the state.

The "associated capitalist dependent development" has been led, in the private sector, by capital intensive direct foreign investments in heavy industries in Brazil. At the same

time, labor intensive industries have undergone a process of technological innovation, either through multinational corporations' investments, or through local companies' imports of machinery, equipment and technology. As mentioned earlier, Brazilian industrialization has been mainly oriented toward the domestic market, although exports of manufactured goods, especially to other Third World countries in Latin America and Africa, have increased. In addition, the process of industrial growth in the country has largely relied on machinery, equipment and spare parts imports, as well as on foreign financial loans. The predominantly domestic market orientation of the manufacturing sector in Brazil has been a factor in diminishing pressure from competition on product quality standards and, therefore, on labor training requirements.

In addition, insofar as the labor process at multinational corporations has been highly fragmented, their subsidiaries in Third World countries can use the locally available labor force, by "reskilling" workers in a relatively easy and quick manner, to allocate jobs to them in which tasks are simple and repetitive. Indeed, cheap labor has been one of the major factors encouraging direct foreign investment in Third World countries (Deyo, 1981). On the other hand, the view of the Brazilian manufacturing sector as consisting of "traditional" and "modern" industries does not account for the increase of productivity and the formation of market oligopolies both in heavy (as in durable consumer goods) and in light (as in non-durable consumer goods) industries (Humphrey, 1977).

Considered as a whole, the characteristics of Brazilian industrial labor relations suggest the existence of alternative factors that diminished the necessity and/or inhibited the development of bureaucratic labor control in Brazil. Despite the political changes that began by the late seventies, state intervention in the labor market, although less stringent, remained, and no major changes were observed in the labor legislation or in the official union structure until the end of the authoritarian regime, in 1985.

TABLE 2.1
Brazil: GNP Growth Rates

Year	Global GNP Increase %	GNP Increase by Sector	
		Agriculture %	Manufacture %
1964	2.9	1.3	5.2
1965	2.7	13.8	-4.7
1966	3.8	-15.0	9.8
1967	4.8	9.2	3.0
1968	11.2	4.5	13.3
1969	10.0	3.8	12.1
1970	8.8	1.0	10.4
1971	13.3	11.4	14.3
1972	11.7	4.1	13.4
1973	14.0	3.5	15.8
1974	9.8	8.5	9.9
1975	5.6	3.4	6.2
1976	9.0	4.2	10.8
1977	4.7	9.6	3.9
1978	6.0	- .9	5.9
1979	6.4	3.8	6.3
1980	8.5	6.5	8.0
1981	-1.9	6.8	-8.0
1982	0.0	3.5	1.0
1983	-7.5	-	-

Source: Alves, Maria Helena M., 1985.

TABLE 2.2
Minimum Wage Evolution in Some Capitals - 1960/1978

Years	Real Monthly Minimum Wage Averages (Cr\$) (1)					
	S.Paulo	% Annual Var.	R. Jan.	% Annual Var.	P.Alegre	% Annual Var.
1960/1965	241.30	-3.3	239.05	-2.9	201.30	-1.8
1965/1970	187.70	-3.7	184.30	-3.3	165.00	-1.7
1970/1975	178.10	.8	182.13	1.5	161.10	.2
1975/1978	191.77	2.7	189.21	.3	167.51	2.1
1965/1978	178.91	-.5	184.90	-.6	164.58	-.1
1960/1978	196.72	-1.2	200.70	-1.2	175.61	-.6

Source: FIBGE/DEISO. Indicadores Sociais. Tabelas Seleccionadas. 1979.
(1) Deflated by the Index of Cost of Life in each city.

TABLE 2.3
Inflation Rates in Brazil

Year	Rate	Year	Rate	Year	Rate
1960	26.3	1970	18.2	1980	110.2
1961	33.3	1971	17.3	1981	97.0
1962	54.8	1972	17.4	1982	99.7
1963	78.0	1973	20.5	1983	239.0
1964	87.8	1974	31.5		
1965	55.4	1975	32.7		
1966	39.5	1976	41.9		
1967	28.8	1977	44.1		
1968	27.8	1978	40.8		
1969	20.3	1979	77.2		

Source: Alves, Maria Helena M., 1985

TABLE 2.4
Average Monthly Real Minimum Wage in Selected Capitals (1) - 1960/1978

Year	R.Jan.	% Var.	S. Paulo	% Var.	P.Alegre	% Var.
1960	249.48	-12.99	259.43	-14.83	200.58	-17.27
1961	288.50	15.64	287.93	10.98	244.44	21.86
1962	246.04	-14.72	240.00	-16.64	206.56	-15.49
1963	225.12	- 8.50	220.18	- 8.26	188.88	- 8.56
1964	215.60	- 4.23	225.40	2.37	191.99	1.65
1965	209.56	- 2.80	214.79	- 4.71	175.31	- 8.69
1966	182.84	-12.75	190.87	-11.14	165.94	- 5.34
1967	185.75	1.59	184.40	- 3.39	162.49	- 2.08
1968	169.80	- 8.59	184.38	- .01	163.38	.80
1969	181.06	6.63	175.17	- 4.99	161.61	- 1.34
1970	176.80	- 3.35	176.80	.93	160.80	- .50
1971	177.09	.16	175.86	- .53	163.33	1.57
1972	181.82	2.67	178.08	1.26	163.89	.34
1973	188.89	3.89	180.68	1.46	162.95	- .57
1974	178.08	- 5.72	173.70	- 3.86	153.94	-5.53
1975	190.09	6.74	183.75	5.78	161.80	5.11
1976	187.14	- 1.55	189.52	3.14	167.64	3.61
1977	187.69	.29	194.47	2.61	168.18	.32
1978	191.93	2.26	199.34	2.50	172.41	2.52

Source: FIBGE/DEISO, Indicadores Sociais, Tabelas Seleccionadas. 1979.
(1) Real Values of Minimum Wage deflated by the Indexes of Life Cost in the cities of S. Paulo, R. de Janeiro and P. Alegre, respectively, in units of Cruzeiros of 1970.

CHAPTER III

WAGE AND LABOR TURNOVER

1. Introduction

The application of theoretical models based on the concept of labor segmentation in the analysis of labor differentiation in a dependent country like Brazil is problematic, because these models do not account for the significance of the role of the state in the formulation of the Brazilian system of industrial relations. This issue is particularly important when the analysis concerns labor relations during the period of authoritarian rule in Brazil. After 1964, state labor control was extended by the military regime through intervention in the labor market and in the organization of trade unions. The authoritarian state labor policy in Brazil favoured employers indirectly by providing a legal basis for maintaining a supply of labor that was both cheap and disciplined.

As the late seventies approached, the policy of gradual liberalization initiated by the authoritarian regime resulted in changes in the control of labor by the state. This was accompanied by a greater degree of labor mobilization. For example, changes in the wage policy after 1979 introduced a greater degree of flexibility in the arena of wage negotiations between workers and employers. In some cases, strikes were considered legal by the Labor Court, despite the fact that strikers did not strictly follow the law at all times. Thus, during a period of less rigid state labor control, it is plausible to expect improved labor conditions, resulting from market forces and a higher union bargaining capacity.

The purpose of the present chapter is to empirically analyze the recent evolution of wage and job stability in the electronics industry in Rio Grande do Sul, as indicators of labor conditions. An increase in wages and in the level of job stability are expected to have

taken place after the late seventies, implying an improvement in labor conditions during that time. Improved job stability and wage levels may also point to a greater degree of labor differentiation in the electronics industry in the years following 1979.

The recurrent practice of sex segregation in the Brazilian labor market leads to the expectation that women have been kept in subordinate roles in the labor market. Therefore, lower earnings, lower stability on the job and little labor differentiation amongst women, as compared to men, are expected to continue to characterize female labor conditions. Although the state's wage policy became more flexible after 1979, it is assumed that practice of gender segregation based on patriarchy has excluded female workers from better job opportunities in the electronics industry in Rio Grande do Sul.

Statistical information about the electronics industry is available in publications but is aggregated at the level of the electric and communications materials industry. Therefore, this empirical analysis is based upon data for this industry as a whole. In addition, some firms that currently operate in the electronics industry are classified as mechanical industries by these publications. Metalworkers are organized into unions which basically comprise three industries: metallurgical, mechanical, and electric. Thus, data on these two latter industries will be considered as well. The inclusion of data on the metallurgical, mechanical and electric and communications materials industries will also allow a broader view of the labor conditions of these worker categories with respect to wages and job stability, as well as to possible differentiation by industry.

The comparison of data on wage and job stability in the metallurgical, mechanical and electric and communications materials industries to the ensemble of industries at the state level will also be considered, in order to contextualize the figures by industry level within the state of Rio Grande do Sul.

In order to assess evidence of gender segregation, available data published on wage

distribution and job stability by sex will be included as well.

The empirical analysis will focus on comparisons of data at different points in time, in order to assess changes in labor conditions over time. Thus, section two will deal with the evolution of average wages in the electric and communications materials industry between 1970 and 1981, based on data from the Industrial Census and from the industrial research (the Pesquisa Industrial). More specifically, in this section data will be compared at three points in time: 1970, 1975 and 1980.

Section two will also analyze changes in wage distribution between 1976 and 1983 in the electric and communications materials industry in Rio Grande do Sul, based on data from RAIS (the Annual Report of Social Information), published by the Labor Ministry. These data are presented in frequency distributions of jobs by ranks of Minimum Wage. On the basis of information obtained in RAIS, comparisons between the electric industry and the total of the economic activities in RGS will be carried out. Data on the mechanical and metallurgical industries will be considered as well. In addition, comparisons between male and female wages will also be carried out in order to assess the effects of gender segregation on the earnings of women.

Finally, section three will consider more recent changes in job stability between 1980 and 1983 in the electric and communications materials industry, also on the basis of data from RAIS. Here, once again, comparisons with the total of the economic activities and with the metallurgical and mechanical industries in RGS will be carried out, as well as by gender.

Indicators for job stability will be labor turnover and average length of stay on the same job. Labor turnover rates will be calculated as ratios between the total number of

individual employment contracts during the entire year¹ and the total number of jobs occupied in December, for the years of 1980 and 1983. Labor turnover rate by gender will be calculated as the ratio between the total number of individual employment contracts by sex during the year² and the average number of jobs between January and December of 1980.

Information on the average length of stay on the same job are provided by RAIS, as averages in years for employees fired and employees still on the job in December of the reference year. By multiplying these averages by twelve, the average length of stay on a job can be expressed in months. In addition, data on number of and reasons for dismissals, by gender, were also obtained from RAIS for 1976 and 1980. Complementarily, 1980 data on the percent of employees, by year of admission, and by gender, were obtained from RAIS as well.

A brief description of the electric and communications materials industry in Rio Grande do Sul follows, in order to contextualize the figures on wages and labor turnover in this industry's structure.

Small and medium-sized firms predominate in the manufacturing sector in RGS, and the electric and communications materials industry is no exception. Very small firms predominate in this industry (67 firms out of 86 in 1970, and 86 firms out of 124 in 1980, had between 5 to 49 employees). However, it is noteworthy that the number of small firms with 50 to 249 employees increased from 16 firms in 1970, to 29 firms in 1980. Medium-sized (250 to 499 employees) and large firms (500 and more employees) have increased in

¹ Including all employees in the beginning of the period (January), new employees contracted for new job positions and new employees contracted to substitute other employees during the respective year.

² Ibid.

number as well, from 2 to 4 firms and from 1 to 5 firms respectively, between 1970 and 1980 (FIBGE, Industrial Census, 1970, 1980).

Thus, in 1980, 12 percent of the labor force in the electric and communications materials industry was located in small firms, containing 5 to 49 employees, and 28 percent of that industry's labor force was allocated in the group of firms with 50 to 249 employees. At the same time, 4 medium-sized firms, with 250 to 499 employees, accounted for twelve percent of the labor force in 1980, and 5 firms with 500 and more employees accounted for 47 percent of the labor force in that industry. These 5 firms alone were responsible for 40 percent of the industrial value added in 1980. Significantly, the category of firms with 50 to 249 employees accounted for 41 percent of the industrial value added in the electric and communications materials industry in 1980. In addition, the category of firms with 5 to 49 employees accounted for 11 percent of the industrial value added in 1980 while the group of firms with 250 to 499 employees produced 8 percent of the industrial value added in 1980.

The product market of the electric industry is quite diversified, ranging from air conditioners, electric engines, power transformers of various sizes, steel cables and hydraulic turbines, to speakers for radio and stereo sets. However, as mentioned elsewhere, the electric industry in RGS has tended to specialize in intermediate goods oriented toward inter-firm markets, in both the public and private sectors. The electronics industry developed in RGS during a process of product market change, partially from existing firms in the electric and communication material industry, and in part by the creation of new firms, as will be discussed in a later chapter. Examples of products made by the electronics industry in Rio Grande do Sul are electronic scales for truck weighing and modems for computer systems.

The change in product market corresponded to a change in firm size and ownership in the electric and communications materials industry as a whole. In addition, these changes

were also accompanied by the growing importance of locally owned medium-sized, and particularly larger firms, either multinational corporations' subsidiaries or locally owned companies associated with foreign capital.

2. Wages in the Electric Industry in Rio Grande do Sul

2.1 Introduction

In this section, two specific questions will be addressed: have wages in the electric and communications materials industry been higher, on average, than wages in the total manufacturing industry in Rio Grande do Sul? If so, what factors accounted for higher wages in the electric industry?

Three basic factors might lead to the expectation of higher wages in the electric and communications materials industry on average, than in the total manufacturing sector in Rio Grande do Sul during the time period in question. First, there were relatively favorable labor and product markets, since the electric industry grew significantly between 1970 to 1980. In addition, union mobilizations after the late seventies and the relaxation of the state's wage policy in 1979 are also factors to be considered. The wage policy after 1979 introduced a system of semestral readjustments on a scale basis, with allowances for the negotiation of a productivity rate. More organized unions, such as the metalworker unions were able to negotiate wage readjustments above the official rate.

The electric industry is a part of the so-called "intermediate goods manufacturing sector", which has been mainly responsible for the growth of the manufacturing industry in the State of Rio Grande do Sul during the seventies (FEE, 1976). The electric and communications materials industry had an annual average growth of its real industrial value added of 22 percent between 1970 and 1980, whereas the total manufacturing

industry in that state had a real annual average growth of 10.6 percent in its industrial value added in the same period (Tables A.1 and A.4, in the Appendix).

Furthermore, by the late seventies, the electric and communications materials industry had undergone a process of technological innovation, in which local industries oriented towards the production of electronics material and equipment emerged, bringing with them a developing high technology sector into the industrial structure in RGS. As mentioned elsewhere, the new electronics industry, as backed by the Policy of Informatics, benefited from a domestic market guarantee, to a certain extent.

Union activity, particularly regarding wage campaigns, was intensified by major metalworker unions located in Rio Grande do Sul, after the late seventies. In this sense, the following analysis may help to contribute to a better understanding of the results of such mobilizations, in terms of their effects on wages in the electric industry, when compared to wages in the total manufacturing sector in Rio Grande do Sul and to wages in the metallurgical and mechanical industries.

2.2 The Wage Evolution (1970/1981)

The evolution of wages in the electric and communications materials, metallurgical and mechanical industries during the seventies and early eighties and its comparison to the total manufacturing sector within the state of RGS, is revealed through the calculation of the monthly average wage by employee, on the basis of available data from the Census Bureau (FIBGE), which consists of the quinquennial Industrial Census and the annual industrial research (the Pesquisa Industrial). By using the yearly indices of general prices¹ as deflators of wages and of the industrial value added in current cruzeiros of

¹ IGP - Índice Geral de Preços - disponibilidade interna. Revista Conjuntura Econômica, FGV, coluna 2 (1977 = 100).

1977, a proxy of the real evolution of these values is attained, as opposed to their nominal values.

As seen in Figure A.1 and in Table A.1, in the Appendix, the monthly average wages of workers in the electric and communications materials industry increased in real value between 1970 to 1981 (in cruzeiros of 1977), although not continually. Greater upward and downward variations were observed for the period before 1975. Thus, after the significant drop of 1974, as a consequence of the wage policy of 1973 (which was mentioned in Chapter II), the workers' wages started to increase from 1975 on, although there was a drop in 1976 and again, in 1979.

By comparing Figures A.1 and A.7, in the Appendix, it can be seen that the wage evolution in the electric and communications materials industry was greater than the state averages during this period (Tables A.1 and A.4, in the Appendix).

On the other hand, although the average wage of the total manufacturing industry in Rio Grande do Sul dropped in 1980, the average wage in the electric and communications materials industry recovered its real value of 1978. In 1981, despite the drop of 54 percent in the real industrial value added of this manufacturing industry in relation to the previous year, the average wage still increased by 6 percent (Table A.1, Figures A.1 and A.2, in the Appendix). As can be observed in Figures A.5 and A.6 in the Appendix, in 1981 the real average wage also increased in the mechanical industry in relation to its 1978 value, despite the drop in the industrial value added.

The performance of wages in the electric and communications materials industry has been unlike that of the metallurgical and mechanical industries (Figures A.1, A.3 and A.5, Tables A.1, A.2 and A.3, in the Appendix). The highest average wages for most of the years considered, with the highest wage ratios to the total manufacturing industry in Rio Grande do Sul (Table 3.1) are observed in the mechanical industry. This may be

attributed to the presence of more skilled workers (such as toolmakers) within the mechanical industry, coupled with favorable market conditions for that industry as well (Table 3.2). It is also interesting to notice that the proportion of female workers in the mechanical industry is lower, when compared to the electric industry, the total of the economic activities and the metallurgical industry (Tables 3.5 and 3.6). On the other hand, the metallurgical industry had the lowest wage ratios when compared to the total manufacturing industries in 1970, 1975 and 1980. There was a wage decrease in 1980 and in 1981 in this industry, as compared to 1979, whereas in the electric and in the mechanical industries the average monthly wages by employee kept increasing (Figures A.1, A.3 and A.5, in the Appendix). These figures show that wages in the electric and in the mechanical industries have been significantly greater than the average wages for the total manufacturing sector in the state, especially in 1980. Wages in the electric and mechanical industries were also less affected on average, by the economic recession in 1980 and 1981, when compared to the metallurgical industry and the manufacturing sector as a whole, on average (Figures A.1, A.3, A.5 and A.7, in the Appendix).

Contrasts are also observed when looking at the evolution of the ratios between real monthly wages per employee in the electric industry and in the total manufacturing industry in Rio Grande do Sul at three points in time: 1970, 1975 and 1980 (Table 3.1). This ratio increased significantly, from 1.12 in 1970, to 1.29 in 1975 and to 1.38 in 1980. Between 1970 to 1980, the difference between average wages in the electric industry and in the total manufacturing industry in Rio Grande do Sul increased by three times (Table 3.1). There was a similar increase in the mechanical industry (3.5 more in 1980 than in 1970). In the metallurgical industry, the difference between average wages in this industry and in the total manufacturing industry in Rio Grande do Sul in 1980 was nearly the same as in 1970 (1.2 times as much in 1980 as in 1970). The increase of the ratio between average wages in the electric industry and in the total manufacturing industry in Rio Grande do Sul between 1970 and 1980 points to higher wages, on average, in the

electric industry, when this industry as a whole is compared to the total manufacturing industry in that state.

In order to better understand the effects of state wage policy, union mobilization and favorable market variables on the evolution of wages in the electric industry, the annual real industrial value added per employee was calculated for 1970, 1975 and 1980, and compared to the total industries and to the metallurgical and mechanical industries in Rio Grande do Sul (Table 3.2). The results for the electric industry were in contrast to those for the remaining industries. The real industrial value added per employee in the electric and communications materials industry was higher than in the total manufacturing sector. It was also higher than in the metallurgical and in the mechanical industries in each of the years considered. This value was 136 thousand cruzeiros in 1970, 193 thousand cruzeiros in 1975 and 185 thousand cruzeiros per employee in the electric industry in 1980 (in 1977 cruzeiros). In the ensemble of manufacturing industries in Rio Grande do Sul, the industrial value added per employee was 101 thousand cruzeiros in 1970, 158 thousand cruzeiros in 1975 and 150 thousand cruzeiros in 1980.

It is noteworthy to compare the results of Tables 3.1 and 3.2. In the beginning of the period, that is, in 1970, the difference between the industrial value added per employee in the electric industry and in the total manufacturing industry was higher (35 percent) than the difference between average wages (12 percent) in these two sectors. This suggests that a possible explanation for higher wages in the electric industry, when compared to the total manufacturing industry, is that in 1970 wage differences among industries were being inhibited by state wage policy. At the same time, the industrial value added per employee was 35 percent higher in the electric industry than in the total manufacturing industry in 1970. This difference in industrial value added per employee in the electric industry was the highest in the three considered years between 1970 and 1980. Thus, it is possible that the existing wage difference between the electric industry and the total

manufacturing industry in Rio Grande do Sul in 1970 was mostly due to the higher industrial value added per employee in the electric industry, when compared to the ensemble of industries in that year.

Conversely, in 1980 the difference between wages in the electric industry and in the total manufacturing industry in Rio Grande do Sul was higher (38 percent) than the difference between the industrial value added per employee in the electric industry and in the total manufacturing industry (24 percent). These figures may indicate that in the end of the period, that is, in 1980, wages in the electric industry were more benefited than would be expected if considering only the industrial value added per employee in this industry. These data suggest that in 1980, factors other than favorable market conditions may have also accounted for the wage difference in the electric industry, when compared to the total manufacturing industry. Most particularly, it is possible that state wage policy after 1979 and/or union mobilization in the late seventies propitiated the wage difference in favor of the electric industry, in relation to the ensemble of industries in 1980. In addition, higher wages in the electric industry in 1980 might be reflecting differences in the organization of the labor process within firms in this industry, when compared to the total manufacturing sector.

2.3 The Wage Distribution

The wage distribution in the electric and communications materials industry and in the metal-mechanical industries which, altogether, basically constitute the metalworkers' labor market, permit a view of the possible wage differentiation within the electric and communications materials industry, when compared to the two other industrial branches and to the ensemble of the economic activities in Rio Grande do Sul.

The following description of the wage distribution is based on data made available by the Labor Ministry, through the publication of results of the Annual Report of Social

Information (RAIS, *Relação Anual de Informações Sociais*), in relation to jobs by ranks of Minimum Wage. These data are collected through questionnaires prepared by the Labor Ministry and sent to all establishments. As mentioned elsewhere, between 20 and 30 percent of the establishments did not respond these questionnaires. However, most firms with five or more employees have regularly filled out the questionnaires. This is particularly true in the case of manufacturing industries, commerce, transportation and communication services (Tagliassuchi and Vergara, 1985).

In order to figure out changes in the wage distribution, two points in time were considered: 1976 and 1983. As indicated in the introductory chapter, data on wages and by gender comparable across time were published by RAIS only for these two years. Thus, comparisons of wages for the total labor force and by gender between 1976 and 1983 were carried out. A summary description of wage changes between 1976 and 1983 with respect to wage inequality was obtained through the calculation of Gini coefficients for the total number of jobs and by gender. In addition, wage means were calculated by gender, for 1976 and 1983.

As shown in Table 3.3, wages at the level of the total of the economic activities in the state were concentrated between 1 and 2 Minimum Wages in 1976. In that year, wages in the electric, metallurgical and mechanical industries as well were quite close to the Minimum Wage, with most jobs concentrated between 1 and 2 Minimum Wages (Table 3.3). In 1983, a wider wage span in the three industrial branches and in the total of the economic activities was observed, especially amongst the wage brackets ranging from 1 to 4 Minimum Wages, as shown in Table 3.4.

As for jobs in the electric and communications materials industry specifically, the data show that in 1976 the percentage of jobs in the Minimum Wage bracket (between 1 and 2 MW) was higher than in the total of the economic activities in Rio Grande do Sul. In 1983, this relationship was reversed. The percentage of jobs between 1 and 2 Minimum

Wages in the electric industry was lower than the percentage in the total of the economic activities. In the mechanical industry the wage span tended to be a bit more toward the higher categories, with higher percentages of jobs between 3 and 4 Minimum Wages in both years, and higher percentages of jobs in the bracket between 4 to 6 Minimum Wages in 1976 and between 4 to 5 Minimum Wages in 1983, when compared to the two remaining industrial branches and the total of the economic activities (Tables 3.3 and 3.4).

The evolution of the wage distribution from 1976 to 1983 in terms of Minimum Wage units showed a wider wage span for the total number of jobs in the three considered industries and in the total of the economic activities. There were 50 percent or more jobs between 1 and 3 Minimum Wages, in the three industrial sectors and in the total of the economic activities in 1983.

Hence, the wage distribution for the total number of jobs in the three considered industrial branches and in the total of the economic activities have, in fact, changed from a concentration quite close to the Minimum Wage in 1976 to a higher dispersion, especially between the brackets from 1 to 2 Minimum Wages and from 2 to 3 Minimum Wages. This upward movement in relation to the Minimum Wage might partially reflect the effects of changes in the wage policy instituted in 1979, introducing semestral wage readjustments and allowing for negotiations of productivity rates to be added to wages. In addition, the metalworkers' wage campaigns were intensified and some unions negotiated wage anticipations and wage floors after the late seventies.¹

It is interesting to notice that a clearly differentiated pattern is observed when the wage distribution by gender is examined. As shown in Table 3.5, female industrial jobs

¹ As mentioned in Chapter II, the Law 6147, from 1974, admitted negotiations on wage advances. As will be seen in chapter IV, the metalworkers' union in the capital negotiated wage advances in 1978 and in 1979. Also, since 1979, this worker category negotiated a wage floor, through collective agreements.

were highly concentrated in the brackets between 1 and 2 Minimum Wages in 1976. There was also a significant participation of female jobs in the wage category of less than 1 Minimum Wage in 1976. The number of female jobs in the category of less than 1 Minimum Wage is especially significant because all jobs in the industrial sector are supposedly regulated by the labor legislation and, therefore, paid at least at the Minimum Wage level. In contrast to the female pattern of wage distribution, male jobs were more distributed between 1 and 2 and 2 and 3 Minimum Wages, although with a higher percentage in the first bracket in 1976.

In 1983, most female jobs were distributed between the class intervals from 1 to 2 and from 2 to 3 Minimum Wages (Table 3.6), although with the highest concentration still in the class interval of the Minimum Wage. At the same time, male jobs had also an increased participation in the wage rank from over 2 to 3 Minimum Wages, in 1983, as compared to 1976. In the electric industry however, the rate of increase of female participation in wage ranks above the bracket between 1 and 2 Minimum Wages was much higher when compared to male wages in this industry, and to female wages in other industries, in 1983.

In 1976, the proportion of female jobs in the wage bracket between 1 and 2 Minimum Wages was 77 percent in the electric industry, higher than female jobs in the total of the economic activities and also higher than in the metallurgical and in the mechanical industries. In 1983, that proportion of female jobs decreased to 48 percent, which was lower than female jobs in the total of the economic activities and also in the mechanical industry. Likewise, in 1976 the proportion of women in the wage bracket between 2 and 3 Minimum Wages was 5 percent, the lowest when compared to female jobs in the remaining industries considered and in the total of the economic activities. Conversely, in 1983 that proportion was 34 percent, which was higher than male (22 percent) and the highest when compared to female jobs in the total of the economic activities, and in the mechanical and

metallurgical industries (Tables 3.5 and 3.6).

On the other hand, female employment in the electric industry decreased in number of jobs, between 1976 to 1983, while male employment increased by 15 percent during this period (Table 3.7). The decrease in female participation in the electric industry was 29 percent. At the same time, the number of female jobs in the total of the economic activities in Rio Grande do Sul increased 107.2 percent during the same period. In addition, the proportion of male employees in the electric industry increased from 54 percent in 1976 to nearly 66 percent in 1983. At the same time, the proportion of female employees in the electric industry decreased from 45 percent in 1976 to 34 percent in 1983. In the total of the economic activities the proportion of the male labor force decreased from 70 percent in 1976 to 63 percent in 1983, while the proportion of the female labor force increased from 30 percent in 1976 to 37 percent in 1983. This decline in female employment in the electric industry in 1983 may indicate that women workers in this industry were more affected by the recession in the Brazilian economy during the early eighties than those in the metallurgical and mechanical industries. In addition, another possible explanation for the greater decrease in female employment in the electric industry may be that technological innovation in this industry, particularly after the late seventies, contributed to push unskilled and semi-skilled female manual workers away from the industry.

The increase in the proportion of female jobs in the wage brackets ranging between 2 and 10 Minimum Wages was significantly higher in the electric industry than the increase in the proportion of male jobs in this industry (Tables 3.5 and 3.6). Female participation in wage ranks higher than the bracket between 1 and 2 Minimum Wages increased faster than male jobs in the electric industry or female jobs in other industries. This suggests that new work opportunities may have emerged for skilled and professional women workers for non-manual jobs, such as those in the area of clerical work within firms in the electric and

communications materials industry.

A summary view of the above results is provided by Table 3.8, where Gini coefficients for each industry and the total of the economic activities in Rio Grande do Sul, by gender, in 1976 and 1983 are displayed.² A general trend toward less wage inequality between 1976 to 1983 can be observed by the decrease in all coefficients for the total number of jobs.

Higher wage inequality rates are observed in the electric and communications materials industry when compared to the metallurgical and mechanical industries, in the two years considered, although lower than the rates for the total of the economic activities in Rio Grande do Sul in both years. On the other hand, the Gini coefficient for the wage distribution of total jobs in the electric and communications materials industry decreased from .455 in 1976 to .438 in 1983. In the total of the economic activities, that rate decreased from .472 in 1976 to .455 in 1983. In the metallurgical industry, the Gini coefficient for the wage distribution dropped from .404 in 1976, to .370 in 1983. In the mechanical industry, the Gini coefficient dropped from .426 in 1976, to .400 in 1983. This might indicate that although the state wage policy of 1979 favoured a higher wage span in 1983, when compared to 1976, state labor control was inhibiting wage differentiation within industries, when wages for the total labor force are considered.

Despite the observed decrease in the Gini coefficient in the electric industry between 1976 and 1983, the observed rate of .438 in 1983 was still quite significant, in terms of wage inequality.³ It was also still higher than in the metallurgical or mechanical

² The Gini Coefficient was used to measure wage inequality. Gini coefficients were calculated as:

$$G = \frac{(\sum X_i Y_i + 1)}{(\sum X_i + 1 Y_i)}, \text{ as in Shryock, Henry S. et al (1976).}$$

³ According to Todaro (1985), a relatively equitable distribution is expressed when the Gini Coefficient lies between 20 percent and 35percent. Highly unequal distributions

industries. This suggests that differences in the organization of the labor process and the higher productivity rates in the electric industry resulted in more wage inequality in this industry, when compared to the two other industries considered. Nevertheless, the decline in the Gini coefficient may be evidence of a decrease in wage inequality for total jobs in the electric industry.

The comparison of the Gini coefficients for industrial wages by gender showed contrasting results. Indeed, the low inequality rates of female wages express a high concentration of female jobs in the lowest wage brackets (Tables 3.5 and 3.6), both in 1976 and in 1983. The relatively equitable wage distribution of female jobs in both years is, in fact, a result of their distribution at the bottom of the wage scale.

However, as observed in Table 3.8, the Gini coefficient for female wages in the electric and communications materials industry increased from .198 in 1976 to .275 in 1983. This may point to a significant increase of female wage inequality between 1976 and 1983. These results revealed that wage differentiation among female jobs occurred in that particular industry. It is also noteworthy that female Gini increased as well in the total of the economic activities between 1976 (.380) and 1983 (.407).

On the other hand, the Gini coefficient for male wages in the electric and communications materials industry decreased from .500 in 1976 to .446 in 1983. A decrease in the Gini coefficients for male wages in the metallurgical and in the mechanical industries, as well as in the total of the economic activities was also observed between 1976 and 1983. In the total of the economic activities, the Gini coefficient for male wages decreased from .481 in 1976 to .466 in 1983. These results indicated that there was a decline in wage inequality among male workers in the electric industry during the period between 1976 and 1983, a time in which wage inequality increased among female workers

show Gini Coefficients between 50 percent and 70 percent.

in this industry.

When compared to the Gini coefficients for male wages, those of female wages were still much lower in 1983, in spite of the drop in the first and the increase in the latter between 1976 and 1983. In the electric and communications materials industry, the Gini coefficient for male wages was the highest at .500 in 1976, when compared to the two remaining industries and the total of the economic activities. In 1983, that rate dropped to .446, remaining higher than the ones of the metallurgical and mechanical industries, although below the total of the economic activities.

The average wage by gender in the electric industry presents interesting contrasts to the total of the economic activities and to the metallurgical and mechanical industries in Rio Grande do Sul (Table 3.9). In the electric and communications materials industry, the average monthly wage for males in 1976 was 3.16 Minimum Wages, therefore higher than in the total of the activities, which was 2.78 Minimum Wages in that year. It was also higher than in the two other industries considered in the metal-mechanical sector.

In contrast, the average monthly wage for females in the electric industry in 1976 was 1.55 Minimum Wages and therefore lower than in the total of the economic activities, which was 1.61 Minimum Wages in that year. It was also lower than in the mechanical industry in 1976. The average female wage as a proportion of the average male wage in the electric industry in 1976 was 43 percent, the lowest if compared to the total of the economic activities and to the metallurgical and the mechanical industries.

In 1983, similar trends in wage means were observed for the electric and communications materials industry. The average monthly mean male wage in this industry was 4.97 Minimum Wages, therefore the highest when compared to the total of the economic activities and to the metallurgical and the mechanical industries in 1983. Likewise, the difference between mean male wages in the electric industry and in the total

of the economic activities was kept the same in 1983 as in 1970 (30 percent higher than in the total of the economic activities in 1983).

On the other hand, mean female wage in the electric industry was 2.46 Minimum Wages in 1983. This mean was lower than for the total of the economic activities. Mean female wage in the total of the economic activities was 2.61 Minimum Wages in 1983. Mean female wage in the electric industry was also lower than in the mechanical industry in 1983. As in the case of male wages, the difference between mean female wages in the electric industry and in the total of the economic activities in 1983 was similar to that of 1976 (6 percentage points lower than in the total of the economic activities in 1983).

In addition, the average female wage as a proportion of the average male wage in the electric industry was 49 percent in 1983. Although that proportion increased between 1976 and 1983, it was still lower than for the total of the economic activities. The average female wage as a proportion of the average male wage in the electric industry was also lower than in the metallurgical and in the mechanical industries in 1983.

The data in Table 3.9 reveal that male wages in the electric industry are quite privileged, when compared to the total of the economic activities (nearly one-third higher in the beginning and in the end of the period). At the same time, female workers in the electric industry were less favored: the average wages of women were not only lower than the average wages of men in this industry, but they were also lower than the average wage of females for the total of the activities both at the beginning and at the end of the period.

These data suggest that it is possible that the electric industry constitutes a privileged labor market, in terms of male wages in this industry, when compared to other industries. In spite of the economic recession of the early eighties, not only did the proportion of male workers increase in the electric industry, but the average wage of male workers continued

to be higher than in other industries and the total of the activities. This may indicate the growth of a privileged worker layer, in terms of wages and gender between 1976 and 1983, in which low skilled female workers were virtually excluded. At the same time, the significant increase in the proportion of women in the ensemble of activities in 1983 seems to indicate that unskilled and semi-skilled women workers were being driven toward less privileged sectors in the economy. In the case of female workers in Brazil, these sectors are mostly constituted by low-status tertiary occupations, such as custodians (Schmink, n.d.).

In addition, wage differences by gender in the electric industry were higher than in the total of the activities and in the two other considered industries, both in 1976 and in 1983. This suggests that the effect of gender segregation on wages in the electric industry is stronger than in the other industries considered or in the total of the economic activities.

It is possible to observe that the difference between the average monthly wages of males and females decreased between 1976 and 1983 in Table 3.9. The Gini coefficient for female wages increased significantly in this industry during the same period of time. The increase in female wage inequality was also accompanied by a higher female wage span between 1976 and 1983 (Tables 3.5 and 3.6). These data suggest that gender segregation may have decreased in the electric industry, although gender was still an important criterion for differentiation of the labor force in this industry in 1983. In other words, women were less concentrated at the bottom of the wage scale in the electric industry in 1983.

Considered altogether, the data on wages by gender in the electric and communications materials industry indicate that there is a higher male wage span in 1983, when compared to 1976, resulting in a higher average wage for men in 1983. However, the decrease in the Gini coefficient for men between 1976 and 1983 demonstrates that the higher male wage span and mean in 1983 was not accompanied by

higher male wage inequality. These results also indicated that male wages tended to concentrate more around the mean in 1983. The data for the wages of male workers in the electric industry indicate that there was a decrease in labor differentiation among male workers.

In the case of female wages, the data indicate that the female wage span increased faster than the male wage span in the electric industry, between 1976 and 1983. The increased female wage span was also accompanied by higher average wages for women in 1983. In addition, female wage inequality increased between 1976 and 1983. This was not the case for men however. This may imply an increase in labor differentiation among women, when female wages are considered.

Finally, the data on wages indicate a significant differentiation by gender in the electric and communications materials industry. Wages were lower for women on average than for men in the electric industry. In addition, the ratio between male and female average earnings in the electric industry was significantly lower than in the other industries and in the total of the economic activities.

3. Labor Turnover

One of the most pressing concerns in the area of labor relations in Brazil is the absence of job stability, which keeps workers from having minimal guarantees at the workplace. Such conditions are also present in the electric and communications materials industry.¹ As shown in Table 3.10, the total number of individual employment contracts in

¹ The labor turnover rate of all employees in the state of RGS decreased from 59 percent to 49 percent between 1980 and 1983, at the same time that an increase in the average length of stay of fired workers, from 16 months, in 1981, to 22 months in 1983 was observed, whereas the number of hirings dropped in 13.93 percent in 1983, as compared to 1980. RAIS, MTb, in: Vergara, D.H., 1985.

1980 more than exceeded the number of jobs effectively occupied in December of 1980, indicating that, in that year, the firms in the electric and communications materials industry replaced approximately 43 percent of their industrial workers. This rate of labor turnover was lower than in the total of the economic activities in Rio Grande do Sul in 1980, which was 59 percent. It was also lower than in the metallurgical and in the mechanical industries in 1980. In 1983, the rate of labor turnover in the electric industry was 50 percent, therefore similar to that of the total of the economic activities in 1983, which was 49 percent. When compared to the metallurgical and the mechanical industries, the rate of labor turnover in the electric industry was higher in 1983. Most importantly, the rate of labor turnover in this industry increased between 1980 and 1983, when labor turnover rates decreased significantly in the total of the economic activities and in the two other manufacturing industries in that year.

By looking at the data on labor turnover by gender (Table 3.12), it is possible to visualize lower female rates, when compared to those for males in 1980. Female labor turnover in the electric and communications materials industry in 1980 was significantly lower than female labor turnover in the two other industrial branches. However, it was very similar, on average, to female labor turnover in the total of the economic activities, in 1980. In the electric and communications materials industry, the female labor turnover rate was 1.64 in 1980. In the total of the economic activities, the female labor turnover rate was 1.69 in 1980. Nevertheless, the female labor turnover rate of 1.64, on average, indicated that more than half (64 percent) of the female employees were replaced in their jobs in firms in the electric industry in 1980.

The average length of stay on the same job for total jobs was quite short in 1980 (Table 3.11), both for workers fired during that year and for those still employed in December of that year. In the electric and communications materials industry, workers fired during the year of 1980 stayed for 18 months on their jobs, on average, a length of

stay slightly higher than those in the mechanical industry (15 months), in the metallurgical industry (near 17 months), and in the total of the economic activities (15 months). On the other hand, the average length of stay of workers still employed in December of 1980 was 39 months in the electric and communications materials industry, 34 months in the mechanical industry and 39 months in the metallurgical industry. It was lower than the average length of stay in the total of the economic activities, which was 55 months in 1980. Hence, on average, workers still employed in the electric, in the metallurgical and in the mechanical industries stayed on the same job for approximately 3 years in 1980. In the total of the economic activities, workers still employed in December of 1980 stayed longer on the same job, with an average length of stay of more than 4 years.

The short average length of stay on the same job in 1980 and the increase in labor turnover rates in the electric industry between 1980 and 1983 seem to indicate that seniority is not a very important criterion in the organization of the labor process within firms in this industry. In other terms, these data suggest that there is not a continuous connection between workers and their jobs within firms in the electric industry.

In addition, the great majority of dismissals in 1976 and in 1980 were due to employers' initiative (around 60 percent), as seen in Tables 3.13 and 3.14. Most of these firings were without "just cause" (RAIS, 1976 and 1980). In this sense, the FGTS (the guarantee fund by length of stay on the job) was kept as the main resource used by managers for workers' dismissals. The legislation based on the FGTS facilitates the firing procedures, by imposing minor charges on employers, as mentioned in earlier chapter.

On the other hand, gender differentiation regarding reasons of dismissal can be observed, particularly in the electric and communications materials industry, as shown in Tables 3.13 and 3.14. A higher percentage of female employees in that industry (40 percent) were dismissed by their own initiative in 1976, when compared to male employees

(33 percent). The proportion of female workers that were dismissed by their own initiative in the electric industry was similar to that of female employees in the total of the economic activities in Rio Grande do Sul (38 percent) and in the metallurgical industry (39 percent - although this one was lower than the proportion of men) in 1976.

In 1980, however, although proportionally more women workers than men asked for dismissal (35 percent of the female versus 32 percent of the male employees) in the electric and communications materials industry, the difference by gender diminished. The proportion of female employees who asked for dismissal in the electric industry decreased in 1980, when compared to 1976. In the total of the economic activities, the proportion of female workers who asked for dismissal decreased as well, from 38 percent in 1976 to 32 percent in 1980.

The higher proportion of female employees dismissed by their own initiative can be explained, in good part, by the fact that their participation in the labor market is closely associated to their position in the "family cycle". As mentioned elsewhere, the female labor force participation in the labor market becomes more limited when they have young children and/or their family responsibilities increase for some reason.

In spite of that, it is interesting to notice that looking at the distribution of employees by year of admission (Table 3.15), women stay relatively longer than men on the same job. Thus, in the electric and communications materials industry, 20 percent of female employees worked for 1 year on the same job, as compared to 17 percent of male employees in 1980. This proportion of female employees on the same job for 1 year was similar to the proportion of female employees in the mechanical and the metallurgical industries, and higher than the proportion of female employees on the same job for 1 year in the total of the economic activities in Rio Grande do Sul (16 percent).

In addition, in 1980 there was a higher proportion of female employees in the electric

industry on the same job for at most 7 years (15 percent of female workers still employed in 1980 were hired between 1973 and 1975), when compared to their male counterparts in this industry (12 percent of male workers still employed in 1980 were hired between 1973 and 1975). In the total of the economic activities in Rio Grande do Sul, the proportion of women on the same job for at most 7 years was 10.5 percent (female workers hired between 1973 and 1975, and still employed) in 1980.

Nonetheless, these differences by gender were not very great. Moreover, these data seem to indicate that the length of stay on the job is quite short for both sexes, on average, in the electric and communications materials industry.

On the other hand, the male labor turnover rate (1.72) was lower in the electric industry, when compared to male labor turnover rate in the total of the economic activities (1.95) in 1980. These data might suggest that male employees enjoyed higher job stability in the electric industry, on average, when compared to male employees in the total of the activities in RGS in 1980.

4. Conclusions

The data on wages and labor turnover in the electric and communications materials industry have interesting implications concerning labor differentiation in the electric industry.

The increasing ratio between average wages in the electric and communications materials industry and in the total manufacturing sector in the state of Rio Grande do Sul between 1970 and 1980 indicates that wages in the electric industry were increasingly higher than in the ensemble of industries in that state, on average. There was a significant increase in wage differentiation between the electric and communications materials industry and the total manufacturing sector of Rio Grande do Sul, from a ratio of

1.12 in 1970, to 1.29 in 1975 and again to a ratio of 1.38 in 1980. Combined with the results on industrial value added per employee, these data indicate that the wage definition in the electric industry in the end of the period (1980) was being affected by factors other than favorable market conditions. These results suggest that the change in state wage policy in 1979 combined with union mobilization after the late seventies might have also accounted for higher wages, on average, in the electric industry, when compared to the total manufacturing industry.

In other words, it is possible that the increased wage differentiation between each selected industry and the total manufacturing sector in Rio Grande do Sul was partially due to changes in wage policy. In 1974, negotiations of wage advances were allowed by changes in wage legislation. A major change in wage policy took place in 1979, when the Labor Ministry introduced a new system of wage readjustment through a semestral correction according to the Consumption Prices Index (the INPC), the establishment of a scale system of wage readjustment according to brackets of Minimum Wage, and the negotiation of productivity levels. This change opened up new possibilities for wage negotiations between worker unions and employer associations in terms of the establishment of wage floors and productivity rates. This will be illustrated by the analysis of the metalworkers' collective agreements in the next chapter.

The real industrial value added per employee in the electric industry was higher than in the total manufacturing sector in Rio Grande do Sul at the three points in time considered. This value was 136.74 thousand cruzeiros in 1970, 193.87 thousand cruzeiros in 1975 and 185.85 thousand cruzeiros in 1980. The electric industry also had the highest industrial value added per employee, when compared to the two other industrial branches in the metal-mechanical sector in 1970, 1975 and even in 1980, when the first symptoms of the economic recession of the early eighties began to manifest themselves in Brazil. The wage difference between the electric industry and the total manufacturing industry was

lower, on average, than the difference in industrial value added per employee between these two sectors in 1970. These results indicate that higher wages, on average, in the electric and communications materials industry in 1970, when compared to the total manufacturing sector, stemmed more strongly from particularly favorable market conditions in this industry, than from state wage policy and/or union capacity for wage negotiations at that time. At the same time, the lower wage difference between the electric industry and the total manufacturing industry, when compared to the difference in industrial value added between these two sectors, suggests that, on average, state wage policy was restraining wage differentiation by industry in that year.

On the other hand, the difference in average wages between the electric industry and the total manufacturing industry was higher than the difference in industrial value added per employee between these two sectors in 1980. These results suggest that the increased wage ratio between the electric industry and the total manufacturing sector in Rio Grande do Sul resulted from factors other than product and labor market characteristics only, in 1980. It seems that wages in the electric industry were also affected by changes in wage policy and by worker organization at the union level in 1980. It is possible that these two factors contributed to the increased wage differentiation by industry, on average, in 1980. It is possible as well that average wage differences between the electric industry and the total manufacturing industry also reflected differences in the internal organization of the labor process in firms in the electric industry.

The analysis of the wage distribution within the electric and communications materials industry showed that the change in wage policy had the effect of promoting a wider span in wage distribution in this industry and in the total of the economic activities in Rio Grande do Sul. There was a change in the wage span from a high concentration in the Minimum Wage bracket in 1976, to a higher wage distribution in 1983, particularly considering the brackets from two to three Minimum Wages and from three to four

Minimum Wages, regarding total jobs. However, the decrease in the Gini coefficients between 1976 to 1983 indicate that this higher wage distribution was not accompanied by higher wage inequality. On the contrary, a trend toward less wage inequality was found with respect to total jobs. These results imply that the less rigid wage policy elaborated by the Labor Ministry after 1979 resulted, indeed, in a decrease in wage inequality, when total jobs are considered. The decrease in the Gini coefficient for the wages of total jobs from .455 to .438 in the electric industry between 1976 and 1983 suggests that although wages were more widely distributed throughout the other wage brackets as opposed to clustering between one and two Minimum Wages (especially considering the wage brackets between two and four Minimum Wages), there was less labor differentiation within the electric industry and in the total of the economic activities (which Gini for total jobs decreased from .472 to .455) with respect to wages, during this period.

Nevertheless, when gender is considered, differences in wages become rather clear-cut, with female wages far lower than male wages. In the electric industry of Rio Grande do Sul, most female workers' wages were concentrated in the Minimum Wage bracket (77 percent from one to two MW) in 1976 (Table 3.5). Yet, in 1983, the female wage span in this industry was higher than in 1976, particularly when considering the brackets from two to three (34.3 percent) and from three to four (nearly 8 percent) Minimum Wages (Table 3.6). In 1983, the male wage span in the electric industry was also higher than in 1976, particularly when considering the brackets from two to three (22.7 percent), from three to four (14.3 percent), and from four to six (19.2 percent) Minimum Wages (Table 3.6).

It is interesting to note that in 1983 the proportion of female wages in the bracket between one and two Minimum Wages in the electric industry was lower than in the total of the economic activities, contrary to what happened in 1976. Also, in 1983, the proportion of female wages in the electric industry between two and three Minimum

Wages was significantly higher than in the total of the economic activities, which is the opposite of what occurred in 1976.

The results obtained from the calculation of wage means by gender showed that wage means increased for both sexes in the electric industry, in the total of the economic activities and in the two considered metal-mechanical industries, between 1976 and 1983. The data for the electric industry also have other interesting implications. First, in spite of the fact that in all industries considered female wage means were lower than those for males in both 1976 and 1983, the proportion of the female wage mean in relation to the male wage mean in the electric industry was the lowest in both years, when compared to this proportion for the total of the economic activities and in the metallurgical and in the mechanical industries. In the electric industry, the female wage mean as a proportion of male wage mean was 43 percent in 1976 and 49.5 percent in 1983. In the total of the economic activities, this proportion was 58 percent in 1976 and 68.7 percent in 1983.

It is noteworthy, *en passant*, to make here some other comparisons. For instance, female wage mean as a proportion of male wage mean in the electric industry in Rio Grande do Sul in 1983 was similar to female wage mean as a proportion of male wage mean in the total manufacturing industry in Brazil in 1980, which was 49.6 percent (FIBGE, *Tabulações Avançadas do Censo Demográfico, Brasil, 1980*). The comparisons of the data on female wage means as a proportion of male wage means between Brazil, a dependent country, and the U.S., a core country, are revealing. For example, the female median wage as a proportion of the male median wage in the total manufacturing industry in the U.S. was not very much higher than in Brazil in 1980. That proportion was 52 percent in the U.S. in 1980 (U.S. Census, vol.1, 1980). The interesting contrast was the comparison between male and female wages in the economically active population in Brazil and in the U.S. in 1980. In Brazil, the female wage mean as a proportion of the male wage mean in the total economically active population was 57 percent in 1980 (FIBGE,

Anuário Estatístico do Brasil, 1982). In 1980, the female median wage as a proportion of the male median wage in the U.S. was 77 percent (U.S. Bureau of the Census - Statistical Abstract of the United States, 1982-1983): twenty percentage points higher than in Brazil during the same year.¹

These data suggest that on the level of the wider society, gender segregation is more important in Brazil than in the U.S., in terms of wages. Yet, in the manufacturing industry as a whole, it seems that the difference in importance of gender segregation between Brazil and the U.S. is not very great, in terms of wages. However, the comparison of wages by gender between the electronics industry in the U.S. and the electric industry in Rio Grande do Sul are, again, contrasting. In the electronics industry in the U.S., the female workers' median earnings as a proportion of the male workers' median earnings corresponded to 56.5 percent in 1980 (U.S. Census, 1980). In the electric industry in Rio Grande do Sul, the female workers' wage mean as a proportion of the male wage mean was 49.5 percent in 1983. Female earnings as a proportion of male earnings in the electronics industry in the U.S. in 1980 were nearly 7 percentage points higher, when compared to the Brazilian case in 1983.

In addition, it is noteworthy that while female wage means in the electric industry in Rio Grande do Sul were lower than in the total of the economic activities, in both 1976 and 1983, male wage means in this industry were higher than male wage means in the total of the economic activities in these two years. Male wage means were also the highest of the three considered industrial branches in the metal-mechanical sector, both in 1976 and in

¹ The average earnings by gender in Brazil and in the United States in 1980 were: Brazil - male (A): 3.12; female (B): 1.77; B/A: 57. United States - male (A): 266; female (B): 204; B/A: 77. Sources: FIBGE, Anuário Estatístico do Brasil, 1982; U.S. Department of Commerce. Bureau of the Census. Statistical Abstract of the United States, 1982-1983. Brazil: means of monthly average earnings of the economically active population in Minimum Wages of 1980. U.S.: median weekly earnings of full-time wage and salary workers in U.S. dollars.

1983.

These data for the electric industry suggest that a privileged labor market developed within this industry, in terms of male wages, when compared to the total of the economic activities and to the mechanical and the metallurgical industries. On the other hand, lower female wage means in the electric industry than in the total of the economic activities and the lowest ratio between female and male wage means in the electric industry, when compared to the remaining industries in 1976 and in 1983, indicate that:

- 1) in 1976, female wages were defined more closely to state wage policy, when compared to male wages, with a wage mean near the Minimum Wage in this year (i.e, 1.55 MW in the electric industry);
- 2) in 1983, female wages were less defined by state wage policy, when compared to 1976, with a wage mean over twice as much the Minimum Wage (i.e, 2.46 MW in the electric industry);
- 3) the results for female wage means suggested clearly that union activity has not affected the definition of female wages in the electric industry;
- 4) these findings also suggested that female wages were less benefited by favorable market conditions in the electric industry, when compared to male wages in the electric industry between 1976 and 1983, with lower female wage means than male and significantly lower ratios between female and male wage means in this industry, when compared to the total of the economic activities in both years;
- 5) overall, these results indicated that other factors than market variables, in particular state labor policy and women's position at the union have accounted for lower female wages when compared to male, most particularly, gender segregation;
- 6) considered as a whole, these findings suggested that in the electric industry there has been a clear process of labor differentiation by gender, when wages are considered, in the sense that female and male workers constitute two non-competing worker layers, with different earnings prospects.

On the other hand, contrary to the case of male wages, the Gini coefficients for women increased from .198 in 1976 to .275 in 1983 in the electric and communications materials industry. This may indicate that the higher female wage span resulted not only in higher wage mean, but also in an increase in female wage inequality in this industry. That is, in spite of the fact that male wage inequality in the electric and communications materials industry was quite high in 1976, as indicated by the Gini coefficient of .500, which was higher than that for the remaining industries, it decreased to .446, a level below the total of the economic activities. This suggests that although male wages have been quite unequal, there has been a trend toward a decrease in wage inequality amongst male workers. In other words, male wages were more concentrated around the mean in 1983.

In the electric and communications materials industry, most women were at the bottom of the wage scale in 1976. In that year, the Gini coefficient for the female wage distribution was .198, the lowest when compared to the remaining industries. However, the significant increase of the Gini coefficient for women to .275 in 1983, is evidence of a trend toward a greater degree of wage inequality amongst female workers in this industry.

The greater increase in female wage inequality, when compared to male, between 1976 and 1983 can be visualized in Tables 3.5 and 3.6. The proportion of women at higher wage levels, especially in the categories between three and ten Minimum Wages in 1983, indicate that female participation in higher wage brackets has increased faster than male participation in these brackets, when compared to 1976.

The number of women hired in the electric and communications materials industry decreased significantly in the years between 1976 to 1983 (by almost one-third), but the number of women in the total of the economic activities increased (more than doubled). This shift toward a lower female participation in the electric and communications materials industry suggests that the effects of the Brazilian economic recession of the early eighties

affected female unemployment more than male unemployment in this particular industry, especially when compared to the metallurgical and the mechanical industries, where female unemployment in 1983 was lower than in the electric industry.

Most importantly, the high male wage means in the electric industry in 1976 and in 1983, when compared to the total of the economic activities and to the two other industrial sectors seem to indicate that male workers in this industry have benefited from a privileged position in the labor market, in terms of wages. This process seems to have continued and even increased (with the increase in the proportion of male workers in this industry in 1983) during the recession years. This suggests that female shopfloor workers were excluded from this privileged labor market. The significant increase in female labor force in the total of the economic activities in 1983 seems to indicate that semi-skilled women workers were driven to less privileged sectors of activity.

As of women who remained in the electric industry, the higher rate of increase in female participation in higher wage brackets, when compared to that for males between 1976 and 1983, suggests that there was an increase in female employment in non-manual jobs, particularly in the area of clerical work involving the firms' administrative activities. This factor, coupled with higher female wage inequality in 1983 as indicated by the Gini coefficient, suggests that new and improved job opportunities have been created for the female labor force in the electric industry, particularly for skilled and/or professional female workers, bringing about higher labor differentiation amongst women in this industry, as in terms of blue vis a vis white-collar workers. Furthermore, when one also considers the decrease in wage means differences between male and female workers in the electric industry, it is possible that gender segregation may have diminished in this industry between 1976 and 1983.

In the area of job stability, the results indicate that low job stability with short stays on the same job and high labor turnover rates characterize the labor market of the electric

and communications materials industry for the total labor force. Moreover, the increase of labor turnover in this industry between 1980 to 1983, is evidence of the highly unstable conditions of employment in that industry. It is noteworthy that other industries had a decrease in their labor turnover rates during the same three year period. There was also a decrease in the labor turnover rate in the total of the economic activities. As mentioned elsewhere, this lack of job stability is also an indication of the absence of continuous connections between workers and their jobs in this industry. Thus, seniority rules have not been incorporated as criteria for definition of internal job hierarchies within firms in the electric industry.

As for low levels of job stability, these data suggest that state labor control through legislation, specifically through the guarantee fund by length of stay on the same job (the FGTS), was still the main element in facilitating and promoting labor turnover. This was demonstrated by the data concerning reasons for dismissal which indicated that dismissal was mostly due to the employers' initiative.

When labor turnover by gender was considered, a lower labor turnover rate for female workers was observed, when compared to that for male workers within the electric industry in 1980. Nevertheless, our data indicated that the difference in labor turnover by gender in this industry was lower when compared to the difference in labor turnover by gender in the total of the economic activities in 1980. Furthermore, the difference in female labor turnover between the electric industry and the total of the economic activities was not very great in this year. The rate of female labor turnover in the electric industry was 64 percent, whereas the rate of female labor turnover in the total of the economic activities was 69 percent in 1980. These data suggest that low job stability characterize both the female and the male employment in the electric and communications materials industry in RGS.

On the other hand, female wage inequality tended to increase in the electric industry between 1976 and 1983, unlike that for males. The increase in female wage inequality suggests that labor differentiation increased among women in the electric industry, between 1976 and 1983. In the case of male workers in the electric industry, the decrease in wage inequality between 1976 and 1980 suggests lower labor differentiation amongst male workers in this industry, when wages are considered, between 1976 and 1983. However, the lower male labor turnover rate in the electric industry, when compared to the male labor turnover rate in the total of the economic activities in 1980 seems to confirm that male workers have benefited from a privileged labor market position in the electric industry, both in terms of wage mean and job stability.

The political changes that took place in Brazil during the late seventies resulted in less rigidity in the state's wage policy and also promoted a greater degree of worker mobilization, particularly for better wages. These mobilizations were favored by product market conditions with the growth of the industrial value added per employee in the electric industry.

These changes resulted in a higher wage span and a higher wage mean for both sexes. In the case of male wages, our results suggest a higher wage concentration around the mean in 1983, with lower male wage inequality. The data for female wages indicate that in contrast to the case of male workers in the electric industry, the upwards increase in female wage span between 1976 to 1983 resulted not only in an increased wage mean, but also in increased wage inequality among female workers.

Our results suggest that gender segregation has been a major element of labor differentiation. Women's earnings are lower than men's in the electric industry, on average. In addition, female wage inequality is significantly lower than male in this industry, both in 1976 and in 1983. On the other hand, whereas wage inequality decreased amongst men, the observed increase of inequality in the female wage

distribution and the more rapid increase in the proportion of female workers in higher wage brackets, when compared to their male counterparts, indicates that a trend towards more labor differentiation amongst women, and less labor differentiation amongst men has taken place in the electric industry.

In sum, our data suggest that the electric industry is a privileged sector, most particularly in terms of male wage means, when compared to male wage means in the total of the economic activities in Rio Grande do Sul. There was an increase in the wage difference by industry, when comparing the electric industry to the total manufacturing in RGS between 1970 and 1980. Nevertheless, there was a decrease in the Gini coefficient of wages for the total labor force within the electric industry, between 1976 and 1983. This suggested that there was a decrease in labor differentiation in this industry during the period analyzed, when wages were considered.

These findings seem to indicate that there was a relative decrease in wage control by the state after 1979. The data also suggest that higher union militancy accounted for higher wages in this industry on average, in 1980, when compared to average wages in the beginning of the period, 1970. In addition, it is possible that increased inter-firm competition for skilled labor, especially with the growth of the electronics industry since the late seventies, resulted in favorable labor market conditions and therefore, propitiated a wage increase in the electric industry, on average. Differences in organization of the labor process within firms in the electric industry might also have accounted for the increased wage difference, on average, by industry between 1970 and 1980.

Nevertheless, our results have not suggested an increase in bureaucratic control. This was indicated by the decrease in Gini coefficient for the total labor force. In addition, the labor turnover rate increased in the electric industry between 1976 and 1983. On the other hand, although male wages seemed to be in a privileged situation in the electric industry both in 1976 and in 1983, when compared to male wages in the total

manufacturing sector in RGS, the Gini coefficient for male workers decreased during this period. At the same time, the male wage span increased. This seemed to indicate that male wages were more concentrated around the mean in 1983, when compared to 1976. These data seem to point to a decrease in labor differentiation amongst male workers within the electric industry. Moreover, whereas this is a privileged industry for male workers, particularly in terms of wages, this implication does not hold for female semi-skilled workers. On the contrary, shop floor women workers were excluded from this privileged industrial sector, which became more masculinized in 1983. This reveals that gender segregation has been a very important factor of labor control in the electric industry. Labor differentiation by gender seems to be one of the most important factors of creating divisions amongst workers in this industry.

TABLE 3.1
 Ratios of Real Monthly Average Wages per Employee in Selected
 Industries over Real Average Monthly Wages per Employee
 in the Total Manufacturing Industry - RGS, 1970-1980

Year	Metallurgical	Industry Mechanical	Electric C. M.
1970	1.14	1.22	1.12
1975	1.15	1.42	1.29
1980	1.17	1.76	1.38

Source: Industrial Census. RGS, 1970, 1975, 1980.

TABLE 3.2
 Real Industrial Value Added per Employee in Selected
 Industries and in the Total Manufacturing Industry,
 in 1,000 cruzeiros of 1977 -
 RGS, 1970 - 1980

Year	Metallurgical	Met/ Total	Mechani- cal	Industry Mech/ Total	Electric C.M.I.	Elec/ Total	Total
1970	91.20	.90	103.55	1.02	136.74	1.35	101.15
1975	131.11	.83	186.25	1.17	193.87	1.22	158.43
1980	144.95	.97	183.32	1.22	185.85	1.24	150.00

Source: Industrial Census. RGS, 1970, 1975, 1980.

TABLE 3.3
Jobs, by Ranks of Minimum Wage* - RGS, 1976

Sector of Activity	Total**	Jobs			
		0 - 1	1 - 2	2 - 3	3 - 4
Metallurgical I.	45945	11.4	52.7	18.5	7.2
Mechanical I.	31904	7.9	41.2	25.0	10.7
Electric C.M.I.	8479	12.1	56.2	13.5	6.7
Total Activities	886158	21.6	46.5	14.4	6.0

(cont.)

Activity	Jobs			Total
	4 - 6	6 - 10	10 and more	
Metallurgical I.	5.1	3.0	2.0	100
Mechanical I.	7.8	4.2	3.2	100
Electric C.M.I.	4.8	3.2	3.5	100
Total Activities	5.4	3.6	2.5	100

Source: Calculations based on RAIS
(Relação Anual de Informações Sociais), MTb,
in: Anuário do Trabalho, 1976, Table 1.4.3, vol.1,
tomo1.

*Ranks of MSMP (Highest Minimum Wage Ponderated):
(Jan. to Apr. x 4) + (May to Dec. x 8)

MSMP =

12

Wage ranks upper limits included in the next respective rank.

**Total = total jobs - N.A.

TABLE 3.4
Jobs, by Ranks of Minimum Wage* - RGS, 1983

Sector of Activity	Total**	Jobs			
		Minimum Wage Ranks %			
		0 - 1	1 - 2	2 - 3	3 - 4
Metallurgical I.	42043	2.4	30.1	32.2	15.3
Mechanical I.	29552	2.6	24.6	28.0	17.7
Electric C.M.I.	8077	2.2	30.2	26.7	12.0
Total Activities	1492527	7.1	42.0	21.3	10.2

(cont.)

Sector of Activity	Jobs				Total
	Minimum Wage Ranks %				
	4 - 5	5 - 7	7 - 10	10 and more	
Metallurgical I.	7.7	6.5	3.0	2.8	100
Mechanical I.	10.0	8.3	4.4	4.4	100
Electric C.M.I.	8.6	9.4	5.2	5.7	100
Total Activities	5.4	5.8	4.0	4.2	100

Source: Calculations based on RAIS
(Relação Anual de Informações Sociais), MTb,
1983, Tables 1, 1A.

*Wage ranks include upper limits.

**Total = total jobs - N.A.

TABLE 3.5
Jobs, by Ranks of Minimum Wage, by Gender - RGS, 1976

Sector of Activity	Total*	Jobs			
		0 - 1	1 - 2	2 - 3	3 - 4
Metallurgical I.	F 8097	21.6	66.3	7.0	2.4
	M 37848	9.2	49.8	21.0	8.2
Mechanical I.	F 2973	15.7	59.0	13.4	5.9
	M 28931	7.0	39.4	26.1	11.2
Electric C.M.I.	F 3878	14.3	77.0	5.0	1.9
	M 4601	10.4	38.6	20.6	10.8
Total Activities	F265145	32.1	51.2	8.7	3.2
	M621013	17.2	44.4	17.0	7.2

(cont.)

Sector of Activity		4 - 6	Jobs		Total
			Minimum Wage 6 - 10	Wage Ranks 10 and more %	
Metallurgical I.	F	2.0	.6	.2	100
	M	5.8	3.5	2.5	100
Mechanical I.	F	3.3	2.2	.5	100
	M	8.3	4.4	3.6	100
Electric C.M.I.	F	1.1	.5	.2	100
	M	8.0	5.4	6.2	100
Total Activities	F	3.0	1.3	.5	100
	M	6.4	4.5	3.3	100

Source: Calculations based on RAIS, MTb,
in: Anuário do Trabalho, op. cit., 1976, Table 1.4.3.

*Total = total jobs - N.A.

TABLE 3.6
Jobs, by Ranks of Minimum Wage, by Gender - RGS, 1983

Sector of Activity	Total*	Jobs			
		Minimum Wage Ranks %	0 - 1	1 - 2	2 - 3
Metallurgical I.	F 6804	1.8	53.1	32.5	7.0
	M 35129	2.4	25.6	32.2	17.0
Mechanical I.	F 2956	2.7	45.0	28.5	10.2
	M 26496	2.5	22.2	28.0	18.6
Electric C.M.I.	F 2751	.8	48.5	34.3	7.7
	M 5290	3.0	20.6	22.7	14.3
Total Activities	F549436	9.7	52.0	17.6	7.6
	M934259	5.4	36.1	23.6	11.8

(cont.)

Sector of Activity	Total	Jobs		
		Minimum Wage Ranks %	4 - 6	6 - 10
Metallurgical I.	F 3.6	1.6	.4	100
	M 13.5	6.0	3.3	100
Mechanical I.	F 9.0	3.5	1.1	100
	M 16.0	8.0	4.7	100
Electric C.M.I.	F 5.2	3.0	.5	100
	M 19.2	11.8	8.4	100
Total Activities	F 6.1	5.2	1.8	100
	M 10.0	7.4	5.7	100

Source: RAIS (Relação Anual de Informações Sociais) MTb, 1983, Table 10.

*Total = total jobs - N.A.

TABLE 3.7
Employment in the Electric Industry and in the Total of the
Economic Activities, by Gender - RGS, 1976/1983

Sector of Activity	Total	Variation 1983/'76 %	Male	%	Variation 1983/'76 %
<u>1976</u>					
Electric I.	8479	-	4601	54.3	-
Total Activ.	886158	-	621013	70.0	-
<u>1983</u>					
Electric I.	8041	-5.0	5290	65.8	15.0
Total Activ.	1483695	67.4	934259	63.0	50.0

Sector of Activity	Female	%	Variation 1983/'76
<u>1976</u>			
Electric I.	3878	45.0	-
Total Activ.	265145	30.0	-
<u>1983</u>			
Electric I.	2751	34.2	-29.0
Total Activ.	549436	37.0	107.2

Source: RAIS, as in tables III, IV, V and VI.

TABLE 3.8
 Gini Coefficients of Wage Distribution - Metallurgical,
 Mechanical, Electric and Communications Materials Industries and
 Total of the Economic Activities - RGS, 1976 - 1983

Jobs	Year	
	1976	1983
<u>Total</u>		
Metallurgical I.	.404	.370
Mechanical I.	.426	.400
Electric C.M.I.	.455	.438
Total Activities	.472	.455
<u>Female</u>		
Metallurgical I.	.262	.251
Mechanical I.	.333	.330
Electric C.M.I.	.198	.275
Total Activities	.380	.407
<u>Male</u>		
Metallurgical I.	.411	.377
Mechanical I.	.428	.402
Electric C.M.I.	.500	.446
Total Activities	.481	.466

Source: RAIS (Relação Anual de Informações Sociais),
 MTb, 1976, 1980, 1983.

TABLE 3.9
 Monthly Wage Means by Gender in Minimum Wages
 - Metallurgical, Mechanical, Electric and Communications Materials
 Industries and Total of the Economic Activities - RGS, 1976-1983

Jobs	Year									
	1976					1983				
	Male (A)	M/ Tot.	Fem. (B)	F/ Tot.	B/A %	Male (B)	M/ Tot.	Fem. (B)	F/ Tot.	B/A %
Metallurgical	2.67	.96	1.53	.95	57.3	3.60	.94	2.25	.86	62.5
Mechanical	3.14	1.13	1.94	1.20	61.7	4.07	1.07	2.70	1.03	66.3
Electric	3.60	1.29	1.55	.96	43.0	4.97	1.30	2.46	.94	49.5
Total Activ.	2.78	-	1.61	-	58.0	3.80	-	2.61	-	68.7

Source: RAIS, as in tables V and VI.

TABLE 3.10
 Labor Turnover Rate for
 Total Jobs
 - RGS, 1980 - 1983

Sector of Activity	Total Individual Employment Contracts*	N. Jobs (Dec.)	Labor Turnover Rate
<u>1980</u>			
Metallurgical	1.91958	58572	1.56
Mechanical I.	59931	38046	1.57
Electric C.M.I.	15746	11004	1.43
Total Activ.	2289966	1438666	1.59
<u>1983</u>			
Metallurgical	1.61085	43390	1.40
Mechanical I.	43049	30219	1.42
Electric C.M.I.	12466	8292	1.50
Total Activ.	2272369	1520550	1.49

Source: RAIS. MTb, 1980, 1983. Table 7.

* Total number of individual employment contracts, including all employees in the beginning of the year (January), new employees contracted for new job positions and employees contracted to substitute others during the respective year.

TABLE 3.11
Average Length of Stay on the Job - Total Jobs
RGS, 1980

Sector of Activity	Length of Stay Fired (years)	Length of Stay Dec./31 (years)
Metallurgical I.	1.40	3.28
Mechanical I.	1.29	2.85
Electric C.M.I.	1.51	3.26
Total Activ.	1.26	4.61

Source: RAIS, MTb., 1980. Table 6.

TABLE 3.12
Total Labor Turnover Rate by Gender - RGS, 1980

Activity	Total Individual Employment Contracts*		N. Jobs (year aver.**)		Labor Turnover Rate	
	Male	Female	Male	Female	Male	Female
Metallurgical I.	75173	16270	39069	8899	1.92	1.82
Mechanical I.	53307	6300	27272	3262	1.95	1.93
Electric C.M.I.	9780	5882	5657	3573	1.72	1.64
Total Activities	1462338	716983	46644	422869	1.95	1.69

Source: RAIS, MTb, 1980, Table 12.

* Total number of individual employment contracts, including all employees in the beginning of the year (January), new employees contracted for new job positions and employees contracted to substitute others during the respective year.

** Average = (January + December) / 2.

TABLE 3.13
Reason of Dismissal, by Gender - RGS, 1976

Sector of Activity	Total Dismissed	Reason of Dismissal %			Total
		Employer's Initiative	Employee's Initiative	Other	
Metallurgical I.	M 26703	56.7	42.7	.6	100
	F 4414	60.3	39.5	.2	100
Mechanical I.	M 16931	63.0	36.4	.6	100
	F 1435	65.8	34.2	-	100
Electric C.M.I.	M 2591	65.6	33.4	1.0	100
	F 1499	60.0	40.0	-	100
Total Activities	M 425166	63.0	36.3	.7	100
	F 142623	61.4	38.2	.4	100

Source: Calculations based on RAIS, in: Anuário do Trabalho, MTB, op. cit., 1976, Table 3.1.2.

TABLE 3.14
Reason of Dismissal by Gender - RGS, 1980

Sector of Activity		Total Dismissed	Reason of Dismissal			
			Employer's Initiative		Employee's Initiative	
			Total	%	Total	%
Metallurgical I.	M	27679	16376	59.2	10379	37.5
	F	5483	3135	57.1	2183	40.0
Mechanical I.	M	19643	12156	62.0	6518	33.2
	F	2101	1273	60.6	734	35.0
Electric C.M.I.	M	2961	1852	62.5	963	32.5
	F	1748	1097	62.8	620	35.5
Total Activities	M	553789	361693	65.3	152718	27.6
	F	215317	129871	60.3	69999	32.5

(cont.)

Activity		Other	Reason of Dismissal			Total %
			%	N.A.	%	
Metallurgical I.	M	571	2.0	353	1.3	100
	F	114	2.0	51	.9	100
Mechanical I.	M	543	2.7	426	2.1	100
	F	68	3.2	26	1.2	100
Electric C.M.I.	M	116	4.0	30	1.0	100
	F	21	1.2	10	.5	100
Total Activities	M	25221	4.6	14157	2.5	100
	F	9866	4.6	5581	2.6	100

Source: RAIS, MTb, 1980, Table 11.

TABLE 3.15
 Percentage of Employees by Year of Admission, by Gender - RGS, 1980

Year	Metallurgical I.		Mechanical I.		Electric C.M.I.		Total Activ.	
	Male	Female	Male	Female	Male	Female	Male	Female
1980	35.3	35.0	38.0	44.4	34.0	27.0	35.1	31.0
1979	17.7	19.7	20.2	20.5	17.0	20.6	16.2	16.5
1978	11.3	13.5	10.6	10.8	12.0	13.5	10.2	11.1
1976/'77	14.0	17.0	13.2	13.6	15.1	16.2	12.3	14.0
1973/'75	11.6	10.1	10.0	7.6	12.3	15.0	9.2	10.5
1969/'72	5.0	2.6	5.2	2.0	5.8	5.0	5.2	5.4
up to '68	5.0	2.0	2.7	.9	3.8	2.6	11.2	11.0
N.A.	.1	.1	.1	.2	.0	.1	.6	.5
Total	100	100	100	100	100	100	100	100

Source: RAIS, MTb, 1980, Table 12.

CHAPTER IV
THE UNION AS AN ACTOR

1. Introduction

In the theoretical perspectives discussed earlier, bureaucratic control in core capitalist countries is effective in hindering unionism. Through increased labor differentiation, the position of organized labor is weakened in its attempt to achieve improved labor conditions during the collective bargaining process. These new strategies of labor control partially incorporate worker demands for certain concessions from employers. Such demands as higher wages and some forms of worker participation in the organization of the labor process at the workplace once conceded can result in increased labor differentiation. This in turn enhances worker attachment to the company while creating divisions amongst workers at their union. At the same time labor's position in the power balance between firms' management and workers is weakened.

In the case of Brazil, a dependent country, state control over organized labor during the period under analysis was carried out through the authoritarian corporatist union structure. As mentioned in Chapter II, Brazilian union structure is characterized by its vertical organization into unions organized on territorial basis (mostly at the level of the municipalities), federations (at the level of the states) and confederations (at the nation level). This organization is based on the principle of unitary union, according to which only one union will be legally recognized by the Labor Ministry for each industrial branch in each territorial basis. Importantly, this union structure has in the unitary union tax its main financial resource. This system of state sponsored trade union has accounted for the union's weak bargaining capacity in collective labor negotiations, particularly during the authoritarian regime. However, changes in wage policy in the context of political liberalization of the regime gave rise to union mobilization after the late seventies. At that time, worker action was becoming more autonomous in relation to the state, particularly in

the most dynamic industries where market conditions favored labor bargaining.

The purpose of the present chapter is to analyze the effect of worker organized action through unions on labor differentiation. As wage policy becomes less rigid, a greater capacity for union bargaining is expected. The consideration of the union's role in the process of changing labor conditions which might result in labor differentiation is especially important in the study of industrial labor relations in Brazil. The intricate relationship between state and union will be revealed. Moreover, the analysis of collective negotiations carried on through the union demonstrates how state regulation of labor indirectly effects labor conditions at the workplace. In addition, by considering the union as an actor in the process of labor transformation, it is possible to visualize the extent to which a state sponsored trade union has been able to control its own labor market during a period of political liberalization, through the enhancement of workers' wages, job stability and job security. In other words, the central question in this chapter concerns the extent to which the union has been able to promote the creation of a "protected" worker layer, through the introduction of new labor conditions during collective negotiations. This would go far beyond the general provisions foreseen by the labor legislation and the wage policy. Furthermore, improved negotiations in the end of the period analyzed (especially after 1979) would imply increased union autonomy from state, when compared to previous years.

This analysis will be carried out through an illustration of the case of the Porto Alegre metalworkers' union. The workers at the selected firms in the present study belong to this union which represents the workers in the metallurgical, mechanical and electric and communications materials industries. The union's headquarters are in Porto Alegre, the state capital of Rio Grande do Sul. Its counterpart is the industries' association, the Metallurgical, Mechanic and Electric and Communication Material Industries' Association of Rio Grande do Sul, organized by employers. Whereas the employers' association is

organized state wide, the territorial area of the P.A. metalworkers' union comprises six municipalities, which makes it the largest union representing this particular worker category in the Metropolitan Area of Porto Alegre and in the state of Rio Grande do Sul. In 1980, the number of workers represented by this union consisted of 61 percent (32,186) of the total of 52,023 persons occupied in production in the three above mentioned industries in the P.A. Metropolitan Area, and 38 percent of the total of 84,475 persons occupied in production in these industries in the state of Rio Grande do Sul (FIBGE, Industrial Census, 1980).

The union's assets are relatively large when compared to other industrial workers' unions within the state. In addition to its health and juridical departments, the union runs an elementary school, and in 1982 expanded its vacation facilities at an ocean beach near the capital (C.P., 07/17/1982). The union also built a second headquarters in nearby city in the vicinity of two industrial districts where metalworkers concentrate. The P.A. metalworkers' union assets were estimated at approximately US\$400,000.00 in 1985, the largest in the state (Z.H., 12/08/1985).

The organizational resources of the union and the number of workers that it represents are considerable (within the regional context). The electric and metal-mechanical industries continued to grow during the years between 1970 and 1980, although not on a steady basis. There was an increase in the real value of the average wages in the selected industrial branches which was greater than the increase in the real value of the average wages for the total manufacturing sector in the state. Together, these factors make it plausible to expect that the P.A. metalworkers' union may have had some bargaining influence in the definition and change of labor conditions, particularly after 1979, a time when wage restrictions imposed by the state became less stringent.

The union's role in labor differentiation is revealed through an analysis of its yearly collective labor agreements. The items subject to negotiation in collective agreements may

go beyond the general provisions of the Consolidation of the Labor Laws (the CLT), although they cannot contradict that major law or the constitution. The labor duties and rights settled by industry-wide contracts are extended to all workers and employers in firms located within the territorial area of a given workers' union. Once ratified by the Regional Labor Court, these new rules assume the strength of law. Considering that the collective agreements must be agreed upon by both the workers' and the employers' respective unions, their content can be indicative of the role of the workers' union in the process of negotiating better labor conditions, as well as its limitations in this process.

The collective agreement is a legal procedure used to establish new labor conditions or to renew existing ones each year at a given reference date. This process begins with a general assembly at the worker union or at the employers' association which initiates the proceedings. In general, it is initiated by the worker union, whose demands are addressed to the assembly of its counterpart, the employers' association. The latter group then either accepts or sends back a counter proposition. In the case of accord between the parties, a collective agreement (*ipso facto*) takes place. In the event of a conflict of interest, the interested party adjudges the process at the Regional Labor Court, whose first role is to attempt a conciliation between the parties. If the parties accept a conciliatory solution, the Court ratifies the agreement. In the case of an absence of conciliation between the parties, the process is judged by the Court which then formulates a normative sentence. In both cases, the results assume the strength of law.

The law suit format of addressing collective agreements has been the most common procedure in collective labor negotiations in Brazil (Mascaro, 1975; Vianna, 1976; Tavares, 1981). Other forms were provided by labor legislation, but they have not been utilized to the extent that the law suit format has been. Other formats provided are: labor collective agreements (*ipso facto*) and separate collective agreements. Separate collective agreements involve only workers at a particular firm (or a group of firms) and may concern the

regulation of general labor conditions or only specific items. In the two latter procedures, the formal participation of the workers' union is required, but there is no need (although it is possible) to ratify them at the Court. It is sufficient to have the process registered and filed at the regional labor department (the Delegacia Regional do Trabalho) with these two procedures (Pichler, 1983: 52).

The practice of separate agreements by firm has increased since the late seventies, especially as a way to negotiate new specific provisions in the face of workers' strikes. As such, it has been a means of approaching direct labor negotiations at the enterprise level. This has been one of the most important demands presented by CUT (the United Central of Workers) since the early eighties and, most recently, by CONCLAT-CGT (the unified organization of the Working Class Congress and the General Confederation of Labor). The CUT and the CONCLAT-CGT are currently the two major labor organizations in the country. Direct forms of negotiation (involving either company-based or industry-wide negotiations) will promote union presence within firms and therefore, higher union capacity.

In the case of the Porto Alegre metalworkers' union, separate agreements have occurred only at a few firms. As reported in Colombo (1984: 52), a separate agreement was reached in 1974 at Taurus, a gun factory. In 1979, workers at the shipyard company formed a plant committee and have settled their own collective agreements since that time, but at a different reference date than that of the workers' union. In addition, in 1983 BK Controles Eletrônicos set a separate agreement with its employees which introduced a regime of 40 weekly hours of work. Nevertheless, the labor collective agreements have taken the form of suits addressed through the Labor Court for most workers employed at firms of the metallurgical, mechanical and electric and communication material industries within the territorial area of the P.A. metalworkers' union. This has become the major way to introduce new rules of labor relations, particularly those initiated by the workers.

There has been a significant diversification of clauses, ranging from a concentration on wages and economic benefits, to the inclusion of items on other labor conditions, especially after 1980. This is the most apparent characteristic in the evolution of the P.A. metalworkers' union collective agreements between 1970 and 1986 (see Tables 4.1 thru 4.4). This leads one to expect that the union has attempted to create protective barriers in its labor market in order to decrease the effect of competition between workers. This is accomplished through the negotiation of protective measures with the employers' association. However, the negotiations regarding wages and economic benefits have assumed priority during the overall period, since they have constituted the focus of workers' demands in the face of the state wage policy. Yet, demands relative to provisions for job stability and security have increased considerably during the early eighties, a period of economic recession lasting until the mid-eighties, a time when unemployment was growing rapidly.

2. Negotiations on Wages and Additional Benefits

The metalworkers' wage negotiations from 1970 to 1985 have basically taken two distinct shapes. The results of wage negotiations as they appear in the collective agreements of the P.A. metalworkers' union closely follow the official wage policy until 1976. At that time a 1 percent additional for every five years of work and the substitute worker wage were introduced. The latter was initiated as an incorporation of jurisprudence in the metalworkers' agreements, which will be described later. In 1977 a new system of wage negotiation was introduced, with readjustments on a scale basis. From 1980 onward, wage negotiations reflected changes in the wage policy of November 1979 and its successive modifications which centered on semestral readjustment, indexation of wage readjustments on a scale basis and the possibility of negotiating productivity gains. The union's growing capacity for wage bargaining in the early eighties reached its highest point

in 1984 and 1985, when the demand for a trimestral wage readjustment was achieved, although in the form of wage advances. Yet, in 1986, the "Plano Cruzado" (an economic plan settled by the government in that year) made extensive modifications on the system of wage negotiations.

As observed in Table 4.1, in the years of 1970 and 1971 the P.A. metalworkers' collective agreements consisted of only six items, which were basically related to wage fixing matters. The annual readjustments of 26 percent and 23 percent in each of these years was greater than the percents calculated by assistants at the Regional Labor Court. The percents proposed as appropriate for this category were 24.5 percent in 1970 and 21 percent in 1971. In the case of new employees hired after the reference date, the wage readjustment is limited to length of stay on the job. Calculations are made to determine the proportion of the readjustment which would apply to each case. For example, in the case of an employee hired in July, his/hers wage readjustment will correspond to twelfths of the April readjustment.¹ In addition, a wage floor for all workers was settled in 1970 and 1971. According to a local newspaper, the wage floor was an important achievement that the P.A. metalworkers' union had been able to renew regularly renewed since 1966 (C.P., 02/03/1972).

Although quite small, the wage achievements in these years represented attempts of the workers to increase their earnings as distinct from wage policies determined by the state. For example, the workers were able to set by setting a minimum wage for the category (which had the official Minimum Wage as reference). Moreover, they were able to acquire a wage readjustment which was a few percentage points above the official wage

¹ For new employees hired after the reference date, calculations of the wage readjustment are based on proportions of 1/12 (that is, as many 1/12 fractions of the last readjustment as the number of months, or over 15 days work, of duration of the labor contract, during the reference year, i. e, from one collective agreement to the next). This system has been kept until the present.

readjustment determined by Federal Law.

During these two years, all metalworkers in the six cities that make part of the territorial area of the union (the capital city and five others at the Metropolitan Area) had a single reference date (in April) for their annual collective agreements, which was favorable to them, in that it allowed workers to unify and organize around their demands at the assembly level.

In 1972, however, the development of collective negotiations took another turn: workers were denied a readjustment above the percent calculated at the Labor Court which was 23 percent as opposed to 43 percent which was requested by the union. The requested readjustment was refused on the basis of the legal argument that the Federal Law-Decree n.15 of 07/29/1966 could not possibly be contradicted. Further, the demand for 3 percent above the Minimum Wage for the wage floor was considered inappropriate by the Court, since it also contradicted the Law-Decree referred to above by implication. This was considered a form of indirect increase in the official index for the reconstitution of the category's wages. Moreover, the reference date was changed from April, 23rd to May, 1st, denoting that the negotiations lasted longer that year, when the lack of agreement between the parties was followed by arbitration at the Regional Labor Court.

These were the years of "democratic unionism" at the union level. At this time a plan of action was launched by the metalworkers' union board during its two consecutive terms (from 1968 to 1974). By the 1974 electoral campaign at the union, however, the Labor Ministry vetoed the candidacy of the union's president for a minor position in the next board (Colombo, 1984: 57-58). Yet, in 1972, as part of the union mobilizations, new demands for collective agreements were addressed to the employers' union. However, these new demands were entirely rejected by the Court. The new demands, amongst which some were resumed in a modified form only by the early eighties, consisted of the following items:

- yearly seniority raise of one percent;
- validation of the union's medical certificates;
- additional pay for work in health unsafe workplaces in median degree (20 percent over the Minimum Wage), regardless of previous investigation and judicial procedures, in activities considered;
- 30 days of yearly vacation for those with less than six absences.

Likewise, the clause on donation, by the employers' association, of a social assistance contribution to the workers' union, was abolished.

In 1973, the collective agreement was revised and signed between the industry's association and various metalworkers' unions in the state, including the Metalworkers' Federation (which represents workers in cities where there are no organized unions), and totalling 14 workers' entities. The agreement procedure took the form of an accord ratified at the Labor Court. So, the P.A. metalworkers' union returned to its traditional pattern of negotiation with employers, based upon accord between the parties. In that year, the wage readjustment was for 18 percent, slightly greater than the 17 percent calculated by the Labor Court. In addition to the loss of the wage floor of the previous year, the metalworkers' union also lost its unitary reference date: this became April 23rd for workers in the capital, and May 1st for those in the five remaining cities connected to the union.

Thus, from 1972 onward, workers faced an increasing inflexibility in employers' attitude and at the Labor Court, the latter's decisions being made strictly according to the legal "status quo", in reaction to a more demanding union. As workers attempted to increase their demands, the climate of negotiations became less friendly. The metalworkers' agreements kept basically the same format regarding wage issues until 1975, with the exception of 1974 when the workers were able to achieve a 20 percent readjustment, as opposed to the 18 percent which was proposed by the Labor Court.

In 1976, the unitary reference date for all workers within the territorial area of the union was regained and two new clauses were included in the collective agreement. The most important change was the introduction of an item concerning the substitute worker's wage on the basis of existing jurisprudence (Prejulgado n.56, TST, from 1976). According to this clause, a substitute worker (a worker who replaces an employee fired without just cause, to perform the same tasks) has the right to earn the lowest wage at the job position he/she is assigned to at the minimum. In other words, the substitute worker's wage has to be the same as the one of an employee earning the lowest wage at the same job position in the firm (excluding additional benefits). Such clause represents an instrument to assure the wage level of each job position within firms and therefore to protect to a certain extent, the workers' wages in face of labor turnover. Insofar as it establishes a given wage parameter at the workplace level, employers theoretically cannot substitute workers by hiring others for wages below that parameter. However, in the absence of worker fiscalization of job allocation at the workplace, minor changes of job tasks may modify the situation of employee substitution, thereby rendering the clause ineffective.

A wage additional for seniority consisting of one percent every five years was also introduced. By itself, this benefit does not represent a real economic gain. One percent is quite low and five years is a long time period. Most workers do not stay on the same job, working for the same employer for that long, as seen in Chapter III. When considered in relation to the 1972 rejected demand for a yearly raise of 1 percent for seniority however, the inclusion of such a clause may represent a significant step forward.

In 1977, the practice of negotiation for wage readjustments changed. Its new format was maintained until 1985. In 1977, wages were readjusted above the official index on a three level scale (Table 4.1). That is, the union was able, in that year, to obtain additional rates over the official index, although on the basis of a scale, an employers' condition for negotiation. Indeed, the union's demand was a single rate of increase, which was

considered to be to the advantage of all workers within the union's jurisdictional area. Later, when the "Union Opposition" (a group within the union in opposition to the board of officers) started to manifest itself in a more organized form (from 1979 on), this issue became part of the argument supporting its critique of the board's continued practices of conciliation with the employers (Colombo, 1984: 83). In the following year, 1978, all workers' wages were readjusted according to a single percentage, based upon the official index. Yet, in November of that year, a 5 percent raise was negotiated for those earning up to 10,000 cruzeiros, in addition to two wage advances of 10 percent, in November and in February. In the case of workers above that bracket, advances of 8 percent in November and of 10 percent in February were negotiated. All these advances would be compensated in the next agreement (C.P., 11/24/1978; P.A. metalworkers' agreement, 1979). As mentioned previously in Chapter II, Law 6147 of 1974 introduced the possibility for negotiating wage advances.

As reported in Colombo (1984: 76), the wage campaign that preceded the collective agreement was highly mobilized in 1979 and included the active participation of the "Union Opposition" which, despite being in a minority position, was becoming influential enough to present its arguments at the union's assemblies. The board of directors of the union would now have to learn how to come to terms with an organized opposition within the union for the first time in at least 12 years. The union had been in continuous control of the same politically oriented stream for those 12 years. As indicated by Colombo (1984: 107), this would influence the orientation of the subsequent board of directors. For example, the board would partially change its form of negotiation with employers in order to incorporate some of the opposition's demands.

In the face of the Labor Court's propositions for a conciliation between the parties during the 1979 wage campaign, the "Union Opposition" demanded a strike which was defeated at the workers' assembly (Colombo, 1984: 80). However, the outcome of the

signed agreement was not a total disappointment. Initially, the workers had demanded a single wage increase of 69 percent in April which would have been 25 percent above the official increase of 44 percent. In addition, they demanded that the 5 percent they negotiated the previous November should not be counted. They also demanded a trimestral wage increase. They were denied these demands. However, two extra readjustments were negotiated that year in the form of wage advances (20 percent, in September, and 25 percent the following January). These represented an alternative to a trimestral wage raise increase. Accordingly, the agreement signed in April stipulated that the metalworkers' wages would be adjusted three times during that same year, at a time when the state's official wage policy limited such readjustments to once a year. In addition to the agreement, the workers had another wage readjustment in November of the same year. This readjustment was promulgated by change in state wage policy, from an annual basis to a semestral one, according to Law-Decree 6708/79 of October, 30th. Therefore, the union's rank and file had, in fact, enjoyed four wage adjustments during that one year.

The P.A. metalworkers also recovered their wage floor in 1979, although at a much lower level than the one demanded: the Court established a 2,400.00 cruzeiros wage floor, whereas the metalworkers were asking for 4,348.00 cruzeiros (Colombo, 1984: 79). The list of items concerning wages and additional benefits increased from 1980 onward. This can be visualized in part as a continuation and further development of the 1979 campaign. These items can be seen in Table 4.1. Some of them were forecasted by the existing legislation, such as a 100 percent supplement for work on Sundays and holidays (the initial demand was a 100 percent supplement for overtime), and the payment of a 50 percent Christmas bonus at the beginning of the employee's vacation period (Mascaro, 1975; COAD, 1986). Nevertheless, some provisions represented the negotiation of new wage supplements. For example, there was an extended Christmas bonus (13th wage) to those on Social Security for less than 180 days and a 50 percent supplement for overtime.

From 1980 to 1984, the negotiations on wages through collective agreements followed the constant changes introduced by the state wage policy. As mentioned in Chapter II, the wage readjustment indexes came to be calculated on the basis of the consumption prices index (INPC) and to be differentially applied over wages ranked in relation to the Minimum Wage. In 1980, on the basis of the Law 6708 of 1979, which allowed for negotiations of productivity rates, the P.A. metalworkers' collective agreement settled a wage increase which included an annual additional index of productivity, on a sliding scale for each wage bracket.

Also, the clause on the substitute worker wage was reinforced from 1980 on, by the inclusion of the Predjudged n.36, which says that while worker substitution without temporary character endures, the substitute employee has the right to receive the same contractual wage of the replaced employee (that is, the basic wage at that particular job position). This formulation has been kept by the jurisprudence until the present (COAD, 1986).

From 1980 to 1983, the negotiations of wages and other economic benefits basically kept the same content. With the changes in the wage policy, the union centered its efforts on the negotiation of productivity indexes, now the only legal (and accepted by employers) way to obtain a wage increase higher than the official indexes. It is interesting to notice, however, as shown in Table 4.1, that the productivity indexes settled through these collective agreements followed a descending path (from 1980 to 1983).

On the other hand, it is important to observe that the workers' union succeeded in its demand for job stability for all workers after the 1983 strike. In fact, the item on severance pay for dismissals without just cause (Table 4.1) refers to the payment of an equivalent of three monthly wages for those fired between April/26th and July/27th, that is, during and after the strike. In this sense, not only did workers gain individually through the guarantee of their wages for the next three months, but the union had its legitimacy

reinforced, although the wage negotiations properly (as well as those regarding supplementary benefits) did not differ significantly from those in previous years. The temporary job stability for all workers for three months retroactive to the beginning of the strike and the recognition of legality of the strike by the Labor Court were of particular relevance at that moment. The 1983 strike was the first one led by the union after the strike movements were resumed in the country. Furthermore, in the 1982 electoral campaign at the union, the "opposition" ran against the incumbants who were trying to be re-elected for a third consecutive term. The re-elected board of directors assumed more aggressive attitudes in its negotiations with employers. In such circumstances, the outcome of the 1983 strike represented the capacity of the union's leadership to avoid employers' retaliations.

The years of 1984 and 1985 were marked by a significant achievement obtained by the union, namely, the trimestral wage increase, settled in the collective agreements as advances (in August and February) of the next wage increases (in November, as determined by legislation, and in April, the reference date of the metalworkers' union collective agreements). Furthermore, if in 1984 the advances were of 40 percent and only for employees earning up to 7 Minimum Wages, in 1985 the negotiation reached an agreement of 50 percent in August and 70 percent in February, and was expanded to include employees earning up to 10 Minimum Wages.

In addition, in the 1984 collective agreement, the P.A. metalworkers' union negotiated an index of productivity of 8.1 percent for those earning up to 7 Minimum Wages, to be added to the index officially determined, on a semestral basis, as wage advances to be compensated in the next readjustments of the category. Moreover, in 1985 a 12 percent advance was negotiated in November, out of the collective agreement (G.M., 12/03/1985)

A supplement of 50 percent for overtime after the first 60 overtime hours per month (wich are paid with a 25 percent supplement) was introduced in 1985. However, the real

strike during the second week of May.³ The employers' reaction was of the traditional sort and there were requests made to the Regional Labor Court and to the Ministries of Economics, Justice, Labor, Planning and the Civil Chamber, to declare the strikes illegal. They did not succeed however, given the change in the political orientation of the Labor Ministry and in the context of the New Republic. However, the local Security Department was instructed to be present at the picket lines in front of the industrial plants (Z.H., 05/08/1986).

At the end of the strike, the P.A. metalworkers' union came to agree with the Regional Labor Court's propositions for conciliation: 4 percent of productivity to all workers, a wage floor of 1.7 Minimum Wage, and no paid strike days. The days of strike should be compensated according to each firm's choice in regard to the two following alternatives: a) overtime work in the next 90 days, limited to 2 daily overtime hours, or b) wage discounts in four months, from July 1st onward. In addition, the missing days due to participation in the strike would be counted as five vacation days in the calculation of the vacation period, according to the agreement.

Nevertheless, the P.A. metalworkers' union negotiated a reduction of the work week to 47 hours on June 13th and to 45 hours on November 1st, 1986. Although the results of the strike were considered to be a victory for the union,⁴ they undoubtedly influenced the employees' demands regarding wage and, indeed, did represent a wage loss since workers had to compensate for their strike days.

³ The strike led by the C. metalworker's union lasted longer: it started on the 6th of May and ended by the 15th. The one led by the P.A. union started on the 7th of May and ended on the 13th. (Z.H., 05/08 and 09/1986; G.M., 05/08 and 13/1986)

⁴ "Folhinha Metalúrgica", June, 1986 - a publication of the P.A. metalworkers' union (STIMMM/PA).

3. Negotiations on Labor Conditions

As can be seen in Table 4.2, the P.A. metalworkers' collective agreements did not contemplate negotiations other than those relative to wages and economic benefits until 1976. In that year's collective agreement, one item was included, regarding the system of compensation. According to the legislation, the normal work day is eight hours for six days a week. However, an employee can be required to work up to two supplement hours each week-day in plants that normally stop on Saturdays. These supplement hours are considered the equivalent of a Saturday workday and are not considered as overtime work. Therefore, these hours are paid as normal hours and the 25 percent supplement for overtime work is not legally required. The 1976 collective agreement established that once a given system of compensation is settled by the management, a given regime of compensation, it can not be suppressed without the individual employee's acceptance. This type of clause is advantageous to workers. It protects the worker by insuring that he or she will have a say regarding changes in the system of compensation, although the system of compensation is defined by management.

It was only in 1980 that the P.A. metalworkers' collective agreements included other benefits. Although these benefits are normally considered to be non-economic, most of them have economic consequences and the guarantee or lack of it for these rights make a difference in the paycheck by the end of the month. As can be seen in Table 4.2, most of the new items on labor conditions were accorded and maintained from 1980 onward.

The clauses on temporary job stability are part of an old workers' demand for stability and security on the job, against the institution of the fund of guarantee by length of stay on the job (FGTS). In the early eighties, this issue assumed crucial importance, as means of countering unemployment during the period of economic crisis and slowdown of productive activities within the manufacturing sector. However, the efficacy of these clauses have, in practice, presented some shortcomings which allow managers to neutralize

their effect. The most obvious case is the one regarding temporary job stability for minor male employees at the age of military duty, for one year (from the beginning to the end of the military duty). In order to avoid the extra compromises in terms of social charges, young workers at military duty age are simply not hired, as stated by an interviewed manager.

Job protection clauses for pregnant employees after their compulsory maternity leave of absence (84 days) were also weakened. As early as 1981, employers had succeeded in adding a modifying paragraph to the agreement allowing for dismissals without just cause during the period of maternity leave and/or the following 90 days of temporary stability, by accord between the parties (employer and employee). Moreover, two years later, in 1983, a condition to that right was introduced, making it effective only with proof of pregnancy. The proof of pregnancy was to be presented within 60 days after dismissal (after the end of the 30 days period corresponding to the previous notice) in the case of a lay off without just cause. Therefore, the right to 90 days of job stability subsequent to the maternity leave became subject to pregnancy proof within 60 days after the date that the employee has been fired.¹ Otherwise, the clause becomes ineffective. Such a condition resulted in a significant restraint, in practice, of the initial clause aimed at temporary job stability of pregnant employees. This is so because in many cases, female employees do not have correct information about the necessary proceedings to insure the effectiveness of that provision. In addition, the requirement of proof of pregnancy within 60 days after dismissal might keep employees in the early months of pregnancy from the right to a temporary job stability. Consequently, many female employees are likely to be excluded from this benefit.

¹ The maternity wage corresponding to the period of 84 days of maternity leave is due to all pregnant employees fired without just cause (COAD, 1986). It is paid by the Social Security.

Job protection clauses for employees in cases of work-related accidents resulting in partial or total loss of labor capacity were also weakened. This clause was introduced in the agreement of 1980 as a 90 day period of temporary job stability for employees in the above situation and returning to work. In 1984, the issue was detailed into three different cases, as an adaptation to the new Decree n.89312, from 01/23/1984, which contains the Consolidation of the Social Security Laws (the CLPS). Basically, the accorded temporary job stability related to work accidents states with respect to cases of partial or total loss of labor capacity, in terms of: 1) 90 days, after returning to work, for employees whom any benefit is foreseen by the Social Security; 2) 120 days, for those whom the Social Security foresees a monthly benefit; 3) 180 days, for those whom the Social Security foresees an accident benefit. As a counterpoint, a paragraph is included in the agreement, relative to cases 2 and 3 above described. According to it, managers may, with the agreement of the employee, choose to cancel the labor contract, with the due payment of all legal charges relative to rescission of contract, plus the difference between the Social Security benefit and the employee's wage at the firm. Thus, the item concerning employees that suffered work-related accidents, in the three situations as above described, is in effect an income guarantee provision, rather than job protection, since the temporary job stability of 90, 120 or 180 days can be converted into corresponding monthly wages.

Some of the remaining issues contained in the P.A. metalworkers' collective agreements regarding other labor conditions are foreseen by the labor legislation such as the provision for safety equipment and uniforms, the payment of previous notice in case of dismissals without just cause, and two daily hours for job search and a Social Security form with the notation of all monthly wages received during the period of contract, in case of lay off. The inclusion of these items is an attempt, from the workers' standpoint, to regulate certain details in both the application and the guarantee of the effective accomplishment of the law. For instance, it is not uncommon to see firms that do not provide uniforms and safety equipment or workers who do not use them. Nor is it unusual

to delay the payment of the previous notice, which corresponds to one month wage.

Provisions on student workers' paid leave to attend exams and bonus (the latter restricted to those making up to three Minimum Wages from 1980 to 1984; up to five Minimum Wages in 1985 and up to seven Minimum Wages in 1986) depend, in fact, on the existence of agreement. However, the bonus' values have been very low in terms of educational costs. For instance, in 1986 it corresponded to half Minimum Wage. In this sense, they can not be taken as evidence of firms' interest in an incentive for labor force training through the available school network. Nevertheless, the expansion of this bonus to those making up to seven Minimum Wages in 1986 is suggestive. It may indicate that, although this has been a demand of the workers, employers have begun to acknowledge the importance of granting, at least partially, the education of their employees, especially those in wage brackets between three and seven Minimum Wages, that is, skilled workers.

The item concerning the written notification of reasons of just cause dismissal, when asked for by the employee, is a safety measure, since in the case of just cause all rights and benefits related to lay off lose efficacy.

In 1981, three new important items were incorporated into the agreement. Two of them are related to the protection of workers' earnings at the workplace. The cancellation of work on special days without pay (on the days before Christmas and the New Year; on days between Sunday and holidays and on the Tuesday of Carnival) became subject to the approval of 90 percent of the firm's employees. Likewise, transfers of employees from night shifts to day shifts, which imply in loss of the reduced night hour (52 minutes and 30 seconds) and the 20 percent supplement (Mascaro, 1974), became subject to the employee's written accord.

The first attempt toward the reduction of the work week occurred in 1981 and was restricted to plants where meals are provided to employees. In the case of these firms, the

parties agreed to reduce the lunch break to 30 minutes, which became part of the work day and, therefore, paid. This means that at these plants, the normal work week was effectively reduced to 45 hours, that is, 7 hours and 30 minutes per day.

After the 1986 strike, the negotiations between the P.A. metalworkers' union and the employers' association resulted in the reduction of the work week to 47 hours in June and 45 hours in November, as mentioned earlier. In the case of plants with a paid lunch break, the collective agreement established that when the 45 hour regime was to begin for the whole category in November, the 30 minute break would no longer be considered a part of the daily work and, therefore, would not be paid.

The suppression of the practice of recording sick days was agreed upon in 1982., This had important consequences for monthly wages and the calculation of vacation periods and other social benefits.

The 1983 agreement was signed after a strike, as mentioned earlier. The achievement of a 90 day temporary stability for strikers was the greatest victory of this agreement. This meant that all workers earning up to ten times the wage floor (25,000.00 cruzeiros), if fired during the three months following the strike without just cause, would have the right to their wages corresponding to the period from the date of dismissal until July 26th. This was not to be the outcome of the 1986 strike, when workers had either to compensate or to discount the days of stoppage, however. Nevertheless, employers also agreed in 1986 that participation in the strike could not be considered as just cause for lay offs.

Two other clauses were included in the agreements after 1984. One clause is concerned with guaranteeing workers the means to reach their retirement period. This was in the form of a one year job stability period for those workers who are within 12 months of retirement. It was later extended to two years for those who are within 24 months of

retirement. These clauses are limited by the fact that they are restricted to those who have at least 10 years of employment for the same employer, with the three last years continuous (in the first case) or 20 years for the same employer, with the 6 last years continuous (in the latter case). In addition, the 1984 agreement provided an employees' guarantee to participate in the overseeing of the electoral process for the internal committee for accident prevention (CIPA). The idea is to elect shopfloor workers in each workplace, for the position of vice-president on the committee. In the past, this position was usually held by supervisors. However, according to interviews, this condition does not enable workers to participate in the supervision of safety conditions at the workplace, since little progress in that area has been made, in practice, through such committees.

Some of the items negotiated in these collective agreements are related to the protection of job position at the workplace. These are listed in Table 4.3. As can be seen in Table 4.3, the clause concerning substitute worker wages was included in the P.A. metalworkers' collective agreements in 1976. As mentioned previously, this clause is directed toward controlling the effects of labor turnover on wage levels. The limits of its efficacy, however, have been pointed out before.

The provision for correct payment according to job position and without compensation for previous readjustments, in cases of promotion, benefits for seniority, merit, job transfers or apprenticeship rewards, appearing in the 1985 agreement is also aimed at the protection of the employee's job position at the workplace, as a form of guaranteeing cumulative gains stemming from seniority, promotion and other benefits.

The one percent wage supplement for every five years while not very significant in terms of real earnings or in the restricted number of workers it comprises, is an indication of the concern of the union with the establishment of seniority rights for employees. Indeed, workers demanded two percent every three years in the 1979 agreement, and in 1984, two percent every three years and six percent every six years (Colombo, 1984: X,

XXIV), all of which were denied.

Another item relating to job position at the workplace is the requirement of the employee's written agreement for transfers from night shift to day shift, since such transfers imply not only in wage change, but also change in job task and job position.

Other negotiated items with respect to job position are matters subject to the existing legislation. This is the case of the requirement for paychecks and the correct notation of job position on employee's labor card (the CTPS). Here again these items are written into the agreements because they are related to the necessity of control, by the union, of the due accomplishment of the law.

4. Women Workers at the Union

At the conclusion of the I Women Metalworkers' Congress, held in January of 1985, the following demands were addressed, regarding the item "Women and Work":

- 1 - creation of a policy of employment for all;
- 2 - just wages;
- 2.1 - equal wages: same wage for women doing the same tasks as men;
- 3 - end of prejudice that precludes women to get control or supervisory tasks;
- 4 - change in the labor legislation's laws that treat women with protectionism and present obstacles to their joining the labor market;
- 5 - end of pregnancy tests at job admission;
- 5.1. - end of discrimination against married women, single mothers, black or illiterate women at job admission;
- 6 - proper labor conditions for pregnant women;
- 7 - paid hours for either parents (women or men) to take their children to the doctor;

8 - proper sanitary conditions at meal places, bathrooms, locker rooms and at the shop floor;

9 - nursery school and milk banks either at the firms' facilities or near the residential area, in firms with at least 30 women more than 14 years old.¹

With respect to women's participation at the union, the Congress concluded the following points:

1 - the importance of information and women's organization on the plant level;

2 - women's organized participation at the union, to address their specific demands by the negotiations of collective agreements;

3 - seminars on women's rights and women's status in the Brazilian society, to be held by the unions;

4 - organization, by women through their unions, of meetings and congresses to debate and address their demands.

Thus, in 1985, at their first congress, and promoted by the P.A. metalworker's union, female metalworkers showed that they were still subject to discrimination both in the labor market and at the workplace, earning lower wages than men for the same job tasks, having their chances in the labor market restricted to low paying jobs and powerless job positions, being required to take pregnancy tests before hired and later segregated by their civil status (married young women and single mothers), race and literacy. On that occasion, demands for proper treatment for pregnant employees, allowances (for either parents) to take their children to the doctor during the work day, and the provision of nursery schools were formulated. The participants of the Congress pointed out their need

¹ According to the CLT, every establishment with at least 30 female employees more than 16 years old must keep appropriate nursery place during the breast feeding period. For that purpose, the firm may contract either public or private institutions (in: "Direitos da Mulher" - Câmara Municipal de Porto Alegre, s.d.).

to organize at the workplace, as well as to address their specific demands through various activities at the union, including the yearly negotiations of collective agreements.

It has been quite recently that women in this specific worker category - the P.A. metalworkers - have started to mobilize and organize around their specific demands, at the level of the union and the workplace. At the union, the board has traditionally been dominated by men (Colombo, 1984). The first time a woman was elected to the union board was in the 1982 election, although for a secondary position, in the supplementary cadre to effective officers. In the following 1985 election, another female union member was elected to the board, also as part of its supplementary cadre. Women workers mobilizations at the union have started gradually in the last few years, through the initiative of older and/or skilled female workers. A more effective attempt to organize female metalworkers began in 1984, through the activities carried out by the union board female officer, for the organization of the I Women's Metalworker Congress in the capital. In spite of the efforts of its organizers, only few women attended the Congress.

At the workplace level, a higher mobilization among female workers in plants where they concentrate (mostly in the electric industry), was taking place by the 1986 strike. Shop floor female workers have limited job promotion opportunities in the workplace - even less than men, who also have few chances of job promotion. A few examples of this discrimination were revealed during some of the interviews. For example, there were stories concerning female workers who, in spite of having taken professional courses, have always been confined to the same job position. In fact, most women are hired for routine tasks, which are considered more appropriate for them, as "female activities". This is the case of most shop floor job positions offered to women in the electric industry. Such tasks are considered by managers to be adequately performed by female workers. For instance, the assembly of print circuit boards (by welding small pieces onto the surface) has been compared to embroidery work since it requires manual skills, concentration and

patience, all female qualities, "par excellence".

From the standpoint of the firms' management, it is beneficial to keep women in these routine activities. The performance of such activities also requires some training on the job and a certain period of time until the employee reaches the expected rhythm of productivity. When she reaches a certain pace, she may be promoted to a semi-skilled job position as, for instance, from factory helper to assembler. However, the wage gain with this promotion is not very significant, and this is the highest job position that most women can reach within the plants' job hierarchy. Skilled or internally trained female workers also have limited job promotion chances (as, for example, to supervisory tasks).

As for collective labor agreements, it was only in 1980 that the 90 day temporary job stability period for pregnant employees was included in this category's collective agreements, although this demand had been addressed in the year before (Colombo, 1984). This came to be the unique item regarding specific female workers' demands during the following six years. Nevertheless, its inclusion in the collective agreements of the category has not represented an absolute guarantee, for the right to benefit from the three months of stability following the 84 days of maternity leave (or corresponding pay), is restricted to proof of pregnancy within 60 days, in case that the employee is fired without just cause. Many women simply are not well informed about such right, and frequently, look for the union's lawyer only after having the baby, when it is too late, and the agreement clause is no longer in effect.

As observed in Table 4.2, women workers' rights play a minimal role in the P.A. metalworkers' collective agreements. Actually, most workers in the sector are male. Female workers' earnings have been significantly lower than male workers' earnings, as pointed out in interviews. This was observed in Chapter III. Female wage means were lower than male in the electric, the metallurgical and the mechanical industries in Rio Grande do Sul in 1976 and 1983.

On the other hand, women's labor turnover has been lower than men's, as seen in Chapter III as well. Women have more conformity in doing their job in large part because they have fewer job chances in the labor market. For those whose wage is a significant part of the family income, particularly those who are mothers, the trend is to keep their jobs, rather than risking unemployment.

The items in the legislation regarding the regulation of female labor, rather than being a protection, have represented limitations for women's participation in the labor market. This is true in the case of the prohibition of work on night shifts - from 10 p.m. to 5 a.m. - unless in specific cases such as hospitals and telephone companies. Furthermore, they represent a pseudo-protection: they are male-oriented since they are aimed at women's domestic and family charges. At the workplace, practices to neutralize the effects of the existing legislation are common. For instance, in regard to female work at night, which is forbidden by law, unless with agreement between the workers' union and the company, some firms provide a "second card" for these hours of work, and the employee is paid in the form of job incentive. These irregularities are not only in management's interest: in many cases, they also are in the interest of the female employee.

With respect to nursery schools, the law requires employers to maintain contracts with either public or private institutions. However, these nursery schools are often located far from the employees' residences and their workplaces. Considering that shop floor workers do not have their own transportation means, most of them are simply not able to use such facilities, and instead have to rely on relatives or neighbors for their child care needs. In practice, this has become one of the hiring criteria for women who are mothers, with preference given to those who have relatives to provide the child care (grandmothers, particularly).

In the face of these limitations, there have been few achievements for better labor conditions for women metalworkers. To the present day, female metalworkers stay, in

general, at entry-level wages, with reduced perspectives of promotion, especially to supervisory jobs (most women workers are hired as factory helpers), except for a few isolated cases of sector switch within a plant or even a promotion, but still earning lower wages than men (many times to perform the same task) and having to cope with precarious day care services, which are mostly provided by their kinship or neighborhood relations.

5. State-Sponsored Trade Union as an Actor: Limitations and Possibilities

In Brazil, at the legal-institutional level, the limitations of the unions' capacity in the defense of the worker's interests fundamentally stem from the corporatist form in which they are structured, highly centralized and directly subordinated to the state through the Labor Ministry. As mentioned in Chapter II, the state in Brazil has, in fact, historically performed a major role on the regulation of the labor market. During the period of military dictatorship, this role became more apparent, particularly through the enforcement of a wage lowering policy and, overall, the resource to repressive measures, such as interventions in unions, among others. The changes in the labor legislation after 1964, such as the replacement of the previous severance pay by the guarantee fund by length of stay on the job (FGTS), have narrowed the limits of workers' action still more (Campello de Souza, 1985).

The P.A. metalworkers union was not an exception in this process, as the intervention by the Labor Ministry from 1964 to 1966 and the impeachment, in 1974, of the name of its president, to run for a minor office in the next elections, testify (Colombo, 1985).

As described by an ex-board officer, after the 1964 intervention, the union's activities decreased significantly. By 1969, its membership was reduced to older workers and

participation was very low: the union assemblies were practically empty. By the mid seventies, a horizontal inter-union organization started to rebuild the union movement, which was joined by the P.A. metalworkers union. However, fear and the difficulties of communication were high, since this type of organization was illegal and, therefore, subject to police repression and particularly risky for union leaders.

In the early seventies, the union board stimulated unionization and workers' organization at the workplace. As indicated in Colombo (1984), the separate agreement at Taurus (one of the metallurgy firms in Porto Alegre) was a positive reflection of this. After 1974, the union board followed a so-called "moderate" orientation, until the 1979 electoral campaign, when unionization became crucial, and was at this time carried out through the initiative of the "Union Opposition".

In fact, the political orientations within a union and particularly those of its board of directors play an important role in the extent of rank and file participation, as it may or may not carry on campaigns for the expansion of the membership. This might involve the incorporation of new demands and forms of labor organization, including those stemming from the workplace and, overall, the "living together" with other political streams. In the case of the P.A. metalworkers' union, the dominant strategy of action of its successive leaderships during the seventies and early eighties has been focused on the union as the main decision making actor, as expressed by the banner of "unitary union", followed by the to-day CONCLAT-CGT, (the unified organization of the Working Class Congress and the General Confederation of Labor) nationally led by the São Paulo metalworkers' union. Nonetheless, as mentioned above, unionization and problems related to labor relations at the workplace have also been part of its leaderships concerns. These were particularly emphasized at two moments in the seventies. The first was during the two subsequent terms under the same union presidency, from 1968 to 1974, when a campaign for "democratic unionism" was launched. The second started with the 1979 wage campaign,

when the union opposition began to organize, and was reinforced by the 1982 electoral campaign, when the union board re-election was being challenged by competing candidates running for the union opposition, following a period characterized by a "single slate", that is, without competing candidates (Colombo, 1984).

Nevertheless, the union membership is not as high as could be expected, despite the campaigns of unionization, intensified by the 1982 and 1985 elections at the union. In 1982, 7000 members were able to vote (C.P. 8/18/1982). This figure represented approximately 22 percent of the 32,186 employees who were connected to production activities in the metallurgical, mechanical and electric and communications materials industries in the six municipalities belonging to the union's territorial area in 1980 (FIBGE, Industrial Census, RGS, 1980). In the 1985 election, 9,774 members were able to vote (Z.H., 12/01/1985). This is an increase of approximately 2,700 voting members in the 1985 election. This increase in the number of voting union members would seem to indicate an increased level of union participation. This increase is especially interesting because it occurred during a time when the overall number of workers in the category was decreasing.¹

As mentioned in Chapter II, the low level of union membership is partially a consequence of the union legal structure itself. The unitary union tax resulted in union financial dependence on state, which weakens grass roots involvement, insofar as membership contributions represent only a minimal proportion of the union's resources. In addition, the limitations imposed by the legislation on the union system of representation, especially at the levels of federations and confederations, also leave little space for grass roots participation. Thus, as it is institutionalized, the union structure lends itself to an

¹ As seen in Tables A.1, A.2 and A.3 in the Appendix, there was a significant decrease in the number of employees in the metallurgical, mechanical and electric and communications materials industries in Rio Grande do Sul after 1980.

excessive dose of centralization in the decision making of the union board. This centralizing tendency can be clearly observed in the analysis carried out by Gerschman (1985) on representativeness and conflict in the Brazilian union organization. This is also made clear in the example mentioned in Chapter II regarding the union system of representation.

Less clear, however, are the effects of the internal political divisions within the unions. In the case of the P.A. metalworkers' union, the board has continuously been run by the same political fraction during the seventies (Colombo, 1984) and since the early eighties has joined the nationwide worker organization of CONCLAT-CGT (the Working Class Congress and the General Confederation of Labor), along with the metalworkers' unions of the cities of São Paulo and Rio de Janeiro. Its opposition follows the other nationwide worker organization, the CUT (the United Central of Workers), along with the metalworkers' union of S. Bernardo, in the state of S. Paulo. This division reflects political cleavages by parties (PT, the Workers' Party, vis a vis other center-left political parties), and brings about internal divisions within the union in the implementation of the demands of workers stemming from their workplaces.

On the other hand, employers press against unionized employees and active union board members. Active union members are viewed with caution by managers, especially those belonging to the PT, the Workers' Party, which is followed by the "Union Opposition". This concern has become part of the criteria used by some managers to hire new employees, in terms of being active union members or not and belonging to the PT or not. In addition, resorting to the state repressive apparatus in face of worker mobilization has been quite frequent and was still effective during the 1986 strike, one year after the beginning of the New Republic (although the Labor Court refused the employers' association its request to pronounce the strike illegal - Z.H., 05/09/1986).

Employers also resist changes in labor relations at the workplace, especially economic changes. For instance, after wages, one of the union's greatest concerns is with demands

concerning the working environment in terms of health safety. The legislation establishes three levels of wage supplement, according to the degree in which a given working environment is classified as unsafe to the worker's health: maximum, 40 percent; medium, 20 percent; and minimum, 10 percent over the Minimum Wage (Mascaro, 1974). When the work in unsafe environments assumes a permanent character, this supplement becomes part of the wage and of every economic benefit related to it. In order to create an obligation for firms to pay the supplement, however, the law establishes the need for a formal investigation, through a judicial process.

The metalworkers have tried to include in their collective agreements a clause regarding this pay, to be calculated over their wage floor. They have not been successful in these attempts, however. Until the present time, employees at some firms can only obtain such supplement through individual juridical claims, and after having been fired. Even so, the legislation restricts the retroactive payment to the previous 24 months to the day that the juridical action has been adjudged. This means that employees may lose part of their supplement if they claim a few months after their date of dismissal (the law allows for two years after dismissal in order to address the claim through the Labor Justice), or if they have worked in such environments for more than two years. According to Mascaro (1974), the number of juridical processes regarding health harmful labor conditions have of course decreased after the Decree-Law 389, from 1968. In Mascaro's terms:

... this leads one to believe that the obstacles met by the employee to claim this supplement at the Labor Court have increased. One supposes that all conditions were created for the employer, by firing the employee who initiates the action, to avoid the pecuniary effects of condemnation, or to decrease them (1974: 168).

Laid off workers, who address individual labor claims regarding this or other labor conditions at the workplace, run the the risk of having difficulties in finding another job, since their names will be on an employers' list. Having had, or not, a labor claim suit in the past then becomes another hiring criterion. According to labor lawyers consulted as a

part of this research, this makes workers fear for their future perspectives in the labor market, with the result that many do not take advantage of the process. This is the case with female workers more often than male workers. Women's claims are much less frequent than men's, according to the sources above mentioned.²

However, important changes have been observed during the past 16 years, both at the level of state action and the manager-worker relationship, as well as within the union itself. The late seventies were the years of nationwide workers' mobilizations, to which the state responded by taking measures on a "quid-pro-quo" basis, as the indicated by the several changes in the wage policy. During this time, the P.A. metalworkers' union continued its strategy of negotiations with employers on the basis of accords (even though in the form of law suits at the Court) rather than taking the chance of having its collective negotiations subject to the arbitration of the Labor Court (which was considered as generally unfavorable to the workers). In 1979, however, the opposition attempted to mobilize the category for a strike, and posed new demands regarding labor conditions at the workplace. It also called workers to join the union and to organize by plants, through the creation of factory committees and the election of shop stewards (Colombo, 1984). The union board had incorporated such demands by the 1982 campaign, especially regarding workers' organization at the workplace. In 1983, not only did the union lead a general strike during May, lasting for three days, but it led four other at the firm level, relating to wage delays and benefit pay (Colombo, 1984), in an effort to tighten the relationship between the board and the rank and file members.

These were very significant moves on the part of the union in the context of organizing for the defense of workers' rights regarding labor relations. It is in this sense

² One interviewed lawyer has compared the proportion of male and female labor claims in terms of only three female workers' claims, out of every twenty labor suits at the union's office.

that the relatively low level of union membership referred to earlier does not reflect worker participation in the union realistically. Changes have taken place in that participation, which have not been apprehended in the present study. According to an interview with one of the union board officers, the union's membership (and its board) consisted mostly of male skilled workers, such as supervisors and quality control inspectors until about 1979. Most recently, an increasing level of participation of unskilled and women workers has taken place.

By 1977 the union resumed workers' mobilizations, around the Campaign for Wage Reposition. This was a result of years of previous work, in the attempt to reorganize the union movement on new basis (Colombo, 1984). The 1977 Wage Reposition Campaign emerged as a consequence of the government's miscalculations in 1973 of that year's wage readjustment, which also effected the 1974 wage indexes which were later officially recognized by the governmental authorities.

In October of 1977, the metalworkers met in assembly and decided to address a suit through the Labor Court for their wage recovery.³ Only 229 persons attended the assembly, an indicator that the movement was just emerging (Colombo, 1984). Even so, the address through institutional channels by a worker category of a protest against the employer category for the recovery of wage losses was important at that time. It represented a challenge to public authorities and entrepreneurs regarding the recognition of the legitimacy of the workers' claim in addition to the economic consequences. If won, the suit would have involved the mobilization of huge amounts of money to pay the wage differences. Employers contended the legitimacy of the suit in Rio Grande do Sul and the competency of the Labor Court to judge it. These moves were unsuccessful but the suit

³ Metalworkers in S. Paulo and S. Bernardo also addressed similar processes at that time (Lodi, 1981; Colombo, 1984).

was filed in 1979 due to a lack of sufficient information.

In spite of these events, changes regarding the metalworkers' union power enhancement during the years between 1970 to 1986 can be visualized through some of the achievements in the collective agreements. As can be seen in Table 4.4, during these 16 year period the union was able to get yearly social assistance contribution (directed toward the support of educational and other assistential activities), directly discounted from the firms' payrolls. The union also received a financial contribution from the employers for the purposes stated above on the basis of collective agreements until 1971. This contribution was discontinued in the 1972 agreement, and only reappeared for the year of 1975. As mentioned earlier, 1972 was a difficult year for the workers. The metalworkers' collective negotiation underwent arbitration at the Labor Court and the workers lost their wage floor for eight years. In addition, their wages were readjusted strictly, according to the legal procedure of calculation. The Court's unfavorable decision resulted from the jurisprudential position assumed by the Superior Labor Court in 1971 (Prejulgado n. 38/71). At that time, it was stipulated that the procedures for the calculation of the wage correction as set by the Executive Power (Law n.5451, from 06/12/1968) were to be strictly followed.⁴

It was not until 1979 that the right to a wage floor was recovered by the P.A. metalworkers' union. In 1980, two other clauses were included in the category's collective agreement in that year, reflecting a reinforcement of the union as an organization. One is

⁴ That legislation was eventually modified by the Law 6147, from 11/29/1974. This law essentially changed the calculation of the average real wages from 24 to 12 months before the agreement. The factor of wage readjustment was kept as prerogative of the Executive, to be applied by the Judiciary. A further change was introduced by the Law 6205, from 04/29/1975, which limited the incidence of the percent of adjustment to up to 30 Minimum Wages, without incidence, therefore, on the exceeding amounts (Mascaro, 1975). On the jurisprudence level, the Superior Labor Court instituted the Prejudged n.56/76, which replaced the previous Prejudged n.38/71.

the item referring to the firms' recognition of the union's medical certificates. This clause is very restrictive since the union's medical certificates must be signed by the firms's physicians in the case of firms with their own health services. Medical/dentistry certificates from either the union or the Social Security (INAMPS) were unconditionally accepted only in the case of firms with no available health services. Nonetheless, the inclusion of such clause represented an important achievement for the standpoint of the union. It contributed to promote the union's attractiveness to members through its Health Department. It also contributed to legitimize the union to some extent as an institution providing health assistance services officially recognized.

The temporary job stability for the union's committee of wage negotiation obtained in 1980 was another significant achievement. As can be visualized in Table 4.4, this clause lasted for 6 years. During these years, employers manifested resistance to the clause, and in 1982 the committee's temporary stability was reduced from 12 to 6 months. In 1984 the wage committee's temporary job stability was increased to 9 months, and in 1985 the prior job stability of 12 months was regained. However, the clause was eliminated in 1986.

The achievements referred to above are more directly related to the union's legitimacy enhancement, as listed in Table 4.4. Other items in the collective agreements can be taken as evidence of the union's bargaining capacity. As shown in Table 4.1, during most of the period and continuously from 1977 to 1985, the metalworkers' wages adjustments have been above the official indexes (although below the workers' demands). In 1978, a wage raise was negotiated in November, out of the collective agreement, plus two wage advances, one in November and another in February (C.P., 11/22/ 1978).⁵ In 1979, two wage advances (20 percent in September and 25 percent in January) were negotiated, and

⁵ November: a 5 percent raise to those earning up to 10,000 cruzeiros (low income), plus 10 percent advance; 8 percent advance to those earning more than 10,000.
February: 10 percent advance to all workers.

were formalized in the collective agreement at that time. As mentioned previously, wage advances had come to be admitted by Law 6147 in 1974.

In 1983, the strike was considered legal and employers compromised with a temporary job stability during in the following three months. This applied to workers earning up to 10 times the wage floor (that is, almost all shopfloor workers) and served as a form of protection against potential lay-offs in retaliation to the strike. In 1984, a trimestral wage readjustment was negotiated by collective agreement and it lasted for the next two years.

In 1986, a wage policy of deindexation was introduced, through the New Republic's Plan of Economic Stabilization (the "Plano Cruzado"). This established a price freeze, a general 8 percent wage increase for all workers in March of 1986 and only allowed for negotiations of productivity rates in the wage readjustments. No content with their wage levels, the metalworkers went on a strike. The outcome was not completely favorable to the workers. For example, in terms of the productivity rate 20 percent was demanded and only 4 percent was obtained. A wage floor of 2.5 Minimum Wages was demanded but only 1.7 Minimum Wages was obtained. Moreover, workers were required to work overtime or to have their strike days discounted. Nevertheless, the reduction of the 48 hour work week was negotiated to 47 hours in June and to 45 in November of 1986.

Hence, by observing the evolution of the P.A. metalworkers' collective agreements, it is possible to verify that some important gains were achieved, particularly from the late seventies on. The introduction of wage readjustments on a scale in 1977 and the negotiations for wage advances in 1978, 1979, 1984 and 1985, as a means of highlighting the workers' demands for a trimestral wage increase resulted in wage adjustments above the official indexes. In 1980, the list of clauses on the regulation of other labor conditions was more extensive. Moreover, the reduction of the work week which was partially obtained in 1981 and generalized to all metalworkers belonging to the union in 1986, is one

of the main achievements in the period.

The major clauses of the P.A. metalworkers' collective agreements were also present in the collective agreements of other categories of workers in the late seventies (Almeida, 1981; Pichler, 1983; Leite, 1984). This is the case for the following items: wage floor, wage advances, readjustments on a scale and wage supplements for overtime and seniority. The work week reduction was part of the agreements of chemical workers (44 hours) in RGS in the late seventies (Pichler, 1983); of metalworkers in other areas of the country in 1982⁶ and in 1985 the São Paulo metalworkers' collective agreement set a 45 hour work week, to begin in January, 1986 (F.S.P., 11/07/1985). The temporary job stability of the pregnant worker was part of the São Paulo metalworkers' agreement in 1979 (Almeida, 1981) and also of several worker categories in RGS in the years following 1980 (Pichler, 1983).

There are of course other items concerning wage and labor conditions (Tables 4.1, 4.2 and 4.3); many of these are already regulated by legislation or accorded interpretations of the existing legislation. The inclusion of such clauses aims at a certain guarantee of accomplishment of the labor rights settled by law, rather than the introduction of new labor conditions, properly. This practice can also be observed in other collective labor agreements.

Some other items are, in fact, aimed at the settlement of new rules on labor relations, however. Some items falling into this category would be seniority supplements, extended 13th wage to those on Social Security for less than 180 days, 50 percent of 13th wage paid by the employee's vacation, 50 percent supplement for overtime after 60 hours a month, temporary job stability for military duty, student workers bonuses and paid leave

⁶ Aços Anhangüera, Mogi das Cruzes, S. Paulo and Cia. Industrial Sta. Matilde, Cons. Lafayete, Minas Gerais, (Leite, 1985).

to attend exams, cancellation of work on special dates with agreement of 90 percent of employees, transfers from night to day shift, no registration of absences due to illness and job stability before retirement. The limited efficacy of these items has been discussed previously, however.

On the other hand, some other worker categories in RGS and elsewhere in the country achieved strategic points toward the recognition, by managers, of their unions' role as legitimate worker representatives. This meant that these unions were to be present at the workplace in order to oversee labor conditions during the labor process. Importantly, some of these unions were also to be informed about hiring and firing issues at the firm level. Furthermore, provisions concerning issues such as the presence of shop stewards, the posting of notices in the firms, and the formation of negotiation and factory committees have been included in some collective agreements (Pichler, 1983; Leite, 1984). Actually, the P.A. metalworkers' union had a wage committee with temporary job stability, from 1979 to 1985. However, little progress has been made toward the institution of other forms of representation of the workers' interests at the workplace, beyond the organization of a factory committee at the shipyard company.

The differentiation of the role of P.A. metalworkers' union in the definition of industrial labor relations becomes still more clear-cut when organized labor in some European countries, Japan and North America (Canada and U.S.) is considered. A case study carried on by Edwards and Scullion (1982) of the forms of expression of industrial conflict in seven British factories has showed that worker organization in four engineering companies was quite strong on the shop floor through the active involvement of stewards in the organization of the labor process. This was with respect to a number of issues such as mobility and allocation of labor, overtime (relative to 40 regular hours), piece work bargaining, daily work effort (relative to rate-fixing) and to some extent recruitment.

Moreover, studies on labor collective agreements (OECD, 1979) indicated crucial features regarding the unions' bargaining capacity in core capitalist countries. For instance, unions in these countries are relatively autonomous from the state and relatively free to contract and bargaining (including the right to strike), within the limits of the business cycle, with the global economic balance of each country and corresponding government policies as general parameters. Widespread company-based negotiations in countries like the U.S., Canada, the U.K., Germany, France, Italy and Japan suggest that decentralization and diversified procedures are dominant features of collective labor agreements in these countries, although to differentiated degrees. For example, multi-industry, industry-wide and regionally-based collective agreements are common in the negotiation of a general framework in countries like Italy, France and Germany. Items involving job security and employee stability are provided through provisions such as severance pay, seniority, lay-off and recall, limitation of subcontracting and lay-offs among bargaining unit members, income guarantees in case of a partial or total stoppage of work in these countries. In addition, wage bargaining takes place without direct state intervention and is sometimes quite detailed. For instance, these are wage categories by activity lists in Germany. Furthermore, there are more provisions concerning the working hours and work pace limitation with a basic work week of 40 hours, in general, working environment, job evaluation and incentive pay arrangements, technology changes, trade union rights and proper grievance procedures between the parties directly involved. These are a few indicators of the broader scope of collective agreements in core countries, in the matter of the definition, supervision, and change of industrial relations, when compared to agreements in Brazil, where the space for labor bargaining has been quite restricted by a state-imposed labor discipline during the period in question.

6. Conclusion

The analysis of the contents of the P.A. metalworker union's collective agreements during the seventies and early eighties reveals the strong role played by the state over labor when acting through an authoritarian corporatist structure in Brazil. This particular case, involving a state sponsored trade union, allowed us to observe the extent to which the state was able to impose limitations on labor negotiations through mandatory legislation and wage policy. These instruments of state labor control, combined with the union's financial dependence on the state and close state surveillance of union activity (until the late seventies), allowed little room for private negotiation between directly involved social agents, i.e, managers and workers, in the regulation of labor market trends.

This case study of the P.A. metalworker union's labor collective negotiations also suggests that in spite of the extensive role of the state in labor control, the union was by no means a passive actor. On the contrary, events in the history of this particular union after 1970 demonstrate its active role in resisting authoritarian corporatist rules, although within certain limits imposed by the state. For example, the union leadership encouraged worker organization at the workplace as a means of resisting management imposed labor discipline through a campaign of democratic unionism in the early 1970s.

The role of the union as an actor became more visible after 1979, a more liberal period during the regime. At that time, internal political contradictions within the union were expressed through an organized opposition. The opposition effort was not sufficiently strong to win the union elections, but did usher in the need for the union leaders to change their strategies in labor negotiations, directing them toward more mobilizing practices, as the 1983 strike shows.

As indicated in Section Five of this chapter, a substantial increase in the collective

agreements of clauses regulating labor relations for this particular metalworker category occurred particularly after 1979. A number of these agreements significantly enhanced the legitimacy of the union as an active party in the negotiation of labor conditions. This is demonstrated by the formation of union wage committees with temporary job stability and also by the official recognition of the legality of the 1983 strike.

On the other hand, when the results of the metalworkers' labor collective agreements after the late seventies are taken as a whole, they show that most clauses have been very close to the official norm. This is true of both wage and work situation agreements. The political changes in the regime brought about less stringent forms of labor control by the state in some cases, although repression was still being used. However, the corporatist structure continued to be the juridically formal apparatus of definition in industrial labor relations in Brazil. In this setting, the state acted not only as an inhibiting factor of labor differentiation. Our results indicate that state labor control was also a substitute for bureaucratic control during the period analyzed.

Nevertheless, the contents of the labor collective agreements during this period also indicate that the union has increasingly attempted to create protective measures for the metalworker labor market. These attempts were not without some success. This is the case with the inclusion of the clause on substitute worker's wages in 1976, a measure intended to guarantee wage levels at the workplace according to job positions. It is also a job security measure since it is a mechanism through which wage lowering through worker replacement can be avoided in the face of labor turnover. In this sense, this measure lowers the effect of worker competition on wage levels.

After 1977, wage readjustments above official indexes, wage advances, and the settlement of a wage floor in 1979, enhanced the metalworkers' earning levels. In addition, although the provisions included after 1980 concerning job stability for workers in specific situations did not, in fact, lead to increased job stability, they did represent some

measure of job security. For example, the dismissal of workers covered by such clauses requires payment of three monthly wages beyond the regular social charges forecast by the legislation.

Many provisions are clearly aimed at job protection in the workplace. Examples are: the requirement of the individual employee's written agreement for changes in both the rules of work schedule compensation and in transfers from night to day shifts. There were also provisions to protect the employees against the possibility of wage payment according to job position but without due compensation for previous wage raises or benefits. Moreover, there were provisions to protect the jobs of older employees who were approaching retirement.

Thus we see that the union has been able to affect and transform some work conditions within firms, although without direct participation in the decision-making and fiscalization of the organization of the labor process at the workplace. This was especially true in the years following 1980. The negotiations for a forty-five hour work week seem to exemplify the case clearly.

A number of the regulations settled through collective agreements had limited efficacy, as previously mentioned. Still, they do show that as the union grew relatively autonomous from the state, workers' demands moved toward more differentiation in the metalworker labor market. This characteristic made them distinctive from other less organized worker categories, especially in the creation of certain specifically protective measures aimed at enhancing job stability, job security and earning levels.

Although the workers' demands for the inclusion of a clause to settle a "professional" wage for skilled metalworkers was denied by employers, it nevertheless is evidence of the union's attempt to create criteria for labor differentiation amongst workers as well. This was in terms of a structuration of a metalworker "professional hierarchy", with distinctive

positions in the labor market. An example of this would be the category of machine operators, who are semi-skilled workers, vis a vis toolmakers, who are skilled workers. The denial of such a demand by the employers reveals their lack of interest in promoting labor differentiation on the basis of a worker "professional hierarchy" in the labor market. Such a "professional hierarchy" would presumably lead to a relative increase in the wages of skilled workers. In addition, it might decrease employees' attachment to the firm, once legal protection can be obtained through the union. Therefore, if passed, such provision could avoid divisions of loyalties among workers.

The analysis of the evolution of the metalworkers' yearly negotiations revealed a resistance by the employers to changes in labor conditions. Employers resisted changes through their efforts to neutralize worker achievements through collective contracts. This suggests that the strategy of the employers has been one directed toward the avoidance of labor differentiation.

Considered as a whole, these results suggested that state labor control through authoritarian corporatist union structure had a critical role as an alternative to bureaucratic control in Brazil, during the period analyzed. State capacity of labor control persisted even during the "political opening" period and during the first two years after the collapse of the authoritarian regime. However, it seems that the state's role was double-edged. In an apparent paradox, at the same time that the state dominated and limited the union capacity during the authoritarian regime, it also preserved the institutional structure of the union. Moreover, the union was legitimized by the state. The union was incorporated into the state apparatus. Therefore, insofar as the political regime in Brazil moves toward a more democratic direction in the future, it is possible that the union will have the chance to emerge as a strong actor, when compared to the period of authoritarian regime. Increasing union militancy, as observed in the case of the Porto Alegre metalworkers' union could reinforce this possibility.

On the other hand, the analysis of labor negotiations through the collective agreements of this particular union indicates contrasting results when female workers are considered. This is revealed by the demands proposed by the female metalworkers at their congress in 1985. Gender segregation in the labor market has persistently resulted in lower female earnings, even when performing the same tasks as men. Furthermore, women occupy low and powerless job positions in the workplace. There are also other forms of discrimination against women. For example, the status of married women and single mothers is relatively low. Minority women and poorly educated women do not fare well in the work place. In addition, precarious nursery facilities for women workers who are mothers have led women to depend on kin in order to be able to go to work. This has served to limit the work chances for these women. Furthermore, the availability of individual workers' kinship networks for child bearing has become part of employers' criteria for hiring female workers who are mothers.

Moreover, female labor force disadvantage in the labor market, when compared to male, has been reinforced by the union. The minimal role of provisions regarding specifically female workers' interests in the collective agreements suggests that women have been segregated within their own union. In addition, the male membership and its representatives dominate the union board. The internalization of patriarchy in the practices of social agents consistently reinforces the subordinate situation of women in the labor market. This is true both economically, and also politically. At the union, these practices continue to reinforce labor differentiation by gender. In the case of the P.A. metalworkers' union, its political orientation for a "unitary" unionism has also had a negative effect on women workers within the union. This union's leadership has concentrated on "common and general" worker demands for the most part, thus blurring the problems of women at the workplace. Paradoxically, all women are seen as being equal workers, much like male workers. Thus, their special concerns and interests have been overlooked. Nevertheless, women have participated more actively at the union, during

recent years. For example, one woman was elected for the board of officers during the last two elections, although for a position of secondary importance. The women have also organized their first congress. This seems to imply that female workers have gradually begun to organize in the defense of their interests as women.

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.1 - WAGES AND SUPPLEMENTS *

ITEMS	1970	1971	1972	1973	1974	1975	1976	1977	1978
1. Wage Readjustment	x	x	-	x	x	-	-	x	-
Above Official	26%	23%	23%	18%	20%	43%	43%		42%
Index	vs.	vs.		vs.	vs.				Nov.
(Federal Law-Decrees)	24.5%	21.1%		17%	18%				5% +
									2 ant.
2. Wage Readjustment with Single Percentage to All Workers	x	x	x	x	x	x	x	-	-
3. Wage Readjustment to New Employees, hired after the Reference Date, on the Propor- tion of 1/12 (1)	x	x	x	x	x	x	x	x	x
4. Wage Floor	x	x	-	-	-	-	-	-	-

* See notes at the end of the table.

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.1 - WAGES AND SUPPLEMENTS

ITEMS	1970	1971	1972	1973	1974	1975	1976	1977	1978
5. Wage Readjustment on a Scale	-	-	-	-	-	-	-	x	x
								4%	5%
								2%	Nov.
								1%	up
6. Single Reference Date for Workers in the Capital and other Cities Comprehended by the Union	x	x	x	-	-	-	x	x	x
									to Cr\$ 10,000
7. Substitute Workers' Wage (2)	-	-	-	-	-	-	x	x	x
8. Wage Supplement for Seniority (1% every 5 years)	-	-	-	-	-	-	x	x	x

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.1 WAGES AND SUPPLEMENTS

ITEMS	1979	1980	1981	1982	1983	1984	1985	1986
1. Wage Readjustment	x	x	x	x	x	-	-	-
Above Official	+2	April	April	April		+ 4	sem.+	4%
Index	antic.			5% to		antic. 2	ant. pr.	
(Federal Law-Decrees)	09/20%			workers		8.1%	up to	
	01/25%			with up		up to	10MW	
				to 10MW		7 MW	+ 12%	
						May/	antic.	
						Nov.;	in Nov.	
						40% up		
						to 7MW		
2. Wage Readjustment						Aug./Feb.		
with Single Percentage								
to all Workers	-	-	-	-	-	-	-	x
3. Wage Readjustment								
for Employees hired								
after the Reference								
Date, on the Propor-								
tion of 1/12 (1)	x	x	x	x	x	x	x	x
4. Wage Floor	x	x	x	x	x	x	x	x

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.1 - WAGES AND SUPPLEMENTS

ITEMS	1979	1980	1981	1982	1983	1984	1985	1986
5. Wage Readjustment on a Scale	x	x	x	x	x	x	x	-
	62%	8%	6%	5%	4%	up	8%	
	55%	6%	5%	up	3%	to	5%	
	45%	4.5%	3%	to	2%	7 MW	2%	
	total	over	over	10MW		100%		
		INPC	INPC	idem	idem	INPC		
6. Single Reference Date for Workers in the Capital and other Cities comprehended by the Union	x	x	x	x	x	x	x	x
7. Substitute Workers' Wage (2)	x	x	x	x	x	x	x	x
8. Wage Supplement for Seniority (1% every 5 years)	x	x	x	x	x	x	x	x

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.1 - WAGES AND SUPPLEMENTS

ITEMS	1979	1980	1981	1982	1983	1984	1985	1986
9. 100% Supplement for Work on Sundays and Holidays	-	x	x	x	x	x	x	x
10. Extended Christ- mas Bonus (13rd wa- ge) to those on Social Security for less than 180 days	-	x	x	x	x	x	x	x
11. 50% of Chris- mas Bonus before employee's vaca- tion (3)	x	x	x	x	x	x	x	x
12. 3 Months Severance Pay for dismissals without just cause	(100%) -	-	-	-	x	-	-	-

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.1 - WAGES AND SUPPLEMENTS

ITEMS	1978	1979	1980	1981	1982	1983	1984	1985	1986
13. 50% Supplement for Overtime (After 60 Overtime Hours a Month)	-	-	-	-	-	-	x	x	x
14. Trimestral Wage Increase (Wage Advances) (4)	x	x	-	-	-	-	x	x	-
							40%	50%	
							INPC	INPC	
							up	up	
							to	to	
							7MW	10MW	

Sources: Collective Agreements, STIMMM/PA;

C.P., 11/12/1978.

* Notes to Table 4.1

(1) Establishes that the calculation of the percentage of the wage readjustment for new employees will correspond to as many $1/12$ fractions of the new readjustment as the number of months (or more than 15 days) remaining between the date of the last collective agreement (April, 23) and the next collective agreement.

(2) Establishes that in case of employee substitution, the new employee will be paid the same basic wage as the wage of the employee he/she is substituting.

(3) Establishes that 50 percent of the Christmas Bonus (which corresponds to the 13th wage) must be paid before the beginning of the employee's vacation period.

(4) Established four wage readjustments during one year, consisting of the regular readjustment through the collective agreement and three more wage advances, the latter to be deducted in the next collective agreement. During the year of 1978, the metalworkers negotiated two wage advances. Therefore, their wages were readjusted for three times before the next collective agreement.

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.2 - GENERAL LABOR CONDITIONS *

ITEMS	1970/1975	1976	1977	1978	1979
1. System					
of					
Compensation (1) -		x	x	x	x

* See notes at the end of the table.

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.2 - GENERAL LABOR CONDITIONS

ITEMS	1980	1981	1982	1983	1984	1985	1986
1. System of Compensation (1)	x	x	x	x	x	x	x
2. Temporary Job Stability for Pregnant Employees	x	x	x	x	x	x	x
3. Temporary Job Stability for Military Duty	x	x	x	x	x	x	x
4. Temporary Job Stability for Job-Related Accidents	x	x	x	x	x	x	x

(cont.)

METALWORKERS MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.2 - GENERAL LABOR CONDITIONS

ITEMS	1980	1981	1982	1983	1984	1985	1986
5. Written Notification of Reasons for Just Cause Dismissal	x	x	x	x	x	x	x
6. Safety Equip- ments and Uniforms	x	x	x	x	x	x	x
7. Student Worker Paid Leave to Attend Exams	x	x	x	x	x	x	x
8. Student Worker Bonus	x	x	x	x	x	x	x

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.2 - GENERAL LABOR CONDITIONS

ITEMS	1980	1981	1982	1983	1984	1985	1986
9. Payment of Previous Notice until Three Work Days after the Previous Notice Legal Period (2)	x	x	x	x	x	x	x
10. Regulation of Two Hours Leave for Job Application (3)	x	x	x	x	x	x	x
11. Date of Dismissal Corresponding to the End of the Previous Notice Legal Period (4)	x	x	x	x	x	x	x

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.2 - GENERAL LABOR CONDITIONS

ITEMS	1980	1981	1982	1983	1984	1985	1986
12.Social Security Forms to Testify							
Lay Offs	x	x	x	x	x	x	x
13.Partial Work Week							
Reduction (5)	-	x	x	x	x	x	-
14.Work Week Reduction (6)	-	-	-	-	-	-	x
15.Regulation of the Cancellation of Work Without Pay on Special Dates (7)	-	x	x	x	x	x	x

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.2 - GENERAL LABOR CONDITIONS

ITEMS	1980	1981	1982	1983	1984	1985	1986
16. Employees' Transfers from Night to Day Shift (8)	x	x	x	x	x	x	x
17. Suppression of Absence Notation on Labor Card When Due to Illness	-	-	x	x	x	x	x
18. Job Stabi- lity Before Retirement	-	-	-	-	x	x	x

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.2 - GENERAL LABOR CONDITIONS

ITEMS	1980	1981	1982	1983	1984	1985	1986
19. Worker Participation in the Coordination of Elections for Accident Prevention Committees (CIPAS)	-	-	-	-	x	x	x

Source: Collective Agreements - STIMMM/PA.

* Notes to Table 4.2

(1) Establishes that changes in the individual worker's schedule from a work week from eight daily hours from Monday through Saturday to a work week of 9 hours and 45 min. daily from Monday through Friday must be agreed upon by the employee in written document.

(2) Establishes that the payment of the previous notice (which corresponds to a one monthly wage) must be accomplished until three days after the 30 day period corresponding to the previous notice.

(4) Establishes that for the calculation of wage supplements by the occasion of the employee's dismissal (such as the unemployment fund), as well as for the calculation of his/hers length of stay on the job, the 30 day period of previous notice will be considered.

(5) Established a 45 hour work week in firms with meal facilities (cafeterias), through the decrease in the duration of the lunch break.

(6) Established a 45 hour work week in all firms within the territorial area of the Porto Alegre metalworker's union.

(7) Establishes that the cancellation of work without pay on special dates such as on the 24th and the 31st of December or the Tuesday of Carnival must be agreed upon by 90% of the employees in the firm.

(8) Establishes that changes in individual employee's work shift from night to day must be agreed upon by the employee in written document.

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.3 - JOB POSITION AT THE WORKPLACE *

ITEMS	1970/1978	1979	1980	1981	1982	1983	1985	1985	1986
1. Paycheck with Firm Identification and All Info. on Payments and Deductions	-	x	x	x	x	x	x	x	x
2. Correct Notation of Job Position on Employee's Labor Card	-	-	x	x	x	x	x	x	x
3. Correct Payment of Wage Corresponding to Job Position in Case of Promotion, Regardless Previous Wage Readjustments and Supplements for Seniority, Merit, Transfers, etc. (1)	-	-	-	-	-	-	-	x	x

* See note at the end of the table.

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.3 - JOB POSITION AT THE WORKPLACE

ITEMS	1970/1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
4.Subs- titute Workers'												
Wage -	x	x	x	x	x	x	x	x	x	x	x	x
5.Wage Suppl. for												
Seniority -	x	x	x	x	x	x	x	x	x	x	x	x
6.employ- ees' Trans- fers from Night to												
Day Shift -	-	-	-	-	-	-	x	x	x	x	x	x
7.Job Stability Before Re-												
tirement -	-	-	-	-	-	-	-	-	-	x	x	x

Source: Collective Agreements - STIMMM/PA.

* Note to Table 4.3

(1) Establishes that in case of employee promotion, the wage corresponding to the new job position will be paid to the promoted employee, without deductions from previous readjustments and/or wage supplements (if any) received by the employee before the promotion.

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.4 - UNION LEGITIMACY *

ITEMS	1970	1971	1972	1973	1974	1975	1976	1977	1978
1. Social Assis- tance Contrib.(1)	x	x	x	x	x	x	x	x	x
2. Financial Contribution from Employer Association to Union (2)	x	x	-	-	-	x	-	-	-

* See notes at the end of the table.

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.4 - UNION LEGITIMACY

ITEMS	1979	1980	1981	1982	1983	1984	1985	1986
1. Social Assistance								
Contrib. (1)	x	x	x	x	x	x	x	x
2. Fiancial								
Contrib. from Employer Assoc. to Union (2)	-	-	-	-	-	-	-	-
3. Partial Recognition of Union's Medical Certificates	-	x	x	x	x	x	x	x
4. Union Wage Committee								
Members' Temporary Stability	-	x	x	x	x	x	x	-
months		12	12	6	6	9	12	
n. of members		10	13	14	10	10	10	

(cont.)

P.A. METALWORKERS' MAIN ACHIEVEMENTS

1970 - 1986

TABLE 4.4 - UNION LEGITIMACY

ITEMS	1979	1980	1981	1982	1983	1984	1985	1986
5. Paid Strike								
Days	-	-	-	-	x	-	-	-
6. Temporary								
Job Stability								
for Strikers	-	-	-	-	x	-	-	-
7. Strike								
Legality	-	-	-	-	x	-	-	x

Source: Collective Agreements - STIMMM/PA.

* Notes to Table 4.4

(1) Deducted from all employee's wages.

(2) Employer Association's contribution to the union as a percentage (established in collective agreement) of each firm's payroll.

CHAPTER V
LABOR DIFFERENTIATION AT THE WORKPLACE

1. Introduction

Labor differentiation through the creation of internal labor markets in core capitalist countries has taken place in the most dynamic industries occupying a position of oligopoly in the market. According to Edwards (1979), this has been a strategy of labor control formulated by management in large corporations, essentially in response to growing union strength in countries like the United States. This strategy consists of promoting labor segmentation by dichotomizing the economy into core and periphery sectors each with its own distinctive employment conditions.

The principal means of segmenting the working class is through labor market segmentation, basically into "secondary" and "primary" labor markets. Yet, Edwards' (1979) concept of the "primary" labor market comprises two subdivisions: the "subordinate primary" and the "independent primary".

The "secondary" segment of the labor market is, in Edwards' terms:

... the preserve of casual labor - "casual", that is, ... in the lack of any worker rights or elaborate employer-imposed work structures....

What marks these jobs as secondary is the casual nature of the employment. The work almost never requires previous training or education beyond basic literacy. Few skills are required and few can be learned. Such jobs offer low pay and virtually no job security. They are, in other words, typically dead-end jobs, with few prospects for advancement and little reward for seniority in the form of either higher pay or a better job. With little incentive to stay, workers may move frequently, and turnover in these jobs tends to be high. The only thing that a worker brings to a secondary job is labor power; the worker is treated and paid accordingly (1979: 167-168).

As for "primary" jobs, this author states that:

In contrast to secondary jobs, primary jobs offer some job security, relatively stable employment, higher wages, and extensive linkages between successive jobs that the typical worker holds.... all primary jobs

share the characteristic of offering well-defined occupations, with established paths for advancement (1979: 170-171).

In this formulation, "primary" jobs are subdivided into "subordinate" and "independent". Conceptually, "subordinate primary" jobs are:

... distinguished from the casual-labor jobs of the secondary market most fundamentally (though not invariably) by the presence of unions. The jobs are better-paying than secondary employment, and they generally involve long-term, stable work with prospects for advancement and some job guarantees. In the case of unionized workers, the steps for advancement and the employment guarantees are contained in union seniority clauses; for nonunionized workers, both the promotional paths and the guarantees are less clear and are based only on employer practices, but they do exist. These are permanent, rather than temporary or casual, jobs....

On the other side, subordinate primary jobs are distinguished from independent primary jobs in that their work tasks are repetitive, routinized, and subject to machine pacing. The skills required are learned rather quickly (within a few days or weeks), and they are often acquired on the job. The jobs provide little opportunity for workers to have any control over their own jobs.

The job ladders that link one job with subsequent ones in the same occupation may derive either from the employing firm (as is generally the case with nonproduction jobs) or from industrial union rules (for production jobs), but in either case they tend to be firm-specific. That is, the path for advancement almost always depends on seniority within the firm, and indeed such seniority becomes, in this internal labor market, the necessary admission ticket to the better-paying positions higher on the job ladder. Workers have a big incentive to remain with one employer, and they show markedly lower turnover rates than secondary workers (1979: 171-172).

As for "independent primary" jobs, Edwards' (1979) definition is that:

Jobs in the independent primary market, like jobs in the subordinate primary market, offer stable employment with considerable job security, established patterns of career progression, and relatively high pay. But they differ from subordinate primary jobs in that they typically involve general, rather than firm-specific, skills; they may have career ladders that imply movements between firms; they are not centered on operating machinery; they typically require skills obtained in advanced or specialized schooling; they often demand educational credentials; they are likely to have occupational or professional standards for performance; and they are likely to require independent initiative or self-pacing (1979: 174).

Thus, by creating non-competing segments in the labor market, employers in core capitalist countries have promoted divisions within the working class and enhanced their

dominant position in the class relations involving the relations of production. Such a strategy of hegemony over the working class must be continually reinforced in the daily life of the workplace. The shop floor is then a "contested terrain", where the factory regime of the large corporations in core countries is constantly threatened by worker resistance.

However, when the study of labor differentiation within the workplace in a dependent country is the concern, the peculiar characteristics of its process of development must be taken into account. Two important questions are: what is the place of similar policies on the overall pattern of labor control in Brazil? And, at the workplace, how is labor controlled in a modern, technologically advanced industry, in the setting of a dependent country like Brazil?

Unlike core capitalist countries, industrial labor relations in Brazil have been largely affected by state regulation, as indicated in Chapter II. In addition, during the period analyzed, unions have not been able to challenge the management-imposed organization of the labor process within the workplace in Brazil, unlike the "proletarianization" period in the U.S. (Edwards, 1979).

Nevertheless, state labor control in Brazil changed after the late seventies. At the same time, worker pressure for better labor conditions, through union mobilizations, increased. Thus, it is plausible to expect that after the late seventies, market competition and worker mobilization have led managers in the most dynamic industrial sectors to formulate new strategies of labor control at the level of the individual firm, by promoting labor differentiation through the creation of internal labor markets. This would imply the emergence of a "subordinate primary" shop floor worker "fraction" within firms (Edwards, 1979).

With the above formulated expectation in mind, the purpose of this chapter will be to

analyze labor differentiation amongst shop floor workers at the workplace through an illustration of four case studies in the electronics industry. The four firms are located in the Metropolitan Area of Porto Alegre, which is in the southern Brazilian state of Rio Grande do Sul. The electronics industry was selected for this study because it is the most technologically advanced industry in this state. In addition, union organization is high in this industry and its capacity for worker mobilization increased after 1979, as demonstrated in a previous chapter.

On the other hand, the study of labor differentiation within firms in the electronics industry allows us to visualize the double effect of state action on labor differentiation, although indirect: (1) through state regulation of labor relations, and (2) through the creation by the state, of a product market for the segment of the electronics industry connected to the computer industry in Brazil. Through the Informaticas Policy, the state has partially guaranteed a market for these firms. This allowed them to behave more like oligopolists than they would otherwise have been able to do.

Finally, insofar as the electronics industry incorporates female labor in significant proportion, the selection of firms in this industry also permits an analysis of the effects of gender segregation on labor differentiation at the workplace. Our assumption is that massive employment of women is itself a means of labor control, by utilizing the disadvantages imposed on women at the level of the broader society.

More specifically, the questions addressed in this chapter are: what is the effect of the management strategies of labor control at each firm considered on labor differentiation amongst shop floor workers? Do these firms have internal labor markets and the other characteristics of "primary sector" employment? If not, why not? And if not, what mode of labor control is being used and how is it different from "bureaucratic" control?

Labor differentiation resulting from the formalization of internal labor markets is

expected within firms in the electronics industry in Rio Grande do Sul. As a consequence, the creation of a "subordinate primary" shop floor worker layer, in Edwards' (1979) sense, is expected as well. In this process, a differentiation amongst firms is expected. A greater formalization of internal worksystems is expected in large firms and/or firms with some oligopolistic market power, than in small firms having more competitive markets.

In the case of female labor, low-paying, dead-end job positions at the workplace are expected to characterize female employment in these plants. As a consequence, female shop floor workers are expected to be typically allocated to positions at the bottom of the internal job hierarchy of the firms selected for this study. Although it is expected that these jobs will have characteristics similar to secondary jobs (Edwards, 1979), we assume that the female labor force situation at the workplace does not result from simply market position. Our argument is that female workers' job position and corresponding prospects are forged at the broader socio-cultural level, in which general gender roles are defined. Hence, patriarchy seems to be a more appropriate concept to analyze female labor conditions at the workplace.

This analysis of labor differentiation amongst shop floor workers at the workplace is based on open-ended interviews with firms' executives and/or personnel managers, coupled with on-site observations of the organization of the labor process in the selected plants. Two interviews, averaging two hours each, were conducted and tape-recorded at each firm. In addition, more informal conversations occurring during the visits to the factories uncovered new information and served as a complement to material obtained during the interviews. Additional information was obtained through business magazines and local newspapers. These latter sources were particularly helpful in obtaining information about each firm's characteristics such as number of employees, production lines and product market position.

The interview format was designed to elicit, basically:

- (1) a brief history of the firm;
- (2) the firm's size (number of employees), ownership, technology (R&D), product market, growth during the seventies (when existing before); and
- (3) the organization of the labor process: (internal job hierarchy, recruitment, promotion and firing procedures).

In the third item, particular emphasis was given to aspects of gender segregation in the organization of the labor process within the firm.

The electronics industry in the state of Rio Grande do Sul has undergone a dynamic process of growth from the late seventies onward, in good part due to the increase in investments in the production of electronics equipment, components and parts for the Brazilian computer industry. The growth of the electronics industry in Rio Grande do Sul resulted from the state policy of protection of the internal market for computer industry and related goods (the policy of "market reservation") and other incentives to the private and public sectors' investments in computer and peripherals assembly activities. This policy has increasingly involved the production of components and parts in the electronics industry.

Due to the particular circumstances of the recent growth of the electronics industry in Rio Grande Sul, the first section of this chapter will be dedicated to presenting an overview of this industry. The focus will on be the effect of a state policy of industrialization which was directed towards the development of a Brazilian computer industry within the electronics industry in Rio Grande do Sul. This process will be examined in the context of the Brazilian position in the international division of labor as a newly industrialized country.

The computer manufacturing and related industrial operations located in Rio Grande

do Sul are considered to be third major center for the industry in the country. In the present study, a selection of firms was made in the segment of the electronics industry which makes parts, components and peripherals for computers. In this state, the investments in the segment of the electronics industry present two basic origins:

- older firms, existing before 1970, which made electric and communication equipment and parts previous to the Informatics Policy, that entered the market of electronic components, equipments and peripherals; and
- newly formed firms, created in the late seventies as a direct result of the Informatics Policy, with the specific aim of producing electronics equipment and peripherals for the emerging computer industry.

The following analysis of industrial labor relations at the workplace was based on interviews in four selected firms that make electric parts, electronic components, equipments and peripherals. These four firms were selected according to:

- size (n. of employees): large vs. small;
- time of existence: older vs. new ones; and
- ownership: multinational vs. local capital business.

Only one large firm was selected during the process of selection of these firms. This firm is a long established multinational subsidiary. This firm was the only case of a large firm operating in the inter-firm market of the computer industry in Brazil, located at the research site. However, it is important to observe that unlike the three other firms selected, this firm operates in a highly diversified product market. It makes electronic components for the consumption of various goods in the electronics industry in Brazil and for the computer industry as well.

On the other hand, among the selected firms which were formed in the context of the recent Informatics Policy, two different origins were observed:

- firms created by local technicians, who were formerly researchers at the

University where their previous knowledge and experience was acquired; and

- firms created by technicians with some previous business experience, whose professional training was acquired in a core capitalist country.

Thus, the four selected firms can be characterized as:

1. Electrical Plant - large, older, multinational;
2. Electronics Equipment Plant - small, new, local business, owned by technicians with previous business experience in a core capitalist country;
3. Peripheral Equipment Company I - small, older, local business;
4. Peripheral Equipment Company II - small, new, local business, owned by technicians from local University.

The results of these four case studies will serve to indicate some tendencies rather than a comprehensive analysis of labor differentiation in the process of labor control at the workplace, in a dependent country like Brazil.

2. Brazilian Informatics Policy and the Electronics Industry in Rio Grande do Sul

1.1 Introduction

This section aims at an overview of the electronics industry in Rio Grande do Sul, as it has emerged and in the context of the industrialization policy carried out by the Brazilian government, which was specifically oriented toward the creation of an indigenous computer industry in the country.

The growth of the computer industry and related operations in Brazil was based on local capital investments and was also directly related to the several governmental measures for the sector which were implemented during the course of the seventies and the early eighties. However, in order to understand this industry, one should also consider the position of Brazilian industry in the international division of labor as well.

World market oriented industrialization has generally become a common strategy of large corporations, particularly since the sixties, as technological progress has permitted the fragmentation of complex production processes into several simple routine operations (Bucher, 1979; Deyo, 1981). Facing growing labor costs in core countries, multinational corporations have increasingly invested in peripheral countries, where cheap, docile and a labor force with relatively few skills is employed for simple assembly tasks, encouraged by local state policies to attract direct foreign investments. Through relocation, multinational corporations have introduced new features in the international division of labor, whereby more complex stages of production, such as those involving R&D and engineering, are maintained in the companies' home countries, while the simplest assembly tasks are carried out at their subsidiaries in the periphery, on the basis of imports of equipment and parts.

The internationalization of industrial activities has been pointed out as being particularly the case in the electronics industry, which is based upon highly advanced technology, at the same time that involves hand assembly operations at some stages of the production process (Brecher, 1979). In the periphery, multinational companies' investments in the electronics industry have been characterized as labor intensive, stimulated by the comparative advantage of low labor costs in those countries.

More recently, however, Sayer has demonstrated that in the semiconductor industry, not only this location strategy has been used mostly by "U.S. merchant producers of standardized chips", in contrast to "captive U.S. producers" (1986: 109), as it is likely to be reverted. The new technological progress in integrated circuits has moved the industry to highly integrated production processes (i.e, from LSI, large-scale integration, to VLSI, very large-scale integration), in which assembly costs have become less critical. In addition, assembly automation, tariff barriers and increased freight charges have favored investments of multinational corporations in core countries and reduced the importance of

labor costs and the attractiveness of location in peripheral countries.

In Brazil, the expansion, in the sixties, of the electronics industry was based on direct foreign investments. Multinational subsidiaries in the manufacture of home and office appliances, have located their plants mostly in the Free Zone of Manaus, where final products are assembled and sold in the domestic market.

In the computer industry specifically, multinational subsidiaries such as IBM and Burroughs initiated their operations in in Brazil in the early sixties. These companies limited their operations to assembling activities of data processing equipments, with high import contents, while keeping R&D activities centralized in their home countries (Piragibe, 1985; Tigre, 1984).

At that time, the superior position of multinational corporations within the Brazilian market for computers created entry barriers to local firms and the local developemnt of technology (Piragibe, 1985). During the seventies, however, growing concerns in the government area, shared by technical personnel at research and teaching institutions, were gradually made explicit regarding the need for the development of an autonomous technology for the computer industry in the country. This gave rise to a series of governmental measures oriented towards the creation of a national computer industry and the regulation of MNCs' investments in the sector, which came to constitute the Brazilian policy of informatics. Its main provisions are related to import control, manufacturers' authorization by SEI (the Special Secretary of Informatics), control of public agencies' purchases of computers and internal market protection for local firms, which came to be defined, with the approval of the Informatics Law in 1984, on a temporary basis, to end in 1992.

1.2 State Policy, Technical Innovation and Dependence in the Brazilian Computer Industry

As mentioned above, the emergence and expansion of a nationally controlled computer industry in Brazil, as well as its backward linkages in the micro-electronics sector, is relatively recent. The first concrete steps to build a computer based on locally developed technology were taken in 1971, by the initiative of Navy officers, who viewed the necessity of an indigenous computer industry as directly related to the Navy's security concerns (Ramamurti, 1985). During the seventies, manufacturing activities for computer assembly and the production of equipment and components for data electronic processing were developed in Brazil, led by firms located in São Paulo and in Rio de Janeiro, the core industrial areas of the country, and stimulated by the state policy for the sector. This policy is currently defined by SEI (the Special Secretary of Informatics) and aims at scientific and technological autonomy for mini and micro computers, which is considered to be a matter of national security. The computer industry is also viewed as an alternative method of facing the difficulties stemming from the country's balance of payments, through new export possibilities.

Utilizing the Informatics Policy, the government has attempted to regulate the internal product market, through the establishment of a market reserve for national products, initially for Class 1 - mini-computers and peripherals - in 1976 (Resolution n.01, from July, 15th., 1976) and, since 1980, for Class 2 - micro-computers and peripherals. In 1984, the Congress approved the Law of Informatics, which was limited to eight years, understood to be necessary for the learning period, and to end in 1992.

Imports of final goods and their parts began to be controlled in 1975, and in 1982 the list of imports restrictions was expanded to include electronic components (Comunicado n.10, CACEX). In addition, a state subsidy of a 10 percent discount in taxes of manufactured products was settled in 1981 for products such as computer systems,

peripherals, components and parts (BADESUL, 1982).

It is important to note, however, that the nationalist orientation of Brazilian Informatics Policy and its essential role in the development of Brazilian industry in the sector notwithstanding, its internationalist aspect cannot be neglected (Evans, 1985). This author points out that not only the mainframe market is absolutely dominated by multinational subsidiaries in the country, but local producers also continue to rely largely on imports for components. Moreover, if the "technological nationalism" (Evans, 1985: 4) that embeds this policy is, on the one hand, oriented towards the development of an indigenous technological capacity, it has also promoted the realization of joint ventures between local enterprises and multinational corporations, and the search for foreign companies' manufacturing licenses, by local firms in the sector on the other hand.

In addition, international trade relations have performed an important role in the development of the Brazilian computer industry, in terms of supply of equipment and parts which are not produced by local firms (or which supply elasticity in the domestic market is lower than the demand). Indeed, the participation of imports of equipments and parts related to the electronics industry was 16.3 percent of the total value in U.S. dollars of imports of machinery, equipments and electric material, in 1970 (FIBGE, Anuário Estatístico do Brasil, 1971). In 1981, however, these imports dropped, reaching 10.5 percent of the total value, in U.S. dollars, of the list of machinery, equipments and electric material (FIBGE, Anuário Estatístico, 1982).¹

¹ Select items of imports:
1970 - print machines, electrical typing machines and parts, calculators and parts, data processing machines, peripherals and parts, telephone communication network equipments (including printing equipments) and parts, speakers, amplifiers, TV reception sets and parts, radio sets (including combined with tape recorders and/or players), radio transmission and reception sets (including for vehicles, radio telecommunication and radio telegraphy), radio transmission sets, other radio equipments and parts, antenas, TV transmission equipments and parts, electric equipments for traffic signs, electronic valves, diodes, triodes, transistors.

The relative decrease in the imports of products related to the electronics industry is clearly a result of governmental measures of import restriction since 1975, as part of the Informatics Policy. It is interesting to notice that, aside from the drop of participation of the value of imports for the electronic industry, in the total imports of machinery and electric material, there has been also a progressive substitution of final consumer goods imports by intermediate goods (such as semi-conductors, semi-knocked down and completely knocked down equipments), which are locally assembled and tested.

As for exports, most of the exported value is originated by multinational corporations, such as Burroughs and IBM (BADESUL, 1982), which dominate the production technology and the markets for medium size systems and large mainframes. In 1975, multinational corporations' sales in the Brazilian internal market were conditioned to export quotas (BADESUL, 1982; Ramamurti, 1985). In 1980 IBM alone exported U.S.\$ 174 million, and U.S.\$ 211 million in 1981 (BADESUL, 1982), the latter corresponding to 36 percent of the export value of electronics industry products in 1981, which was of U.S.\$ 579 million (FIBGE, Anuário Estatístico, 1982).²

The main items for export consist of computers (CPUs), their peripherals and parts which increased from U.S.\$ 10 million (32 percent of the exports value of the electronics industry) in 1972 to U.S.\$ 196 million (39 percent of the exports value of the electronics

1981 - print machines, electrical typing machines and parts, calculators and parts, registers and parts, data processing machines and parts, telephone communication equipment, radio transmission and reception equipment, parts of TV sets, integrated circuits, parts of diodes, print circuits. (FIBGE, Anuário Estatístico do Brasil, 1971 and 1982).

² Select items of exports:

1970 - Office machines, calculators and parts, registers, data processing machines, electronic valves, TV sets, telephone equipment and parts, radio communication equipment.

1981 - Typing machines, calculators (including electronic), data processing machines, peripherals and parts, telephone equipment and parts, TV sets and parts, electronic valves, diodes, integrated circuits (including re-exports) and radio sets for vehicles. (FIBGE, Anuário Estatístico do Brasil, 1971 and 1982).

industry) in 1981; telephone equipment and sets the value of which corresponded to 38 percent in 1971 and to 16 percent in 1981; radio sets for vehicles, corresponding to 31 percent in 1974 and 15 percent in 1981; integrated circuits, corresponding to 5.4 percent in 1981, against practically none in prior years; diodes of germanium and transistors, corresponding to 3.4 percent in 1974 and 1 percent in 1981, TV sets, equipment and parts, corresponding to 28 percent in 1970 and to 13.1 percent in 1981.

It is important to notice that the percent decrease in the participation of some products over the total value does not always reflect the loss of their importance on the list of exports. Rather, these descending percents may reflect a diversification of the exports list. This is the case, for instance, of the exports of telephone equipment and parts, the value of which increased from U.S.\$ 11 million in 1971 to U.S.\$ 94 million in 1981; of radio sets for vehicles, the value of which was U.S.\$ 43 million in 1974, and reached U.S.\$ 87 million in 1981; TV sets and their parts, the export value of which increased from U.S.\$ 7 million in 1970 to U.S.\$ 96 million in 1981; and electronic calculators, the value of which was of U.S.\$ 39 thousand in 1972, and reached U.S.\$ 14 million in 1981.

However, the increase in the total value of the exports of products of the electronics industry has been very low, that is, from 25 percent of the total exports of machinery, equipments and electric material in 1970, to 27 percent in 1981, in U.S. dollars (FIBGE, *Anuários Estatísticos do Brasil*, 1971 and 1982).

Hence, according to the figures on imports and exports, there has been a reduction in the participation of imported items for the electronics industry, in the total imports of machinery, equipments and electric material, at the same time that the composition of that imports value has shifted from final goods to parts and components intended for local assembly. On the other hand, a greater degree of diversification of exported items has been observed and, particularly, in the increase of the exports of CPUs, their peripherals and parts. Nevertheless, the low increase of the total value of exports of the electronics

industry indicates its predominantly domestic market orientation.

On the other hand, the presence, in the country, of multinational corporations with high quality products exerts pressure over local producers and services of technical assistance offered by them. This means that beyond a temporary protective policy, competitiveness in the domestic market is essential for the local industry's success (Tigre, 1985; Schwartzman, 1985).

In fact, state action has played a major role in the process of the development of a locally based computer industry in Brasil, by departing from free market conditions, to promote the development of local forces of production (Evans, 1984). However, some shortcomings have been pointed out, with respect to possible undesirable consequences of the state informatics policy in Brazil. This is the case of higher prices of systems made in Brazil, as compared to international prices, and slow technological progress. Most important, the decrease of one type of technological dependence (by stimulating the development of a national industry and of local human resources) may bring about another type of dependence, through the necessity of new items imports, as well as of the establishment of licensing agreements between local and foreign companies, and joint ventures with multinational corporations.

Agreements on manufacturing licenses have been the most common form of relationship between local and foreign capital in the Brazilian computer industry. In 1982, amongst the twenty five largest manufacturing firms in Brazil that operate in the sector, seventeen held important technology agreements with multinational corporations.³ This is

³ According to BADESUL (1982) Cobra, the state controlled company is an exception in this trend, for notwithstanding the fact that the company holds technologic agreement with Sycor, from the U.S., this is considered as being of very small importance, for the firm has developed R&D activities and its producton has been based, in good part, on domestically developed technology. (See also Ramamurti, 1985).

the case of Labo Eletrônica S.A., which operates under the manufacturing license of Nixdorf, from West Germany; Elebra Informática, with technology CDC and Honeywell, from the U.S.; SID, with technology Logabax, from France; Edisa, which maintains technological agreement with Fujitsu, from Japan; Microlab S.A., with Ampex's license, from the U.S.; Globus Digital, connected to Data Products and to Pertec, from the U.S.; Digilab, with technology NEC, from Japan; Coencisa, which operates with Racal Milgo's technology license, from the U.S.; Elebra Eletrônica, with technology Codex, from the U.S.; Compact, with technology Perkin Elmer, from the U.S.; Multidigit, with technology Pertec, from the U.S.; Moddata, with NEC manufacturing license, from Japan and Flexidisk, with technologic agreement with Sbuggart, from the U.S. (BADESUL, 1982).

Besides national firms, multinational corporations, such as IBM, Burroughs and Hewlett Packard operate in Brazil with home-based technology, in the production of medium systems and large mainframes.⁴

With respect to dependence on imported technology, the most important area consists of manufacturing industries of peripherals, followed by some components industries. Between 1979 and 1981, the percent of imported technology by local firms in the production of peripherals was, on average, 74 percent from the U.S., 13 percent from Europe and 13 percent from Japan. In the production of modems, for instance, the percentage of technology imports was of 64 percent from the U.S. during these three consecutive years (SEI, in: BADESUL, 1982).

Thus, although the participation of imported parts and components in the value of systems produced by local companies has decreased from 29 percent in 1979 to 7 percent

⁴ In 1980, however, Hewlett-Packard obtained official authorization to make minicomputers in Brazil, and IBM was authorized to make "medium-small" systems (Silvia Helena, 1980).

in 1981, while in the composition of the value of multinational corporations' products it has increased from 28 percent to 40 percent during the same period, in the production of peripherals by local firms the participation of imports has been of 31.6 percent on average, during these three years (SEI, in: BADESUL, 1982).

In this sense, the state umbrella per se can not guarantee the success of an industrialization policy, in that its concrete results depend upon the firms' responses. As Mody's (1985) findings in his comparative study on the computer industry in Korea and Taiwan suggest, factors such as firms' size, their organizational capacity and ability to take risks and bear losses during the "learning period" must be considered, for the variable combination of these factors has resulted in different consequences for each country's perspectives for the development of an indigenous computer industry.

1.3 The Electronics Industry in Rio Grande do Sul

In Rio Grande do Sul, the informatics program carried on by its main financing agency in the South of the country, the Development Bank⁵ (BADESUL), stresses that this program involves, in a general manner, all of the electronics manufacturing industry in the region. According to this agency's figures, the state of Rio Grande do Sul is ranked as the third in importance in the national market, after the industries located in São Paulo and in Rio de Janeiro (BADESUL, 1982). In 1983, the electronics industry in that state had a participation of 11 percent of the total sales in the national market, corresponding to Cr\$300 billion, and had directly created over four thousand new jobs since 1978 (Informática, 1984).⁶

⁵ This agency's activities comprehends the three Southernmost states of the country, namely, Paraná, Santa Catarina and Rio Grande do Sul.

⁶ Yet, Schwartzman (1985) points out a much lower participation of this industry in that state in the total sales value in the domestic market of the country, corresponding to 5.3 percent only.

Considering the historically traditional industrial structure of Rio Grande do Sul, based on the transformation of agricultural raw materials, such as food, lumber, textiles, apparel, leather and shoes, the program emphasizes the electronic industry as one of the most strategic manufacturing sectors (among others, such as chemical, mechanic and metallurgical industries) to be stimulated by the government, in order to promote diversification and dynamism in the manufacturing sector of the state of Rio Grande do Sul.

Actually, one of the major reasons presented by the agency to justify its plan of financial support for the electronics industry is that the sector has already shown the existence of pre-conditions for further development, since the firms' production presents a quite diversified spectrum of manufactured goods, such as:

capacitors, resistors, semi-conductors, transformers, static generators of signals for telephone centrals and power sources for centrals and for computers, magnetic memories to hard disks, peripheral electronic systems for data and word processing and for teleinformatics, measurers, numerical controls, electronic scales, regulators and testing equipment (BADESUL, 1982: 12).

The specific aims of the Informatics Plan/RS can be summarized as being oriented towards the expansion and consolidation of the production of equipment and components for data electronic processing, which also involves the attraction of new investments and the identification of market opportunities for local firms, as well as support for labor training and R&D activities.

In RGS, the growth of the electronics industry is related, to a great extent, to the state policy of incentives for the sector, which involves not only computer assembly activities, but also the production of peripherals and components (such as capacitors, resistors, transformers, video terminals and others), as well as an ample spectrum of products which combine electronics and fine mechanics.

The measures of protection adopted by the state policy have had a general effect over the sector nationally, by creating product markets for local firms. The state itself has become the main market for some products, such as Process Control Systems (PCS), through public enterprises' purchases in areas such as telecommunication, electric and nuclear power production, petroleum, mining, production of steel and in transportation (BADESUL, 1982). In addition, state restrictions of final goods imports have created a demand for locally produced goods in the private sector, such as automatic tellers for banking systems.

In Rio Grande do Sul, this policy changed market conditions for local firms. The growth of the electronic industry in RGS can be explained by the increasing linkages between manufacturing firms that produce components and parts for computers located in that state, and computer assembling firms in São Paulo. The emergence and expansion of a computer industry in Brazil, based on local capital and led by firms located in São Paulo, opened new product markets for components and peripherals. Thus, around 50 percent to 60 percent of the production of the electronics industry in that state is shipped to São Paulo, (Informática, 1984). On the other hand, the state itself has become important product market for the electronics industry in Rio Grande do Sul as well, through purchases of state owned enterprises.

Many firms in the electronics industry, oriented toward the computer industry product market in Rio Grande do Sul were created after the mid seventies, as a result of the informatics policy. This is the case, for instance, of *Digitel Equipamentos Eletrônicos*, which makes modems, multiplexors and testing equipment. Other examples are *Digicon*, which makes central systems for traffic control, magnetic memories for hard disks and disk drives, among other products, and *Metriker*, which makes equipment for process control for the shoe industry (Informática, 1984).

Some of these firms were created by professionals (such as engineers and computer sciences experts) from local universities, where they developed research activities applied to the design and construction of systems.

At the same time, older companies started new lines of products related to the computer industry. This is the case, among others, of Parks Equipamentos Eletrônicos S.A., a relatively small firm, with 175 employees (BADESUL, 1982), founded in 1966, whose main product formerly was alarm systems. As a consequence of the Informatics Policy, this firm came to produce modems, testing equipments for data communication and other related products. Likewise, Eberle S.A., a local metallurgy company, created a Division of Mechanics of Precision, with 150 employees, to make high precision parts and tools for computers' peripherals and electronics equipment in general (BADESUL, 1982).

This is also the case of multinational corporations' subsidiaries, such as Icotron (Siemens, West Germany), with 2,500 employees, which is an industry of electronic components and Controles Robertshaw do Brasil S.A. (U.S.), with 669 employees (Quem é Quem, Visão 1983).

Differentiation amongst firms within this industry tends to reflect a division between national and multinational firms, in terms of the size and the position in the product market. Most local firms are small and medium-sized, and are located in very competitive markets, while multinational companies' subsidiaries are large and dominate both technology and market (Ano Econômico, 1980). This is more visible in the industry of components, where multinational companies dominate the the production of print circuit boards and the assembly of semiconductors (Ano Econômico, 1980). Thus, in 1981, two multinational subsidiaries were responsible, alone, for 59.2 percent of the profits in the electric and communications materials industry (Ano Econômico, 1981).

The first symptoms of the economic recession of Brazilian economy during the late

seventies was felt more intensively in 1979, when firms started to operate below their capacity (Ano Econômico, 1981). In the electronics industry in Rio Grande do Sul, the components industry was the most affected. This was so because the demand decreased in the private sector, which is mainly constituted by other manufacturing industries, especially those in the industrial center of the country (São Paulo) and in the Free Zone of Manaus (where TV sets, stereo record players, radios and electronic appliances manufacturers are located). As a consequence, some firms increased their lay-off rates. Icotron, for instance, dispensed 20 percent of its labor force in 1981 and 16 percent in 1982 (Ano Econômico, 1981 and 1982).

It is interesting to notice, however, that firms specifically inserted in the product market for the computer industry were less affected by the economic recession. Thus, in 1984, when the electric and communications materials industry, as a whole, had a decrease in its production value that was estimated to be between 5 and 10 percent in the first semester, and an unemployment rate of about 10 percent, the segment of the electronics industry producing for the computer industry continued to grow at an estimated annual rate of 25 percent which it had done since 1981. Furthermore, the direct employment in this segment increased, from September 1983 to April 1984, from 2,000 to 3,000 employees (Ano Econômico, 1984).

The "market reservation" policy established by the government for locally produced computers ("mini" and "micro"), their peripherals and parts, definitely contributed to maintain the levels of the activities in this industry.

3. The Electrical Plant

The firm is a subsidiary of a multinational corporation. The plant's main production lines include the manufacture of various kinds of capacitors, the assembly of silicon transistors, integrated circuits, silicon and selenium diodes and microprocessors, among other products. Its major market consists of other firms, in the manufacture of radio, stereo, TV sets and computers, most of them located in São Paulo and in Manaus. In the capacitors production, the firm is one of the largest in Brazil, and also in Latin America. Although it has exported its products to Latin America, Europe and the U.S., its production is basically oriented towards the domestic market, where the firm has had stable costumers and a guaranteed share, competing with only a few other large firms located in São Paulo. The firm's sales represented, in 1982, 9.4 percent of the total sales for the company in Brazil. Its technology is basically developed abroad, although the firm is run by locally recruited managers, and some adaptations in the technology application are also made by locally recruited engineers.

In 1982, the Electrical Plant obtained official authorization from SEI (the Special Secretary of Informatics) for importing microprocessors and/or their parts (BADESUL, 1982). To date, the labor force at the plant consists of around 3,000 employees, the majority of whom are females (about 65 percent).¹

The firm recruits mostly women for lower job positions. The basic requirement for employment is eight years of education, even though sometimes incomplete. As a screening procedure, the job candidates undergo a psychological test, habits evaluation and very simple written tests for minimal knowledge in Mathematics and reading ability. In addition to this formal procedure, the firm's preference in its labor force recruitment at

¹ Quem é Quem (Revista Visão), 1983, estimated 2,500 employees in the Electrical Plant in 1982.

this level is for single young female workers (between eighteen and twenty-three years of age) without previous experience in other jobs, in order to facilitate their internal training. However, as it was emphasized during the interviews, this preference does not preclude the possibility of hiring older married female workers and, in fact, among younger employees, there are many who are pregnant or have young children, even though, again, the preference would be for women with children at school age, due to the problems related to child care. We will return to this point later.

Workers who have just come from the countryside (recent migrants looking for their first job) are also hired and have been preferred beginning recently to those from the Porto Alegre Metropolitan Area. As mentioned by interviewed managers, the former are more naive and flexible, whereas the latter are more demanding, more individualist (cooperate less) and immediatist (wage-oriented). This was observed by the management during the last two years.

Beyond such recruitment and screening criteria, other, more socially-oriented criteria, were pointed out as part of the firm's personnel policy. These are related to the company's traditional system of involvement of the employees' families and of the surrounding community with the firm's life. Indeed, the firm maintains a system of recruitment and hiring procedures that involves family ties, such as husband and wife, and the employment of older female workers' daughters. Although free transportation is provided to employees, a preference is given to workers living nearby the plant. As stated by a manager in interview, this diminishes the transportation costs of the firm, and is as well to the advantage of the employee. Thus, the hiring procedures for shop floor workers in the lowest job positions are a result of a combination of formal criteria (such as the requirement of a minimal education level), habits evaluation and social characteristics of the labor force. The same combination works for firing procedures as well.

As an example, in the last year's (1985) selection of new personnel, 645 workers were hired, more than 50 percent of whom were women, mostly single, young (between eighteen and twenty-three years of age) and without children. Most of these workers had two members contributing to their family income, and most of them lived nearby the factory. The social characteristics of the labor force are also a reference for dismissals, in case of staff cuts: given a certain level of skill and most importantly, discipline, the management evaluates who are the ones who most need their jobs, and who are those most subject to being fired.

In the case of female workers, for instance, the management observed that many women are their families' bread winners. This happened particularly during the years of the recession, when the husbands of many female employees were laid off. In this sense, married women and mothers are seen by the management as more responsible than younger female workers, for they have their families to support and, therefore, the idea of a "complementary wage" is not applicable in these cases. Thus, amongst women workers, according to the above reasoning, the most subject to dismissal in case of staff cut backs would be single, young and without children, still living with their parents, among whom some are students, and whose wages represent only a complementary source of their families' income.

However, in practice, the dismissal procedure does not always exactly follow the above logic, but in a general orientation. The dismissal of about 1,000 workers (nearly 30 percent of the total) in 1984 illustrates the issue. The firing procedure had three phases and fell mostly on female workers, since women occupied most of the positions at the bottom of the plant job hierarchy, basically as semi-skilled workers.

In the first phase, the dismissal criteria were left to their immediate supervisors, on the basis of the latter's previous evaluation of their subordinates, although with some acknowledged subjectivity. Thus, the less skilled, with higher absenteeism, that had

demonstrated a less positive performance within the plant regarding their productive capacity (aspects relative to discipline), were the first laid off. The next 200 to 300, mostly female workers, were fired according to stricter criteria regarding skills, as evaluated by the factory's top management, since workers had already been screened according to the habits and discipline criteria. In the third phase, the factory management asked the Social Service to elaborate the firing criteria according to the social characteristics of the labor force, basically with regard to the workers' contribution to their families' income. However, many married female workers with children were fired this time: as was said by a manager in an interview, the number of cuts was too large (around 300 at each phase) to make the (social) criteria work perfectly.

The above example suggests that the distinction between skill and behavior relative to discipline in management's evaluation of workers is not quite clear-cut. That is, skill is neither the only nor the basic criterion for dismissal, since discipline-related performance (as in absenteeism) is at least as important as technical criteria in the process of decision making about the employee's perspectives within the firm.

It is noteworthy that discipline criteria came immediately after gender in the first phase of the example above. The management decided that employees at lower job positions should be fired first. These were mostly women. Among female employees, those considered less disciplined were fired first. This coincided with young single female workers mostly, although not exclusively. In the second phase, technical criteria seemed to come after gender. As in the first phase, most employees who were fired were women. These employees were evaluated according to criteria relating to performance. It was only in the third phase that social criteria were considered in a more systematic form. As in the previous phases, these criteria came after gender as well. Thus, many married female workers and/or mothers who had passed the two first screenings were fired at this time.

Clearly, the decision by the firm's top management to make staff cut backs, for the optimization of the company's profitability in a period of economic recession, was prior. Gender, labor discipline, skills and socio-economic conditions came subsequently: the number of lay-offs had to be met. Later on, when the plant activities were expanded again, the firm filled the 1,000 jobs, with the re-admission, in good part, of former employes.

As mentioned before, the lowest job positions at the plant are mostly filled by women who, once admitted, undergo a training process adaptating them the firm's needs. At the machine shop, for instance, women enter as operator auxiliaries and, after some training, they can become machine operators.² Among these, some are selected for jobs such as counter-foremen auxiliaries, counter-foremen and foremen. Among these, a few can become supervisors, the highest job position that shop floor female workers can achieve. From this point on, supervisory jobs are filled by male workers, such as junior supervisor, senior supervisor and section boss.

The training procedures at this level are very simple, for the job does not require major skills or intellectual knowledge, except for the ability to read the digital panel of the machine, when this is the case. In fact, the plant is highly automated in most of its production lines. Over a period of about fifteen years, the firm renewed its machinery three times. The job of the operator is very repetitive, involving such tasks as as putting pieces on the machine gear for a quality test, fueling machines with raw material, putting aluminum tapes in the machines and assembly tasks. Some tests are totally automated, and the operator's job is merely to observe the digital panel. In this sense, it is a semi-skilled job, and the re-training for adaptation to new machinery is basically done on the

² The legal experimental period of a new labor contract lasts for three months. During this period, the new hired workers undergo a second screening procedure. Only after this period that chances of promotion will start for the remaining workers.

job and can be done in a relatively short time (about two weeks).

The training system does not necessarily correspond to a promotion or wage raise: it is aimed at the enhancement of skills for the specific shop floor jobs within the plant. The internal training program is not aimed at the formation of skilled labor. It is aimed only toward the improvement of worker qualification, according to the firm's necessities. Other firms in the branch were mentioned during interviews with managers as having recently started or planning to start their own schools for labor force qualification. However, the management at the Electrical Plant pointed out that this initiative is risky, for these firms will not be able to make sure that once finished the courses, the trainees will continue working for them. As such, the principle applies to the entire job hierarchy of the plant. In this line of reasoning, the risks were considered to be greater than the potential gains to be made from an additional investment in labor training.

Actually, according to interviews with managers, the major problem in the recruitment of shop floor workers (which was pointed out as a problem affecting the whole industrial branch as well) is the difficulty of obtaining skilled labor (the intermediate level of labor qualification) for the execution of tasks in the plant's various lines of production. In the face of that situation, the firm has maintained an internal training system, which has been recently intensified, from 1983 onward.³

In fact, the firm recruits its employees from the external labor market, according to the requirements regarding labor qualification for the various job positions. In the case of

³ In fact, the existence of an internal training system makes part of an overall policy of the company in Brazil. From 1980/'81 to 1982/'83, the company as a whole in Brazil had the following evolution regarding labor force training:

Year	N. of Employees	Trainees
1980/'81	13 354	3 706
1981/'82	12 254	2 145
1982/'83	10 662	2 501

skilled labor, technical schools are expected to fulfill their function as sources of formation of this labor force for the manufacturing sector. However, managers cannot rely exclusively on such sources.

The public technical school at the intermediate level located in Porto Alegre has not been able to adjust its activities according to the technological changes taking place in the manufacturing sector from the early seventies onward. Indeed, this school has suffered from a lack of resources since that time, and the number of its trainees has decreased.

To a lesser extent, the SENAI (the National Service of Industry, which provides industrial apprenticeships through a nationwide school network) was also pointed out by managers as unable to keep up with the technological change, although it has improved its professional training activities lately, through an accord with the FIERGS (the Federation of Industries of Rio Grande do Sul).

Hence, the firm has to promote internal training to fill the gap, by offering specific courses taught by SENAI technicians in the firm, according to the necessity for labor force qualification. As mentioned earlier, the firm has a system of promotion and corresponding wage increases, which is not directly related to its training program. In fact, the distribution of employees within the plant is not an internal labor market in Edwards' (1979) sense of being administered according to a set of internal rules and with significant weight for seniority and defined independently from the external labor market. To the contrary, the firm relies on the external labor market, with ports of entry at any job position, for its recruitment of a labor force. The internal promotion policy is defined by job category levels. As pointed out by managers, each one has a "ceiling". This is the case, for instance, of women, who can attain only less significant supervisory positions. As the level of the firm's job hierarchy increases, the number of women decreases: there is no significant supervisory job position filled by a woman in this firm's production activities.

In the lowest ranking shop floor jobs, women and men maintain about the same position in the internal hierarchy, and their earnings are based on the union's wage floor, which in 1986 was 1.7 Minimum Wages. Older employees have few advantages over their younger peers, with few exceptions. The plant is highly automated and most jobs are semi-skilled. As pointed out in an interview, the relationship between training and promotion becomes problematic at certain points. For example, the female labor force is unskilled when recruited, and then trained internally. However, the firm does not have sufficiently available higher job positions to promote them: if 200 women undertake a training program, there will not be proportional chances of internal job promotion when a training course is held.

In the case of technical and skilled jobs (skilled labor of intermediate level), these are mostly filled by male workers, such as electronic technicians and mechanics in the maintenance and production sectors, trained by technical schools (corresponding to the High School level) and recruited from the external labor market. To these higher ranking job positions correspond higher wages, when compared to female machine operators. The recruitment procedure for these positions follow more strictly job-related criteria, which are basically education (technical school) and previous job experience. Therefore, older workers usually qualify for these jobs. The low number of workers available in the labor market who qualify for such jobs, and the high degree of competition among firms for skilled labor favors these employees' position in the workplace. However, their bargaining power manifests itself in the external labor market, since they will accept the best offer amongst competing firms, rather than within the firm.

In fact, this inter-firm competition for skilled labor was intensified recently, with the increase of the economic activity, and consequent employment expansion, after the recession period. Paradoxically, before the recession period, skilled workers were being negatively affected in the labor market: according to the metalworkers' unionboard, many

skilled workers were fired in 1979, as a form of wage reduction. After reaching a certain job level within the companies, higher wage workers were dismissed and hired by other employers, for inferior wages (C.P., 01/09/1980).

On the other hand, the firm's management does not follow a policy of creation of job ladders, from lower to higher shop floor job positions. This principle applies for both semi-skilled and skilled labor, and has been reinforced by a previous negative experience from the management's point of view. This took place when a specialized mechanic graduated from Engineering and was promoted to the position of engineer within the firm. He was not accepted by the group of engineers (which consisted of about seventy engineers) and continued socializing with his former peers in the shop floor.

The restrictive perspectives of promotion as a firm's policy can be well illustrated by the example of a female machine operator, who graduated from College. While taking her studies, she was kept on her job position and, a few months before her graduation, she was notified that she would have to leave after graduating, for there was no available job position for her educational level. At the same time, the firms' management considered that keeping this female employee on the same job position would become problematic.

As can be seen, no system of upgrading and/or downgrading is practiced in the firm in a usual manner. In spite of that, the management pointed out in an interview that the firm is interested in retaining its labor force, as part of its internal policy. This would include very repetitive jobs (some of them highly automated, as in the case of machine operators).

Actually, a common point mentioned in interviews with managers in the selected firms, as will be seen later, is that the labor market structure does not offer an adequate labor force, including semi-skilled workers. That is, even simple and routine tasks require some skill and previous schooling. In the Electrical Plant, given the characteristics of the

available labor force for these jobs, such as low levels of education, particularly in the case of women, the firm provides a training program for the specific tasks to which they are assigned. Therefore, there is an interest in keeping trained workers, insofar as some investment has been made for their adaptation to the different jobs on the various production lines of the plant.

For that purpose, the firm has a policy that emphasizes non-economic benefits, although wage incentives do exist. The latter consist basically of two incentives. One is a wage bonus for those who never missed work during the entire year, for any reason. Another economic incentive consists of a piece rate system, calculated over the individual workers' basic wage.

Nevertheless, it is through its socially oriented policy, such as the involvement of the workers' families, that the firm seeks to attract and keep its employees. Moreover, it is through social benefits that the firm aims to control absenteeism and labor turnover through the initiative of the employee. The firm also keeps an Employees' Association, with a pleasant leisure area at the plant, which can be used by employees on weekends, as well as by the community (such as schools). A log cabin is also available. It is used for celebrations and sometimes as a classroom. In addition, the firm provides free bus transportation and meals at nominal price. Social assistance is offered by a Psychologist and a Social Assistant; there are medical services available and a bank of milk for breastfeeding mothers in addition to the allowance for mothers to leave one hour earlier⁴ and preference for pregnant workers to be the first to have a seat on the buses. There are also maternity courses, community work about infants' care and so on.

⁴ In fact, the legislation establishes two periods of half hour leave during the work day for mothers who are breastfeeding. These two periods can be also joined into one full hour, according to each firm's arrangements.

In spite of that, labor turnover seems to follow the cycles of expansion and retraction in the firm's activities rather than its internal policy, properly. Among women, the young and single were pointed out as the ones with highest rates of turnover. In addition, it was also pointed out in interviews that the turnover of skilled workers and also of engineers increased, with the recent intensification of inter-firm competition for qualified labor and professional employees, particularly engineers.

With respect to this point, managers have observed a change in employees' behavior, relative to their identification with the firm, and related to the massive unemployment during the recession a few years ago, and to the recent recovery of growth, with the expansion of job opportunities in the metallurgical, mechanical and electric and communications materials industries. For example, in the Electrical Plant student workers have been admitted for low ranking job positions, as temporary employees. As for skilled and professional job positions, employees have appeared to be more attracted by better wage offers rather than by identifying their job careers with the firm. Thus, a lack, or at least a lower involvement with the firm was observed by the management, although the internal policy was not changed significantly.

This does not mean, however, that more stable employees do not exist at the firm. In fact, according to the company's newsletter issue of May, 1986, two employees were celebrating their 25th year of work in the Electrical Plant (one of them a skilled male shop floor worker, whereas the other was a female clerk), and 16 other employees were going to have their 10th year of work in the plant celebrated the following June. Most of the latter were shop floor workers (13), semi-skilled (10) and female (10).

The social orientation of the firm in its management-worker relationship seems to have been quite efficient. The firm's relationship with the union has been friendly. Internal to the firm, employees have not engaged in collective manifestations of their grievancies for a long time, and did not stop working during the 1983 strike led by the

union. By the 1986 strike however, the plant did stop, with the massive participation of women workers, for the first time.

The control of the labor process at the plant is very much top-down, although dosed with its tradition of welfare orientation. Workers do not have any participation in the organization of the labor process, such as through shopstewards or factory committees, for the definition of issues relative to the daily distribution of tasks, work pace, safety supervision, incentive pays and so on. Workers do not have a say about recruitment or dismissal procedures either. Nevertheless, the union has requested justifications for layoffs and sent its representatives to the factories in order to obtain information about the reasons for the dismissals. Workers are hired and fired on an individual basis, and as such they may address their grievances to the Labor Court, if so they choose.

Even so, the intensification of workers' mobilizations at the union level, and the increase of formally addressed demands through the union, some of them effectively integrated into collective agreements, has reflected on the plant's regime. This is the case, for instance, in the demand for the abolition of overtime, to which managers responded by planning on a reduction of overtime within the plant. This may well be possible in the case of this firm, insofar as the plant has three well defined shifts in sections where the production activity does not stop.

At the same time, aware of the recent increase of workers' mobilizations (which partially reflected the disputes within the union, between the board and its "opposition" at the workplace), managers have been more strict about admitting of union activists and those belonging to the PT (the Workers' Party), in order to keep their policy of industrial peace.

In this sense, it seems that with the recent change in the political regime in Brazil from authoritarianism to a more liberal-democratic order, it is possible that the policy of

management toward workers in the Electrical Plant will tend toward more explicit criteria in terms of political control. In the context of a more democratic political regime in Brazil, it is possible that unionization and political party membership will become more explicit and formalized as part of a set of criteria for recruitment, screening, promotion and firing procedures in this firm.

4. The Electronics Equipment Plant

This firm was created by technicians with previous business experience and whose professional formation was acquired in a core capitalist country. The firm was founded in 1977, with a small plant, to make measurement transistors, numerical controls for operative machines, digital indicators of position and programmable controls. By 1979, the firm diversified its lines of production, by entering into the production of hard disks. For that matter, another firm was created, and a technology transfer contract was settled with an American firm. By this contract, the activity at the plant was restricted to the assembly of imported parts. However, later on, by 1982,¹ the production management realized that those were too large, and were outmoded models relative to the state of the art in the country's computer industry. At that time the firms' management decided to make a new model of hard disk, on the basis of the firm's own design. In addition, the plant continued making numerical controls, and also started making computerized traffic controls. Shortly after this time, the plant entered into the production line of peripherals, such as plotters, on the basis of its own technology, as well.

¹ Date of the firm's last hard disk registration at the Special Secretary of Informatics (BADESUL, 1982).

The plant is unique in the state in some of its production lines. Its output is relatively small, although the value of each product is quite high.² However, the firm benefits from the very specificity of the market segment in which it is inserted, since this is what gives it a reasonably stable share in the domestic market. Its costumers are other manufacturing firms in the Brazilian computer industry, mostly located in Rio and São Paulo. Thus, the 800 disks made monthly at the plant represent more than 60 percent of that market. Product market competition has not significantly affected the firm, since the demand has also increased considerably, due to the recent expansion of the computer industry in Brazil, as well as the specificity and high technology of its products. Some of these products have been exported, such as computerized traffic controls to another Latin American country, and transistors to a European country. However, the external market is not a priority for the firm.

The process of production at the plant combines techniques and knowledge of precision mechanics and electronics, and involves various stages in the process beginning with engineering conception and design to the production of most of the necessary tools and molds to make the various specific metal parts, with size, texture and appropriate design, the assembly activities, and the different sections of product testing. Therefore, it requires highly skilled labor at certain key stages, from the conception and design, to engineering, and to quality control and testing. In addition, it also involves routine activities such as the assembly of integrated circuit boards, which is done by semi-skilled labor, without major previous knowledge and/or experience.

As the firm diversified its production lines from the early to the mid-eighties, it also

² The current sales value was pointed out as being around US\$ 2 million a month, 60 percent from magnetic memories and floppy disk drives. The management exemplified the firm's position in the domestic market as supplying 800 Winchesters per month, for a demand of approximately 1,200.

increased its labor force. Thus, from 100 employees in 1982 (Quem é Quem, Visão, 1983),³ it increased to 450 in 1986, of which 300, mostly women, were at the production line.⁴

The labor force is recruited locally, from the Metropolitan Area. Among the lowest ranked job positions, such as the assembly of integrated circuit boards, managers contract mostly female workers, with no skills or previous work experience, to be trained in about one month on the job. In addition, a minimal education level is required for the job (Elementary School), since it involves the identification of numeric and color codes, as well as manual ability.

A first screening is carried out by means of a short informal interview. After that, the job candidate undertakes a psychotechnical test and, if approved, an interview with the supervisor of the section where she will probably be hired follows, as the third and last stage of selection for hiring.

Among those working at the assembly section, some women can become a group leader and, after sometime (one or two years), be in charge of the section. Among these, a few can be assigned to a more technical and specialized task, in a room separated by windows at the shop floor, to check scratches on the magnetic disks with the use of microscopes. This job requires more concentration and skill, and only after a certain period of time on the job, in training, and with additional experience will the management

³ According to BADESUL, 1982, the firm of numerical controls had 30 employees in that year, and the one of hard disks had 44. Actually, as stated by the management, the two firms work as two departments of the same enterprise, one concentrating on the production lines of hard disks, magnetic tapes and disk drives, and the other, on peripherals, such as plotters and digitalizer tables, and numerical controls (ZH, Aug., 17, 1986).

⁴ Only in the first half of 1986, the firm had increased 30 percent of its staff. More than 80 percent of these new employees were women.

carefully select the ones who are considered able to do this work of precision. As a general policy, promotions are made on the basis of written evaluation, with criteria set by the management. Another room, also separated by windows, is the quality control room. This department is staffed by technicians in electronics (whose professional training corresponds to the High School level), both male and female.

Each section at the plant is hierarchically organized into small groups, which are directly subordinate to the person in charge of the section. Above this level is the section supervisor, who is directly subordinate to the industrial management.

The wage policy at the plant consists of a pay slightly above the market (2 percent to 3 percent), a form to avoid both the loss of skilled and professional labor (such as engineers) to competitors, and to leave some space for individual progression within the firm. At the level of the assembly auxiliaries, the initial wage is set slightly above the union's floor. In addition, there are two incentives directly related to the labor process: a piece-rate based one, and a merit incentive (skill and discipline based), which consists of a 10 percent to 20 percent raise above the wage floor established through the agreement with the union, which was of US\$ 96.00 in June of 1986 (1.7 Minimum Wages).

With the exception of a few positions in testing involving the use of microscopes, most skilled jobs in production activities are filled by male workers. This includes such positions as electronic technicians, toolmakers at the mechanics workshop and the staff of engineers. The mechanics workshop is the most highly skilled shop floor section and is the heart of the production sector: these are the few toolmakers (about 15) who shape small metal boards, and make the specific tools, a job that is still only partially automated within the plant. However, a computerized operative machine was built at the plant for this task, making a more direct output quality control from the engineering possible.⁵ The

toolmakers are older workers (around their forties), with previous job experience in other firms in the metal-mechanical and electric industries (10 years or more). Auxiliary mechanics also work with them. Workers undergo the same screening procedures described for the admission of employees at the assembly section for the jobs at the mechanics workshop. In addition, a hands on test is made, such as making a metal part. Skilled mechanics, particularly toolmakers, are not very easily found in the labor market. These are the most highly paid production workers at the factory (some of them earning around 10 Minimum Wages for month, corresponding to US\$ 580.00 in June of 1986), and they benefit from a certain job stability. Their internal training is particularly emphasized by the management, and their job, as well as the engineers' (about 30 persons), is closely overseen by the plant's top management. This is because of the precision required in the parts made at the workshop. Responsibility, as management-trust, is a primary consideration in the filling of these job positions. This in turn gives workers a certain margin of bargaining power.

Although at a different level and for different jobs, similar criteria are adopted for the recruitment of engineers. Engineers also undergo an internal training process (mostly on the job), to fill the gap of the local Colleges. This training is considered by the management to be a necessary process of re-education.

Most recently, the firm launched a more formal training program, which included seven employees, for technical assistanship in electronics. The course lasted for more than three months, and was aimed at the formation of labor force to be hired at the firm. A school house construction is underway at the plant's facilities. A continuous program of training courses for technicians and engineers, to be administered by professionals hired by the firm will be provided at the facility.

5 The hard disks are molded also in the workshop, by an imported computerized operative machine, which is directly controlled by the engineering.

In this sense, the management has an important interest in keeping skilled workers and engineers since their continued work at the plant, in fact, affects the process of production. However, the recent expansion of the metal-mechanical and electric industries has intensified the competition for skilled labor, particularly for experienced toolmakers, who are not readily available in the external labor market. The same sort of inter-firm dispute has increased for engineers too. As part of its policy of internal recruitment of skilled labor, the firm also hires young students of Engineering who, after a few years of simultaneous College and workplace training, may be admitted as professionals. In spite of that, and knowing that employees may leave the firm for a more advantageous position, management decided to take the risk and settle the firm's own school. This is viewed as a way of obtaining skilled labor, since a great deal of emphasis is put on specific internal training, according to the plant's necessities.

Although this is quite a recent experience, it has involved exclusively male workers. Female workers' training usually takes place on the job, lasting for about one month. In fact, existing gender segregation in society is reproduced in its basic tendencies in the internal job distribution, as observed in all visited plants. Working class women have lower levels of education, and only few of them professionalize by attending technical schools, such as the SENAI (the National Service of Industry). Rather, their participation in the labor market is determined by a necessity (either for single or for married ones) to contribute to their families' income. Generally, these women have not been prepared by a professional training, aimed at a career before entering the labor market. This is the case most often, even when their earnings are not merely complementary. Most of them get married early, and their job perspectives become dependent on their own resources for family care (such as the existence or not of kin networks), in the absence of a well structured day care network for working parents, either at private or at public levels. This forges the temporary character of the employment for many women workers.

Even so, many women working at the plant are married with children, as was the case at the other selected firms. Despite their family charges, managers have not observed a higher rate of absenteeism or turnover among them. Quite the opposite, it was pointed out during the interviews that shop floor female workers tend to stay longer than their male counterparts, particularly after the 90 days of experience contract, when the definite selection to hire new employees is made. Their replacement during the maternity leave is previously planned by the firm's management of Human Resources Department, as well as their return, according to the union agreement, which is not seen as problematic by the management. Considering their semi-skilled and low-paid job positions, their substitution is relatively easy.

Mechanics, quality control and technicians in electronics are either recruited directly from SENAI (the National Service of Industry), which is the case of younger workers, or with previous professional training at one of SENAI's technical schools, which is the case of older employees, although not all of them. Again, the gap between that industrial apprenticeship institution and the actual and specific needs of, at least, this branch of the manufacturing sector, was emphasized by the interviews with management in this firm. In contrast to the women, most of these male workers come to the job with some former experience at other firms. Whereas, this tends to be the first job for women, and this is the preference on part of management.

The firm is relatively new and is undergoing a process of expansion and therefore has recently increased the admission of new employees. Labor turnover has been low, pointing to a certain stability during the first half of 1986. This may be a result of the expansion of the activities of this firm, as part of the overall expansion of the economic activity in Brazilian economy at that time.

Managers encourage employees to stay, in order to keep an effective staff with a minimal turnover rate. This also applies to the lowest ranking job positions on the shop

floor, although these workers can be more easily replaced. To this end, arbitrary lay-offs are avoided. There are several intermediate steps to be taken before a decision is made to fire an employee. These involve the employee him/herself, the section supervisor, the industrial manager and the Human Relations manager. An attempt is made to transfer employees from one section to another in this system, rather than immediately dismissing a worker.

In addition, the firm also offers free transportation and a medical care plan, which also covers the employees' family (dependents). Meals are provided at nominal prices (breakfast and lunch). A free meal incentive is used to control absenteeism: the cost of the meals are not deducted from the payroll if the employee has not missed work during the entire month.

As illustrated by the above description, the factory regime at the Electronics Equipment Plant consists of a well defined management-worker relationship. This was also the case in the Electrical Plant, although the former is a small, new and expanding enterprise, while the latter is a large and well consolidated one. These plants have a secure share of the market in common, although for different reasons. Whereas at the Electrical Plant production is highly diversified and massive, the Electronics Equipment Plant concentrates on a narrower, less diverse line of production involving small quantities of very specific high tech products. Whereas the Electrical Plant has a highly diversified product market, consisting of a gamut of firms from domestic appliances to computers, the Electronics Equipment Plant is inserted into a market niche within the computer industry. Inasmuch as technology is developed at the Electronics Equipment Plant, discontinuities in the labor process can affect the production process in any one of its several stages. In addition, the output quality may also be seriously affected (the firm had a past experience of products which did not produce the expected results). Thus, job satisfaction and the stability of skilled labor are a central concern of management.

Although the control of the labor process is quite sophisticated at both the Electrical Plant and at the Electronics Equipment Company, it is worth noticing that the latter presents some interesting features. In spite that labor for various job positions is recruited from the external market, managers at the Electronics Equipments Company managers have a policy of internal recruitment for jobs within the plant, training programs, and some scale of promotion. This is especially (but not exclusively) the case for technical and professional job positions. Nevertheless, labor control is, again, very much top downward and from the management oriented. Just as in the other firms selected, workers are not allowed any formal participation in decision making process relative to labor. In this firm, internal rules of procedure are kept as management's domain, exclusively.

5. The Peripheral Equipment Company I

The firm was founded in 1966, as a small local business, making alarm systems (among other products), such as those applied in telecommunication services, for which its main costumer has been a public enterprise, the Embratel. By the late seventies,¹ in the context of the state's implementation of the Informatics Policy, the plant entered the sector by making modems for the computer industry. More recently, data teleprocessing networks and videoterminals have been also added to its line of products.

At first, the firm worked with a team at one of the local Universities under a contract of technology transfer. Under this contract, technicians at the University provided the

¹ The reference year is not quite clear. According to the interviews, the firm entered into the informatics in 1979. On the other hand, its products were registered at SEI (the Special Secretary of Informatics) in 1982 (BADESUL, 1982). It is possible, however, that the firm's activities in this line of production started earlier, in terms of the research, development and manufacture of its first modem.

research and development design of a given model of modem, which the firm bought and manufactured. However, while the second model was being designed at the University, the contract of technology transfer between the University and the company was not renewed. Since then, the firm has decided to do its own internal research and development design for the modems that were going to be manufactured at its plant.²

The engineering section was also expanded, and a new building constructed, in order to provide appropriate space for the professionals involved in the conception and design of the firm's self technology, since no other licensing agreement had been signed for the technology transfer by this particular firm. As a consequence, it had its market diversified through the inclusion of other private firms in Rio Grande do Sul, in São Paulo and in Rio. However, the public enterprise continued to be its main customer. In 1982, the firm had 175 employees (BADESUL, 1982).

In the assembly of modems, many components, parts and equipment is either bought in the domestic market (such as diodes and resistors) or imported with the approval of SEI (the Special Secretary of Informatics), if not available from national industry.

The internal factory regime regarding regarding the control of the labor process is based on quite simple rules, which focuses on worker discipline and the technical quality of production. The labor process is organized from the engineering through the various shop floor sections. In contrast to the two earlier cases, there is no Human Relations Department in the firm. Labor screening procedures, job allocation and evaluation are essentially defined by the engineering management. The education level is basically the only formal criterion for a variety of job positions within the firm.

² At the same time, the technicians at the University decided to manufacture their second modem design, in view of the facilities offered by the state through the Informatics Policy. This will be our fourth case.

Workers with Junior High School education are preferred for the lowest ranking positions, where the main task is to assemble integrated circuit boards, which requires numerical and color codes recognition. However, workers with incomplete High School education and even Elementary School (sometimes incomplete) are also admitted. This was a common feature in the other plants visited. Women are preferred, since they are considered to be able to perform routine manual tasks better, and to adjust to these routine tasks better than men. This was also observed by managers in the other cases selected. Nevertheless, in the Peripheral Equipment Company I other shop floor jobs, filled mostly by men and better paid (such as those at the testing section), were also pointed out in the interviews with management as being routine tasks. Male workers are also hired for the assembly section, however, for heavier jobs, such as those involving the lifting of heavy weights or the screwing of the assembled boards.

The low educational level of the labor force available for the simplest tasks at the plant was pointed out as being quite problematic. In this sense, management is not able to place very rigid criteria into the recruitment procedure and many women with incomplete Elementary School education are indeed hired. A screening procedure will take place after the new workers are hired.

As pointed out by the management, female workers are hired "raw", and trained internally, for even the simplest tasks. They are admitted to the plant as assembly auxiliaries, and undergo a first training for one hour a day, for two weeks. This program involves an on-the-job apprenticeship in addition to classes on basic languages and mathematical principles and takes place during work hours. During these two first weeks, workers are trained to enhance their speed, usually starting at about one hour to assemble each board, but are expected to take ten minutes. This first training also serves also as a screening procedure, whereby some of the new employees are promoted to assemblers, while others are dismissed.

Amongst those who stay, some can be selected later for additional training. These are basically the ones with highest manual ability, skill, concentration and speed. In fact, these are the most important factors in the evaluation of each employee's work at this level, and they are more important than other factors such as education, age or marital status. Therefore, only a few can be promoted to supervisory positions after taking an evaluation test, and then only at the the assembly section, where women prevail, since female workers do not oversee the jobs of male teams on the shop floor. As observed by the management, men do not recognize women as their superior, and do not accept their supervision at this level.

The firm's wage policy for entry level jobs is nearly 50 percent more than the category's wage floor (approximately US\$145.00, vs. US\$96.00, monthly in values of June, 1986), and after the second training period, some can earn up to US\$181.00, dependent upon their evaluation by the management, which is based on speed and quality of work. However, there is no direct relationship between training, promotion and corresponding wage increases. Rather, training programs are aimed at the enhancement of the employees' qualifications for their specific jobs within the plant. Internal labor training is viewed by managers as a necessity enabling them to fill in the gaps left by the existing school system. This training is also directed toward remedy in the generally low level of education in terms of years of school attendance, that characterizes the labor force available for employment at the lowest levels of the job hierarchy in the shop floor.

In spite of low wages and poor job prospects within the firm, women's labor turnover has been pointed out as being lower than men's at the assembly section. This has also been mentioned as an indicator of their higher "conformity" to the job. Moreover, older and married women with children are considered more responsible, for it is this group that stays longer at the firm and has lower levels of absenteeism, as well as good relationships with peers. Meanwhile, young and single female workers are viewed by mangement as

being less committed to their jobs, whereas young male workers will continue to search for better jobs and pay elsewhere. Thus we see that work discipline consists of one of the most important criteria for worker evaluation.

Labor turnover is problematic from the management's standpoint, as pointed out during the interviews, in spite of the relatively few requirements for job positions in the assembly section. Indeed, worker replacement means discontinuity in the labor process even in the lowest and least demanding job positions. The new employee will have to be trained and a period of time will pass before he or she attains the desired skill and speed. This is particularly demanding (in terms of output quality) at this manufacturing branch, given the precision of the various tasks on the shop floor, including the simplest and most repetitive ones. However, no special job incentives are offered to attract employees to stay, relative to possible career prospects with higher wages. The only particular benefit offered, as part of the plantwide policy to enhance job satisfaction, is a system of tickets for meals, corresponding to approximately US\$30.00 a month beyond the wage.

The standards for qualification for a job in the testing section are a higher. Training at one of the technical schools (such as in the case of electronic technicians with intermediate education level, corresponding to High School) is generally required. These higher ranking job positions are filled mostly by male employees, although some women are also hired (particularly at the quality control of the integrated circuits boards already assembled, while the test of the modems is made by a small male team of technicians). Technicians' wages can be as much as three times greater than the basic wage at the assembly section (approximately, US\$435.00 a month, or 7.5 Minimum Wages, in June of 1986). It is these employees, along with those at the mechanics workshop (lathe operators, toolmakers) that management is most interested in keeping in the firm. Again, the lack of qualified persons in the labor market was pointed out as a general feature, as well as the important role played by such employees in the production process. These personnel also

undergo an internal training administered by engineers on-the-job, but their basic professional training is obtained outside the plant, at technical schools. These schools are expected to provide an industrial apprenticeship for technicians, who are expected to be able to perform tasks of precision after a relatively short period of training within the firm. However, as in the previous cases, the management pointed out during the interviews that these schools are not training enough workers to answer the needs of this manufacturing sector.

Promotion procedures within the plant are not usual, with the exception of Engineering students who may be promoted to the engineering section after graduation. There are few other exceptions. Most workers are recruited directly from the labor market, according to their qualifications for the vacant job position, and the length of their stay within the firm will depend on their skill and work discipline. Thus, in the few cases of internal labor recruitment, the filling of the criteria defined by the management (basically in regard to ability, skill, concentration and other discipline-related factors) is the main reference for the decision whether or not the job candidate qualifies for the job, regardless seniority or education level. For that matter, jobs which involve a transfer from one section to another, also require a written test, coordinated by the staff of engineers.³ The same performance and discipline criteria are applied for dismissals.

Shop floor job levels within the plant are viewed by management as being completely different from one another, requiring distinct manual and intellectual skills as, for instance, comparing the work in the assembly section to the work of a technician in electronics or the work of a mechanic in the workshop. This is especially true of the work

³ Only most recently (two years ago), the firm hired a Psychologist to apply psychotechnical tests as part of the screening procedure for some key job positions, such as store keeper, a job involving more trust and discipline from the employee, for obvious reasons.

of those in the assembly section, where workers seldom possess the knowledge or skills required for more complex tasks. Within each section of the shop floor, all workers have approximately the same status with the exception of their superiors, the supervisors and engineers who oversee their work. The recruitment of labor for each job rank is made essentially from outside. The firm's internal job hierarchy is constituted by the following job levels, starting from lowest ranked job positions:

1. workers at the assembly section;
 2. mechanics at the workshop;/ 3. electronic technicians⁴
 4. store keepers;
 5. enegineering,
- and their corresponding supervisory jobs.

This policy has been the basic orientation of the firm in the mangement-worker relationship, and it remained about the same, in spite of the firm's recent expansion and product market differentiation. As for procedures regarding individual worker grievances, "good sense" in the management-worker relationship was pointed out as the usual practice. In fact, this practice seems to have been effective to some extent, for employees have not engaged in collective demonstrations, and the plant did not stop during the last strike (in 1986), despite the absence of institutionalized forms of worker participation in the process of labor control within the firm.

⁴ Skilled mechanics and electronic technicians hold similar positions, in terms of their ranking in the job hierarchy of the factory.

6. The Peripheral Equipment Company II

This is a clear example of a private enterprise emerging from the University, in response to the Informatics Policy. In fact, the firm initially emerged as a small workshop, in 1978, when the owners did the whole job without employees, and with virtually no capital. The firm was created by a team of technicians, attracted by the prospects that were opened as a result of new internal market protection policy, then still run by CAPRE (the Committee for Electronic Processing Activities)¹ at a time when a new and rapidly increasing domestic market for the new computer industry was emerging. The team used to make up part of the Faculty staff at one of the local Universities, and had a successful experience with the transfer of technology to a local private company. The team had built a model of modem which was designed on the basis of their own research and development. The equipment's main buyer was a telecommunication state enterprise (Embratel), whose demand was already quite large, and increasing.

When a second model of the equipment designed by these technicians was not bought by the private firm, and the technology transfer agreement between client and University was not renewed, the team decided to create a firm to manufacture the equipment, which was to be sold also to the telecommunication state enterprise. In this sense, the new firm became a competitor of its former customer, although either one makes different models of modems in addition to other lines of production. However, the market for computerized equipment has increased since then, and there has been enough space for competitors. Indeed, the firm has expanded its facilities, which now consist of two factories (which buildings have been rented by this Company) and one building constructed by the Company, for the administration and the research and development activities, although

¹ This committee was created in 1972 and represented the first step in the institutionalization of state intervention in the area of informatics in Brazil. In 1979, CAPRE was replaced by SEI (the Special Secretary of Informatics). Piragibe, 1985.

spacially separate. Management is currently planning to build a new plant facility at one of the Industrial Districts at the Metropolitan Area.

The firm's sales value has also increased to US\$5,5 million in 1985, and US\$10 million in 1986. In spite of the creation by the state of a market for this industry, this firm is in a more competitive situation in the product market. This has kept the firm's profitability quite low, a feature pointed out during the interviews as affecting all firms acting under competitive conditions, as opposed to those who occupy a niche in the market or have already a solid market share. In addition, management pointed out during the interviews that if the "market reservation" policy has become an advantage to enterprises operating in a more competitive market, these firms' exclusive internal product market orientation has also become a restriction. This is because the domestic market increased rapidly at the beginning, but will tend to stabilize in the middle run, and those in a particular segment of inter-private firms and public enterprises market may have to compete for costumers with firms characterized by a greater capacity for technical innovation. As was emphasized during thes interviews in this firm, competition may become still more difficult, since some firms may verticalize their production lines as they grow, at least partially.

These market trends have been felt by managers at the Peripheral Equipment Company II. The company was one of the first to emerge in the country, to make modems, in the late seventies. Its sales value increased rapidly in he beginning, by more than 100 percent, and in addition to expanded facilities, the firm also holds a partnership with another company that makes industrial automation systems. Since 1985, managers have been predicting that firm will tend to stabilize, because it can no longer continue to grow at the yearly rate of 100 percent or more, being close to its own size limit.

The first modems made by the Company were registered in 1981. The firm had 47 employees in 1981. In 1985, its staff consisted of around 190 employees, and in 1986 it

was increased to 469 (BADESUL, 1982).

As a relatively new enterprise, the firm's policy regarding the control of the labor process has rather followed a trial-error trajectory. It has only been recently that managers have attempted to set more objective criteria for employee recruitment, screening, job distribution, evaluation and dismissal. This makes this firm an interesting case for this study, in the sense that it illustrates the process of formulation of management's strategies of labor control in its initial stage.

As is the usual case in this sector, the lowest ranking job positions in the assembly section are filled by female workers, who are considered a more adequate labor force for this kind of job, which involves minute details and requires delicate, careful and monotonous labor. Originally, either men or women were recruited for the job, more or less indiscriminately. However, managers soon realized, with the help of supervisors with some experience in other firms in this industry, that male workers do not show as much conformity to this kind of job as women. As a consequence, managers concluded that the job must be done by female workers.

Workers in the assembly section are paid on the basis of the union's wage floor, which corresponded to 1.7 Minimum Wages in June of 1986. Some women among those in the assembly section can become group leaders, which involves essentially the same tasks of assembly. In addition, some women can do the on-the-job training of the others in the group. The best ones may be selected to be in charge of all groups in the section, and therefore, above the group leaders. However, this is where the career prospects for these women end within the Company. Above them are the employee in charge of sector and the supervisor, both male. Each supervisor has below him three or four employees in charge of sector, in addition to the other personnel from below. Supervisors are exclusively men. The company hires professionals for that position, which is considered to be a technical job. During the interviews, the management pointed out that among professionals within the

firm, the prevailing opinion is that the person to fill the job has to be good at it, and has to be a man: it is a man's job position.

The same situation applies at the test section: all employees are male electronic technicians, some of them still students in technical schools, who, once having graduated, may become hired as professionals after a screening procedure that involves a course of selection. Once hired, they undergo a basic training, and only then are put on production, under the close surveillance of supervisory personnel. Some women have been hired for the test section too, although in general, women with more technical skills are assigned to jobs in quality control, in production control (this job involves registering the material that is being used at the production), or as store-keepers.

After some time, with more experience and a good job performance, electronic technicians can qualify for the position of technical assistanship. Although a less technical job, this position involves the ability to maintain a good relationship with clients, and is a better paying job.

Except for the closer supervision of technicians, salesmen and technical assistants' jobs, which also involve some training, the firm has not held any systematic program of internal labor training. Employees are generally hired directly from the labor market according to their qualifications for specific jobs at the company. In the assembly section, supervisors only occasionally give some classes about components identification, capacitors color code, the nature of integrated circuits, and so on. This often happens when a production gap occurs for whatever reason, in order to keep the personnel busy. The usual procedure is simply on-the-job training.

It is at the level of the assembly section where the problem of absenteeism is most felt by the management. Absenteeism was attributed by management during the interviews to various factors, such as the low educational level of the employees (which is quite primary,

generally corresponding to incomplete Junior High School). In addition, the job itself involves almost no intellectual activity. This contributes to a low attachment to the enterprise, as acknowledged by the management. Employees become indifferent to the workplace, since their job and pay will be about the same anywhere else, in the absence of particularly attractive firm-based benefits. In addition, most employees in the assembly section are female workers, many married with children (their average age was pointed out as falling between 25 and 30 years). Female workers' family responsibilities were pointed out by management as factors that also contribute to their absenteeism and delays. Between four to five percent of them were pregnant, what meant that they would soon leave the job for about three months (84 days, legally).

In fact, the firm has had a daily absence rate of about 10 percent. It was due to this circumstance that 23 female employees were fired. Managers have decided to adopt a more systematic evaluation, according to criteria such as productivity rate, job quality, cooperation, absenteeism and punctuality. This is an incipient system, and supervisors have still a great deal of subjectivity in their evaluation of subordinates, as management acknowledges. For instance, although managers have not officially barred the entry of married women, supervisors still prefer single women or mothers with children over five years of age. Young married women are more likely to get pregnant than their older peers and, together with those with young children, are acknowledged as most likely to miss work.

Promotion procedures are based on very primary criteria, although a little more elaborate in the case of professional abilities for technical jobs. Wage incentives are practically restricted to an annual raise for merit, which is only granted to those who had an above average evaluation.² As a young and small, though expanding enterprise,

² The evaluation criteria were referred to in a general manner, as relative to

inserted into a more competitive market, the company has not, in fact, developed a more elaborated internal policy regarding the management-worker relationship. This is because the firm's profit gains do not allow its management to adopt more sophisticated methods for the control of the labor process. Moreover, the formulation of management's strategies of labor control is still in initial, incipient stage in this firm. These strategies are defined from the top management downward through supervisors and their subordinates, on a trial-error basis. Workplace discipline (such as control of absenteeism and delays) is one of the main concerns. The simpler form assumed by the control of the labor process in this case, clearly reveals the uncertainty with respect to the effective results in the process of formulation of management-worker policies.

7. Conclusions: Factory Regime and Labor Differentiation

As illustrated by the four cases (Table 5.1), each company's personnel policy presents characteristics of its own as differentiated strategies of labor control. These characteristics are associated with the particular trajectory of each firm, and its size and position in the product market.

At the Electrical Plant, a large and long established multinational enterprise with a relatively stable position in the product market, the strategy of labor control has been based on its traditional welfare oriented, customary rules. The leisure area made available for employees, their families and the community in general, the provision of free

performance, although with a good deal of subjectivity from those who evaluate the employees (the personnel in charge of sector and supervisors). In order to somehow control this subjective aspect of the workers' evaluation, management has decided to return the evaluation forms to the employees. As for social policy, the firm offers to the employees what is legally required, such as nursery beds proportionally to the number of female employees, through contracts with private enterprise.

transportation and subsidized meals at the plant facilities are evidence of the company's concern with its image in the surrounding community. Moreover, practices such as the campaign of information aimed at mothers and their children's care providers (in general, the grandmothers) with respect to basic child care at their residences, the maintaining of a bank of milk for breastfeeding mothers at the plant's facilities and the involvement of workers' families through the hiring of married couples or older employees' daughters are well-established. These indicate strategies of labor control are aimed particularly at female workers, who constitute most of the labor force hired at the firm. This enhances female labor discipline and willingness to cooperate in the labor process, despite low earnings and monotonous jobs characterized by limited prospects of promotion. Furthermore, these factors enhance worker dependence on the company and lead to a correspondingly high attachment of employees to the firm on the part of the employees.

Indeed, the labor-management strategy adopted by this firm is a combination of bureaucratic control (Edwards, 1979) and paternalism (Lawson, 1981). In this way, the rationalization of the labor process is combined with highly firm-dependent employees and the formation of mutual expectations between managers and employees. At the Electrical Plant, committed to employees' and their families' welfare, a high level of employees' firm attachment, by assuming the firm's goals as their own, is expected in return. Such a system worked relatively well for a certain time. Although the workers' mobilizations resumed and the metalworkers' union began to present a more demanding attitude during the early eighties, the industrial peace characterizing the plant seemed to be more or less unaltered: the first general union strike did not directly affect the company. However, the apparent equilibrium in the relationship between labor and management in the plant revealed its fragile side one year later when around 1000 workers were fired during the massive dismissals of 1984. At this time the firm's activities were reduced during the Brazilian economic recession. The company promised to re-hire the workers as soon as its activities were again resumed, and this was partially done in 1985 and 1986. Still, the

large scale worker dismissal in 1984 undermined the rather unstable basis of paternalism. In the 1986 general union strike, the plant stopped for the first time. This led managers to resent the decrease in employee's firm attachment; workers were now becoming more demanding, especially with respect to wages. In response to the new situation, political control of labor during the recruitment procedure became more explicit, through the inclusion of criteria such as pertaining to party (particularly with respect to the PT, the Workers' Party) and union activism in the screening procedure at the firm.

The change in the political regime, which gave rise to local metalworker union mobilization, did not directly affect this company's factory regime. This is demonstrated by the fact that its employees did not participate in the strike led by the union in 1983. The change in political regime affected the company's factory regime only after the effects of the economic recession in Brazil were felt more strongly at the firm in 1984. At that time, about 40 percent of its employees were fired. This undermined the company's paternalistic personnel policy as a strategy of labor control. This is illustrated by the stoppage of its plant in 1986, for the first time.

The changes of the firm's policy of screening, with greater awareness of its employees' union and or party activism seems to indicate that, in a context of lower state labor control with higher labor mobilization, political criteria will be increasingly used by the management at this firm to divide workers.

At the Electronics Equipment Plant, an even more bureaucratized system was revealed, operating through well defined levels of authority, where technical-professional skills appear to be in a certain equilibrium with organizational factors in the firm's internal hierarchy. Obviously, as a relatively recent enterprise, it still cannot rely on the combination of bureaucratic and customary rules, as these are more usual in the Electrical Plant. It is important to observe, however, the existence, in the Electronics Equipment Plant, of some inter-personal forms of labor-management relations, which are facilitated

by the small size of the plant, where the physical presence of top management is constant in the overseeing of the production process.

The specificity of the company's high tech products, made in small quantities, has guaranteed its market share, and led management to cope with labor market discontinuities through an emphasis on internal labor training and, most recently, the establishment of a self program of labor force qualification, in order to keep product quality at the desired productivity rate.

However, although some rules of internal labor market organization are quite well defined, such as the internal training and recruitment of skilled workers, promotion and incentives procedures, the firm also recruits from the external labor market for various job positions within its hierarchy. In addition, measures of "protective barriers", which characterize internal labor markets, are practically non-existent. This is demonstrated by management's recognition of the risk in establishing a school house at the plant's facilities.

The factory regimes at the Electronics Equipment Plant and at the Electrical Plant are similar, in that both are characterized by well defined management-worker rules, with quite developed internal programs of labor training and systems of worker evaluation. Furthermore, at the Electronics Equipment Plant, recruitment for jobs within the plant through internal labor training has been observed as a regular procedure. Unlike the Electrical Plant, a multinational subsidiary, the Electronics Equipment Plant, a locally owned enterprise, is engaged in technology development, encouraged by the state's Policy of Informatics. This has resulted in a greater concern on the part of management for discontinuities in the labor process within this company. Daily work attendance, discipline and stability, particularly from skilled labor, are necessary in order to keep up with output quality and the company's strategy of establishing a niche for its product in the computer industry market in Brazil. The company's market position has been favored by the state. However, the policy of "market reservation" is temporary. The firm's management is

aware of the end of the "market reservation" policy, and preparing for more competition in the product market in the near future.

The Electrical Plant with its massive and diversified production on the basis of imported technology, has long benefited from a stable market position. Although its labor training program is quite complex, it is also more plant-specific than in the case of the Electronics Equipment Plant. The particular strategy of labor control at the Electrical Plant relies on a combination of its specific labor training requirements and its welfare orientation, rather than on the organization of an internal labor market in Edwards' (1979) sense, as initially expected.

Contrary to our expectations, neither of these two firms have promoted labor differentiation through internal labor markets characterized by the creation of a non-competing shop floor worker "fraction" of "subordinate primary" workers, as in the formulation of Edwards (1979). This is illustrated by the continuous interaction between the external labor market and these firms' internal job structures, and the lack of guarantees of job stability, security and prospects for advancement on the basis of seniority, as formulated in Edwards (1979). Nevertheless, the internal organization of the labor process in these firms is more bureaucratic when compared to the two other cases. Most particularly, considering that the Electronics Equipment Plant is a young firm, it is possible that its internal worksystem will tend to a more developed system of bureaucratic control in the future.

On the other hand, as in the two remaining cases under consideration, gender segregation has been the clearest criterion used for labor differentiation within these firms. We will return to this point later.

As for the Peripheral Equipment Companies I and II, the observed predominant simple control of the labor process, aimed at the routine of production confirms our

expectations. Although both firms are investing significantly in technology research and development, their labor force is recruited directly from the labor market. In these firms, internal training is relatively limited and mostly on-the-job, in order to adjust the available labor force to the work in the factory disciplinary regime. Shop floor jobs in these firms clearly characterize "secondary" employment, as in Edwards (1979). These are small firms, operating in a highly competitive market. Although their major buyer is a state owned enterprise, they compete between themselves and with other, similar firms, for the same client. This limits their profit gains and reduces their capacity for providing extra benefits to employees and, therefore, the promotion of labor differentiation through internal labor markets.

However, it is noteworthy to observe that the management policy toward labor at the Peripheral Equipment Company I is, in fact, better structured than at the Peripheral Equipment Company II. This is demonstrated by the existing labor training and worker evaluation practices at the former firm. Although the practices of manual worker labor training in this firm are mostly on-the-job, they include as well a program involving primary knowledge in Languages and Mathematics, in order to provide some complementary learning to the school system. Furthermore, the wages paid at the Peripheral Equipment Company I are significantly higher than the union's floor. In addition, some non-economic benefits are also offered. These characteristics suggest that the organization of the labor process at the Peripheral Equipment Company I is similar, to some extent, to technical control. This is true especially considering that some aspects of the worksystem in this firm rely on rules that resemble "traditional hierarchical control principles" (Edwards, 1979: 115).

The comparison between the Peripheral Equipment Company I and the Peripheral Equipment Company II suggests that, as the latter's market competitiveness grows solid, its management's strategy of labor control will tend to approximate that of the former.

That is, from a virtual absence of a set of formalized rules in its factory regime, the Peripheral Equipment Company II tendentially will follow the "model" of simple, but well structured, labor control, as in the Peripheral Equipment Company I.

Considered as a whole, these results lead to the conclusion that predictions derived from studies of advanced industrial economies hold insofar as the larger, older and/or more oligopolistically powerful firms do have systems that look more like "bureaucratic control" than the smaller, newer, more competitive firms. Thus, the "industrial organization" side of the theory might be considered to transpose reasonably well, although our study not indicate a dualistic division in the structure of the working class.

All four companies share very top-down practices of control of the labor process, as a managers' exclusive. Theoretically, the process of labor differentiation involves the partial incorporation of worker demands within the firms' internal worksystem. In some cases, direct forms of "worker participation" are included, as part of the strategy of labor control. Unlike the results implied by this theory, worker grievances have not been institutionalized through any formal set of negotiation procedures at the internal level of these firms. Nonetheless, the Electronics Equipment Plant presents certain particularities in this respect. In this firm, a section boss cannot directly fire his subordinates. In case of conflict between employee and the boss of the section where he or she works, an interview with the manager of the Human Relations Department will follow. A transference of the employee to another section will be tried. Only in case of failure of this attempt of reacomodating the employee that the decision of his/hers dismissal will be made by the Human Relations manager.

Collective labor negotiations at the studied firms have been carried on through the union during the period considered, and uniformly applied to all workers under the jurisdictional area of the P.A. metalworkers' union. As mentioned elsewhere, these negotiations are permeated by state regulation. Internally to the firms, labor conflicts are

primarily initiated by the individual, spontaneously. Examples are absenteeism, resignation, and, sometimes, labor claims at the Court. Within the companies in this analysis, labor conflicts are not institutionalized through norms of grievance procedure at the workplace. In all selected firms, the union has been kept an "outside" actor, and no alternatives for workers to address their discontent at the workplace, such as forms of "worker participation", have been established.

This is evidence of management's lack of interest in promoting labor differentiation within these firms through the creation of internal labor markets. This conclusion is consistent with the one reached in the previous chapter, where employers' resistance to the introduction of new labor conditions in the metalworkers' labor market, beyond the state regulation, was observed.

One argument in the explanation for management's lack of interest in promoting labor differentiation through the creation of internal labor markets is that in Brazil, an "entrepreneurial culture" (Fleury and Vargas, 1983) has been formed during the authoritarian regime. Despite individual variations in degrees of intensity in this culture, goes the argument, entrepreneurial behavior towards labor relied largely on state regulation during the period of military dictatorship.

This argument seems to be fairly plausible, particularly since it emphasizes management action as a source of power in labor control. In this sense, management strategies of labor control are understood to result from choices made in specific conjunctures in the combination of economic and political variables.

Nonetheless, structural factors should be considered as well. In a general manner, the heavy industrialization in Brazil is characterized by capital-intensive investments and the employment of a large available low-wage and relatively unskilled labor force. This may have decreased the necessity of creating internal labor markets at the level of the

private company, particularly with regard to shop floor workers. More specifically related to this study is the indirect effect of the state protective policy for firms specifically involved in the inter-firm market of the computer industry in Brazil. The "market reservation" policy has created and guaranteed, to a certain extent, a product market share for these companies. This is the case of the three locally owned companies selected in this study. However, this policy had different effects on labor differentiation within these firms. It favored the Electronics Equipment Plant in its pursuit of its market niche strategy. This enhanced this firm's possibilities to partially control for uncertainty in its own labor supply and allowed its management to formulate a policy of internal labor training and recruitment for more complex tasks. This company also paid its shop floor workers wages a few percents above the union's floor.

As for the Peripheral Equipment Companies I and II, the state itself is the main purchaser of their products. Nevertheless, these firms are in a more competitive market position, when compared to the Electronics Equipment Plant. This has not allowed management in the two former firms to invest in a higher control for uncertainty in their labor supply, through the creation of internal labor markets. Yet, the Peripheral Equipment Company I has been able to pay its shop floor workers wages significantly above the union's floor and higher than the wages paid by the Electronics Equipment Plant, whereas in the Peripheral Equipment Company II, strategies of labor control have still been limited by the necessity of minimization of labor costs.

It is noteworthy to observe that the "market reservation" policy is temporary, and the entrepreneurs in these three firms are well aware of this fact. This is evident in the case of the Electronics Equipment Plant, through its management's investment in labor force training, in order to enhance product quality. At the Peripheral Equipment Company I, the significant expansion of the engineering section is also evidence of its management's awareness of the need to enhance the firm's competitiveness. As for the Peripheral

Equipment Company II, increase in its competitiveness may lead its management to follow a similar path of the Peripheral Equipment Company I.

As for the multinational subsidiary, the Electrical Plant, its insertion in the product market is highly diversified, since it makes parts and components for various products of the electronics industry, in addition to products for the computer industry. Its market position has been favored by the state, but it is by no means a product of the state protective policy for the computer industry in Brazil, as it is the case of the remaining firms selected in this study. This firm is a multinational subsidiary; its production process is inserted into the international division of labor of the corporation to which it belongs. Its strategy of labor control is partially the product of a local adaptation of the general orientation of its European parent corporation's management-worker policy.

On the other hand, labor differentiation through the creation of internal labor markets was theoretically expected as a strategy of management's efforts at labor control and in response to strong unionism. In the particular cases analyzed, despite the fact that the union has had its bargaining capacity increased after the liberalization of the political regime, its action was still limited by its place in the authoritarian corporatist structure as a state sponsored trade union. This has acted as a factor weakening union action and, therefore, neutralized the necessity of the creation of internal labor markets.

Moreover, shop floor workers' labor conditions were still being largely defined according to state regulation, as was illustrated in a previous chapter. State labor control was still strong after 1979, the year when substantial changes in the wage policy opened up new possibilities for wage negotiations. This is strong evidence of the importance of state action, as an inhibiting factor of labor differentiation.

Thus, the main difference between the Brazilian cases and what one would have expected to find if one had studied North American companies such as GE and Kaypro, a

small components manufacturer, derive principally from the role of the state. Most important, the state dominates and limits the capacity of the union. This becomes especially clear in the case of the Electrical Plant, which seems to closely resemble what one might find in GE. However, the state's control of labor explains why the union has none of the shop floor presence or ability to create primary sector working conditions that one would otherwise expect to find.

On the other hand, one should point out that the lack of union presence within the three small Brazilian firms studied is not a startling contrast to Kaypro, a small Silicon Valley components manufacturer. Here, there is also no union presence, but for different reasons. Whereas the majority of new electronics firms in the Silicon Valley are not unionized, in the Brazilian cases analyzed, the union is well organized and active. Nonetheless, the state has dominated and limited the capacity of the union. At the same time, the state legitimized the existing union structure in Brazil, as mentioned in an early chapter. This contributed, in part, for the development of union activity in Brazil after the late seventies.

In this context, gender segregation has been the main factor of labor differentiation at the workplace, in each of the four firms considered. This is indicated not only by the allocation of women to low ranking job positions within firms, with correspondingly lower wages than men, but also by their exclusion from labor training programs aimed at more complex tasks. Furthermore, women workers are only assigned to minor command positions at the workplace as, for example, leaders of small groups of female workers.

Similar results with respect to the position of the female labor force at the workplace were found by Humphrey (1984b), in his study of women workers at five plants in the electric, autoparts and chemical-pharmaceutical industries in São Paulo, Brazil. In Humphrey's interpretation, the inferior situation of female workers within industrial plants results from their participation in the work force as women. In the firm's

organization of the labor process, women's place in society (as it is defined at the level of the cultural hegemony) and management policies toward female labor force are superimposed: one reinforces the other in promoting gender segregation.

In the United States, studies on labor conditions of female industrial workers have similar results, when certain work conditions at the workplace are considered. For example, in her study of an electronics company in the U.S., Bookman's description of female jobs is very similar to our observations at the selected firms:

The women's departments were characterized by intricate assembly operations requiring manual dexterity and good eyesight. Most women worked with fairly simple machinery or none at all, doing routinized tasks that repeated themselves tens or hundreds of times and hour.... The men on the other hand, worked with more complex machinery, such as drill presses, punch presses, lathers, screw machines, and were paid ... at an average of 2 1/2 times what the women were making. These so called "skill" and wage divisions were reinforced by the fact that the majority of supervisors in the women's production areas were non-Portuguese men (1984: 5).

Bookman's (1984) observations are also consistent with Lamphere's conclusions about immigrant Portuguese and Colombian working wives and mothers' work situations in the textile industry in Rhode Island during the seventies, in that:

... women are still being incorporated as wage workers through their employment in semi-skilled, low-wage jobs. This is a continuation of an historical pattern of gender division in the textile mill and within industry in general which began in the early 19th Century and which continues today (Lamphere, 1985: 33-34).

These findings, taken as a whole, suggest that the practices of industrial female worker segregation at the workplace are quite similar whether in a dependent country, like Brazil, or in a core capitalist country, like the U.S. This is particularly true when the labor conditions of female industrial workers in Brazil are compared to minority and immigrant women workers in the North American industry, as the above mentioned studies indicate.

However, when a comparison of wages by gender was carried out between Brazil and the U.S. in an early chapter, the results revealed that the effects of gender segregation are more dramatic in the electronics industry in a dependent country like Brazil, than in the U.S., in terms of wages. Most importantly, in the setting of a dependent country under authoritarian rule, like the case of Brazil during the period under analysis, state labor control accounted for a lower development of forms of bureaucratic control at the workplace, when compared to a core country like the U.S. This in turn turned gender segregation a more important factor of labor control in the setting of industrial labor relations in Brazil, when contrasted to the setting of industrial relations in the U.S.

Our findings on female workers' labor conditions in Brazilian electronics industry confirm Humphrey's (1984b) argument in that it is not the job content of female jobs that causes their lower earnings and lack of improved prospects in their work situation. In this sense, theories of labor segmentation, as in Doeringer and Piore (1971), Edwards (1979) and Gordon et al (1982) cannot completely explain labor differentiation by gender. Female workers hold inferior labor positions and conditions in the workplace not because they are "secondary" workers, but primarily because they are discriminated against as women. Through the identification of female work roles to a "weaker" nature, management strategies of labor control have reinforced patriarchy, by keeping female workers as an unprivileged labor force.

State labor control and gender segregation have accounted for a lower development of bureaucratic control in Brazil, when compared to the U.S. Moreover, state control and gender segregation have substituted for bureaucratic control in Brazil. Bureaucratic control is expensive, insofar as workers enjoy certain advantages such as high wages, economic incentives and social benefits. In the case of a dependent country like Brazil, state and gender segregation have served as alternative factors of labor control. The availability of these alternative forms of labor control turned unnecessary the full development of

bureaucratic control in Brazil, a dependent country, when compared to an advanced industrialized country such as the U.S.

TABLE 5.1
Firms' Factory Regime: Main Characteristics

	FIRM 1	FIRM 2	FIRM 3	FIRM 4
1. Systematic Rules of Recruitment and Screening Procedures	+	+	-	-
2. Internal Labor Training	+	+	+ -	+ -
3. System of Job Promotion	+	+	+ -	-
4. Higher Entry Wages	-	+ -	+	-
5. Defined Rules of Worker Evaluation	+	+	+ -	-
6. Seniority Rules	-	-	-	-
7. Upgrading and Downgrading System	-	+	-	-
8. Well Defined Rules of Worker-Management Relation	+	+	+	-

(cont.)

Notes:

FIRM 1 - Electrical Plant

FIRM 2 - Electronics Equipment Plant

FIRM 3 - Peripheral Equipment Company I

FIRM 4 - Peripheral Equipment Company II

+ Higher

- Lower

+ - Some

TABLE 5.1

Firms' Factory Regime: Main Characteristics

	FIRM 1	FIRM 2	FIRM 3	FIRM 4
9.Worker Participation	-	-	-	-
10.Union Presence at the Workplace	-	-	-	-
11.Economic Incentives (also for absenteeism and turnover control)	+	+	+ -	-
12.Non-Economic Benefits (also for absenteeism and turnover control)	+	+	-	-
13.Defined Criteria for Dismissal	+	+	+ -	-
14.Female Job Perspectives	+	+	+ -	-
15.Female Worker Specific Benefits	+	-	-	-

Source: Interviews in the firms selected.

CHAPTER VI
CONCLUSIONS

1. Introduction

The principal focus of this analysis has been an examination of institutionalized forms of labor control in Brazil since the late seventies, a period during which the military regime moved away from a repressive to a more flexible wage policy. The research was based on a case study of the electronics industry in Rio Grande do Sul. The analysis focused on four elements of labor control: 1) state policy; 2) management strategies; 3) union action; and 4) gender segregation. The analysis addressed two general theoretical issues: 1) how it is that labor is controlled in a dependent country like Brazil; and 2) how does labor fare under such conditions.

The analysis focused on labor differentiation as an outcome of the process of labor control. For theories of industrial labor relations in advanced industrialized countries like the United States, bureaucratic forms of labor control were developed in large corporations during the monopoly stage of capitalism. In Edwards' (1979) formulation, these methods of labor control resulted in the division of the working class into non-competing "independent primary", "subordinate primary" and "secondary" segments of the labor force. According to this interpretation, not only did bureaucratic control allow for advances in labor discipline and work quality enhancement, it was also seen to be especially effective in undermining the effects of unionism in companies located in core countries, and particularly in the United States. Segmentation, the argument follows, promotes higher wages and job security for the "protected" worker segment. At the workplace, it creates job stability and internal ladders of promotion. In firms located in core countries, seniority rules are essential in the internal organization of the job hierarchy.

One of the key issues addressed in this thesis was the extent to which advanced industrial sectors in dependent developing countries like Brazil are also characterized by bureaucratic labor control. We hypothesized that if this was indeed the case, we would find increased gap in average wage levels between industrial sectors and between segments in the advanced sector, and wage dispersion among primary segment jobs in the advanced sector.

We also hypothesized that if bureaucratic control does not characterize firms in advanced industrial sectors in dependent developing countries such as Brazil, then alternative mechanisms would most likely involve the repressive and organizational capacity of the state. We further hypothesized that ascriptive characteristics, and in particular gender, might be exploited to create segments, even in those cases where bureaucratic control is not fully developed.

In Brazil, a newly industrialized country, the process of import-substitution industrialization (ISI) was based on the availability of a large pool of low wage labor. Since the early phase of ISI during the thirties, labor relations in Brazil have been characterized by extensive state intervention within the labor market. It was at that time that a state-sponsored corporatist union system was institutionalized in Brazil, a system that has defined industrial labor relations in that country until the present. In the sixties, state labor policy was designed to lower the cost of labor as a strategy to control inflation rates. This policy was also designed to attract direct foreign investments in Brazil, one of the major components in the "associated dependent development" model.

By the early seventies, however, internal contradictions within the authoritarian regime forced the military to initiate a gradual process of political liberalization. This liberalization process, in turn, created space for worker mobilization, as evidenced by the wave of strikes between 1978 and 1980. Although labor's principal demand was increased wage levels, the more organized unions also began to emphasize the importance of creating

new forms of labor organization in the workplace, such as firms' recognition of shop stewards and factory committees. When the effect of the economic recession of the early eighties began to make its presence felt in the form of rising unemployment rates in Brazil, job security also became one of labor's central demands.

Although state reaction to worker pressure was not particularly benevolent at that time, a partial concession was offered in the form of a change in wage policy in 1979. In addition, it is also true that the broad political changes that resulted from the political liberalization process also had their effect on labor relations. An indication of this was given by the sudden increase in union mobilizations at the time. Furthermore, new forms of labor control at the workplace, which were in some ways similar to bureaucratic control were incorporated in a number of firms in the most dynamic sectors of the economy, such as the automobile industry in Brazil (Almeida, 1975). It was on the basis of this evidence that we argued in the introductory chapter that it was plausible to expect the emergence of bureaucratic control in Brazil and, therefore, increased differentiation of the labor force. Having said this, given the history of industrial labor relations in Brazil, we assumed that the labor transformation process would take a different path than in core countries such as the United States.

During the introductory chapter we argued that in the Brazilian context it was plausible to expect a high interaction between external and internal labor markets, even in firms in advanced industrial sectors. In contrast to one of the principal characteristics of the "primary" sector identified by Edwards' (1979) in core countries such as the U.S., we expected that seniority rules would be less important in the definition of hierarchical divisions amongst workers in a dependent country such as Brazil.

Moreover, alternative factors for bureaucratic control were also considered in the introductory chapter. In the Brazilian case, the state-sponsored trade union system turned the union into a constitutive part of the state apparatus, directly under control of the

Ministry of Labor. During the authoritarian regime this had the effect of weakening union bargaining capacity. We argued that state intervention in the labor market, together with close union surveillance, served to hold back labor differentiation. This was especially true for the first ten years of the military regime.

Finally, we argued that labor segmentation theory only explains labor conditions for the female work force in terms of their occupational position as "secondary" workers (as a "situation" in the labor market in common with other less privileged groups of workers, such as racial and ethnic minorities, male and female). We proposed to analyze the prospects of female workers in the labor market in terms of a broader perspective of gender segregation centered around the concept of patriarchy (Kenrick, 1981; Hartmann, 1982). Patriarchy has been revitalized and re-shaped by capitalism. The sexual hierarchy in the domestic division of labor has been reinforced through the subordinate condition of female labor force in the labor market.

However, as indicated in Bookman (1984) and Lamphere (1985), a dynamic view is necessary to understand patriarchy. The situation of women workers and their corresponding job prospects are not unidirectionally determined by socio-cultural patterns of the definition of social roles on the level of society in general. Women's participation in the labor market also affects their position within the domestic division of labor. Furthermore, women can resist sexual discrimination and their resistance in each of these spheres will reflect back on the other (Bookman, 1984; Lamphere, 1985).

2. Bureaucratic Control

In Edwards' (1979) account of the history of the transformation of labor in the United States, the transition from more competitive to monopoly capitalism was accompanied by changes in the process of labor control within those large-scale corporations that enjoyed

secure market positions. These changes resulted from increasing tension during the period of proletarianization, when labor control was direct. Capital concentration and increased automation of the production process by the late nineteenth and early twentieth centuries led to structural control in large firms. In its earliest forms, structural control assumed the shape of technical control. This worksystem was organized according to impersonal rules, while at the same time maintaining the direct power of the foreman. This system, therefore, relied on traditional hierarchical control (Edwards, 1979: 115). One of the main components of technical control consisted of machine pacing at the assembly line, such as in Fordism. In addition, worker evaluation, discipline and reward were also essential elements of worksystems based on technical control.

However, highly automated large-scale production resulted in the homogenization of work conditions for a growing number of blue collar workers. This process created a common situation for shop floor workers that transcended the individual workplace. Labor homogenization thus soon revealed its contradictory character. Although technical control emerged as a strategy of labor control, it created the possibility for worker organized resistance. During the thirties unionization increased substantially and threatened methods of labor control prevailing at that time by demanding higher worker participation in the definition of labor conditions in American manufacturing industry (Gordon et al, 1982: 13). The outcome of this was that the internal organization of the worksystem in large and oligopolistic firms in the United States moved towards bureaucratic control, which was consolidated after World War II.

As in technical control, bureaucratic control is based on impersonal rules and hierarchical control. Nevertheless, while the former is "embedded in the technological structure or organization of production" (Edwards, 1979: 112), the latter is "embedded in the social and organizational structure of the firm" (Edwards, 1979: 131). This system is characterized by hierarchical power based on "the firm's law" (Edwards, 1979: 21). In

comparison to the previous system of labor control, which resulted in labor homogenization, bureaucratic control enhances job stratification and employment security. Promotional procedures based on performance and seniority, rules of evaluation "which cannot be changed by management at will" (Rueschemeyer, 1986: 93-94), incorporation of grievance procedures and, in some cases, union representation at the workplace, are some of the principal elements of bureaucratic control that are employed to elicit worker cooperation and consent. In the United States, bureaucratic systems of labor control were extended to direct production workers in firms such as IBM, Polaroid and General Electric.

Our study of Brazilian firms indicated significant differences between firms located in advanced industrial sectors located in core countries such as the U.S., and firms in advanced industrial sectors located in dependent countries like Brazil. The results from the four case-studies of the electronics industry in Rio Grande do Sul suggest that in the context of dependent capitalist economies such as Brazil, bureaucratic control has not been completely developed even in the most dynamic firms located in the more advanced industrial sectors, which also enjoy a fair degree of market security.

In fact, at the Electrical Plant (a large multinational subsidiary) and at the Electronics Equipment Plant (a locally-owned small firm) something approaching bureaucratic control was indeed found. Hierarchical control characterized the worksystem in both firms, where management-worker relationships rested on well-defined and impersonal rules. These rules ranged from criteria for recruitment, screening and job allocation, to procedures for worker evaluation and dismissal. In addition, in both firms internal systems of labor training were quite well developed. Furthermore, these firms created some degree of internal structure of differentiated jobs. Nevertheless, these firms did not present clearly defined job ladders and internal promotion rules in their internal worksystem. Therefore, the structures of job differentiation in these firms were indeed methods of creating divisions amongst workers. However, the absence of a fully developed system of internal

job ladders in these firms indicated that the structure of differentiated jobs was not fostering worker loyalty to the company. In the Electrical Plant, the method used to obtain worker loyalty was its welfare orientation, especially with regard to women workers.

Significant differences were also found between these two firms in terms of market position and internal labor process organization. Each of these firms benefits from an oligopolistic position in the product market, but for different reasons. The main product at the Electrical Plant is capacitors of various sizes. Large-scale production of capacitors is highly automated in the Electrical Plant. This firm forms part of a multinational corporation operating in Brazil. Its solid market position has been an important determinant of the company's overall economic strategy for product markets in Brazil and other Latin American countries for over thirty years.

Stimulated by the state's Informatics Policy, the Electronics Equipment Plant was originally set up in 1977 as a small local enterprise involving approximately 70 employees. Nonetheless, its top management had gained previous experience in the area in a core capitalist country. The Brazilian state's "market reservation" policy favored the firm's strategy of establishing a market niche for its highly specialized products, which included hard disks for personal computers. As a result, the firm enjoyed rapid growth between 1982 to 1986 during which it increased the size of its labor force from 100 to 450 employees. There was greater concern for research and development at the Electronics Equipment Plant in comparison with the Electrical Plant. As a consequence, work force discipline and work quality, particularly from skilled workers, became essential to this company. Such is their concern that the firm has its own labor training program and has plans to build a proper training school to accommodate such a program on the plant's own site. Moreover, management-worker rules were set out by the Human Resources Department of this firm. Having said this, some degree of personal, direct control was

observed, facilitated by the relatively small size of the plant. Considering that the Electronics Equipment Plant is a young firm, it is possible that a more complex system of bureaucratic control will develop in this firm in the future.

At the Electrical Plant, internal labor training was more firm-specific. Its production technology was a local adaptation of the technology developed in its home-country in Europe. The Electrical Plant also benefited from the Informatics Policy in Brazil. In 1982 this firm obtained official authorization from SEI (the Special Secretary of Informatics) to import microprocessors and/or their parts (BADESUL, 1982). However, its overall product market position cannot be understood simply as the result of the state's policy of "market reservation" for the computer industry. As mentioned elsewhere, this company's operations have long been consolidated in Brazil.

In contrast to the situation at the Electronics Equipment Plant, the worksystem at the Electrical Plant combined welfare, paternalistic orientation, and bureaucratic control. Within this firm, impersonal rules of power hierarchies were mixed with customary procedures, such as the preferential hiring of older employees' daughters and various practices involving the worker's family and the surrounding community, mentioned in Chapter V. Interestingly enough, many of this company's welfare practices were oriented toward female employees as specific forms of female labor control. Our observations of the worksystem at the Electrical Plant suggested that this firm's strategy of labor control was a partial reproduction, adapted to the local conditions, of multinational corporation's general management strategy of labor control, a strategy that is unlike that of American firms.

Nevertheless, and contrary to what might be expected, neither of these two firms have promoted labor differentiation through the creation of non-competing subordinate primary worker "fractions" (Edwards, 1979: 163). There was continuous interaction between the external labor market and the internal job structures of these firms, and there

were no guarantees of job security and no application of seniority as a basic rule for upgrading and downgrading procedures. Labor differentiation in these firms was observed only to a limited extent when compared to bureaucratic worksystems in large corporations in advanced capitalist countries (like IBM in the United States for example). In common with the two other cases studied, gender emerged as the most significant factor of labor differentiation within these firms. We will return to this point in a later section in this chapter. Nevertheless, when compared to the Peripheral Equipment Companies I and II, the internal organization of the labor process in the Electrical Plant and in the Electronics Equipment Plant was more bureaucratic.

In the Peripheral Equipment Companies I and II, simple and more direct control was observed. In these firms, internal training and job promotion prospects were more limited for shop floor workers. In addition, the definition of a power hierarchy at the workplace was centralized more around the production supervisor who reported directly to the firm's top management. Shop floor jobs in these firms are characterized predominantly by simple control and more direct recruitment from the external labor market. In contrast to the two previous cases, these firms operate in a more competitive product market. Although they also benefited from the "market reservation" policy, their principal buyer was a public enterprise of telecommunications, Embratel. They competed with one another and with other companies for the same client. This further increased their need to minimize labor costs and, therefore, limited their capacity to use strategies of labor differentiation in order to achieve labor control.

Differences between these two systems of "simple" control were also observed in terms of the internal organization of the labor process. In the Peripheral Equipment Company I, a more structured system of labor control was observed. This firm paid significantly higher wages in relation to the local metalworker union's wage floor. In addition, the firm maintained a system of labor training on the job, with complementary

instruction in Mathematics and Languages. It also provided some economic benefits. In some respects, the worksystem at the Peripheral Equipment Company I was characterized by traditional hierarchical control, as it was described by Edwards (1979) in his analysis of technical control.

It is possible that as the position of the Peripheral Equipment Company II in the product market grows more solid, its worksystem will tend to follow a "model" similar to the worksystem of the Peripheral Equipment Company I, i.e., towards a more structured, hierarchical control, albeit based predominantly upon "simple" and direct forms of labor control.

As a whole, our observations from the four case-studies suggest that predictions based on "industrial organization" themes in theories of labor control (such as impersonal rules governing the workplace, use of "scientific" methods for worker recruitment, evaluation and dismissal, internal training and internal structure of differentiated jobs), in contrast to the structural dichotomy of the labor market (Edwards, 1979), might be considered to hold both in the setting of a core capitalist country such as the U.S., and in a dependent capitalist country like Brazil. This was indicated by worksystems in larger, older and/or more oligopolistically powerful Brazilian firms. These firms exhibited characteristics of bureaucratic control, albeit to a limited extent. Conversely, smaller, newer and more competitive Brazilian firms tended to employ simple labor control.

In Chapter V, we presented several explanations for the limited extent of bureaucratic control within Brazilian firms. The heavy industrialization in Brazil which is relatively capital-intensive, coupled with low-wages and a large available labor force (therefore in a highly competitive labor market) diminished the importance of developing bureaucratic forms of labor control. Still another argument is related to the development of an "entrepreneurial culture" during the authoritarian regime. This culture was characterized by employers refusal to negotiate directly with labor. According to this argument,

employers preferred to rely on state policies for labor control during the authoritarian period in Brazil. Specifically for the case of the electronics industry, the state's policy of "market reservation" appeared, at least to some extent, to have indirectly favored the development of bureaucratic forms of labor control in the Electronics Equipment Plant, insofar as this firm benefited from a product market niche in the Brazilian computer industry.

However, our results suggested that the most important factor was state organizational capacity and repression, particularly through the state-sponsored corporatist union system. Therefore, in order to understand why bureaucratic control did not develop in Brazil, we will turn to the state controlled union system.

3. State Controlled Union System

As we have already seen, in the interpretation presented by Edwards (1979) and Gordon et al (1982), labor segmentation in the U.S. emerged as an outcome of tensions stemming from increased union mobilizations, especially during the thirties. According to this perspective, the primary segment of the labor market consists primarily (although not necessarily) of unionized workers whereas the secondary segment consists primarily of non-unionized workers.

In Brazil, it has always been the case --but especially during the authoritarian interregnum-- that the state dominated and limited the capacity of the unions. Even after the introduction of a more flexible wage policy in 1979, state labor policy was still essentially an alternative to bureaucratic control. Even though there has always been a considerable union presence in Brazil, union capacity has been limited by the the state. This reduced the possibilities for the emergence of bureaucratic control as an outcome of labor-capital conflict. In effect, the state reduced the threat from unions in Brazil. We saw

this in Chapter II and again in Chapter IV in our analysis of the collective agreements reached by the metalworker union in Porto Alegre.

This would appear to be the most important contrast between the Brazilian cases that we studied and worksystems in firms such as GE and Kaypro in the United States. The effect of union subordination to the state became clearer when the Electrical Plant in Brazil was compared to GE in the United States. Both are long-established large multinational companies with secure market positions. It seems that state labor control explains why in the Brazilian case the union does not have the capacity to pressure for the creation of protected labor conditions with an active presence at the workplace (as in the case of its American counterparts).

In a similar vein, there are different reasons for the absence of unions in the workplace of the three new, small Brazilian companies that we studied, when compared to small, new electronic components manufacturers in the U.S. such as Kaypro. In most new American electronics firms in the Silicon Valley, workers are not unionized. In the Brazilian cases, although the union is organized and active, its capacity has been effectively limited by the state.

The history of industrial labor relations in Brazil since the early phase of import-substitution industrialization (ISI) was laid out in Chapter II. The emergent system was based on a corporatist union structure directly subordinated to the Ministry of Labor. The institutionalization of the union tax, discounted from all wage workers regardless of union membership and controlled through the Ministry of Labor, has been one of the most important mechanisms for the subordination of the union to the state apparatus. The union tax made the unions financially dependent on the state. It is through this system that the state controls the use of the union's financial resources. In accordance with legislation, these resources can only be used to support leisure and social assistance programs offered by the union, such as providing vacation facilities and medical services.

They cannot be used for purposes such as provision of financial support for striking workers for example. At the same time, a system whereby a unitary union tax is collected by the state also reduces grass roots involvement in union organization insofar as unions do not depend financially on effective membership.

The Brazilian corporatist system is unlike the tripartite system found in European countries such as Sweden, where political regimes are more "welfare-oriented" and unions enjoy a higher degree of autonomy from the state. As mentioned elsewhere, the union corporatist structure in Brazil is organized from the top down and directly subordinated to the Ministry of Labor. This has effectively limited the capacity of the union to negotiate.

In addition, the decision making process whereby the Labor Courts arbitrate collective agreements was also subordinated to the state's wage guidelines during the most stringent years of the authoritarian regime. This system was similar to binding arbitration, but with binding guidelines from the Ministry of Labor. Within this juridical system, there was little room for bargaining, again, especially during the first ten years of the authoritarian regime in Brazil.

We found evidence of state union control in our study of the Porto Alegre metalworkers' union in Chapter IV. One of the clearest indications of this was the need for the union to direct its collective labor agreements through juridical suits to the Labor Court. Further indication was given by the fact that many of the clauses concerning working conditions incorporated into the collective agreements after 1980 were simply reproductions of existing legislation. The findings detailed in Chapter IV also demonstrated that state control of labor was still strong after 1979, despite the fact that some concessions to worker demands were incorporated into wage policy introduced that year. Repressive measures and the maintenance of close union surveillance were still strong restraints to union capacity at that time. The state controlled union system persisted until the collapse of the authoritarian regime and even during the first two years

of the New Republic.

Nevertheless, we also saw that the union was not passive in the face of state control, especially in the late seventies and early eighties when the authoritarian regime began to collapse. Evidence for this can be found in the wage readjustments that labor managed to secure over and above official index levels after 1977, in the negotiations for some clauses regarding job security after 1980 (such as in the cases of maternity, job-related accidents and military duty), and in negotiations for a forty-five hour work week in 1986. Moreover, the P.A. metalworkers' union was able to enhance its legitimacy as an organization representative of worker interests. This was observed through clauses such as the recognition of a committee for the negotiation of wages with temporary job stability, between 1980 and 1986, and the legal recognition of the 1983 strike.

This union forms part of the so-called "new unionism" that emerged during the seventies in Brazil. The essential characteristic of this "new unionism" is the defense of worker interests as opposed to the "official unionism" which is more concerned with the provision of social assistance. The P.A. metalworkers' union affiliated itself to the CONCLAT-CGT (the organization led by the metalworkers' union of the city of São Paulo, constituted by the unified Working Class Congress and the General Confederation of Labor). The organization of an "Opposition" tendency within the P.A. metalworkers' union intensified worker mobilization within the union and created a closer relationship between board and membership.

In addition, our analysis of the evolution of average wages in the electric industry between 1976 and 1980 (Chapter III) suggested that wage differentiation by industry was inhibited by state policies introduced in the seventies. The difference in industrial value added per employee between the electric industry and the manufacturing industry in general, was higher (35 percent) than the difference in average wages between these two sectors (12 percent) in Rio Grande do Sul in 1970. This suggests that higher wages in the

electric industry had more to do with the higher level of industrial value added per employee in this industry than with state wage policy and/or union mobilization. These findings suggested that at the beginning of the seventies, state labor control acted as a brake on labor differentiation. Nevertheless, the high industrial value added per employee in the electric industry indicates that its favorable product market position allowed for higher wage levels in comparison with manufacturing industry in general in RGS.

Our results for 1980 suggested that changes in wage policy in 1979, together with increasing levels of labor mobilization in the late seventies, may well have favored wage differentiation. The difference in industrial value added per employee between the electric industry and manufacturing industry in general was lower (24 percent) than the difference between average wages in these two sectors (38 percent). This indicated that in 1980, wage levels in this industry were more favorable than would be expected in terms of industrial value added per employee (Tables 3.1 and 3.2). It is also possible that changes in wage policy in 1979 and/or union mobilization accounted for higher average wage levels in the electric industry in comparison to manufacturing industry in general in Rio Grande do Sul in 1980. By 1980, state control of wages had slackened considerably, while at the same time, union mobilization had considerably increased. At the same time, competition among firms for skilled labor increased with the growth of the electronics industry. Thus, lower state wage control, increased union pressure and labor market conditions were all favorable to higher wages in the electric industry. We also argued that higher average wages resulted from differences in the organization of the labor process within firms.

However, our analysis of the collective agreements achieved by the Porto Alegre metalworkers union demonstrated that, after 1980, most clauses dealing with work conditions followed labor legislation. Between 1980 and 1983, wage gains beyond the official indexes of readjustment decreased (Table 4.1). Furthermore, there was a decrease in the Gini coefficient for the total labor force in the electric industry from .455 in 1976 to

.438 in 1983 (Table 3.8). This suggested that there was a decrease in labor differentiation amongst workers within the electric industry during this period (taking into account total labor force wages). In addition, there was an increase in labor turnover in the electric industry from 43 percent in 1980 to 50 percent in 1983. We argued that increasing wage differentiation between the electric industry and manufacturing industry as a whole in RGS from 1976 to 1980, was not solely the outcome of favorable product market conditions within the electric industry. The increase in wage differentials owed something to a more flexible state wage policy, increasing levels of union pressure and favorable labor market conditions (due to increase in inter-firm competition for skilled labor since the late seventies). If we compare the electric industry with the manufacturing sector in general, we can see that on average there was an increase in wage differentials by industry between 1970 and 1980. Nevertheless, if we take into account the wages of the entire work force, there was a decrease in labor differentiation within the electric industry between 1976 and 1983. These results indicated that in terms of wages state labor control was still acting as a strong brake to the process of labor differentiation within this industry. In fact, these findings are consistent with our assertion that state labor control substituted for bureaucratic labor control in Brazil during the seventies and early eighties.

Other studies appeared to confirm the importance of state labor control in Brazil during this period. It seems that there are indeed similarities in the major clauses of the collective agreements reached by other worker categories and those of the Porto Alegre metalworkers' union (Almeida, 1981; Pichler, 1983; Leite, 1984). However, these studies revealed that other worker categories in Brazil enjoyed some degree of union presence at the workplace. This suggested that both the dynamics of labor relations between management and workers within each individual work setting, as well as the internal organization of each union (in terms of political orientation and grass roots involvement) may also have accounted for differences in union representation at the workplace.

Studies of industrial labor relations systems in Europe, in Japan and in North-America (including Canada) revealed many differences when compared to the Brazilian system (OECD, 1979). A crucial difference is that these core capitalist countries are ruled by democratic political regimes and that union capacity is greater than in dependent countries such as Brazil. In core countries, unions enjoy greater autonomy from state. As a consequence, unions are in a good position for contract bargaining. This contrast was clearer in the case of the United States where the system of industrial labor relations is highly decentralized. Union and labor collective contracts in this country are predominately company-based.

In countries such as Italy, France and Germany, multi-industry, industry-wide and regionally-based collective contracts are more common than in the United States. In a limited sense then, they are more akin to the Brazilian case. As in Brazil, state intervention in the economy and regulation of the labor market are more common in European countries than in the United States.

However, the crucial difference between core capitalist countries and dependent countries like Brazil is that the unions in this latter case are effectively part of the state apparatus itself. This considerably reduces union capacity. During the authoritarian interregnum in Brazil, the state dominated unions and directly controlled their capacity to bargain by means of corporatist labor organization and repression. This explains, to a large extent, why bureaucratic control is less developed in dependent countries such as Brazil than in core countries, and in particular the United States.

Somewhat surprisingly, our analysis of the Porto Alegre metalworkers union revealed that the union is in fact potentially much stronger in small Brazilian firms than it would be in equivalent sized U.S. firms. In the case of new, small firms in the American electronics industry, one could expect that workers would almost certainly be unorganized, very difficult to organize, if not unorganizable. This is partly because at the lower levels, such

firms employ a population that is divided by ethnicity and legal status, as well as by gender.

While in Brazil unions exist in all kinds of firms, they are controlled and legitimized by the state. The organization of the union system in Brazil incorporated the union into the state apparatus itself. It is theoretically conceivable, therefore, that insofar as the Brazilian state continues to move towards a more liberal democratic and "welfare-oriented" regime, unions will have better opportunities to grow stronger in the future when compared to the situation of unions in the U.S. In this respect, the capacity of unions in Brazil may approximate those in Europe, in that state intervention in the economy and regulation of industrial labor relations are likely to continue. In the electric industry, this tendency would be further reinforced were the state willing to continue guaranteeing the market. The observed increased mobilization of the union could also feed into this trend.

In summary, the role of the state in Brazil is somewhat double-edged. During the period under analysis, the state limited possibilities for the development of primary sector working conditions. Not only did the state act as a brake on the process of labor differentiation, it also served as a substitute for bureaucratic labor control. Bureaucratic labor control is a relatively expensive form of labor control. It requires offering special advantages to workers in the form of higher wages, economic incentives and various social benefits. State labor control by means of state-sponsored trade union system made bureaucratic control unnecessary in Brazil. At the same time, the authoritarian state did not destroy the union system. On the contrary, it preserved institutional union structures that may be more favorable to the development of a primary sort of labor conditions in the future.

4. Gender as a Factor of Labor Differentiation

This section has two principal aims: 1) to review discussions of gender that were introduced in the different chapters of the thesis, and 2) to introduce a comparative dimension, by contrasting the results for the role of gender in the process of labor control in the setting of Brazilian dependent development with results from a core country such as the U.S.

Studies in core capitalist countries have shown that job segregation by gender has consistently allocated women to lower paying jobs with limited promotion prospects in comparison with their male counterparts (Kenrick, 1981; Hartmann, 1982; Bookman, 1984; Lamphere, 1985; Evans, 1984b). In Kenrick's interpretation, the revitalization of patriarchy in capitalist societies did not simply lower female earnings. Patriarchy was also imposed as a political force that subordinated the position of women in the labor market and in society in general. In Brazil, studies have identified the persistence of job segregation by gender (Schmink, n. d.; Humphrey, 1984b; Saffiotti, 1984). The "wage squeeze" policy imposed by the military regime during its first ten years of office led to a deterioration of unskilled and semi-skilled workers' wages. To supplement family income, many women entered the labor force, primarily as unskilled workers in low-paying jobs.

There was a significant increase in female participation in the economically active population in Brazil during the seventies. In 1981, the proportion of women in the total labor force in Brazil was 31.3 percent. This represented an increase of more than ten percentage points from 1970 (FIBGE, *Tabulações Avançadas do Censo Demográfico*, 1970; *Anuário Estatístico do Brasil*, 1982). In the U.S. the proportion of female workers in the total labor force was 42.3 percent in 1981. Between 1970 and 1981 the proportion of females in the labor force in the U.S. rose by almost seven percentage points (ILO, 1970, 1982).

Important differences in female participation rates in these two countries can also be found in manufacturing. In 1980, female participation in industrial work in the U.S. was 32 percent of the total, while in Brazil it was 24 percent (U.N. 1984). Thus, female participation in manufacturing in the U.S. was substantially higher than it was in Brazil. In 1980, it represented almost one-third of the total labor force in manufacturing in the U.S., compared with nearly one-quarter of the total industrial labor force in Brazil.

It is also interesting to compare female participation rates (in terms of the active female population in 1981) in a dependent country such as Brazil, and a core country such as the U.S. In Brazil, 33.4 percent of all females under the age of thirty were economically active in 1981. This compares to a participation rate of 32.2 percent for all females of 30 years of age or more (FIBGE, Anuário Estatístico do Brasil, 1982). In the U.S. the participation rate for females of less than 30 years of age in 1981 was very similar (33.2 percent). However, the participation rate for American women of 30 years of age or more in 1981 was 45.6 percent (ILO, 1982).

What this tells us is that a significantly higher proportion of women over 30 years of age were economically active in the U.S. than in Brazil in 1981 (nearly half of the total U.S. female population of 30 years of age or more compared to less than one third of the total Brazilian female population in the same age group). This suggests that the effect of the "life cycle" on female participation rates in the labor market in Brazil is much stronger. In the U.S. there are many more women over the age of thirty who enter the labor market for the first time and/or return to the labor market after child bearing. This indicates that the participation of working wives and/or mothers is much greater in the U.S. than in Brazil.

There are also important differences between male and female earnings in these two countries. In Brazil, the mean female wage represented only 57 percent of the mean male wage in 1980 (FIBGE, Anuário Estatístico do Brasil, 1982). In the U.S., the median

female wage was 77 percent of the median male wage for the same year (U.S. Bureau of the Census - Statistical Abstract of the U.S., 1982-1983). Therefore, as a percentage of male wages, female wages were substantially higher in the U.S. than in Brazil.

These figures suggest that the effects of gender segregation on female participation in the labor market and on women roles in society in general are stronger in Brazil than in a core country such as the U.S. The lower female participation in the labor market in general and in the manufacturing industry in particular, and the significantly lower female wages --when compared to male wages in the total economically active population-- indicate that the degree of discrimination against female workers is higher in Brazil than in the U.S.

On the other hand, the comparative position of females in manufacturing activities in the two countries was far more equal. The mean female wage in Brazil in 1980 equaled 49.6 percent of the mean male wage (FIBGE, *Tabulações Avançadas do Censo Demográfico, Brasil, 1980*). The median female wage for the same year in the U.S. equaled 52 percent of the median male wage (U.S. Census, vol.1, 1980). These figures indicate that wage differentials according to gender segregation in the manufacturing industry were not very high between the U.S. and Brazil. As posed by Evans:

... [in the U.S.] median female earnings in manufacturing remained unchanged at just over 50% of male earnings throughout this period [between 1960 and 1980], despite the radical changes in the degree of women's participation. In part, these differences reflect the fact that men remain concentrated in high-wage industries while women are found in more labor-intensive low-wage industries ... (1984b: 11).

In addition, results from studies done by Bookman (1984) and Lamphere (1985) suggested that similarities between female workers' labor conditions in the U.S. and in Brazil are most conspicuous when the work situation of female industrial workers in Brazil is compared to that of minority and immigrant female industrial workers in the U.S.

In her study of the work conditions of female industrial workers in a variety of factories in New England where Portuguese and Colombian female labor force are hired in considerable numbers (textile, apparel, toys, jewelry and jewelry cases), Lamphere (1985) stressed that gender segregation is a continuing process in the history of the transformation of women workers' participation in industrial work in the United States.

In the American electronics industry in particular, studies have indicated that women workers have been hired for lower job positions, with correspondingly lower wages than males (Backmann, 1962; Brecher, 1969; Sayer, 1986; Bookman, 1984; Evans, 1984). In Evans' terms:

Women not only continued to be concentrated in less desirable industries, they continue to be also concentrated at the lower rungs of the industry hierarchy within each industry, whether the industry is high tech or traditional. The distribution of men and women within electrical machinery and electronic equipment ... provides a good illustration. Jobs paying below \$6,000 dollars are overwhelmingly filled with women while jobs paying \$25,000 and more are almost exclusively male ... (1984b: 11-12).

Bookman (1984) described female jobs in the electronics industry in the U.S. as routinized and low-paying in comparison with more complex and better paid male jobs in the factory. This author points out that one of the main forms of management control was the sexual and ethnic segregation of the labor force. At the workplace, departments were divided by gender. In female departments, even though almost all women were Portuguese, their supervisors were non-Portuguese men.

However, when wage levels in the electronics industry in both countries were compared according to gender, the differences were once again contrasting. In 1981, median female earnings in the electronics industry corresponded to 56.5 percent of median male earnings in the U.S. (U.S. Census, 1980). Our data on mean wages by gender in the electric industry in Rio Grande do Sul indicated that the mean female wage was 49.5 percent of the male workers' mean wage in 1983 (Table 3.9). Therefore, as a proportion

of mean male wages, mean female wages in the electric industry in Brazil in 1983 were 7 percentage points lower than median female wages in the electronics industry in the U.S. in 1980. This suggested that although gender segregation in the labor market in both countries allocates women workers to less privileged jobs, it has more important consequences in the case of Brazil --a newly industrialized country-- than it did in the case of an advanced industrialized country such as the U.S.

Our data in Chapter III showed that in the electric industry in Rio Grande do Sul, the mean female wage represented a lower proportion of the mean male wage in comparison with corresponding levels in total economic activities, both in 1976 and in 1983. Nevertheless, there was a decrease in wage differentials by gender during this period. The mean female wage as a proportion of the mean male wage in the electric industry increased from 43 percent in 1976 to 49.5 percent in 1983 (Table 3.9). In addition, female wage span increased in the electric industry between 1976 and 1986. In 1976, 77 percent of female wages in this industry were concentrated within the Minimum Wage bracket. By 1983, 48 percent were concentrated within 1 and 2 Minimum Wages bracket. There was, however, higher female participation in other wage brackets, especially between 2 and 3 Minimum Wages (34 percent) and between 3 and 4 Minimum Wages (nearly 8 percent) in 1983 (Tables 3.5 and 3.6). Furthermore, there was an increase in the female Gini coefficient in the electric industry in RGS from .198 in 1976 to .275 in 1983, whereas there was a decrease in the male Gini coefficient during this same period from .500 in 1976 to .446 in 1983 (Table 3.8). In addition, female participation in wage brackets between 3 and 10 Minimum Wages increased faster than male participation between 1976 and 1983.

These figures suggest that there was a higher female wage span in the electric industry in 1983 than in 1976. This was accompanied by an increase in the mean female wage and an increase in female wage inequality. These figures also tell us that there was

an increase in labor differentiation among women between 1976 and 1983. This suggests that some new job positions commanding better pay were made available to skilled female employees in the electric industry in RGS between 1976 and 1983.

There was also an increase in male wage span in the electric industry between 1976 and 1983. The mean male wage also increased in this industry over this same 7 year period. Interestingly however, there was a *decrease* in male wage inequality in the electric industry between 1976 and 1983 (Tables 3.5, 3.6, 3.8 and 3.9). This indicates that in the electric and communications materials industry in Rio Grande do Sul, male wages were more concentrated around the mean in 1983 than in 1976. It also points to a decrease in the degree of labor differentiation among male workers between 1976 and 1983.

Our results show that there was a significant decrease (nearly one-third) in female employment in the electric industry, while female participation in the total of all economic activities in RGS increased (more than doubled) between 1976 and 1983. In Chapter III we suggested that such a decrease in female employment in the electric industry was the result of the Brazilian economic recession of the early eighties, because the recession had a more severe effect on female employment in that industry in comparison with the two other industries that we looked at in the metal-mechanical sector.

The most convincing explanation for the masculinization of the electric industry in Rio Grande do Sul between 1976 and 1983 would appear to be the exclusion of semi-skilled female workers from a privileged labor market. In fact, on average, male wages in the electric industry were significantly higher --both in 1976 and in 1983-- than male wages in the total of economic activities and in other industries in the metal-mechanic sector. The increased proportion of male workers in the electric industry in 1983 seems to indicate that in terms of male wages, this privileged labor market survived even during the worst years of the recession. In contrast, the substantial increase in female employment in the total of the economic activities suggested that unskilled and semi-skilled women workers

were driven away from this privileged labor market in the electric industry, toward other, less favored sectors of activity.

Our results also indicated the existence of a higher female wage span, with a higher mean wage and higher wage inequality in the electric industry in 1983. This suggests that new and improved job opportunities in white-collar positions were offered for skilled and professional female employees that remained in the electric industry during the period ending in 1983. This brought about a higher degree of labor differentiation among women in this industry between 1976 and 1983.

The data on labor turnover by gender revealed lower rates of labor turnover for females than for males in the electric industry in 1980. Nevertheless, the difference in labor turnover by gender in this industry was less than differences in labor turnover by gender in the total of the economic activities in RGS in 1980 (Table 3.12). Rates of female labor turnover in the electric industry (64 percent) were, however, fairly equal to rates of female labor turnover in the total of economic activities in RGS (69 percent) in 1980. This suggests that low job stability characterizes both female and male employment in the electric industry in RGS in 1980.

On the other hand, although labor turnover was higher for males than for females in the electric industry in RGS in 1980, male labor turnover was substantially lower in this industry than in the total of economic activities. This would appear to support our assertion that in terms of mean wages and job stability, the electric industry constitutes a privileged labor market for male workers in comparison with the total of economic activities.

Overall, the data we presented in Chapter III showed that gender segregation has been a major element of labor differentiation within the electric industry. Women's wages were significantly lower than men's in this industry, both in 1976 and in 1983. Moreover,

our findings suggest that a significant proportion of women were excluded from this relatively privileged labor market as the electric industry underwent a process of masculinization.

In Chapter IV, our study of the Porto Alegre metalworkers' union revealed that little was achieved by female workers through the union. Their demands at the first women's metalworker congress suggests that gender segregation continues to maintain females in a subordinate position to males in the labor market. This seemed to be especially true for minority women such as married and/or single mothers, and poorly educated women. Working mothers depend mostly on their kinship relations to attend work in the face of precarious nursery and day care facilities, both in residential areas and at the workplace.

Moreover, gender segregation was reinforced by the union. Clauses that addressed specific female workers' demands played a minimal role within collective agreements. Furthermore, male representatives dominated the union board. The union leadership's political orientation was centered on "common demands". According to this standpoint, female workers' interests were no different from all wage workers interest. This relegated female workers' interests to a secondary position, economically as well as politically. At the union, patriarchal practices served to continually reinforce labor differentiation by gender.

In the four firms that we studied in the Porto Alegre Metropolitan Area, gender segregation was found to be a major element of labor differentiation at the workplace. Most women workers were recruited for low job positions with correspondingly low wages. Women were excluded from labor training programs aimed at more complex tasks at the workplace. We found this to be the case for both the Electrical Plant and the Electronics Equipment Plant. Women workers were also excluded from command positions such as section boss. Their chances of promotion were clearly limited in each of the plants that we visited. There were, nevertheless, important differences between firms.

In the Electrical Plant, female factory workers could reach a supervisory position immediately below "junior supervisor", a position that was filled only by male workers. "Junior supervisor", "senior supervisor" and "section boss" were all hierarchically structured positions that were filled only by male employees. In the Electronics Equipment Plant, a few of the "best" female workers were selected (in general, group leaders), and promoted to the section where company products were tested with microscopic equipment in a room that was separated from the assembly section by windows. In another room --also separated from the assembly section by windows-- male and female technicians worked on quality control. In all the firms that were studied, however, women workers were considered incapable of overseeing male work on the shopfloor.

Many observations of the four factories studied were consistent with the data analyzed in Chapter III. This is the case for the substantially lower mean female wages than mean male wages in the electric and communications materials industry, on the one hand, and the employment of female shop floor workers mostly in low-paying jobs located at the bottom of the plants' job hierarchy, when compared to male shopfloor workers. We also saw that new and better paying clerical jobs were created for women with professional training, as in the case of the hiring of a female Psychologist in the Peripheral Equipment Company I and of the female Human Relations manager in the Electronics Equipment Plant. Although the head of the Human Relations Department in the Electrical Plant was a male professional, there were also female employees working in that department. In addition, the demand for bi-lingual female secretaries (with College education) was strongly emphasized by management during the interviews in the Peripheral Equipment Company II. The emergence of a new demand for female clerical workers in these companies is consistent with the observed increase in female wage inequality. In addition, the managers we interviewed in all four firms saw female shop floor workers as a more stable work force than males in the same positions. There was a perception that females were

better at doing repetitive tasks. Young male employees would continually search for a better job, while older and skilled male employees would take "the best offer", especially since in recent years there had been an increase in inter-firm competition for skilled shopfloor workers in the electronics industry. This seems to be consistent with the observed lower average female labor turnover, in comparison with male labor turnover in the electric and communications materials industry.

Most importantly, both the data presented in Chapter III and our observations from the case studies of the four firms indicated that gender segregation has clearly been a factor in the division of workers. Our study of workplace labor relations based on four case studies in the electronics industry in Rio Grande do Sul led us to conclude that the subordinate position of female workers was the outcome of their participation in the labor market as women, rather than of their job content. We argued that the concept of secondary worker proposed by Edwards (1979) does not adequately explain gender as an element of labor differentiation at the workplace. Management's criteria for female recruitment in these firms were in themselves a form of labor control. Existing patterns of patriarchy in the wider society affect practices of gender segregation at the workplace. These practices, in turn, reinforce patriarchy in society. By allocating female workers to less favorable jobs than males, the patriarchal practices at the workplace become a form of labor control. In the context of a dependent country like Brazil, gender segregation -- together with state labor control-- can substitute for bureaucratic control at the workplace. The combination of these two forms of labor control in Brazilian industrial relations during the period of analysis made other, more expensive forms of labor control, unnecessary.

As we have already pointed out, the comparison between female work conditions in the American electronics industry (and especially in those firms where there is significant immigrant female labor force participation) and the Brazilian electric industry uncovered many similarities. Nevertheless, when we compared wage levels by gender in the total

economically active population and in the electronics industry, the results showed that gender segregation in the Brazilian case was much more important factor. Overall, this study suggested that patriarchy has more dramatic consequences in affecting women's roles in a dependent society like Brazil, when contrasted to an advanced industrialized society like the U.S. In Brazilian society, discrimination against women assumes quite distinct forms. This became quite clear during interviews with the management of the selected firms. Managers argued that female workers were preferentially recruited for the assembly of print circuit boards because these tasks were more akin to the "female nature". Women, the argument goes, are bound to delicate tasks, to tasks that at the same time are monotonous and require concentration.

As do Bookman (1984) and Lamphere (1985), we argue that gender segregation needs to be understood as a dynamic process rather than limited to within a "narrow gender model", in that female participation in the labor market also effects the sexual division of domestic roles. Moreover, women are not necessarily passive in the face of patriarchal practices.

In the Brazilian case, our study showed that women increased their participation in the union through the election of the board of officers and through the organization of their first congress. Female workers actively participated in the 1986 strike, particularly in the Electrical Plant where female employment is substantially higher than in other firms in the electric industry within the territorial area of the Porto Alegre metalworker's union. Yet, in our case studies from Brazil, women workers have not emerged as strong actors.

5. Conclusion

Our study revealed that bureaucratic control is less developed in dependent countries like Brazil than in core capitalist countries such as the United States.

We argued that authoritarian state labor control has been the critical factor that has held back the emergence of bureaucratic control in Brazil. While enjoying a certain degree of autonomy from each other, state and management policies worked against labor differentiation. Moreover, the state's organizational and repressive capacities provided an alternative means of labor control: it made bureaucratic control unnecessary.

The principal mechanism for state labor control in Brazil was the state-sponsored trade-union system. This is all the more obvious when compared to advanced industrialized capitalist countries such as the United States where the union system is highly decentralized and autonomous from the state. In contrast to the situation in a newly industrialized dependent country, union bargaining is more likely to be affected by market forces than by state regulation.

However, our study also suggested that unions in Brazil are becoming increasingly autonomous from the state. Our analysis of collective agreements indicated that unions are attempting to create protective measures against worker competition in the labor market. The attempt has not met with complete success however. Moreover, we argued that insofar as the Brazilian state moves toward a more liberal democratic regime, the union will have the chance to increase its strength. We argued that the role of the state was double-edged. On the one hand it limited union capacity while on the other it legitimized the union by preserving its organizational structure and by incorporating it into the state apparatus. At the same time, increased union militancy might also contribute to an increased union strength in the future.

In addition, our study suggested that gender has been one of the key elements in the creation of divisions among workers in the labor market and the workplace in Brazil. If we compare our findings for gender differences in a dependent country such as Brazil with findings from a core country such as the U.S., it is obvious that gender segregation has a much stronger effect on female labor conditions in the former than in the latter. As mentioned earlier, we understand that gender segregation in the world of labor is not an isolated phenomenon. Furthermore, our results were consistent with the theoretical notion that patriarchy is in the basis of the organization of social relations both in the family and the workplace, as previously proposed. However, in this study we only analyzed gender differences in the labor market, at the union and, most particularly, at the workplace. The limitations of our empirical research do not allow us the formulation of a comprehensive conclusion regarding the particularities of patriarchy in Brazilian society as a whole. In spite of these limitations, our findings suggest that recurrent practices of discrimination against female workers are important components in the broader context of patriarchy in Brazil. We understand that the observed discrimination against female workers expresses specific forms assumed by patriarchy at the level of the "cultural hegemony" in Brazilian society.

Overall, the contrasts between findings from a dependent country such as Brazil and a core country such as the U.S. led us to conclude that in the context of a dependent country under the auspices of an authoritarian regime, the state accounts in large part for labor control. State action substituted for the development of bureaucratic control in Brazil. In the context of industrial labor relations in a dependent country such as Brazil --where bureaucratic control is less developed-- gender segregation becomes a more important factor of labor control. Based on our study it appears that future attempts to develop general theories of labor control should take careful account of these two factors.

APPENDIX

TABLE A.1
 Establishments, Production Employees, Real Wages and Real Industrial
 Value Added - Electric and Communications Materials Industry,
 RGS - 1970/1981

Year	Number of Establishments	Number of Employees	Average Real Monthly Wage per Employee* (Cr\$1.00) 1977=100	Real Ind. Value Added (Cr\$1,000) 1977=100
1970	86	4230	1,501.43	578,420
1973**	94	9175	1,957.24	1,077,520
1974	114	8872	1,636.95	1,168,979
1975	139	7931	2,217.77	1,537,645
1976	111	8873	2,019.38	1,586,779
1977	123	10126	2,247.99	1,911,815
1978	122	10601	2,368.14	1,711,875
1979	110	10328	2,230.36	1,897,776
1980	183	10689	2,373.29	1,986,580
1981	130	10121	2,524.83	913,124

Source: FIBGE, Censo Industrial and Pesquisa Industrial,
 various issues.

* Inclusive 13th wage

**1973 = total employees

Wages and Industrial Value Added deflated by IGP (the Index of
 General Prices) - disponibilidade interna. Revista Conjuntura
 Econômica, FGV, coluna 2 (1977=100).

TABLE A.2
 Establishments, Production Employees, Real Wages and Real Industrial
 Value Added - Metallurgical Industry,
 RGS - 1970/1981

Year	Number of Establishments	Number of Employees	Average Real Monthly Wage per Employee* (Cr\$1.00) 1977=100	Real Ind. Value Added (Cr\$1,000) 1977=100
1970	452	20855	1,528.27	1,902,076
1973**	459	31913	2,222.76	3,366,729
1974	533	30772	1,882.42	4,074,308
1975	783	33769	1,978.75	4,427,514
1976	674	35504	2,182.65	4,399,747
1977	694	36197	2,255.22	4,691,724
1978	708	36199	2,314.79	4,692,521
1979	688	36793	2,500.36	6,190,124
1980	1717	43616	2,016.78	6,322,466
1981	709	41742	2,163.91	5,536,385

Source: FIBGE, Censo Industrial and Pesquisa Industrial,
 various issues.

* Inclusive 13th wage

**1973 = total employees

Wages and Industrial Value Added deflated by IGP (the Index of
 General Prices) - disponibilidade interna. Revista Conjuntura
 Econômica, FGV, coluna 2 (1977=100).

TABLE A.3
 Establishments, Production Employees, Real Wages and Real Industrial
 Value Added - Mechanical Industry,
 RGS - 1970/1981

Year	Number of Establishments	Number of Employees	Average Real Monthly Wage per Employee* (Cr\$1.00) 1977=100	Real Ind. Value Added (Cr\$1,000) 1977=100
1970	376	11498	1,637.54	1,190,707
1973**	380	25235	2,326.07	3,163,834
1974	435	24805	2,218.56	4,001,049
1975	711	28328	2,450.81	5,276,098
1976	552	29451	2,637.03	5,607,831
1977	559	28019	2,913.98	4,791,844
1978	569	27225	3,027.18	4,794,211
1979	574	30671	3,114.13	5,499,830
1980	915	36676	3,022.57	6,723,651
1981	645	28028	3,514.94	5,406,246

Source: FIBGE, Censo Industrial and Pesquisa Industrial,
 various issues.

* Inclusive 13th wage

**1973 = total employees

Wages and Industrial Value Added deflated by IGP (the Index of
 General Prices) - disponibilidade interna. Revista Conjuntura
 Econômica, FGV, coluna 2 (1977=100).

TABLE A.4
 Establishments, Production Employees, Real Wages and Real Industrial
 Value Added - Total Manufacturing Industry,
 RGS - 1970/1981

Year	Number of Establishments	Number of Employees	Average Real Monthly Wage per Employee* (Cr\$1.00) 1977=100	Real Ind. Value Added (Cr\$1,000) 1977=100
1970	6686	173692	1,335.05	17,570,246
1973**	6340	277969	1,927.19	32,668,928
1974	6678	252832	1,633.05	39,264,224
1975	9701	288420	1,715.20	45,696,436
1976	8137	304515	1,876.33	48,751,192
1977	8250	307890	2,009.07	51,150,336
1978	8360	323750	2,094.55	55,556,408
1979	8221	338480	2,144.76	62,373,144
1980	19187	445788	1,711.51	66,871,664
1981	8868	357849	2,015.89	58,774,108

Source: FIBGE, Censo Industrial and Pesquisa Industrial,
 various issues.

* Inclusive 13th wage

**1973 = total employees

Wages and Industrial Value Added deflated by IGP (the Index of
 General Prices) - disponibilidade interna. Revista Conjuntura
 Econômica, FGV, coluna 2 (1977=100).

FIGURE A.1
EVOLUTION OF AVERAGE REAL MONTHLY WAGES
ELECTRIC AND COMMUNICATIONS MATERIALS INDUSTRY - RGS
1970/1981
(1977 = 100)

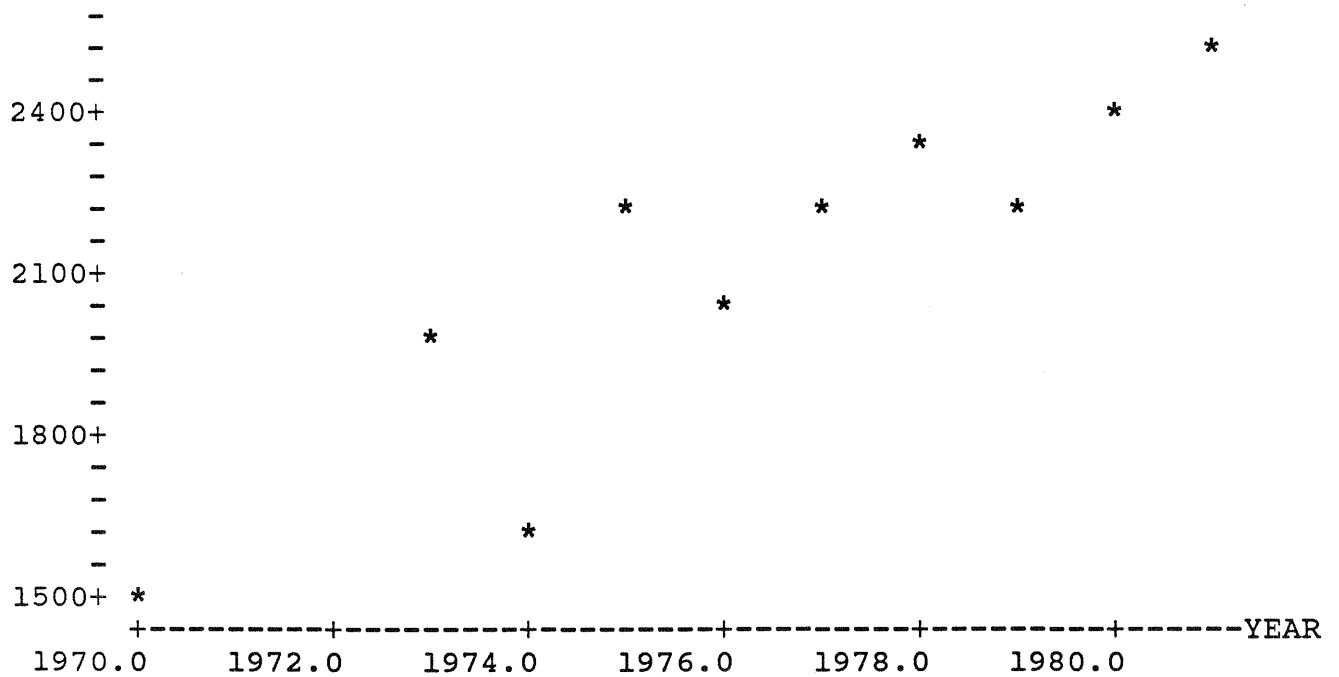


FIGURE A.2
EVOLUTION OF REAL INDUSTRIAL VALUE ADDED
ELECTRIC AND COMMUNICATIONS MATERIALS INDUSTRY - RGS
1970/1981
(1977 = 100)

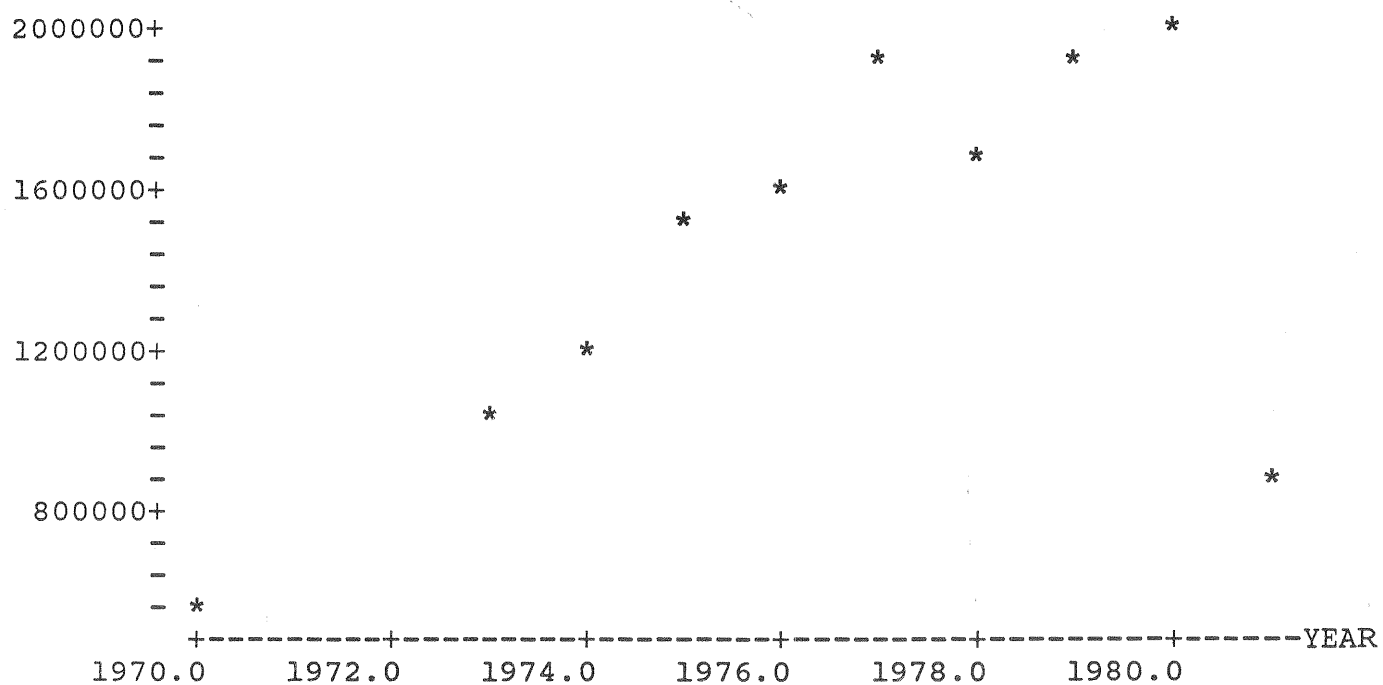


FIGURE A.3
EVOLUTION OF AVERAGE REAL MONTHLY WAGES
METALLURGICAL INDUSTRY - RGS
1970/1981
(1977 = 100)

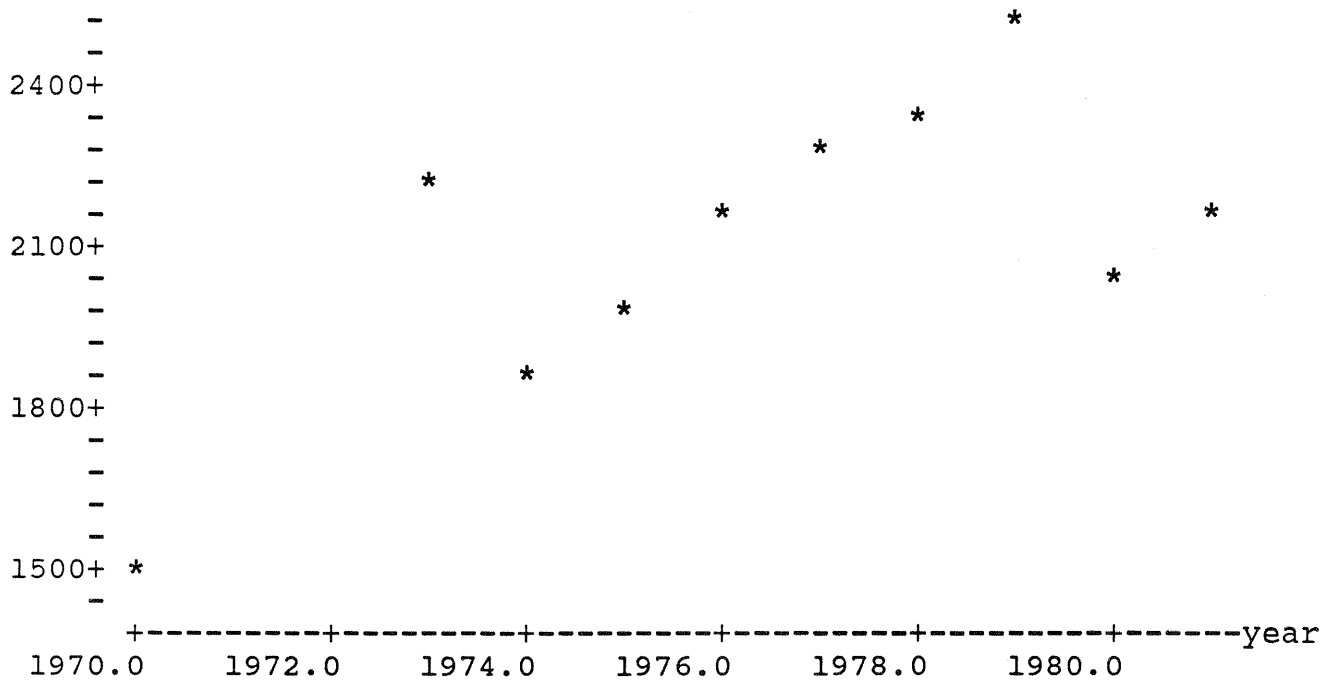


FIGURE A.4
EVOLUTION OF REAL INDUSTRIAL VALUE ADDED
METALLURGICAL INDUSTRY - RGS
1970/1981
(1977 = 100)



FIGURE A.5
EVOLUTION OF AVERAGE REAL MONTHLY WAGES
MECHANICAL INDUSTRY - RGS
1970/1981
(1977 = 100)

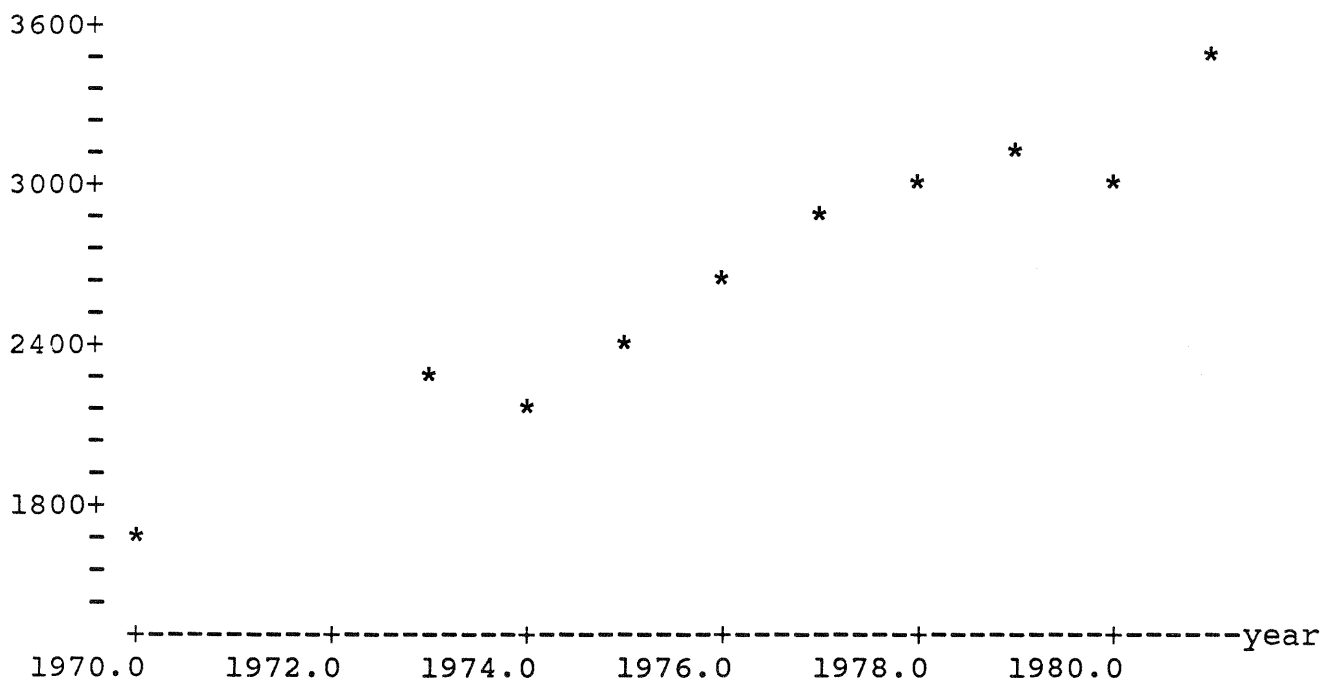


FIGURE A.6
EVOLUTION OF REAL INDUSTRIAL VALUE ADDED
MECHANICAL INDUSTRY - RGS
1970/1981
(1977 = 100)

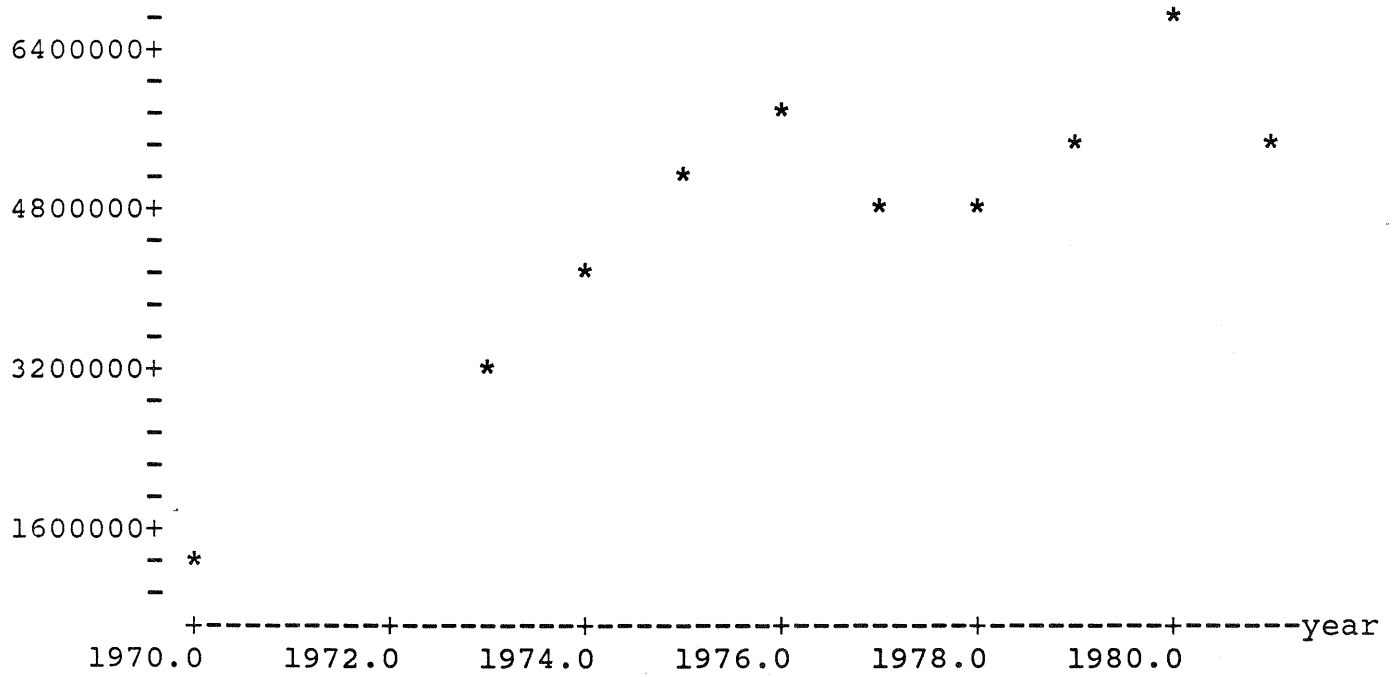


FIGURE A.7
EVOLUTION OF AVERAGE MONTHLY WAGES
TOTAL MANUFACTURING INDUSTRY - RGS
1970/1981
(1977 = 100)

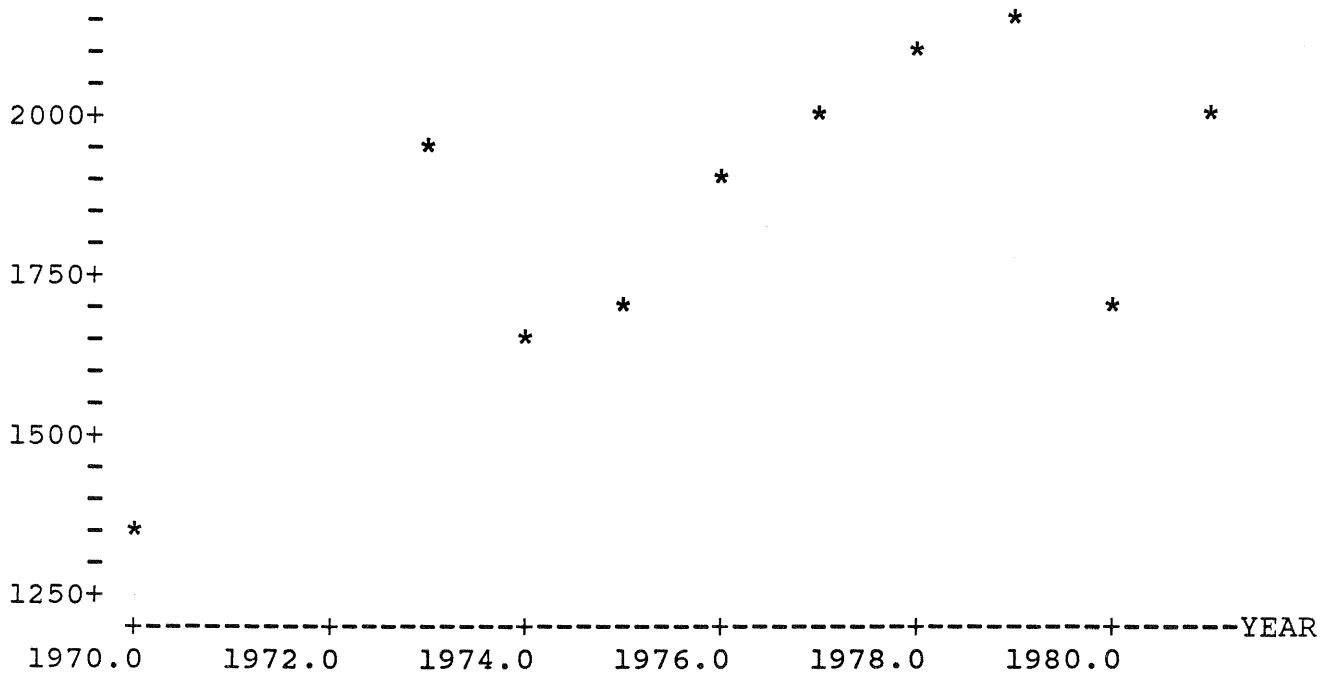
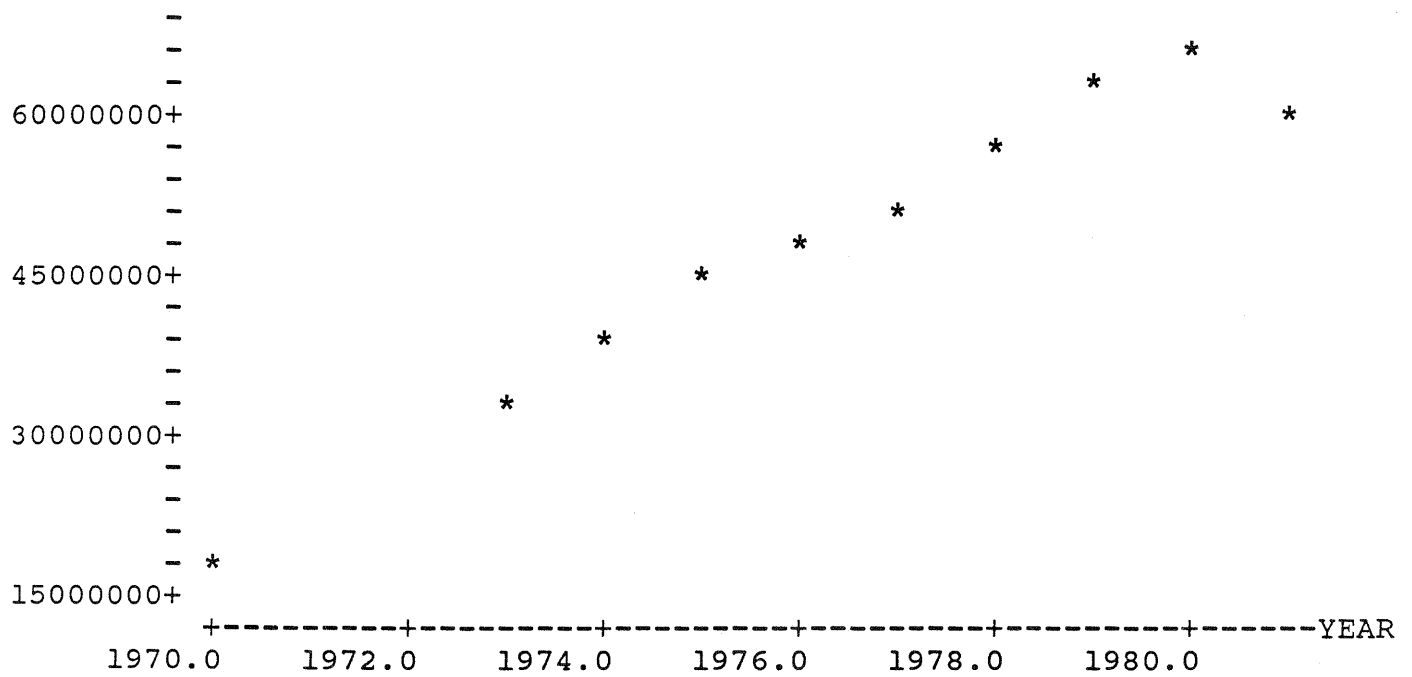


FIGURE A.8
EVOLUTION OF REAL INDUSTRIAL VALUE ADDED
TOTAL MANUFACTURING INDUSTRY - RGS
1970/1981
(1977 = 100)



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