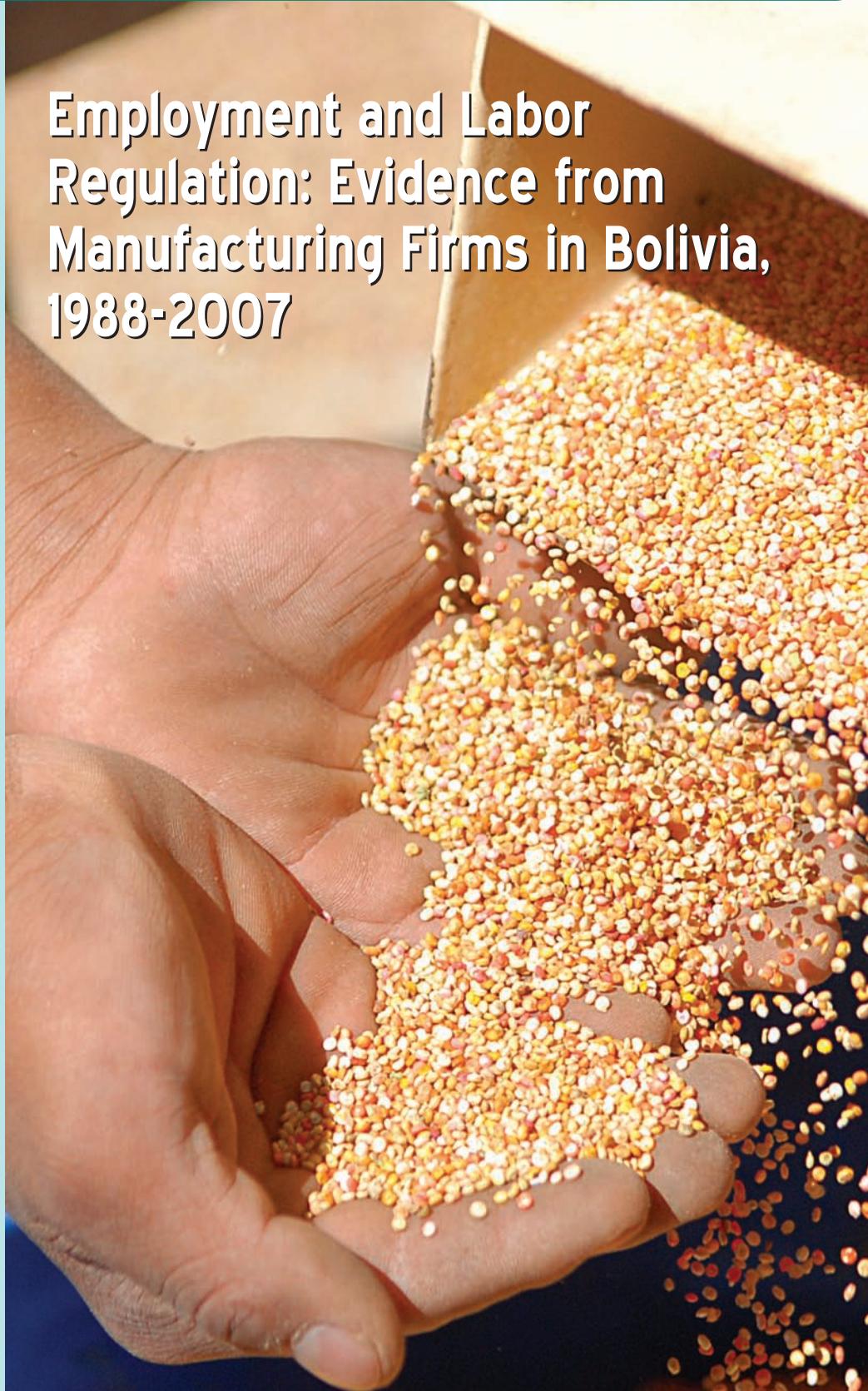




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Employment and Labor Regulation: Evidence from Manufacturing Firms in Bolivia, 1988-2007



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CONTEXT

The theoretical and empirical analysis of the link between employment and labor regulation is a key topic in labor economics, because the legislation affects the functioning of the labor market and it can have positive or negative effects on it. The labor regulation is important for Bolivia for two reasons: i) Bolivia shows high regulatory standards, which have been increasing since 2006; placing the country among the most regulated countries in the world (see for example, the employment indicators of the World Bank Program “Doing Business” and the Labor Freedom Index of the Heritage Foundation); and ii) worker's rights have been applied only to a small fraction of the labor force. For instance in

2007, only 9.9 percent of urban workers had jobs subject to labor regulation.

RESEARCH

Empirical and single-country studies analyzing the impact on labor regulation are scarce, particularly for Bolivia. In this sense, the main labor market issue that the paper addresses is the relationship between “formal employment” and labor regulation. For the analysis two different methodologies were employed. The first methodology consists of studying job flows over time and evaluating the changes that can be attributed to labor regulation among other relevant factors. The second methodology estimates labor demand functions; by using micro-simulations it

enables the analysis - through the estimated employment-wage elasticities - of the effect of labor regulation costs on employment. In both cases, we used data from the Bolivian Annual Manufacturing Survey (BAMS) implemented by the National Institute of Statistics (INE) for the periods 1988-2001, 2004 and 2006-2007. This dataset is an unbalanced and broken panel of Bolivian registered firms¹.

Bolivia has high labor regulation standards, but with low coverage on employment.

¹ In 2004 the survey corresponds to the Survey of Economic Establishments, which covered more sectors but maintained the same structure for the manufacturing sector as the BAMS.

For the first approach, several types of indicators were constructed to evaluate the job flows within "formal employment". Among them we highlight two: i) the net growth rate of permanent employment at the firm and sector level, which represents the job creation (recruitment) minus the job destruction (layoffs), and ii) the rate of job reallocation, which adds to the rates of job creation and destruction. This rate makes the extent of the job flows visible. Job creation and destruction figures decompose the net employment change into a component associated with growing firms and a component associated with shrinking firms.

For the second approach the specification of the labor demand function is based on three assumptions: i) Firms subject to labor regulation costs can establish a paid salary that, in turn, will allow them to hire more productive workers given the benefits related to the regulation. This means that, on average, workers subject to labor regulation are better-paid and probably more productive; ii) firms compete in prices; iii) the best functional form of the production function is a translog (transcendental logarithmic) because it has a generic technological specification that takes into account second-order effects; and iv) production is measured by the gross product of firms.

KEY FINDINGS

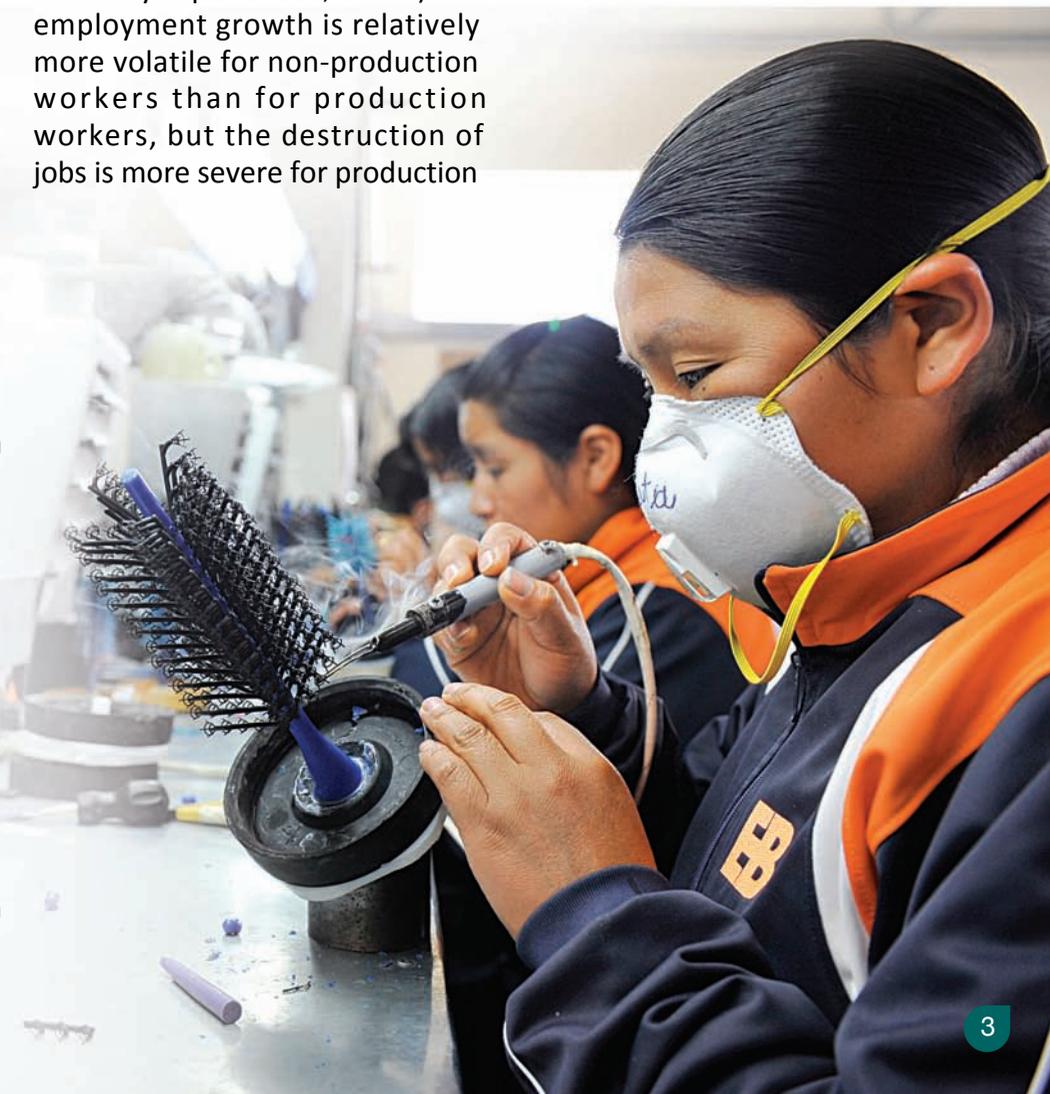
The job flows' analysis explores the main stylized facts of Bolivian firms. Four stylized facts are established: i) Net employment growth in Bolivian manufacturing correlates

Compared with other countries Bolivia's registered manufacturing sector has a relatively low job flows rates.

more to national income (GDP) than to manufacturing income (manufacturing GDP); ii) the Bolivian formal manufacturing sector is characterized by a relatively low rate of job flows compared with other countries; iii) the net shrinkage of manufacturing employment in 1998-1999 can be attributed to the economic downturn that the Bolivian economy experienced; and iv) net employment growth is relatively more volatile for non-production workers than for production workers, but the destruction of jobs is more severe for production

workers in periods of economic downturn.

Moreover, it highlights the economic recession of 1999, where more jobs were destroyed than created. In that year, the net employment growth rate was -3 percent. National GDP also reached its lowest rate of growth (0.43 percent). The highest rates of growth were observed in 2006-2007, coinciding with the economic expansion. While in 1998-1999, the decrease in net employment was -4.4 percent for production workers, it was only -0.3 percent for non-production workers (employees, managers, administrators, etc.). However, net employment growth for non-production workers was negative and low for three consecutive periods, 1997-1998, 1998-1999



and 2000-2001, which coincide exactly with the period of economic downturn.

The job flow indicators have been used also to analyze the link between the regulatory environment in which firms operate and changes in employment. This relation has been typically analyzed between countries by evaluating the incidence of different forms of regulation. However, since the interest lies on Bolivia, the study proposes a measure of the labor costs' variability associated with the weight of the regulation at the firm-level. The indicator is the ratio of temporary workers over permanent employees. This rate is inversely related to labor costs, since temporary workers have fixed-term contracts and therefore they have the basic remuneration as their sole labor right, while permanent salaried workers enjoy all the benefits that the labor regulation establishes (job security, compensation for retirement, health insurance, pension contributions, bonus, bonuses for overtime and night work, etc.).

The rate of temporary workers increased from 6 percent in 1992 to 17 percent in 1997, and then decreased to 4 percent in 2001. The increase in temporary workers between 1996 and 1997 could be related to the implementation of the new Pension Law that changed the pay-as-you-go system to a fully founded one. In addition, it is seen that only since 2006, temporary workers became important for firms, reaching a proportion of 67 percent, which could be a sign that regulation became even more stringent in these last years, with permanent job vacancies being apparently filled with temporary employees.



Photographer: Sergio Baltz.

During the economic downturn (1998-1999), registered manufacturing firms with a high proportion of temporary workers were the only type of firms that contributed positively to the net creation of jobs.

Firms were also classified as having low, average or high participation in the temporary workers' rate (divided into three percentiles). The most striking result is that labor cost rationing is the best that firms can do if we consider the creation and destruction of jobs during periods of economic downturn. Firms with a high proportion of temporary workers are the only type of firms that contributed positively to the net creation of jobs in the 1998-1999 period. Apparently, the greater flexibility in

labor costs associated with temporary jobs served as a cushion in the period of low production, and allowed for expenditures rationalization in 2006-2007 when there were higher labor costs due to labor regulation changes.

By employing an econometric analysis with the temporary workers rate, it has been possible to establish an additional stylized fact: Firms with high temporary worker rates (as an approximation of less enforcement of labor rules) have higher job reallocation rates as well as higher net employment growth. We also found that micro firms make a significant negative contribution to the net employment growth rate, precisely because, these firms have a larger job destruction rate. Micro firms in Bolivia are always associated with family firms, with higher labor flexibility. This means that it is very easy for them to eliminate jobs in the case of a fall in sales, for example.

The second method used to investigate the link between "formal employment" and labor regulation starts with the assessment of the best theoretical and empirical framework to estimate labor demand. From this analysis we identified the demand functions and obtained the employment-wage elasticities for production and non-production workers. The results showed that a 1 percent increase in labor costs leads to a 0.499 percent decrease in the demand for production workers and a 0.427 percent decrease of non-production workers. In this regard, the impact of labor regulation costs are extremely significant if we take into account that, on average, they increase the basic salary by 50.76 percent for production workers and 50.94 percent for non-production workers. This

means that firms that only pay basic salaries in the manufacturing sector would increase their labor costs by approximately 51 percent if they decided to be subject to the labor regulation costs. However, entry firms may transfer part of these costs to workers.

Two microsimulations are performed to evaluate the regulation changes implemented in the last years: the basic mandatory salary increase and the social costs increase as a result of the new pension system. The first microsimulation concerns the mandatory basic wage increase applied since 2007, which sought to accompany the changes in prices, (mostly of basic-foods). Even though the policy has been favorable for maintaining the living standards; the prices of manufactured products did not

follow this change, which led to higher real labor costs for the sector. Between 2006 and 2009, the base salary rose 29.36 percent, while prices of manufactured goods grew 18.8 percent, which meant an increase of nearly 11 percent in those costs. Estimates show that this increase led to a drop in demand for employment of 5.7 percent for production workers and 4.8 percent for non-production workers.

The second policy was conceived in order to capture more resources to the pension system. It focused on favoring contributors that, for diverse reasons, do not reach a minimum retirement pension. According to the new Pension Law, enacted in 2010, contributions increased from 12 to 13 times a year, increasing the professional risk



premium by 1.71 percent to 1.85 percent of the annual basic wage. In addition, the law determined a mandatory employer contribution to the Solidarity Fund of 3.25 of the annual basic wage (3 percent share). The two measures resulted in an increase of 3.4 percent of base salary and, according to the estimates; this would have led to a fall in employment of 1.2 percent in the case of production workers, and 1.0 percent for non-production workers.

Estimates of the demand functions also enabled the study of the impact of employment protection, which was measured

Labor regulation has negative effects on the generation of "formal employment"; so costs and benefits must be weighed.

Business (difficulty in hiring, firing, and rigidity of working hours). The results showed a significant negative effect on the demand for production workers, while there was no significant relationship for non-production workers.

CONCLUSIONS

The research showed that labor regulation in Bolivia is associated not only with low coverage, but that it also has negative effects on the generation of "formal

employment". Certainly, the design and implementation of labor standards that favor covered workers without affecting the rest of the workforce is not an easy task.

POLICY IMPLICATIONS, RECOMMENDATIONS

Based on our findings, we suggest some degree of flexibility for permanent employment (subject to labor regulation), and a salary policy according to labor productivity. There are three alternatives that promote some degree of flexibility, but support job security:

i) A bank of hours. This policy consists of adjusting the working hours to production/sales needs of the firms, reducing the working hours during days of low business activity, and accumulating credits in hours for periods of high production/sales. The monthly basic salary does not change over time, and all conditions of credits





and liabilities in working hours should be negotiated between employers and employees. In addition, the working hours could correspond to either part time or full time employment. This policy will reduce in part the need to hire temporary workers in periods of high production/sales.

ii) Proper regulation labor contract compliance. Currently, this issue has many loopholes and is excessively bureaucratic in solving any conflict; thus prejudicing both employees and employers². Certainly one of the main reasons for dismissing employees is their low performance or negligence at work, which should be clearly established in labor contracts. In this regard, a simple, clear and expeditious regulation will reduce the risk of contracting and

Public policies should focus on promoting some degree of flexibility, but with job security.

maintaining permanently these kind of workers (with the consequent positive effects on permanent employment demand).

iii) To generate specific rules for permanent employment in periods of economic downturn, which would imply, among other policies,

reducing working hours and dismissing workers with a basic unemployment insurance also supported by the government.

For the salary policy according to labor productivity we propose:

i) The premise behind Bolivian labor regulation must be changed; which is that “given that employers aim to exploit workers, employees must be protected”. For instance, new currents of thought believe that when workers feel happy at work (and certainly not exploited) they are more productive. In addition, more productive workers that “feel exploited” will have more probability of quitting the job compared with less productive workers, because the former most likely will find a better job. In this

² For instance, institutions may decide not to pay a given wage or a monthly salary without any punishment. In addition, workers may not comply to the labor contract without any punishment. These situations are highly probable in Bolivia because any conflict resolution involves entering a highly bureaucratic and costly judicial system.

regard, Bolivian government should promote the valuation of employees as key assets of firms, and in turn, change the vision of many labor rules.

ii) Under the perspective of employees as key assets of firms, bonuses should focus on productivity. In this regard, we

propose to maintain the Christmas bonus and seniority and monthly border area bonus, as well as merging the profit bonus with the non-compulsory production bonus, the quinquennium, and the monthly Sunday bonus, into one bonus that reflects more accurately productivity and performance.

iii) We recommend avoiding, as far as possible, mandatory increases in real labor costs. Tax theory shows that this kind of direct tax has adverse effects on labor demand, which has been proven empirically in this paper. In particular, the new social cost associated with the new pension system should be financed by other kinds of tax(es).

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"Este trabajo se llevó a cabo con la Universidad de La Plata que recibió la ayuda de una subvención del Centro Internacional de Investigaciones para el Desarrollo, Canadá, bajo la Iniciativa Think Tank www.idrc.ca/thinktank"

