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Edward Joaquim Amadeo, Indermit S. Gill, Marcelo Cortes Neri

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BRAZIL: THE PRESSURE POINTS IN LABOR LEGISLATION^{*}

Edward J. Amadeo^{**}
PUC-Rio

Indermit S. Gill^{***}
World Bank

Marcelo C. Neri^{****}
FGV

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** Edward Amadeo is a Professor at the Department of Economics at PUC-Rio .

*** Indermit Gill is a senior economist in the World Bank's Brazil Country Management Unit in Brasilia.

**** Marcelo Neri (mcneri@fgv.br) is Professor at EPGE / FGV and Head of the Center of Social Policies (CPS) at IBRE / FGV in Rio de Janeiro.

ABSTRACT

Brazil's experience shows that the economic and political history of a country is a critical determinant of which labor laws influence wages and employment, and which are not binding. Long periods of high inflation, illiteracy of the workforce, and biases in the design and enforcement of labor legislation bred by the country's socioeconomic history are all important in determining the reach of labor laws. Defying conventional wisdom, these factors are shown to affect labor market outcomes even in the sector of employment regarded as unregulated. Following accepted practice in Brazil, we distinguish regulated from unregulated employment by determining whether or not the contract has been ratified by the Ministry of Labor, viz., groups of workers with and without signed work booklet. We then examine the degree of adherence to labor laws in the formal and informal sectors, and finds "pressure points" – viz., evidence of the law on minimum wage, work-hours, and payment timing being binding on outcomes – in both the formal and informal sectors of the Brazilian labor market. The findings of the paper imply that in terms of the design of legislation, informality in Brazil is mainly a fiscal, and not a legal phenomenon. But the manner in which these laws have been enforced is also critical determinant of informality in Brazil: poor record-keeping has strengthened the incentives to stay informal that are already built into the design of the main social security programs, and ambiguities in the design of labor legislation combined with slanted enforcement by labor courts have led to workers effectively being accorded the same labor rights whether or not they have ratified contracts. The incentives to stay informal are naturally higher for workers who are assured of protection under labor legislation regardless of the nature of their contract, which only alters their financial relationship with the government. The paper concludes that informality in Brazil will remain high as long as labor laws remain ambiguous and enforced with a clear pro-labor bias, and social security programs lack tight benefit-contribution linkages and strong enforcement mechanisms.

1. Introduction

As one of the alleged contributors to “*Custo Brasil*” – the abnormally high costs of doing business in Brazil – labor legislation that both raises labor costs and makes them more uncertain has been a topic of some discussion for the last decade. The introduction of the *Real*, the new anchored currency in 1994, and the resultant fall in inflation took away an instrument for keeping real wages flexible, increased openness resulted in unemployment rates rising steadily (especially for more experienced industrial sector workers in areas such as Sao Paulo), and the nature of the stabilization plan left little recourse to devaluation as an alternative to wage flexibility. These factors resulted in a steady buildup of pressure for labor market reforms. A sharp rise in open unemployment rates in 1998 precipitated by the Asian crisis of October 1997, brought labor market reforms to the forefront.

Even as Brazil prepares to take on the difficult task of amending labor-related clauses in the Constitution and the labor code, a debate rages whether inappropriate or outdated labor legislation is at all binding in developing countries. The argument is that if, for example, minimum wages are set at above market clearing levels, these laws will simply be ignored rather than restricting employment. Similarly, if the workweek is specified at unrealistically low levels, employers and workers will agree on higher weekly hours, in effect annulling the mandate. If payroll tax rates are set at high levels and if the programs they fund are poorly designed, workers and employers will conspire to avoid paying them altogether. One of the results of unsuitable mandates and inadequate enforcement capacity would be the emergence of an illegal, unregulated or informal labor market, so that if labor legislation were undertaken, its effects on aggregate labor market outcomes would be insignificant.

Proponents of labor reforms argue that poorly designed labor laws are in fact a constraint for aggregate employment and earnings growth and for keeping payroll-tax funded programs such as social security and unemployment insurance fiscally balanced. Correlations between the level of payroll taxes and the level of informality, elasticities of employment with respect to non-wage costs of labor and employment growth or unemployment rates, and the estimates of effects of reform of hiring and firing legislation and changes in minimum wages on employment growth are examples of the empirical evidence cited by supporters of labor reforms.

In this paper, we hope to show that it is not possible to make generalizations on the question whether labor laws matter. The answer, of course, is that some matter a lot, and others matter little or not at all. The interesting question for policy purposes is which laws matter, where, and why? The answer – which will be disappointing for seekers of universal truths – is that the economic and political history of a country is a critical determinant of the relative importance of legislation on wages and employment, so that the subset of binding laws is country-specific.¹ Labor markets must be studied and understood country by country, not by compiling and analyzing cross-country data designed to help arrive at a summary verdict on ill-posed questions such as “do labor laws matter?”

Before we go on to provide empirical evidence on which labor laws matter in Brazil and why, we provide a few examples of how the economic and political history of the country, and the manner in which labor laws are enforced, has affected outcomes in both regulated and unregulated

¹ A corollary of this realization, which is far more obvious, is that the current political economy of a country affects the possibility of successful labor reforms.

labor markets. Following accepted practice, we distinguish regulated from unregulated employment by determining whether or not the contract has been ratified by the Ministry of Labor, viz., groups of workers *com carteira assinada* and *sem carteira assinada* (with and without signed work booklet).

- Visitors to Brazil are perplexed by the use of *multiples of the legal minimum salary* in individual and collective contract negotiations, in determining floors and ceilings pension benefits, and in official statistics on employment and earnings. The roots lie in a period of high inflation and widespread illiteracy of the workforce. Changes in the legally specified minimum salary – based on changes in the cost of living due to inflation – provided a widely accepted and frequent signal to workers and employers to adjust nominal wages accordingly. We provide evidence that a significant number of workers are paid exactly the legal minimum wage and adjustments in this wage are matched by salary adjustments even in Brazil’s “unregulated” sector, and even in today’s low inflation environment.
- Brazil’s labor laws specify that *workers are paid within the first week of the month*. We provide evidence that this law – which was critical in periods of high inflation – appears to be obeyed by employers in both formal and informal sectors, even in today’s low inflation environment.
- Persistent high income inequality and a prolonged period of socialist policies has led to labor laws with a *pro-labor bias*, and to labor courts acquiring a similar bias in their verdicts on disputes. Combined with increased ambiguity of labor laws, this pro-labor bias of dispute resolution has resulted in workers dismissed from either formal or informal employment being able to extract generous severance benefits from their former employers. Large backlogs have led to labor courts have policy-setting powers in cases where the law is ambiguous under the labor code and/or the Constitution. The manner in which labor legislation is designed and implemented has led to higher and more uncertain labor costs in both regulated and unregulated employment.

This paper first briefly describes the evolution of labor legislation in the country, the main labor laws, and discusses the objectives and nature of the main labor market reforms being discussed in the country at the time the paper was written. It then examines the evolution of some labor market indicators. The following section examines the adherence to labor laws in the formal and informal sectors, and finds pressure points - viz., evidence of laws on minimum wage, work-hours, and payment timing being binding on the outcomes they seek to influence - in both the formal and informal sectors of the Brazilian labor market. The last section concludes.

2. The Brazilian Labor Code

This section – which draws upon Amadeo, et.al. (1992) and Ministry of Labor (1998) – describes the main characteristics and elements of the Brazilian labor code, its main changes since it was created in the 1940s, and the current reforms being contemplated by the Federal Government.

2.1 The Consolidated Labor Code

The main body of the Brazilian labor legislation was introduced in the 1940s, and consolidated into the *Consolidação das Leis do Trabalho* (CLT) in 1943. The CLT is a large, often overlapping, set of rules which determines individual and collective rights and duties of the workers, unions and firms. The law determines that all workers must have a booklet where all individual labor contracts and its changes over time are registered by the employer. By definition, a formal worker has a booklet signed by his employer (“*carteira assinada*”)

Besides the obligation to sign the booklet, the law stipulates a set of minimum conditions any employment relationship must follow. The most important rules are: maximum hours of work per week; maximum extra-time working hours; minimum payment for extra-time work; minimum wage; pre-paid annual vacations; special protection clauses for women and children; the dismissal of pregnant women is forbidden; the right of paid vacation before and after childbirth, for the mother; special work conditions for night shifts; one month pre-notification of firing; and protection against unjustified dismissals.

There have been changes in the legislation since the creation of the CLT. In particular:

- In 1962, introduction of a one monthly wage annual bonus (“thirteenth salary”).
- In 1963, introduction of a family allowance.
- In 1965, introduction of a wage adjustment law which determined the minimum rate of wage adjustments of all workers in the economy.
- In 1966, creation of a severance fund (*Fundo de Garantia por Tempo de Serviço* - FGTS) in place of a clause forbidding dismissal of workers with more than 10 years of tenure.
- In 1986, creation of an unemployment insurance program which today covers about 25% of the country’s labor force.
- In 1988, approval of a new Constitution with the introduction of new labor clauses.

2.2 Severance Rules and Unemployment Compensation

Until 1965, to fire a worker without a proper justification the employer had to pay one month’s wage for each year of work in the firm. The compensation was calculated on the basis of the higher wage received during the work contract. It was a duty of the employer to prove the dismissal was justified, and the conditions for justified dismissals were clearly defined in the law. After 10 years in the same enterprise, dismissals were forbidden by law, except if properly justified. In 1966, this entire system of protection against non-justified dismissals was changed. A severance fund was created, called the *Fundo de Garantia por Tempo de Serviço* (FGTS). When hiring a worker, the firm had to open a banking account for the worker and deposit 8% of the value

of the wage in the account. Today, Caixa Economica Federal, a government saving and loans institution, collects the FGTS levy and invests it primarily in urban housing projects giving workers a legally guaranteed minimum deposit rate.

When dismissed without a just cause (“*sem justa causa*”) the worker could draw this money and received a monetary compensation corresponding to a fine of 10% over the total amount of the fund. Like many other Latin American countries (see Loayza, 1998), dismissal for economic reasons is not considered a just cause. In 1988 the fine for unjust dismissal was increased to 40% of the worker’s FGTS account balance. Besides this fine, the employer has to notify the worker one month before he will be fired. This is the “*aviso prévio*” law, or previous notification of firing. During the month the worker has received the previous notification of firing, he/she is allowed, according to the law, to take two hours a day to look for a new job. This implies a minimum cost of 25% of the worker's monthly wage. In fact the cost is usually higher since firms end up paying the notification fee to the worker and dismissing him immediately.

Thus, the total cost of dismissal is 25% to 100% of the monthly wage plus 40% of the FGTS. The cost depends on the number of months the worker has worked for the firm. Table 1 shows the costs for the firm, in numbers of monthly wages, according to the number of years of the worker's contract, under the assumption that the full cost of firing is borne by the firm. This table shows is that if, for example, the worker stayed one year with the firm, the cost of dismissal is, at most, 1.41 monthly wages. The cost to dismiss a worker who has been with the firm for 5 years is, at most, 3.19 monthly wages, and so on.

Table 1: Total Cost of Firing a Worker
As a multiple of monthly wages

Tenure	1 yr	2 yrs	3 yrs	4 yrs	5 yrs	10 yrs	15 yrs	20 yrs
FGTS fine	0.41	0.84	1.27	1.72	2.19	4.72	7.66	11.07
Aviso prévio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	1.41	1.84	2.27	2.72	3.19	5.72	8.66	12.07

Since 1986, when fired, besides the advance notice, access to the FGTS (and the 40% fine for unfair dismissal), the worker also has the right to an unemployment compensation benefits. The unemployment compensation program offers partial coverage for up to four months of unemployment (extended to five months after 1996). To become eligible to receive the benefit, the worker must meet the following criteria: (a) to have been dismissed without a just cause; (b) to have had a formal labor contract during the last six months or to have been legally self-employed for at least 15 months; (c) to be unemployed for at least seven days; (d) must not receive any other pension; (e) must not have any other type of income sufficient to guarantee his own subsistence and that of his family. The value of the benefit cannot be lower than the value of the minimum wage, is adjusted monthly for inflation, and is related to the average wage received by the worker in the last three months in the previous job.

2.3 Wage Laws

An important change in the CLT was the introduction of the Wage Adjustment Law in 1965. Before this date, wage adjustments were fixed through collective bargaining between workers and employers unions, at the settlement dates (“*data base*”), and through individual negotiations between one worker and his/her employer. Only the minimum wage was determined directly by the President of the Republic, although most of the time it incorporated automatically the prescriptions given by indexation clauses imbedded in the Law.

The Wage Adjustment Law gave the government the right to determine the minimum rate of adjustment of all wages in the formal sector of the economy. The first wage law stipulated that nominal wages should be adjusted once a year, at the settlement date of each occupation, following a formula which took the past and expected future rate of inflation and the growth rate in GDP per capita as the base for the adjustments. The specific formula and the adjustment period changed many times over the years, as the rate of inflation increased.

Table 2: Stylized Facts of Wage Indexation Regimes, 1980-1998

Starting Date	Dec 1979	Mar 1986	June 1987	Jan 1989	May 1989	Mar 1990	Sep 1991	Dec 1992	July 1995
Duration (mos.)	63	15	20	4	10	18	15	9	50
Stabilization Plan	-	Cruzado	Bresser	Summ	-	Collor	-	-	Real
Transition Phase /1	Instant	Instant	Gradual	Instant.	Instant	Instant.	Gradual	Gradual	-
Rule Type /2	Time	State	Time	Time	Time	-	Time,R	Time,R	-
Trigger Point	6 m	20%	1 m	-	1 m	-	4.2 m	4.2 m	-
Average lag /3	8 m	/4	4 m	-	1 m	-	4 m	4 m	-

Notes : (1) This attribute indicates whether the transition to the new wage indexation regime was done in a Instantaneous or a Gradual manner.

(2) For time-dependent rules the trigger point is specified in terms of months between adjustments. For the state-dependent rule the trigger point was specified in terms of accumulated price index variation between adjustments. R means Regressive adjustments, viz., lower wages get higher adjustments.

(3) Refers to the average lag between price rises and their incorporation to wages.

(4) In the state dependent case the lag is endogenous.

In 1995, one year after the introduction of the Real Plan, the Wage Law was abolished. Today, upward adjustment of wages is negotiated between employers and employees. But downward adjustment of wages is for all practical purposes prohibited by the Constitution: attempts to do so make employers open to lawsuits, which are generally resolved in favor of the worker. This was irrelevant during a time of high inflation, but now quite possibly adds to the rigidity of the labor market.

2.4 The Reforms of 1988

The main changes of labor legislation introduced in the Constitution of 1988 can be summarized as follows:

- The maximum number of hours of work per week was reduced from 48 to 44 hours and the minimum payment for extra-time hours increased from 20% to 50% of the workers wages.
- For continuous work shifts the maximum daily journey was reduced from eight to six hours.
- A vacation bonus of one-third of the workers wages was created.
- The childbirth leave for mothers was increased to 120 days and a five days childbirth leave for the father was introduced.
- Firing costs for unjustified dismissals increased from 10% of the FGTS balance to 40%.

This is the list of the minimum individual rights for private sector and state enterprise workers. Working conditions can be improved through negotiations between the individual worker and the firm, or through collective bargaining. The Constitution of 1988 clearly mandated higher non-wage benefits and made dismissals costlier for employers.

2.5 Payroll Taxes and Mandatory Benefits after 1988

The CLT and the 1988 Constitution stipulate a very comprehensive set of minimum standards any individual contract must follow. The rules do not provide much space for negotiations between employers and workers. The result is a rigid set of minimum rules, which reduces the flexibility of the labor contract in face of changes in the economic environment. In addition to the costs imposed by this inflexibility, there are more direct and obvious non-wage costs due to payroll taxes and mandatory benefits required by the law.

Table 3: Wage and Non-Wage Labor Costs
(Monthly, with normal number of hours = 44 weekly)

Component	Percent	Total
Basic Wage		100.0
Annual bonus	8.3	108.3
Vacations	11.3	119.6
Severance Fund Contribution (FGTS)	8.0	127.6
Other mandatory benefits*	10.0	137.6
Total pay (<i>basic wage + mandatory benefits</i>)		137.6
SESI, SENAI, SEBRAE (<i>employer associations</i>)	3.1	140.7
INSS** + Accident Insurance + Education + INCRA	24.7	165.4

(*) There are benefits which can not be calculated for all workers, since they depend on gender, kind of work done, economic sector etc. These include family allowances, pregnancy leaves, transport subsidies, etc.

(**) Workers contribute with 8%, 9% or 10% of the wage to social security depending on the wage.

Table 3 shows the composition of the labor cost in Brazil. The cost of labor can be decomposed into four parts:

- The basic contractual wage (60% of total cost = 100/165.4).
- Mandatory benefits which include the annual one month bonus (*terceiro salário*), the contribution to the FGTS, vacations and other benefits (23% of total cost = 37.6/165.4)
- Contributions to the official training system (SENAI and SENAC), to finance an institution which assist small enterprises (SEBRAE) and a contribution paid by firms to finance an workers' assistance service (SESI or SESC) (2% of total cost = 3.1/165.4);
- Contribution to the federal social security system (INSS) and to fund educational services (*salário educação*) and an on-the-job accident insurance fee mandatory for all firms and proportional to the payroll (14.8% of total cost = 24.5/165.4).

In addition to these contributions based on payroll costs, employers are also charged levies on revenues to pay for additional INSS-related obligations (*Cofins*), to be raised in 1999 from 1 to 2 percent and PIS/PASEP, the contributions towards the *Fundo de Aparelho de Trabalhadores* (FAT) which fund unemployment compensation, job search assistance and active labor programs such as training and microenterprise support schemes. These labor related levies can add up to between 2 and 3 percent of employer revenues.²

2.6 Social Security Contributions

21. The main benefit offered by the social security system in Brazil is a retirement proportional to the salary of the worker. The system is weak with respect to the incentives for firms and workers to contribute. The main disincentives:

- The pension is proportional to the worker's salary in the last 36 months before he retires. Hence, the incentives to report salaries accurately for much of the working life is small. The reference period will be extended to 10 years under a new law, improving the situation somewhat. It is possible to show that the law hurts the poor because they have flatter earnings-age profile.
- The factor of proportionality (replacement rate) for INSS pensions is high, ranging between 70% (reduced) to 100% of reference wage, prompting early retirement since under the main INSS program one does not have to wait until a retirement age if a person has minimum years of service (generally 30 years for women and 35 years for men, five years less for reduced pensions, and for special occupations such as teachers). Reforms currently in Congress will end reduced pensions, count years of contributions rather than years of service, and revoke some special pension regimes.
- Under the Old Age program of the INSS, anyone is eligible for a pension after 65 years old (for male workers) or 60 years old (for female workers) independently of how many years he/she contributed to the system. This also reduces the incentives to contribute.

² PIS/PASEP rates are 0.65 percent of personnel costs of private sector firms and 1 percent of the wage bill of non-profit establishments, but are 1 percent of the revenues of state enterprises.

- Until the Constitution of 1988, public health was restricted to workers' contributing to social security. Since then, it has become an universal right of all Brazilian citizens, again reducing the incentives to contribute.

3. Recently Implemented and Proposed Reforms

The challenges faced by Brazil in the area of labor legislation are formidable. The set of laws that constitute the labor code have their basis in rules formulated in the 1940s, with additional – sometimes overlapping or inconsistent – legislation added over the years in response to both genuine labor market concerns and shortsighted political reasons. Today, the regulation of the labor market is a daunting task for Ministry of Labor for the following reasons:

- The plethora of laws has led to uncertainty about which regulations apply and under what circumstances, which results in frequent disputes between employers and employees.³
- These disputes are resolved by labor courts, which have over time earned the reputation of having a strong pro-labor bias. Under Brazilian law, labor courts have policy-setting powers, in that labor courts – in judging a particular case – are entitled to formulate policies in areas where the law is ambiguous in the opinion of the court.
- No employment contract is strictly legal unless approved by the Ministry of Labor, which leads to the Ministry having to devise and validate special contracts for specific working conditions, without which employers are left vulnerable to expensive lawsuits.⁴
- Such interventions, although well-intentioned, can lead to further ambiguities, exacerbating the problem of uncertainty about the full costs of labor by tying employers in costly, time-consuming delays in court cases that are usually resolved in favor of the worker.
- Collective bargaining between workers and employers can be an instrument for formulating more definite contracts, but collective bargaining rules in Brazil and the practices they have engendered are often insensitive to work-specific conditions.
- The rates of payroll contributions and the design of programs that they fund encourage evasion and informality.

With these concerns in mind, the Ministry of Labor has prepared a reform program, which will soon be presented for consideration by the legislature (Ministry of Labor, 1998). While it falls well short of a comprehensive labor reform, the draft bill has much to recommend it, since it attempts to implement reforms identified as the subset of changes that are both important for improving labor market outcomes and are likely to be approved by both the executive, legislative, and judicial branches of government, and by the influential employer and employee federations. A recent report on unemployment that examined international experience with these reforms found that the measures contemplated have generally helped improve labor market outcomes in OECD and other countries (World Bank, 1998).

³ For example, a worker who worked for less than the full hours per week for a year is entitled to *proportional* amount of paid vacations and mandatory Christmas bonus of a worker who worked full time all year under one part of the law, but *full* benefits under another.

⁴ For example, the Ministry of Labor has recently been asked to devise a special contract for workers employed by farmers during short harvest periods.

The five fundamental aims of the Government's reform agenda are:

- Reduce the uncertainty of labor costs for employers.
- Create the conditions for more durable employee-employer relationships, so that both employers and employees voluntarily choose to stay together because the contract can be frictionlessly changed in response to changing work and market conditions.
- Create the environment for more representative collective bargaining.
- Reform implementing institutions to ensure better enforcement of contracts.
- Reduce the incentives to become informal.

In 1997, the government implemented some labor reforms, principally the introduction of temporary contracts of employment during which the employer pays lower payroll taxes and is allowed to dismiss the worker with considerably lower severance costs. In 1998, the government's response to the rise in open unemployment – as measured by monthly surveys – has been to introduce a package of labor market measures that aim to change some clauses of the labor code, and reform and expand active and passive labor market programs. The main proposed changes are reduction of weekly hours that qualify workers for full-time worker status, greater decentralization of collective bargaining and measures to encourage labor disputes to be settled by worker-employer committees, allowing temporary layoffs to be funded by credits from FAT resources, to be repaid if the employer decides not to re-hire the worker at the end of the layoff, elimination of policy-setting or “normative” powers of labor courts, and lowering payroll tax rates.

Some of these measures require *constitutional reforms* (e.g., changing rules of union finance and membership), others require *changes in labor legislation* (e.g., allowing temporary layoffs), and yet others can be *implemented immediately by the executive* branch of government (e.g., extending the duration of unemployment benefits). This section lists these actions and briefly discusses their objectives.

The feasible reforms (those that have been debated over the past few years) and which are believed to be able to improve labor market outcomes are:

- **Eliminating contradictions between the Labor Legislation and the Constitution.** The consensus for a comprehensive review of the current labor legislation and the mechanisms by which it is enforced is being built but is likely to take some time. In the meantime, the Ministry has submitted a bill for consideration by Congress that seeks to eliminate contradictions between the labor legislation and worker rights guaranteed under the Constitution of 1988.
- **Severance Laws.** While reform of the severance fund (FGTS) has not been formally attempted, there have been proposals suggesting de-linking the access to the fund from dismissals in order to reduce the perverse incentives for workers to induce dismissal. A Ministry of Labor proposal to reduce the rate of employers' contribution to fund the FGTS from 8% to 2% of payroll met with opposition within and outside the government in 1998, and was dropped. But the national association of private pension funds is preparing a proposal to convert 4% of the FGTS to a mandatory individualized defined contribution pillar. If seriously considered, this could be accompanied by a reform of the unemployment compensation system to function more like an unemployment *insurance* plan (i.e., actuarially based).

- **Maximum Hours Worked.** The government is considering the reduction in weekly work hours (*Jornada de Trabalho*) from 44 to 40 hours.⁵ One of the proposals of the current administration is to reduce the hours of work that qualify a person for a full-time contract (which entitles the person for greater benefits than part-time work). The objective of this measure is to flexibilize the work-week, by permitting daily work to range from 5 to 8 hours, and weekly hours from 26 to 40 hours.
- **Temporary contracts.** In 1997, the government introduced legislation that would allow employers to hire new workers on temporary contracts, during which non-INSS related payroll taxes would be waived and dismissals would be less costly. These measures were expected to lead to increased employment, as the non-wage costs of labor would be reduced.
- **Union representation.** For a single sector or occupation, Brazilian labor laws do not allow for more than one union per municipality – the “*unicidade sindical*” provision. For all practical purposes, this legislation outlaws plant-level collective bargaining. The Ministry of Labor has proposed that this law be altered to facilitate collective bargaining to reflect firm-level conditions. The Ministry has also proposed changes in the mechanisms by which unions are financed, making union fees voluntary rather than mandatory contributions. This change is designed to ensure that unions better represent worker interests.
- **Policy-making powers of labor courts.** Brazilian labor laws gives labor courts policy-setting powers “*poder normativo*” in that these courts can form policy on issues which are left unclear by the CLT and the constitution. As a result, labor court rulings have influence far beyond the case being arbitrated, in effect serving a policy-making role that should be the responsibility of the Ministry of Labor. Reforms being contemplated to curb this policy-setting role of labor courts while also reducing ambiguities in the labor law are thus likely to reduce the uncertainty regarding the full cost of labor, and hence result in increased labor demand.
- **Minimum wage.** Brazil has a nationwide minimum wage which is at the same time the minimum legal wage in the private sector and the minimum payment for pensions of the social security system. Appropriate reforms would attempt to: (a) regionalize the minimum wage, (b) de-link social security pensions from the minimum wage, (c) de-link public employees salaries from the minimum wage.

4. Relevant labor market indicators ⁶

In this section we look at the stylized facts of the Brazilian labor market in recent years. The opening of the economy – since the late 1980s – and the sharp reduction of inflation since 1994 have changed the macroeconomic environment with important effects on the labor market. The analysis concentrates on the 1990s with special emphasis given to the last four years, after the launching of the Real Plan. In the case of variables that have more “structural” determinants such as unemployment and the level of informality of the labor market, the analysis goes back to the 1980s.

⁵ That is, the maximum number of hours of work per week without the payment of overtime wages.

⁶ This section draws on Amadeo, et. al. 1993, “Human resources in the adjustment process”, IPEA, Discussion Paper no. 317.

4.1 Job creation and unemployment

Neither job creation nor unemployment were serious problems in the Brazilian economy until 1997. Despite the low rate of growth in the 1980's, job creation was not a major problem. The level of employment grew continually over the decade as more than 15 million new jobs were created. The labor force participation rate increased almost continuously from 1979 to 1987, then falling slightly towards the early 1990s. The rate of open unemployment fluctuated over the decade, increasing during the recession years of 1981-83, but never surpassed 5%. Relative to the magnitude of changes in GDP, the rate of unemployment remained very low and stable.

The 1990s, despite the adjustments associated with the opening of the economy were not very different from the 1980s. Employment fell in the recession of 1990-92, but then recovered. Employment grew almost 10% between 1991 and 1996. Compared to the 1980s, there has been a slight increase in the rate of unemployment. However, it remained low and stable, oscillating between 4% and 6%. Only in 1997 and 1998 has unemployment risen to above 6%, prompting concerns about joblessness.

4.2 Labor income

From 1980 to 1990, GDP increased by 17% while the labor force increased 40%, implying a decrease of 17% in average productivity. In a "competitive" labor market, wages would have fallen to accommodate the reduction in productivity. In fact, the average labor income per worker did fall 22% between 1980 and 1990.⁷ The path of the average labor income followed the oscillations of output, falling during the 1981-83 recession, increasing in the 1986 boom (Cruzado plan), then declining at the end of the decade. In the 1990s, real labor income also oscillated according to the output cycle falling in 1991-92, falling by 17% between 1991 and 1992, then recovering by 35% between 1992 and 1996.

4.3 Labor turnover and the quality of jobs

Looking at a selected set of countries in the early 1990s, the share of workers with less than one year in service is 10% in Japan, 12% in Germany, 15% in France, 28% in the US and 33% in the Brazilian manufacturing sector. As for workers with less than five years of service, their share of the labor force is 37% in Japan, 41% in Germany, 42% in France, 62% in the US and 71% in Brazil. Hence job tenure is greater in Japan, Germany and France than in the US and Brazil. Workers change jobs frequently in Brazil and the US and very infrequently in Germany and other European countries. In contrast, the duration of unemployment, while increasing, remains small in Brazil and the US and considerably higher in Germany and European countries. In Japan the frequency and duration of unemployment spells are both relatively low.

Table 4 presents data on labor turnover in the Brazilian formal sector. The data should be read as follows. In 1985, on the average, 2.8% of the jobs of all Brazilian legally registered firms with more than five employees changed its worker in the period of one month. In 1989, 40% of the jobs changed its worker over the year. Thus, in the period 1989-1993, 28% or more of the legally registered firms jobs changed its occupant in the period of one year. Turnover is lower in the manufacturing and services

⁷ Real labor income measures the income of all employed workers, including the illegal (informal) wage earners and the self employed. When the source of the data is PNAD, it covers total labor population; when the source is PME, it covers the six main metropolitan areas.

sectors than in the trade sector where, in turn, turnover is lower than in the construction sector.⁸ The data also shows a positive correlation between the level of economic activity and aggregate labor turnover.

The labor turnover statistics presented in table 4 are based on RAIS and CAGED data which are based on legally required self-reporting by firms. As a consequence, they do not cover the illegal (or informal) segment of labor markets. It is possible to build turnover measures based on the longitudinal aspect of PME data for the six main Brazilian metropolitan regions. The turnover rate in informal sectors is three to four times greater than the already high turnover rate found for the formal segment of the labor market..

Table 4: Labor Turnover Rates
Brazilian Formal Labor Market, 1985-1993

	labor turnover monthly average	labor turnover annual
1985	2.80	n.a.**
1986	3.67	n.a.
1987	3.72	n.a.
1988	3.80	n.a.
1989	3.49	39.66
1990	3.26	38.20
1991	2.69	35.75
1992	2.26	28.05
1993*	2.73	32.81
1997		

Source: Ministry of Labor - Law 4923. Calculations Amadeo, E., Barros, R.P., Camargo, J.M. and Mendonça, R. 1994 "Institutions, the labor market and the informal sector in Brazil", mimeo, IPEA and Department of Economics, PUC-Rio. Period January-October, 1993.

The high level of labor turnover is sometimes viewed as evidence of the flexibility of the labor market, especially if one takes into account illegal employees. However, as noted by many observers, the extremely high level of flexibility is probably associated with the low levels of investment in firm-specific human capital.⁹ The design of the severance fund may also – by providing strong incentives for workers to induce their dismissal in order to access their FGTS balances – artificially raise the level of turnover in the informal sector. According to monthly labor surveys in the six largest metropolitan regions (PME) during 1982-1998, 72% of workers were fired, of which 85% received the FGTS. There are two surprising points to note here. First, the share of dismissals among those exiting an occupation rose from 67% to 76% after the Constitution raised firing fines from 10% to 40%. This result indicates that higher firing fines do

⁸ Turnover is relatively low in the services sector mainly because this sector includes workers employed in large public utilities and other state enterprises.

⁹ See Amadeo et. al., 1993. "Human resources in the adjustment process", IPEA Discussion Paper no. 317.

not reduce the share of dismissals but, on the contrary, may even raise it. Second, about 65% of the workers that reported *voluntary* separation in the 1982-98 period also reported that had access to FGTS. This is clear evidence of illicit agreements between firms and workers against the public FGTS funds.

4.4 The structure of employment

In the 1980s, according to PNAD data (the national household survey), the structure of employment by type of working relation remained relatively stable. The share of formal workers remained around 32%, the share of informal workers around 22% and the share of self-employed around 26%.¹⁰ Public servants accounted for approximately 12% and non-paid workers accounted for around 7%.

PME data (monthly household surveys in the six main metropolitan regions) shows a persistent increase of the share of self-employed since 1986. Between 1986 and 1996 the share of self-employed went from 16.5% of the metropolitan labor force to 23%. The share of illegal (informal) wage earners falls between the early 1984 and 1989 and then starts increasing to reach almost 25% of the labor force in 1996. As a consequence, the share of formal wage earners fell from an average of 58% in 1985-90 to less than 47% in 1996. Hence, around 10% of the labor force moved from the legal wage earners status to either the informal or self-employed status since the late 1980s.

As for the sectoral structure of employment, nationwide PNAD data for the 1980s shows a stable share of industry and manufacturing employment, and a reduction in agricultural employment compensated by an increase in services. Both PNAD and PME data for the 1990s show a marked decrease in manufacturing employment and an increase in service sector employment. There is a clear movement in favor of job creation in the non-tradable sectors and against the tradable sector during the 1980s and the 1990s.

4.5 Sectoral earnings ratios

In the 1980s relative earnings moved strongly in favor of manufacturing wages and against non-tradable sectors. This movement results from the increase in labor absorption in the services sector without a corresponding increase in output, on the one hand, and the protectionist tariff and exchange rate policies which favored the manufacturing sector, on the other hand.

The 1990s are marked by a symmetric movement with the opening of the economy and the marked appreciation of the exchange rate reducing the competitiveness of the tradable sectors, with negative effects on employment and relative earnings in manufacturing. Relative earnings between manufacturing and services workers fell from 1.6 in 1992-3 to 1.3 in 1996 and between manufacturing and trade workers it fell from 1.5 in 1992 to 1.27 in 1996.

Relative earnings have moved in favor of informal and self-employed workers in recent years and against legal wage earners. Relative earnings between illegal and legal wage earners fell

¹⁰ Informal employment consists of wage earners whose contracts have not been ratified by the Ministry of Labor. Having a signed work booklet ("*carteira assinada*") implies ratification of the contract by the Ministry of Labor.

from 0.54 to 0.34 between 1993 and 1996. The ratio of earnings between self-employed and legal wage earners fell from 0.58 in 1992 to 0.15 in 1996.

The movements of sectoral relative earnings and between types of work relations are somewhat correlated. The share of legal wage earners is considerably higher in the manufacturing sector than in the services and trade sectors. Hence, the change in relative prices in favor of the manufacturing sector has a positive impact on the relative earnings of workers in the illegal and self-employed segments of the labor market.

5. Is labor legislation binding?

We provide evidence that illegal jobs in Brazil are not necessarily unregulated. In other words, we shall argue that institutions and the legal apparatus affect both legal and illegal contracts. The distinction between legal and illegal employment appears not be associated with the quality of the jobs (working conditions and wages), but with the incentives and costs for both the employer and the employee of maintaining a legal contract. In this respect, the high proportion of informality of labor contracts may be seen as emanating from poor design of the programs – the social security system, the severance fund, the fund for providing unemployment compensation and more active labor programs, and various other schemes – that are funded by high levels of mandatory contributions in Brazil.

This section studies the effects of various labor regulation schemes on formal and informal labor markets outcomes. We propose here to divide the different types of regulation schemes analyzed in two types: i) those that affect firms and employees relationship directly (e.g., minimum wages, extra-hours legislation, restrictions on payments dates and the payment of the mandatory bonus or 13th salary). ii) those that are related to the private-public sector relationship.(e.g., social security contributions, payroll taxes and firing fines). Our basic approach is to contrast how binding are a series of regulation schemes in the legal and illegal segments of the labor market.

An Overview

Brazil's experience over the last two decades offers special conditions to test the effects of regulation on formal and informal labor markets outcomes.

- First, Brazil has a substantial share – about 60% by some measures - of its employees working illegally.
- Second, as discussed above, labor markets surveys in Brazil have traditionally asked direct questions if employees possess or not working permits (*carteira de trabalho*) allowing us to distinguish formal from informal employees.
- Third, Brazil is very well served in terms of large household surveys that offer the possibility of following the same individuals through short periods of time. This longitudinal aspect allow us to analyze changes in several labor market outcomes at an individual level.
- Finally, and perhaps most importantly, Brazil offers not only a regulated labor market, but these regulations also change from time to time offering ‘natural experiments’ to study the effects of regulation.

The final point merits elaboration. Institutional effervescence in Brazil is due in part to the adopting of the new Brazilian Constitution in 1988, and in part by the transition from hyperinflation before 1994 to almost zero inflation in 1998. The former offers the possibility of estimating the impact of various labor code items (e.g. changes in maximum hours allowed, payroll taxes and firing fines) exploring the variation of labor market outcomes before and after the new constitution. The high inflation aspect makes payments practices a relevant item in the negotiation process between firms and workers, at the same time it provides as a by-product many episodes to study the effects of minimum wage changes.

Our empirical strategy is to quantify the relative importance of corner solutions induced by various regulation schemes on both segments of the labor market. We do this in two ways: *First, we plot the distribution of labor markets outcomes and assess the size of the clustering exactly at the limits set by the law.* For example,

- **Wages.** In the case of wages we assess how many individuals earn exactly one minimum wage. The idea here is that that in the absence of regulation the wage distribution would be continuous, that is each point of the distribution would have a zero mass. The effect of the minimum wage regulation is to concentrate mass around the point of one minimum wage, making discrete what would otherwise be a continuous distribution.
- **Hours worked.** Similarly, in the case of hours worked we assess what is the proportion of individuals that are at the maximum number of hours allowed (without the payment of extra-hours) as an indication of how binding is the hours restriction.
- **Payment practices.** We also apply this methodology above to other elements of the firms-employees relationships of labor markets outcomes subject to Brazilian labor regulation such as those affecting payments practices (e.g., frequency of payments, payment dates and the disbursement pattern of the so-called 13th wage).
- **Payroll taxes.** In the case of regulations that are related to the private sector-government relationship such as social security contributions, payroll taxes and firing fines, we simply assess what is the proportion of legal and illegal employees that pay such taxes.

Second, we study the effects of changes in labor legislation on the distribution of changes in labor markets outcomes. This second approach constitutes a more restrictive version of the first approach discussed above. We test whether the relevant labor regulations are binding before *and* after the change introduced. For example,

- **Wages.** We choose dates of minimum wage changes and assess how many individuals were adjusting at exactly the minimum wage adjustment rates.
- **Hours worked.** In the case of hours worked, we assess how many individuals were at the old and the new maximum hours restrictions before and after, respectively, an observed hours regulation change.

This dynamic approach provides a double check against habit formation in labor markets. For instance, people in the informal sector may frequently work 44 or 48 hours a week because it is a long established tradition that also happens to be present in the labor code. But, if these laws were not binding, this does not necessarily imply that changes in legally specified maximum hours (*jornada de trabalho*) will result in changes in actual worked hours.

5.2 Minimum wage regulation

Analysis of distribution of earnings levels

Our empirical strategy to gauge the effects of wage regulation is direct analysis of earnings distribution. The idea is to assess the relative concentration of the mass of the distribution of labor market variables at the minimum wage level observed. For example, the distribution of earnings that should, in principle, be continuous at each point in the domain of the distribution having a zero probability of being observed. If there is a point with positive mass at the minimum wage, the size of the spike of the frequency distribution at the minimum wage level constitute a key statistic to quantify the effectiveness of the wage floor imposed.

Table 5 presents for February 1998 the relative concentration of wage levels at exactly one minimum wage in the six main metropolitan regions according to *Pesquisa Mensual do Emprego* (PME). 10% of all employees earned exactly one minimum wage. The point to be noted here is that the share of illegal employees (14%) earning one minimum wage is double the share observed for legal employees (7%). This greater share of illegal employees earning exactly one minimum is observed in all six metropolitan regions: see Table 5.

Table 5
Proportion of Wages Exactly Equal to One Minimum Salary, 1998
(By metropolitan region, percent)

Period	All	Legal	Illegal
Recife	18	15	23
Salvador	24	20	29
Belo Horizonte	10	8	14
Rio de Janeiro	8	4	12
Sao Paulo	2	1	5
Porto Alegre	6	4	7
Total	10	7	14

Source: PME 1998.

Table 6 presents the share of total, legal and illegal employees earning exactly one minimum wage in September 1996 for the whole country according to the nationwide PNAD. Our basic result that the minimum wage regulation seems to be *more binding in the illegal segment* of labor markets is also observed in the different areas of the country analyzed.

Table 6
Proportion of Wages Exactly Equal to One Minimum Salary, 1996
(All Brazil, percent)

Period	All	Legal	Illegal	Public
North Center West	12	9	21	11
Northeast	11	14	20	14
Southeast	7	6	15	6
South	6	6	15	4
All Brazil	9	8	18	9

Source: PNAD 1996.

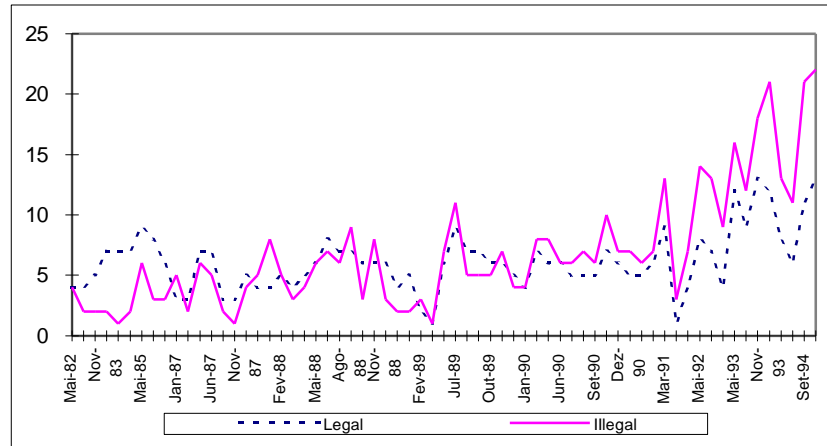
Analysis of Distribution of Wage Adjustments

We propose a more restrictive version of the approach presented above to assess how binding is the wage policy in different segments of the labor market. This approach takes advantage of the longitudinal aspect of earnings information present in PME data. We basically assess the share of employees with earnings adjustment rates exactly equal to the ones given to the minimum wage during its adjustment dates. In other words, we impose the condition that the minimum is binding before *and* after its adjustment dates. We also describe how this statistic evolves through time in different labor market segments.

Figure 1 present the shares of legal and illegal employees that perceived earnings adjustments rates exactly equal to the ones given to the minimum wage at minimum wages adjustment dates that occurred in the 1982-95 period.

Table 7 summarizes the information presented in Figure 1 as averages of selected periods. The data show that: (i) the two adjustment dates after the launching of the Real plan (September 1994 and May 1995) presented a sharp rise in the “influence” of the minimum wage on salary levels in all three universes analyzed. (ii) If we abstract from the post-Real plan period there is not a clear trend in the degree of minimum wage influence in legal and in all employees universes analyzed. (iii) There is a sharp rise in the influence of minimum wages in the informal employees segment. In the first half of the 1980s less than three percent of illegal employees adjusted *pari passu* with the minimum wage while this ratio rises to more than ten percent in the first half of the 1990s.

Figure 1
Proportion of wage adjustments exactly equal to Minimum Wage adjustments at Minimum Wage adjustments dates
Legal and Illegal Employees



Source: PME

In terms of the impact of the law on illegal employees earnings, the indirect effect through which the minimum wage policy would impact illegal employees earnings has been the “lighthouse-effect” (*efeito-farol*) of regulations. It is claimed that official wage rules would act as a “voluntary” reference price to illegal employees. The law would impact illegal employees wages also through conventional substitution effects between legal and illegal employees. Another complementary channel is that illegal employees may get the benefits of labor market regulation by suing their employers for evading the Minimum Wage Law. In the case, of a court decision favorable to employees, firms would pay all benefits denied to illegal employees.

Table 7
Proportion of Wage Adjustments Exactly Equal to Minimum Wage Adjustments
at Dates When the Minimum Salaries were Changed
(Average across selected periods, percent)

Period	All	Legal	Illegal
May 1980 to February 1986	6.00	6.38	2.75
March 1986 to February 1990	5.27	5.47	4.82
March 1990 to January 1994	7.04	6.86	10.29
September 1994 to May 1995	14.00	12.00	21.50
Average	6.25	6.21	7.03

Source: PME surveys.

However, the main characteristics of the distribution of illegal employees’ monthly adjustments distributions is the existence of “plateaus” or focal points equal to 1.5 and 2 (see Technical Annex). While legal employees present these focal points during December and November, these points are probably connected to the payment of the mandatory annual bonus

(*decimo terceiro salario*) in one or two receipts, these focal points are relatively more important and more spread throughout the year in illegal employees' distributions.

Although, this paper is not concerned with the causation of wage adjustments patterns, it can throw light on the issue whether the "lighthouse-effect" (or other theoretically more appealing channels) are influencing illegal employees' wage determination. The idea is that the lighthouse-effect implies a tight connection between illegal employees wages and Wage Law prescriptions. The longitudinal aspect of individual earnings data extracted from PME provides the basic empirical evidence on the patterns of wage adjustment of legal and illegal employees.

The approach followed here is to compare the short run movements of these groups earnings at a disaggregated level. In particular, we plot the cumulative distribution functions (CDFs) of the ratio nominal earnings one month apart (i.e., one plus the monthly earnings nominal rate of change). The main focal point of these distributions is located when nominal incomes are rigid between two consecutive months. This point is captured by the plateau of the ratio of nominal earnings equals to one. It is interesting to note that in all graphs the illegal segment presents a greater share of people with constant earnings.

A feature of legal and illegal employees earnings rate of variation is that the latter group presents a greater amplitude. At the same time, illegal employees present, in general, a greater amplitude of earnings rates of change measured by the spread between the third and the 97th percentile of the distribution. Another feature of the distributions of legal and illegal employees earnings rate of change is that but at the same time the amplitude of nominal rates of change tends to be greater within this group. However, the main characteristics of illegal employees monthly adjustments distributions is the existence of "plateaus" or focal points at 1.5 and 2. While legal employees present these focal points during December and November these points are probably connected to the payment of the thirteenth salary in one or two payments, these focal points are relatively more important and more spread throughout the year in illegal employees distributions.

The larger share of illegal employees earning exactly one minimum wage should be viewed with cautious: informal employees are less educated so the level of earnings that one would observe in the absence of minimum wage regulation would be much closer to the minimum than for legal workers.

5.3 Regulation on Hours Worked

There are three types of data explored here: First, we evaluate the relative concentration of the mass of the distribution of hours effectively worked at the level of the parameters set by the law. For example, before the Constitution of 1988, the maximum number hours worked without the obligation of the payment of extra hours was 48 hours. The size of the spike of the distribution at this point is a key statistic to quantify the effectiveness of the additional cost imposed on extra hours to control hours worked. Similarly, as we did in the case of earnings, we follow a visual approach by plotting the CDF of hours worked in practice. The analysis of these distributions provides statistics on the degree of effectiveness of the ceiling imposed on hours by the law while considering whether or not individuals should be affected by this clause. The comparison of the plot of these statistics in different years provides a better overall picture of the evolution of hours than the comparison of mean hours across periods. For example, it is possible to rank different

distribution of hours using applying first and second order dominance criteria. By the same token, it enables better comparisons between formal and informal segments of the labor market.

Secondly, we attempt to quantify the relevance of corner solutions in a dynamic sense by using the longitudinal aspect of PME data. In particular, we compare transition probabilities between two points one year apart departing from (arriving at) different initial (final) hours levels. Once again, the idea is that any mass change in the tails of the virtual distribution of hours (i.e., the values that would be observed if there was no regulation) that are beyond the level of the maximum parameter set by the law tend to stay immobile crushed against the corner solution. In other words, the probability of changes departing from a corner solution is smaller than in the case of interior solutions.

Finally, we will use the change in the clause of maximum hours worked introduced by the Brazilian Constitution of 1988 as a natural experiment of the effects of regulation on hours. This analysis of this episode will combine both elements presented in the last two paragraphs: first, we compare CDF's of hours effectively worked immediately before and after the adoption of the new Constitution of 1988. Second, we compare the transition probabilities between focal points of the distribution of hours worked before and after 1988.

Hours worked, legal restrictions and corner solutions

The CDFs of hours worked of legal and illegal employees on a yearly basis from 1982 to 1996 show that the distributions of illegal employees are in most case above those of legal employees. Except for the years 1985, 1989-1991 and 1993, in terms of first-order stochastic dominance, illegal employees work more than legal employees. That is, the number of hours in any given percentile of the distribution of illegal employees is greater than the corresponding percentile in legal employees hours distribution. The distribution of illegal employees hours also second-order stochastically dominates the corresponding distribution of legal employees in all years, except 1982, 1988 and 1994. This first and second order dominance results indicate that the legal clauses of maximum hours worked appear to inhibit the actual number of hours worked.

However, it is interesting to note that the main focal points found for legal employees hours distribution are also found for illegal employees distribution. There are clear plateaus at 40, 44 and 48 hours. Table 8 synthesizes this information. It is interesting to note that some of these focal points are not related with legal limits like the weekly work hours (*jornada*) of 40 hours. The increase in the share of workers working exactly 44 hours around 1988 is most likely related with the new constitution that reduced the *jornada de trabalho* from 48 to 44 hours. These issues will be analyzed in more detail in the next two sub-sections

Table 8
Effective Workweek, Before and After New Constitution
 (The Legal Maximum Was Lowered from 48 to 44 Hours in 1988)

Hours per week	Legal Employees		Illegal Employees	
	1987	1990	1987	1990
0-30	9	11	9	9
30	5	5	4	6
30-40	5	7	4	5
40	30	31	21	22
40-44	1	1	1	1
44	3	20	3	8
44-48	6	4	4	4
48	32	15	25	19
48-60	6	4	14	15
60 and more	3	2	15	11
<i>All</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

Source: PME surveys.

Changes in the number of hours worked and the effectiveness of regulation

Despite the fact that weekly working hours are in principle a continuous variable, the visual evidence of previous sub-section indicated the presence of numerous points of positive mass in the distribution of hours worked.

5.4 The timing of wage payments

We start our empirical exercise by exploring the data on payments frequencies frequency available from PME surveys. There are four possible answers in the questionnaire: monthly payments, biweekly payments, weekly payments and other forms. One way to assess the distortion induced by the Wage Law is to compare the payments habits of individuals covered by the Wage Law (i.e., legal employees - *trabalhadores com carteira*) with those not covered (i.e., illegal employees - *trabalhadores sem carteira*). Table 9 shows that during the 1982-1993 interval the average payments period of illegal employees were longer than illegal employees payments periods in all six metropolitan regions, but seldom by a lot.

Given the inclination of employers to postpone payments (especially during periods of inflation), the Brazilian Wage Law limits the maximum interval between the time that income is earned and when it is paid. Wages referring to services rendered during the month have to be paid by the fifth working day of the following month. The first consequence of imposing nominal wage rigidity and ceilings on the payment's interval is that - when the Wage Law is binding - payment dates should be at the legal limit. In this context, a binding restriction on payments dates also implies in an upper bound on the payments period equivalent to one month. In this sense payment dates and payment periods are both measures of the pressure exerted by the Wage Law on earnings.

Table 9
AVERAGE PAYMENT PERIOD
Days, between June 1982 and August 1993

	Legal	Illegal
Belo Horizonte	26.39	28.17
Porto Alegre	26.70	26.98
Recife	21.40	25.43
Rio de Janeiro	26.56	28.55
Salvador	25.20	28.37
Sao Paulo	27.95	29.11

The comparison between the share of legal and illegal employees with monthly payments provides a more accurate assessment of the impact of wage regulation on payments practices than the comparison of these groups average payments periods presented in Table 10, which shows that in five of the six PME metropolitan regions, the share of monthly paid legal employees surpasses the share of monthly paid illegal employees. The simple average across these metropolitan regions for legal and illegal employees are 83% and 79%, respectively. In sum, the high share of monthly paid employees measure reveals the potential effect of regulation on labor markets outcomes, which does not differ much between legal and illegal employees.

Table 10
SHARE OF PAYMENTS MADE MONTHLY
Percent, between June 1982 and August 1993

	Legal	Illegal
Belo Horizonte	82.6	85.7
Porto Alegre	80.7	81.5
Recife	63.7	69.5
Rio de Janeiro	82.8	89.0
Salvador	80.2	89.9
Sao Paulo	83.6	83.3

The next measure of the pressure of the Wage Law on payments practices analyzed here is the distribution of payments dates of monthly paid employees. This data derives from a special supplement of PME questionnaire about payments dates during the month of June 1994¹¹. Besides monthly paid employees, the payments question was also made for workers paid at other intervals. However, when an individual is paid more than once a month, it does not make sense to ask for a unique payment date. The poor specification of the questionnaire is reflected in the high non-response rate for the payment periods groups with two or more payments per month: while monthly paid individuals non response rates were lower than 20% in all six metropolitan regions covered by PME, this figure was higher for all other groups (i.e., biweekly, weekly, other forms and continuous payments) in any of the metropolitan regions.

¹¹ The proximity with the Real Plan launched in July 1994 may distort the distribution of payments date used here.

The data show a concentration of payments dates outcomes between the 25th and the 10th of the following month. There is also a preference for payments dates that are multiples of five, specially among legal employees. The high concentration of payments dates on the 30th is the main feature of both legal and illegal employees data. We observe a relative concentration of payments dates on the 5th and the 6th (i.e., the legal limit if the fifth fell on a Sunday). The relative concentration of payments dates between the new and the old legal limit (i.e., the 6th and the 10th, respectively) may indicate the presence of habit lags in payments practices.

As we found for payments periods, legal employees tend to have payments dates closer to the legal limit than illegal employees. The proportion of legal employees paid at the legal limit was nearly twice the proportion found for illegal employees. However, there still remains to be explained the reasons for the relative concentration of illegal employees payment dates at the legal limit. One possible explanation is that legal employees may act as a role model for illegal employees payments practices or that wage regulation is operating in a more direct way among illegal employees¹².

The analysis of transition probabilities between different payments periods groups provide a more effective measure of the effectiveness of regulation than the share of employees with monthly payments. The analysis that follows uses the fact that corner solutions are more absorbing states than interior solutions. Any change in the mass at the tails of the virtual distribution of the variable (i.e., the values that would be observed if there was no regulation) that are beyond the level of the parameters set by the law stay unchanged crushed against the corner solution. In other words, the probability of changes from a corner solution is smaller than in the case of interior solutions. For example, shocks that hit the part of virtual wage levels distribution at levels that are below the minimum wage are not translated into changes in observed wages. The contrast of transition probabilities across different states corresponding to interior earnings and to corner solutions offers a dynamic measure of how binding is the regulation. The transition probabilities analyzed here are estimated from a concatenated sample individuals taken from PME files for São Paulo, Rio de Janeiro and Recife during the period from March 1982 to December 1993.

The main feature of these transition probabilities is the higher probability (always above 88%) that monthly and continuously paid individuals keep the same payments mode between two consecutive observations. The corresponding probabilities for the remaining payments periods groups (biweekly, weekly and other forms of payments) is much smaller (never above 65%). The fact that monthly and continuous payments are more absorbing states is consistent with them being corner solutions. Any mass change in the tails of the distribution of desired payments practices that does not cross the upper and the lower bounds of effective payments (i.e., monthly and continuously payments) will not be observed in practice.

¹² There may be other more specific sources of complementarity between legal and illegal employees payments habits. Legal and illegal employees that work for the same firms may get paid at the same date so firms economize on payroll administration costs. Perhaps more realistically, legal employees that hire illegal employees (say, as housemaids) may synchronize their receipts and expenditures cash flows by setting illegal employees payments dates close to their own payments dates. This complementarity of payments dates can be tested with PME using a sample of dwellings in which legal employees hire illegal domestic labor that reside in the working place.

6. Conclusions

Our main finding is that many of the characteristics found in the legal labor market in Brazil are also found in the illegal segment. Furthermore, this similarity appears to be largely influenced by labor market regulations set by the government. In other words, we show that labor laws affect not only the regulated sector, but the "unregulated" sector as well. In most cases, we find that the typical kinks and corners produced by legislation on formal labor markets outcomes distribution are also present to a large extent in the informal labor market segment.

The paper also looks at other regulations that are related not with the firm-employee relationship per se but with the relation of both these agents with the government. Specifically, we contrast the public-private outcomes observed in the legal with the illegal segments of the Brazilian labor market, such as the payment of social security contributions and firing fines to the government. In contrast with the regulated nature of the firm-employee relationship in both legal and illegal sectors, we find substantial legal-illegal differences between contribution patterns.

Table 11: Brazil: Some Measures of Conformity with Labor and Social Security Laws

Indicator	Sector of Employment	
	Formal: With Signed Card	Informal: Without Signed Card
Payroll Taxes (% of Workers whose firms...)		
<i>Paid INSS Contributions</i>	94.5	4.5
<i>Paid FGTS Contributions</i>	95.0	5.0
Wage Regulations (% of Workers with...)		
<i>Payment Period of Exactly One Month</i>	83.0	79.0
<i>Paid Exactly One Minimum Wage</i>	7.0	14.0
<i>Wage Change = Minimum Wage Increase</i>		
- March 1990 to January 1994	6.9	10.3
- September 1994 to May 1995	12.0	21.5
Hours Restrictions (% of Workers)		
<i>Workweek Equal to Jornada</i>		
1987 (before Constitution)	32	25
1990 (after Constitution)	20	8

Note: Formal employment implies - following convention - having a *carteira de trabalho assinada* (working card or booklet signed by the employer) which signifies ratification of the contract by the Ministry of Labor.

The main findings in Table 11 can be summarized as follows:

- First, the main difference between informal and formal employees is in their relationship – and hence of their employers – with the government in terms of payroll taxes (the main one being social security contributions). While the employers of about 95% of workers classified as

formal (having a ratified work contract) had paid INSS dues, this ratio was less than 5% for informal sector workers.

- Second, in sharp contrast, labor legislation seems to uniformly affect the work relationships (wages, hours, and payment practices) in both the regulated and informal sectors.

Labor legislation seems to substantially affect the work relationships (wages, hours, and payment practices) not just in Brazil's regulated sector – which would be expected – but also those of illegal employees. A plausible explanation for this effect of labor legislation in illegal labor markets is the possibility that employees can take their respective employers to court – which have sweeping powers under current Brazilian law – in order to force them to pay for their legal working rights, whether or not their contract had been ratified by the Ministry of Labor. Given the high probability of the cases being resolved in favor of the worker, employers accord these workers all the rights under the labor law even when they do not have legal contracts. The nature of enforcement of labor laws therefore endows informal sector workers “*ex post* legality” even though these workers are “*ex ante* illegal”.

In contrast, the relationship of illegal employees – and hence of their employers – with the government in terms of payroll taxes (e.g., social security contributions) is significantly different from the one found for the legal sector. These findings can be read as an evidence that informality in Brazil may be largely explained by the level of payroll taxes and the design of the programs they fund, and not by the effect of restrictions of labor laws within the private regulated sector. The latter could be because of the ambiguity in the design of labor legislation and slanted nature of its enforcement by labor courts. Social security reforms will reduce the incentive to become and stay informal but, given some myopia of individuals regarding savings for their own old age, a considerable fraction of the labor force is likely to stay informal even with comprehensive pension reform. Informality in Brazil will also remain a problem as long as labor laws remain ambiguous and enforced with a clear pro-labor bias: *ceteris paribus*, the incentives to stay informal are higher for workers who are assured of protection under labor legislation regardless of the nature of their contract, which only alters their financial relationship with the government.

These findings imply that in terms of the *design* of legislation, informality in Brazil is mainly a fiscal, not a legal or legislation-related phenomenon. But the manner in which these laws have been *enforced* is a critical though underemphasized determinant of informality in Brazil. Poor record-keeping by social security agencies (currently the INSS) has strengthened the incentives to stay informal for long periods of work which are already built into the design of the main RGPS programs. Ambiguities in the design of labor legislation combined with slanted enforcement by labor courts have led to workers effectively being accorded the same labor rights regardless of whether they work in the formal or informal sectors. Informality in Brazil will remain a problem as long as labor laws remain ambiguous and enforced with a clear pro-labor bias. *Ceteris paribus*, the incentives to stay informal are higher for workers who are assured of protection under labor legislation regardless of the nature of their contract, which only alters their financial relationship with the government.

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