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Deregulating Telecommunications: a case study in Brazil

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The industrialized societies of the end of the twentieth century experience radical transformations whose impacts assume a revolutionary character. The first studies to announce such a phenomenon were seen with distrust. Today, however, it is acknowledged that we live in a qualitatively different society, the so-called information society.

The technological support of that transformation resides in the so-called information revolution, expressed by the convergence between telecommunications and computer, making possible the transmission of a combination of voice, image, data and video (multimedia), whose impact redefines the relations of time and space.

The telecommunications sector becomes a strategic factor not only for the productive sector and the economy as a whole, but also for other dimensions of social life, as for areas as health, leisure, and education.¹

Telecommunications become not only a mean of communication between people, but the axis that moves the process of development, an indispensable factor for supporting the increasing process of globalization. The electronic data exchange makes possible the integration of firms, the analysis of market trends, the implementation of new methods of management (as just-in-time), as well as allows the development of business as the incredible expansion of the tourism industry, creating possibilities for reservations of hotels and flights in international scale. There is also an open field in the area of knowledge through the access to data and to education at distance. With telecommunications, ideas and money circulate around the globe in a never seen speed.

Telecommunications has experienced technological innovations during the entire century; in the last twenty years, however, those changes have been extraordinarily accelerated. On the properly technological aspect, there is the change from the analogical systems - based on electrical signals passing through metal channels - to the digital systems - light pulses passing

through optical fiber - as well as the use of satellites. Such changes revolutionized the sector as a whole. With the digitalization, computers instead of switches, software instead of hardware, are the source of change. There is, therefore, the expansion and diversification of services without changing machines. It becomes, thus, accessible a whole bunch of new services, the multimedia. The new technology turns obsolete the previous technology with implications concerning the world of work.

On the other side, the possibilities created by this new technology imposes transformations on the own philosophy of the sector, which turns from a conception of service as a public utility, to another strictly commercial conception, associated to the process of globalization.

Regarding telecommunications, the analysis of these changes involve not only “technological innovations”, but also, “deregulation/privatization/liberalization”, which brings out a new set of implications.

Therefore, despite the reasonable knowledge already gathered on the social implications from recent technological changes, the same is not true regarding the analysis of the process that combine technological changes and deregulation/privatization, especially considering the Brazilian reality, since its experience in this field is very new. Besides, these studies have focused on the manufacturing sector. Despite the increasing importance of the service sector, not only in terms of economic value and employment generation, but also, in terms of extension of technological change - as illustrated by the banking sector, telecommunications and computer - it has not deserved the necessary attention of Sociology of Work. To the contrary, there is an equivocal tendency of considering the service sector a simple appendix of the manufacturing sector.

Concerning telecommunications, the international academic literature is accompanying the process of deregulation, through the analysis of the different national experiences, offering case studies of great interest, demonstrating that the technological and economic convergence is not sufficient for achieving convergence in the institutional and working relations. It becomes clear, that the process of deregulation is not just - as the ideologues assert - purely an economic process, but it is, above all, a process of a political character, which involves the influences of different social actors.

¹ A new form of illiteracy is, today, represented by the incapacity of the using the computer language.

The process of privatization of telecommunications is just starting, in Brazil; it becomes, thus, interesting to analyze such a process in order to show its particularities, especially in terms of comparing with other experiences, in Europe, the United States and other countries in Latin America.

This paper is, thus, concerned on discussing the deregulation of telecommunication and its social implications: firstly, by critically reviewing the academic literature dealing with different countries in Europe, in the United States and in Latin America; and, secondly, by bringing some results of the research we carry out, examining a regional case, in Brazil - Companhia Riograndense de Telecomunicações (CRT) - opened to private capital in December, 1996.

The Break of Monopolies

The history of telecommunications during the great part of this century is the history of monopolies, independently of the kind capital - public or private. Example of this is the North American private monopoly, the American Telegraph and Telephone (AT&T) and the British public monopoly, the British Telecom (BT).

The presence of monopolies was justified by economic and technological reasons, since, on the one hand, the nature of the business demanded high investments and, therefore, scale markets, to be economically viable; on the other hand, there was a need of technical compatibility within a national system. Telecommunications were also considered a public utility service, a citizen right, whose efficiency the State should guarantee. In the case of private enterprise, as in the United States, in exchange for the condition of monopoly, the government imposed certain conditions as the need for “universal service” - a telephone in every household. This demand was possible through the use of “cross subsidy”, in which the costs of long distance calls subsidized the cost of local calls.²

The new technologies as the digital switches, the use of optical fiber and the transmission by satellites, make the transmission systems less costly and more flexible, awaking the interest of possible competitors, especially by the offering of a broad specter of new services, the value added network services (VANs), as the text video and the data , voice mail and tele-conference.

² Residential calls are usually not profitable for there is a low level of use for a high cost and complex system,

Together with the technical possibilities that makes those services particularly profitable, there is an unsatisfied demand, especially in terms of the high costs and the inefficiency of the services offered.

The movement for breaking the monopoly in telecommunications started in the United States, where AT&T - then the most powerful private enterprise in the planet - dominated. The multinational firms had a determinant role in that initiative: seeking lower prices for communication, especially concerning long distance calls, they demanded the opening competition.

In 1978, Microwave Communication Inc. (MCI), a small firm, founded in 1964, gained in Court the right to enter the long distance market³. The practice of cross subsidy was eliminated and the prices of long distance calls fell in 40 percent, in the period from 1982 to 1992 (Keefe & Batt, 1997:35).

A similar process happened in Great Britain (led by the City financing sector), which found in the Thatcher's government the political-ideological means for its accomplishment. British Telecom (BT) was the British first big state company to be privatized, selling 50.2 percent of the shares, in 1984, under strong opposition from the Labour Party and the trade unions (Ferner & Terry, 1997:90; Petrazzini, 1995:19-20). The complete privatization of BT occurred in the 1990s.

The North American and British experiences constituted themselves in examples and were followed by other industrialized countries, in Europe, Asia and Latin America. In Latin America, Chile was the first country to deregulate her telecommunications sector, and did in a radical manner, liberalizing the market in a complete way.

The interesting aspect in those experiences is that, even existing a convergence among them - the aim of restructuring the sector seeking competitive advantages at the international levels - they differ significantly with respect the ways they try to achieve that target: from the North American experience, in which the deregulation affects a private monopoly, passing through the European experience - the British case, from a public monopoly to a private quasi-monopoly - the German and French cases - where restructuring did not imply privatization - to the Latin American experiences - the Mexican case, where the process of privatization occurs with the cooperation of unions and under the dominance of national capital and strict regulation from the

³ For a detailed account, see Keefe & Boroff, 1994.

State; and the Argentinean case whose privatization resulted from a long process which endured more than one decade, facing strong political opposition, finally achieved in 1989, by Menem's government, whose Party led the previous opposition; and the Chilean case, which adopted, in 1994, perhaps the most complete market liberalization, in world terms.⁴

The restructuring process in telecommunications becomes an imposition, since it is at play - as mentioned above - a new definition for the sector, which was, up to then, considered (and managed) as a public utility service. In the new context, it becomes an essential factor of production and should, therefore, assume its role as the motor for business. Ideologically this process is supported by the neo-liberal ideas, which reject state intervention. The interests of the computer and the aerospace industries are also involved, in an attempt to impose, at a world level, the economic and technological hegemony of the United States, in the areas of service, too. Information becomes a valuable commodity and, as such, it seeks the expansion of markets.⁵

As a public utility service, telecommunications industry was characterized, in a world level, by positive aspects in terms of employment relations, guaranteeing employment stability, opportunity of career mobility based on seniority, opportunity of upskilling, as well as higher wages and fringe benefits than the average in the market. This situation is significantly altered with the deregulation.

Privatization, Deregulation and Liberalization

Before commenting on the implications of those processes, it becomes necessary to clarify the differences among concepts usually used as synonymous, as *deregulation, privatization and liberalization*.

Deregulation means a reduction of government intervention in what concerns the protection of social and economic interests which the market, for reasons of profitability tends to ignore. The state, thus, regulates a sector by imposing rules to the private enterprises, in favor of the general population, in an attempt to compensate for possible social damage caused by the economic activity.

⁴ For a detailed account of the restructuring processes mentioned above, see Katz, 1997; Petrazzini, 1995; Beca, 1993; Stehmann, 1995.

⁵ International Business Machines (IBM), leader in the world market of equipment for data processing, led the lobby in favor of the liberalization of the North American market (Hills, 1988:2).

In telecommunications, one of the basic regulating principles was, as above mentioned, the cross subsidy, which allowed lower prices for local calls and, thus, guaranteeing the “universal service”.

With the expansion of the process of globalization that rule became an obstacle to the expansion of businesses. That factor constituted one of the central aspects in favor of deregulation.

It should be stressed that *regulation* is not the same thing as *state ownership*, as well as *privatization* is not synonymous of *deregulation*. A public enterprise can be privatized, and a regulation maintained, sometimes in a more strict and transparent form. There are several forms of regulation and, in general, deregulation, does not mean complete absence of regulation.

On the other hand, *liberalization* means to open totally or partially the market to private competition; it constitutes itself in a powerful instrument for the sector’s expansion, for increasing efficiency, as well as for the falling of the prices of the services. Not necessarily means privatization. *Privatization* means the total or partial transference of state ownership to private ownership (Hills, 1988:28-9; 41-5; Petrazzini, 1995:16-7).

The processes above described are closely related to the process of restructuring of telecommunications, at a world level. Each experience presents, however, different arrangements in terms of the kind of combination among them. Therefore, although a common movement, that the industrialized countries of Europe, North America, Asia and Latin America are, indistinctly, experiencing, the nature, motivation and arrangements differ among them. A fundamental difference concerns the motivation: the highly industrialized countries, as the United States and Great Britain, implement the reform of telecommunications responding to internal pressures originated in the entrepreneurial groups identified with the big multinational corporations - in searching for efficient, sophisticated and diversified services - as well as from pressures originated in the industrial sectors linked to the production of equipment bound for the new configuration of the telecommunications sector (computer and aerospace industries) - searching for markets and the consolidation of the technological hegemony of the United States. In the “peripheral” countries, as the Latin American ones, where in general, the monopolies in telecommunications were either a state ownership or state controlled, the restructuring in the sector found its first obstacle in the government incapacity of financing such an enterprise, as a

result of the fiscal crisis that affects these countries' finances since the middle 1970s, being aggravated in the 1980s.

Restructuring in those countries assume a defensive character, responding to external pressures, without, therefore, having any influence in terms of the definition of the process, since they are, in general, technological unprepared to incorporate such a changes from within. Such a situation implies, sometimes, in total or partial transference of public assets, many times, to the foreign capital. The interference of foreign actors is not limited to the presence of investors, but it is also present through the action of financing agencies as the International Monetary Fund (IMF) and the World Bank, which press the governments for implementing the reform, assisting them technically (Petrazzini, 1995:36)⁶. Such interference are interpreted as an affront to national sovereignty. Indeed, the new degree of technological changes imposes a new dimension in the links of dependency among the "central" and "peripheral" countries in which the first have the capacity of generating, providing and detaining information, while the latter are just consumers. The "new dependence" is based in a new international division of labor, whose nature is perhaps more difficult to overcome than the old "dependence". "Under- information is the new noun for underdevelopment" (Dantas, 1997:93).

Despite the clear differences which characterize the several national arrangements concerning the telecommunications sector, there is, as referred before, a convergence among the countries regarding the prevailed working conditions previously to restructuring. Those conditions were considered outstanding, for offering opportunities above the market average, either in terms of employment security, wages, career mobility and fringe benefits based on seniority. Those "privileges" were obtained, in great part, due to the trade unions strength - a remarkable world convergence.

That situation is greatly altered after the processes of privatization, deregulation and liberalization in the sector, with repercussions that affect the employment relations, the work organization, the internal labor market, the structure of wages and promotion as well as the industrial relations. In this sense, more than simply technological changes, one observes not only

⁶ See the document that "summarizes the understandings between the Government of Brazil and the World Bank on a strategic restructuring of the Brazilian telecommunications sector reached during a World Bank mission of September 14-25, 1992 and takes under consideration the present constitutional and legal framework and the endeavors of the Government to achieve necessary and eventual changes". The document is signed by The Minister of Communication of Brazil and the Director of World Bank for Latin America and Caribbean Region. (Vianna, 1993:271).

a change in the culture of the enterprise, but a change in its philosophy: as referred above, the enterprise moves from a conception of supplier of public utility (perceived as a factor of national integration and sovereignty) to a conception of supplier of a commodity which would serve mainly the international business community and whose profits should satisfied the investors concerned with the financial performance of the enterprise.

At the same time, such changes are implemented in a context, generally, conditioned by rules of public service, where the workforce enjoys benefits and privileges which cannot be maintained in the long run.

The analysis of the particularities of the restructuring in the telecommunications sector contributes for a better understandings of the changes that affect the world of work, in the end of the century.

Following, we examine relevant aspects of that experience - employment conditions, work organization, structure of wage and promotion, industrial relations - considering case studies from different countries, bringing at the end, some trends already visible in the recent experience of CRT - a state telecommunications company recently privatized, in Brazil.

Employment

Employment is, today, worldly one of the most discussed issues, due to the increase of long duration unemployment rates, even in the highly industrialized countries, as France Germany, Holland, Italy and Spain, among others. This phenomenon has been characterized as structural unemployment, since it is supposed to derive, in great part, from technological changes which, on the one hand, save workforce and, on the other, turn obsolete the existent skills. In this sense, unemployment affects not only unskilled workers, but also the skilled ones.

Concerning telecommunications, to the extent that many functions are now performed by expert systems - as diagnostics and maintenance, as well as errors detection and correction - a significant percentage of workers specialized in those functions, becomes dispensable. The use of systems as audible response with electronic voice, dispense the work of operators. The workers specialized in electric-mechanical switches are also negatively affected, since their functions are replaced for digital switches; the same occurs with administrative staff who perform activities

related to accountability, replaced by special software. The new digital technologies, in their turn, require new skills, as specialization in computer and data analysis.

In the United States and Great Britain, the reduction of workers has been significant, although, in the United States, such a phenomenon occurred mainly in AT & T; in the communication sector as whole, the decrease in employment, in the first decade after deregulation, was only 10 percent (Keefe & Batt, 1997:55). In Great Britain, BT, one of the biggest private employers in the country (137 000 at the end of 1995), reduced its workforce by more than a half, in the first decade after deregulation. Between 1990 and 1994, 94 000 employees left the company, including thousands of managers.

According to Ferner and Terry, *“The trend is expected to continue for some years, with an estimated workforce of 100 000 or fewer by the end of the Century.”* (Ferner & Terry, 1997:107-8).

Characterized, in the past, by employment security, the sector, despite significant growth finds itself compelled to reduce personnel.

It is interesting to observe that some categories are more affected than others: in the case of telecommunications, the most affected category is the operators, whose routine activities are easily replaced by computer.

Other factors - as age, education, gender, employment security, seniority, trade union actions - interfere in personnel dismissals, after restructuring.

Lynch and Osterman studying a regional operator in the United States, concluded that a) the greater the skill of the employee, the greater his/her chance of staying in the job, while the contrary occurs with the less or no skilled employees, since skill allows a better adjustment to the changes; b) the older the worker, the greater the likelihood of workers to retire; c) the employment security tends to stimulate retirement, while the non-security favors the dismissal; d) the greater the number of women in a given post, the lower the number of dismissal, since the company uses the high rates of turning off, characteristic of this group of employees, to accomplish its target concerning reduction of personnel⁷.

⁷ According to the authors, this conclusion is especially true for operators, a predominantly female category. This phenomenon does not happen when the categories without predominance of women, what, according to the authors, makes evident the existence of sexual segregation.

Indeed, the new situation has been faced by the firms through different strategies: programs of early retirement, of voluntary dismissal, of re-training and re-allocation of employees, in an attempt of avoiding involuntary dismissal, up to then, almost unknown in the sector. Some strategies are more utilized than others, depending on the societal arrangements. While in Great Britain and in the United States, the reduction of personnel through dismissal was significant, in Germany, where the process of restructuring counted on the participation of the unions and the works councils, the dismissal of workers are accomplished in a cooperative way, under the development of programs of re-training and re-allocation of workers.

In Spain⁸ - a country which has been involved a great deal with the processes of liberalization and privatization in Latin America (including the case of the present study) - the strategy of Telefónica de España has been to maintain, as much as possible, the principle of employment security despite the deep modernization. The same procedures were maintained by Telefónica de España in the cases of Mexico and Argentine, where it also participates as operator, not only complying with the conditions imposed by the governments of those countries, but also, as a result of the great expansion of market and the need for increasing the labor force.

The permanence as a monopoly interferes in the issue of employment relations. The greater the struggle to maintain the competition in the market, the greater the need for the enterprise to recur to dismissal, as a form of cost reduction.

The important conclusion is that the mass unemployment is not a necessary result of restructuring. Variables as market and political orientation in the process interfere in the result. It is interesting to note that mass dismissal did not occur in France, Germany, Mexico or Argentine, where the governments were committed with employment security.

In Germany, however, restructuring has not yet achieved the targets, being much delayed (Darbishire, 1997:226). In Latin American countries, the great market expansion maintains the need for employees, although depending of re-training and re-allocation.

In relation to the nature of employment in the telecommunications sector, the studies have shown deep transformations in what refers to the existent functions, in terms of the skills required to perform them. There is a tendency for the dominance of professional and technical functions, requiring training and formation. The use of digital systems greatly expands the demand for

software, turning obsolete the skills of many workers and engineering specialized in the electrical-mechanical technology. The emphasis, today, is the requirement of skills in computer. Despite the sector's high rates of growth, there is lower need of employees, particularly, of maintenance and repair, since with the introduction of new technology, those functions, on the one side, pass to be electronically performed and, on the other, become practically, nonexistent (as in the case of optical fiber).

Work Organization

Work Organization refers to the manner the firm conceives the way to explore the capacity of its workforce, aiming at obtaining better performance and greater productivity. As the strategies of reduction of personnel, the strategies of work organization also differ greatly among the cases: there are strategies based on restricted functions, minutely detailed through manuals leaving little or none autonomy to the employee or, to the contrary, strategies in which the functions are conceived in broader form, stimulating the polyvalence, team work, allowing the worker's involvement in the process of decision-making regarding work organization. This is a central issue to be examined when analyzing the restructuring process. It seems to be a consensus among the researchers, in terms of acknowledging that Taylorism is in discredit, today.

In any way, as referred before, the strategies of work organization differ according to socio-political arrangements: on the one side, there are strategies of short run, aiming at cutting costs based on work intensification; on the other side, there are strategies of long run aiming at facing competition, through qualification of its workforce, benefiting from it, instead of destroying it.

In that aspect, the reality in the telecommunications sector seems not to be different from the other economic sectors: one observes the trend to flattening hierarchies, as well as the intensification of the rhythm of work and overwork, mainly, concerning middle management and supervisors.

As in the other sectors, one observes in telecommunications, a transformation in the composition of employment, which has repercussions in the skill requirements. The expanded use of software contributes for increasing the number of people with computer skills, as well as increases the need for programming skills. The growth of competition also forces the increasing

⁸ Companhia Telefónica de España was also liberalized; the State, however, maintained the control over the decision-making

number of employees involved with selling, as well as employees with skills related to customer service. Such an activities require from the employees knowledge of different aspects of the firm, as well as to possess social abilities. These new demands can contribute to upskilling. In the same way, team work tends to grow bringing more satisfaction within the workplace, since employees demonstrate to prefer these kind of work organization to the traditional ones (Katz, 1997:15).

The firms in telecommunications tend to seek schedules which favor functional flexibility, at the same time they are investing significantly in programs of Total Quality. It would be incorrect, however, to assert that this is a universal path; in the same way, it would be incorrect to assert that there is homogeneity in terms of skill within the same firm. As observed in the manufacturing sector, in telecommunications it seems to have a workforce division, in the sense that some categories are submitted to deskilling, whereas others experience upskilling.

Searching for greater flexibility, the enterprises recur to subcontracting (Italy and Great Britain), although this strategy is not new, but had been traditionally used in telecommunications, especially in the case of less or non-skilled activities. However, the contrary occurred in Germany: the endeavors of union and works councils in maintaining the rates of employment in the sector after restructuring, resulted in reduction of subcontracting (Darbishire, 1997:215).

Once more it becomes evident the differences in relation to the competitive strategies.

Training and Formation

Training and formation refers to the forms through which employees acquire qualification within the employment and how they reflect in terms of promotion, satisfaction in the job and access to the external labor market. The growth of investments in formation and training by the enterprises has been a general feature in this context of restructuring. In telecommunications has not been different, especially, taking into account technological changes such as the introduction of digital switches. Significant amounts have been spent not only in re-qualification but also in courses for the implementation of programs of Total Quality.

Here, too, one finds different approaches: firms that emphasize long duration training, aiming at the totality of employees; others that use such a programs, selectively, creating a division among the employees, in terms of identifying a core and a periphery; or firms that use a limited

training, on-the-job, aiming at responding to specific needs of the enterprise, especially in terms of learning abilities that make the employees more productive for the firm. Such a training is not realized in the external labor market.

The German example is always cited as illustration of a societal characteristics which emphasizes a professional training aiming at the worker's broad development. More recently, on-the-job training has been developed, although, less as a way of cost cutting than a form of increasing flexibility and efficiency. The focus maintains itself in technical aspects, instead of simply in social or commercial aspects (Darbishire, 1997:206-7).

An important thing to investigate is to know in what extent training and formation are sufficient broad in order to make them transferable to the external labor market.

Career and Wages

The system of promotion in the internal market differs: from more automatic forms based on seniority, internal exams, training, to more individualized forms based on performance and productivity. The extension of the hierarchical scale also varies according to the incentives to the career, which are translated in forms of payment. The trend today is, in general terms, to abandon the systems of promotion based on seniority replacing them by individualized systems, despite the resistance of the trade unions.

The telecommunications sector, after restructuring, begins to adopt the new approach, both, for the internal labor market as for remuneration, contrary to what happened in the past, when telecommunications firms were characterized for having a hierarchical system based on well defined rules of promotion and re-allocation, as well as of overtime. Restructuring, however, demands flexibility: functional flexibility in a sufficiently broad sense of the functions, allowing the performance of new tasks whenever necessary; flexibility in the policy of promotion in a way of creating opportunities of mobility based not on seniority, but stimulating the development of abilities, productivity, performance and intensification of the rhythm of work.

The same occurs in relation to wages, which are not any more uniform and collectively negotiated, but become flexible and contingents, based on performance and paid through bonuses, participation in profits and so on. The concession of those benefits is, however unequal, considering the different categories.

Industrial Relations

The telecommunications sector was characterized, worldly, for being strongly unionized. With restructuring, one observes a decline in the influence of the unions, to the extent that, on the one hand, increases the use of individualized employment policies and, on the other, there is a development of forms of working organization which tends to promote the employee's loyalty to the enterprise, leaving them close to managers and, in this way, subverting the collective solidarity among workers. This seems to be the case in Great Britain, where the tradition to negotiate wages for the workforce as a whole, guaranteeing the same dates for negotiation, the same percentage of wage increases for the different categories, was broken by British Telecom which starts to demand different dates for negotiating different arrangements, weakening thus the power of the union which loses capacity of coordinating these procedures (Ferner & Terry, 1997:114-5).

According to Keefe and Batt, AT&T, in the United States, is changing from an enterprise where the majority of workers were unionized, to an enterprise with the majority of workers non-unionized: since the beginning of restructuring process, there would have had a reduction of fifty percent of unionized workers. The authors estimate that if that trend continue, in the year of 2004 would not have any unionized employee in AT & T (opposed to Germany, where the rate of unionization, in the sector of telecommunication, is 90 percent).

There is a clear wage difference between the unionized and non-unionized employees - a difference that would have grown from 8 percent to 20 percent, in the period from 1990 to 1995 (Keefe & Batt, 1997:52-6).

The unions, in many countries, led the opposition, resisting to the process of restructuring, especially in the case of privatization, as happened in Great Britain and Argentine, where many strikes occurred against privatization (Becca, 1995:60).

In other cases, as in the United States, the unions accepted restructuring and the reduction of personnel as an inevitable result. In exchange, the unions tried to guarantee generous monetary compensations for voluntary dismissal, to negotiated early retirement programs, as well as retraining and reallocation programs.

In Mexico, the process of restructuring and privatization occurred in cooperation with the unions which accepted the new approach based on modernization and competition and on

increasing efficiency in the sector. In exchange, the government demanded to the buyers, as a condition for selling the telecommunications enterprise, Telmex, the maintenance of the workers rights as well as de non-dismissal of personnel (Garza & Herrera, 1997:326-28; 335).

In France, the same occurred, with the workers participating in the negotiations which defined the conditions for the process of change, once they were convinced that the process was inevitable and that the government would guarantee the maintenance of their rights.

The case study - The CRT

Government's involvement in the telecommunications sector in Brazil is relatively recent, considering that the services began in the XIX Century, when Graham Bell gave Emperor Pedro II a telephone, as a personnel gift; and that the public enterprise, *Embratel*, was only created 33 years ago, in 1965, soon after the military coup. Until then, telecommunications services were very poor, expressed by one of the lowest density in the world (1 million lines for 70 million inhabitants).

In 1972, *Telebras*, a public holding, was created completing the Brazilian telecommunications system integrated by: a) the 24 state telecommunications companies, in charge of the services within their territories; b) *Embratel*, in charge of interstate and international communication as well as special services, including data communications; and c) CPqD, the research and development center (Beca, 1993: 147-9).

During the 1970's, *Telebras* grew at very rapid rates, based mainly on resources raised by the *Fundo Nacional de Telecomunicações* (an investment fund to which a 30 percent tax on telecommunication was allocated).

The economic crisis of the mid-1980's stopped the initial dynamism. The situation of *Telebras* was aggravated in the 1990's: low penetration of telecommunications services (six main telephone lines per 100 inhabitants); low quality standards and low productivity (11 employees per 1000 inhabitants) (Beca, 1993: 148).

The *Companhia Riograndense de Telecomunicações* (CRT), the object of this study, was only partially integrated to that system. It was nationalized in 1962, by the Rio Grande do Sul nationalist governor at the time, Leonel Brizola.

After the first ten years of nationalization, the company grew 150 percent. At that time, it became a joint-venture, owned by the state of Rio Grande do Sul, by the subscribers and by *Telebras*.

In the 1980s, the company tried to follow the technological development in the sector, introducing digital switches (the first one was introduced in 1986). The 1990s were marked by the emergence of more sophisticated new technology, imposing the need for the company's greater modernization. There were great efforts in that direction: installation of optic fiber cables, the replacement of analogical for digital switches, massive investments in information technologies and the improvement of satellite communication. But the results were still poor: in December, 1995, the company's density concerning conventional terminals was 8.3 per 100 inhabitants, one of the lowest compared with other Brazilian Southwest and South states (TeleBrasilia, 20.1; TeleSP, 15.2; TelePar, 10.0; TeleSC, 9.2) and some Latin American countries (Uruguay, 18.3; Argentina, 14.3; Colombia, 10.6; Mexico, 9.7). There was a waiting list of about 450 000 for conventional terminals and the same number for cellular telephones (but a potential market estimated in circa of 800 000).

In December, 1996, 35 percent of the company's shares were sold. That selling was part of the federal government's aim of breaking the State monopoly in several economic sectors, including telecommunications (guaranteed by the 1988 Constitution). The winner of the bid was a consortium formed by Telefónica Internacional de España S/A, RBS Participações S/A, Telefónica Argentina S/A, Companhia de Telecomunicaciones De Chile S/A .

The government, the Company and the Consortium signed a Contract defining rights, obligations and the targets to be achieved by the Company:

- to increase productivity, quality of services and profitability;
- to improve efficiency, efficacy, increasing competition and the satisfaction of users;
- to adjust the company management strategy with the State policies, aiming at quality and universal services.

One year after the liberalization there was an increase of the plant of 46 percent and an increase of the revenue of 28.9 percent, comparing with the previous year. The degree of digitalization of the plant grew from 62 percent, in December, 1996, to 69 percent, in December, 1997, and the extension (Km) of optic cables installed grew 62.4 percent in the period; the

number of public telephone grew 80.3 percent and the total telephone density grew almost 50 percent in relation to the previous year, as shown in Table 1.

Table 1 - PERFORMANCE INDICATORS (1995 - 1997)

| Indicators | 1995 | 1996 | 96/95 (%) | 1997 | 97/96 (%) |
|-----------------------------------|--------|---------|-----------|---------|-----------|
| Lines Installed (cellul/convent.) | 856305 | 1122688 | 31,1 | 1521584 | 35,5 |
| Digitalization of Plant (%) | 37,4 | 51,2 | 36,8 | 59,9 | 17,0 |
| Optic Fiber (Km installed) | 483,5 | 1 080,7 | 123,5 | 1754,6 | 63,4 |
| Public phones in Service | 14.262 | 16.143 | 13,3 | 29.112 | 80,3 |
| Lines in Serv/100 inhab | 8,2 | 10,3 | 25,6 | 14,8 | 43,7 |
| Number of Employees | 5.846 | 4.451 | - 23,9 | 4.640 | 4,2 |
| Employees/1000 lines installed | 6,8 | 4,0 | 41,2 | 3,0 | 25,0 |
| Lines in Service/ empl | 129,9 | 213,9 | 64,7 | 299,8 | 40,2 |
| NetRevenue/Ser (R\$ million)* | 461 | 729 | 58,0 | 938 | 28,7 |
| Econ.Investmen (R\$ million) | 226 | 405,3 | 79,3 | 809,1 | 99,6 |

Source: Annual Report CRT, December 1997. * R\$ 1,00 = US\$ 1,15.

Table - 2 TELEPHONE TRAFFIC (1995 -1997)

| (Million) | 1995 | 1996 | 96/95 (%) | 1997 | 97/96 (%) |
|-------------------------|-------|-------|-----------|-------|-----------|
| Total Calls | 373 | 441 | 18,2 | 585 | 32,7 |
| Nation long-dist calls | 369 | 436 | 18,2 | 436 | 0,0 |
| Internation calls | 4,6 | 5,0 | 8,7 | 6,0 | 20,0 |
| Natio long-distancminut | 1.358 | 1.535 | 13,0 | 1.540 | 0,3 |
| Internat minutes | 18 | 20 | 11,1 | 24 | 20,0 |

Source: Annual Report CRT, December 1997.

That good performance in technical terms was offset by tariff restructuring, aiming at eliminating cross subsidy, as occurred in other countries; and by a reduction and restructuring of staff.

Concerning tariffs, there was a restructuring implemented by the Federal Government, in April, 1997. There was a significant increase (270.4 percent) for residential service, while non-residential experienced a much lower increase (59,2 percent). The general trend of favoring business, instead of residential users, is accomplished.

Table 3 - TARIFF UPGRADE, 1997 (%)

| | |
|---------------------------|---------|
| Local Basic (residential) | 270,4 % |
| Local Basic (business) | 59,2% |
| Public Telephone | 59,4% |
| Local Pulse | 61,1% |

Source: Annual Report CRT, December 1997.

Concerning employment, there was, in 1996, a program of voluntary dismissal (PVD), reducing by 1 450 the number of employees. The PVD allowed an average reduction in the cost of pay-roll of 20 percent per month. Table 5 shows the gains in productivity since 1992: from a total number of 5 974 employees in 1992, there are 4 640 employees, in 1997. The striking fact is that the cost of staff related to the company net revenue, fell from 79.9 percent in 1992 to 26.4 percent, in 1997; while the number of lines per employee, increased from 93.5 lines, in 1992, to 299.8 lines, in 1997; the net revenue per employee increased from 25,5 (R\$ thousands) to 202,2 (R\$ thousands, in 1997 - an expressive increase of eight times. There is a trend of rationalization in the company since the beginning of the 1990s, however, it becomes more evident after 1995, when the company begins its preparation for liberalization. In that sense, the changes began before the act of deregulation, although they had been oriented by that process.

Table 4 - RATIONALIZATION INDICATORS (1992 - 1997)

| Year | Total Number of Employees | PersonnelCosts/NetRevenues % | Lines on Service/Employee | NetReven/Empl.(R\$thous) * |
|------|---------------------------|------------------------------|---------------------------|----------------------------|
| 1992 | 5.974 | 79,9 | 93,5 | 25,5 |
| 1993 | 5.901 | 70,0 | 102,9 | 28,1 |
| 1994 | 6.218 | 57,1 | 109,6 | 44,4 |
| 1995 | 5.846 | 51,8 | 129,9 | 78,9 |
| 1996 | 4.451 | 34,2 | 213,9 | 163,7 |

| Year | Total Number of Employees | Personnel Costs/ Net Revenues % | Lines on Service/ Employee | Net Reven/Empl.(R\$thous) * |
|------|---------------------------|---------------------------------|----------------------------|------------------------------|
| 1997 | 4.640 | 26,4 | 299,8 | 202,2 |

Source Annual Report CRT, December 1997.

R\$1,00 = US\$ 1,15.

The dismissals were followed by new recruitment. The requirements for the entrants are to possess skills adjusted to the new technologies. In 1997, 604 new employees were admitted, while 415 were dismissed.

It is interesting to observe the changes in the level of the employees' education in the short period between April, 1996 and December, 1997.

Table 5 - LEVEL OF EDUCATION OF EMPLOYEES (1996-1997)

| Level | Beginning. PVD April, 1996 (%) | After PVD Dec., 1996 (%) | After Liberalizat. Dec., 1997 (%) |
|-------------|--------------------------------|--------------------------|-----------------------------------|
| University | 8,3 | 11,34 | 11,1 |
| High School | 45,39 | 50,35 | 51,6 |
| Elementary | 46,38 | 38,31 | 35,3 |

Source: Annual Report CRT, December 1997

There is a significant reduction of staff with low level of education and an increase of staff with higher levels of education, that is, high school and college education, being the latter, proportionally, more expressive.

The higher levels of skills now required can also be observed by the increase in the number of trainees and of courses (both almost doubled from 1996 to 1997), as well as in hours of training (the number of hours in training in relation to the hours in work per employee, was 34.9 percent in 1996, and 47.4, in 1997) offered by the company, as shown in table 7:

Tabela 6 - TRAINING (1995 - 1997)

| Training Program | 1995 | 1996 | 1997 |
|----------------------------------|--------|--------|--------|
| No. of Trainees (with repetitio) | 5 233 | 6 606 | 11 750 |
| Courses | 339 | 776 | 1 250 |
| Number of class- hours | 11 348 | 20 406 | 29 957 |
| Hours of | | | |

| | | | |
|------------------|---------|---------|---------|
| Training Program | 1995 | 1996 | 1997 |
| training | 125 654 | 155 421 | 220 007 |
| Cost of training | 2 755 | 3 788 | 3 927 |

Source: Annual Report CRT, December 1997.

The program of training had a significant development and was accomplished through annual accords with institutions such as SENAI (a professional school maintained mainly by the private manufacturing sector), for training 544 employees; with the Federal University of Rio Grande do Sul, for training 30 managers; with the Catholic University for training 4 000 employees in the areas of network, power, transmission and commutation. In 1997, 1 420 employees were trained in basic software; language courses (mainly, English and Spanish) were also offered by the company.

The training program has a predominantly technical character in which computer languages has an important role.

These changes, which in a certain way contribute for upskilling the workforce, is also reflected in the wages which grew 10.8 percent, in 1997, an increase above inflation.

However, considered in terms of the wealth generated by the company (an increase of 25.5 percent in relation to 1996), there was a significant fall in the employees' participation in that wealth. Comparing the years 1996-1997, one observes that while all other items (capital remuneration, taxes to the government and investments) experience increases, employees' wages suffers an expressive fall.

Table 7 - DISTRIBUTION OF WEALTH (1996-1997)

| | 1996 % | 1997 % |
|----------------|--------|--------|
| Empl.Remuner | 42,2 | 27,4 |
| Govern (taxes) | 27,4 | 28,2 |
| RemuofCapital | 9,8 | 16,2 |
| Investments | 20,6 | 28,2 |

Source: Annual Report CRT, December 1997.

Some Final Considerations

It is too early to make any assessment in terms of the implications of the processes of liberalization and restructuring in the telecommunications company under study, since the former

occurred just one year ago and the latter, although already in course, gained real impetus after liberalization. Even so, it is possible to observe some trends.

There is a clear trend in terms of changing the compositions of the workforce, reducing the percentage of the low educated, while increasing the percentage of the higher educated. This evidence would support the hypothesis that the introduction of new technology in telecommunications sector, requires a higher educated workforce, not only because those with higher education have a “comparative advantage with respect to the adjustments required ... “ (Lynch & Osterman, 1989:190), but also because the information and digital technology now adopted, tends to deeply reduce or eliminate posts, like operators and repair and maintenance personnel.

With liberalization and competition, the rhythm of expansion, already existent in the company, especially, since 1995, when preparing for deregulation, has been accelerated. While the plant grew 46.1 percent in relation to the year before, the staff grew only 4.2 percent, after a previous reduction through the program of voluntary dismissal (PVD).

Contrary to what happened in other cases like in Germany, France or Mexico, in the case under study, the company preferred, instead of reallocation, to recruit new employees. This strategy could be better understood if observed that after the PVD, there is a significant reduction in the group of employees with elementary degree of education, that is, those whose posts are more likely to be eliminated.

On the other hand, after deregulation, the union - strongly opposed to the process of deregulation - lost its role employees’ spokesman, losing also any capacity of intervening in the of restructuring.

As mentioned above, the process of deregulation in CRT is in its beginning, but some trends become to be evident: in terms of employment conditions, the company seems to be much closer to the British “model”, than to the French, Germany or Mexican ways.

REFERENCES

ANTONELLI, Christiano. *The diffusion of advanced telecommunications in developing countries*. Paris: OECD, 1991.

BARRET, Martin; HEERY, Edmund. "It's good to talk"? The reform of joint consultation in British telecom. *Industrial Relations Journal*, v.26, n.1. Oxford, March, 1995. p.57-64.

BATT, Rosemary. From Bureaucracy to enterprise? The changing jobs and careers of managers in telecommunications service. in: OSTERMAN, P (ed). *Broken ladders. Managerial careers in the new Economy*. New York: Oxford University Press, 1996.

BAUER, Johannes M. Globalization of telecommunications operators under conditions of asymmetric national regulation, in: POGOREL, Gérard. *Global telecommunications, strategies and technological changes*. Amsterdam: Elsevier Science B V, 1994. Pp. 315-31.

BILATHERWICK, David E. S. *The International Politics of Telecommunications*. Berkeley: University of California Press, 1987. (Research Series n. 68).

BOLTON, Brian et al. *Telecommunications services. Negotiating Structural and Technological Changes*. Geneva: International Labour Office, 1993.

CAPPELLI, Peter, BASSI, Laurie, KATZ, Harry, KNOKE, David, OSTERMAN, Paul, USEEM, Michael. *Change at Work*. Oxford, Oxford University Press 1997.

CARPENTIER, Michel; FARNOUX-TOPORKOFF, Sylviane; GARRIC, Christian. *Telecommunications in transition*. New York: John Wiley and Sons, 1992.

COSTA, Maria Conceição. Mudanças institucionais e privatização na década de 90: uma comparação entre Europa e América Latina no setor de telecomunicações. Paper apresentado no *II Congresso da ALAST*. Dezembro, 1996. Datilo.

COUTINHO, Luciano; CASSIOLATO, José E. & SILVA, Ana L.A. da (coords.). *Telecomunicações, globalização e competitividade*. Campinas: Papirus, 1995.

DARBISHIRE, Owen. Germany, in: KATZ, Harry (ed.), op. cit.

DUTTON, Willian (ed.). *Information and communication technologies. Vision and realities*. Oxford: Oxford University Press, 1996.

FERNER, Anthony and TERRY, Michael. United Kingdom, in: KATZ, Harry (ed.) .), op. cit.

FREEMAN, Chris; SOETE, Luc; EFENDIOGLU, Umit. Diffusion and the employment effects of information and communication technology. *International Labour Review*. V. 134, n. 4-5. Great Britain, 1995. pp. 587-603.

FREGOSO, Rosa Linda. The PEIN in Spain: telecommunications and government policy. *Journal of Communication* v.38, n.1, Winter. Califórnia,1988. p.85-96.

GARFINKEL, Lawrence. The transition to competition in telecommunication services. *Telecommunications Policy*, v. 18, n.6. 1994. pp.427-31.

GARZA, Henrique de la and HERRERA, Fernando. Mexico, in: KATZ, Harry (ed.), op. cit.

HILLS, Jill. *Deregulating telecoms. Competition and control in the United States, Japan and Britain*. Westport, Connecticut: Quorum Books, 1986.

HOBDAY, Michael. *Telecommunications in developing countries. The challenge from Brazil*. London: Routledge, 1990.

JACOBY, Sanford M. *The works of nations industrial relations in global economy*. Oxford: Oxford University, Press, 1995.

KATZ, Harry. (ed.). *Telecommunications. Restructuring work and employment relations worldwide*. Ithaca: ILR Press, Cornell University, 1997.

KEEFE, Jeffrey, BOROFF, Karen. Telecommunications labor-management relations: one decade after the AT&T divestiture, in: VOOS, Paula B. (ed). *Contemporary collective bargaining in the private sector*. Washington, D.C.: Industrial Relations Research Association, 1994.

KEEFE, Jeffrey; BATT, Rosemary. United States, in: KATZ, Harry (ed.) op. cit.

LAMBERTON, Donald (ed). *The new research frontiers of communications policy*. Amsterdam: Elsevier Science B.V., 1997.

LARANGEIRA, Sônia M G. Reestruturção produtiva nos anos 90: aspectos do contexto internacional no setor de serviços. *Revista Brasileira de Ciências Sociais*. N.3, ano12, fevereiro, 1997. Pp. 35-47.

MANSEL, Robin; SILVERSTONE, Roger. *Communication by design the politics of information and communication technologies*. Oxford: Oxford University Press 1996.

NEGRELLI, Serafino. Italy, in: KATZ, Harry (ed.) op. cit..

NÉGRIER, Emmanuel. Public policy, organized interests and patrimonialism in Southern Europe: the case of telecommunications. *South Europe Society and Politics*, v. 2, n.1 Summer 1997, pp. 36-65.

NOAM, Eli M., POGOREL, Gerard. (eds.). *Asymmetric deregulation. The dynamics of telecommunications policy in Europe and United States*. Norwood: New Jersey. Ablex Publishing Co. 1994.

NOAM, Eli M.. Beyond liberalization. From the networks of networks, to the system of systems. *Telecommunications Policy*, v.18, n.4 1994. pp.286-94.

OSTERMAN, Paul & LYNCH, Lysa M. Technological innovation and employment in telecommunications. *Industrial Relations*, v. 28, n. 2 Spring, 1989. California. Pp. 188-206.

OSTERMAN, Paul (ed). *Broken ladders. Managerial careers in the new economy*. New York: Oxford University Press, 1996.

PERRY, Charles R; CAPPELLI, Peter. *Labor Relations in Telecommunications*. University of Pennsylvania. Discussion Paper # 37. July, 1988. Datilo. 44pp.

PETRAZZINI, Ben A. *The Political Economy of Telecommunications Reform in Developing Countries. Privatizations and liberalization in comparative perspective*. London: Praeger, 1995.

POOL, Ithiel de Sola. *Technologies without boundaries. On telecommunications in a global age*. Cambridge: Harvard University Press, 1990.

SAPOLSKY, Havey; GANE, Rhonda J.; NEWMAN, W. Russel; NOAM Eli. *The telecommunications revolution. Past, present and future*. London: Routledge, 1992.

STEHMANN, Oliver. Network liberalization and developing countries. The case of Chile. *Telecommunications Policy* v. 19, n.9. Great Britain, 1995. pp.667-84.

WALTER, Jorge and GONZÁLEZ, Cecilia Senén. Modernización tecnológica sistémica, políticas de recursos humanos y relaciones laborales en la telefonía argentina tras la privatización. *II Congresso Latinoamericano de Sociologia do Trabalho*. Águas de Lindóia, São Paulo, 1-5 dezembro, 1996. Datilo. 28 pp.

WELLENIUS, Bjorn; STERN, Peter (ed). *Implementing reforms in the telecommunications sector. Lessons from experience*. Washington, D. C: The World Bank, 1994.