Patterns of Wage Inequality in Costa Rica during the Structural Change, 1976-2004

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Abstract

This paper presents new measures of inequality for Costa Rica for each year from 1976 to 2004, using data on payroll and number of salaried workers by sector and province, provided by the insurance records of the country's social security offices. Overall, after a long period of decreasing inequality from 1976 to 1985, wage inequality in Costa Rica has been more volatile during the last two decades. The behavior of inequality and real wages during the period 1976-1985 reflects the wage policies of the time before the application of the free market model. Reforms in the financial and health sector seem to be among the important factors influencing wage inequality since that time. Unionization in activities controlled by the state, and electoral cycles are also apparently important. Finally, the successful attraction of high technology firms to Costa Rica has been a key factor accounting for increasing average wages in manufacturing industries in the last decade.

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Introduction

       The main goal of this paper is to identify labor market characteristics, patterns of wage inequality, and the forces accounting for those patterns in Costa Rica during the last three decades. This period is particularly interesting because it is characterized by the implementation of what is perhaps the most comprehensive set of economic reforms implemented in this nation in the last century, reforms known as the structural change. Throughout the structural reform process, which was a byproduct of the crisis of the early 1980's, Costa Rica abandoned a protectionist strategy of industrialization based on regional import substitution and strong government involvement, to adopt a development model based on export promotion and minimal state intervention. Although the Costa Rican structural reform process shares some general similarities with those in the rest of Latin America, it also has some fundamental differences. For instance, unlike some countries in Latin America where the reforms had a faster pace, the structural change in Costa Rica has been gradual and slow, still unfolding to this day.

       But, why is the study of the pattern of wage inequality important? For one, labor earnings are by far the most important part of income for individuals who are employed. Furthermore, a significant proportion of the total labor force is actually composed of individuals who earn a salary. Therefore, in the absence of compensatory policies of the state, low living standards will be associated with low labor earnings. The role of wage earnings as one of the main factors in the equation of monetary poverty is beyond doubt; however, wage inequality, and the forces driving the evolution of labor earnings are the subject of great controversy in economic literature. A huge amount of research has been carried out over the years to unveil the factors accounting for this phenomenon but questions still remain. Traditionally, high income inequality and wage differentials have been attributed to the skill-biased demand caused by technological change or trade reforms caused by the increasing globalization of the economies. These theories tell a story in which market forces determine employment and wage levels of skill prices through the interaction of supply and demand for skilled labor, both between and within

industries. Nonetheless, some researchers have departed from the supply and demand theories by arguing that a set of rules of behavior and conventions within the labor market, also known in the economic literature as institutions, do a better job explaining the phenomenon of wage inequality. While the role of institutions in setting wages and employment in conventional theories of labor market is only secondary given that they are seen as mere distortions in the interaction of supply and demand forces, the institutional approach states that the perfect interaction of these forces is actually rare because the wage structure is determined by a process of relevant comparisons involving such factors as workers' skills, job history, and reputation; job characteristics; the monopolistic competition in different industries; and the level of unionization in some occupations.

The purpose of this work is not to reject or confirm the theories discussed above. Rather, this exercise seeks a better understanding of the context within which labor relationships take place in Costa Rica, so that the results of further studies using more detailed data on the personal characteristics of workers (education, experience, unionization, etc.) can be interpreted more easily. A recurring problem with research into inequality in developing nations is that researchers often do not take the time to explore in detail the legal and institutional framework of the countries they are analyzing. Therefore, and in spite of statistical techniques that supposedly incorporate those institutional factors into their regressions, their conclusions tend to be speculative and weak.

This paper is divided into five sections. The first one provides a detailed exploration of the different theories accounting for the increasing wage differentials in recent history.

The second section explains the methodology used to estimate inequality in this paper, and describes some characteristics of the data. In order to trace inequality, the Theil inequality index was computed for Costa Rica for each year from 1976 to 2004

using data on income and number of salaried workers in various sectors provided by the insurance records of the country's social security offices.

The third section analyzes the structural reforms and patterns of wage inequality in Costa Rica. The study covers the period 1976-2004. That period, in turn, is divided in three sub-periods based on drastic changes observed in the inequality pattern: 1975-1985, 1985-1995, and 1995-2004. These sub-periods, coincide with important economic development strategies and economic events such as entrepreneurial state (1973-1980), crisis and stabilization (1980-1984), and the export promotion model and initial structural reforms (1984-2004). The analysis shows that, overall, after a long period of decreasing inequality from 1976 to 1985, wage inequality in Costa Rica has been more volatile during the last two decades. The behavior of inequality and real wages during the period 1975-1985 reflects the nominal wage policies of the time distant from the free market model. The financial and health sector reform seems to be one of the important factors influencing wage inequality in this nation. The unionization in activities controlled by the state and electoral cycles are also crucial. Finally, the successful attraction of important high technology firms has been the main factor accounting for the increasing wages in manufacturing industries in the last decade.

1 Literature Review

Evidence from different sources shows an increase of wage inequality in some industrialized countries during recent years. A huge amount of research has been carried out over the years to unveil the factors accounting for this phenomenon; but there is little agreement about the underlying causes driving the change in the structure of labor demand in these countries. Traditionally, high income inequality and wage differentials have been attributed to the skill-biased demand caused by technological change. Bartel and Lichetenberg (1987), for instance, find empirical evidence that firms with new technologies have a higher relative demand for educated workers because these workers are able to implement innovations more quickly, which, in turn, reduce a firm's costs of

adjustment (Bartel and Lichetenberg, 1987, p. 10). Also, Layard and Fallon (1975) find that the share of physical capital in national income falls as the share of human capital rises, suggesting that high-skilled workers are more complementary to physical capital. Lockheed, Jamison and Lau (1980), analyzing data from 18 different studies, conclude that higher levels of formal education increase "farmers' efficiency and that education has a higher payoff for farmers in a modernizing environment" (Lockheed, Jamison and Lau, 1980, p. 39). More recent studies support this notion, as well. Juhn, Murphy and Pierce (1993) find that much of the increase in wage inequality for males over the last 20 years is attributable to increases in the unobserved and observed (education) skill components, with the majority of the increase due to the unobserved component. They speculate that this increasing return of the skill components was caused by the rapid growth in the demand for skilled workers due to the technological change. Pereira and Silva (2000), drawing on evidence for men from fifteen European countries, find that in most countries education-related dispersion in earnings increases with education, providing evidence of positive interaction between schooling and ability with respect to earnings.

Blau and Kahn (1996), however, point out that while changes in demand for skilled labor seem to have led to a widening of the wage differentials in developed nations during the 1980's, the United States showed a far greater dispersion of wages than other nations. They examine indexes of relative supplies and demands across countries to see whether market forces could provide an explanation for the high relative wages of low-skilled workers in other countries. They find that low-skill workers "should do worse relative to middle-skilled workers in these countries suggesting that differences in labor market institutions provide the most pervasive explanation for this phenomenon" (Blau and Kahn, 1996, p. 831). Along these lines, according to Card and DiNardo (2002), a fundamental problem with the skill-biased technical change hypothesis, at least in the case of the United States, is that wage inequality stabilized in the 1990's "despite continuing advances in computer technology" (Card and DiNardo, 2002, p. 39). Also, they find that this theory does not explain the closing of the gender gap, the stability of the racial wage gap, and the rise in education-related wage gaps for younger versus older

workers. Since this hypothesis has not provided an explanation accounting for the myriad shifts in the structure of wages that have occurred over the past three decades "the evidence linking rising wage inequality to skill biased technical change is surprisingly weak" (Card and DiNardo, 2002, p. 39).

Another explanation points to the increasing internationalization of economies (Sachs and Shatz, 1994; Leamer, 1996; Haskel and Slaughter, 2001). This proposition is sustained by the neoclassical Heckscher/Ohlin trade model used by Stolper and Samuelson (1941) which assumes that goods of a particular industry are perfect substitutes, regardless of the country of origin, and that costs of production mainly depend on wages of factors, whose supply in each country is fixed. In a model with two factors, say skilled and unskilled labor, as countries reduce trade barriers, the relative prices of skill-intensive goods will rise in skill-rich countries, and fall in skill-poor countries. As this happens, they predict a rise in skilled wages and a fall (absolute as well as relative) in unskilled wages in the skill-rich countries. Under free trade, wages of one factor (skilled or unskilled) would tend to be equal across all countries. While the original Heckscher /Ohlin model theory predicts this would benefit GNP in both advanced and developing countries, in the Stolper and Samuelson version this would be at the expense of falling unskilled wages and increasing inequality (Abrego and Edwards, 2002, p. 6). However, there is a catch in this story. Following the latter argument, trade liberalization should have the opposite effect on the relative demand of labor in developing countries; that is, trade liberalization should lower the relative demand for more-skilled workers by inducing between-sector shifts towards sectors intensive in unskilled labor. Wage inequality, however, has also increased in some developing countries (Saba-Arbache, Dickerson, and Green, 2004, p. 73). Attanasio, Goldberg and Pavcnik (2003) find evidence that suggests that the increase in the skill premium in Colombian industries, though mainly driven by the technological change, may have been in part motivated by the tariff reductions and the increased foreign competition to which the trade reform exposed domestic producers. Along these lines, Robbins and Gindling (1999) show that the increase in relative wages for skilled workers in Costa Rica was coincident with trade liberalization. These facts are inconsistent with Stolper-Samuelson predictions

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concerning trade liberalization that arise in a standard two-country Heckscher-Ohlin-Samuelson (HOS) trade model.[1]

The theories above depict a story in which market forces determine employment and skill prices (wage levels) through the interaction of supply and demand for skilled labor, both between and within industries. This mechanism, the story goes, also serves the goal of economic efficiency since it allows full and effective use of available labor resources so that unemployment can be minimized. Therefore, economic efficiency has been coupled with good performance of the labor markets in some studies (See Jiménez and Céspedes, 1994). To achieve efficient labor markets, several authors argue, the labor force should be flexible or mobile; for this is what allows markets to respond to economic shocks and changes in economic conditions across geographic zones, industries and/or occupations. The reallocation of labor does not only lead to the standardization of wages for a particular kind of job, but also, according to conventional economic theory, it encourages the growth process (Burgess and Mawson, 2003, p. 3). In particular, the timing of the move from agriculture into manufacturing has had a significant impact on growth rates (see for example Kaldor, 1966, Kindleberger, 1967, Denison, 1967; and more recently Temin, 1999, and Temple, 2001). Burgess and Mawson (2003) point out that labor market efficiency (higher labor market efficiency is manifested in increased speed by which the labor market redistributes labor) can have a direct and an indirect impact on economic growth. The direct effect incorporates the idea that by improving the utilization of labor resources from old sectors to newer and more productive ones, the rate of economic growth can be increased. A more efficient market allows a smaller pool of unemployed to supply the needs of the manufacturing sector, "thereby freeing more workers for the research sector, generating more innovations" (Burgess and Mawson, 2003, p. 3). Along these lines, Uren (2005) attributes the increase in cross-sectional wage inequality in the United Sates during the 1980's to increases in labor market efficiency,

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[1] Beaulieua, Benarrochb, and Gaisford (2004), however, present a modified HOS model where a reduction in trade barriers within the high-tech sector may lead to an increase in wage inequality in both developed and developing countries, or just one country, with a concurrent increase in the skill composition of the labor force.

driven, in turn, by more skilled workers being able to find better (more productive) jobs more easily. This boosts their contribution to output and hence, wages. In addition, a decrease in the time series volatility of output, as an economy with a more efficient labor market is able respond to shocks more effectively (Uren, 2005, p. 16), is associated with an increase in inequality. The indirect efficiency effect follows the work of Laing Palivos and Wang (1995) and captures the idea that by reducing the time workers spend in unemployment or suboptimal jobs, an increase in labor market efficiency raises the value of workers' human capital investments. This induces them to invest in more education and so raises the overall level of human capital in the economy, increasing the rate of growth.

According to the conventional notions of supply and demand, labor force flexibility can depend on several factors ranging from geographical circumstances and characteristics of the labor force to the legal framework in a particular region.

Integration of the economy. Labor mobility can vary by labor type among regions and countries. In the absence of regulatory constraints, restrictive labor market institutions and geographical barriers, job changes may be relatively costless (Wildasin, 2000). Increased mobility leads to more flexible labor market institutions in which firms can more easily vary the level of employment in response to fluctuations in demand (Schöb and Wildasin, 2003).

Human capital. Human capital theory predicts that investments in human resources enhance one's future earning capacity and the chances to adapt to changes in the labor market (Becker, 1993; Jones 1994).

Monopolistic conditions. Monopolistic conditions could hamper the mobility of labor force. For instance, the ability of unions to raise the wages of their members above those of similar but non-unionized workers is a classic example in the literature. Lewis

(1963) estimates this differential to be close to 15 per cent.   This wage differential could be the source of a factor-market distortion with implications for economic efficiency. However, some studies have showed that the union wage differentials decreases economic efficiency only minimally (Defina, 1983; Ress, 1963; Johnson and Mieszkowski, 1970; Khun 1998). Another effect attributed to the action of unions is known in the literature as wage compression. Hoxby and Leigh (2005), show that the difference between the salary for females with high aptitudes and that of those with lower aptitudes in the teaching sector has narrowed since the 1960's. This may have pushed able women out of the field of education because they earn no more than their less able peers. Since contracts collectively bargained by these entities give more importance to characteristics such as seniority and credentials rather than performance, opportunities for the high-aptitude teachers have decreased over time.

      Legal framework. Much of the public debate about labor markets focuses on the role of regulations with respect of hiring and firing on employment creation (Jiménez and Céspedes,1994). The legal framework could either facilitate or hamper labor mobility. A flexible labor market in which it is easy and inexpensive for firms to vary the amount of labor they use (hours worked, number of employees, etc.), often means that there is minimal regulation of the terms of employment (no minimum wage, weak or no unions). However, opponents of a lax regulatory system claim that labor laws that make employees feel more secure in their work environment and encourage them to invest in acquiring skills that otherwise they never would consider acquiring, knowing that their job is not safe (Economist, 2005). Freeman (2003) presents evidence that "legal protection of property rights is indeed an important contributor to economic success but that institutional and legal protection of the rights of labor is also associated with economic success, particularly in developing countries." The results suggest that just as legal protection of property gives investors the right message about economic activity - invest in productive undertakings and you will gain the fruits of your investments - , legal protection of labor gives workers the right message about economic activity - work and you will gain the fruits of your labor (Freeman, 2003, p. 6).

Nonetheless, some researchers have departed from the supply and demand story by arguing that "there is a historically, socially, and politically specific set of status and pay relationships in the economy, within and between firms, within and across industries" that seem to explain much better the phenomenon of wage inequality (Galbraith, 1997, p. 15).[2] These set of rules of behavior and conventions are also known in the economic literature as institutions (Galbraith, 1998, p. 52; Galbraith, 1997, p. 15). While the role of institutions in setting wages and employment in conventional theories of labor market is only secondary because they are seen as mere distortions in the interaction of supply and demand forces, in the institutions approach wage structure is determined by a "process of relevant comparisons involving such factors as workers' skills, job history, and reputation; job characteristics; and occupation and industry. Neither workers nor jobs are close substitutes for one another, as the labor market theory argues" (Galbraith, 1997, p. 4).

Among the possible influences on the between-group behavior of the wage structures is collective bargaining, which might increase the average wage of all the members of a union narrowing the wage differentials between this group and other economic groups, for example,, small business people and middle managers. Another source affecting the wage structure is the government. Minimum wage policies, public service employment, and welfare payments can improve or deteriorate the conditions of many workers relative to other groups (Galbraith, 1998, p. 63). In countries, such as the United States, where there is only one minimum wage that is considered to be the floor for all wages, one might expect to see dispersion rise as the floor falls. DiNardo, Fortin and Lemieux (1996) show that the erosion of the real value of the minimum wage contributed to rising wage inequality in the U.S. in the 1980's. However, in countries where there is more than one minimum wage, changes in the whole structure of minimum wages should be taken into account when looking at the effects of minimum wages on wage inequality.

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[2] See, for instance, Blau and Kahn (1996); DiNardo, Fortin and Lemieux (1996); Galbraith (1998); Lee (1999); and Card and DiNardo (2002).

According to this approach, technology, and trade can affect the wage structure as well. However, the mechanisms through which inequality is affected are drastically different from the skill-biased demand theory. Technological change, for example, as seen by Schumpeter, is a weapon of survival for the firms. By gaining monopoly power through the commercialization of its innovations, a firm can appropriate a substantial portion of the market. When other firms enter this race to introduce new innovations, we face the process of Schumpeterian competition (Galbraith, 1998, p. 40; Conceição and Galbraith, 2000, p. 6). The implications of the Schumpeterian competition for the distribution of income among sectors are straightforward; even if some of the monopolistic rents in some sectors are mainly paid to owners of capital, a large proportion must flow to all workers in the form of efficiency wages (wages higher than the competitive rates). Therefore, the rise of pay to workers in the "winning sectors" or industries mainly reflects industry-specific rents rather than an increase in the return of skills. Similarly, trade operates collectively on large numbers of people and directly on the wage structure by displacing some people from their current activities and creating new ones (Galbraith, 1998, pp. 43-44, p. 63).

2 Data and Methodology

Data

To calculate wage inequality in the Costa Rican labor market I will employ the insured workers statistics provided by the CCSS. This monthly record is composed of all the workers affiliated with the Health Insurance System regardless of their activity status. While every salaried worker (along with the Government and employers) is obligated by law to contribute to this system; independent workers or self-employed can join voluntarily. This information is available from January 1975 to the present and the

workers are divided by economic (Agriculture and ranching, Manufacturing industry, etc.) and institutional (Government, Private Sector, etc.) sectors.

The monthly data is generated from three sources:

- The monthly payrolls sent by the affiliated employers of the private sector, domestic service, and autonomous institutions. These payrolls include details on wages, number of workers, and economic sector.

- The Technical Office of the Central Government (Oficina Técnica Mecanizada del Gobierno) provides data on the Central Government workers.

- Finally, the information on independent workers or self-employed comes from the records of affiliation to the CCSS.

A new CCSS collection system, that is, the mechanism by which the institution collects monthly pension and health fees from workers and employers was implemented during the Rodríguez administration (1998-2002). The commitment to modernize collections had, at the urging of the World Bank, been included in the original health sector loan agreement. But the new system, SICERE (Sistema Centralizado de Recaudación) was only implemented in 2001. SICERE is intended to make payment of social security taxes easier, faster, and more traceable, thereby reducing evasion. Before the new system, employers had to send a person to a CCSS office every month to pay the taxes, and the transaction was handled entirely by hand. SICERE makes this unnecessary because it can automatically deduct payments from employers' bank accounts or accept payments at bank locations. SICERE has greatly sped up the process of updating company payments records and now provides data about taxes paid for individual employees. SICERE improves the collection of social security taxes destined to the

CCSS pension system as well as to health accounts, and it is for this reason, that the Rodríguez administration prioritized its completion. The connection was the need to automate the collection system so that the new complementary pension system, also put into place in 2001, could work. A law was passed in early 2000 which mandated the creation of an obligatory private pension plan to complement the state system. The new law further aims to better the financial situation of the CCSS by mandating the absolute universalization of health and pension systems, ordering the CCSS to begin collecting fees for these programs from the entire economically active population, including informal sector workers, by 2005.

This data was selected for several reasons. First and most important, the official employment and unemployment data in Costa Rica is collected through the "Encuesta de Hogares y Propósitos Múltiples" (EHPM), which is undertaken by the Instituto Nacional de Estadística y Censos (INEC). However, there were substantial changes in the survey sample, design and questionnaire between 1986 and 1987. The sample was changed to be consistent with the results of the 1984 census. Although it should be possible to construct consistently-defined variables in the pre- and post- 1986 surveys, in practice, the values of many of the variables change in unrealistic ways. For these reasons, the data on inequality in the pre-1986 and post-1986 periods are not strictly comparable. Similarly, a new sample was designed based on the 2000 census, which makes difficult to compare the surveys for the 1987-2000 and post -2000 periods (INEC, 2004). The data from the CCSS, which unlike the Household Survey is based on a population, provide the opportunity of comparing at least the 1976-2002 period (in some cases 1975- 2004). Second, the Household Survey is done at a given moment in time making the estimation more vulnerable to seasonal variations instead of structural variations. On the other hand, the CCSS provides a monthly record of the workers.

Data Considerations and Limitations of the Research

It is important to mention some of the disadvantages of using the insurance records. One obvious shortcoming is that the number of insured workers may not necessarily reflect actual pattern of employment for several reasons. In Costa Rica, for instance, records for independent workers show several deficiencies. Some evidence has pointed out that the number of self-employed workers may be overstated by 30 to 40 percent.[3] Additionally, the affiliation records of these workers do not show the economic activity to which they belong, instead they are assigned to a category called "Ignored Activity."[4]

Another problem of the information provided by the CCSS is related to tax evasion. Due to the lax enforcement, along with some difficulties in controlling the contributions, there is an incentive for the employers to submit inaccurate information. Since the number of actual insured workers is less than the amount legally established, there is a population composed of salaried workers, along with self-employed workers, about whom we know very little. Therefore, the ability to draw conclusions on job generation in the labor market from the dynamics of insurance is somewhat limited.

During times of recession, for instance, increases in unemployment are typical due to the lack of generation of new vacancies instead of the elimination of current jobs. Along with the shortage of new jobs during recessions, underemployment also rises as a consequence of reductions of working hours (either regular or extra hours). Therefore, the impact of the crisis is not necessarily reflected in the number of insured workers, but in the wages and unemployment. Along those lines, there is an argument stating that the

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[3] Since the affiliation costs for the independent workers are cheaper than those of the salaried workers, it could be feasible to imagine that some salaried workers are illegally affiliated under the voluntary system.

layoffs during a recession are selective, meaning that they take place first in the low quality jobs, which usually do not fulfill insurance regulations (i.e. temporary jobs, informal sector).

Despite these shortcomings, Kikut, Méndez and Picado (2002) conclude from a quantitative analysis that there is a strong correlation between the Household Survey employment data and CCSS insurance data. They find that the structure of economic activities in both series show the same trends over time, as well. Notwithstanding this finding, interpretations of the trends of employment drawn from the insurance records in both countries should be taken with a grain of salt, in particular those concerning self-employed workers. For the most part, however, our main focus is on the evolution of earnings, and particularly on the wage inequality trends, over this period among Costa Rican salaried workers.

Finally, it is important to mention that this exercise is not designed to reject or confirm some of the theories about wage inequality that were explored in detail in the Literature Review. For more detailed data on the personal characteristics of the workers (education, experience, unionization, etc.) it is necessary to analyze the validity of the theories, in particular the theory of skill-biased demand caused by the technological change or trade reforms (unfortunately, this cannot be done with the insurance records provided by de CCSS). More specifically, the effects of the structural reform on the labor market and, consequently, on wages could be either direct or indirect. Among the direct effects, are those related to trade liberalization. The structural adjustment program in developing countries was designed to shift production and employment towards exportable goods and away from import substitutes or importable commodities. Importable commodities are those trade goods for which the likely alternative sources are imports and domestic production, the latter often protected from foreign competition by policies of import substituting industrialization. Basically, they include all private sector

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[4] Also, the voluntary system does not require that the individual be actually working in a productive

production of manufactured goods and some basic grains, all of which have been heavily protected. Exportable commodities are those tradable goods exported to non-Central American countries or consumed at home, including agricultural products and services plus mining. It is precisely in these sectors (manufacturing industry and agriculture), that one can observe the effects, if any, of the relative shifts in demand and prices of goods and labor predicted by the Heckscher/Ohlin-Stolper/Samuelson trade model.

On the other hand, there are the non-tradable goods. Private non-tradable goods include the activities of construction, basic services, and commerce. This category is primarily composed of non-tradable services such as public utilities (electricity, gas, water), education, insurance, banking, pensions, and medical services, the public sector (central and municipal governments, the autonomous and semi-autonomous enterprises, etc.). It also includes production of some import substitutes (cement, fertilizers, etc.) and even processing of some exports (sugar, coffee, etc.), particularly during the period of entrepreneurial state and unsustainable macroeconomic policy, 1973-1980. The presence of these latter activities means that this is not a purely non-tradable goods category. Thus, it would be informative to disaggregate wage changes by trade related sector. Unfortunately, a detailed breakdown of the information by industry is only available after 1996 for the insurance records.

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activity (i.e. renting).

Methodology

The overall level of inequality in a country, region or population group (and more specifically, wages) is one of the most important variables taken into account to measure the welfare of a particular group. The most commonly used measure of inequality is the Gini-coefficient of inequality. The coefficient varies between 0, which reflects complete equality and 1, which indicates complete inequality. One of the disadvantages of the Gini-coefficient, is that it is not additive across groups, i.e. the total Gini of a society is not equal to the sum of the Ginis for its sub-groups. While less commonly used than the Gini coefficient, the Theil-index of inequality has the advantage of being additive across different subgroups or regions in the country. The Theil index is part of a larger family of measures referred to as the General Entropy class (World Bank, 2005).

The Theil inequality index was computed for Costa Rica for each year from 1976 to 2004, using data on income and employment for various sectors of the economy provided by the insurance records of the Costa Rican Social Security Office.

The Theil index (Theil, 1967) is normally written as:

$$[1] \qquad T = \frac{1}{n} \sum_{p-1}^{n} \frac{y_p}{\mu_Y} \log\left(\frac{y_p}{\mu_Y}\right)$$

where n is the number of individuals in the population, y_p is the income of the person indexed by p, and μ_Y is the population's average income. Theil's T can also be expressed as:

$$[2] \qquad T = \sum_{p-1}^{n} \frac{y_p}{Y} \log \left[\frac{\left(\frac{y_p}{Y} \right)}{\left(\frac{1}{n} \right)} \right]$$

With *Y* representing the population's total income, $Y = \sum_{p-1}^{n} y_p$

Expressing the Theil in the less familiar form [2] highlights a possible intuitive interpretation of the Theil index as a direct measure of the discrepancy between the distribution of income and the distribution of individuals between mutually exclusive and completely exhaustive groups (MECE). In other words, an individual that has the same average income as the average of the total population does not contribute to inequality. If the individual's average wage is above the average of the total population its contribution to inequality will be positive. An average wage lower than that of the total population will imply a negative contribution to total inequality.

Equation [2] can also be applied to classification groups. After grouping all the individuals into m generic groups, overall inequality can be decomposed into a between-group component (T'_g), where g is a "tag" identifying a specific grouping structure, and a within-group component (T^W_g).

Thus:

$$[3] \qquad T = T'_g + T^W_g$$

The insurance records in the case of Costa Rica are classified in two categories, economic activity (agriculture, industry, services, etc.), and institutional sector (private

sector, public sector etc.). MECE requires that the workers classified by economic activity also be organized by institutional category within each economic activity, or vice versa. Unfortunately, the data of the CCSS does not allow crossing information on institutional sector and economic activity before 1996, so that only total inequality between groups (T'$_g$) is estimated for the period 1976-1996. After 1996, however, inequality can be decomposed by its T'$_g$, and T^W_g components. In the case of Guatemala, only information for workers by economic activity is available.

Because only general group information is available, the following formula is used to estimate the Theil index in this report:

$$[4] \qquad T_g^{'} = \sum_{i-1}^{m} \frac{y_i}{Y} \log\left[\frac{\left(\dfrac{y_i}{Y}\right)}{\left(\dfrac{n_i}{n}\right)}\right]$$

Now "i" indexes represent groups, not individuals. With n$_i$ representing the number of individuals in group "I", and Y$_i$ the total income in group "i".[5]

In addition to these estimations, a comprehensive exploration of the structural reforms in Costa Rica and Guatemala was undertaken in order to understand the links, if any, between the behavior of inequality and the economic reforms. The results are presented in the two chapters that follow.

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[5] For a more extensive explanation on the Theil Index, see Conceição, Galbraith , and Bradford (2000).

3 Costa Rica: Structural Reforms and Patterns of Wage Inequality, 1976 – 2004

Development Strategies, Structural Reforms, and Economic Events, 1950-2004

González-Vega and Monge (1995) divide recent Costa Rican economic history into basically three episodes associated with different development strategies:

- Agricultural exporting model (1870-1950)

- Imports substitution model (1950-1985)

- Export promotion model (since 1985)

Based on a series of economic events, Rodriguez et al. (2002) divide these episodes in five sub-periods. Specifically, Costa Rica went from an agricultural exporting model in the 1950's, to an imports substitution policy in by the end of that decade which was later complemented by the incorporation of the country into the Central American Common Market (CACM) in 1963. In the 1970's, the country followed a strategy of high investment in state-owned firms that, together with other policies that expanded government expenditure, he argues, led to high fiscal deficits and a strong increase in public debt. During this period, Costa Rica experienced a high but unsustainable growth rate thanks to the coffee boom in 1975-1979, and to a fixed exchange rate policy. This period of growth ended with the debt crisis in the years 1980-1982. In 1982, stabilization policies began, and in 1984, measures were implemented to adopt a new model base on export promotion. This model, which included international capital and trade liberalization policies as well as fiscal incentives on exports, was being consolidated at the same time that other reforms in the fiscal and financial sectors were implemented. This situation continues up until the end of the period.

The above description of the period suggests the following 5 sub-periods of recent economic history:

- Transition from the agricultural export model to the imports substitution model (1950-1963)

- Incorporation into the Central American Common Market (CACM) (1963-1973)

- Entrepreneurial state and unsustainable macroeconomic policy: 1973-1980

- Crisis and stabilization (1980-1984)

- Export promotion model and initial structural reforms (1984-2004)

Due to the issues regarding availability and quality of the data, this paper will focus mainly on the 1976-2004 period. For instance, data from the workers affiliated with the Health Insurance System compiled by the Costa Rican Social Security Institute (CCSS) is available from January 1976.

Transition from the Agricultural Export Model to the Import Substitution Model, 1950-1963

During the development of the agricultural export model, thanks to the abundance of unskilled labor and the demand for primary products from industrialized nations, Costa Rica was able to benefit from its competitive advantages to produce and export agricultural products that did not require a high degree of industrialization (e.g. coffee, bananas, meat, sugar and cotton). (González-Vega, Monge, 1995, pp. 14-15).

Nevertheless, the fall in the prices of agricultural products and the onset of World War II left the economic situation of most dominant groups in bad shape. Therefore, most producers looked for new alternatives and investments to cope with the financial

crisis. (Lizano,1992). Additionally, along with the decline of the dominant class, the rural middle class, which arose in the 1800's thanks to the redistribution of coffee earnings, continued its expansion and diversification due to the growing market and the WWII isolation that protected its activities from foreign competition. This class, composed of small businesses, professionals, teachers, clerks, and artisans, started to participate even more in the decision making process, and finally, when they came to power in 1948, they initiated a change in the development strategy known as import substitution industrialization or ISI (González-Vega and Céspedes, 1993, pp. 14-15).

Several international factors accelerated the adoption of this model in Costa Rica, among them: the industrialization efforts of Guatemala and El Salvador in 1951; the fall of coffee prices in international markets between 1953 and 1961; and the pressure from United States for the incorporation of Costa Rica into the Central American Common Market (CACM).

With the ISI, developing countries sought to substitute products which they imported, mostly finished goods, with locally produced substitutes. The reasoning behind the ISI stressed that the division of labor between the rich countries and the poor ones seemed to doom the latter to permanent poverty. Raul Prebisch, Hans Singer, and others affiliated with Economic Commission for Latin America (ECLA) provided evidence showing that the net barter terms of trade had turned against the developing countries over the decades prior to 1940. This deterioration came from two sources. The first was the gains from productivity growth in the North which resulted in rising wages due to the monopoly power of both labor and firms in the North. The South, in contrast, was mainly dependent on agricultural and mineral exports; wages were held down by surplus labor, weak unions, and competition among exporters. The second source of the decline of the terms of trade was the argument that the income elasticity of demand for agricultural products and raw materials in the North declines as incomes reach higher levels (the Engel Curve) (Burton, 1998, p. 905).

The adoption of the new strategy required strong government intervention since the model required isolating the economy through trade barriers, either tariff and non-tariff barriers, to imports; adopting a set of additional policies aimed at encouraging internal production such as exemptions for imported inputs and income tax, price controls, direct subsidies, and subsidized credit to preferential activities; promoting the integration of the Central American countries in order to expand the relatively small local market and investment opportunities (Rovira, 1982, pp. 133-163; González-Vega and Céspedes, 1993, pp. 19-20). Thus, the Law for Industrial Protection and Development (LIPD) was approved in 1959. It included a package of trade barriers and tax exemptions; however, the incorporation of Costa Rica into the CACM did not take place until 1963, due to the lack of enthusiasm from the Administration to sign the Multilateral Free Trade Agreement and Industries Integration Regimen in 1960 (Hidalgo, 2000, p. 22).

Incorporation into the Central American Common Market (CACM), 1963-1973

At the beginning of the period, the ISI, in the context of the CACM, boosted Costa Rican economic growth thanks to the new opportunities for intraregional trade and local production (Jiménez and Céspedes, 1994). Between 1965 and 1975 the average growth rate in GDP was about 7 per cent (Table 3.1), exports grew at an average rate of 18.3 per cent, consumption at 7.5 percent, investment at 8.7 per cent, and spending at 8.3 per cent (Hidalgo, 2002). The industrial sector, which represented 13.8 percent of the GDP in 1960, contributed 18.6 percent to GDP in 1970 (Table 3.2). This growth was particularly notable in industrial sectors such as chemical products, machinery and equipments, oil refining, plastics, etc. (Hidalgo, 2000). In addition, due to big investments in public utilities, this sector experienced the largest growth rate (12.3 percent during 1965-1969 and 9.4 during 1970-1974).

Nonetheless, the crisis of the international monetary system in 1971, along with the increase in oil prices in international markets in 1973 had a negative impact on the

rate of growth for Central American countries. At the same time, CACM weakened because of internal problems of its members and the withdrawal of Honduras from the CACM due to conflicts with El Salvador (the infamous Soccer War). The violent conflicts began to emerge almost all over the region. The results of these events were straightforward: the terms of trade worsened, inflation rose, the trade deficit tripled. In addition, the cost of protectionism, among other factors, contributed to a huge expansion of the public debt (Hidalgo, 2000, p. 28; Rodriguez et al (2002), p. 10).

Table 3-1: Costa Rica: Gross Domestic Product by Economic Activity, 1950-1983
(Average Growth)

	1960-64	1965-69	1970-74	1975-79
Agriculture	3.4	9.1	3.5	2.4
Manufacturing Industries	6.6	9.3	10.4	7.3
Commerce	3.2	5.1	4.9	8.6
Central Government	3.2	4.0	8.0	4.9
Other Sectors	4.0	5.9	8.8	7.6
Electricity and Water	5.3	12.3	9.4	6.6
Construction	3.2	4.3	12.3	12.2
Transports	2.1	9.4	13.2	10.4
Financial Services	6.4	6.1	11.1	7.8
Real state	3.4	4.3	5.1	3.5
Other personal Services	5.6	5.0	5.1	4.6
GDP	4.0	6.9	7.0	6.4

Source: Own calculations from Central Bank of Costa Rica, National Accounts Base Year 1966.

Internal private investment was another victim of the circumstances. It was clear that the sustainability of the ISI model, which sought to create big industrial complexes and firms, could not depend solely on private investment. Thus, to complement and support private efforts, the Costa Rican Corporation for Development (CRCD) was created with public and private capital (67 per cent, and 33 per cent, respectively) in 1972 (Doryan, 1990, pp. 47-56). The CRCD had several functions including giving technical support to new and old firms, providing funding to businesses, encouraging the capital

market, promoting exports and development projects, and creating new firms in cooperation with national or foreign firms (Doryan, 1990, pp. 47-56).

Table 3-2: Costa Rica: Gross Domestic Product by Economic Activity, 1991-2004
(As Share of Total Added Value)

	1955	1960	1965	1970	1975	1980	1981	1983
Agriculture	38.3	25.2	22.9	24.1	21.2	18.0	19.3	20.1
Manufacturing Industries	13.3	13.8	16.7	18.6	21.2	22.0	22.4	21.2
Commerce	19.5	20.3	20.2	19.9	17.2	18.0	16.5	15.8
Central Government	7.7	11.2	10.8	9.9	10.3	10.0	10.4	10.5
Other Sectors	21.2	29.4	29.3	27.5	30.0	32.0	31.3	32.5
Electricity and Water	0.6	1.3	1.5	1.9	2.1	2.3	2.6	3.4
Construction	4.3	4.5	4.7	4.1	5.1	6.2	5.0	3.7
Transports	4.0	4.6	4.2	4.4	5.8	7.0	7.1	7.5
Financial Services	3.9	3.4	3.9	3.9	4.8	5.2	5.2	5.8
Real State	3.1	10.2	9.4	8.0	7.6	6.9	7.2	7.7
Other Personal Services	5.3	5.3	5.7	5.2	4.6	4.3	4.3	4.4
GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Own calculations from Central Bank of Costa Rica, National Accounts Base Year 1966.

Entrepreneurial State and Unsustainable Macroeconomic Policy, 1973-1980

The CRCD was not fully operational until 1976, when a period of expansion began with the creation of several satellite firms (Cementos del Pacífico, Cementos del Valle, Central Azucarera de Tempisque, Tempisque Ferry Boat, Transportes Metropolitanos, Ferrocarriles de Costa Rica, Distribuidora Costarricense de Cemento, Algodones de Costa Rica y Aluminios Nacionales), and the acquisition of 100 percent of the shares of RECOPE and most of the shares of Fertilizantes de Centroamérica, Costa Rica S.A. (FERTICA). Later, in 1977, private participation was eliminated and the

CRCD became a totally public corporation. Thus, the CRDC turned into a powerful economic agent within the Costa Rican economy, competing not only for a share of the internal markets of concrete, cotton, sugar, and transportation, but also for credit, which was facilitated and subsidized by the government (Doryan, 1990, pp. 47-56).

During this period, public investment experienced significant growth. For instance, investment in the state enterprises as a share of the in total public investment increased from 9.2 per cent in 1966 to 18.7 per cent in the period 1976-1979. Public investment also increased in areas such as infrastructure, which caused an expansion of employment in the public sector (Rodriguez et al., 2002, p. 11). In this period, one of the most ambitious programs of income distribution since the 1940's was implemented. Social Security was expanded to cover homeless individuals and the rural population. In 1975, the Social Development and Household Appropriations Program (SDHAP) was created. This program appropriated 1.1 percent (2 percent by 1979) of the GDP to support activities ranging from the creation of school cafeterias to the building water pipes in rural areas. The very same year, the National Basic Grains Program was implemented with the intention to increase local production through credits to the agricultural sector. Along with the credit policy, the government also bought lands with the intention of turning them into development zones, which later were offered to independent peasants with services and infrastructure. These policies were not only intended to achieve improvements income distribution but also to encourage greater development of the internal market (Hidalgo, 2000, p. 29).

These policies, naturally, generated a significant increase in public spending that, in turn, caused a rising fiscal deficit and debt during the late 1970's. In 1977, the deficit reached 5 percent of the GDP (Rodriguez et al., 2002, p. 11). The deficit was financed primarily by domestic credits, mainly credit from state banks, and short-term foreign credits with cheap interest rates (Petrodollars) which came from foreign commercial banks. As a consequence, the foreign public debt jumped from 17.8 to 29.2 percent of the GDP between 1974 and 1980, while the domestic debt jumped from 11.6 percent to 22.6

per cent during the same period (Table 3.3). However, the main relief for the economic situation, and the sustainability of the entrepreneurial state regime, was the "coffee bonanza." The international price of coffee rose from $58 per sack in 1974 to $110 in 1975 and $217 in 1976. (Hidalgo, 2000, p. 30; Rodriguez et al., 2002, p. 10; Jiménez and Céspedes, 1994, p.17). This bonanza was perceived by the economic authorities to be a permanent event so that the public spending pattern remained at the same levels. (Jiménez and Céspedes, 1994, p.17).

Table 3-3: Costa Rica: Domestic and Foreign Debt, 1970-1984 (As percentage of the GDP)

	Domestic	Foreign	Total
1970	12.6	13.1	25.7
1971	12.6	14.5	27.1
1972	15.2	15.5	30.7
1973	14.0	14.8	28.8
1974	11.6	17.8	29.4
1975	10.0	20.4	30.4
1976	9.8	20.6	30.4
1977	11.7	20.0	31.7
1978	15.0	22.4	37.4
1979	19.0	26.2	45.2
1980	22.6	29.2	51.8
1981	26.0	65.0	91.0
1982	21.4	92.5	113.9
1983	19.6	84.8	104.4
1984	16.7	74.3	91.0

Source: Ministry of Planning and Development of Costa Rica.

Nevertheless, when international coffee prices returned to normal and international interest rates increased, economic stability was impossible to maintain. In 1980 Costa Rica experienced the biggest economic crisis of the last century and the nation became the first Latin American country to declare default on its debt.

Crisis and Stabilization, 1980-1984

The crisis, unleashed by a cocktail of domestic and foreign factors according to most analysts, was a textbook exchange rate crisis caused by growing fiscal deficit and an expansive monetary policy, combined with a fixed exchange rate and a foreign capital inflow to the public sector. (Rodríguez et al., 2002, p. 11; Jiménez and Céspedes, 1994, p.17, González-Vega, Monge, 1995, p. 22).

There were essentially three external factors including the increase in international interest rates, the appreciation of the dollar, and the outbreak of civil war in Nicaragua in 1979. The appreciation of the dollar obliged the Costa Rican authorities to devaluate the price of the currency (Colon), which was artificially high after the oil crisis in 1973 and 1978. This had two effects. First, the price of the debt in colones increased substantially. Secondly, it raised the price of imports. The increase in interest rates also had an impact. First, it unleashed an outflow of foreign capital, which in turn generated a huge loss of reserves. Second, it also increased the debt. Finally, the civil war in Nicaragua undermined the entire political landscape in the region.

The adjustment, therefore, came through an unprecedented increase in the inflation and exchange rates that caused a contraction of economic activity and the level of employment. The GDP decreased 2.3 percent in 1981 and 7.3 in 1982. Inflation peaked at 90.5 percent in 1982 and the total debt as a percentage of the GDP reached 114 percent in 1982 and 104 percent the next year. The real wages decreased substantially during the period 1980-1983, particularly in areas with higher wages such as Financial Services (25.1 percent in 1982), Health and Social Services (22.7 percent in 1982), and the Central Government (23 percent in 1982). In this context, urban poverty jumped from 27 percent in 1980 to 48 percent in 1982, and the unemployment rate in urban areas grew moderately from 5.9 to 10.5 percent over the same period (See Table 3.4).

Table 3-4: Costa Rica: Crisis Indicators, 1980-1984

	1980	1981	1982	1983	1984 [*]
GDP Growth [1]	0.8	-2.3	-7.3	2.9	6.2
Inflation [1]	18.6	30.5	90.5	42.0	8.8
Wages Growth [2]					
Private Sector	-2.4	-6.6	-19.3	10.3	10.9
Central Government	-2.8	-13.5	-23.1	2.4	10.5
Agriculture	-4.5	-14.0	-12.6	18.6	8.7
Mines	-4.4	-10.2	-25.0	15.0	9.0
Manufacturing Industry	-0.3	-5.8	-22.3	18.3	5.3
Electricity, Gas, Water	0.3	-5.3	-23.0	17.2	9.7
Construction	2.4	-15.1	-26.6	40.4	4.5
Commerce	-3.7	-13.8	-19.8	17.5	12.7
Transportation	-5.1	-9.0	-24.3	24.7	11.1
Financial Services	-4.4	-14.7	-25.1	28.9	14.3
Health and Social Services	-2.0	-16.3	-22.7	15.9	3.6
Debt as Percentage of the GDP [3]					
Domestic	22.6	26	21.4	19.6	16.7
Foreign	29.2	65	92.5	84.8	74.3
Total	51.8	91	113.9	104.4	91.0
Percentage of Poor Urban Households [4]	27.0	37.0	48.0	42.5	36.5
Unemployment Rate [4]					
Total	5.9	8.8	9.4	9	6.8
Urban	5.9	9.1	10.5	9.3	7.2
Rural	5.9	8.4	8.3	8.7	6.4

Source: (1): Central Bank Of Costa Rica, (2): Costa Rican Social Security Office, (3): Ministry of Planning and Development of Costa Rica, (4): Jiménez and Céspedes (1994). Note: (*): The unemployment data for 1984 corresponds to 1985.

To cope with this troublesome economic situation, the Stabilization and Economic Reactivation Program (SER) was launched in 1982 with backing from USAID ($20 million). By the end of that year, the IMF granted a loan of $100 million. The loan was intended to finance the exchange rate, monetary, and fiscal polices. The agreement

with the IMF allowed for a second credit from USAID for $64 million (Sojo, 1991, pp. 33-38). The country also began to renegotiate its debt with the Paris Club in 1983. This agreement allowed Costa Rica to postpone the payment of the principal and interest. In addition to these measures, the economic disequilibrium was halted with restrictive fiscal and monetary policies. The deficit was reduced by an increase in taxes, in the prices of public utilities, and in 1983, a fiscal reform increasing direct taxes was approved. The revenues collected were diverted to finance private sector reactivation and social institutions (Trejos, 1999, p. 25).

In order to confront social problems caused by the crisis, the Social Compensation Plan (SCP), and the Firms Rescue Plan (FRP) were implemented (1982/1983). The SCP was intended to stop the decline of the real wages, while the FRP sought to protect sources of employment. The SCP included temporary food support, subsidies for employment, and a policy of wage indexation every six months based on a food basket. This wage adjustment was based on past inflation in the context of receding inflation and permitted a quick recovery of salaries (Trejos, 1999, p. 26; Garnier et al., 2002, p 8).

Due to these measures, the country attained a certain level of stability by 1984. The GDP started to grow by 6.2 percent; inflation reached tolerable levels; the exchange rate adjusted to a more realistic price, the foreign debt share was under control, the unemployment and sub-employment decreased significantly, as did the fiscal deficit and trade balance (Table 3.4).

In spite of this economic stability, there was not a clear strategy for the medium and long terms. There was, however, a certain consensus that the causes of the crisis were not only sporadic, but there was also a more profound structural problem. The policymakers of the time felt that it was necessary to undertake a comprehensive process of change. This new development strategy had its foundations in two basic ideas. First, governments have not been successful in improving the economic performance when they have tried to reallocate resources instead of letting the market operate without

restraint (World Bank and IMF). Second, it was necessary to expand the exports to spur the economic growth (Jiménez and Céspedes, 1994, p. 18). Thus, a new long term strategy of development, the export promotion model, was born in 1984 under the Administration of President Luis Alberto Monge.

Export Promotion Model and Structural Reforms, 1984-2004

Before exploring the economic reforms that were undertaken in this period, it is important to identify some of the characteristics of structural change in Costa Rica.

The reform has been a process. The economic reform has been a gradual process which started in 1984 during the Monge Administration (1982-1986), and continued through the next Administrations of Arias (1986-1990), Calderón (1990-1994), Figueres (1994-1998), and Rodríguez (1998-2002). In other words, the reform was not a sudden departure from the former productive structure of the country (Jiménez and Céspedes (1994), p. 18).

The reform has been a combination of free market and state interventionism. The reform has not been a process of total elimination of state intervention, in some cases there has been a mix of free market policies (reduction of import tariffs) and intervention (exports subsidies) (Jiménez and Céspedes (1994), p. 18).

International organizations have played an important role. The economic reform has bee supported and financed with the help of international organizations such as USAID, the World Bank, and the Inter-American Development Bank. As previously mentioned, USAID provided some donations that alleviated the crisis. Costa Rica signed several agreements with the World Bank known as Structural Adjustment Programs (SAP I and SAP II) (Jiménez and Céspedes, 1994, p. 18).

The progress of reform has been uneven. In some cases such as trade reform, the process has been fast, while in other areas, such as state reform, the advance has been rather slow (Jiménez and Céspedes, 1994, p. 18).

The three main areas of reform were commercial opening, financial system reform, and state reform. Although Costa Rica did not embark on a profound set of reforms in the labor market, the behavior of employment and wages were directly linked with the reforms in the public sector and the change of fiscal and monetary practices. Costa Rica signed the first structural adjustment agreement (SAP I) with the World Bank in 1985; however, its formal implementation did not take place until 1986. This program called for the graduate reduction of tariffs on final goods and the elimination of all quantity restrictions on imports, and a maximum tariff of 40 percent on final goods by 1990 (Cordero, 2000, p. 5). In 1988, a second structural adjustment agreement was signed to take effect in 1989 with a $200 million outlay (Sauma and Garnier, 2004, p. 17).

Trade Reform

Trade reform was framed with several pillars inlcuding the removal of protectionism, the promotion of exports and tourism, the abandonment of the fixed exchange rate, and the promotion of regional economic integration.

The shift from protectionism

The main goal of the SAP I and SAP II was the elimination of the anti-agriculture bias; that is, the artificial production incentives within the local market (tariffs and quotas). Several steps were taken to achieve this goal.

Reform of the tariff system. In 1985 Costa Rica approved the Central American Custumes and Tariffs Regime Agreement (CACTRA). With this new agreement the country tried reduce the protectionist tariffs and their impact. The effective protection, however, was not reduced until later with the implementation of the SAP II. Between 1987 and 1990, the nominal tariffs were gradually reduced even more (a minimum of five percent for inputs and a maximum of 40 per cent for final goods). In 1996, the tariffs for inputs were decreased by one percent and three percent for capital goods, while the tariffs for final goods were set at 18 percent (Hidalgo, 2000).

The elimination of non-tariff barriers. Besides the tariff barriers there were several non-tariffs barriers, for example, authorization to import agricultural products, a previous deposit to imports, and quotas. All these barriers were eliminated by the SAP II. In 1989, the monopoly to import agricultural products, which was under control of the National Production Counsel (NPC), was abolished, making it possible for private enterprises to import these products. Another non-tariff barrier consisted of a deposit in local currency of a certain percent of the total value of the imported goods in the Central Bank (in some cases 100 percent). This deposit was withheld for several weeks without interest until the importer provided the equivalent in foreign currency. It was removed in 1992 (Hidalgo, 2000).

The cancellation of tax exemptions. The tax exemptions for inputs and imported capital goods for certain activities were regarded as a source of economic distortion. Some of these exemptions were eliminated in 1987, but it was not until 1992, with the approval of the Exemptions Regulation Law that most of them were definitely eliminated, with just a few exceptions (Hidalgo, 2000).

The promotion of non-traditional exports towards non-traditional markets (outside the CACM) was based on a series of incentives such as export contracts, creation of Export Processing Zones (EPZ), and the temporary admission regime (maquila). The institution in charge of export promotion was the Center for Exports and Investment Promotion (CEIP). Along with export promotion, policies were implemented to encourage tourism.

Export contracts. These contracts consisted primarily in subsidies for exports of final goods and inputs to counter the anti-export bias. The economic reasoning for these incentives is based on the second optimum theorem, which poses that since state intervention created several distortions, another intervention was necessary to compensate for the distortions. The combination of export contracts and the reduction of protectionism would cause a change in the price system, and in turn, a reallocation of resources to more productive activities (Hidalgo, 2000).

The export contracts were effective from 1985 until 1992, and had several incentives such as, exemption of benefit from exports, preferential interest rates, and temporary exemptions for imported inputs for production. Due to the criticism in some sectors, which stressed that some of the incentives created more distortions than the ones for which they compensated, in 1990 export contracts were reformed to reduce the scale of subsidies. This reform was introduced in 1993. These contracts, finally expired in 1996 (Hidalgo, 2000).

Export Processing Zones or Free Zones Regime. The EPZ Regime started in 1981, but the law stipulated that only the public sector could develop and administrate export-processing zones. In 1984, the law was reformed, permitting private development of EPZs, and the first such concession was awarded. An EPZ consists of a fiscal territory

within a region where industrial parks are built, mostly with foreign capital. The Export Processing Zone system allowed companies to import all their inputs and equipment tax-free and avoid paying income tax for 8 years, plus 50 percent exemption for four additional years for manufacturing operations. The law gives additional incentives to firms that establish operations in economically depressed areas, and permits up to 40 percent of output to be sold in the local market upon payment of the corresponding import duties and approval by the Ministry of Economy. EPZ firms are not subject to withholding taxes on repatriated capital or profits, and can manage foreign exchange freely (Jenkins, Esquivel and Larraín, 1998, p.19). This system was designed to attract FDI and would eventually become a key element in the attraction of high tech multinationals (Rodriguez, 2001).

The first two EPZ zones in Costa Rica were established in the early 1980's in two port cities, Puntarenas and Limón. As with many zones in economically depressed areas of other nations, these two EPZs there were not successful (Hidalgo, 2000). Only a small number of firms located there and the zones have had continuous legal and infrastructure problems. Private zones have been much more successful. The first privately developed zone began operations in 1985 in Cartago and quickly attracted many export-oriented companies. Activity in EPZs accelerated with the award of seven additional concessions to develop private EPZs in 1988 and 1990. All parks were established near urban centers in Alajuela and Heredia, not far from the capital San José (Hidalgo, 2000). There are currently eight privately developed EPZs in Costa Rica.

Costa Rican export processing industrial parks currently contain about 150 export-oriented firms. Additionally, there are about 40 firms outside industrial parks with EPZ status (permitted by the 1990 modification of the law). By 1998, the EPZ and RTA regimes combined had about 270 firms and employ more than 44,000 workers. The main activities in this system are Textiles (24.1 per cent), Electronics (12.1%), Metal Mechanic Industries (10.3 per cent), Jewelry and Agro Industry (Jenkins, Esquivel, Gerardo, and Larraín, 1998 pp. 19-20).

Regime of Temporary Admission (RTA) ("maquila"). This regime began in 1973, and it was modified in 1983 and 1984. Thanks to this system, firms could temporarily receive national territory goods meant international markets, if these goods were transformed somehow, without the payment of tariffs. This regime was replaced in 1997 with the Active Improvement Regime (AIR).

Firms operating under the RTA may be located anywhere within the country. After posting a bond with the fiscal authorities, they may import raw materials, equipment and machinery free of duties. These firms do not, however, enjoy special customs considerations and must follow normal import procedures. In addition they do not have income, municipal or asset tax exemptions, and must pay a 15 percent tax on profit or capital repatriations. Local sales are not allowed. Benefits are given for five years and can be extended upon request (Jenkins, Esquivel and Larraín, 1998, p.19).

Creation of entities to promote exports. Along with all these measures, some institutions were created to coordinate, promote, and facilitate exports. Before 1984, for instance, the exporters needed to fulfill several bureaucratic procedures in different offices. Later, the procedures were centralized, thanks to creation of the Office of Exports.

Tourism. In 1985, the Law for Tourism Development Incentives was approved by the Congress. Activities related to tourism such as hotel services, airborne and water transport, travel agencies, car rental, etc. benefit from several incentives. These benefits ranged from tax exemptions and reduced tariffs for input imports to subsidies in fuel consumption.

Another policy aimed at facilitating the openness of the economy was the change of exchange rate system. Before the crisis, the fixed exchange rate was used as a tool of the protectionist system to keep the exchange rate artificially high in order to make imports cheaper.[6] The notions of economic efficiency that followed, called for a neutral exchange rate. To accomplish this goal, two policies were undertaken: crawling peg between 1983 and 1992; and floating with discretionary intervention after 1992.

The Crawling Peg ("Minidevaliaciones"). The crawling peg is a rule-based system for altering the real exchange rate, typically at a predetermined rate or as a function of inflation differentials. The crawling peg was intended to combine flexibility and stability, and to avoid the real appreciation of the currency (Wolf, 2002, p. 3). The negotiation of the debt in favorable terms and the large inflow of capital made the implementation of the crawling peg easier, since, unlike, most Latin American countries, Costa Rica did not need to generate commercial surpluses. The crawling peg also allowed better control of inflation since it led to the formation of expectations. In spite of the more flexible regime, the exchange rate was still controlled by the Central Bank of Costa Rica (CBCR) and the exchange rate market was still a monopoly of the commercial state banks (Hidalgo, 2000).

Floating with discretionary intervention. In 1992, the crawling peg was eliminated and the exchange market was liberalized, so that the private sector could participate. Thus, the only way the CBCR could affect the exchange rate market was through the buying or selling of reserves.

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[6] At this time, it didn't matter that the artificially high exchange rate could affect the competitiveness of the exports, for most of the production was meant to CACM.

Regional Economic Integration

In spite of successive efforts to reactivate the CACM (1985 and 1987, with the Esquipulas Agreements), the relative contribution of this area to the overall volume of Costa Rica's foreign trade has significantly decreased since the 1980's. Instead, other processes of integration such as the Caribbean Basin Initiative (CBI) (1984), General Agreement on Tariffs and Trade (GATT)(1989), Free Trade Agreements with Mexico (effective since January 1995), Chile (effective since February 2002), Dominican Republic (effective since March 2002), Canada (effective since November 2002), and most recently, the USA (still waiting for Congress approval), have received higher priority, and as a result, the relative importance of those markets has grown.

State Reform

A comprehensive reform of the state was undertaken in 1995, with the implementation of the SAP III. The SAP III dealt with issues such as Central Bank operations, Tax and Spending Reform, Pension Reform, and Labor Market Reform.

Central Bank Reform

A sizeable number of the reforms regarding the behavior of the monetary authority, however, had been carried out since 1982. Most of these changes were aimed to stop the so called "quasi-fiscal behavior" of the Central Bank and to liberalize the financial sector. For instance, before 1984, financial entities had caps on the amount of credit they could offer to certain industries or economic sectors. In addition, the Central Bank fixed the active and passive interests rates by economic sector. In 1984, the credit caps were eliminated, and a band system in which financial intermediaries played a more

significant role in determining interest was implemented. Thus, the reforms that were included in the SAP III regarding the Central Bank behavior gave legal grounds only to changes that were implemented after 1982, but they did not create a substantial change in the monetary policy of the Central Bank.

Tax Reform

Tax revenues in Costa Rica are characterized by their relatively small share of GDP (tax burden), and the predominance of indirect taxes in total revenues. Although some of the tax reform initiatives have tried to address these issues, and thus attain a more progressive tax system, in most cases these initiatives have responded to the necessity of coping with a tight economic situation (Cavallo, 2000, p. 3, Hidalgo, 2002).

Since the period of stabilization several changes have been introduced to the tax system. The first tax reforms after the crisis in 1983 helped to finance part of the stabilization program. Successive tax reforms (1984, 1985) were intended to widen the tax base. However, due to the strong reductions in tariffs to promote exports, the tax burden did not experience a significant increase.

In 1988, during the Arias Administration, another effort to increase the base was carried out. This reform lowered the maximum marginal tax rate and increased the threshold for contributions, instituted a flat 30 percent corporate tax rate, and increased the base for sales, property, and stamp taxes (Trejos, 2002).

It was not until September 1995 that the Costa Rican tax system underwent a relatively major reform. The Tax Adjustment Law (Ley de Ajuste Tributario), was passed within the SAP III framework. The new law was not only seen as a tool to attain the modernization and simplification of the administration of the tax system, but also as

temporary solution to the financial problems that the Figueres Administration was facing. It included:

- An increase in the Value Added Tax (VAT) rate to 15 percent for the next 18 months.

- The elimination of several minor taxes.

- A reduction in the corporate income tax bias in favor of debt financing.

- The introduction of cross-checking between tax returns and other sources of information on income and business activities.

- The creation of a new gross asset tax.

- The strengthening of the legal framework for tax collection, administrative procedures, and punishment for tax evasion.

- The phasing-out of exemptions and tax incentives for the tourist, manufacturing and non-traditional export sectors (Cavallo, 2000, p. 16)

This rate increase, together with inflation and temporary increases in import duties, brought about a short-term rise in tax revenues. In 1996, tax revenues stagnated due to the reduction and elimination of export taxes on coffee and banana crops and an economy-wide recession.

In fact, total tax burden (tax revenue as a proportion of GDP) in Costa Rica increased from 15.9 percent in 1983 to 16.9 percent of GDP in 1997. The change is small for a 15-year period, particularly considering that there have been repeated efforts to increase tax revenue. A likely explanation is that most tax reforms of the previous decade addressed only immediate fiscal needs. Tax rate increases by themselves provide, at most, temporary relief in public finances (Cavallo, 2000, p. 16)

Public Spending Reduction

The persistence of fiscal deficits (including Central Bank losses) has been one of the main problems of the Costa Rican economy over the last decade. The fiscal deficit averaged 3.8 percent of GDP over this period. While efforts to increase revenues have been fruitless, expenditures have become increasingly inflexible (composed mostly of salaries, other recurrent expenditures, and debt service payments). Thus, governments have had to resort to foreign and domestic borrowing to cover deficits. The external debt, for instance, increased from about 6.2 percent of GDP in 1990 to about 20 percent of GDP in 2000.

A few measures were taken to reduce expenditures. The Arias Administration, for example, maintained a cautious wage policy, and even though agreements were attained to effect wage adjustments any time inflation rose more than 7 percent as measured by variations in the consumer price index, wages tended to fall in real terms (Hidalgo, 2000). It was during the subsequent Calderón Administration (1990-1994) that accelerated economic reform and a social policy approach based on focalization and government reduction was adopted. The five measures were carried out to control expenditures were the reduction of public employment, cautious wage policy, under-execution of appropriations, delays in the construction of infrastructure, and transfer cuts.

In terms of reduction of public employment, both the Monge (1982-1986) and Arias (1986-1990) administrations decided to freeze public employment through the Public Sector Financial Balance Law (PSFBL) of 1984, in agreement with the International Monetary Fund (IMF) and the World Bank (Hidalgo, 2000, Sanchez-Ancochea, 2005, p. 20). This law authorized government institutions and public firms to encourage the resignation of their employees by granting a series of unemployment benefits to those who agreed. The law restrained the creation of new jobs, as well. (Hidalgo, 2000; Valverde et al., 1992, pp. 24-26; Carvajal et al., 1994, pp. 118-123). In spite of the law, public employment remained stable at around 155,000 employees and its

contribution to total employment decreased by more than 3 percentage points between 1985 (19.1 percent) and 1991 (15.9 percent) (Carvajal et al., 1994, p. 123).

The efforts to reduce the size of the public sector and the influence of the bureaucracy became more vigorous during the early 1990s through the implementation of a program of voluntary mobility ("movilidad voluntaria") funded with resources from USAID. The initial goal of the Calderón Administration was to eliminate 30 thousand jobs between 1990 and 1994. Due to the fact that only a few workers were willing to participate in the program, the government had to resort to mandatory mobility, a euphemism for massive layoffs, to fulfill the commitments with the IMF and World Bank regarding job cutbacks. Nonetheless, pressure from different interest groups made the implementation of the plan difficult so that by 1992, only seven thousand jobs were cut. By the end of the Calderón Administration, however, public employment returned to its previous levels. The Figueres Administration continued the policy of voluntary mobility, but again with minimal results. Overall, however, there was a slight reduction in public employment in the 1990's.

Price Deregulation

Traditionally, food prices in Costa Rica have been distorted either directly via price controls and import restrictions or indirectly through tariff exchange rate, and credit policies As part of a strategy to foster greater self-sufficiency in basic staples, a state organization, the National Production Council (CNP), monopolized the import of grains. Yellow maize was removed from the monopoly control of CNP and, in 1992, a majority of maize imports came via the private sector. Wheat and rice imports were privatized in 1994, though further policy action would be required to make the change effective for wheat. Price controls on flour limited the incentive for private-sector imports of wheat, and these were eliminated in 1995. In order to foster domestic milling, the government maintained a substantial tariff differential between rough and milled rice. Throughout the 1980's, Costa Rica enforced price controls on a broad range of consumer products, but

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most controls were eliminated in the early 1990's in compliance with World Bank conditionality for an agricultural sector adjustment loan.

Privatization of State Enterprises (Costa Rican Corporation for Development (CRCD))

Costa Rica is one of the few remaining Latin American countries in which the direct participation of the state in economic activities is still accepted as legitimate. In spite of that situation, the CRCD had become a discredited form of accelerating economic growth by the early 1980's. Between 1979 and 1991, the company lost 25 billion colones (approximately 300 million dollars) at 1992 prices. An estimate of the net present value (1998 prices) of the accumulated losses of its companies – the "cost for the country of the CODESA experience," reached an amount of USD 971.1 million, about 9 percent of Costa Rica's GDP in 1998 (Sheshinski and López-Calva, 2003, p. 442).

The government was persuaded to liquidate or sell most of CODESA's assets only as a result of a conditionality provision attached to assistance of USAID during the debt crisis of the early 1980's. The process of privatization started in 1984 and it was finished by 1997.

Privatization and closure of public entities focused almost exclusively on the dismantling of the CRCD's companies, with only a few exceptions such as the liquidation of the Anglo Bank in 1994 due to bankruptcy. Because of the strong opposition to the privatization of other state companies, efforts to liberalize the Costa Rican economy switched from efforts to privatize state enterprises to attempts to repeal the state monopolies on fuel (RECOPE), demand deposits, which only the four state-owned banks are allowed to offer, insurance (Instituto Nacional de Seguros (INS)), and electricity and telecommunications (ICE), to allow competition in these sectors from private (mostly foreign) companies.

Financial Sector Reform

The bank nationalization in 1948 was one of the most remarkable events in Costa Rica's economic history. The case for the nationalization was based on the notion that state banking, unlike private banking which was controlled by a few exporters, could better serve the interests of all economic sectors, and therefore maximize social welfare (Gonzalez-Vega, and Mesalles, 1993 p. 8). The state banking system consisted of four main banks, alongside a number of clientele-specific development banks. During this time, the Costa Rican Banking System and the Banco Nacional de Costa Rica (BNCR) provided credit to most small, rural farmers achieving one of the highest levels of coverage in the developing world (Quirós and Jiménez, 1996, p. 77).

By the end of the 1970's, inflation and the exhaustion of foreign exchange reserves began crowding private borrowers out of the credit markets. The private sector share of domestic loan portfolios fell from 81 percent in 1975 to 50 percent in 1983 and 1984 (Goldstein (2001), p. 207), the number of new loans made annually by the Rural Credit Department at the BNCR decreased from 24,284 in 1976 to 15,692 in 1980 (Quirós and Jiménez, 1996, p. 78). Real sector contraction, capital flight, and debt crisis-induced pressures for export earnings all contributed to a turn by the state banks toward supporting government expenditures and lending to non-traditional exporters. Beginning in 1982, the spread between borrowers' and depositors' rates steadily widened, as costs escalated from bureaucratic inefficiency and falling loan recovery rates.

The Central Bank Reform of 1984 that authorized private financial institutions' access to rediscount along with the ability to lend at rates established by the high-cost state banks, facilitated the emergence of private banking during the 1980's. Foreign, offshore, and small domestic institutions were increasingly permitted to function almost as banks, taking deposits in the form of savings accounts or short-term CDs and making

loans and other investments. These measures had a remarkable impact on the participation of private banks in the Costa Rican banking system. While in 1983, its share of total loans granted was only 5.4 percent; by 1990 that share was 52.4 percent. In addition, private banking participation in total baking credit increased from 0.3 percent in 1976 to 29.1 percent in 1990 (González-Vega and Mesalles, 1993, p. 19).

The introduction of Law 7107, the Law for the Modernization of the Nation's Financial System (Ley de Modernización del Sistema Financiero de la República), in November 1988, brought important changes to the financial system. For many years, the SUGEF actually functioned as a department within the BCCR. This was called the General Audit of Banks (Auditoria General de Bancos, AGB). The Organic Law of the Central Bank of 1952 established that the AGB responsibilities included the surveillance and control of all BCCR departments and agencies, as well as those of other banking institutions in the country, including their branches and agencies, and any other entities stated by the law. With the introduction of the Law for the Modernization of the Nation's Financial System, the AGB was replaced by the General Audit of Financial Entities (Auditoria General de Entidades Financieras, AGEF), a decentralization agency under the umbrella of the BCCR. With this reform, the AGEF controlled the functioning of all banks, including the BCCR, the non-banking financial companies and other public or private entities, whatever their legal nature, performing financial intermediation either directly or indirectly, or any other services of a nature similar to banking. In addition to the improvement in the supervision of financial intermediaries, the law also brought significant changes in the interest rates policy. Traditionally, interest rates in Costa Rica had been used as a tool to subsidize credit rather than an instrument of monetary policy. In this context then, the Central Bank fixed both the active and passive interest rates. Some efforts to reduce the distorting effects of this policy were carried out in 1984, introducing a band system, in which financial intermediaries were allowed to fix their own interest rates within a certain range. In 1989, the Law for the Modernization of the Nation's Financial System abolished those controls almost completely, with the only exception of the minimum passive interest rate.

Since 1995, private banks have offered checking accounts as well. By the mid-1990s, about 20 private domestic banks existed in Costa Rica. They supplied a growing portion of the private sector's credit, from roughly one-fourth in the late 1980s to around one-half by the mid-1990's.

While banking reform has proceeded apace, capital market developments have not been as rapid. The Costa Rican bond market is almost entirely central government debt securities of various types. Although recent laws have begun to establish a framework for stock issuance and trading, the equities market is in its early stages (Goldstein, 2001, pp. 206-208).

Labor Market Reform and Wage Policy

Labor market reform during the structural change basically relied on two instruments: labor mobility (as it was mentioned above), and minimum wage policy. As recently as 1980, there were approximately 350 minimum wages, set by industrial classifications (about 130) and occupational categories (up to nine within each industrial classification). In 1987 there were 520 separate minimum wage rates, which were set by occupation/skill and industry. This structure was created, in part, to achieve the goal of improving income distribution by reducing wage disparities between the industry/occupation categories. In 1988 the Ministry of Labor began a gradual process of reducing the number of minimum wage categories to about 200 as it became clear the system was too complex. To do this, the Ministry identified two or more categories that were to be combined and increased the minimum wage in the category with the lowest minimum wage by a greater amount than the minimum wage in the higher wage category. In this way, over a period of several years, the minimum wage for these categories would become the same. Therefore, for each category in each year, minimum wages are increased by different amounts (Gindling and Terrell, 2004, p. 88). In 1990,

those categories were reduced to about 80. A further simplification during the Figueres Administration (1994-1998) in 1997 reduced the minimum wages to the 19 that we observe today (Gindling and Terrell, 2004, p. 4).

Since 1949 there have been three possible procedures for adjustments to the minimum wage for private employees,: a) annual adjustment; b) additional general revision adjustment; and c) additional specific adjustment. The body responsible for carrying out the annual adjustment is the National Salaries Council (CNS), a tripartite structure of 9 members (3 employers, 3 workers, and 3 Ministry of Labor representatives) elected every four years. The CNS receives the proposals of the most representative organizations and recommendations of the authorities. On the basis of these proposals, minimum wage increases are decided by simple majority voting of its members (Gindling and Terrell, 2004, p. 88; and ILO, 1997)

In addition to the annual revision, minimum wages can also be revised at any time during the year following a request from 5 employers or 15 workers. From 1949-74 minimum wages were set every two years, as inflation was low and constant. In 1974, in response to the accelerating inflation, the Council began to adjust minimum wages yearly and to implicitly use the Consumer Price Index (CPI) of the lower middle-income families in the Metropolitan Area of San José as a guide. As a result of the crisis, in 1980, minimum wages began to be revised at least twice a year (three times in 1983) (Gindling and Terrell, 1995, p. 1440; ILO, 1997). From 1980-82 the minimum wage was, implicitly at least, indexed to the change in the price level from the last adjustment. Under such a lagged adjustment mechanism, accelerating inflation (which Costa Rica experienced from 1980 to mid-1982) led to falling real minimum wages. Real minimum wages fell each adjustment period from 1980 to 1982 (See Figure 4.1 and Figure 4.2). In mid-1982, the Monge Administration (1982-86), as part of the plan for economic recovery, explicitly increased the minimum wage at a faster rate than the rate of inflation (Gindling and Terrell, 1995, p.1440). A Basic Wage Basket was used as a parameter for absolute minimum wage adjustments. This basket was a sub-group of the CPI, containing those

items considered to be most important for wage-earners. The prices of most of these items were under the government's control during this period (ILO, 1997). Additionally, a system in which the lowest minimum wages were increased by a larger percentage than the highest minimum wages was implemented (Rovira and Trejos, 1985, Jiménez and Céspedes, 1994), p. 84, ILO, 1997).

The public sector was in practical, if not legal, terms similarly bound by the minimum wage during most of the 1970's and 1980's; only on rare occasions the were workers paid less than minimum, and, like the minimum wage system in the private sector, the public sector structure included a large number of categories.

The multiple minimum wage system employed in Costa Rica was used during the crisis period as an instrument to alleviate costs of adjustment for lower income workers. Nevertheless, by mid 1980's, with the economic situation improving, the necessity of maintaining this policy was less obvious since, "reducing the wage differentials might dissociate minimum wages from market rates, weakening the minimum wage policy" (Jiménez and Céspedes, 1994, pp. 84-85, ILO, 1997)). First, if the fixed rates for the lower minimum wages are considered to be significantly higher than the market rates, it might induce non-compliance by employers. Second, if the fixed rates for the higher minimum wages are considered to be significantly below market rates, they are disregarded by the employers who will follow the market rates (ILO, 1997).

While the wage policy of the Monge Administration (1982-1986) was to strengthen real wages, the wage policy of the Arias Administration was to avoid inflationary pressures caused by wage increases. In its wake, the basic wage basket as criteria for minimum wage adjustments was replaced by the Consumer Price Index (CPI) (Hidalgo, 2000, p. 22, MIDEPLAN, 1993, p. 11).

In August 1986, the real minimum wage fell sharply. Accelerating inflation may have contributed to this fall. Some have suggested that it was a policy of the Arias Administration (1986-90) to lower real minimum wages (see Cardozo, 1990). On average, the minimum wage continued at this lower level until 1991, falling slightly between August 1986 and August 1988, and rising slightly between August 1986 and August 1990. The new Calderón Administration (1990-94) campaigned on a platform of strengthening real wage levels, and indeed increased minimum wages more rapidly than the inflation rate in January 1990. The next adjustments were not as large, however, and by June 1991 the real minimum wage was at approximately the same level as in August 1989.

All full-time private sector employees (paid workers) are legally covered by minimum wages. A significant portion of the private-sector labor force, however, is not legally covered by minimum wages. For example, because of the way minimum wages are specified, part-time workers are not covered and self-employed workers are exempt. There are low penalties for violating minimum wage laws and relatively few minimum-wage inspectors in the Ministry of Labor (Gindling, and Terrell,1995).

It is important to point out several institutional changes that have limited the ability of public workers to negotiate collective agreements, particularly at the end of the period of this study. In 1979, the General Law of Public Administration prohibited the signing of collective bargaining agreements between the state and public employees. Nonetheless, the impact of this law was limited during the 1980's because public employees could appeal to arbitration of the Labor Courts. In 1992, however, the Constitutional Court found this mechanism unconstitutional for all civil servants.[7] Since then, civil servants have been forced to accept decisions that are decided at the Bargaining Commission for Public Wages. While they participate in this commission,

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[7] The decision of the Constitutional Court did allow collective bargaining agreements for public employees that are not subject to "the regime of public employment." This has allowed workers in many autonomous

trade unions have little room for real negotiation since wage increases are mainly determined by the Budget Authority based on balanced budget criterion (Sanchez-Ancochea, 2005, p. 23).[8]

On the other hand, labor productivity has increasingly become the main parameter for establishing salary increases in the private sector and, the consumption necessities criteria has diminish significantly in importance. While the minimum wages are still determined within the CNS, the rest are set by market forces (Hidalgo, 2000).

Analysis of the Labor Market and Patterns of Wage inequality in Costa Rica, 1976 – 2004

This section will explore labor market variables such as employment and wages, and patterns of wage inequality in Costa Rica from 1976-2004. This period, in turn, is divided in three sub-periods based on drastic changes observed in the inequality patterns: 1975-1985, 1985-1995, and 1995-2004. These sub-periods, coincide with important economic development strategies and economic events such as the entrepreneurial state (1973-1980), crisis and stabilization (1980-1984), and the export promotion model and initial structural reforms (1984-2004).

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institutions to obtain higher wage increases than other public employees and has contributed to further eroding the legitimacy of the bureaucracy.
[8] In the public sector, the Budget Authority is in charge of establishing new posts, and wage increases.

Analysis of the Labor Market and Wage Inequality, 1976-1984

Employment

In Costa Rica, the levels of social security coverage are relatively high compared with most countries in Latin America. By 2004, after a process of purging of the data base, the level of coverage was estimated at about 57 percent of the labor force (Table 3.5).[9]

About 85 percent of insured workers in Costa Rica were salaried or paid workers in 1977; eight years later, in 1985, that percentage decreased to 75.7 percent. However, that decline was due to an increase in the coverage of self-employed workers rather than a reduction in coverage for salaried workers (Table 3.6). On the other hand, the composition of salaried workers did not show significant changes between 1977 and 1985. The participation of employees in the private sector, as well as that of the workers of the public sector (Central Government, Autonomous Institutions) remained stable over this period (about 65 percent in the case of former, and 35 percent of the latter; Table 3.2).

Table 3-5: Costa Rica: Coverage of Social Security 1977-2004 (Insured Workers as a share of the Labor Force)

	1977	1981	1985	1990	1995	2000	2004[1]
Total Insured Workers	63.9	66.5	68.3	68.0	72.3	74.7	56.7
Salaried Workers	54.8	54.5	51.7	51.1	53.1	52.2	45.2
Private Sector	*35.9*	*35.7*	*33.7*	*34.7*	*38.9*	*38.5*	*32.8*
Domestic Service	*1.2*	*1.3*	*0.7*	*0.5*	*0.5*	*0.5*	*0.5*
Autonomous Institutions	*10.2*	*10.4*	*10.4*	*9.8*	*7.9*	*7.4*	*6.4*
Central Government	*7.5*	*7.1*	*6.9*	*6.0*	*5.9*	*5.8*	*5.6*
Non-salaried Workers	9.1	11.9	16.6	17.0	19.2	22.5	11.5
Self-Employed	*9.1*	*11.9*	*13.2*	*12.2*	*15.0*	*18.1*	*7.5*
Special Agreement	*0.0*	*0.0*	*3.3*	*4.8*	*4.1*	*4.4*	*4.0*

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[9] The process of purging mostly affected the self-employed records. The salaried worker records did not change significantly.

The structure of paid workers by economic activity has been relatively stable in this period. Unlike "Social and Health Services" (the biggest employer), whose share increased from 30 percent to 35 percent between 1975 and 1985, the participation of rest of the sectors remained relatively stable. The second biggest employer, "Manufacturing Industries," employed about 19 percent of all salaried workers; while between 15 and 17 percent of them where working in "Agriculture," and 13 percent where employed in "Commerce" during this period. Although the number of workers in "Financial Services" is small, the share has shown a slight increasing trend between 1975 and 1985, growing from 5.6 percent to 6.7 percent. On the other hand, "Construction," "Transportation," and "Electricity" showed a slight decrease in their shares (Table 3.8).

Table 3-6: Costa Rica: Structure of Insured Workers by Institutional Sector 1977-2004 (As a share of the Total Insured Workers)

	1977	1981	1985	1990	1995	2000	2004[1]
Total Insured Workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Salaried Workers	85.7	82.0	75.7	75.1	73.5	69.9	79.7
Private Sector	*56.1*	*53.8*	*49.3*	*51.0*	*53.8*	*51.5*	*57.8*
Domestic Service	*2.0*	*2.0*	*1.1*	*0.8*	*0.7*	*0.7*	*0.8*
Autonomous Institutions	*15.9*	*15.6*	*15.2*	*14.4*	*10.9*	*9.9*	*11.3*
Central Government	*11.7*	*10.7*	*10.2*	*8.8*	*8.1*	*7.8*	*9.9*
Non-salaried Workers	14.3	18.0	24.3	24.9	26.5	30.1	20.3
Self-Employed	*14.3*	*18.0*	*19.4*	*17.9*	*20.8*	*24.2*	*13.2*
Special Agreement	*0.0*	*0.0*	*4.9*	*7.0*	*5.7*	*5.9*	*7.1*

Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

Table 3-7: Costa Rica: Structure of Salaried Workers by Institutional Sector 1977-2004 (As a share of the Total Salaried Workers)

	1977	1981	1985	1990	1995	2000	2004
Salaried Workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Private Sector	65.4	65.5	65.1	67.9	73.2	73.7	72.4
Domestic Service	2.3	2.4	1.4	1.1	0.9	1.0	1.0
Autonomous Institutions	18.6	19.0	20.0	19.2	14.9	14.2	14.1
Central Government	13.7	13.1	13.4	11.8	11.0	11.1	12.4

Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

Table 3-8. Costa Rica: Structure of Salaried Workers by Institutional Sector 1975-2002 (As a share of the Total Salaried Workers)

	1975	1981	1985	1990	1995	2000	2002
Total Insured Workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	17.9	16.8	15.6	16.0	18.0	16.6	16.7
Mines	0.5	0.3	0.3	0.2	0.2	0.2	0.2
Manufacturing Industries	19.6	18.1	19.0	20.2	19.7	16.9	14.9
Electricity, Gas, and Water	2.4	3.3	2.6	2.5	2.5	2.0	1.3
Construction	7.4	5.5	4.1	3.9	3.9	3.9	5.0
Commerce	13.3	13.7	12.8	13.5	15.7	16.4	16.4
Transportation	4.3	4.1	3.6	3.1	3.8	4.2	5.2
Financial Services	4.7	6.1	6.7	5.5	6.1	7.6	10.8
Social Services and Health	30.1	32.2	35.4	35.2	30.0	32.2	29.6

Source: Own calculations from the insurance records from the Costa Rican Social Security Institute (CCSS).

Unfortunately, neither the data from the Household Survey nor that from CCSS allows for crossing of information on institutional sector and economic activity of the workers for these years, so it is hard to know exactly the number of public or private

sector employees that worked in financial activities, for example. However, this matrix can be built from 1996 on using the CCSS data. By 1996, almost all of the workers in activities such as agriculture, mines, industries, construction, commerce, and transportation were in the private sector. On the other hand, participation in the public sector was strong in activities such as electricity, gas, and water (90 percent), social services and health (66.7 percent), and financial services (33.3 percent). The public sector includes the employees of the Central Government and Autonomous Entities. The category "Autonomous Institutions," in turn, includes public entities such as the Costa Rican Electricity Institute (ICE), Costa Rican Insurance Institute (INS), and the Costa Rican Oil Refinery (RECOPE) which enjoy a monopoly in their activities, as well as state banks, the CCSS and state hospitals. Although one could speculate that this structure did not change much from that of the late 1970's and early 1980's, particularly in sectors such as electricity, commerce, mines and agriculture, it is worth highlighting some differences. First, the 1970's were characterized by strong participation of the government in industrial activities through its public enterprises, and an important part of manufacturing industry employees worked in the public sector. Second, the financial reform that facilitated the expansion of private banking took place in the 1990's; for this reason one can expect that the participation in employment of the public sector in financial activities was larger than 33 percent (Table 3.9).

Table 3-9: Costa Rica: Structure of salaried workers by Economic Activity and Institutional Sector, 1996 and 2002 (As a share of the Total Salaried Workers)

	1996			
	Private Sector	Autonomous Institutions	Central Government	Domestic Service
Agriculture	99.9	0.1	0.0	0.0
Mines	99.4	0.6	0.0	0.0
Manufacturing Industry	99.8	0.2	0.0	0.0
Electricity, Gas, Water	11.1	88.9	0.0	0.0
Construction	96.4	3.6	0.0	0.0
Commerce	99.9	0.1	0.0	0.0
Transportation	92.0	8.0	0.0	0.0
Financial Services	66.6	33.4	0.0	0.0
Health and Social Services	29.1	30.2	37.8	3.0

	2002			
	Private Sector	Autonomous Institutions	Central Government	Domestic Service
Agriculture	99.4	0.6	0.0	0.0
Mines	98.9	1.1	0.0	0.0
Manufacturing Industry	99.5	0.5	0.0	0.0
Electricity, Gas, Water	15.4	84.6	0.0	0.0
Construction	91.9	8.1	0.0	0.0
Commerce	99.6	0.4	0.0	0.0
Transportation	78.5	21.5	0.0	0.0
Financial Services	80.4	19.6	0.0	0.0
Health and Social Services	23.9	29.6	43.4	3.0

Source: Own calculations from the insurance records from the Costa Rican Social Security Institute (CCSS).

Wages

Figure 3.1 shows the behavior of the real average wages by institutional sector from 1997-2004. One can see a clear difference between the average wage in the private sector and that of the public sector. For instance, in 1977 the average pay for a worker in the private sector was only half (52 percent) the wage of someone working in "Central

Government." Not only was the average wage in the private sector lower than those of "Central Government" and "Autonomous Institutions" employees, but it was also lower than the total average wage (about 15 percent).

A glance at average wages by economic activity (Figure 3.2) shows that the average wages in "Financial," "Health and Social Services," and "Electricity, Gas and Water" were well above the average wages in other activities during this period. Overall, the real average wages started to decline in 1980 when inflation peaked at unprecedented levels (See Figure 3.3). The worst part of the economic crisis occurred in 1982 when real wages sunk drastically in all sectors, particularly in the public sector as a consequence of the severe decrease in the average wages in activities such as financial services, health and social services; and electricity, gas, and water distribution.

Figure 3-1: Costa Rica: Real Average Wages by Institutional Sector, 1977-1984 (Colones of 1995)
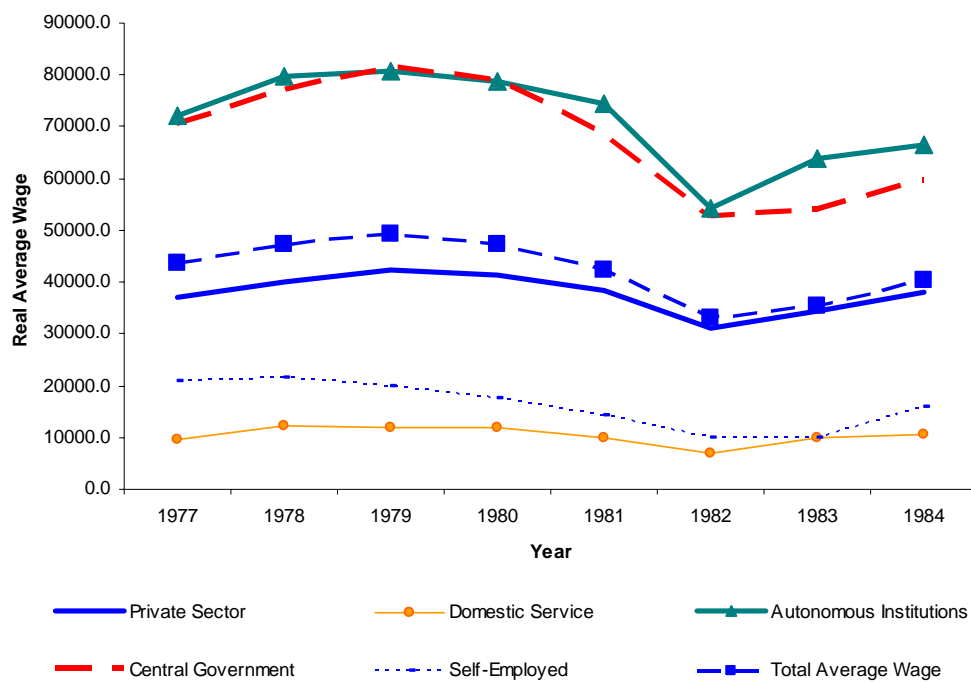
Figure 3-2: **Costa Rica: Real Average Wages by Economic Activity, 1976-1984 (Colones of 1995)**
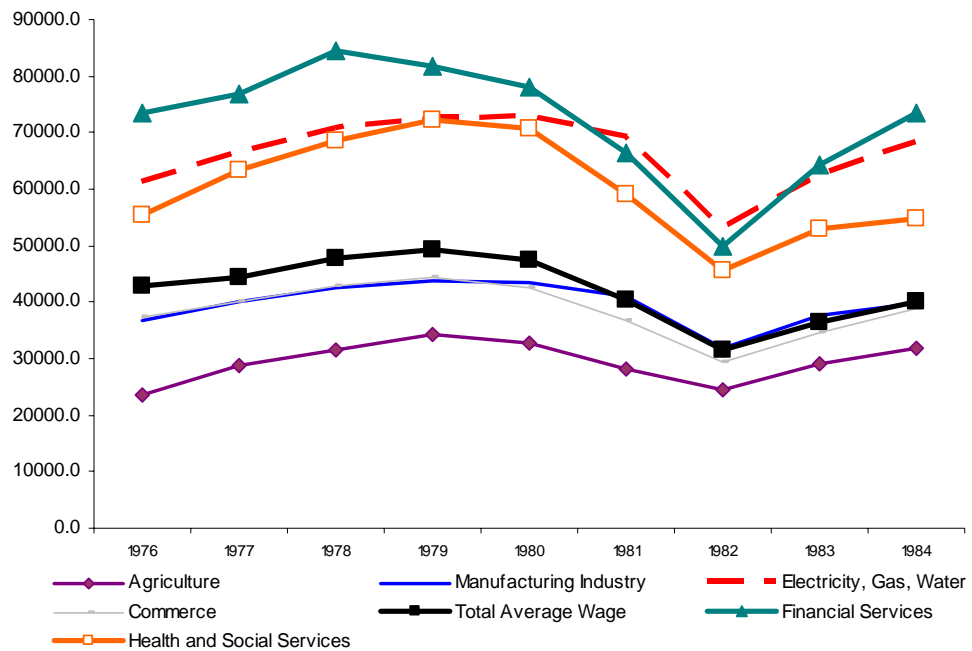
Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS), and Consumer Price Index (CPI) of the Central Bank of Costa Rica (BCCR).
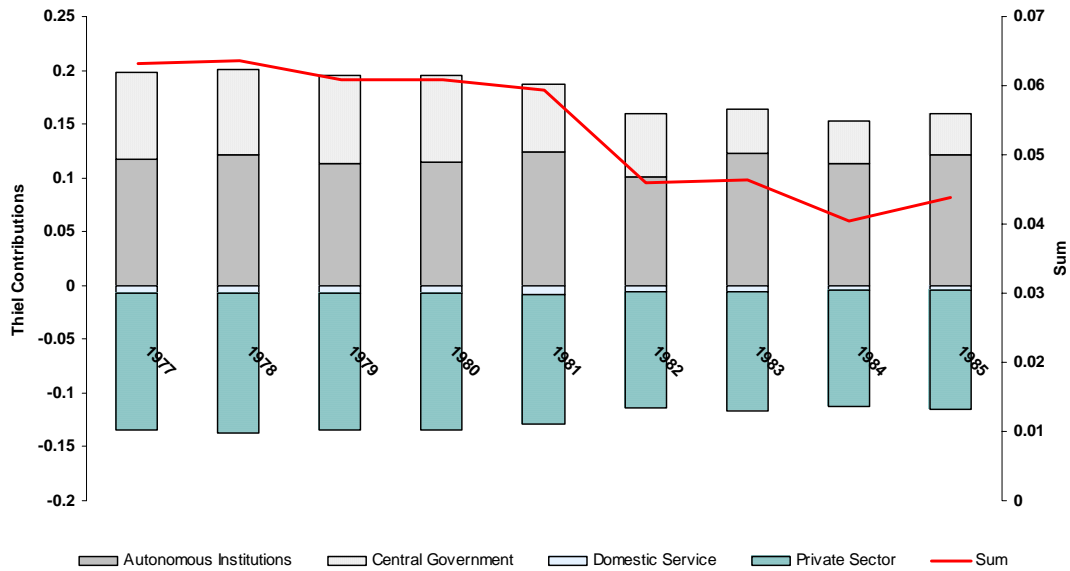
Figure 3-3: Costa Rica: Inflation and Real Wages Index, 1977-2004 (Wages Index 1995=100)
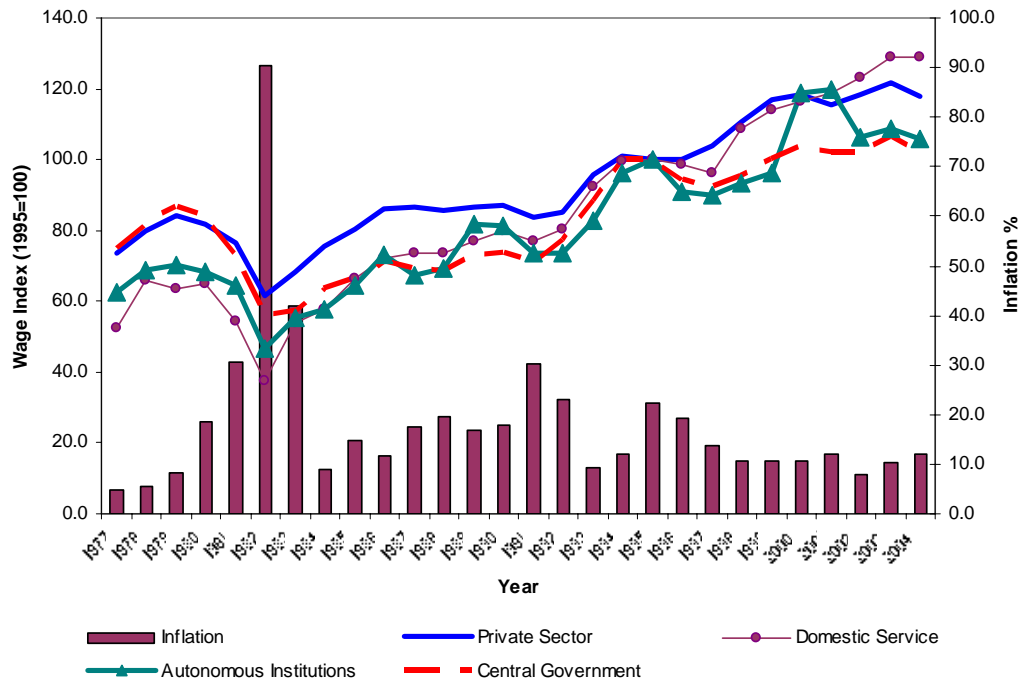
Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS), and Consumer Price Index (CPI) of the Central Bank of Costa Rica (BCCR).

Inequality

The data from the CCSS are not suitable to the construction of a matrix with information on institutional sector and economic activity of paid employees for these years, and therefore, only the "between group" component of Theil inequality index can be estimated for each classification (institutional sector or economy activity). Nonetheless, some interesting findings are revealed.

Figure 3.4 shows the contributions by sector to total inequality between institutional sectors in the period 1977-1984. Overall, the biggest positive contribution (wages above the total average) to inequality is provided by "Autonomous Institutions" (ICE, INS, RECOPE, etc.), followed by "Central Government." Conversely, the private sector, about 65 percent of total salaried workers, provides by far the biggest negative contribution (wages below the total average). Despite the fact that wages in "Domestic Services" are lower, its negative contribution to inequality is almost negligible as workers in this sector represent less than 3 percent of the total salaried employees.

Figure 3-4: Costa Rica: Theil Contributions by Institutional Sector, 1977-1985

Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

The sum of contributions by institutional sector, total inequality between institutional sectors (Sum in Figure 3.4) shows a clear decreasing trend over the period 1977-1984. Between 1977 and 1981, inequality between institutional sectors remained stable without any drastic change. However, in 1982 this trend was interrupted by a strong reduction in the Theil index (a further decrease took place in 1984). Given the fact that in 1981 and 1982 the country experienced the worst moments of the economic crisis, this change seems surprising. During this period, however, the real wages in "Central Government" and "Autonomous Institutions" fell more than in other sectors, causing the nominal average pay in both sectors to grow at slower pace than in the private sector.

When workers are classified by economic activity (Figure 3.5), the estimation of the contributions to total inequality between economic activities reveals that "Health and Social Services," "Financial services," and "Electricity, Gas and Water" provide the greatest positive contributions (wages above the total average), in that order of importance. On the other hand, "Agriculture, "Manufacturing Industries," "Commerce, and "Mines" are the largest negative contributors to inequality (wages below the total average). The pattern of total inequality between economic activities ("Sum" in Figure 3.5) also shows a steady decreasing trend throughout the period, even in 1981 and 1982.[10]

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[10] Estimates of wage inequality by different authors, however, show an increase in inequality among paid workers during these years. Gindling and Trejos (2004) find that from 1976 to 1986 there was a fall in earnings inequality. All measures of inequality fell, even the Theil index. Nonetheless, within this period, there was a temporary increase in inequality during the recession (1980-1982). Inequality then fell and returned to trend with the recovery (Gindling and Trejos, 2004, p. 6). The obvious question is: Are these authors' findings and the ones in this report contradicting each other? The answer is straightforward: Not necessarily. One obvious difference is that most studies on inequality have traditionally resorted to information on wages and employment provided by the Household Survey of the INEC, while this study uses the insurance records of the CCSS. Thus, both estimates are calculated using information from different sources. However, the main reason for this divergence is the way employees are classified. For the period 1976-1983 the Household Survey did not contemplate the economic activity of salaried workers; instead, they were classified by income brackets. Therefore, the estimates of inequality based on this source actually show inequality among income brackets and not among economic activities. When the data on paid workers provided by the CCSS is arranged in a different way (income brackets, and economic activities, for instance), it is plausible that the estimates of inequality among income brackets show a rise in inequality, and at the same time, show a drop in inequality among economic activities for 1980-1982 (Annex). Unfortunately, this cannot be done with the insurance records for those years. If the least protected workers, independent workers, are included, we find that wage inequality increases according to the notion of rising inequality during economic hardship. However, these workers represented only 14

It is important to note that there were no sudden changes in the structure of inequality from 1975 to 1980, the reduction of wage inequality was rather smooth. However, after 1980, the between group inequality experienced a large reduction. This phenomenon can be explained, again, by looking the real wages (there were no significant changes in the composition of the labor force by economic activity). Although real wages in all activities suffered severe reductions, they were more severe in activities with higher pay such as health and social services, financial services; and in the electricity, gas and water distribution. This result is very interesting because it is contrary to the conventional notion of rising inequality during economic stress. In slumps, the theory goes, when unemployment rises, the wages of the lowest-paid workers suffer because they are the least well protected. As the recovery starts, moreover, the first new jobs fall to the highly paid workers in sectors that supply investments goods, and inequality rises again. The slump and the early recovery phases of a business cycle should therefore be associated with increasing inequality. But when the economy has returned to full employment, at the peak of the business cycle, the situation turns in favor of less well-paid, less powerful workers (Galbraith, 1998, p. 52).

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percent of total insured workers in this period, showing the high degree of protection for the salaried workers whether they work in the public or private sector.

**Figure 3-5: Costa Rica: Theil Contributions by Economic Activity, 1975-1985**
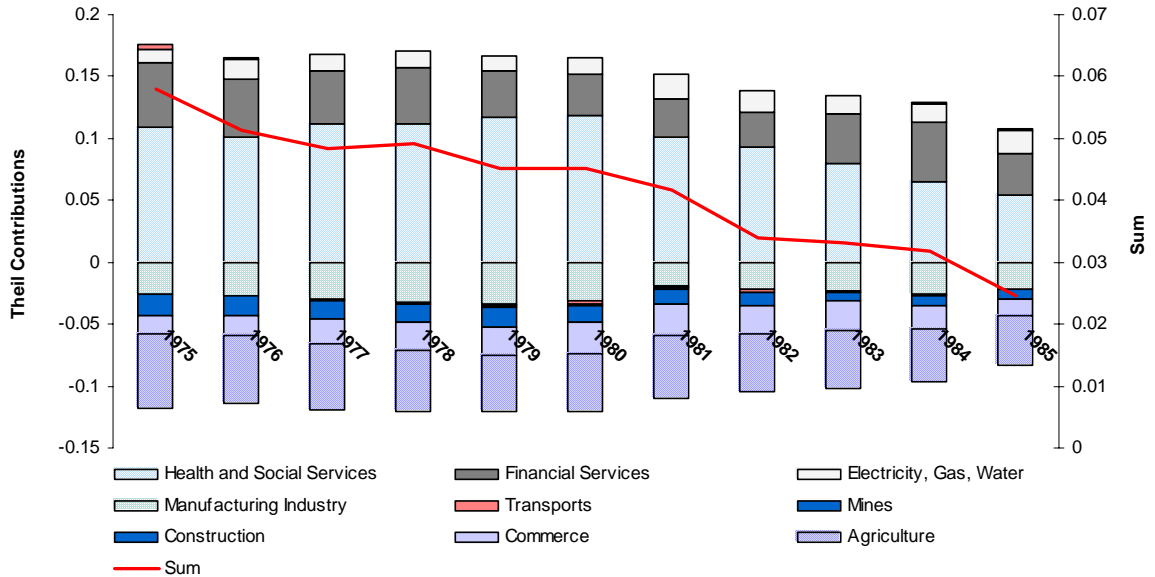
Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

The behavior of real wages and inequality reflects the nominal wage policies of this period such as the practice of discriminatory wage increases implemented in 1974, in which the lowest minimum wages were increased by a larger percentage than the highest minimum wages, the regular adjustments of the nominal wage in response to the accelerating inflation (annual adjustments before 1980, half-yearly adjustment since 1980, and three times a year in 1983); and the plan of economic recovery of the Monge Administration (1982-86) that explicitly increased the minimum wage at a faster rate than the rate of inflation. The well-enforced minimum wage policies mentioned above, along with the Social Compensation Plan (SCP), and the Firms Rescue Plan (FRP) implemented in 1982 and 1983 have been pointed to as the main factors accounting for the quick and successful recovery (1982-1986) compared to the recovery in other Latin American countries, among them Guatemala. According to Gindling and Berry (1992), "recovery and structural adjustment have been relatively successful in Costa Rica within

a system where the labor market functions in an institutional context rather distant from the free market Costa Rican labor market"(Gindling and Berry, 1992, p. 1599). Real wages started to rise again in all sectors in 1983. The inflation rate decreased from 90.5 percent in 1982 to 8.8 percent in 1984 and the unemployment rate also declined significantly between 1982-1984 (See Table 2.1). Furthermore, the increasing wages help to alleviate the high poverty levels reached during the crisis. Figure 3.6 shows the trend of urban poverty, and the real wages index by institutional sector from 1980 to 2004. It is clear that the decline of the wages since 1980, particularly the wages in the private sector (65 percent of all salaried workers), is coupled with a sharp increase of urban poverty. However, after 1982, when urban poverty reached its peak, the recovery of wages was under way and urban poverty began its decline. By 1986, both poverty and wages recovered their pre-crisis levels.

Figure 3-6: Costa Rica: Urban Poverty and Real Wages Index, 1980-2004
(Percentage of Urban Poor Households, Wages 1995=100)
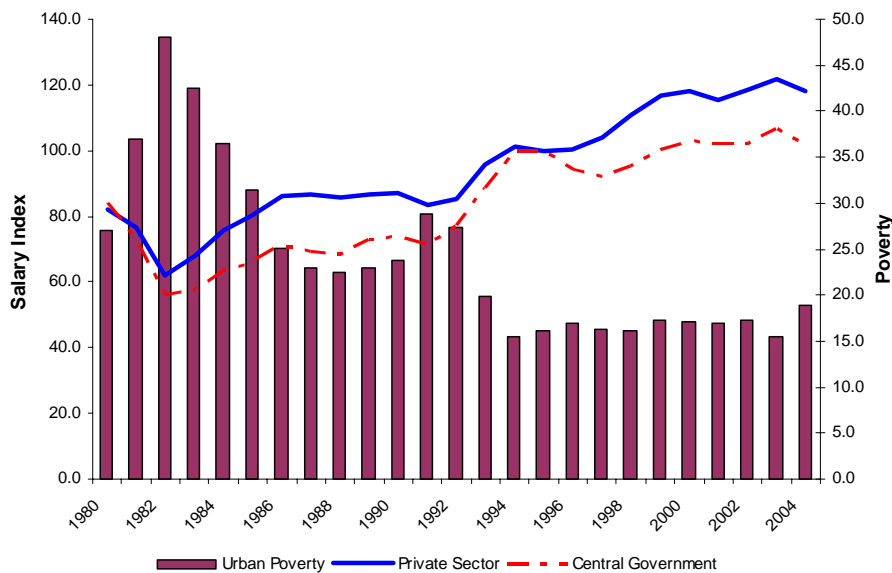
Source: Poverty: Jiménez and Céspedes (1994) for 1980-1987, and National Institute of Statistics and Census of Costa Rica for 1987-2004; Real Wages Index: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS), and the Household Survey of the Costa Rican Institute of Statistics (INEC).

Analysis of the Labor Market and Wage Inequality, 1984-1994

Employment

Between 1985 and 1994, the participation of the private sector in total salaried workers' employment experienced an important increase. While 65 percent of employed workers were in this sector in 1985, by 1995, 73.2 percent of the workforce was linked to the private sector. This situation was the result of the reduction of the employment in autonomous entities and the central government between 1985 and 1995 (from 20 to 15 percent in the former, and from 13.4 to 11 percent in the latter) (Table 3.7). This situation may reflect the efforts to reduce public spending through public employment cuts during these years.

The structure of employment by economic activity shows some important changes as well. For instance, the percentage of individuals employed in "Social and Health Services" decreased from 35.4 percent in 1985 to 30 percent in 1995. This is likely due to the reduction of public employment as well, since a big proportion of the workers in these activities are public servants. Agriculture and commerce showed important gains in participation too; however, other activities did not experience significant shifts (Table 3.8).
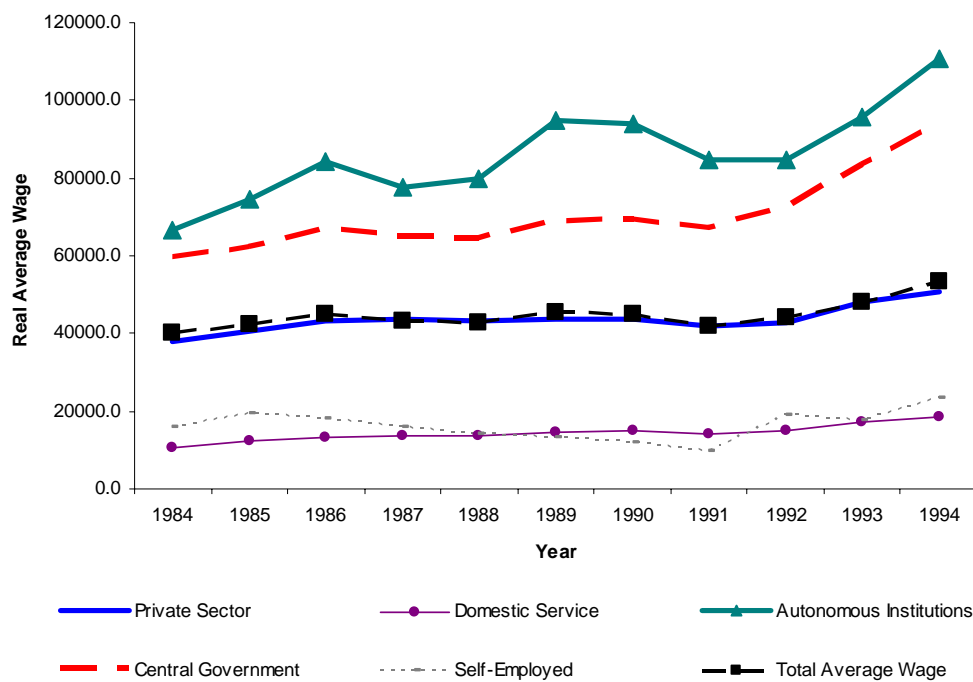

Wages

The behavior of real average wages in this period is characterized by their recovery to pre-crisis levels by 1987 and by their stability during these years. Figure 3.7 shows that the pattern of the total average wage stayed closely correlated with that of the average wage in the private sector. In fact, they were almost the same. The wage in the private sector remained fairly stable between 1986 and 1991 due to the fact that the Arias

Administration tried to avoid inflationary pressures caused by wage increases. To accomplish this, the basic wage basket as criteria for minimum wage adjustments was replaced by the Consumer Price Index (CPI) (Figure 3.3). The wages of "Central Government" were similar, however, after 1991 the average pay in this sector experienced a significant shift, as well as those of "Autonomous Institutions."

Figure 3-7: Costa Rica: Real Average Wages by Institutional Sector, 1984-1994 (Colones of 1995)

Real wages by economic activity show a similar trend. The pay in most activities remained almost constant. However, the wages in activities such as electricity, gas and water distribution, and financial services experience a significant increase (Figure 3.8). This situation is consistent with the information reported by the pattern of wages by institutional sector, as a big chunk of these activities were carried out by autonomous institutions (electricity, state banking, etc.). It is important to notice the cyclical peaks in the average wage of "Electricity, Gas and Water." These peaks coincided with Costa Rica's electoral cycle. (a topic to be addressed in more detail below).

As previously mentioned, the Calderón Administration (1990-1994) campaigned on a platform of recovering real wage levels, and indeed increased minimum wages more rapidly than the inflation rate in January 1990. The next adjustments were not as large, however, and by June 1991 the real minimum wage fell to the levels of 1989 (Figure 3.1 and Figure 3.2). Nonetheless, after 1991 real wages experienced a real recovery.

During this period of stable real wages, the urban poverty rate also remained stable, suffering an increase in 1991 due to a fall of real wages (Figure 3.6).

Figure 3-8: Costa Rica: Real Average Wages by Economic Activity, 1984-1994
(Colones of 1995)
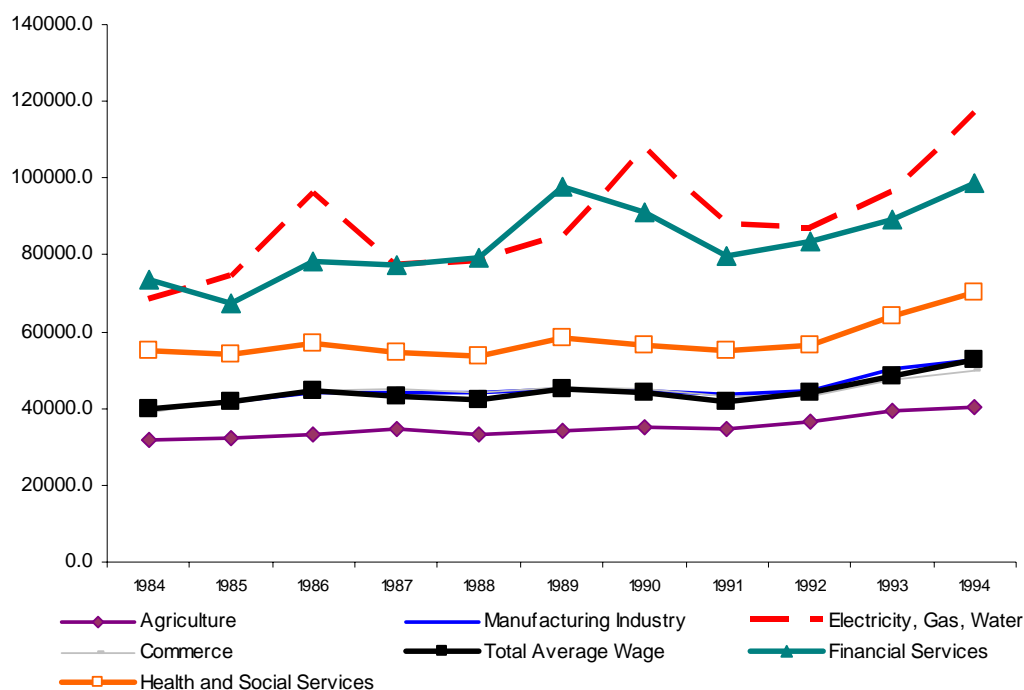
Source: Poverty: Own calculations from the insurance records of the Costa Rican Social Security Institute
(CCSS), and Consumer Price Index (CPI) of the Central Bank of Costa Rica (BCCR).

Inequality

The pattern of inequality between 1985 and 1994 tells quite a different story than
that of the previous period (1975-1984). For one, the overall declining trend of the
previous period is totally absent in these years. In addition, its behavior becomes more
volatile. This 10-year period witnessed four remarkable, but temporary, episodes of
rising inequality in 1986, 1989, 1990 and 1994, which coincide with important economic
events of various types such as the implementation of the SAP I and SAP II in 1986 and

1989, respectively. Along with the implementation of these structural adjustment programs, in this period, unlike the previous one, Costa Rican public finances tended to deteriorate in cyclical periods that coincided with the electoral cycle. The postponement of utility rates increases, and the expansion of public spending provoked an increase in the deficit, particularly the Central Government deficit, during election years, for example in 1986, 1990, and 1994 (Sauma and Trejos, 1999, p. 352). This took place in a context in which a big chunk of the fiscal deficit was now financed with domestic debt (Kikut et. al., p. 30) (Table 3.10).

The effects of both structural adjustment and the electoral cycle on wage inequality are captured in the estimates of total inequality between institutional sectors and the total inequality between economic activities (Figures 3.9 and 3.10).

The analysis by institutional sector reveals that "Autonomous Institutions" are responsible for the largest positive contribution to total inequality between institutional sectors (Figure 3.9), while "Health and Social Services," "Financial Services," and "Electricity, Gas and Water" are the biggest contributors to total inequality between economic activities (Figure 3.10). Here, it is important to notice a big difference between the period 1985-1994 and the previous one. From 1975-1985, "Health and Social Services" represented by far the biggest positive contribution to inequality between economic activities. In the next period, however, its relative importance, though still large, started to lose ground to other activities such as "Financial Services" and "Electricity, Gas and Water." This situation could be attributed to the moderate reduction of the proportion of workers employed in this activity. The SAP I and SAP II also generated important changes in the Costa Rican economy from 1985-1989. Included among these reforms are the beginning of the process of financial liberalization, the appearance of new financial instruments as a result of the modernization (credit cards, bonds, etc.), and the decision of the monetary authorities to focus on using other monetary controls rather than credit restrictions to manage the monetary supply (Kikut et. Al., 1998, p. 30). These reforms permitted an accelerated growth in the size and

importance of private banking and other financial intermediaries, and increased the net domestic savings rate which represented only 7.3 percent of the GDP in 1983-1985, but jumped to 17.8 percent of the GDP in the period 1986-1989 (Cordero, 2000, p.12). The average growth of this sector was 7.4 percent between 1984 and 1990, the second biggest after "Construction" (Table 3.11). In 1989, total inequality between economic activities increased substantially due to a rise in the average wage of financial sector workers. This coincided with the approval of Law for the Modernization of the Nation's Financial System in November 1988, which was supposed to have a bigger impact in 1989.
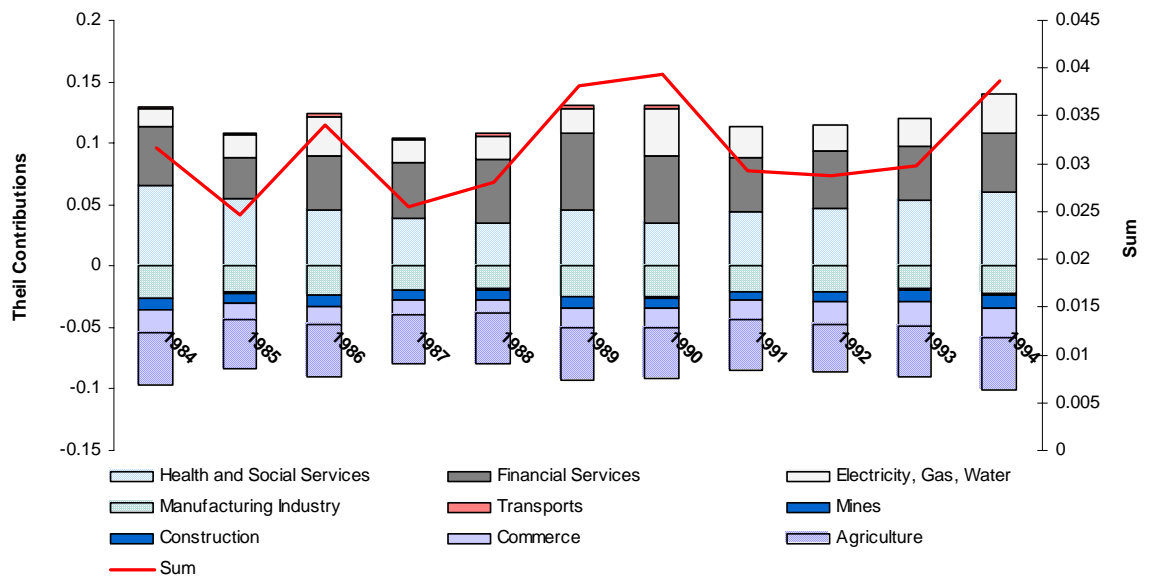
Figure 3-9: Costa Rica: Theil Contributions by Institutional Sector, 1984-1994
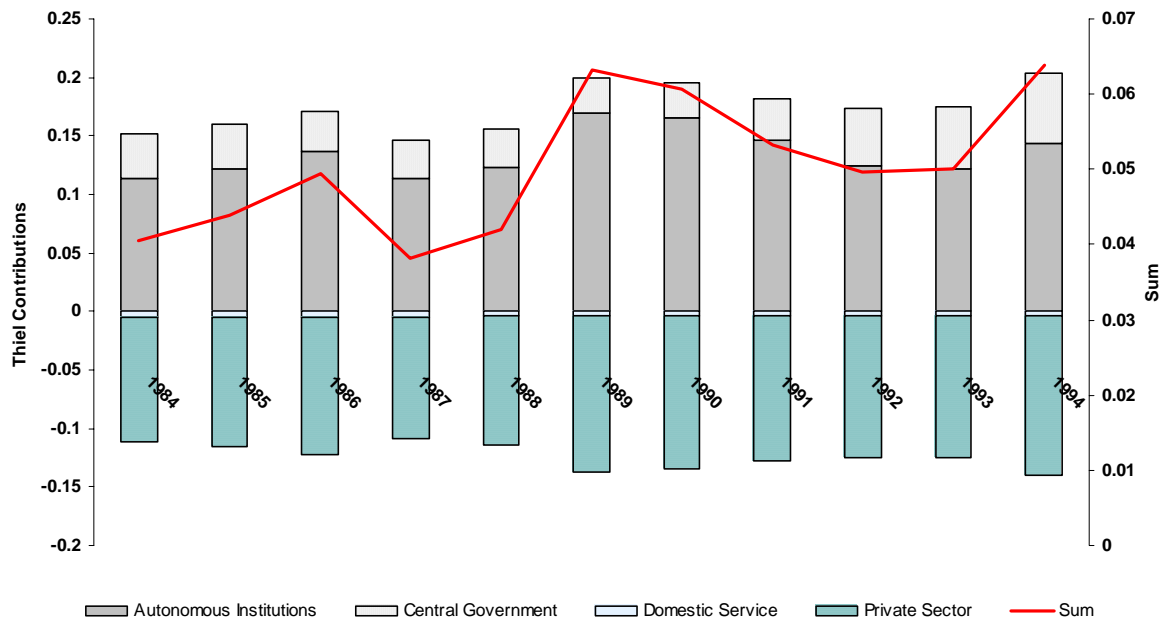
Source: Poverty: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

In 1990, inequality between economic activities remained high relative to previous years, however, the driving force behind inequality was "Electricity, Gas and Water" (Figure 3.10). During this year, Costa Rica's economic growth rate was slightly lower than the 1989 rate, and the fiscal deficit reached high levels (3.8 and 4 percent of the GDP in 1989 and 1990, respectively, See Table 3.10). In addition, the country's international reserves weakened as a result of a rising trade deficit and the use of official reserves to implement the buy-back of Costa Rica's official debt with private international commercial banks. The Calderón Administration (1990-1994) was forced to take measures such as strong rises in import tariffs, fuel prices, utility rates, and the prices of basic foodstuffs to reduce spending and increase revenues in order to reduce the deficit (Kikut et. al., 1998, p. 34; Anderson, 2000, p. 6; Villasuso, 2000, p.81).[11]

Figure 3-10: Costa Rica: Theil Contributions by Economic Activity, 1984-1994

Source: Poverty: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

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[11] In addition, in October 1990 a new law allowed private and independent generators using new or renewable energy sources to sell the energy to the public trough ICE. The amount of energy however, was limited to 20 MW.

Public participation in electricity, gas and water distribution is high due to the fact that these activities are almost totally controlled by autonomous institutions. It also happens that these institutions are characterized by a high degree of unionization. By 2001, for instance, 11 of the 12 unions in activities related with electricity, gas and water distribution were in autonomous institutions; and out of 9,342 unionized workers, 9,180 employees were affiliated with autonomous institutions. This represents a high degree of unionization, if we consider that the total number of individuals working in these activities was 9,938 in 2001, according to the insurance records (Regidor, 2003, p. 55). Thus, taking into account the power of negotiation of these unions, one could expect that the increases in the prices of public utilities would be reflected in the average pay of the workers in these activities.

The analysis of this period ends in 1994, a year in which wage inequality rose substantially due to a drastic deterioration of the economic situation. Three important factors explain this deterioration. First, 1994 was part of the electoral cycle (Figueres followed Calderón). The inflation rate experienced a strong increase relative to the previous year (Figure 3.3). Second, the reduction of revenues due to tariffs reductions, along with the increase of public expenditures provoked by the bankruptcy of one of the biggest state banks (Banco Anglo) and the mounting public sector wages and pensions gave rise to a severe fiscal disequilibrium; the fiscal deficit jumped from 0.7 to 6.4 percent of the GDP between 1993 and 1994 (Table 3.10). Finally, beginning in 1992, the economic strategy was heavily dependent on inflows of foreign capital. However by 1994, due to the Mexican Crisis, those inflows started to weaken causing a drastic increase in loan and deposit interest rates (Kikut et. al., 1998, p. 38-39).

Table 3-10: Costa Rica: Deficit/Surplus of the Public Sector, 1984-2001 (As Percentage of the GDP)

	1984	1985	1986	1987	1988	1989	1990	1991	1992
Total	-4.9	-5.9	-4.4	-2.9	-26.7	-3.8	-4	-1.6	-0.8
Central Bank	-3.4	-4.3	-3	-2.7	-2.5	-2.1	-1.9	-1.4	-1.4
Non-Financial Public Sector	-1.5	-1.5	-1.4	-0.2	-0.2	-1.7	-2.1	-0.1	0.5
Central Government	-2.4	-1.6	-2.7	-1.6	-1.9	-3.1	-3.4	-2.4	-1.5
Public Enterprises	0.1	1	0.2	0.4	0.9	0.7	0.6	1.7	1
Public Institutions	1.1	1.2	1.1	1	0.8	0.8	0.7	0.6	1

	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total	-0.7	-6.4	-3	-4.1	-2.5	-2	-3.1	-3.8	-2.8
Central Bank	-1.2	-1.1	-1.4	-1.6	-1.3	-1.2	-1.6	-1.8	-1.2
Non-Financial Public Sector	0.5	-5.3	-1.5	-2.5	-1.2	-0.8	-1.6	-2	-1.6
Central Government	-1.5	-5.5	-3.5	-4	-2.9	-2.5	-2.2	-3	-2.8
Public Enterprises	1	1	1.1	0.7	0.9	1.1	0.7	0.2	N.D.
Public Institutions	1	-0.7	0.8	0.8	0.9	0.5	0	0.8	N.D.

Source: Ministry of Planning and Development of Costa Rica.

Table 3-11: Costa Rica: Gross Domestic Product by Economic Activity, 1984-1990 (Average Growth)

	1984	1985	1986	1987	1988	1989	1990	1984-1990
Agriculture	10.0	-5.5	4.8	8.4	2.4	3.0	8.7	4.4
Manufacturing Industries	8.2	2.4	7.0	8.3	5.0	5.7	1.1	5.3
Electricity and Water	3.2	-7.4	6.1	7.7	2.5	5.0	6.5	3.3
Construction	23.6	5.6	7.3	8.9	3.7	11.1	-3.5	7.8
Commerce	5.7	3.1	7.5	7.8	2.4	4.5	4.9	5.1
Transports	4.1	2.1	9.5	8.7	7.6	8.7	6.7	6.7
Financial Services	5.7	3.9	7.9	8.3	8.7	8.9	8.3	7.4
Real state	1.6	1.6	2.0	2.5	3.0	2.8	2.2	2.2
Central Government	1.5	0.5	2.0	2.5	2.0	2.0	2.0	1.8
Other personal Services	3.0	2.8	3.7	4.9	4.5	5.3	4.8	4.1
GDP	6.2	1.0	5.8	6.9	3.8	5.1	3.9	4.7

Source: Own calculations from the National Accounts Base Year 1991of the Central Bank of Costa Rica (BCCR).

Unlike the previous period (1976-1985), the pattern of inequality here was more consistent with the conventional notion of rising inequality during economic stress. In years of economic downturn, average wages in low-paid activities, those with a strong private participation in the case of Costa Rica, seemed to have suffered more than the average wages in high-paid sectors such as electricity, gas, and water, financial services, and health and social services. These activities, in turn, had strong state participation and a high degree of unionization. Consequently, the workers in these sectors were more protected than those in the private sector; in spite of the apparent weakening of negotiation power for these unions after 1992. Additionally, this situation points to a deterioration in labor market institutions such as the well-enforced minimum wages in the private sector. Gindling and Terrell (1995), for example, conclude that the minimum wage failed to act as an effective floor, as one third of workers in the covered sector (full-time employees) were paid less than the minimum wage.

Analysis of the Labor Market and Wage Inequality, 1994-2004

Employment

There were no significant changes in the structure of employment by institutional sector in these years. The share of the private sector in terms of total employment maintained a constant level of 73 percent, while the Central Government and Autonomous Institutions maintained 11.5 and 14 percent of total workers, respectively (Table 3.7).

On the other hand, the composition by economic activity shows some moderate changes. Perhaps the most important is the reduction of "Manufacturing Industries" in the proportion of total employment from almost 20 percent in 1995 to 15 percent in 2002.

Another important shift took place in "Financial Services" as its participation increased from 6 percent in 1995 to almost 11 percent in 2002 (Table 3.8).

The structure of employment by both economic activity and institutional sector reflect the policies of structural change. While in 1996 about 67 percent of the workers were in the private sector, that participation reached 80 percent just six years later. On the other hand the participation in the public sector increased in "Health and Social Services," "Electricity, Gas and Water," and "Transportation."
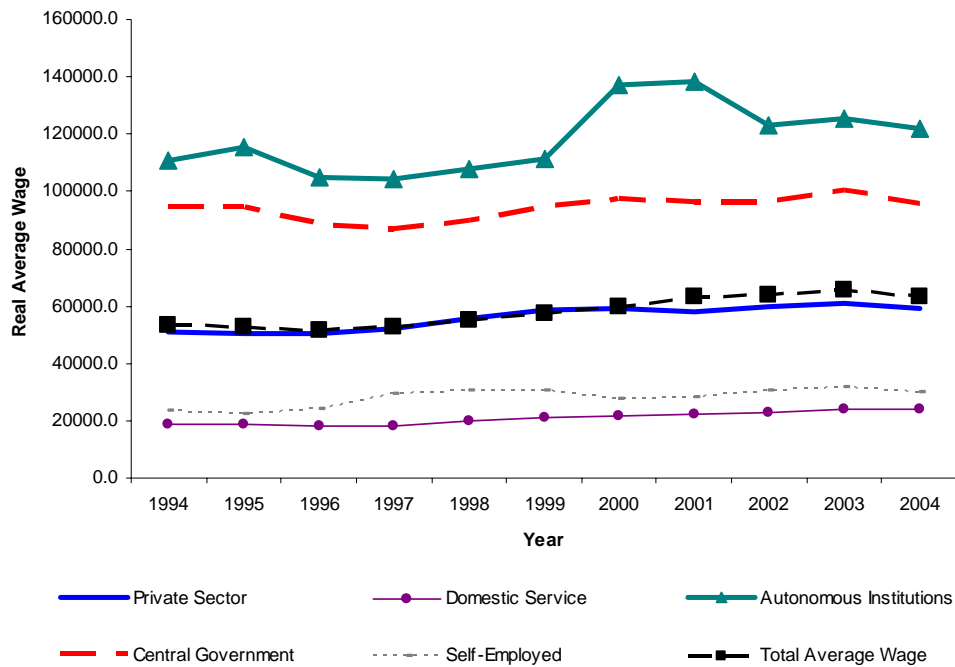
Wages

The period 1995-2004 is characterized by the slight recovery of real average wages, particularly in "Autonomous Institutions" and "Central Government" compared to the previous years (Figure 3.11). However, the average pay in "Autonomous Institutions" exhibits a more volatile pattern. A look at the wages by economic activity shows that this volatility can be explained by the behavior of the wages in "Electricity, Gas and Water" (Figure 3.12). The pay in this activity, along with the average wage in "Health and Social Services," and "Financial Services" experienced a slow down in 1996. However, unlike the average wage in these two activities, the average wage in the former recovered more quickly. Another event that is important to highlight is the pattern of the average wage of manufacturing industries. For the first time in the whole period (1976-2002) the average wage in manufacturing industries not only reached the total average wage but also surpassed it in 1998.

Nonetheless, the most important feature of real average wages in this period is related to its role in poverty reduction. Despite increasing average wages, levels of urban poverty have not experienced any significant change since 1994. This situation is somewhat puzzling as the severe slide and quick recovery of average wages, particularly in the private sector from 1976-1993, were clearly associated with important shifts in

urban poverty. This situation may be an indication of an increasing informal economy in urban areas (and rural areas as well) in Costa Rica (Figure 3.6).

**Figure 3-11: Costa Rica: Real Average Wages by Institutional Sector, 1994-2004
(Colones of 1995)**

Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

Figure 3-12: Costa Rica: Real Average Wages by Economic Activity, 1994-2002
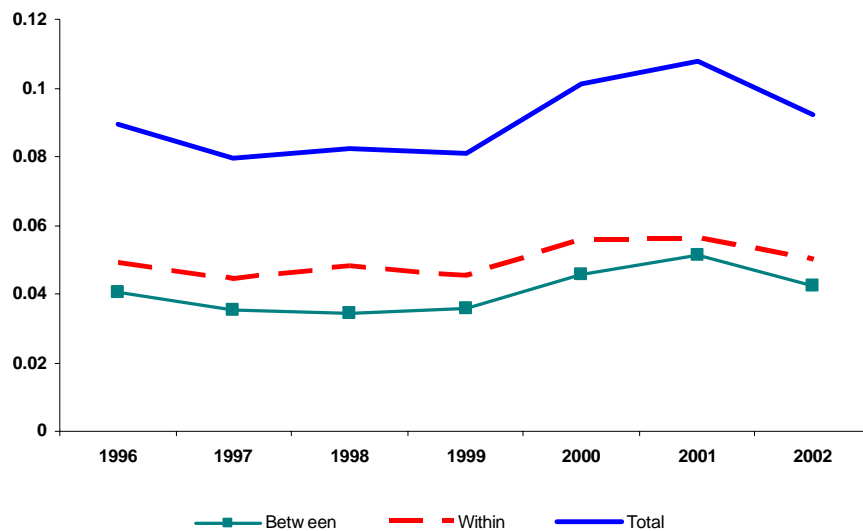**(Colones of 1995)**
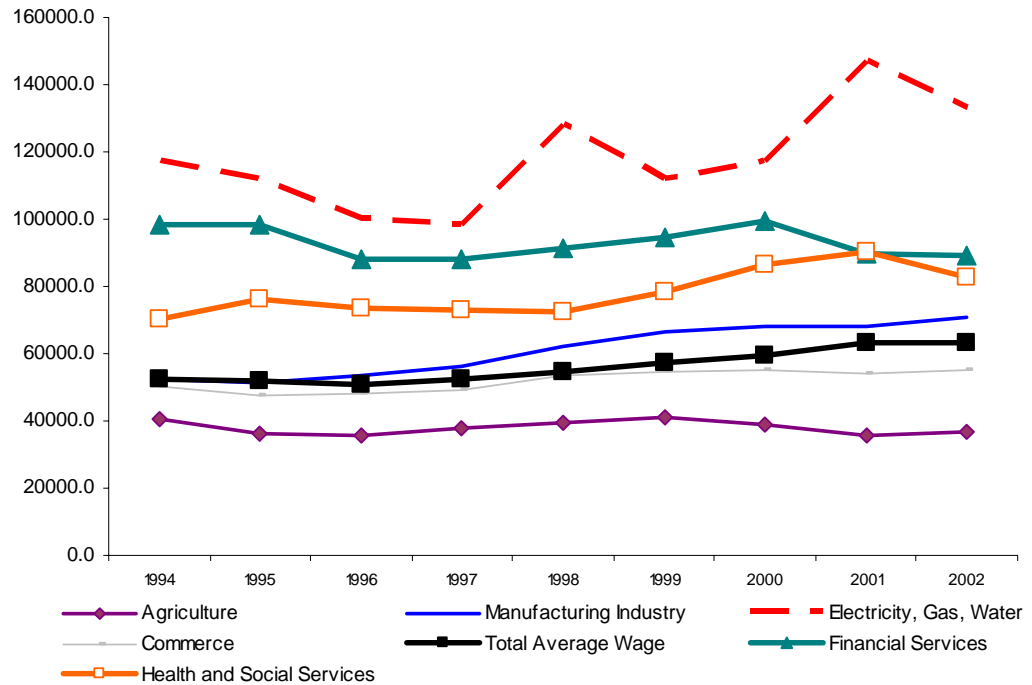
Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

Inequality

Fortunately, the insurance records permit us to cross information on institutional sector with economic activity of workers from 1996 forward. This makes it possible to calculate both the "between" and "within" components of inequality. Figure 3.13 shows the Theil index for Costa Rica for the period 1996-2002 with the data organized by economic activity. Wage inequality in Costa Rica remained relatively stable from 1997 to 1999. Nevertheless, after 1999, the index experienced an important increase for two

years in a row, then decreased again in 2002. The decomposition of total inequality in its "between economic activity" and "within economic activity (between institutional sector)" components, shows that the latter accounts for the greater contribution to total inequality. In other words, the average wage disparities within economic activities, that is, between institutional sector (private sector, and public sector), are more important than those between economic activities. This finding becomes more evident in Figure 3.14, which depicts the estimated "within" and "between" components when the information is arrange by institutional sector. The inequality between institutional sector provides, by far, the biggest contribution, while the disparities within institutional sector, that is, between economic activities, are almost negligible.

Figure 3-13: Costa Rica: Between and Within Components of Inequality by Economic Activity, 1996-2002

Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

Figure 3-14: Costa Rica: Between and Within Components of Inequality by Institutional Sector, 1996-2002
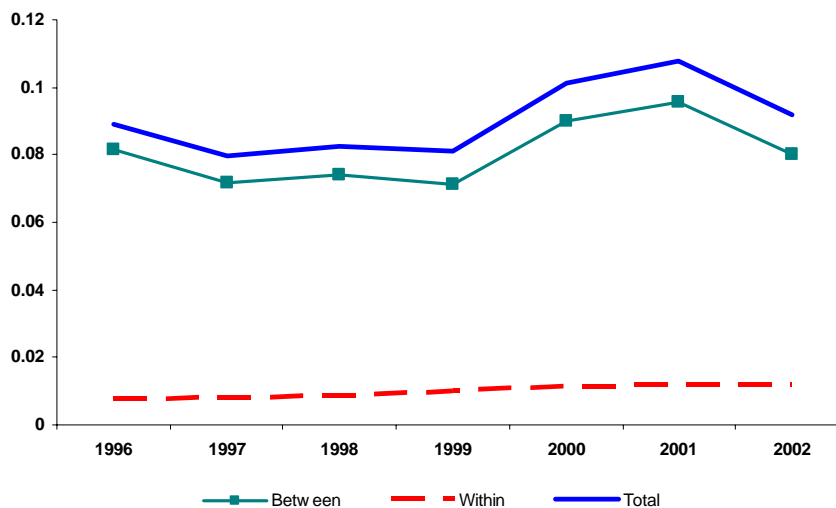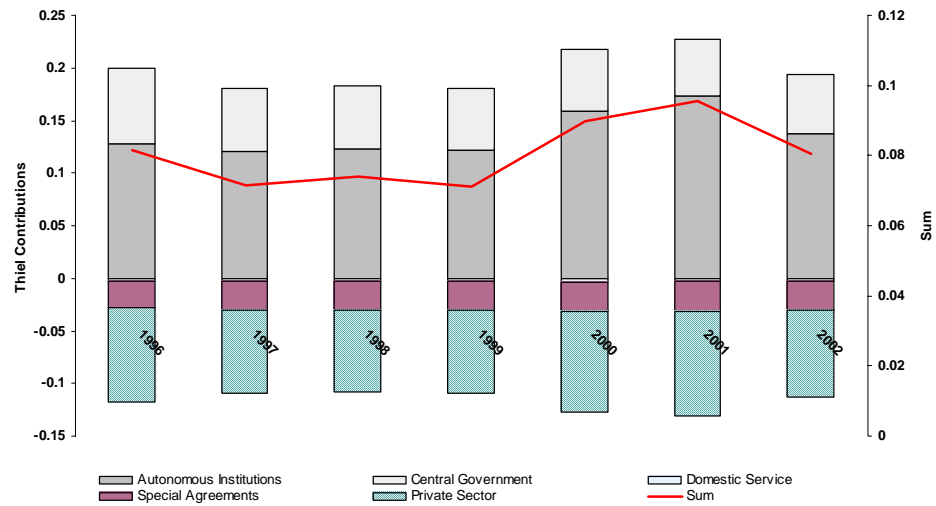

Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

It is important to be careful in interpreting these results, however. They do not imply that the inequality between economic activities is not important, at least in this case. They only underscore the unique characteristic of the Costa Rican labor market; that is, the high level of state participation in some high-paid economic activities such as health and social services, and electricity, gas and water.

Examining the inequality between economic activities in Costa Rica from 1994-2002, one can see some interesting occurrences (Figure 3.16). One can note two remarkable episodes of rising inequality in 1994/1995, and 2000/2001.

Figure 3-15: Costa Rica: Theil Contributions by Institutional Sector, 1996-2002

Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

Figure 3-16: Costa Rica: Theil Contributions by Economic Activity, 1994-2002
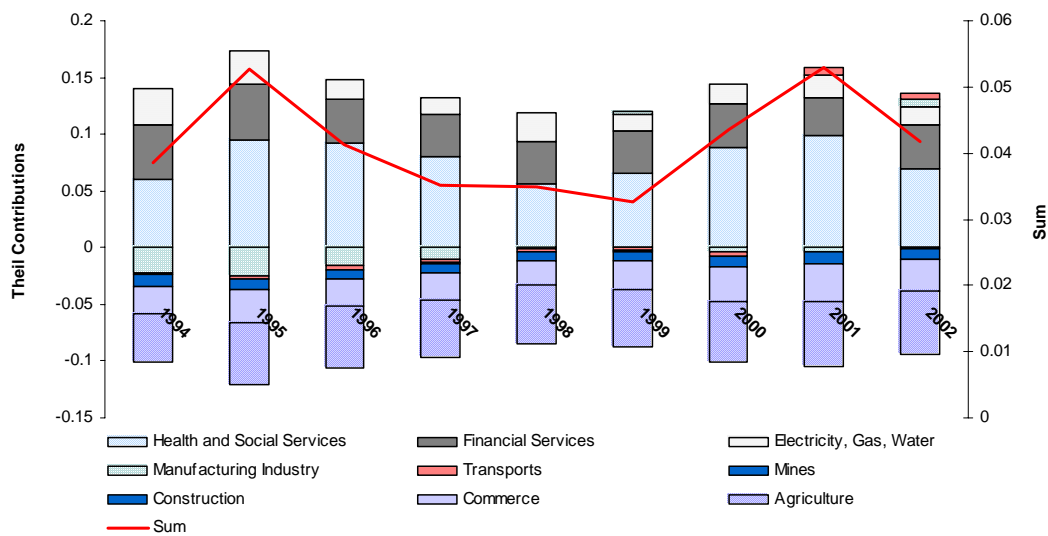
Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

During 1995, severe adjustments were carried out to cope with the troublesome macroeconomic situation. Furthermore, this year was characterized by the presence of negative expectations about the economic stability of the country. These negative expectations were fed by several events, among them were the drastic monetary expansion provoked by the closing of operations of the Banco Anglo in 1994, rising expectations of inflation due to a strong increase of prices during the first months of 1995, rising expectations of a strong devaluation due to high interest rates in the market provoked by the Mexican Crisis in 1994 (Efecto Tequila), the delay of the Tax Adjustment Law, and the rejection of SAP III. The efforts to face this situation where somewhat successful and the fiscal and current account deficits were both reduced. Nonetheless, domestic investment, inflation, economic activity and the unemployment rate, all suffered a significant deterioration (Kikut et al., 1998, pp. 40-41).

Within this context, the increase in wage inequality is mainly attributed to an increase of the contribution to total inequality between economic activities of "Health and Social Services." As noted in the previous period, 1985-1994, this activity had lost ground to other activities in terms of the relative importance of its positive contribution to inequality. Furthermore, most episodes of rising inequality in the previous period were explained by the behavior of other activities. Nevertheless, from 1994-2002, "Health and Social Services" again became the main driving force of inequality. This category included activities such as "Public Administration and Defense," "Health and Dentistry Services," and "Teaching," with respectively about 38, 17, and 11 percent of the total employment in this sector (Table 3.7). Most of the observed increase in inequality, at least in the last years of the period of study (1998-2002), was due to the high wages in "Health and Dentistry Services." While during the period 98/99, the average wage in this activity was 41 percent higher that that of the whole sector, by 2000 it was 86 percent higher (a 46 percent growth rate, Table 3.12). This rise was due to retroactive payment, or back payment, of wages to the doctors in that year.

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Table 3-12: Costa Rica: Employment and Real Average Wages in Health and Social Services Sector, 1998-2000

	Employment				Wage Index (Average=100)				Wage Growth	
	1998	1999	2000		1998	1999	2000		1998-99	1999-00
Total	100.0	100.0	100.0		100.0	100.0	100.0		7.4	11.4
Public Administration and Defense	38.9	38.8	38.6		119.4	114.2	104.6		2.7	2.0
Sanitary Services	0.9	1.3	1.5		76.5	58.9	52.0		-17.2	-1.8
Teaching	14.0	11.7	11.3		74.9	107.6	95.9		54.3	-0.7
Research and Scientific Institutes	0.9	1.3	1.4		122.2	103.7	100.7		-8.8	8.1
Health and Dentistry Services	17.0	16.5	16.6		136.0	141.7	185.3		11.9	45.6
Veterinarian Services	1.6	1.7	1.6		89.3	94.5	86.1		13.6	1.5
Social Assistance Institutions	0.4	0.7	0.8		55.0	93.3	76.5		82.4	-8.7
Commercial Associations	14.3	14.8	15.0		59.2	53.2	48.0		-3.4	0.3
Religious Organizations	1.2	1.3	1.4		45.0	42.5	42.5		1.3	11.3
Social Services	0.8	0.9	1.1		75.7	71.9	57.3		2.0	-11.3
Others	9.9	11.1	7.9		68.8	70.5	60.2		10.1	-5.0

Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

There are strong reasons to believe that "Health and Dentistry Services" was responsible for some previous episodes of increasing inequality as well. In Costa Rica health insurance, employment, and provision of health care is dominated by the state. The CCSS, virtually monopolizes the domestic health insurance market as well as administering the national pension system. The CCSS also provides most of the country's curative services via 240 clinics, 29 hospitals, and 5924 beds, and there are also six small private hospitals with a total of 196 beds. While over 90 percent of Costa Rican doctors work for the state, a third of them also have private practices (Clark, 2002, p. 2). Payments for private health goods and services, mostly medicines, dentistry, and office visits, account for 26 percent of total health spending in Costa Rica (Sauma and Trejos 1999, p. 38).

By the late 1980's a reform of the health system was launched. Its purpose was to give the CCSS total responsibility for the provision of health services. The problem was that the CCSS's primary care services were purely curative and scattered around the country in a manner that did not necessarily correspond to the distribution of the population and its needs. They were complemented in overlapping fashion by the Ministry of Health's preventative care and maternal-infant nutritional programs. In 1995, this model was formally replaced by the Health Care Teams System (EBAIS or Equipos Básicos de Atención Integral de Salud). Under this system, teams were distributed on a capitation basis, and took over all direct medical functions provided by the Ministry of Health. However, before establishing the first EBAIS in February 1995, the minister and vice-minister of health spent about six months negotiating terms with unions representing medical personnel to be transferred to the CCSS. As a result of these negotiations, transferred workers retained their seniority and the right to remain within the geographical area where they previously worked. Some representatives felt the clash of organizational cultures as the public health-oriented Ministry of Health professionals joined the curative medical model of the CCSS, but the fact that CCSS pay scales were higher than those of the ministry helped ease the transition. Some of those eligible for pensions retired. Approximately 1600 health ministry workers were transferred to the CCSS during 1995-1998 (Clark, 2002, pp.8-9).

The average wage of health workers in the public sector has grown moderately. As an example, the average salary of workers in CCSS medical facilities (including physicians, microbiologists, and dentists) was US$587, US$594, US$621, and US$650 between 1996 and 1999. It should be noted that despite the fact that the sector has no performance incentive system, the total average salary of these workers is greater, since they receive additional payments for seniority, working exclusively as full-time staff and training (Pan American Health Organization, 2002, p. 6). Labor relations with health workers are governed by general legal mechanisms such as the Labor Code and the Civil Service Statute, as well as by specific professional regulations such as the Statute Law for

Medical Services and the Nursing Services Statutes. Most workers with greater seniority in the sector have stable employment and are unionized. However, the Hospital Deconcentration Law of 1998, which promotes the self-management of facilities and the use of business criteria in their management, promoted new hiring alternatives, more flexible labor schemes, and new payment modalities, while reducing the creation of new posts. This has met with resistance from the country's many unions, which have frequently denounced and protested against the reform (Pan American Health Organization, 2002, p. 21-22).

Turning back to Figure 3.12, one can see that the negative contribution of "Manufacturing Industries" to total inequality between economic activities started to decrease gradually after 1994, and disappeared almost completely in 1998, reflecting the rise in the average pay in this sector relative to the total average wage. This phenomenon, unquestionably, is coupled with the rise of the free zones (EPZ's) that emerged in the mid 1990's, and more specifically, the inauguration of INTEL's new facilities in 1998. Although the free zones regulations were in place by the mid 1980's, it was not until the mid 1990's that this area began to contribute significantly to the exports. In recent years, Costa Rica has successfully attracted other important investments such as Proctor and Gamble, which began operations in late 1999 and employs nearly 1,000 people in its administrative center; and Abbott Laboratories which also began operations in late 1999. Investments of this sort are huge for Costa Rican standards and radically altered the productive structure of the country. When Intel announced its decision to invest in Costa Rica, for instance, it projected its investment to be somewhere between $300 and $500 million. By December of 1999, it had already invested $390 million and was employing more than 2,200 people with wages much higher than the average wage in the manufacturing sector. The effects on the composition of exports were clear, while in 1990 this regime accounted for 5.3 percent of total exports, by 2004 it accounted for 51 percent of total exports (Table 3.13). This, naturally, had an impact on the wages as well. As of September of 1999, the average wage for Intel was $615 per month whereas the average wage for the manufacturing sector was $406. This, of course, was in large part due to the fact that Intel hired people with higher educational levels: out of the 2,217

workers it had at that time, more than 500 were professional employees, most of them
engineers (this was one of the factors for their decision to locate in Costa Rica rather than
Mexico)(Rodriguez, 2001, p. 13).

Table 3-13: Costa Rica: Composition of Exports by Main Products, 1950-2004

	1975	1980	1985	1990	1995	1998	2000	2004
Total	100	100	100	100	100	100	100	100
Traditional	65.1	56.6	54.4	41.5	34.2	20.7	15	12.8
Coffee	*19.6*	*24.8*	*28.7*	*19.5*	*12*	*7.4*	*4.6*	*3.2*
Bananas	*29.2*	*20.7*	*19.6*	*17.8*	*19.6*	*12.1*	*9.3*	*8.7*
Meat	*6.5*	*7.1*	*5.1*	*2.7*	*1.3*	*0.4*	*0.5*	*0.3*
Sugar	*9.8*	*4.1*	*1*	*1.4*	*1.3*	*0.8*	*0.5*	*0.6*
Other Products	35	43.4	45.6	58.5	65.8	79.3	85	87.2
Agriculture and Fishing		*6.9*	*5.9*	*12.1*	*12.3*	*13.7*	*9*	*10.6*
Industrial		*36.5*	*26.7*	*23.4*	*27.4*	*22.5*	*18.6*	*19.5*
Regime on Active Improvement		*0*	*13*	*17.7*	*13.7*	*8*	*6.8*	*5.8*
Free Zones		*0*	*0*	*5.3*	*12.5*	*35*	*50.5*	*51.3*

Source: Ministry of Planning and Development of Costa Rica.

Regional inequalities in Costa Rica have not yet been addressed because the data
were not suitable for this kind of estimation. However, thanks to the modernization of the
system for collecting information, regional inequalities can be calculated for the period
1996-2004. Figure 3.17 show the contributions by geographical areas to total inequality
between regions. For simplicity's sake, some districts were aggregated to form larger
geographical regions. This figure, however, is not very informative because it takes into
account all salaried workers. Since most Central Government offices and Autonomous
Institutions' headquarters are located in San José (SJ1 in Figure 3.17), it is not surprising
that the contribution of San José to total inequality between regions overshadows that of
the other regions. Nonetheless, one can see some interesting shifts if only private sector
employees are considered (Figure 3.18). During the first two years of the period, 1996-
1997, there were two regions providing positive contributions to inequality; not
surprisingly SJ1 (San José), and SJ5. SJ5 includes northern middle-class suburbs of San

José such as Coronado, Goicoechea, Tibás, Moravia, Montes de Oca, and Curridabat. According to the Districts Development Index estimated by the Ministry of Planning and Development of Costa Rica, all of these districts with the exception of Goicoechea, were ranked in the top 15 of the human development index (Table 3.9).[12] Montes de Oca was ranked number 3 in 1999 out of 81 districts. On the other hand, L1 and L2 were the regions with lower wages relative to the average. These regions include the districts of Limón, Siquirres, Matina, Guácimo, and Pococí, all of them in the Caribbean province of Limón, and all of them in ranked at the lowest positions in the development index (Table 3.9).
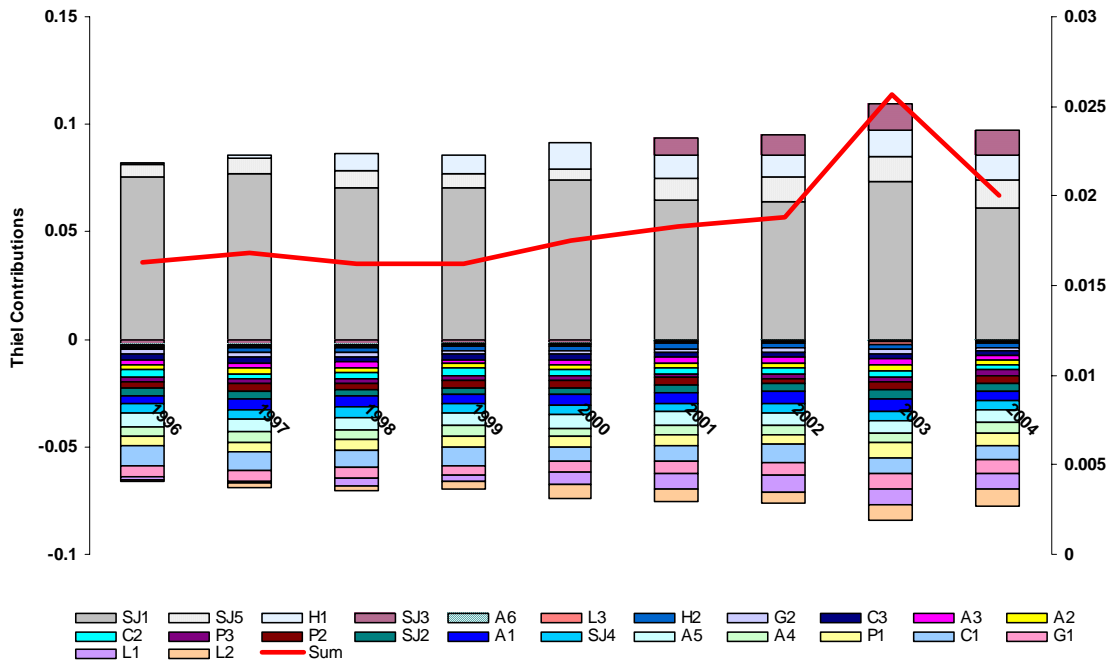
Figure 3-17: Costa Rica: Theil Contributions by Region of All Salaried Workers, 1996-2004
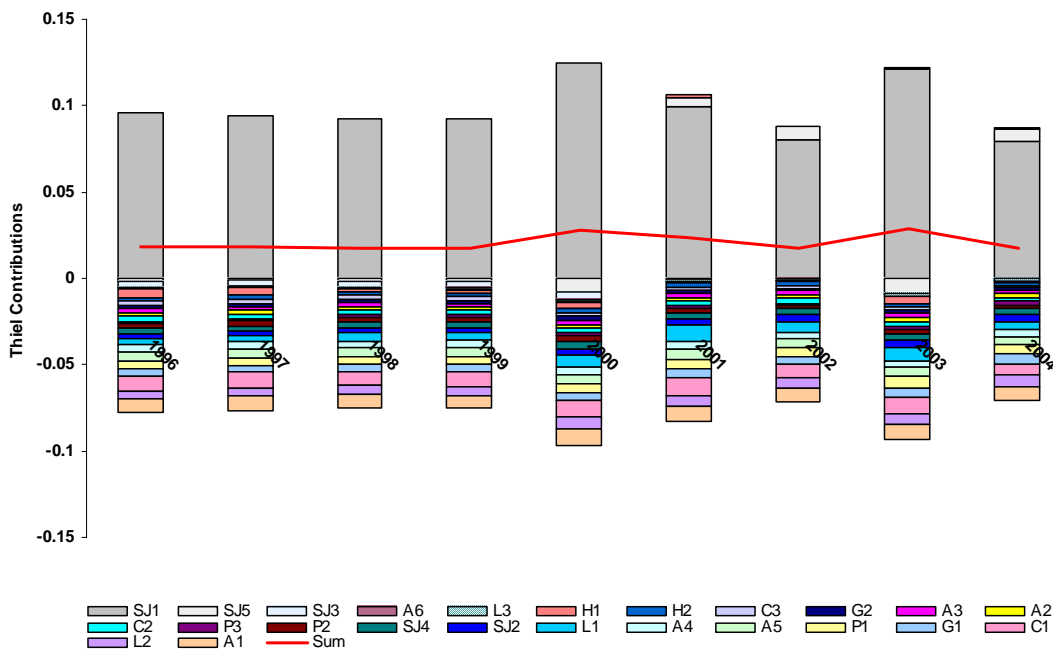
Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

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[12] The Ministry of Planning and Development of Costa Rica built a district development index in 1990 that measured the geographical differences within Costa Rica. This index takes into account variables such as education infrastructure, child and general mortality rates, average consumption, and elementary and secondary education drop out rates, etc.

Figure 3-18: Costa Rica: Theil Contributions by Region of Private Salaried Workers, 1996-2002

Source: Own calculations from the insurance records of the Costa Rican Social Security Institute (CCSS).

From 1998 on, new regions started to contribute positively to regional inequality. That is the case of H1, composed of, among other districts, Heredia, Flores, and Belén. The last two districts were respectively ranked number 1 and 2 on the development index list,. The explanation of the increase in the average wage of H1 relative to the total average in 1998 is simple: INTEL's facilities are located in Belén.

In 2001, the average wages of yet another region, SJ3, started contributing positively to inequality (Figure 3.14). SJ3 includes Escazú, and Santa Ana (These two districts together constitute the Costa Rican Orange County). The rise of the contribution to inequality of this region is also related to the rise of the free zones and foreign direct investment (FDI). These districts are in a strategic location as both are only 14 minutes away from downtown San José and the Juan Santamaría International Airport. These places have become perfect locations to build suburban office parks. Among the firms that have settled in Santa Ana are Procter & Gamble Global Business Services, Cisco Systems, KPMG, Maersk Sealand, Bristol Myers Squibb, Unisys, GBM (an IBM Alliance Company), the National Stock Exchange, and Kraft Foods Costa Rica, S.A.

The analysis of inequality during the last three decades revealed interesting features of the Costa Rican labor market setting. It seems that the structural reforms have had direct and indirect effects on the behavior of wage inequality. Among the direct effects one can mention those related to financial and trade reform. Financial reform caused the rise of the private banking. The increase in the number of financial institutions boosted employment and led to an important rise in the wages of workers in this sector. Similarly, trade reform and particularly the expansion of the EPZ's in the 1990's, accounts for the substantial increase in the wages in manufacturing industries. On the other hand, the reforms have had indirect effects on inequality as well. For instance, Costa Rica has experienced some difficulties in replacing trade tax revenue losses associated with the trade reform, even after strengthening its domestic tax systems. This has created fiscal crisis more often than in the period before trade liberalization. During the crisis created by fiscal problems, inequality is explained by the substantial increases in the wages of the employees in the public utilities sector (electricity, water, gas, etc.).

Unions in Costa Rica are important factors accounting for the pattern of inequality, particularly those in the public sector. A large part of the wages of workers in health sector and electricity, gas, and water distribution activities, who happen to be well educated, is not based on a performance incentive system. The total average salary of

these workers is greater, since they receive additional payments for seniority, working exclusively as full-time staff, and training.

Table 3-14: Costa Rica: Districts Development Index, 1999

Position	Code	District	Index		Position	Code	District	Index
1	408	Flores	100.0		55	611	Garabito	48.3
2	407	Belén	94.9		56	701	Limón	48.0
3	115	Montes de Oca	85.0		57	609	Parrita	47.9
4	406	San Isidro	78.5		58	706	Guácimo	47.8
5	306	Alvarado	76.8		59	606	Aguirre	47.5
6	409	San Pablo	74.3		60	112	Acosta	47.3
7	207	Palmares	73.4		61	505	Carrillo	46.1
8	102	Escazú	73.3		62	117	Dota	45.9
9	118	Curridabat	73.3		63	210	San Carlos	45.5
10	111	Coronado	71.0		64	607	Golfito	44.0
11	113	Tibás	70.6		65	504	Bagaces	43.9
12	114	Moravia	70.5		66	702	Pococí	43.8
13	212	Valverde Vega	70.3		67	105	Tarrazú	43.3
14	403	Santo Domingo	70.2		68	507	Abangares	43.1
15	404	Santa Bárbara	69.4		69	605	Osa	41.3
16	205	Atenas	68.8		70	215	Guatuso	40.5
17	401	Heredia	67.8		71	120	León Cortés	38.0
18	405	San Rafael	67.3		72	703	Siquirres	36.4
19	211	Alfaro Ruiz	67.1		73	610	Corredores	35.4
20	203	Grecia	67.0		74	608	Coto Brus	30.9
21	108	Goicoechea	66.7		75	410	Sarapiquí	28.5
22	301	Cartago	66.7		76	705	Matina	22.6
23	103	Desamparados	66.1		77	603	Buenos Aires	22.2
24	307	Oreamuno	65.4		78	213	Upala	17.4
25	209	Orotina	64.6		79	510	La Cruz	16.4
26	604	Montes de Oro	63.9		80	214	Los Chiles	8.9
27	101	San José	63.7		81	704	Talamanca	0.0

Source: Ministry of Planning and Development of Costa Rica.

4 Conclusions

This report tried to identify labor market characteristics, patterns of wage inequality, and the forces accounting for those patterns over the last three decades in Costa Rica . This period is particularly interesting because it is characterized by the implementation of, what is perhaps the most comprehensive set of economic reforms implemented in the last century in these nations, reforms known as structural change. Throughout the structural reform process, which was a byproduct of the crisis of the early 1980's, Costa Rica countries abandoned a protectionist strategy of industrialization based on regional import substitution and strong government involvement in favor of adopting a development model based on export promotion and minimal state intervention. Unlike some countries in Latin America where the reforms happened at a faster pace, structural change in Costa Rica has been gradual and slow and, to this day, still unfolding.

Before pointing out the findings and implications, it is important to reiterate that the purpose of this report was not to reject or confirm theories about wage inequality that were explored in detail in the Literature Review chapter. Rather, this exercise sought a better understanding of the context within which labor relationships take place in Costa Rica, so that the results of further studies using more detailed data on the personal characteristics of workers (education, experience, unionization, etc.) can be interpreted more easily. The main problem with most research on inequality in developing nations is that most researchers do not take the time to explore, in detail, the legal and institutional framework of the countries being analyzed. Therefore, and in spite of statistical techniques that incorporate those institutional factors into their regressions

and robustness tests, their conclusions tend to be speculative and weak. Most policy implications introduced in this chapter, however, incorporate some subjective ideas of the author.

Main Findings

The study covered the period 1976-2004. That period, in turn, was divided in three sub-periods based on drastic changes observed in economic policy making: 1975-1985, 1985-1995, and 1995-2004. These sub-periods, coincided in some way with important economic development strategies and economic events such as the entrepreneurial state (1973-1980), crisis and stabilization (1980-1984), and the export promotion model and initial structural reforms (1984-2004).

The analysis shows that, overall, after a long period of decreasing inequality from 1976 to 1985, wage inequality in Costa Rica has been more volatile during the last decade. The behavior of inequality and real wages from 1975-1985 ("Decreasing Inequality Period") reflected the nominal wage policies of the time, such as the practice of discriminatory wage increases in which lower minimum wages were increased by a larger percentage than the higher minimum wages implemented after 1974, the regular adjustments of the nominal wage in response to the accelerating inflation (each year before 1980, twice a year since 1980, and three times a year in 1983), and the plan of economic recovery of the Monge Administration (1982-86) that explicitly increased the minimum wage at a faster rate than the rate of inflation. All these policies are evidence that the Costa Rican labor market operated in an institutional context rather distant from the free market model (which favors workers' pay based on their productivity). It was surprising that during the crisis (1980-1982), these policies were reinforced, and that inequality even declined. The quick recovery of the economy after the crisis (1980-1982) has been attributed by some to the well-enforced minimum wage policies mentioned, along with the Social Compensation Plan (SCP), and the Firms Rescue Plan (FRP) implemented in 1982 and 1983, respectively.

Between 1985 and 1994, inequality in Costa Rica exhibited a different pattern than that of the previous period (1975-1984). For one, the overall declining trend of the

previous period was totally absent in these years. Furthermore, its behavior became more volatile. This 10 year-period witnessed 4 remarkable, but temporal, episodes of rising inequality in 1986, 1989, 1990 and 1994, which coincided with important economic events of different types such as the implementation of the SAP I and SAP II in 1986 and 1989, respectively.

Another element accounting for the phenomenon of rising inequality was the Costa Rican electoral cycle. The postponement in utility rate increases and the expansion of public spending the year before elections provoked an increase in the deficit, particularly the Central Government deficit, during election years (1986, 1990, and 1994). The new administration was then forced to implement a tough fiscal plan which included, among other measures, a rise in the price of the public utilities. Public participation in employment in these activities (electricity, gas, and water) was high due to the fact that power and water distribution was almost totally controlled by public institutions. The high degree of unionization in these institutions somewhat explains how the increases in the prices of public utilities was reflected in the average pay of the workers in these activities.

However, a great deal of the behavior of wage inequality in that period is explained by the advent of financial liberalization. These reforms allowed accelerated growth in the size and importance of private banking and other financial intermediaries, and increased the net domestic savings rate.

Wage inequality in the next sub-period (1995-2004) was also affected by the electoral cycle, but it was also influenced by other factors. First, wage inequality was mainly attributed to an increase in the contribution of the health and social services to total "between-groups" inequality. Most of the observed increase in inequality was due to the high wages in health and dentistry services. This coincides with the health sector reform launched by at end of the 1980's. It should be noted that the total average salary of these workers was greater, since they receive additional payments for seniority,

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working exclusively as full-time staff, and training. Second, this period witnessed an increase in the average pay of manufacturing industries. This phenomenon is unquestionably coupled with the rise of free zones in the mid 1990's, and more specifically, the beginning of operations of the transnational INTEL in 1998.

Another important finding is related to the role of wages in poverty reduction from 1995-2004. In spite of increasing average wages, the levels of urban poverty have not experienced any significant change since 1994. This situation is somewhat puzzling since the severe decrease and quick recovery of average wages, particularly in the private sector, in previous years (1976-1993) were clearly associated with important shifts in urban poverty. This situation may be an indication of an increasing informal economy in urban areas in Costa Rica caused by the deterioration of the labor market institutions such as the well-enforced minimum wages in the private sector.

Appendix

The purpose of this appendix is to illustrate how Costa Rican wages policies during the 1970's and early 1980's worked, and to demonstrate how the same data can yield different results when it is organized by different classifications.

The first column is "Workers." Each row represents one worker, so that I2, for instance corresponds to the employee number 2 in the sector I. There are 5 activities "A," "I," "C," "S," and "E" in this economy. The wages of the workers in Period 1 are in the column Y1, and those of the period 2 in the column Y2. The policy of discriminatory minimum wage increases, meant that the minimum wage in the "A" sector ($3), increased in the next period (Y2 column) at a higher rate (let's say, 20 percent,) than that of the minimum wages in the "I" sector ($6). The minimum wage in "I"($6), in turn, will grow at a higher rate (15 percent) than the minimum wage in "C" ($13) (10 percent). The mandatory increases of the minimum wage worked in Costa Rica as a reference for the increases in the wages of the employees within a sector. Thus, the wages of all the workers in the sector "A" in column Y2 are 20 percent higher that the previous period. This situation is similar in other sectors ("I" , and "C"). Additionally, it is totally plausible to imagine that the wages in other sectors do not work under these rules due to factors such as unionization, or monopoly competition. "S" and "E" represent those sectors. Finally, it is also plausible to posit intermediate sectors, where the wages of one portion of the workers behave under the former set of rules (C1, C2, C3), and the others under the latter (C4). These assumptions yield column Y2.

The results demonstrate that inequality between economic activities decreased in the situation Y2 relative to Y1. However, if inequality is estimated between income brackets, inequality actually rose from Y1 to Y2.

Workers	Y1	Y2
A1	3.0	3.6
A2	6.0	7.2
A3	8.0	9.6
A4	14.0	16.8
I1	6.0	6.9
I2	8.0	9.2
I3	11.0	12.7
I4	13.0	15.0
I5	14.0	16.1
I6	15.0	17.3
C1	13.0	14.3
C2	14.0	15.4
C3	15.0	16.5
C4	16.0	30.0
S1	14.0	14.7
S2	15.0	15.8
S3	17.0	17.9
S4	21.0	31.0
S5	22.0	31.0
E1	31.0	35.0
E2	31.0	37.0
Average Y	14.6	17.8

Period 1				Period 2				Difference
Income Brackets				Income Brackets				
	#	Average Y	Theil		#	Average Y	Theil	
0-10	5	6.2	-0.0376	0-10	5	7.3	-0.0378	
10-20	12	14.3	-0.0062	10-20	11	15.7	-0.0252	
20-30	2	23.3	0.0309	20-30	0	29.0	0.0000	
30-	2	31.0	0.0659	30-	5	32.8	0.1173	
Total	21	14.6	0.0530	Total	21	17.8	0.0544	0.001400336
Economic Activity				Economic Activity				
	#	Average Y	Theil		#	Average Y	Theil	
A	4	7.8	-0.0278	A	4	9.3	-0.0280	
I	6	11.2	-0.0255	I	6	12.8	-0.0291	
C	4	14.5	-0.0007	C	4	19.1	0.0063	
S	5	17.8	0.0248	S	5	22.1	0.0279	
E	2	31.0	0.0659	E	2	36.0	0.0593	
Total	21	14.6	0.0367	Total	21	17.8	0.0365	-0.000220512

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