The Evolution and Reform of Labor Markets in Colombia

Eduardo Lora
Marta Luz Henao
Fedesarrollo

Buenos Aires, july 6 and 7, 1995

THE EVOLUTION AND REFORM OF LABOR MARKETS IN COLOMBIA

Eduardo Lora and Marta Luz Henao

Fedesarrollo

THE EVOLUTION AND REFORM OF LABOR MARKETS IN COLOMBIA

Eduardo Lora and Marta Luz Henao[1]
Fedesarrollo

Like most Latin American countries, during several decades Colombia developed a complex system of government interventions in the labor market, which were aimed, in principle, at protecting workers'jobs and incomes, strengthening their negotiation positions vis-a-vis the capitalists, and establishing an ambitious social security system. Most of the legislation and institutions supporting these interventions were established in the fifties and sixties, and remained almost untouched until 1990.

A general feeling of disenchantment with these and other paternalistic practices encouraged César Gaviria Administration (1990-1994) to introduce substantial reforms to the most important areas of economic and social policy. International trade was liberalized, foreign investment and foreign exchange operations deregulated, and important changes were introduced to the financial system, including the creation of an independent Central Bank. Reforms to the labor regime where somehow less far reaching and certainly mixed, as we will see in this paper. This was partly a result of the process of negotiation of the whole package of reforms that was presented to Congress in 1990, some pieces of which, like the reform of the social security system, were only approved late in 1993. But, no doubt, more ambitious and comprehensive reforms were also impeded by lack of knowledge and understanding of the workings and effects of a number of institutions and practices that affect the labor market in Colombia. This paper is a timid step in the direction of improving the comprehension of the labor market and assessing the effects of the labor reforms introduced since 1990.

Minimum Wages

Minimum wages have been in place in Colombia since 1950. A cumbersome system of minimum wage differentials by area, economic sector and size of the firms was introduced in 1956 and gradually dismantled since the early seventies until the adoption of a single minimum wage in 1983 (Misión, 1986, Cap. 6). Presently, minimum wages are determined by the government on an annual basis, previous negotiation with representatives of the labor unions and the business organizations. Past and expected levels of inflation are the main variables considered in the negotiations, thus resulting in a remarkable stability of the minimum wage in real terms, especially since the early eighties (Figure 1).

For Latin American standards, the minimum wage plays a very important role as a determinant of labor earnings in Colombia, though it may have diminished as evidenced by the widening gap with average industrial wages (Figure 1). Minimum wage coverage in the urban areas varies among occupational groups and levels of education. Between 40% and 50% of those self-employed earn below the minimum wage and there is no apparent concentration of incomes around that level (Figure 2). Among the rest of workers, the influence of the minimum wage depends on the level of education. Those with upto 12 years of education, who can be defined as unskilled workers, tend to earn near the minimum, especially if occupied in the formal sector (defined as being registered in the social security system). In this sector, less than 10% of the unskilled workers earn below the minimum and a percentage as high as 44% earns between 1 and 1.2 minimum wages. But even among the unskilled workers of the informal sector, the minimum wage exerts an important influence in earnings. Thus, although nearly 30% of this group earns below the minimum, another 30% earns between 1 and 1.2 minimun wages. Therefore, the concentration of earnings around the minimum is very high for the unskilled workers, who represent nearly 80% of the urban labor working force. The higher levels of

Figure 1. Real Minimun and industrial wages (Col pesos of 1988, thousands)
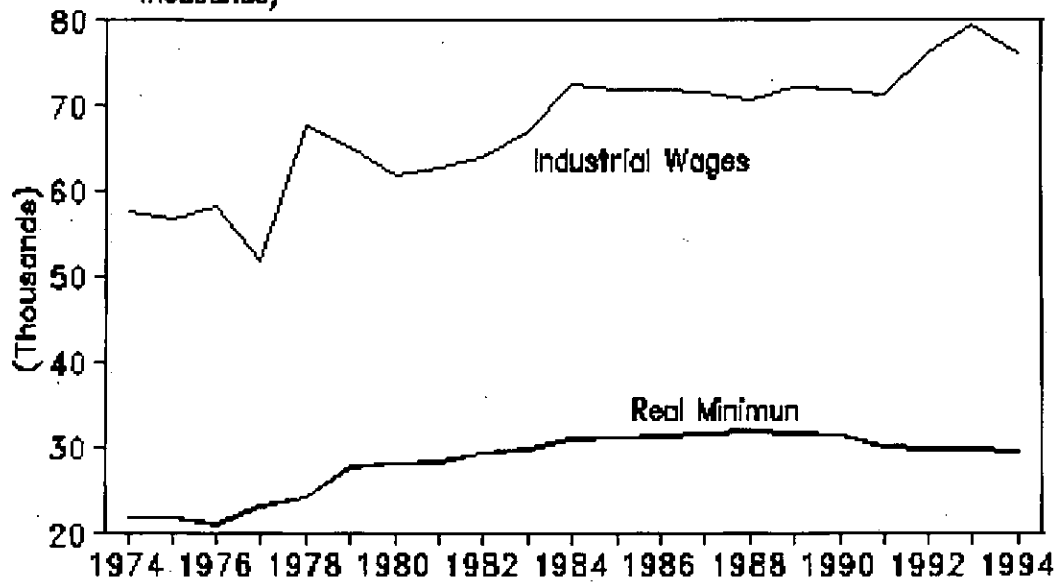
Source: DANE and authors' calculations.

Figure 2. Concentration of Urban Labour Earnings around the Minimun Wage
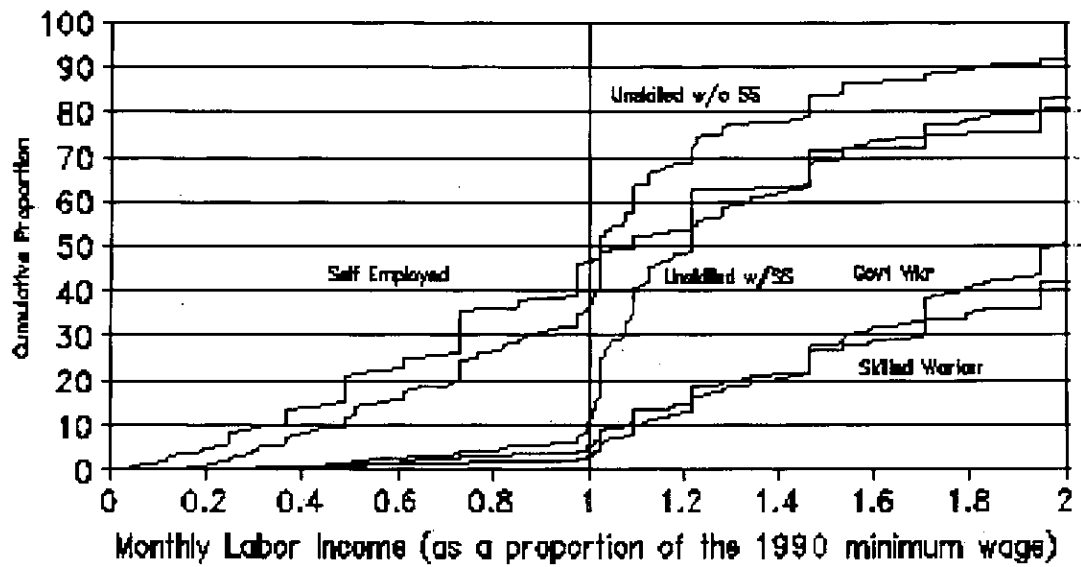
Source: World Bank (1994, Annex 2).

income of some unskilled workers are mainly due to their longer permanence on the jobs (World Bank, 1994; López, 1990-91).

The macroeconomic, sectoral and distributional effects of minimun wage hikes have been recently analyzed by Lora and Herrera (1993) with a computable general equilibrium model[2]. This model assumes that only the wages of the unskilled workers in the formal urban sector are directly determined by the minimum wage, while those of the informal and of the rural workers are market clearing wages. The results are sensitive to the reaction of fiscal and exchange rate policies. If the nominal exchange rate and the level of government expenditure in real terms are fixed, a 10% increase in the nominal minimum wage causes a fall of 0.8% in Gross Domestic Product (GDP) and an increase of 3.6% in the Consumer Prices Index (CPI) (see Table 1, column 1). These two adverse results can be prevented by a combination of higher government expenditure (in the amount of 1.7% of GDP) and a nominal appreciation of the exchange rate (by 15.6%), which would in turn cause a severe deterioration of the trade balance and the fiscal situation (column 2)[3].

The effects in the labor market are equally adverse. In the former case, the level of employment of unskilled workers in the formal sector falls 4.1%, producing an increase of 1.6 points in the unemployment rate and an expansion of 1.1% in the number of informal workers. In the latter case, these effects are roughly halved.

Contrary to conventional wisdom, the minimum wage has very little effect on the distribution of income by income groups in the urban areas. In the former simulation, the assumed 10% increase of the minimun wage rises the real income of the poorest quintile of

Table 1. Macroeconomic and Distributional Effects of a 10% Increase in the
Nominal Minimum Wage (% variations)

	(1) Passive Fiscal and Exchange rate Policies	(2) Active Fiscal and Exchange rate Policies
Policy Variables		
Public expenditure (var as % of GDP)	0	1.7
Nominal exchange rate	0	-15.6
Macroeconomic Variables		
GDP	-0.8	0.0
CPI	3.6	0.0
Real exchange rate	-3.5	-15.6
Fiscal balance (var as % of GDP)	0.1	-2.5
Real incomes		
Urban labour		
Unskilled formal	1.8	7.5
(Real wage per capita)	-6.1	-10.0
Unskilled informal	3.4	10.0
(Real wage per capita)	-2.3	-9.0
Skilled	3.5	8.3
Rural labour	-2.9	-6.6
Capitalists (by sector)		
Agriculture	-2.1	-0.4
Industry	-1.6	-2.5
Commerce	-3.1	-8.7
Urban income groups		
Lowest quintile	0.5	5.1
Highest quintile	0.3	4.6
Urban employment		
Unskilled formal	-4.1	-2.3
Unskilled informal	1.1	0.9
Unemployment (change as % of working force)	1.6	0.8

Source: Lora and Herrera (1993).

urban families by a mere 0.5%, and that of the richest quintile by
0.3%. In the latter simulation, these variations reach 5.1% and
4.6%, leaving urban income distribution virtually unchanged. The
reason is that non-labor earnings have an important share in total
incomes in all urban income brackets: 42% in the lowest quintile
and around 53% in the highest.

A more important redistribution occurs between incomes by
factor, and between the rural and the urban families. In the former
simulation, all types of urban labor gain between 1.7% and 3.5%
(adjusting for changes in the levels of employment), while rural
workers loss 2.9% of their real incomes, and capitalists between
1.6% and 2.9%, depending on their sector of activity. In the latter
simulation, these changes are much higher: urban workers gain
betwen 7.5% and 10% while rural workers loss 6.6% and capitalists
suffer a reduction of incomes between 0.4% and 12.4%. Given the
concentration of poor households in rural areas, minimum wage
increases may rise, rather than reduce, total poverty (World Bank,
1994).

The Importance of Non-Wage Labor Costs

Statutory non-wage labor costs comprise (1) severance payments, (2)
personal fringe benefits, (3) social security contributions and (4)
payroll taxes earmarked for public and private social institutions.
According to Table 2, they represent between 42% and nearly 64% of
wage costs, depending on the type of labor contract, for a weighted
average of 57.7% in the manufacturing sector and 58.4% in commerce
activities[*].

Recent reforms introduced deep changes to severance payments
and to the social security regimes, as is discussed below. However,

the total burden of non-wage labor costs was actually increased from its previous level of 51% (see below).

Given these statutory non-wage costs, it is not surprising that their actual compliance is very low. Wage earners represent around two thirds of the urban working labor force in the 10 largest cities --the remaining being business owners, self-employed and family workers (see Table 3)--, but only around half of them (1.6-1.8 million) work for private firms with 10 or more employees, which usually comply with the labor legislation. In the same vein, affiliation to the social security system has been calculated in 1.9 million in 1990 and 2.4 million in 1992, representing 39% and 45% of the working force of the seven largest cities in these two years[5].

Severance Payments

Severance payments were the highest non-wage labor cost in the eighties. A survey performed in the industrial sector in 1986 showed that severance payments were considered the major legal obstacle for employment creation (Kertzman, 1987). Not only were these costs very high, but also very uncertain as depended on the workers' years of tenure in the firm, the rate of inflation and, above all, the frequency of withdrawals of the severance funds by the workers (see Table 4). The latter was due to the legal provision according to which severance payment should be equal to one month of nominal wages per year of tenure at the firm less all nominal withdrawals made by the worker (which were allowed for housing purchases or improvements). As a result of this method of calculation, a "double retroactivity" of severance payments was in force. Ocampo (1987) calculated that, on the average, the retroactivity implied a cost equivalent to 4.2% of the wage bill (or 35% of total severance payments) in the manufacturing sector.

Table 2. Main Statutory Non-Wage Labour Costs (% of wage cost)

	Contracts previous to Law 50 (1990) As of 1990	As of 1995	New contracts with full social benefits	New contracts with integral salaries	Temporary contracts
Severance payments					
-Severance payments proper	9.3	9.3	9.3	...	...
-Retroactivity	4.2	4.2	...	...	...
Fringe benefits:					
- Vacation (15 working days per year)	6.7	6.7	6.7	6.7	6.7
- Legal bonus (1/2 months per semester)	8.9	8.9	8.9	...	8.9
Social security contributions					
- Pensions and related insurances	6.5	13.5	13.5	14.5	13.5
(paid by worker)	(2.2)	(3.4)	(3.4)	(4.4)	(3.4)
- Health	7.0	12.0	12.0	12.0	12.0
(paid by worker)	(2.3)	(4.0)	(4.0)	(4.0)	(4.0)
Payroll taxes					
- Sena (labor training)	2.0	2.0	2.0	2.0	2.0
- ICBF (social expenditure programs)	3.0	3.0	3.0	3.0	3.0
- Cajas de compensacion (family subsidies)	4.0	4.0	4.0	4.0	4.0
TOTAL	51.6	63.6	59.4	42.2	50.1
MEMO: Shares in the labour force in 1994:					
Manufacturing sector	...	20.7	53.6	1.5	24.3
Commerce	...	14.5	71.0	0.6	13.9

Sources: Severance payments and fringe benefits come from Ocampo (1987), other costs from the legislation. The memo
items come from a special survey conducted by Fedesarrollo in August, 1994

Table 3. Composition of Working Force by Occupational Position (%)

	Wage-earners			Managers		Self Employed	Professionals and Technicians	Household Servants	Unpaid Family Workers	Total informal workers	Memo: Total Employment
	Micro-entreprises (1)	Others enterprises (2)	Government	Micro-entreprises (1)	Others enterprises (2)						
1984	18.64	31.16	11.25	4.31	0.77	23.11	1.73	5.99	3.03	55.08	3586528
1986	20.45	31.13	10.91	4.71	0.76	21.34	1.61	6.33	2.75	55.59	3886842
1988	21.05	30.04	10.34	5.63	0.91	22.05	1.75	5.61	2.62	56.96	4386232
1992	20.46	32.94	9.23	6.18	0.99	20.96	1.93	5.16	2.16	54.92	5087923
1994	19.97	34.71	8.56	6.13	0.96	22.08	2.03	4.35	1.22	53.74	5249584

Source: Household Surveys by DANE.
(1) 10 or less workeres.
(2) More of 10 wage workers.

Table 4. Cost of Severance Payments

		No Partial Withdrawals	With Partial Withdrawals		
			Every 5 years	Every 3 years	Every year
Case A:					
Returns of funds:	35%				
Wage hike :	24%				
Tenure (years):	1	9.3			10.8
	5	9.8	15.3	16.1	17.3
	10	10.3	21.1	22.8	25.3
	15	10.8	26.9	29.6	33.3
	20	11.3	32.8	36.3	41.4
Case B:					
Returns of funds:	35%				
Wage hike :	28%				
Tenure (years):	1	9.8			
	5	11.3	17.0	17.8	18.8
	10	13.3	23.9	25.7	28.3
	15	15.1	30.8	33.6	37.7
	20	17.0	37.7	41.5	47.0

Sourse: Ocampo (1987)

One of the main purposes of the labor reform passed by Congress in 1990 (Law 50) as part of a very ambitious package of structural reforms[6] was to eliminate this "double retroactivity". In addition, firms were obliged to deposit severance funds on behalf of the workers in a newly created type of financial intermediaries ("Fondos de Cesantías"), where a market return would be paid on these funds. However, the new legislation applied only to contracts performed after the expedition of the Law, including those freely renegotiated between the firms and the employees on a case-by-case basis. By the end of 1994 only 82,000 workers of all sectors had voluntarily moved to the new system of severance payments and subscribed to the "Fondos". However, due to the very high rate of rotation of workers (see below), by mid 1994 just 20.7% of the working force of the manufacturing sector and 14.5% of the employees of commerce firms were still liable to the "double retroactivity" provision.

Law 50 also created a new type of contract for those workers earning more than 10 minimum wages who would wish to resign to all types of severance payments and legal bonuses in exchange for a higher monthly payment. By mid 1994 only 1.5% of the workers of the manufacturing sector and 0.6% of the labor force of the commerce sectors have accepted this kind of contract.

Before Law 50, temporary contracts for less than one year were severely restricted, except through firms specialized in selling temporary services to other firms. In practice, such arrangements helped reduce severance payments and other non-wage labor costs, though at the expense of job stability and temporary workers' incomes and social security. Law 50 lifted most restrictions to temporary contracts, while granting temporary workers the same fringe benefits and social security rights of permanent workers.

Costs of Dismissal

Costs of dismissal have traditionally been extremely high and uncertain in Colombia. A 45-day advance notice is required before dismissal of any worker who has completed his/her 2-month probation period at the firm. Although Law 50 authorized probation periods of any length, it did not modify the period of advance notice before dismissal. Dismissal also causes additional severance payments, which increase with the years of tenure on the job. In transaction for other changes that were introduced to the regime of dismissals, severance payments for dismissals were **increased** by Law 50. For a worker with 10 years of tenure on the job, they increased from 10.5 to 13.5 months of salaries. For 15 years of tenure, the rise was from 15.5 to 20.2 months of salaries (see Table 5).

However, Law 50 made the costs of dismissal more certain. Previously, dismissed workers with more than 10 years of tenure on the job were liable to sue the firm at a labor judge. If unable to prove a just cause for the dismissal, the firm was compelled to re-hire the worker and to cover all unpaid salaries to the worker during his/her period of vacancy. Furthermore, any firm dismissing a worker with more than 10 years of tenure was obliged to cover his/her pension when he/she reached the legal age of retirement. These provisions were eliminated by Law 50.

Effects of the Labor Reform

According to a survey performed in the industrial and commerce sectors in 1994, the main benefits of the labor reform were the greater certainty of labor costs and the elimination of the double retroactivity of severance payments, which implied a reduction of labor costs (Table 6). Nonetheless, the high costs of dismissal are still considered the second most important obstacle to job contrating, surpassed only by the level of contributions to the social security contributions (Table 7, see also below).

Table 5. Cost of Dismissal (as monthly wages)

Years of Tenure	Before Law 50/1990	After Law 50/1990
5	4.2	4.2
10	10.5	13.5
15	15.5	20.2
20	20.5	21.8

Source: Reyes A., (1991)

Table 6. Benefits of the Labour Reform (Law 50/90) (% of firms
surveyed)

|	Industry	Commerce
Greater certainty of labour costs	32.9	34.2
Ellimination of double retroactivity	37.2	31.8
Greater labour stability	13.4	12.6
Improved contract flexibility	11.6	8.8
Other	4.8	12.5
Total	100	100

Source: Encuesta de Opinion Empresarial, Fedesarrollo. Survey
perfomed in july, 1994 among 294 firms of the industrial sector
and 138 firms of the commerce sector.

Some authors have stressed that the major final benefits of the reform were the reduction of informality and a greater stability of employment (López, 1993; Hommes, Montenegro and Roda, 1994; Henao, 1995). Informality has indeed decreased from a peak of 57% in 1988 to 53.8% in 1994, which may be partly a result of the reform (see Table 3 again).

The alledged increased of stability is less convincing, as is based on the cursory observation that the share of workers with one or two years of tenure has decreased since 1990. The effect of the reform on labor stability is more adequately analyzed with detailed information on the rates of labor survival. Job rotation in Colombia is extremely high: only around 40% of workers remain at the same job for 2 years, and the probability of keeping the same job for 4 years is around 15%, and that for 9 years is below 5% (Figure 3). As a result, job tenure expectancy is extremely low: between 2.7 and 4.4 years, according to calculations between 1986 and 1994 (Figure 4). Job survival rates and job tenure expectancy are very sensible to the rate of job creation, as suggested by Figure 4, and more rigurously confirmed by the regressions reported in the Annex 1. Controlling for this influence, econometric estimates show that the rates of survival tend to increase with the years of tenure, being significantly higher for the group with 8 to 10 years of tenure (variable D8)[7]. Taking the manufacturing sector as the reference group, survival rates are significantly higher in the public utilities (ELE) and, to a lesser extent, in the sector of communal services (SOC), where the government is included. Survival rates are lower in the construction and the commerce services, though not a significant level.

It can hardly be sustained that the labor reform has affected these patterns in any significant way. If any, the labor reform

Figure 3. Job Survival Rates
(Cumulative)
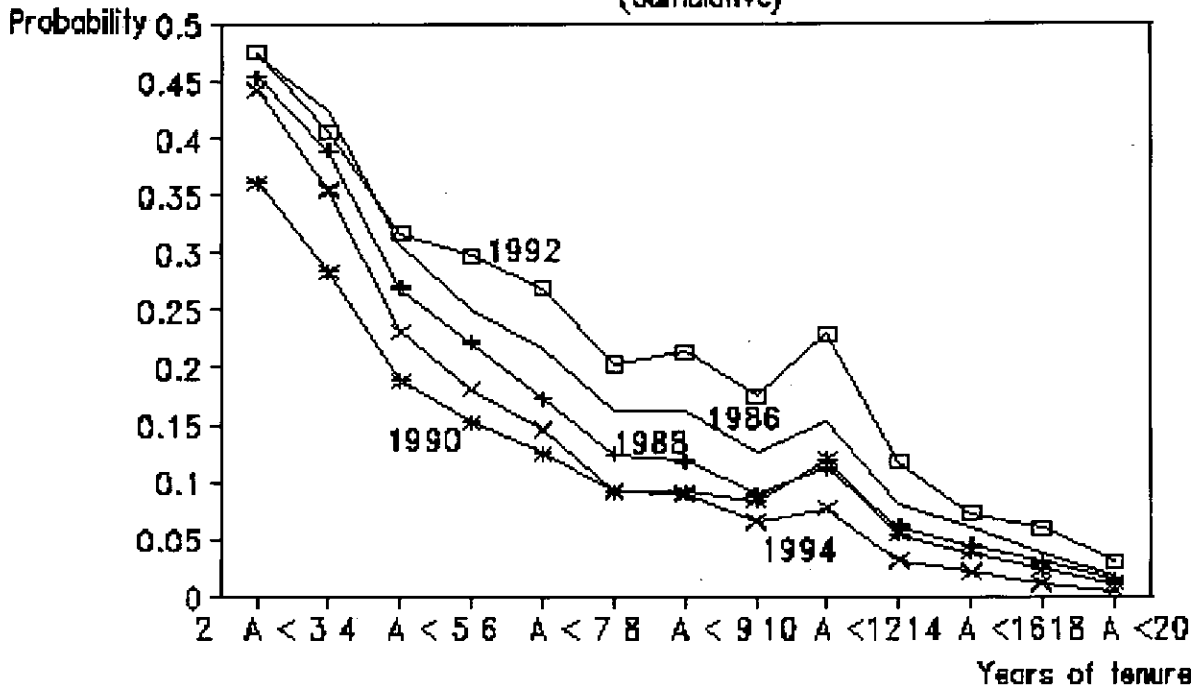
Source: Household Surveys by DANE and Authors' calculations.

. seems to have reduced the retention rates. The overall effect does not prove to be significant (see variable D90 in the first regression), but the effect on the group with 8 to 10 years of tenure is distincly negative (D8D90, second regression) as well as in the sector of public utilities (ELE90), though the latter may be the result of the reform of the public sector rather than a direct effect of the labor reform. In synthesis, there is no proof whatsoever that the labor reform has improved labor stability. However, as we shall see, it may have been beneficial to labor mobility and labor demand.

Social Security Contributions and Payroll taxes

Although severance and dismissal costs were reduced and made more certain by the labor reform, social security contributions were substantially risen as a result of the ambitious reform to the social security system passed by Congress in 1993 (Law 100/93).

Before this reform, social security contributions in the private sector were equivalent to 13.5% of wages, of which 4.5 points were paid by the workers. In addition, other payroll taxes earmarked for different purposes were, and still are, equivalent to 9 points of the wage bill (see Table 2). They comprise 2 points for the official labor training institution (Sena), 3 points for the official entity in charge of a number of social programs of child-caring and family assistence (ICBF), and 4 points for the privately-managed "cajas de compensación", which administer a system of family subsidies and offer (usually subsidised) health, recreation and merchandising services to their affiliates and families. Although the effectiveness of this maze of institutions is often questioned, powerful entrenched interests have prevented their reorganization or dismantling.

The social security reform (Law 100, 1993) modified both the pension and the health regimes. The pension reform partially

corrected the flaws of the previous pay-as-you-go system run by the Instituto de Seguros Sociales by combining a reduction in benefits paid to future pensioners of that system, a gradual increase from 6.5 to 13.5 points in the level of contributions (to be completed in 1996) and the creation of a parallel fully funded system administered by private pension funds. Workers are now free to chose to be enrolled either at the ISS or the private pension funds, and those who chose to move from the former to the latter are entitled to "retirement bonds" issued by the government in recognition of the accrued value of their pension rights. Since pension benefits were maintained for older workers, private pension funds will attract younger contributors and the ratio of pensioners to contributors in the public fund will increase during several decades (Lora and Helmsdorff, 1995; Schmidt-Hebbel, 1994).

As to the health regime, the social security reform replaced the system of individual contributions to the ISS, which was the main provider of health services to private workers on a social security basis, by a complex new system, whose main features are: (1) the contribution rate is 12% of the wage bill (up from 7% in the previous system), of which 4 points are paid by the worker (instead of 2.3), (2) contributions entitle all family members to the system, (3) contributions are paid to freely chosen "health promoting firms"[8], which can be public or private, whose main roles are promoting enrollment and contracting health services from other institutions (hospitals, health centers), and (4) part of the contributions support a subsidisied tier of the system, through which the poor will be attended (World Bank, 1994, Chap.3). Although this complex system has been only very partially implemented, the new 12% contribution is effective since July 1995.

According to the survey performed by Fedesarrollo among industrial and commercial firms, the high level of contributions to the social security system is the main obstacle of the present labor regime to expand labor demand (see Table 7).

The macroeconomic and distributional effects of the higher contributions to the social security system that were introduced between 1990 and 1995 can be assessed with the same model used by Lora and Herrera (1993) to analyze the effects of minimum wages. The results show that GDP was reduced by 2.5%, as the contributions produced a net increase in domestic savings and reduced domestic demand (Table 8). However, domestic savings did not entirely reflect the strengthening of the finances of the social security system, as the fiscal balance weakened due to reduced current revenues and increased labor costs of the bureaucracy. The decline of domestic demand virtually compensated the effect of higher labor costs on the prices of consumer goods.

Not surprisingly, the economic group most severely affected were the unskilled formal workers, whose total income declined 12.3%, partly as a result of lower disposable real incomes per capita (-3.4%) and partly as a result of the reduction of this type of employment (-9.2%). Some of those fired from their formal jobs became informal workers, thus causing an increase of 2% in this type of labor; some remained in the dole, giving origin to an increase of 3.3 points in the urban unemployment rate. Meanwhile, skilled workers incomes fell 2.1%.

But not only did urban workers experience a reduction of their disposable incomes. As a result of weaker aggregate demand and higher production costs, urban capitalists lost 3.6% of their real incomes and rural capitalists 4.2%. Finally, although rural workers were not directly affected by the increase in contributions,

Table 7. Main Remaning Obstacles to Labour Demand (% of firms surveyed)

Contributions to social security	29.4	27.9
Dismissal costs	17.3	15.1
Fringe benefits due to labour negotiations	14.1	5.5
Other social benefits	13.3	10
All other reasons	25.9	41.5
Total	100	100

Source: Encuesta de Opinion Empresarial, Fedesarrollo. Survey perfomed in July, 1994 among 294 firms for the industrial sector and 138 firms for the commerce sector.
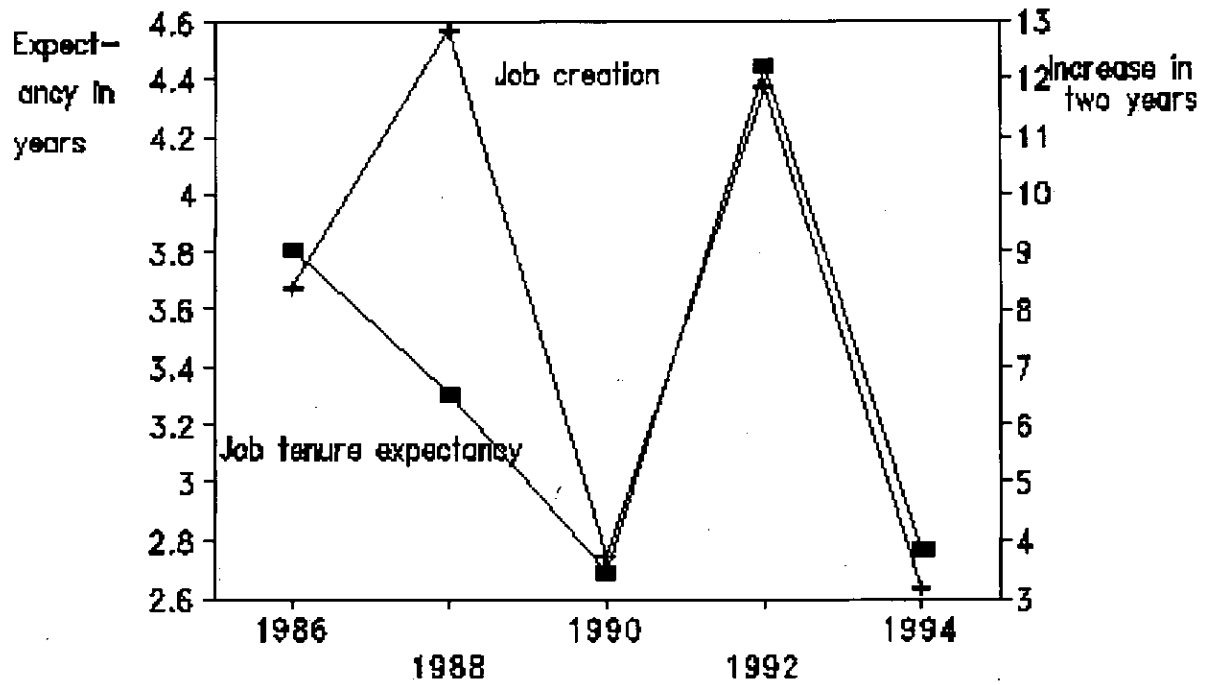
Figure 3. Job Survival Rates (Cumulative)
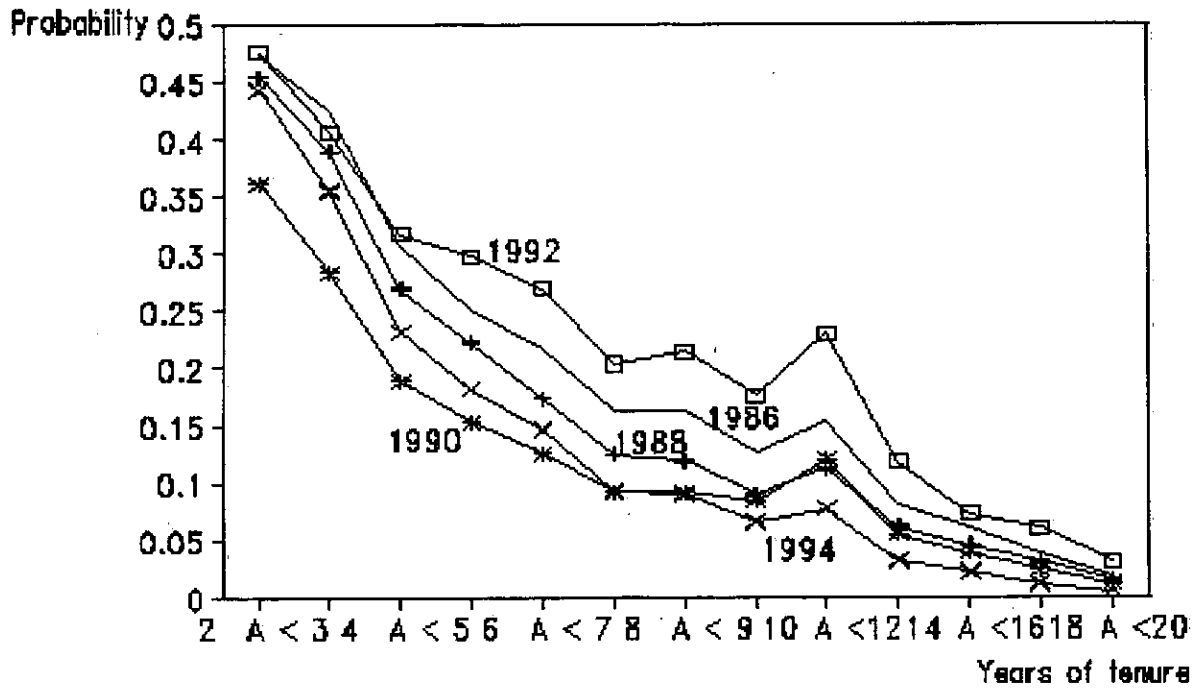
Source: Household Surveys by DANE and Authors' calculations.

Figure 4: Job Tenure Expectancy and Job Creation in the Urban Areas.

suffered a reduction of 6% in their real incomes as a result of weaker labor demand and higher prices of the manufacturing goods.

It must be noticed, however, that these calculations were based on the assumption that the additional contributions were considered as taxes, both by the firms and the workers. This is not an appropriate assumption for contributions to the pension system in the case of the formal workers who moved to the new private pension funds. What the calculations show is, precisely, the adverse effects caused by payroll taxes when they are not strictly linked to personal benefits. In this respect, it is very interesting to stress that, according to our simulations, all socio-economic income groups end up contributing to the system. This makes systems such as the pay-as-you-go pension system even more injust than it is usually reckoned, since workers not directly contributing are not entitled to its benefits. Since payroll taxes inhibit labor demand by the organized firms, encourage informal activities and unemployment and reduce rural incomes, there is plenty of reasons to replace them by general taxes, especially those like the VAT, which causes little economic distortions and tends to protect the rural poor (Lora and Herrera, 1995).

Labor Management Relations
Labor unionization has been historically very low in Colombia (see Figure 5). It increased from around 5% of urban employment in the forties and fifties to a peak of 13.4% in the mid sixties, and it has declined steadily since[9]. This declining trend was attributed, among other reasons, to legal restrictions to the creation, recognition and functionining of the unions, which Law 50 of 1990 removed in and effort to strengthen unionization. Nonetheless, the declining trend remained: in 1993, only 7% of the working force was unionized. Labor negotiations can be pursued both by the unions or
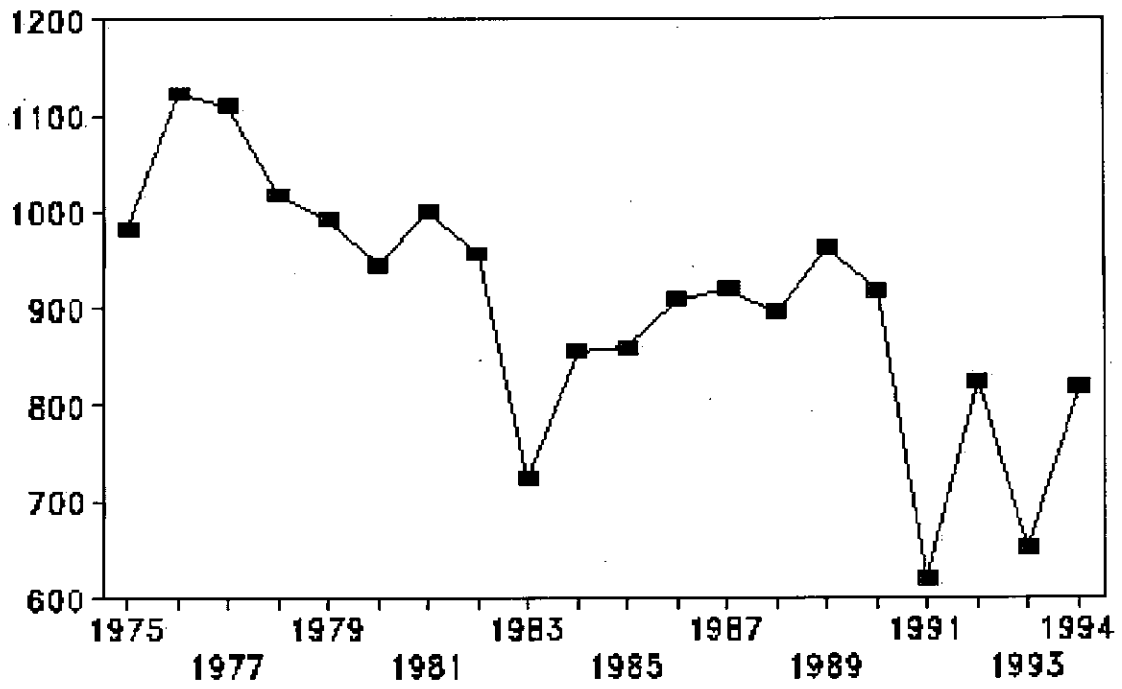
Figure 5. Rates of Unionization (As a Percentage of Urban Employment)
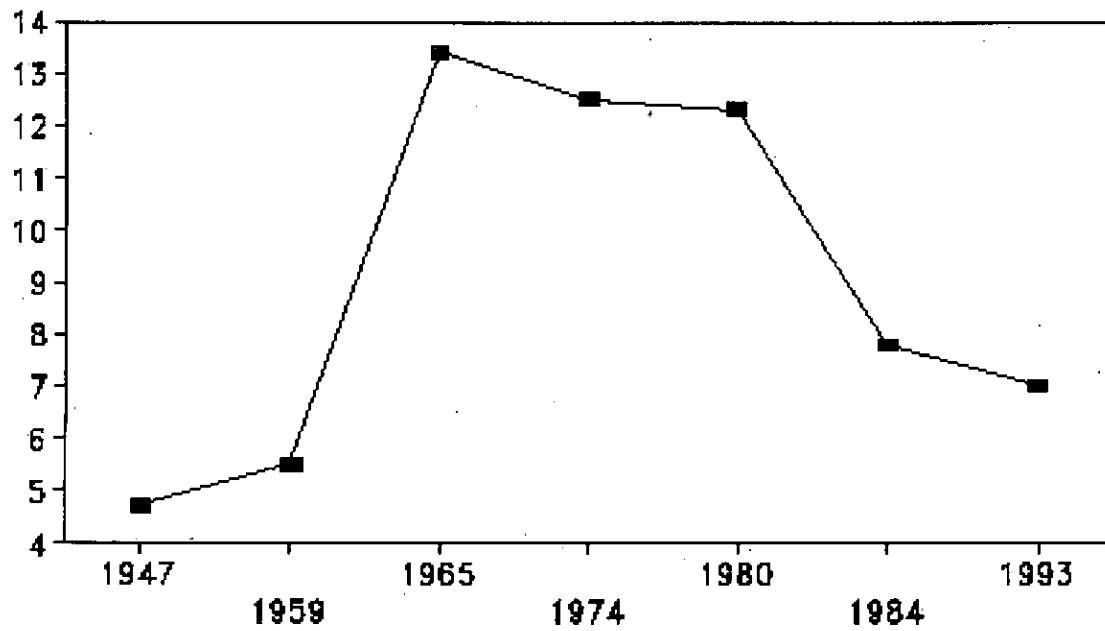
Source: Upto 1984 Londono, Grisales and Delgado (1987); thereafter Ministry of Work and Social Security, DANE and author's calculations.

Figure 6. Labor Negociations

Source: Ministry of Work and Social Security.

by the workers' representatives. Nonetheless, the number of negotiations has also shown a downward trend since mid-seventies, recently varying between 600 and 800 per year (Figure 6).

The major legal impediments to unionization until 1990 were (1) the administrative discretion granted in practice to the Ministry of Labor to recognize/cancel the legal existence of unions, (2) the lack of legal provisions to prevent firms from discouraging unionization, and (3) the minimum number of workers required to form a union (25). The two former impediments were corrected by Law 50. Thus, legal recognition of any new union is now produced by the simple inscription of its act of constitution, and the Ministry has no power to interrupt or cancel the legal existence of unions. Also, a number of actions by the firms that may impede unionization or union functioning are now considered unlawful and subject to stringent penalties. Before 1978 an important additional obstacle was the possibility for the firms to negotiate separately with the unions and with the non-unionized workers. Since 1978, this possibility is restricted to those firms where the unions account for less than a third of the workers. But although this may encourage the creation of unions, it may in practice discourage unionization, since non-unionized workers receive the same benefits granted to those unionized. This adverse effect was reinforced until 1990 by the fact that contributions to the unions were compulsory only to those unionized. For this reason, Law 50 made this obligation extensive to all workers who may benefit from the union's negotiation role.
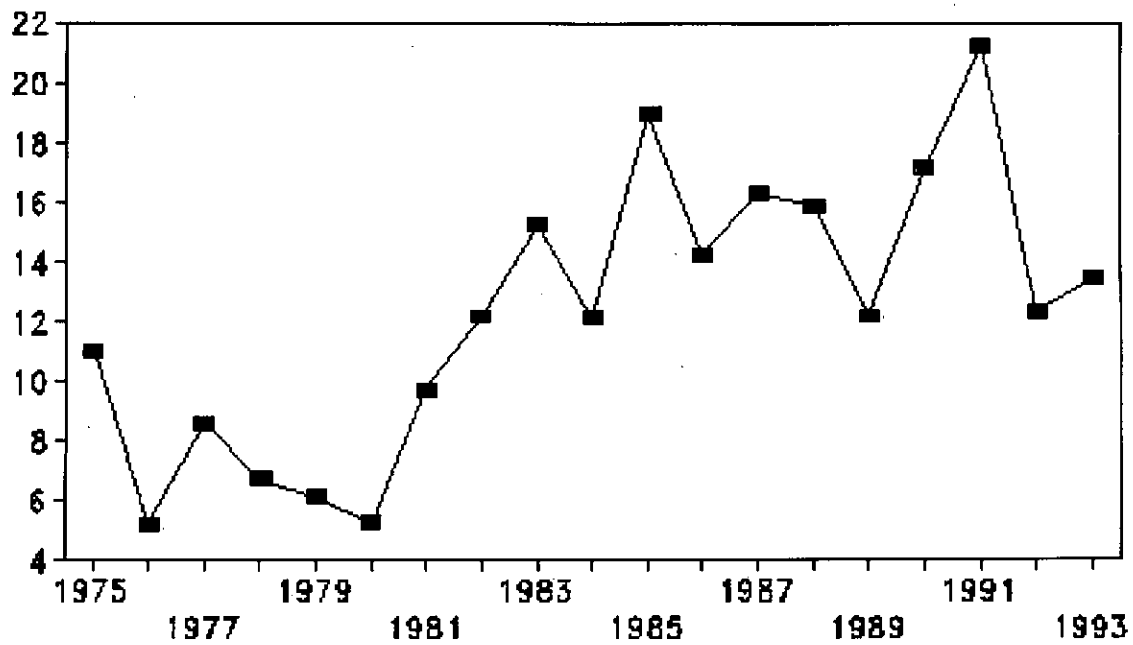
The procedure to strike was also modified by Law 50. Before it, the procedure consisted of three steps: (1) an initial period of direct negotiations of 15 working days (extendable up to 25), (2) a period of mediation with the active participation of the Ministry of Labor, and a maximum length of 10 days, and (3) a final period of 10 days for the unionized workers to decide through a

secret ballot and by an absolute majority, to go on strike or to call for arbitration. Law 50 eliminated the second step, which involved the government in the conflicts, and extended the period of direct negotiations to 20 days (extendable up to 40). Regarding the system of decision, Law 50 established that, when the unionized workers are less than half of the workers of the firm, the decision must be made by an absolute majority of the workers. Law 50 also extended the maximum period of strike from 40 to 60 days, at the end of which arbitration must be accepted.

The rights of workers and employers during strikes are clearly defined and impose heavy costs on both parties: workers do not receive wages while on strike and are not allowed to return to work whether being unionized or not. Employers have no right to lock workers out or to hire temporary workers, except to perform essential maintenance works. Striking is illegal in the so-called public services, which include transport, public utilities, health and a number of activities related to the production and distribution of basic foodstuffs (Misión, 1986; Posada de la Peña, 1995).

Given their high costs for both parties, strikes are usually a last resort in the process of negotiation. Less than 5% of unions go on strike every year, and around two thirds of the strikes take place in the public services and the public education sector. Between 10 and 20% of labor negotiations end up in a strike (see Figure 7). Although this indicator seems to have gone up from percentages below 10% in the seventies, it is probably overestimated by the inclusion of public illegal strikes in the numerator. In any case, strike activity is very limited in Colombia, both in absolute terms and as proportion of the negotiations.

Figure 7. Strikes as Percentage of Labour Negociations

Industrial Labor Demand in the Nineties

Although the rate of urban unemployment diminished to a historical low of 8% in 1994 (Reyes, 1995), which corresponds to the estimated structural rate of unemployment (Misión, 1986), the rate of job creation in the manufacturing sector has faltered since 1990. During the period of 1986 to 1990, manufacturing employment grew at a pace of 2% per year. The corresponding rate for 1990-1994 was only 0.6%. Thus, fears arose that the package of structural reforms, including the labor reform, caused a structural reduction of labor demand. A substantial increase in the capital-output ratio, as a result of massive fixed investments that took place between 1992 and 1994, tends to give further support to this view.

In order to address this important issue, we have analyzed the behaviour and determinants of industrial labor demand since 1980 and have specifically tested for the alleged structural shift of labor demand. The results, which are reported in Annex 2, show that industrial labor demand is positively related to the level of production, and negatively related to real wages (including the cost of paid social benefits and payroll taxes). Labor demand is also inversely related to the capital-output ratio in the manufacturing sector. All these relations are in accordance with standard theory, and in all cases the coefficients are highly significant in statistical terms. In order to test the hypothesis of structural change, the regression includes dummies for the same explanatory variables and the constant term for the period starting in January 1991. The results are striking: labor demand is now more strongly related to production and to the capital-output ratio, reinforcing the previous connection with these variables, while it seems to have become directly related to the real wage. The latter is a somewhat contraintuitive result, which may be due to the recomposition of employment towards more skilled personnel as part of the process of modernization pursued by a large number of firms (Coyuntura Económica, December 1994 and June 1995).

Nonetheless, what is extremely remarkable is the fact that the structural change that apparently occured in labor demand in the nineties, actually helped increased labor demand substantially. Had all the coefficients remained in their previous levels, labor demand would have been upto 28% smaller than it actually was (see Figure 8)[10].

Therefore, labor reform apparently prevented a severe reduction in industrial labor demand that would have taken place as a result of other reforms, in particular the improved access of industrialists to imported capital goods and other policy changes that contributed to the reduction of the user's cost of capital (Coyuntura Económica, March, 1995). The social security reform, though defensable on other grounds, increased labor costs, and might have caused a reduction in labor demand, had it not been for the change experienced in the patters of labor demand, which can attributed to other aspects of the labor reform, and especially to the elimination of the double retroactivity of severance payments and the flexibilization of job contracting.

Figure 8. Industrial Labour Demand (Log Scale)u
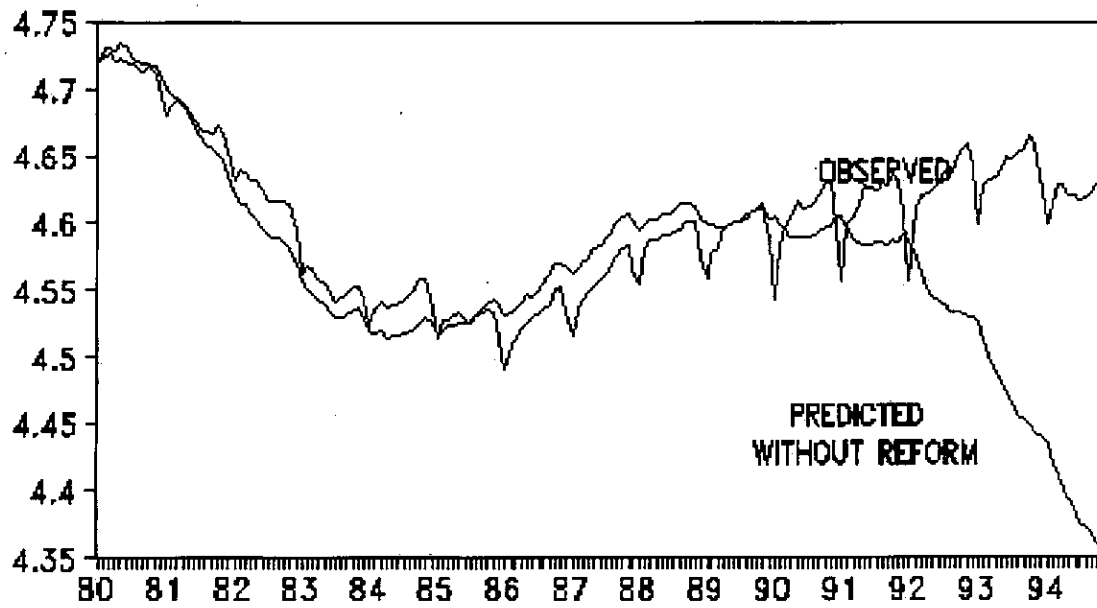
Source: Calculations based on the regression reported in Annex 2

REFERENCES

Henao, Martha Luz, "Efectos sobre el Mercado Laboral de la Ley 50 de 1990", processed, Fedesarrollo, April 1995.

Hommes, Rudolf, Armando Montenegro and Pablo Roda, **Una Apertura Hacia el Futuro**, Ministerio de Hacienda y Crédito Público, Departamento Nacional de Planeación and Fondo Nacional de Desarrollo Económico, Bogota, 1994.

Kertzman, Fanny, "Obstáculos a la Creación de Empleo: El Punto de Vista de los Empresarios", in Ocampo, J. A. and M. Ramírez (eds.), **El Problema Laboral Colombiano**, Contraloría General de la República, Departamento Nacional de Planeación and Servicio Nacional de Aprendizaje, Bogota, 1987, vol. 2.

Londoño, Rocío, Orlando Grisales and Alvaro Delgado, "Sindicalismo y Empleo en Colombia", in J. A. Ocampo and M. Ramírez (eds.), **El Problema Laboral Colombiano**, Contraloría General de la República, Departamento Nacional de Planeación and Servicio Nacional de Aprendizaje, Bogota, 1987, vol. 2.

López, Hugo, "Salario Mínimo o Salario Medio: ¿Cuál es el Objetivo?", **Economía Colombiana**, No. 232, 1990-91.

López, Hugo, **Contexto Macroeconómico Colombiano, Mercado Laboral Urbano y Retos para una Política de Empleo**, Fundación Friedrich Ebert de Colombia, Medellín, 1993.

Lora, Eduardo and Loredana Helmsdorff, **El Futuro de la Reforma Pensional**, Fedesarrollo-Asofondos, 1995.

Lora, Eduardo and Ana María Herrera, "Macroeconomía del Salario Mínimo", **Debates de Coyuntura Económica**, Fedesarrollo-Fescol, 30, 1993.

Lora, Eduardo and Ana María Herrera, "Tax Incidence in Colombia. A General Equilibrium Analysis", forthcoming in a volume on fiscal issues in general equilibrium models, edited by John Whalley (University of Western Ontario, Canada).

Misión de Empleo, **El Problema Laboral Colombiano: Diagnóstico, Perspectivas y Políticas**, special issue of **Economía Colombiana**, Serie Documentos No. 10, August-September, 1986.

Ocampo, José Antonio, "El Régimen Prestacional del Sector Privado", in Ocampo, J. A. and M. Ramírez (eds.), **El Problema Laboral Colombiano**, Contraloría General de la República, Departamento Nacional de Planeación and Servicio Nacional de Aprendizaje, Bogota, 1987, vol. 2.

Posada de la Peña, Francisco, **Libertad para Trabajar**, Tercer Mundo
    Editores, 1995.

Reyes, Alvaro: "Algunos Lineamientos para el Análisis de la Reforma
    Laboral", **Políticas de Empleo y Modernización Económica**, Vol.
    V, Bogotá, Ministerio de Trabajo, ONU, OIT, 1991.

Reyes, Alvaro: "Series de Empleo a Nivel Nacional, 1976-1994",
    processed, Fonade, Departamento Nacional de Planeación, 1995.

Schmidt-Hebbel, Klaus, "Colombia's Pension Reform: Fiscal and
    Macroeconomic Implications", processed, World Bank, Policy and
    Research Department, October, 1994.

World Bank, **Poverty in Colombia**, Washington, D.C., 1994.

N O T E S

1/ Executive director and researcher of Fedesarrollo, respectively. The authors wish to thank Natalia Salazar for the econometric work reported in Annex 2.

2/ The model considers 21 sectors, sector-specific capitals and three types of labour: rural, skilled urban and unskilled urban. The existence of a minimum wage for formally employed unskilled workers gives origin to unemployment and to an informal segment of unskilled workers. For a detailed description see World Bank (1994, Annex 2).

3/ Other policy combinations are explored in Lora and Herrera (1993).

4/ Weights correspond to the share of each type of contract in the labour force, not taking into account wage differentials by type of contract, which can be substantial.

5/ Including public servants, who account for 9-10% of the working force. These calculations are based on household surveys performed by DANE.

6/ For a complete description of these reforms see Lora (1991) and Hommes, Montenegro and Roda (1994).

7/ Due to the quality of the data set, 10 was the highest number of years of tenure considered in the regressions.

8/ "Empresas promotoras de salud", or EPS by their acronym in Spanish.

9/ Furthermore, Misión (1986) has argued that unionization figures are grossly overestimated and never reached even the 10% mark.

10/ Econometric estimates that also reported in the Annex support the hypothesis that labour demand was cointegrated to its determinant variables in the 80s, and it is cointegrated again in the 90s, but through differente coefficients. What this implies is that the reforms introduced in 1990 changed in a significant way the long-run relationship between labour demand and production, real wages and the capital-output ratio of the manufacturing sector.

Econometric Analysis of the Effects of the Labor Reform on the Stability of Labor

The regressions reported evaluate the changes occurred after 1990 in the rates of labour survival by sector and years of tenure controlling for the rate of job creation by sector. The data comes from household surveys perfomed at the urban level every two years between 1984 and 1994. The regressions use panel data for 5 periods (starting 1986, when the first survival rates can be observed), 4 tenure groups and 7 sectors, for a total of 140 observations. The list of variables is as follows:

TS   Survival rate by tenure group and sector, calculated as the ratio of the number of workers in tenure group i in year t to the number of workers in the tenure group i-2 in year t-2.

RN   Rate of creation of new jobs by sector , calculated as the ratio of the number of jobs in period t to the number of jobs in period t-2, minus 1.

Di   Dummies for the tenure groups. The 4 tenure groups are: 2-4 years, 4-6 years, 6-8 years, 8-10 years.

D90   Dummy for the observations of 1992 and 1994.

DiD90 The combination of Di and D90.

IND   Dummy for the manufacturing sector.

ELE   Dummy for the public utilities.

CNS   Dummy for the construction sector.

COM   Dummy for commerce.

TRA   Dummy for transport.

FIN   Dummy for financial sector.

SOC   Dummy for the communal services (including governement administration).

When followed by the numbers 90, these dummies are combined with D90.

Annex 1 cont.

Dependent Variable is TS
Number of observations: 140
1984-1994

Variable	Model 1 Coefficient	T-Stat	Model 2 Coefficient	T-Stat	Model 3 Coefficient	T-Stat
C	0.4860287	12.0935580	0.4846338	11.2312280	0.4635083	10.0775120
RN	0.7984549	5.9403730	0.7985527	6.0151118	0.7145665	5.2369164
D4	0.0213933	0.6267412	-0.0042859	-0.0984835	0.0217310	0.6334661
D6	0.0359838	1.0541858	0.0269419	0.6190861	0.0363215	1.0922109
D8	0.2943055	8.6220203	0.3345821	7.6882047	0.2946433	8.8601139
D90	-0.0261772	-1.0614198				
ELE	0.2508157	5.5389076	0.2508182	5.6081877	0.3548892	6.2493665
CNS	-0.0715283	-1.5809965	-0.0715304	-1.6008026	-0.0286480	-0.5040629
COM	-0.0323771	-0.7120078	-0.0323811	-0.7209937	-0.0104788	-0.1841031
TRA	0.0059629	0.1310266	0.0059587	0.1325717	0.1470260	0.2584790
FIN	0.0198501	0.4778970	0.0198472	0.4433040	0.0214266	0.3773218
SOC	0.0748376	1.6543935	0.0748355	1.6750244	0.0985728	1.7343445
D2D90			-0.0227051	-0.4665921		
D4D90			0.0414919	0.8524623		
D6D90			-0.0001015	-0.0020863		
D8D90			-0.1233976	-2.5352386		
IND90					0.0431877	0.6798055
ELE90					-0.2224057	-3.4394139
CNS90					-0.0594904	-0.9234520
COM90					-0.0031115	-0.0489893
TRA90					0.0302452	0.4754508
FIN90					0.0455599	0.7122080
SOC90					-0.0117986	-0.1858079

	Model 1	Model 2	Model 3
Ajusted R-squared	0.55560	0.56650	0.57820
Durbin-Watson Stat	1.82756	1.77050	1.97124
F-Stat	16.79799	13.97463	12.20831

Annex 2.A. Econometric Estimates of Industrial Labor Demande, 1980-1994

Variable	Coefficient	Std. Error	T-Stat	2-Tail Sig.
C	1.1911438	0.1935007	6.1557586	0.0000
LY	0.0547560	0.0077856	7.0329726	0.0000
LW	-0.1332730	0.0474824	-2.8067871	0.0056
LK	-0.0791807	0.0259465	-3.0516926	0.0026
DULY	0.0507091	0.0291729	1.7382289	0.0840
DULK	-0.2080483	0.0525580	-3.9584539	0.0001
DULW	0.3069770	0.0605535	5.0695214	0.0000
D1	0.7304405	0.2966852	2.4620051	0.0148
LL(-1)	0.7652701	0.0365507	20.937207	0.0000

R-squared	0.966216	Mean of dependent var	4.600622
Adjusted R-squared	0.964617	S.D. of dependent var	0.054833
S.E. of regresion	0.010314	Sum of squared resid	0.017979
Log likelihood	566.2598	F-statistic	604.1778
Durbin-Watson stat	1.752875	Prob(F-statistic)	0.000000

Coefficient Values for 1980: 01 1990:12

C	1.19
LY	0.05
LW	-0.13
LK	-0.08

Coefficient Values for 1991.1 - 1994.11

C	1.92
LY	0.10
LW	0.17
LK	-0.287

Variables: (all in logs, monthly 1980.01 - 1994.11)
=========
  LL   Employment in the manufacturing sector
  LY   Industrial production
  LW   Real wages (including benefits and payroll taxes)
  LK   Capital output ratio in the manufacturing sector
  D   Dummies for 1991.01 - 1994.11

Annex 2.B. Tests of Cointegration Between Labor Demand and its Determinants in the Eighties

Period: 1980.01 - 1990.12

ADF Test of Unit Root

Variable	Augmented DF - Statistic	Variable	Augmented of Statistic
LL	-1.99 ***	DLL	-1.83 *
LY	-2.91 ***	DLY	-2.98 **
LW	-1.48 ***	DLW	-4.78 ***
LK	-2.38 ***	DLK	-2.22 **

Engle and Yoo Test of Cointegration (Dependent variable: LL)

Variable	Coefficient	T-Statistic
CONSTANT	-4.32	17.03
LY	0.12	8.97
LK	-0.07	-1.35
LW	-0.87	-13.28
R02 = 0,87	DW: 0.86	F. Statistic = 306.8

Test on Residuals:

Engle You Statistic: -3.79*

Significance level *: 10%
                **: 5%
              ***: 1%

Annex 2.C. Tests of Cointegration between Labor Demand and
its Determinants in Ninetles

Period: 1991.01 - 1994.11

_____

ADF Test of Unit Root

Variable	Augmented DF - Statistic	Variable	Augmented of Satatistic
LL	-0.01 ***	DLL	-1.23 /2
LY	-3.77 /1	DLY	-7.30 ***
LW	-1.81 ***	DLW	-3.32 **
LK	-1.02 ***	DLK	-3.39 **

_____

Engle and Yoo Test of Cointegration (Dependent variable: LL)

Variable	Coefficient	T-Statistic
Constant	4.79	16.24
LY .	0.22	7.20
LK	-0.26	-5.20
LW	0.12	2.78
Rϕ- = 0,73	DW: 1.21	F. Statistic 42.8

Test on Residuals:

Engle Yoo Statistic: -3.98**

_____

Significance level *: 10%
              **: 5%
              ***: 1%
 /1: Only at 1% significance level the nule hypothesis of
     the existence of a unit root can not be rejected.
 /2: Significance level: less than 10%.

Variables: See Annex 2.