

Labor Market Regulations and Institutions

Labor laws regulate the conditions of wage employment by establishing the types of contracts that can be issued to workers, the length of the workweek, conditions for dismissal, conditions under which contracts can be negotiated collectively, wage floors, and other aspects of the relationship between employees and employers. In some instances, the stated objective of this wide body of rules is to increase the bargaining power of workers; in others, the aim is to balance social, economic, and political objectives. However, judging from the level of contention and disagreement that these laws generate in the region, the balance has seemingly not been achieved. Many employers, economists, and politicians claim that labor regulations impede the ability of labor markets to function well. They argue that, by setting conditions that are not market driven, regulations may force some workers out of work; cause inefficient allocations of employment across sectors, firms, and plants; and drive workers and firms to evade labor laws. Moreover, by impeding the normal functioning of labor markets, regulations may reduce productivity growth. Against this negative backdrop, others point to worrisome high levels of inequality, employment instability, and deplorable labor conditions; they argue that without regulations, work conditions, job stability, and social protection would be even worse.

This chapter documents the nature of regula-

tions and labor market institutions in Latin America and the Caribbean relative to other regions. It also examines the effects of regulations and labor market institutions on the behavior of labor markets in the region. To what extent do regulations and institutions alter the functioning of labor markets? Could labor markets do without them? Are the high rates of unemployment observed in some countries a consequence of poorly designed regulations and institutions? Do regulations force workers and firms to evade labor laws? Is there a trade-off between flexibility and workers' welfare, and if so, in which areas, and what can be done about it?

The chapter borrows from a growing literature that examines the effects of regulations and institutions on multiple dimensions of the labor market. The main conclusions are the following. First, regulations are necessary in labor markets. The issue is not how or when to deregulate, but which set of rules and regulations will improve the functioning of labor markets and whether the rules and regulations already in place achieve such goals. Second, by international standards, Latin American countries have highly protective regulations in labor codes; however, their effect is diluted by the high rates of evasion and noncompliance. Third, although regulations and institutions have the potential to generate welfare gains and improve the functioning of the labor market, oftentimes

they do not do so, but instead create winners and losers. Mandatory benefits and minimum wages, for example, can bring welfare gains if they are set at levels consistent with overall economic conditions, but may cause loss of employment when they are set above such levels. Severance payments might help unemployed workers, but at the same time reduce the employment rates of young and unskilled workers. Unions can benefit their members but also reduce investment and growth. The bottom line is that regulations and institutions do not always work in favor of those that they are meant to protect. Policymakers should carefully evaluate the costs and benefits of regulatory changes.

Two fundamental questions feed the debate on regulations. The first, a favorite of economists, asks whether the labor market needs regulations. From the point of view of economic analysis, with the right set of conditions in place, labor markets by themselves and without intervention would be expected to deliver efficient outcomes. The second question asks what determines labor market regulations. That is, do the rules that govern labor markets respond to market failures or to political, cultural, or legal pressures? Such pressures may have little to do with improving the functioning of labor markets but may still be important for achieving desirable social outcomes. For example, redistributing income from employers to workers or from one group of workers to another might be a desirable social outcome, but labor markets that do this might produce high unemployment or discriminate against certain types of workers. In the worst-case scenario, these outcomes could undo the benefits intended by the law.

Do regulations help or hinder labor markets? To assess whether they could be expected to work without regulations, it is useful to describe how a well-behaved labor market would work. In such an ideal market, many workers would compete for comparable jobs and many firms would compete for comparable workers. Informed workers would examine their options and accept offers of employment that provided the best labor conditions and the highest wages for the same expected effort. Firms that offered poor labor conditions might not

be able to hire workers or might lose workers to other firms. Therefore, all firms would end up offering similar wages for similar work. This process would ensure that wages equaled the value of workers' marginal product (that is, the value of the goods and services that they produce). However, this unregulated labor market would not necessarily ensure adequate conditions and wages for all workers; those with less education or ability might produce little and therefore be paid little in the market.

Although this streamlined depiction of the labor market is useful for describing some aspects of labor market behavior, many other aspects, particularly in developing countries, do not square well with this textbook scenario. For instance, most workers do not have the resources to sustain long periods of job search, reducing their ability to look for the best jobs available. Workers may not have the resources to move to where the jobs are, reducing the competition for jobs and workers in the labor market. Moreover, barriers to the entry of firms in the market, either in the form of credit constraints or red tape, reduce the number of vacancies available to workers. Pervasive market failures mean that labor markets alone would not offer the conditions for workers (and firms) warranted under the perfect market scenario. Therefore, the fundamental question is not how or when to deregulate, but *which set of rules and regulations will improve the functioning of labor markets and whether the rules and regulations already in place achieve such goals*. Box 7.1 lists some guiding principles for labor market regulations.

This chapter relies on new original evidence on whether different types of regulations affect key labor market variables such as job creation and destruction, net employment growth, unemployment, employment rates, wages, the percentage of workers covered by employment laws, and the percentage of self-employed workers. The chapter looks at regulations and institutions in four areas: (1) working conditions, (2) job security, (3) the minimum wage, and (4) labor unions.

Box 7.1 Principles for Designing Labor Regulations

Be Clear about the Objectives

Regulations should ensure balance so that the fundamental rights of workers are protected and yet the labor market is allowed to function adequately. Likewise, the objectives pursued must be distinguished from the instruments for attaining them. Depending on the economic, social, and institutional situation of a country, some instruments are more appropriate for reaching the desired objectives.

Identify the Market Imperfection to Be Resolved

Policymakers should address the issue of how and why the market fails and how regulations would improve the situation.

Analyze Who Gains and Who Loses

Labor legislation must consider the possible beneficiaries as well as who might lose and by how much. Regulations can cause some groups of workers to gain in terms of employment or wages, but they can also make other workers lose. The difficult job for policymakers is to find a compromise between costs and benefits.

Ensure That Compliance Is Feasible

Protection cannot seek to grant benefits that cannot be sustained given productivity, overall economic conditions, and workers' preferences. Large disparities between workers' wages and preferences and the benefits that the law supposedly grants may lead workers and companies to ultimately evade such payments, thereby leading to informal employment.

Understand That Labor Costs Are Set by the Market

Legislation establishes who nominally pays social benefits, that is, whether it is the employer or the worker. Who real-

ly pays over the long run, however, depends on the conditions of the market.

Increase the Share of Workers with Benefits

Regulations should aim for the principle of universality. They will be easier to comply with the greater the correspondence between the benefits granted by the law and the possibility of granting them to workers.

Consider the Impact on Investment and Growth

Calculations of costs and benefits of legislation should include the net number of jobs gained or lost, the change in productivity, the effect of the regulations on the growth of the economy, and their effect on the well-being of workers.

Promote Increased Productivity

Increased productivity is the main mechanism for raising wages. Therefore, legislation should assure that incentives are established so that both companies and workers will invest in technology and training as a way to increase productivity.

Allow for Flexibility

Legislation should be sufficiently flexible so that it can be corrected should unforeseen, undesired effects be detected. Labor legislation will be more flexible the greater is the separation between objectives and instruments. Ideally the objectives should be formulated based on social consensus with a medium or long-range horizon, while it should be possible to vary the instruments in the short and medium run if their design hinders the attainment of the objectives sought or imposes great costs on particular groups.

Source: Pagés and Saavedra (2002).

SOCIAL SECURITY REGULATIONS

A large share of labor market regulations aims at setting minimum standards for the conditions of wage employment. Another important group of regulations establishes conditions for qualifying for social security benefits and the contributions to such programs. Although different in nature, both

sets of regulations mandate some transfer from the employer to the worker, which might be in the form of a paid vacation, overtime premium, or contribution to a social security program. Employers often argue that providing these benefits makes hiring workers less attractive. For many others, regulations are essential for keeping the workplace humane.

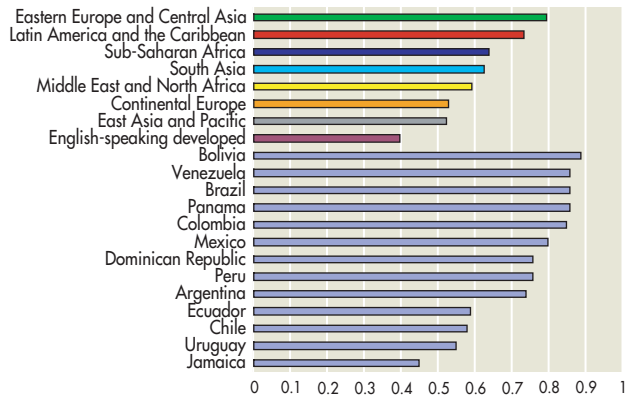
How Does Latin America Compare with Other Regions?

Labor laws in Latin America are protective by international standards. Figure 7.1 provides a comparison of an index of conditions of employment in world regions and Latin American countries. Higher values of the index indicate a greater number of regulations and more protective regulations for workers. The index captures what is written in the laws and regulations of each country on the maximum number of hours in a workweek, overtime work, night shifts, holidays, hours of work, maternity leave, other types of leave, and vacation days.¹ It should be emphasized that this is a “de jure” indicator, that is, it does not reflect whether these regulations are enforced; it only measures conditions according to the letter of the law.

Surprisingly, less developed countries have more statutory working conditions than developed countries do. Latin America is only surpassed by Eastern Europe and Central Asia in its level of de jure protection of workers. Within Latin America, the labor codes of Bolivia, Venezuela, Brazil, and Panama provide the most protective working conditions to workers. Jamaica, Uruguay, and Chile have the least protective regulations. Both across world regions and within Latin America, regulation of employment conditions tends to be more protective in countries that are poorer and in those with a legal system based on French civil law (Djankov and others 2003).

Social security benefits (and contributions) are lower in Latin America and other developing countries than in developed countries. In Figure 7.2, the social security index is the sum of three indices summarizing benefits received from old age pensions, health, and maternity and unemployment insurance programs.² The index takes a greater value for programs with greater benefits and for those with greater benefits relative to contributions. According to this measure, social security regulations are less protective of workers in Latin America than in English-speaking developed countries and countries in Eastern Europe and Central Asia. However, the index for Latin America is higher than for other developing regions, includ-

Figure 7.1 Conditions of Employment
(Index, 0-1)



Source: Djankov and others (2003).

ing East Asia. Within Latin America, Jamaica, Bolivia, and Peru have the lowest social security benefits, whereas Colombia, Panama, and Argentina have the highest level of protection, with levels that are above the average in English-speaking developed countries.

These indicators suggest that, at least on paper, Latin America is well endowed with laws and regulations aimed at improving the welfare of workers. The indicators also suggest that, in many aspects, lawmakers in Latin America have gone above and beyond the levels provided in other countries. Are Latin American labor markets overburdened by these regulations?

Cost of Regulations

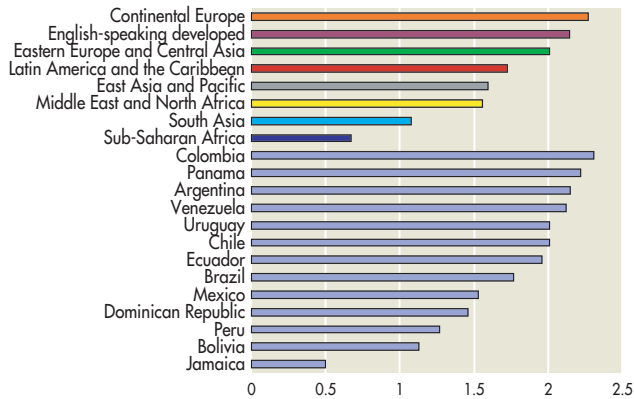
If regulations that seek to improve working conditions and benefits did exactly that at no cost, the task of lawmakers would be rather simple. They would just have to agree on which benefits the laws

¹ See Djankov and others (2003) for more on calculating this measure.

² The source of this index is Djankov and others (2003). The index is the normalized sum of the following components: the difference between retirement age and life expectancy; months of contributions required for normal retirement; contributions to pensions, disability, health, and unemployment insurance programs; the replacement rate for pensions; the replacement rate for health insurance benefits; months of contributions to qualify for health insurance benefits; and the waiting period for health insurance benefits.

Figure 7.2 Social Security

(Index, 0-1)



Source: Djankov and others (2003).

and regulations should address and provide resources for enforcement. Unfortunately, it is not that simple. Regulations are mandatory transfers from employers to employees and the effect of such regulations on labor market outcomes depends on who effectively bears the cost of such transfers. A transfer does not necessarily imply an extra cost for employers or a disincentive to hire labor; this would depend on whether employers are able to transfer the costs to workers in the form of lower pay.

Consider, for example, a new regulation that increases mandatory holiday time from two to four weeks. Would this provision be a gift for workers and an extra burden for employers? Employers would likely respond by offering lower wages to new hires to compensate for the increase in costs. Some workers would find the lower wages unacceptable and would withdraw from the labor market, while others would be willing to work for lower wages because they valued the extra vacation time. If workers were willing to take a pay cut exactly equivalent to two weeks of salary, total output would decline and leisure time would increase, but employers would not bear any extra cost. Alternatively, if workers were willing to take a pay cut equal to less than two weeks of pay, employment and wages would decline and the cost of the regulation would be borne partly by workers (via lower wages) and partly by firms (via higher costs). Thus, the inci-

dence of a mandatory transfer is not determined by regulations but by the workings of the labor market.

One implication of this analysis is that regulations that mandate benefits for which workers have a high willingness to pay will increase the welfare of workers without affecting the labor market, while regulations or benefits for which workers have little desire will lead to loss of jobs. This is particularly relevant in the case of contributions to social security programs. In many countries in Latin America, demographic trends and actuarial imbalances imply that workers would get less out of such programs than they did in the past, while contributions rise (Lora and Pagés 1997). These effects might reduce the willingness of workers to pay for social security programs.

Another implication is that if minimum wages or other wage floors prevented the adjustment of wages, regulations that in principle could be neutral might reduce employment and increase unemployment. This suggests that similar regulations could have different effects across countries due to interactions with other regulations.

Empirical Evidence

What is the empirical evidence on these effects? Are workers willing to pay for benefits? Does employment decline substantially after regulations increase benefits? Drawing on the empirical evidence, it is important to assess the existence and magnitude of possible trade-offs between mandatory benefits and employment.

A simple and telling empirical exercise correlates measures of regulations with labor market and economic performance measures across a sample of Latin American and developed countries. The results give an indication of whether countries with more stringent regulations have better or worse performance. Since the level of development of a country is correlated with performance, the analysis controls for per capita gross domestic product (GDP). The results reported in Appendix Table 7.1 suggest that more protective working conditions and higher social security contributions (and benefits) are correlated with lower employment rates and lower employment growth across

countries. The correlation with unemployment is positive but not statistically significant, suggesting that losses in aggregate employment result in people withdrawing from the labor force rather than remaining unemployed. However, higher social security benefits are correlated with a higher percentage of long-term unemployed workers (one year or more). This is consistent with a picture in which higher contributions and benefits lead to lower job creation and greater difficulty in finding jobs.

The evidence also suggests that more protective conditions of employment increase self-employment. Thus, there is some evidence that the higher are the transfers mandated from firms to workers, the lower is the creation of jobs in the wage employment sector. There is no evidence, however, that higher social security contributions lead to more self-employment.³ Finally, there is some correlation at the cross-country level between higher social security benefits and lower total factor productivity growth.

Although these correlations are suggestive, they are based on a limited number of countries and observations. Some other studies provide results based on more disaggregated data or longer time horizons. For example, Heckman and Pagés (forthcoming) survey the existing literature on the effects of mandatory benefits and social security contributions on wages and employment. They conclude that, "All in all, the available evidence for Latin America suggests that at least part of the cost of non-wage benefits is passed on to workers in the form of lower wages." A few studies find evidence that workers pay for the entirety of benefits, but the majority find that employers bear a share of the cost.⁴ According to Heckman and Pagés, based on a panel of cross-country and time-series information for Latin America and developed countries, in Latin America, workers absorb between 52 and 90 percent of the cost while employers pay the rest.

There are effects on employment as well. Heckman and Pagés estimate that an increase of 10 percentage points in social security contributions leads to a 1.7 percentage point decline in overall employment-to-population rates. Although these effects are much smaller than the ones that would

be obtained if employers bore all the cost, they are still significant. These estimates are consistent with those obtained from individual country studies and the regressions reported in Appendix Table 7.1. Therefore, the evidence is fairly robust that although a large share of benefits is likely to be paid by employees, mandatory benefit regulations have a cost in terms of lower employment.

Given that workers pay for a large share of the benefits, it could be argued that labor market regulations do not really make workers better off. However, this argument does not take into account that regulations may help to achieve results that could not be attained by individuals in an uncoordinated manner. For instance, a worker might be willing to negotiate a pay cut in exchange for paid leave, but may not dare to do so for fear of being labeled as lazy or uncommitted by the employer. If all workers wanted more vacation time but individually could not attain such a goal, a labor market regulation that specified minimum vacation time would likely to be welfare enhancing even if workers fully paid for such a benefit.

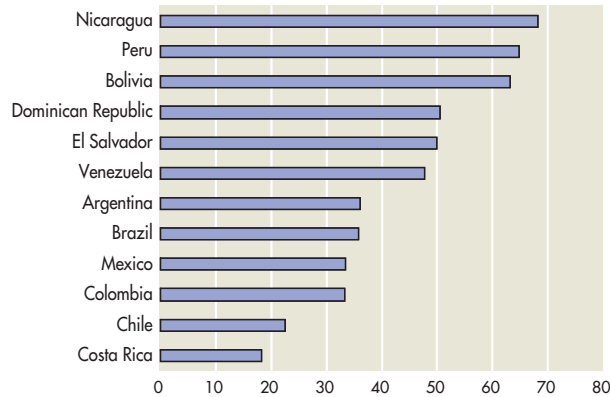
However, a country would suffer from excessive regulation if lawmakers went beyond what workers were willing to pay or contribute in order to achieve those benefits. This issue is particularly relevant in the context of low and middle-income countries. If poorer people value the goods that can be afforded with cash income (such as food, clothing, and housing) more than richer people do, overly ambitious regulations might reduce wages below what poor workers would be willing (or able) to accept. In this case, workers might be willing to exchange lower protection for higher wages.

Excessive protection may be part of the explanation of why compliance with social security regulations is low. As mentioned in chapter 1, three out of five workers in Latin America are not cov-

³ It would have been useful to correlate mandatory benefit measures with the percentage of workers in the social security system; however, these data are available for only a few countries.

⁴ Gruber (1994) for the United States and Gruber (1997a) for Chile find that workers bear all the costs. Mondino and Montoya (forthcoming) and Maclsaac and Rama (1997) find that the cost is shared by employers and employees.

Figure 7.3 Percentage of Wage Employees without Social Security Benefits, 1990s



Source: IDB household surveys.

ered by mandatory social security programs. This is not just because a large share of workers is self-employed and therefore not required to contribute.⁵ Fifty percent or more of employees are not covered in Nicaragua, Peru, Bolivia, the Dominican Republic, and El Salvador (see Figure 7.3). Excessive protection may also explain why in Latin America it is less likely that social insurance programs cover poorer workers than middle or higher-income workers. Of course, an alternative explanation is that low-income workers are more likely to be employed in firms that evade regulations, but then it would be necessary to explain why poorer workers are concentrated in these firms to begin with. Excessive protection may also explain why younger workers (who are likely to be covered by the contributions of other members of the household) are less likely to be covered than prime-age and older workers.

Table 7.1 and Figure 7.4 show some regularity in the coverage of social security programs in Latin America. Encouragingly, male and female wage workers have on average the same coverage rate. However, coverage increases with the level of education. On average, while only 45 percent of workers with incomplete primary education are protected, coverage increases to 85 percent for workers with at least some tertiary education (Figure 7.4, panel a).

Across industries, agriculture and construction are the least protected sectors (around 40 per-

cent coverage), while the utility, community and social services, and financial services sectors have high coverage (around 70 percent on average). In addition, 67 percent of urban workers are protected, compared with 52 percent of rural workers (Figure 7.4, panel b).

The head of the family is more protected than the spouse, siblings, and other relatives living in the same house. Social security programs protect the prime-age worker more than the young: coverage increases from 52 percent for workers between 15 and 24 years old to 71 percent for workers between 24 and 49 (Figure 7.4, panel c).

Finally, only 20 percent of workers in very small firms (fewer than five employees) are protected; 82 percent of workers are protected in companies with more than 100 employees. Coverage is biased toward high-wage earners: while only 25 percent of workers who earn the minimum wage have coverage, 80 percent of workers with salaries greater than three times the minimum wage are protected (Figure 7.4, panel d).

Poor Performance in the 1990s

Is excessive regulation to fault for the poor performance of labor markets during the 1990s? Increased benefits have a cost in terms of total employment rates. They may also have a cost in terms of coverage of the system because many workers and firms may pull out of systems they cannot afford or to which they do not want to contribute. But what about the changes experienced during the 1990s? Do mandatory benefits explain the increase in unemployment and decline in covered employment?

Social security contributions increased in some countries (most noticeably in Colombia, El Salvador, Mexico, Uruguay, and Brazil) in the 1990s and this effect is likely to have increased unemployment rates. However, regressions of unemployment changes against changes in social security contributions and GDP growth confirm that social security contributions are positively associated with

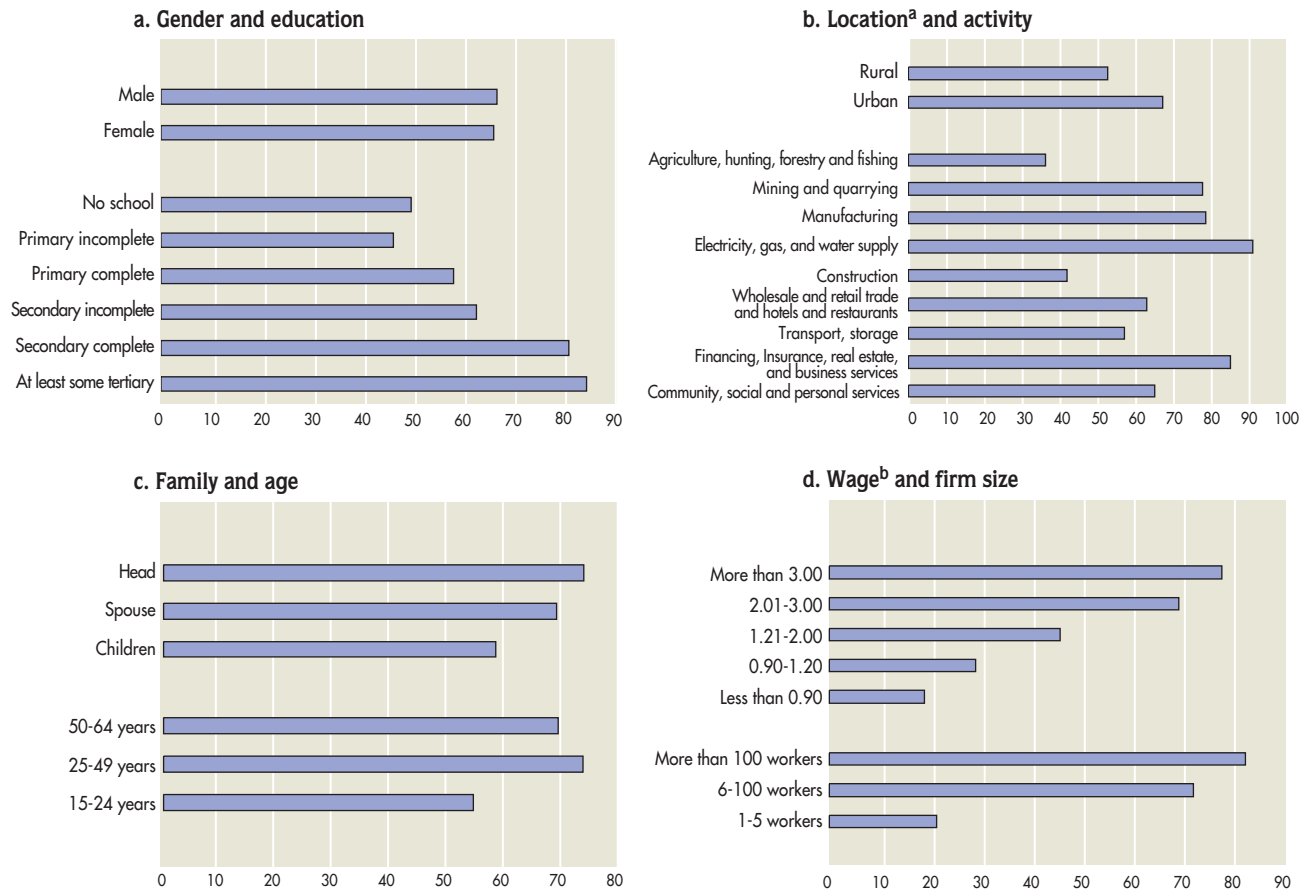
⁵ In some countries, contributions are also mandatory for self-employed workers.

Table 7.1 Social Security Coverage in Latin America*(Percentage of salaried employment)*

Worker characteristic	Argentina 2001	Brazil 1999	Bolivia 1999	Costa Rica 2000	Chile 2000	Mexico 2001	Peru 2000
<i>Gender</i>							
Male	66.34	64.71	34.86	73.84	79.03	66.66	36.15
Female	60.69	63.57	40.80	68.18	72.82	68.22	33.17
<i>Education</i>							
No school		35.36		49.28	56.00	43.12	
Primary incomplete	37.36	46.13	15.11	55.49	59.21	45.94	14.38
Primary complete	50.31	59.21	5.46	64.63	67.07	56.71	17.71
Secondary incomplete	50.59	60.88	22.48	71.86	70.06	64.13	17.47
Secondary complete	71.69	81.80	40.48	84.99	82.29	79.71	30.53
At least some tertiary	79.61	88.64	61.51	90.07	88.84	79.83	55.80
<i>Activity</i>							
Agriculture, hunting, forestry, and fishing		31.91	5.98	62.69	61.36	40.81	6.27
Mining and quarrying	86.04	67.99		96.54	93.50	69.48	
Manufacturing	66.86	78.79	29.43	79.05	83.24	80.72	38.83
Electricity, gas, and water supply	86.03	94.25		94.62	89.34	91.04	
Construction	31.96	41.93	11.68	53.04	72.82	42.83	16.38
Wholesale and retail trade, hotels and restaurants	52.76	67.50	24.41	71.35	79.23	63.12	21.18
Transport and storage	57.17	78.18	17.08	74.53	73.39	53.67	20.63
Finance, insurance, real estate, and business	79.79	86.94			85.55	84.91	49.20
Community, social, and personal services	80.83	65.26	64.12	83.44	76.70	64.93	53.27
<i>Age</i>							
15–24	44.06	49.56	12.20	55.85	62.18	55.81	10.25
25–49	68.95	70.62	45.27	78.48	79.18	71.85	43.02
50–64	67.25	65.36	49.73	76.86	79.10	66.82	46.34
<i>Location</i>							
Urban	63.93	67.50	38.54	76.54	78.54	67.25	39.86
Rural		44.00	26.22	67.11	61.68		17.16
<i>Family</i>							
Head	71.44	70.09	43.46	81.58	81.96	71.56	43.27
Spouse	64.24	66.77	57.92	63.87	73.80	69.15	39.16
Children	54.67	56.51	19.00	63.60	70.69	61.49	26.01
<i>Firm size^a (number of workers)</i>							
Very small	25.78	37.77	12.26	42.30	52.32	16.45	8.17
Small	57.80	62.07	14.22	61.60	70.34	46.03	27.46
Medium	81.57	85.43	42.24	76.09	79.55	74.90	49.81
Large	87.60		61.51	90.52	86.58	85.94	65.17
Very large	92.38		72.08		91.59	90.02	73.80
<i>Wage (multiple of minimum wage)</i>							
Less than 90 percent	50.41	11.65	10.58	62.46	53.53	18.68	11.63
90–120 percent	25.96	41.18	13.39	81.96	75.49	28.67	28.82
121–200 percent	45.39	60.03	16.68	87.55	84.64	42.50	43.68
200–300 percent	65.45	73.61	28.79	86.08	88.46	62.33	68.75
300 percent or more	77.26	83.66	55.67	77.85	82.39	76.66	67.54

^a For Argentina and Mexico, very small firms have 1-5 workers; small firms, 6-15; medium firms, 16-50; large firms, 51-100; and very large firms, more than 100. For Brazil, very small firms have 1-5 workers; small firms, 6-10; and medium and other firms, 11 or more. For Bolivia, very small firms have 1-4 workers; small firms, 5-19; medium firms, 20-49; large firms, 50-99; and very large firms, more than 100. For Costa Rica, very small firms have 1-5 workers; small firms, 6-9; medium firms, 10-19; and large and very large firms, 20 or more. For Chile, very small firms have 1-5 workers; small firms, 6-9; medium firms, 10-49; large firms, 50-199; and very large firms, 200 or more. For Peru, very small firms have 1-5 workers; small firms, 6-10; medium firms, 11-50; large firms, 51-100; and very large firms, more than 100.

Source: IDB household surveys.

Figure 7.4 Percentage of Employed Wage Workers with Social Security by Category Median for Latin America

^a Includes only countries for which national data are available.

^b Multiple of minimum wage.

Note: The figure includes the countries and years in Table 7.1.

Source: IDB household surveys.

unemployment rates, but that the variance in unemployment explained by social security contributions is very low. This suggests that although social security regulations are relevant, other factors, such as low and volatile economic growth, have been more important in explaining the increase in unemployment rates. (See chapter 4 for an analysis of the relation between economic performance and unemployment.)

During the 1990s, many countries in the region implemented reforms transforming pay-as-you-go systems into full or partial capitalization systems. One of the advantages of such schemes is that they tend to increase the link between contributions and benefits; therefore, these schemes are likely to increase the willingness of workers to accept lower

wages to participate in such programs. However, at the same time, in many countries, contributions had to increase in order to reduce actuarial imbalances. The effect of reforms on employment is therefore ambiguous: higher links between contributions and benefits may reduce employment costs while higher contributions can raise them.

There is no evidence that pension reforms have increased the willingness of workers or firms to pay for benefits. Heckman and Pagés (forthcoming) show that, if anything, the negative effect of social security contributions on employment increases after reforms. The explanation may lie in the fact that as workers move from pay-as-you-go to the capitalization system, their contributions not only finance individual accounts but also the pen-

Box 7.2 Effects of Mandatory Benefit Regulations*Indications*

Mandatory benefit regulations provide valuable benefits for workers such as paid vacation, maternity leave, health benefits, pensions, work injury insurance, and unemployment insurance. The benefits are especially appropriate when private negotiation between workers and employers cannot achieve the same objective as mandatory regulation.

Side Effects

Benefits should be legislated with care because they can have undesired side effects. Benefits need to be valued by workers, that is, workers should be willing to pay for them in terms of lower wages. If mandated benefits are too high for workers and firms to afford, they are likely to seek to evade the law. Regulating mandatory benefits that are not compatible with workers' or firms' willingness to pay could cause the following side effects:

- In countries with good rule of law and enforcement, reduced employment, especially for young, female, and unskilled workers.
- In countries with poor enforcement, movement of workers, particularly young, female, and unskilled workers, into uncovered sectors without any protection. This is the case in many Latin American countries where ambitious mandatory benefit regulations result in good benefit packages for a few and no protection at all for the majority of workers.

Caution

After an increase in benefits, the following indicators should be monitored: employment and unemployment rates (particularly for female, young, and unskilled workers), wages, and coverage of benefits. This last indicator is especially important because a decline in the percentage of workers that have access to these benefits might be a signal that they are set too high.

sions of those left in the old system. That is, workers may have little willingness to pay for contributions that clearly fund someone else without offering anything in return.

Improving Mandatory Benefit Regulations

Mandatory benefit regulations improve the welfare of workers in the formal sector (see Box 7.2 for a summary of the benefits and costs of mandatory benefit regulations). However, in addition to the employment cost of these policies, the current system of protection *ends up excluding the majority of the workforce*. This is obviously a worrisome and inequitable situation, more so because there are few alternative ways to obtain protection against unemployment, sickness, or old age risk outside the national social security system. How can countries establish an appropriate level of protection for the widest possible majority of workers?

Countries should examine whether the level (and bundling) of benefits prescribed by their national labor code is optimal, with the understanding that more is not necessarily better. Thus, benefits that are too ambitious in relation to workers' level of productivity and wages may force many workers and firms to opt out and remain or become uncovered. Therefore, it is important to assess how benefits (and contributions) relate to wages and the size and nature of risk, and whether workers can buy or subscribe to different bundles depending on worker or industry characteristics. For instance, self-employed workers might be more likely to contribute to the social security system if they could buy disability insurance without contributing to the pension program. Unbundling the contributions to these programs could be a way to extend protection to uncovered workers. Similarly, separating health insurance from pension contributions could reduce the number of workers with no protection because health insurance tends to be in higher demand than old age insurance.

Another possible way to expand coverage would be to increase the resources devoted to enforcement. Adequate enforcement of laws and regulations is a pending subject in most Latin American countries. It should be made into a rule that any regulation or law has to be assigned the necessary resources to enforce it. However, it should also be made a rule that all regulations or laws should only be approved after an extensive

analysis of their benefits and costs. The empirical evidence discussed above suggests that greater enforcement could bring greater compliance but at the cost of lower employment rates.

Finally, it is important to mention that, contrary to what is often argued, shifting the financing of social security systems from payroll contributions to income or consumption taxes is not likely to reduce the employment costs of such programs. First, workers might be more willing to pay for programs whose benefits they know and value than for general taxes whose uses are less well known. Second, if contributions are not valued (and therefore are considered taxes), then taxes on labor operate through the wedge between labor costs for employers and the net wage that a worker receives. In general, shifting from wage and payroll contributions to income or consumption taxes (by an equivalent amount) does not alter this difference. To see this, assume a country where workers and firms pay a contribution of 10 and gross wages are 95. In this economy, firms' cost of labor is 105, while net wages are 85. Assume now that a reform eliminates social security contributions and increases income taxes to 20. Since the workers are only willing to work for 85 or more and firms are only willing to employ at 105 or less, firms will pay wages of 105 and net wages will be 85. This implies that the reform would not alter the disemployment effects of the original policy; it only shifts the nominal burden of the tax.⁶

JOB SECURITY REGULATIONS

One of the objectives of labor laws in Latin America, as well as in other parts of the world, is to promote job stability. Labor codes mandate a minimum advance notice period prior to termination, specify which causes justify dismissal, and establish the compensation to be awarded to workers (and paid by the firm) depending on the cause of termination. Labor codes also limit or forbid the use of contracts that can be terminated at no cost (such as temporary contracts). In some cases, labor codes require firms to be involved in lengthy con-

sultations with the authorities prior to undertaking collective dismissals; in other cases, workers can be reinstated in their post if a labor court judges the cause of separation to be unfair.

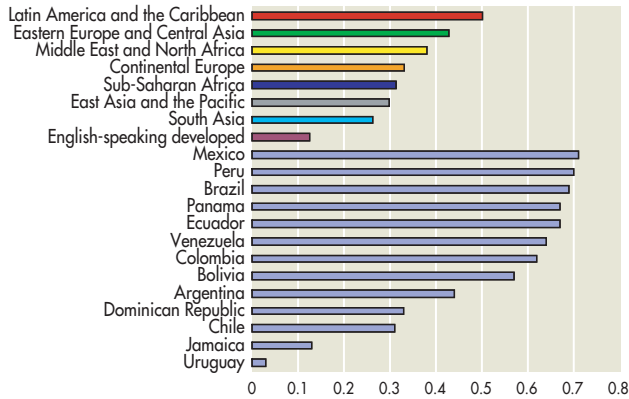
Regulators seek to limit the dismissal of workers by making it costly for employers, especially when insurance, such as unemployment insurance, is not available. However, although some aspects of job security (such as advance notice and severance pay) can be considered an insurance mechanism, attempting to stabilize employment may have costs. Indeed, it is argued that excessive rigidity increases the cost of hiring labor, and that restrictions on hiring and firing are incompatible with a highly volatile economic environment. This section looks at whether Latin American countries have more or less job security provisions than other countries in the world. It also examines the extent to which claims of excessive rigidity are supported by the empirical evidence.

The analysis uses information gathered by Djankov and others (2003) to compare job security provisions across world regions. The job security index constructed by these authors is a normalized sum of the following four dimensions of protection: (1) whether employment at will is allowed and whether termination for economic reasons is considered a fair cause for dismissal, (2) procedures that an employer must follow and approvals it must seek prior to individual or collective dismissals, (3) advance notice and severance payments, and (4) whether job security is enshrined in a country's constitution. In Figure 7.5, Latin America and the Caribbean is the region with the most protected job security. English-speaking developed countries have the lowest levels of statutory protection. Within Latin America, Mexico, Peru, and Brazil exhibit high job security according to this measure, and Uruguay, Jamaica, and Chile have low job security.

⁶ Shifting taxes from labor to total income will increase the price of capital relative to labor. However, if both the elasticity of substitution between capital and labor and the capital share of earnings are low, then a shift in the relative price of capital will not affect the employment costs of social security programs.

Figure 7.5 Job Security

(Index, 0-1)



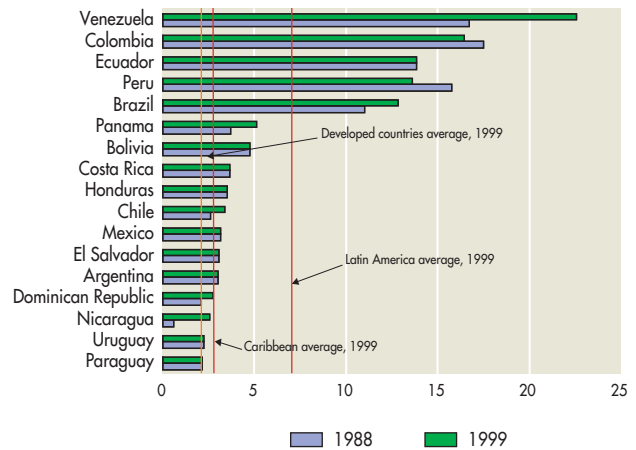
Source: Djankov and others (2003).

Heckman and Pagés (forthcoming) provide an alternative measure of job security that takes into account the monetary transfer that by law a firm has to pay to a worker on dismissal. The measure includes advance notice, severance pay, and mandatory contributions to individual savings accounts.⁷ Other costs, such as those associated with consultations with the authorities prior to collective dismissals, are not considered. Although this is a less complete measure of employment security, it has the advantage that it records variations in time associated with recent labor reforms. In addition, it provides a measure of the level of benefits awarded to workers in case of separation.

Figure 7.6 summarizes the ranking of countries and the changes in regulation recorded by the Heckman and Pagés measure for Latin American countries. It shows that dismissing a worker in Latin America involves a larger mandatory transfer to the worker than it would in developed countries. However, the ranking of countries is somewhat different when job security is compared according to this measure. At the end of the 1990s, firms in Venezuela, Colombia, and Ecuador had the highest mandatory transfers to workers, and dismissed workers in Nicaragua, Paraguay, and Uruguay received the lowest benefits. Mexico, which ranks as highly protective according to Djankov and others (2003), appears relatively flexible in the Heck-

Figure 7.6 The Cost of Job Security, 1988 and 1999

(Multiple of monthly wage)



Source: Heckman and Pagés (forthcoming).

man and Pagés measure. This is because a large part of employment protection in Mexico comes in the form of lengthy procedural requirements rather than a high mandatory transfer.

Contrary to the common belief, employment protection for permanent workers did not weaken in most countries in the 1990s. At the end of the 1980s, labor reforms in Colombia and Peru reduced the total amount of the transfer to be paid to workers. In Brazil, Venezuela, Chile, the Dominican Republic, Nicaragua, and Panama, labor reforms increased this amount. However, in many cases, reforms increased one component of the transfer and reduced another one. Thus, for instance, Venezuela and Panama reduced severance pay considerably, but increased mandatory contributions (or payments) to individual savings accounts. In Colombia, reforms reduced the amount that firms paid to such savings accounts and increased severance payments for workers with more than 10 years of seniority.⁸

⁷ In a number of countries in Latin America, labor codes mandate firms' periodic contributions to workers' individual accounts. The funds deposited in these accounts plus interest income can be withdrawn only in the event that a worker separates from a job either voluntarily or involuntarily.

⁸ Reforms also eliminated these workers' right to sue for back pay and reinstatement; however, this is not captured in the index.

Patterns of job security across countries are inversely correlated with income levels (Heckman and Pagés forthcoming; Djankov and others 2003). This correlation suggests that poor countries make up for the lack of well-developed insurance markets or state-run unemployment insurance systems with mandatory job security provisions. For countries with weak institutions and states, it is easier to mandate firms to pay benefits to workers or to impose constraints on layoffs than to set up a system in which firms and workers contribute to an insurance pool from which workers draw when unemployed. The legal tradition of a given country is also an important determinant of its level of job security regulation. Countries that have adopted the French legal system, as most Latin American countries have, tend to have higher regulations than other countries have. The English-speaking Caribbean countries, which belong to the common-law legal system, tend to be less regulated.

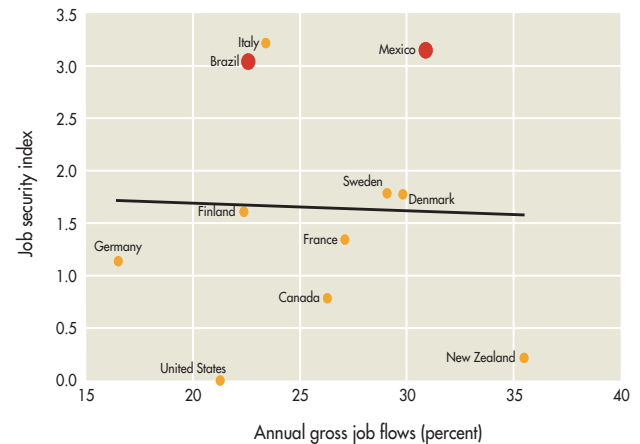
Given the high levels of employment protection prevalent in Latin America (judging by the labor codes), it is important to assess its effects on the labor market. If such policies bring unwanted costs, then these effects are going to be more pervasive in Latin America than in other regions of the world.

In general, cross-country regressions of the two job security measures discussed above on a set of indicators of performance, controlling for income per capita, do not provide much evidence that job security regulations are significantly correlated with measures of performance. However, given the limited number of countries and periods, it is important to rely as well on other studies using more disaggregated data and longer time horizons. The following subsections summarize the literature on the effects of job security.

Turnover in the Labor Market

How do the high levels of de jure job security found in Latin America compare with actual turnover rates? Does higher employment protection increase job stability for Latin American workers? Since the main objective of job security laws is to make dismissals costly, it would be expected that countries with higher levels of employment protection would

Figure 7.7 Job Security and Annual Gross Job Flows



Source: Djankov and others (2003) for the job security index, and Figure 2.1 for annual gross job flows.

have lower turnover rates. Surprisingly, the comparison of turnover rates across countries does not show this effect. Figure 7.7 plots average turnover rates and the Djankov and others (2003) job security measure across a sample of OECD countries and two Latin American countries.

Job turnover is the sum of the job creation and job destruction figures for a given year. Job creation is computed as the percent increase in employment at the plant or establishment level for all plants whose employment increased over the course of the year, weighted by each plant or establishment's employment rate. Job destruction is computed in a similar manner. A job turnover rate of 25 percent indicates that one in four jobs is created or destroyed each year.⁹

One of the most remarkable stylized facts of labor markets across the world is that rates of job creation and job destruction are large regardless of the level of job security. For instance, countries with low employment protection, such as the United States and Canada, have similar turnover rates as Italy and France, which have higher job security. Moreover, Mexico and Brazil, which have higher employment protection than the United States,

⁹ Chapter 2 offers a more extended discussion of job creation and destruction in Latin America.

both have higher turnover rates. This is particularly surprising considering that turnover rates for Mexico and Brazil are computed using data from social security registries that capture turnover in the formal sector. Does this imply that more protective job security measures do not reduce turnover in the labor market? The economic literature offers at least three explanations for this puzzling stylized fact.

First, Bertola and Rogerson (1997) explain the similar rates of job creation and destruction found in Continental Europe (rigid) and the United States and Canada (flexible). They argue that countries with high job security are also likely to have institutions that promote wage rigidity.

Second, job security provisions may not prevent firms from closing or downsizing their labor force in the face of permanent negative shocks. For instance, Albaek, Audenrode, and Browning (1999) compare the nature of mass layoffs in Belgium (high employment protection) with those in Denmark (low employment protection) and find that most of the layoffs in Denmark were attributed to firms adjusting their labor force, while in Belgium, a large share was attributed to firm closures. Blanchard and Portugal (2001) find evidence for OECD countries indicating that job security reduces short-term employment flows (that is, those computed between one quarter and the quarter before), while it may not affect yearly flows (computed between one year and the year before). This suggests that the main effect of job security on turnover may be to reduce short-term seasonal fluctuations and not the necessary reallocation induced by permanent shocks.

Third, crude measures such as gross job flows do not control for the size of macroeconomic shocks or other relevant differences across economies that may be important in determining turnover. Some recent studies suggest that, controlling for these differences, job security affects turnover in the expected way. For instance, Kugler (forthcoming) examines the effect of job security on the duration of employment in Colombia. She compares the average duration of a job before and after 1990, when a labor reform reduced certain components of job security. She finds that job insta-

bility increased after the reforms and that this change occurred across all sectors and not only in the tradable sectors (as would be expected if these changes were mostly caused by contemporaneous trade reforms). Gonzaga (2003) explores the effect of a constitutional reform in Brazil that substantially increased job security in 1988 on the ability of firms to adjust employment to economic shocks. Higher adjustment implies less job stability as firms swiftly modify their labor forces in response to economic shocks. Gonzaga finds that employment responded less to changes in economic activity after 1988. However, the change in the adjustment seems to be quite small.

Appendix 7.1 presents a measure of the speed of adjustment of employment levels following the methodology of Caballero and Engel (1993). This measure captures how swiftly employment in a given sector adjusts to changes in economic activity; it is an average across sectors for each country. The estimates suggest that higher dismissal costs are associated with lower speed of adjustment. Thus, although international comparisons of gross job flows suggest that all countries tend to have high rates of job turnover, the evidence suggests that job security regulations reduce turnover in the labor market.

Costs of Job Security

What about costs? Are labor markets incurring large efficiency losses as a result of job security policies? This section examines the evidence on three fronts: employment and unemployment, the duration and composition of employment, and productivity growth.

Employment and Unemployment

In some respects, job security regulations can be interpreted as mandatory benefits, so the analysis of the latter also applies to these regulations. Thus, the impact of job security provisions on employment depends on whether the cost associated with such provisions can be transferred to workers in the form of lower pay. If workers were willing to accept lower average wages in exchange for higher

employment security plus compensation in case of dismissal, then the policy could make workers better off without affecting the behavior of the labor market.

However, job security regulations differ from regular mandatory benefits in that the regulations specifically seek to alter firms' decisions regarding hiring and firing workers. The result is fewer layoffs in bad times, but also less hiring in good times. In the face of positive shocks, firms become more conservative in their hiring decisions in order to avoid costly adjustments in case economic conditions do not turn out as expected. This effect implies that even if the cost of severance pay and other job security provisions could not be fully shifted to workers, employment rates may not decline because the negative effect of fewer hires could be outweighed by the effect of reduced layoffs. In fact, the empirical evidence on the effect of job security on employment and unemployment rates is far from conclusive. Addison and Teixeira (2001) survey the literature for developed countries and report that while a large group of studies find a negative effect of job security on employment, others do not. The evidence on the effects of job security on unemployment is equally ambiguous.

Heckman and Pagés (forthcoming) review the literature for Latin America and find that while some individual country studies suggest that regulations promoting job security reduce employment, cross-country time-series estimates for Latin American and OECD countries do not show those results. The strongest results are found by Saavedra and Torero (forthcoming) for Peru and Mondino and Montoya (forthcoming) for Argentina. In both studies, the authors find that greater job security is associated with lower employment rates in manufacturing. However, studies examining labor reforms in Chile and Brazil find no evidence of statistically significant effects.¹⁰

Thus, although some studies suggest that reducing job security in Latin America holds the promise of higher employment and lower unemployment rates, others do not. These results may imply that the effects of labor market deregulation differ across countries, depending on the circumstances accompanying such reforms.

Duration of Unemployment and Composition of Employment

Two areas in which job security regulations are found to have important and undesirable effects are: the duration of unemployment and the composition of employment by age, gender, and skill. The evidence suggests that more stringent job security provisions tend to increase the duration of unemployment. This is explained by a decline in hiring rates. As firms become more reluctant to hire workers (for fear of expensive dismissal costs in the future), unemployed workers have greater difficulty finding new jobs.¹¹ For Colombia, Kugler (forthcoming) finds that after a reform in 1990 that reduced job security, the average duration of unemployment declined from its prereform levels. Her analysis suggests that job security provisions simultaneously increase the duration of employment and the duration of unemployment. Thus, it is possible that job security provisions create higher perceptions of insecurity among workers as the welfare losses associated with unemployment increase.

The evidence also suggests that job security provisions create winners and losers. In a study of OECD countries, Nickell (1997) reports that while job security does not seem to have an effect on prime-age male employment rates, it is associated with lower employment rates for women and youth. Two studies on Chile find that job security provisions are not neutral across age and skill groups. More stringent job security regulations are found to bias employment toward prime-age and older workers while reducing the employment share of younger workers. Moreover, higher employment protection is associated with a decline in the demand for unskilled workers relative to skilled workers (Pagés and Montenegro 1999; Montenegro and Pagés forthcoming). The effects are quite sizable. For instance, a 10 percent increase in job security reduces the employment rate of

¹⁰ See Pagés and Montenegro (1999) for Chile and P. de Barros and Corseuil (forthcoming) for Brazil.

¹¹ See Nickell and Layard (1999) and the references therein.

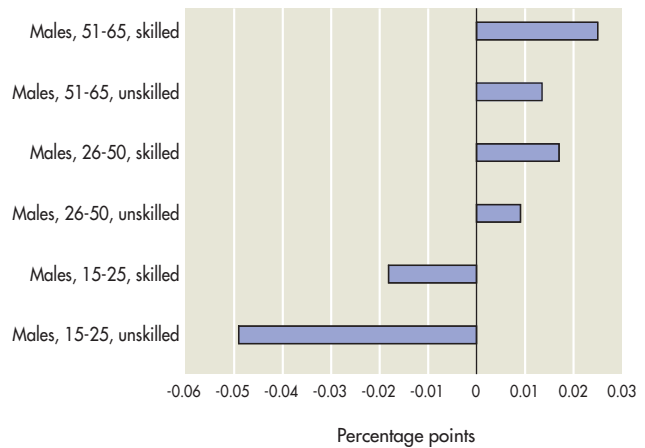
young, unskilled workers by almost 0.5 percentage points (see Figure 7.8). For skilled youth, the effect is smaller but still significant. For older workers, these effects are reversed and employment rates increase with job protection. To give an idea of the magnitudes, the 1990 Chilean reform increased job security by about one-third. The estimates suggest that this reform could have reduced the employment rate of unskilled youth by 1.5 percentage points.

Productivity Growth

Do job security regulations have an effect on productivity growth? A traditional argument is that job security reduces productivity growth because it reduces the reallocation of workers from less productive to more productive activities (Hopenhayn and Rogerson 1993; Blanchard and Portugal 2001). The evidence suggests that job security slows down reallocation, but the relationship between labor market institutions and growth is far from conclusive. Although job security provisions may reduce reallocation, they may increase within-firm productivity growth. This is likely to be especially true in industries that rely on within-firm knowledge and specific skills. In these sectors, loss of workers may be detrimental to the firm's know-how and new workers may take a long time to learn and be productive. In these types of industries, job security may increase the incentives of workers to invest in specific skills because they expect to stay longer at a given firm. It may also motivate firms to provide training. In other types of industries, the skills and abilities required by firms might change often; in these industries, job security regulations might restrict productivity growth.

There is scant empirical evidence on whether job security decreases (or increases) productivity growth. Nickell and Layard (1999) examine the effect of job security provisions on productivity growth in a panel of OECD countries and conclude that there is no evidence in their sample that countries with more stringent job security have lower labor (or total) productivity growth. This result is driven by the fact that in the period considered in their study (1976-92), countries such as the United

Figure 7.8 Effect of an Increase in Employment Protection on the Probability of Employment in Chile, 1960-98



Source: Montenegro and Pagés (forthcoming).

States, Canada, and New Zealand, which are characterized by low job security, had lower average productivity growth than countries such as Spain, Italy, and Belgium, which had high job protection.

Scarpetta and Tressell (2002) analyze a panel of countries, sectors (manufacturing and services), and years. They find that although on average countries with higher job security tend to experience lower productivity growth, this effect is statistically significant only in countries with intermediate levels of coordination/decentralization in collective bargaining. They interpret these findings as suggestive that job security provisions do not have negative effects in countries where incentives for firms to train existing workers are high (as is the case in countries with coordinated/centralized collective bargaining) or in countries that have few restrictions on hiring the required mix of skills in the market (decentralized bargaining). These results might be good news for Latin America, where, with few exceptions, collective bargaining is decentralized.

Other Effects

High job security also interacts with other variables leading to undesired effects in the labor market. Two effects that are discussed in other chapters of

this Report worth mentioning here are the possible interactions between high job security and trade liberalization (chapter 5) and between high job security and low inflation (chapter 4).

High job security and stringent labor market regulations may lead to adverse effects of trade reforms on the coverage of labor laws and social protection. Goldberg, Koujianou, and Pavcnik (2001) and the results presented in chapter 5 suggest that in highly regulated labor markets, trade reforms lead to an employment reallocation from jobs covered by labor laws to jobs that are not covered.

Stringent job security provisions also appear to reduce the ability of wages to adjust to adverse economic conditions. This in turn magnifies the response of unemployment to adverse shocks. Such an effect was not an issue in the past when inflation rates were high and rigid real wages were quickly eroded by inflation. However, as inflation reaches single digits, the adverse effects of negative shocks on unemployment become more pronounced. This might explain why unemployment reacted so virulently to the economic crisis at the end of the 1990s.

Labor Market Reforms

Although the high level of de jure job security in Latin America provides some insurance for some workers, the available evidence suggests that job security provisions are not cost-free. (See Box 7.3 for a summary of benefits and costs of job security provisions.) Reforms have not been possible in many countries, and the reason is quite simple. Although unskilled or young workers would be likely to benefit from reforms, prime-age and skilled workers fear the loss of security and benefits associated with labor reforms. Since the latter tend to be better organized and have greater voice than the former, it is difficult to implement reforms. In many cases, reformers have not attempted to provide alternative means of insurance. In others, interest groups have resisted giving up job security even when alternative insurance mechanisms were considered. Given these circumstances, some countries have worked out alternatives to labor market reforms, such as temporary

Box 7.3 Job Security Regulations

Indications

Job security regulations provide a form of insurance against unemployment when better forms of insurance cannot be provided.

Side Effects

Regulations reduce the ability of firms to react to changes in economic conditions, possibly slowing down a powerful engine of growth: the reallocation of workers from less to more productive ends. Job security regulations also have important redistribution consequences because they tend to favor the employment of male adults and skilled workers, relative to female, young, and unskilled workers. Finally, research indicates that these regulations increase the duration of unemployment, reducing workers' chances of finding new jobs when displaced.

contracts and various forms of unemployment insurance.

Temporary Contracts and Other Schemes

Many countries have introduced or are considering partial reforms, creating special contracts with limited duration and no severance payment obligations. To prevent firms from exclusively hiring workers under this modality, the use of these contracts is restricted. In some instances, they cannot be renewed. In others, after a given number of renewals, workers have to be hired under permanent, regular contracts.

These types of new modalities were introduced in Argentina in 1991 and extended in 1995. Employment promotion contracts could be awarded to unemployed workers, allowing a 50 percent reduction in severance pay (Saavedra 2003). For some types of contracts, severance pay was removed entirely. However, these contracts were eliminated in 1998, after the share of workers under these modalities had increased substantially. Peru and Colombia also lifted restrictions on the use of these types of programs in the early 1990s.

In both cases, the number of workers hired under these modalities increased enormously—for Peru, from 20 percent of salaried employees in 1990 to 55 percent in 2000, and in Colombia, a similarly high increase. In Brazil, the use of such contracts was deregulated in 1988.

Does the introduction of employment promotion contracts improve the situation of the labor market? Is partial reform better than no reform at all? Temporary contracts may have perverse effects by increasing firms' incentives to hire more workers at the entry level, employ them for a short while, and then dismiss them without giving them permanent jobs. This increases rotation, particularly among the young, but does not necessarily increase employment rates or reduce unemployment because the effect of more workers hired is outweighed by the effect of increased layoffs. Moreover, the use of fixed-term contracts for some workers might strengthen the bargaining position of permanent workers because they know that there is a buffer of temporary workers that will be laid off first in the face of adverse economic conditions. This stronger bargaining position might result in higher wages for permanent workers relative to a situation without temporary contracts, and lower overall employment rates. The evidence from both developing and developed countries suggests that these alternative contracts tend to account for a large share of employment creation, and that they are concentrated among the young. The evidence also suggests that turnover increases, but there is no evidence that unemployment declines as a result of this measure.¹²

Temporary contracts also seem to have negative effects on the accumulation of human capital. As the probability that workers are converted to permanent status declines, so does the incentive to accumulate human capital or provide training. Since the contracts are concentrated among young and female workers, incentives for productivity growth are reduced for those workers with lower wages. These effects become larger the greater is the difference in dismissal costs between permanent and temporary workers. The lesson is that the more effective is the legislation of employment protection, the larger are the distortions and nega-

tive consequences of partial reforms. Therefore, despite the difficulties in passing comprehensive reforms, partial reforms are not a good substitute.

Other Forms of Insurance

Although job security may bring unintended costs, this policy, as a means of providing unemployment insurance in low and medium-income countries, has an advantage: the transfer to the unemployed is paid directly by the employer. This is not a small thing. In poorer countries, one of the most difficult challenges to overcome is to find out who needs the transfer. The lack of registries implies that an insurance system run by a third party would be difficult and costly to administer.

However, improvement in the current system requires an understanding of the secondary effects of job security. Two particularly relevant aspects are the relation between job security and tenure, and the unemployment insurance properties of job security.

Job security tends to increase with tenure. This implies that it is less costly to dismiss workers who have been at a firm for less time. Thus, when firms need to adjust, they tend to concentrate layoffs among women, youth, and unskilled workers because they tend to have lower tenure. Weakening the link between severance pay and tenure, for instance, by imposing a maximum amount a worker can obtain, would reduce the bias that job security imposes against workers with less tenure.

Job security can have negative effects on economic performance by reducing the adaptability of firms to changes in the economic environment. There are three types of reforms that preserve the unemployment insurance properties of job security without imposing a tax on layoffs.

The first one is to convert severance pay into an *individual* savings account. This is the strategy followed in Peru, Colombia, Ecuador, and to some extent Brazil. In these countries, employers regularly deposit a given fraction of each worker's wage

¹² See Saint-Paul (2000) for Spain, Blanchard and Landier (2001) for France, and Hopenhayn (forthcoming) for Argentina.

in an individual account. If for any reason the relationship between the worker and the firm is terminated, the worker can withdraw the funds plus the interest income accumulated in the account. An important limitation of this system (and of systems based on severance pay) is that workers with short tenures prior to termination may not receive enough funds in their accounts to survive an unemployment spell. In this respect, individual savings accounts are self-insurance mechanisms because there is no pooling of risk across workers.

The second alternative is to convert severance pay into a *collective* savings account. In this format, regular contributions are pooled in a collective account from which dismissed workers can obtain a predetermined amount. Under this modality, there is an insurance mechanism if workers that have contributed for a long time subsidize workers with shorter tenures. The possibilities of insurance increase the larger and more diversified is the pool of workers that contribute to the collective account. One risk that cannot be diversified away is aggregate or systemic risk. If a large percentage of workers is laid off at once, the collective account may be quickly depleted.

The third option to reduce the welfare cost of unemployment is found in the traditional unemployment insurance mechanisms established in developed countries. These systems look a lot like the collective savings account mechanisms described above, with the difference that payments to the unemployed are not performed in a lump-sum fashion. Instead, there is a predetermined schedule of payments that lasts for a given number of periods while the worker is unemployed. This system provides two layers of insurance: payments are less dependent on contributions and workers that suffer longer unemployment spells receive payments for a longer period (up to a maximum). Most developed countries provide a third layer of insurance against systemic risk, as the state adds resources to the collective account in case of financial imbalances.

The road to insurance is paved with difficulties. The higher the level of cross-subsidy among workers, the higher are the employment costs because workers with low risk are less willing to

pay. In addition, for developing countries, the cost of administration of collective programs may be very high because it requires identifying who becomes and who remains unemployed. The presence of a large informal sector in which workers can be employed without being registered means that many workers could be receiving an unemployment subsidy while employed at an informal job.

All these difficulties imply that each country should choose modalities that are compatible with its institutional capabilities and income level. In some cases, a mix of schemes may be the appropriate solution. For example, the new unemployment insurance scheme in Chile is a mix of individual savings accounts supplemented with a solidarity scheme that provides partial insurance to workers that become unemployed and have less than a given amount in their accounts. This system may be appropriate for a country like Chile, which has a relatively small informal sector, but may not work in poorer countries, such as Peru or Bolivia, where the size of the informal sector would make it too costly to administer.

THE MINIMUM WAGE

Public discussion of the minimum wage is often heated, for good reasons. The minimum wage is a key distribution variable because, at least at the microeconomic level, it has opposite effects on the earnings of workers (especially unskilled workers) and firms. The minimum wage is also controversial within governments because it can be used as a policy tool for very different purposes. From the standpoint of the economic authorities, the minimum wage tends to be seen as an anti-inflation policy tool that affects production costs, expectations of price increases, and public spending. From the standpoint of social policy, however, the minimum wage is viewed as a tool for reducing poverty and inequality. The minimum wage also generates intense disputes among economists. The prevailing opinion in the profession is that the minimum wage is a market distortion that, if effective, generates unemployment or informal labor and leads to

Box 7.4 Reasons for the Minimum Wage

If the labor market were like the potato market, there would be no reason for a minimum wage. A multitude of sellers and buyers operating competitively would spontaneously find the price that would make supply and demand meet at all times, and that price would change continually in order to adjust to the fluctuations of supply and demand. But the labor market is different. To begin with, some companies may have sufficient market power to depress wages below where they would be if there were perfect competition with other buyers. Even when many companies exist, there may be market power because information on work opportunities and conditions is imperfect and difficult for jobseekers to acquire. Moreover, in the labor market, wages represent the price of a transaction that does not take place instantaneously but over the time of the labor contract, or until one of the two parties decides to interrupt it. The product sold in the labor market is not homogeneous because workers differ in their skills and abilities. Nor is it a product that is fully known beforehand, because it depends not only on the skills of individuals but on the effort that they put into their work.

These characteristics of the labor market may justify the existence of the minimum wage. The minimum wage may help to counteract the monopsonistic power of firms, whether because there are few companies or as a result of information problems. The minimum wage may help reduce labor turnover and facilitate the hiring of low-skilled workers and hence may help reduce the costs entailed in the recruiting, hiring, and ongoing training of new workers. When the minimum wage is moderate, it may even help raise employment levels. The minimum wage may lead workers to put greater effort into their work out of fear of losing their jobs or being left with lower-paying jobs. None of these potentially good effects of the minimum wage is guaranteed, however, because they depend on many factors. But the claim that minimum wages are distorting or inefficient cannot be accepted without qualification.

Source: Card and Krueger (1995).

loss of efficiency and social welfare. However, others justify the minimum wage for reasons of efficiency or as an intervention aimed at correcting market failures (Box 7.4).

Before taking a side in this heated debate, it is useful to review the data and results of available studies.

Changes in the Minimum Wage

In most countries in Latin America, the average level of the minimum wage (in constant prices) between 1991 and 2000 was lower than in the previous decade (Figure 7.9). The largest drops, of 40 percent or more, took place in Peru, Mexico, Uruguay, El Salvador, and Argentina; there were major declines in Venezuela and Brazil as well. Only in Chile and Costa Rica did the purchasing power of the minimum wage rise appreciably from one decade to the next.

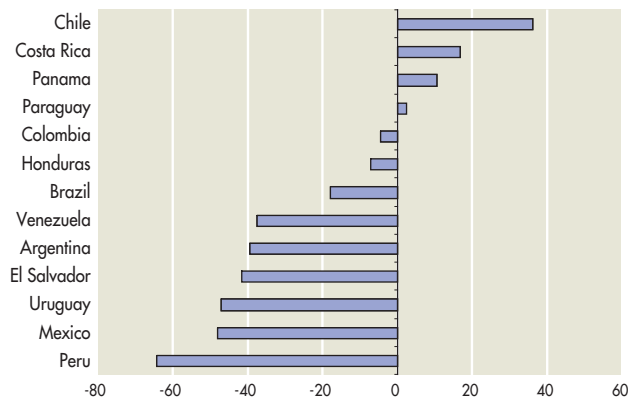
The real minimum wage on average displayed the same instability in both periods. In both decades, minimum wages were most unstable in

real terms in Argentina. Venezuela and Peru displayed greater instability in the 1990s than in the previous decade. In these three countries, real wages typically varied by more than 25 percent from one year to the next, and in Nicaragua it was close to 20 percent. In the other countries, the real minimum wage has been less volatile, with typical annual variations of around 5 percent (Figure 7.10).

Inflation is one of the factors that influences the stability of the purchasing power of the minimum wage. In economies with low inflation, the minimum wage is more likely to be more stable in real terms. However, the opposite is not necessarily true. For example, in the past two decades, Brazil has gone through periods of high inflation, but has managed to keep the minimum wage relatively stable. For much of the 1990s, Colombia had a rate of inflation higher than most countries in the region, but adjustments in the minimum wage have closely followed price increases.

Although the minimum wage as a proportion of per capita income has fallen in practically all countries, in some cases it is still high (Figure 7.11).

Figure 7.9 Changes in Real Minimum Wage between 1981-90 and 1991-2000
(Percent)



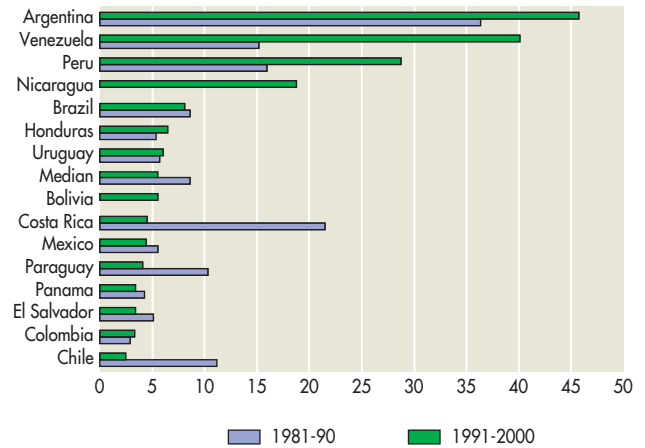
Source: IDB based on official country data.

For example, in Honduras, Nicaragua, and Paraguay, the minimum wage in the 1990s was higher than per capita income when calculated using official statistics. However, it may be that in these three countries, official statistics underestimate per capita income. Less susceptible to these problems is the comparison between the minimum wage and the median wage (that is, the pay received by the median worker). According to this measurement, differences between countries are less substantial. The highest minimum wages since the mid-1990s are found in Nicaragua, Colombia, and Venezuela, where they represent around 80 percent of the pay of the average worker. In most countries for which there are data, this relationship is between 30 and 60 percent. The lowest minimum wage in relation to the pay of the typical worker is found in Uruguay, where it is less than 20 percent (Figure 7.12).

Coverage and Effectiveness

Compliance with the minimum wage differs notably from country to country. On average in the 1990s, rates of noncompliance with the minimum wage were more than 20 percent in Colombia and Nicaragua, and less than 5 percent in Argentina, Bolivia, Mexico, El Salvador, and Uruguay. These

Figure 7.10 Real Minimum Wage Volatility
(Percent)

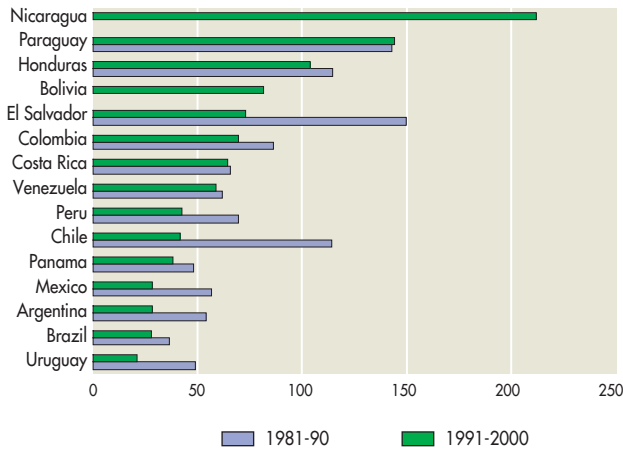


Source: IDB based on official country data.

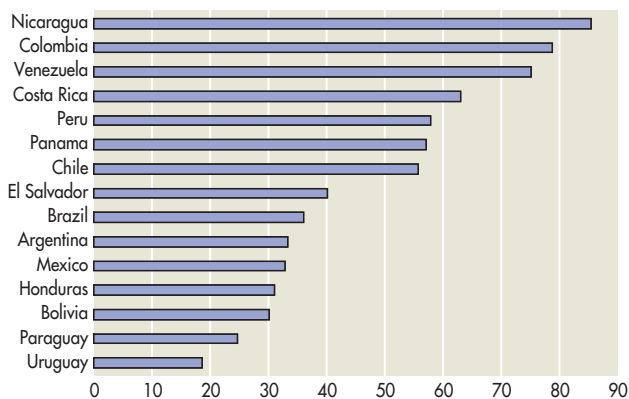
rates are the percentage of employees between ages 26 and 40, working more than 30 hours a week, who say that they receive net incomes that are below what would be required by the minimum wage and the regulation of contributions to social security.¹³

Compliance with the minimum wage is partly related to where it stands in relation to the wages of the typical worker. The largest percentages of workers who earn less than the minimum wage are found in Nicaragua and Colombia, countries where the minimum wage is relatively high (Figure 7.13). This relationship clearly suggests that efforts to raise the minimum wage are largely undermined by evasion of the regulations and, as would be expected, evasion increases as the minimum wage rises. However, this relationship is not mechanical. For example, Chile has a relatively low level of non-compliance for the level of its minimum wage. Respect for the law and more generally the institutional climate may influence compliance. The stability of the real minimum wage might also have a

¹³ These calculations are based on IDB household surveys starting in 1990. To calculate the net minimum wage, the payroll deductions from workers for Social Security, Medicare, and retirement plans were taken into account according to the data compiled by the U.S. Department of Health and Human Services (1998).

Figure 7.11 Minimum Wage as a Percent of Per Capita Income

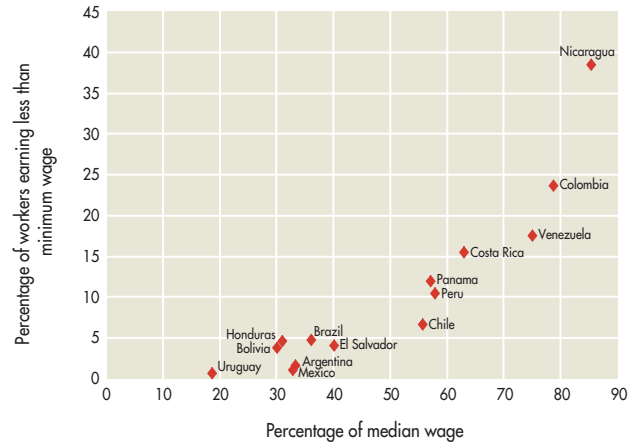
Source: IDB based on official country data.

Figure 7.12 Minimum Wage as a Percentage of the Median Wage, 1996-2001

Note: The wage used for comparison is the median wage for workers between 26 and 40 years old that work for more than 30 hours a week in the survey reference period.
Source: IDB based on official country data.

bearing, but these issues have not been studied in Latin America.

As would be expected, rates of noncompliance are highest among less educated workers. In the typical country in the region, around 21 percent of workers who have completed elementary school earn less than the minimum wage (Table 7.2). In Colombia, Nicaragua, and Peru, approxi-

Figure 7.13 Minimum Wage Level and Enforcement

Note: The wage used for comparison is the median wage for workers between 26 and 40 years old that work for more than 30 hours a week in the survey reference period.
Source: IDB based on official country data.

mately two out of three less educated workers are paid less than the minimum wage. The rate of non-compliance for workers with a secondary education drops to 5 percent for the typical country, but in Colombia, Nicaragua, and Peru, it is more than 20 percent. For workers with a university education, it is typically less than 1 percent, although in Peru approximately one out of every 10 workers with that level of education is paid less than the minimum.

Failure to comply with minimum wage laws is a much more serious problem in rural areas than in cities. Typically, whereas only one worker out of 22 earns less than the minimum in urban areas, the ratio in rural areas is one in four. The differences are also notable according to the type of company involved. Typically, one out of every six workers in companies with up to five employees is paid less than the minimum, but that is the case for only one out of 37 in larger companies. However, as the next section explains, that does not mean that the minimum wage has no impact on those segments of the labor market that are usually called “informal.”

Effects of the Minimum Wage

Differences between countries and over time in the level and coverage of the minimum wage are so

Table 7.2 Minimum Wage Noncompliance Rates by Education, Location, and Firm Size

(Percent)

Country	Year	Education			Location		Firm size (number of workers)		Total
		Primary	Secondary	Tertiary	Rural	Urban	Less than five	More than five	
Argentina	2001	8.90	2.64	0.54		3.07	8.51	7.67	3.07
Bolivia	1999	5.01	0.43	0.00	0.36	1.21	4.53	0.06	1.10
Brazil ^a	1999	16.16	2.21	0.08	20.38	3.84	21.69	0.37	5.83
Chile	1998	26.72	7.36	0.77	22.96	5.41	17.54	4.38	7.25
Colombia	1999	59.37	23.62	40.6	54.37	17.38			26.90
Costa Rica	2000	29.02	9.72	2.48	23.25	9.21	42.45	7.98	15.66
El Salvador	1999	7.98	2.00	0.23	8.34	2.00	7.87	2.72	3.58
Honduras	1999	10.31	1.42	0.69	11.07	3.19	16.01	2.70	5.88
Mexico	2001	1.48	0.35	0.16		0.52	2.18	0.19	0.52
Nicaragua	2001	59.83	22.88	6.23	56.82	27.58	61.49	26.95	35.58
Panama	2000	32.79	17.60	2.08	19.22	13.19	53.09	6.95	14.78
Peru	2000	66.21	27.26	9.20	52.31	16.38	46.11	14.69	23.46
Uruguay	2000	1.23	0.34	0.13		0.46	2.18	0.15	0.46
Venezuela	1999	35.83	14.31	6.09			41.37	12.20	17.91
Median		21.44	5.00	0.73	21.65	3.84	17.54	2.72	6.57

^a Firm size refers to employees with and without a contract, not to the number of workers.

Note: Rates are calculated based on the number of employees between 25 and 40 years old working more than 30 hours a week.

Source: IDB household surveys.

vast that it would be rash to make statements of a general nature on its effects. When the minimum wage has been unstable in a country and its coverage low, its influence on other wages and on the level and structure of employment may be less than in another country where the minimum wage is characterized by its stability and acceptance. The examples in this section show that, in general, when the minimum wage is highly effective, it helps raise the wages of those who earn around the minimum wage (including slightly below it) but at the cost of reducing employment possibilities for those workers. This also applies to “informal” workers, that is, those who work in small companies or who do not have a labor contract. The balance between the benefits of higher wages and the cost of decreased possibilities of employment tends to be positive and, at least in the short run, increases in the minimum wage improve the distribution of labor income.

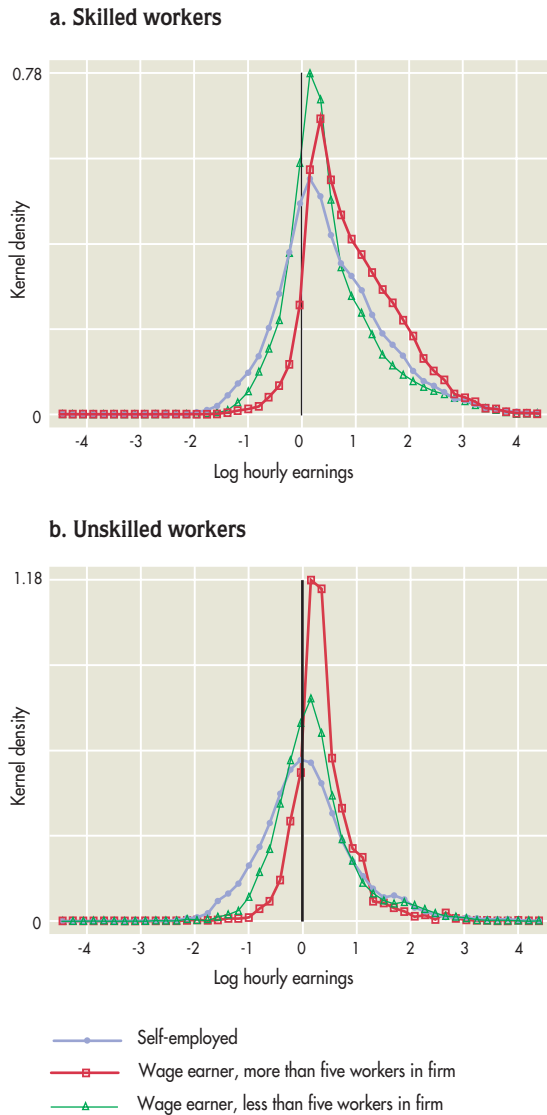
In Colombia, the minimum wage is effective because a high percentage of workers earn around

the minimum. Figure 7.14 illustrates the high percentage of workers whose wages are around the minimum wage.

The minimum wage seems to have an impact not only on less skilled workers employed in formal companies, but also on the wages of relatively highly educated workers and those who work for small companies of up to five workers.

The rise in unemployment in Colombia since the mid-1990s is explained primarily by slow economic growth and a drop in private investment, made worse by problems in the financial sector and economic insecurity. Nonetheless, the question has to be asked whether the adjustments in the minimum wage helped aggravate the problem, because in the most critical period of low growth (1997-99), those adjustments were higher than the rate of inflation, which fell rapidly, partly due to the recession. Maloney and Núñez (forthcoming) focus precisely on this period and find that for every percentage point rise in the minimum wage, employment falls by 0.15 percent. This means that the 9

Figure 7.14 Distribution of Workers by Wage Level in Colombia



Note: On the horizontal axis, 0 is equivalent to the minimum wage.
Source: IDB based on official country data.

percent increase in the real minimum wage in 1999 reduced employment by 1.4 percent.¹⁴

The likelihood of losing a job due to an increase in the minimum wage does not affect all workers alike. It is greater for those who earn low wages, and may be as much as double for those who earn less than the minimum wage. The reason for this effect is that increases in the minimum wage are reflected disproportionately in the short run in pay to workers whose wages are slightly below the minimum. (The effect is less than pro-

Figure 7.15 Effect of the Minimum Wage on Wages and Employment in Colombia



Source: Maloney and Núñez (forthcoming).

portional for higher paid workers; see Figure 7.15.) The strong contemporaneous effect of the minimum wage on lower wages—which has also been found in the United States (see Neumark, Schweitzer, and Wascher 2000)—challenges the belief that the formal and informal segments of the labor market are neatly separated, and that those who fall into the latter category are outside the direct influence of labor laws. This result suggests that the minimum wage may operate as a strong pay-setting signal when, as is the case in Colombia, the amount is widely known and socially respected. This also means that the minimum wage exercises a positive influence on income distribution, and possibly on poverty levels in the short run, which is consistent with cross-section studies. It must be kept in mind that these effects refer to the short term (a quarter) and may dissipate over time.

As the experience of Colombia shows, the short-term effectiveness of the minimum wage is a double-edged sword that cuts both ways because, although it helps protect the lowest wages, it does

¹⁴ This elasticity is somewhat lower than that obtained by previous studies for Colombia. Bell (1997) estimates that the 10 percent rise in the real minimum wage between 1981 and 1987 was responsible for a reduction in employment in the range of 2 to 12 percent.

so at the cost of job creation. In a recession, the minimum wage should be allowed to drop to avoid higher unemployment, but that policy option is hard to apply, especially when, as happened in Colombia, the recession was combined with a steep decline in inflation.

The effectiveness of the minimum wage in Brazil is also quite high and is not limited to workers employed in accordance with labor regulations. Indeed, in Brazil the percentage of workers who receive exactly the minimum wage is higher among those who do not have a labor contract (informal workers) than among those who do. However, among the latter, it often happens that wages are set in multiples of the minimum wage, which thus operates as a calculation unit for defining labor remuneration (Neri, Gonzaga, and Camargo 2001). Fajnzylber (2001) studies the influence of the minimum wage on pay and employment in Brazil using a set of 22 quarterly panels between 1982 and 1997, making it possible to follow the work life of more than half a million individuals.

As in the case of Colombia, when the minimum wage rises in Brazil, workers with wages slightly below the minimum wage benefit the most in the short run (in this instance, a year). The elasticity is 1.4 for workers under a contract who earn less than 0.9 times the minimum wage, 1.08 for those who earn around the minimum, and 0.4 for those earning high wages (around 40 times the minimum wage). The other side of the coin is that low-income workers are more affected by job losses when the minimum wage rises: 1.6 percent of those who have a contract and earn less than 0.9 times the minimum wage lose their jobs when the minimum wage increases by 10 percent (and 0.9 percent of those who earn around the minimum suffer the same fate). These short-term effects dissipate over time: after a year, around half of the wage gains disappear for those earning less than two times the minimum wage, and around half of the job losses are corrected.

These results are similar for workers who have no contract, suggesting, as in the case of Colombia, that the boundaries between formal and informal work are quite porous. The effects on the wages of workers without a contract are slightly

lower, and tend to be diluted more quickly than for workers with a contract, but the implications for job loss are greater. When the minimum wage increases by 10 percent, in the first year, 3.5 percent of wage earners without a contract who are earning less than 0.9 times the minimum wage lose their jobs (as do 2.5 percent of those who earn around the minimum). The loss in informal employment is greater, although it is partially corrected in the next year. A portion of unemployed informal workers decides to seek jobs with a contract, attracted by higher wages, and a portion withdraws from the workforce, discouraged by higher unemployment.

The studies of Colombia and Brazil show that the informal sector does not operate as a residual segment with flexible wages where those who have no other options end up. If that were the case, when the minimum wage rose, informal employment would increase and earnings from it would drop, but this is the opposite of what happens. Because the minimum wage in these two countries operates effectively as a signal, setting wages in both segments, it has favorable effects on the incomes of low-wage workers, but it also lessens possibilities for job creation, albeit less than proportionally. This entails costs and benefits that should be considered, bearing in mind the macroeconomic context.

It should also be emphasized that the balance of the effects may be different in countries where conditions are different. An analysis using the same methodology for the United States shows that increases in the minimum wage have an adverse net effect on the pay of low-wage workers because the unemployment effects and fewer hours of work are stronger than the effects of the wage increase (Neumark, Schweitzer, and Wascher 2000). Unfortunately, there are no strictly comparable studies to establish whether this is also the case in other relatively more developed countries in the region, such as Argentina, Uruguay, or some countries in the English-speaking Caribbean. There is only some evidence for the case of Chile, suggesting effects more similar to those in the United States than to those in Brazil or Colombia.

In Chile, the rate of compliance with the minimum wage, defined as the percentage of wage

workers who earn at least the minimum, is higher than in Colombia (Figure 7.13). Until 1998, the minimum wage was comparatively lower in Chile than in Brazil or Colombia, at around 45 percent of the median wage of unskilled workers. However, since 1998 it has increased by around 10 percent a year, and in 2002 it reached 60 percent of the median wage of unskilled workers. The impact of these increases was highly concentrated on workers within the range in which the minimum wage changed, contrary to what happened in Brazil and Colombia, where the strongest impact was felt by workers below the minimum wage, and where there were also significant impacts (albeit gradually less) at higher pay levels.

Calculations made by Cowan and others (2003) suggest that wage employment declined by 6 percent in Chile due to increases in the minimum wage. Those most affected were unskilled workers (up to 11 years of schooling) with little experience (up to 8 years). Thirteen percent of this group lost their jobs as full-time salaried workers. Surprisingly, the real wages of those who kept their jobs seem to have changed very little, even at levels close to the minimum. Hence, in the case of Chile, the dominant effect of the increase in the minimum wage seems to have been the loss of full-time salaried jobs, especially among unskilled workers. These results are consistent with a study on Chile by Montenegro and Pagés (forthcoming) that likewise shows that increases in the minimum wage reduce chances for employment of youth in comparison with other age groups and improve the likelihood of employment of women as compared with men. The latter might be the case because the minimum wage strengthens the bargaining position of women or because it brings more women into the job market (Montenegro and Pagés forthcoming).

In contrast with the previous three cases, in Mexico the minimum wage is set low in comparison with average wages and there is little concentration of wages around the minimum, suggesting that it is not very effective. As would be expected under such conditions, changes in the minimum wage are unlikely to produce major consequences. Bell's (1997) analysis of Mexico in 1981-87, when

the real minimum wage fell by 45 percent, concludes that there was no effect on employment in the manufacturing sector. This does not rule out the possibility that the decrease in the minimum wage might have had the effect of creating employment in other sectors. And it does not necessarily mean that it is desirable for the minimum wage to be extremely low or ineffective.

The minimum wage does not seem to have a great impact on pay rates in Ecuador because of its low level and the complexity of laws on pay for work in effect until 2000. In Ecuador, minimum wages are set by occupation within each industry by each of the Industry Wage Commissions, which include representatives of government, business, and workers. There are 118 minimum wages, a number that has remained practically unchanged for the past decade. Until 2000, obligatory wages were also affected by a variety of supplementary payments that had to be paid in different proportions and at different times in the year. With this legal complexity and few tools for enforcing the regulations, the minimum wage does not seem to be effective. According to MacIsaac and Rama (1997), a significant proportion of supplementary payments was handled by lowering the basic wage paid to workers, which could happen because the minimum wage was low and ineffective.

Costa Rica has traditionally had a complex system of minimum wages differentiated by industry sector and occupation. In the 1970s and 1980s, there were approximately 350 different levels; in the early 1990s, this number was reduced to around 80. Costa Rica is interesting because it was one of the few countries where the average minimum wage rose in the 1990s, both in real terms and as a percentage of the wage of the average worker. Because Costa Rica is also one of the few countries where inequality of pay for work has not tended to increase since the mid-1980s, it is important to ask whether these results are related. That is in fact the case according to econometric studies by El-Hamidi and Terrell (2001). They estimate that for every percentage rise in the minimum wage by sector relative to the average wage in that sector, inequality drops typically by between 0.9 and 1.7 percent. The effects are greater in those sectors where the relative minimum wage is

lower, and lesser (or even negative) in those sectors where the relative minimum wage is higher.

The impact of the minimum wage on poverty has been studied for a set of developing countries (in contrast to the case studies of other effects of the minimum wage surveyed in this section). Lustig and McLeod (1997) use time-series data from 22 countries (13 in Latin America) to determine whether changes in the real minimum wage influence poverty levels. They conclude that increases (or decreases) in the real minimum wage are associated with reductions (or increases, respectively) in short-term poverty levels. This relationship obtains for different measures of poverty whether the economies are expanding or contracting, for both rural and urban populations, and in Latin America and elsewhere. This conclusion is consistent with case studies of Colombia, Brazil, Chile, and Costa Rica. It is also consistent with other analyses that show that increases in the minimum wage have a favorable influence, albeit modest in size, on income distribution (IDB 1998).¹⁵ Moreover, Lustig and McLeod (1997) observe the following:

These results, however, are not an outright endorsement of minimum wage increases as a cost effective policy to reduce poverty. Higher minimum wages do seem to increase unemployment. Minimum wage increases may also reduce efficiency and competitiveness. If minimum wage laws have a negative effect on growth, they could hurt the poor over the long term. Even if raising the minimum wages can be shown to reduce poverty in the short run, in the long run it could reduce employment opportunities.

Why the Minimum Wage Is Needed

The minimum wage may have some favorable effects on poverty and income distribution, but it is not the most appropriate tool for those aims. The main justification for the existence of the minimum wage is the need to control the market power that companies may have over individual workers who lack the information, influence, or means to find better-paying jobs (Blanchard 2002). The

Box 7.5 The Minimum Wage

Indications

The minimum wage provides support to low-wage earners in their individual negotiating with their employers, and facilitates the hiring of workers by small and medium firms. Increases in the minimum wage benefit low-wage workers and have beneficial, although mild, effects on inequality, at least in the short run.

Side Effects

The minimum wage increases unemployment rates among low-wage and young workers.

Caution

If the increase of the minimum wage is too large, its effectiveness will be severely reduced or even lost. The medium and long-term effects of minimum wage increases are largely unknown.

extreme case is that of agricultural or mining enclaves where, in practice, a single company constitutes the sole demand for labor in that location. But there does not have to be this extreme case in order for the minimum wage to be justified. (See Box 7.5 for a summary of the benefits and costs of minimum wage laws.) In order to fulfill its function, the minimum wage must meet various requirements. The most important is that it be widely known and that the companies and workers as a whole regard it as unacceptable that any worker be paid less. This means that the level at which the minimum wage is set constitutes a social convention that must be dictated by the economic and social realities of the country. No government is in a position to impose a minimum wage that companies and workers by mutual agreement are willing to violate because they regard it as excessive or arbitrary or because it produces unemployment levels that are too high. Because the minimum

¹⁵ On the other hand, it is not consistent with studies for the United States, which show that the minimum wage does not help reduce poverty (Neumark and Wascher 2002).

wage must facilitate the hiring of labor under conditions that are acceptable to companies and workers, it ought to meet the following requirements:

- *Simplicity.* In almost all countries in the region, the previously common practice of setting different minimum wages by industry sector, region, or type of company has been abandoned because such differences are difficult to enforce and have the major disadvantage of obscuring the tool. Setting different minimums did not help strengthen workers in their individual dealings with companies.

- *Reasonableness.* A minimum wage that is too high in relation to average pay levels would not constitute a floor and hence would tend to be ignored. A minimum wage that is too low does not grant any power to the individuals who are seeking employment, and hence does not prevent them from taking excessively low-quality and low-productivity jobs.

- *Stability but not rigidity.* A highly fluctuating real minimum wage would produce abrupt redistributions of income that would tend to be perceived as unjust and undermine the credibility of the tool. The same thing would happen with a completely rigid real minimum wage that failed to take into account the state of the economy, the unemployment level, or changes in worker productivity.

- *Broad discussion and agreement.* Since the minimum wage is ultimately a social convention, it should be based on a broad debate with participation not only by organized workers and large companies, as happens in some countries, but by society as a whole and government officials formulating economic and social policies. Any minimum wage level chosen will have costs and benefits, and society as a whole should be aware of them.

LABOR UNIONS

Labor unions represent a crucial achievement by workers, and have made possible spectacular gains in working conditions and pay for significant groups of workers. Unions facilitate relations between companies and workers by reducing

uncertainty and improving information flows between both parties. Collective bargaining helps reconcile the interests of workers and companies in the aggregate and prevents the adverse consequences that may result from uncoordinated bargaining activities and their ensuing conflicts.

At the same time, labor unions have imposed work rules that impede improvements in productivity and are a device for seeking to extract rents from companies. Labor union activity may have the effect of reducing investment and making businesses less competitive. Unions may also be harmful at the macroeconomic level if they become an obstacle to adopting adjustment policies or to allowing for greater economic flexibility.

The real impact of union action depends on the balance between these costs and benefits, which are in turn influenced by the economic, political, and organizational environment in which labor organizing and collective bargaining take place. Hence, rather than trying to identify an impact that will vary from country to country or between sectors within each country, this section presents an overview of trends in unionization and the laws governing it, and the results of research that has analyzed the impact of unions on the well-being of workers and society as a whole.

The levels of unionization in Latin America are modest and have declined in most countries over the past decade. The legal framework within which labor unions operate in the region is relatively favorable to union organizing and protective of workers, with significant differences among countries. Contrary to the rest of the world, in Latin America, workers who are less educated are less likely to belong to a labor union than those who are more educated. This partly explains the view of unions as defenders of a labor elite (and as increasing pay inequality). As in the rest of the world, labor unions in Latin America seek to achieve their primary objective: raising the income level of their members. However, this ability has been weakened by the processes of economic liberalization, privatization, decline in government jobs, and other factors that have eroded the market power of companies and hence of unions as well.

Labor unions can produce significant macro-

economic effects, depending on the degree of coordination among unions and among companies in the collective bargaining process. Experience in developed countries indicates that the risks of higher unemployment or inflation resulting from uncoordinated actions by labor unions can be moderated when there are mechanisms for high-level coordination and companies are more exposed to international competition.

Unionization in Latin America

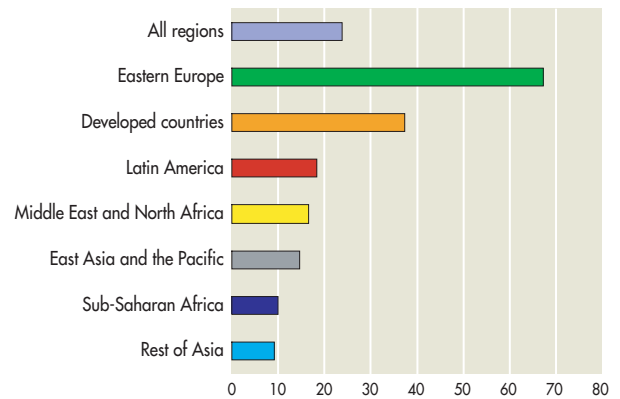
By international standards, unionization rates in Latin America are moderate. Average union membership in the past three decades was 18.3 percent of the workforce, which was less than the world average (23.8 percent) and substantially less than in developed countries and Eastern Europe (Figure 7.16). Nonetheless, in Latin America, labor unions represent a greater percentage of the workforce than elsewhere in the developing world.

Household surveys can be used to analyze the factors that explain the differences between unionization rates in the region in comparison with Canada and the United States. Most of the personal and employment characteristics explained by unionization in developed countries have the same effect in Latin America. Workers in manufacturing, public services, transportation, large firms, and the public sector tend to have higher levels of unionization (see Box 7.6). The exception to this uniformity is education: in Latin America, workers who have not completed high school tend to be less unionized than their peers who have a high school diploma or more. This membership pattern suggests that by defending the interests of a relatively more educated labor elite, labor unions may actually increase wage inequality.

Thus, the relatively low rates of unionization in the region are not necessarily the result of political factors (such as repression of labor organizing), but may result from differences in the composition of workforces in the region. The youth of the region's labor force in itself hinders unionization. At the same time, differences in unionization levels between countries that are similar in terms of their income level and labor force composition suggest

Figure 7.16 Unionization Rate, 1970-99

(Percentage of the labor force)



Source: Forteza and Rama (2002).

the importance of the regulatory framework as crucial for levels of union density.

In the 1990s, unionization rates fell in most countries in the region. In Brazil and Mexico, where unionization had increased between the late 1970s and the late 1980s to more than 35 percent, it fell to 24.8 and 22.4 percent, respectively, in the first half of the 1990s. Only in Chile, Costa Rica, and El Salvador did union coverage increase in the 1990s, although it did not reach more than a modest 15 percent of the workforce (Table 7.3).

The declining importance of unions is related to changes in economies in recent decades. In particular, declining government employment, expanding temporary employment, and increasing competition in industry have contributed to the drop in unionization. Changes in legislation governing how unions operate have also had a great influence.

According to Saavedra and Torero (forthcoming), reduced government employment and the expansion of temporary work are the two primary factors explaining the drop in the rate of unionization in Peru from 40 percent in 1986 to 30 percent in 1991. But after 1992, the diminished protection granted to labor unions in Peru was the main reason for the even sharper decline in unionization (to 10 percent in 1998). In Uruguay, where unions were prohibited until 1985, unionization among factory workers reached 60 percent three years later. Since 1991 it has dropped sharply, partly

Box 7.6 Unions and the Public Sector

The public sector in the region is highly unionized relative to the overall economy. It is often argued that this high level of unionization has detrimental effects on performance because arcane work rules and wage increases unrelated to productivity growth hinder the development of better production methods. Nowhere is this debate more crucial than in education, where the public sector dominates production and the workforce of teachers is highly unionized.

Two recent studies shed some light on the question of the impact of unions in the mostly public education sector. The first difficulty these studies had to overcome was to choose one method to measure product and productivity. Both chose variants of the education production function approach (Hoxby 1996) to analyze the influence of unions on student achievement (measured by some form of standardized test). The production function approach allows the analyst to control for other factors, such as physical inputs and socio-demographic characteristics of the population, to better isolate the impact of unions, which is measured as the difference in students' standardized test scores.

Zegarra and Ravina's (2003) study of schools in Peru finds that most of the decline in union density is associated with changes in work rules that allowed the hiring of temporary teachers, who were less likely to belong to a union, given the temporary nature of their contracts. This decline in union density curtailed the ability of unions to influence budgets at the school or district level. However, unions could still influence the effort that teachers put into the process and the physical inputs. This analysis weakly supports the hypothesis that unionized workers have access to more complementary inputs, at least at the intermediate *multigrado* schools. More interestingly, the authors find that unions do not have a statistically significant influence, either on teacher effort or student test scores.

Murillo and others (2002) analyze Argentina's pub-

lic education system, which has been decentralized since the early 1990s. The peculiar trait of this system is that the role of provincial authorities is larger than usual and schools have limited autonomy. The authors find that in provinces where there is a higher frequency of strikes, there is also more competition between unions, and unions have more adversarial relations with the government. This suggests that neither competition between unions nor adversarial managerial relations (both supposedly disciplining forces for public sector unions) work well in this case. In contrast with Zegarra and Ravina's study of Peru, Murillo and others show that unions in Argentina (weakly) influence class size and teacher satisfaction in ways favorable to higher student achievement in test scores. They also report that the education budget is determined by the overall fiscal situation; the only impact unions have is on the distribution of the budget toward more personnel.

Both studies suggest that unions have a weak effect on the performance of the education system, and the effect is dwarfed by the impact of availability of complementary inputs and the socio-demographic characteristics of the students.

More importantly, both studies show how the framework in which unions operate to improve the lot of their members is important in shaping outcomes. In Peru, the lack of influence of unions in determining either district or school budgets explains to a large extent why the authors find no impact of unions on student performance. The study on Argentina shows that the "discipline the unions" approach does not work, confirming what a multitude of private sector studies have found: hostile management-union relationships are bad for productivity. If public sector reforms are to be successful, they require the development of a cooperative framework of operations for unions and management in the education sector.

because of changes in regulations and competition introduced into industry by economic liberalization (Cassoni, Allen, and Labadie forthcoming).

Laws Governing Industrial Relations

Legislation on industrial (or collective) relations provides the legal framework within which labor unions operate. The laws govern the balance of power between unions and labor organizations on one side and individual companies or sets of companies on the other. In keeping with the typology recently developed by Djankov and others (2003),

the topics regulating this legislation may be organized under three headings: (i) collective bargaining, (ii) participation of workers in managing companies, and (iii) group conflicts. These researchers have proposed a system of indicators of these three aspects of the legislation that seeks to measure the degree of protection granted to workers and labor organizations.

In the area of collective bargaining, it is thought that unions are more protected if employers have a legal obligation to bargain with unions, collective bargaining agreements extend to third parties, the law allows for hiring to be conditional

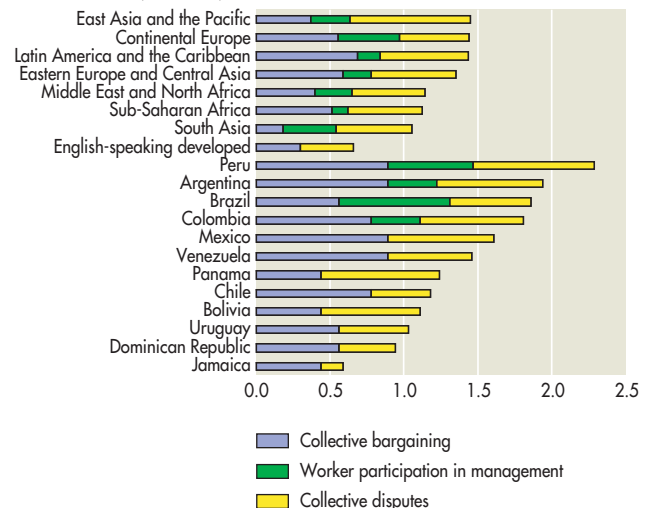
Table 7.3 Unionization Rates in Latin America, 1976–95*(Percent)*

Country	1976–80	1981–85	1986–90	1991–95
Argentina		28.2	26.5	21.5
Bahamas	25	25	25	
Bolivia	32	28.8	25.2	16.4
Brazil	19.6	34.8	38.1	24.8
Chile		9.1	9.5	13.1
Colombia		17.7	12.1	
Costa Rica		14.3	14.9	15.0
Dominican Republic		12.2	15.3	13.4
Ecuador		15.0	14.3	13.5
El Salvador		8.0	14.1	15.0
Guatemala			8.1	4.4
Honduras			20.0	20.0
Jamaica	28.3	22.2	20.3	16.3
Mexico	19.1	27.3	35.3	22.4
Nicaragua	3.7	32.0	32.0	23.4
Panama	12.5	15.0	17.0	14.2
Paraguay	5.0	2.8		
Peru	25.0	40.0	13.0	12.9
Trinidad and Tobago	27.2	31.0	25.4	22.0
Uruguay			19.3	16.3
Venezuela		18.0		
Median	25.0	20.1	18.15	16.3

Source: Forteza and Rama (2002).

on union membership, and labor organization and collective bargaining rights are enshrined in the constitution. By international standards, the protection granted to unions in their collective bargaining processes is high in Latin America. On a scale of zero to one, the typical country in Latin America offers protection at 0.67, above the world standard (0.44) and that of developed countries in relative terms (0.39). Argentina, Mexico, Peru, and Venezuela have substantially higher protection (0.89), whereas Bolivia, Jamaica, and Panama offer the least protection in the region, which is at the world level (Figure 7.17).

In the area of participation by workers in company management, workers are believed to have greater collective protection when they or their unions have the right to appoint representatives to serve on the company board of directors, it is obligatory that there be worker councils or similar bodies in companies, and participation by workers in company management is enshrined in the constitution.

Figure 7.17 Protection of Collective Bargaining
(Index, 0–3)

Source: Djankov and others (2003).

In Latin America, these participation mechanisms are not legally protected, nor are they commonly used in the rest of the world. However, there are great differences between countries; for example, among developed countries, Norway meets all the criteria, whereas English-speaking developed countries and Japan meet none of them. In Latin America, only Brazil, Peru, Argentina, and Colombia concede importance (in that order) to some of these mechanisms for participation by workers.

The field of collective bargaining conflicts is the area of legislation that is most difficult to typify, and where measurements are therefore most likely to be arbitrary. The system used by researchers from Harvard and Yale considers a set of 11 criteria that measure the level of protection of the right to a strike, the absence of procedural restrictions on exercising this right, the degree of restriction of actions of defense that may be taken by employees if arbitration is legally required by the government or third parties, and whether the constitution protects rights in a labor action. Typically in Latin America, in collective bargaining disputes, workers are more protected than elsewhere in the world or in countries with higher relative development. The index for this group of indicators is 0.6 for the typical country in the region, as compared with 0.53 worldwide or 0.48 among more developed countries. Peru, Panama, Argentina, Mexico, and Brazil (in that order) offer the most protection, whereas Jamaica, the Dominican Republic, Chile, and Uruguay offer the least protection.

Hence, in two of the three areas of industrial relations legislation—collective bargaining and labor disputes—greater protection tends to be offered to workers in Latin America than in the rest of the world or in more developed countries. The index that summarizes all aspects considered shows Latin America to have relatively high levels of protection, especially in Peru, Argentina, Brazil, Colombia, and Mexico.

Who Benefits from Labor Unions?

Who wins and who loses through union activity and collective bargaining disputes is an area of disagreement, not only between the parties directly

involved, but also among analysts. Disputes are sharpest precisely when it is implicitly assumed that the labor relationship is a zero-sum game in which some can win only at the cost of others. The discussion on the effects of unions also becomes difficult when it is mistakenly believed that the consequences of labor union action are similar in different contexts, and when positive or negative experiences may be transplanted to different contexts. On this issue, the starting point must be the recognition that neither theory nor empirical evidence offers a final conclusion on the impact of labor union activity. Box 7.7 explains the theoretical reasons for this ambivalence. This section summarizes the results of empirical research on the benefits and costs of unions.

The primary objective of any labor union is to improve the well-being of its members. By this standard, unions tend to be successful. Labor union members generally receive higher pay than those who are nonunionized. In the United States, the differential has been estimated at 15 percent, and in most other countries it is between 5 and 10 percent. There is a great deal of variation in developing countries, possibly because of the diversity of market conditions in which firms operate. As a rule, the wages of unionized workers are better in companies that operate under less competitive conditions in the product market (Aidt and Tzannatos 2002). Hence, the wages of unionized workers are better in companies protected by tariffs or other restrictions on imports because the unions can share in the rents that the companies derive from such restrictions (Harrison and Hanson 1999). The wage differential favoring unionized workers may be cut back with the freeing of international trade, as has happened in Mexico, Uruguay, and other countries (see chapter 5).

Labor unions help reduce wage disparities, especially between skilled and unskilled workers (Aidt and Tzannatos 2002). However, in Latin America, the influence of unions on income distribution may be favorable in some countries and unfavorable in others, for reasons that are not well understood. Cross-section statistical analysis that compares several countries shows that the greater the union membership, the better the income dis-

Box 7.7 The Usefulness of Union Action

Unions generate both costs and benefits for society. In theory, they can produce monopoly costs insofar as they interfere with the free operation of the labor market, and rent-seeking costs insofar as they try to create other distortions and seek to extract rents from society. But they benefit society by acting as channels of information and coordination between companies and workers and as mechanisms for cooperation in work. The impact of labor union action therefore depends on the balance between the costs and benefits produced by their activities.

Monopoly Costs

The main objective of unions is to improve the working conditions of their members. In an elementary theoretical framework, this objective can be achieved if unions succeed in reducing the supply of labor to which companies have access and thereby obtain higher wages so as to seize some of the extra earnings that companies may achieve by operating in markets that are not fully competitive. Unions have to control the labor supply because otherwise companies would hire nonunion workers at lower wages. The markets for the companies' products must not be completely competitive because otherwise there would be no rents to share. In this theoretical framework, unions generate monopoly costs to society by discouraging investment in the sectors where they operate, causing employment in lower productivity sectors to expand, and generating unemployment among workers attracted to unionized sectors by the differential between their wages and those of the nonunionized sector.

The discussion of monopoly costs of unions implicitly assumes that the labor market would be perfectly competitive in the absence of unions. But if that is not the case, for example, because firms have monopsonistic power (that is, market power to hire workers at lower pay than would be the case with perfect competition in the labor market), unions could help resolve the inefficiencies produced by this original distortion. In addition, it is not clear that a multitude of negotiations between each company and its individual workers is a more efficient way to set wages and other labor conditions than an arrangement negotiated with a union, which sets general guidelines for individual contracts, thereby reducing negotiation costs and uncertainty.

Costs of Rent Seeking

Unions can generate other costs to society because it is in their interest to increase the rents received by companies so that they can receive a share. Therefore, unions may support distortionary policies that may be expensive for society but benefit companies and unions. Import controls are a good example. They have social costs because resources flow to sectors that are artificially more profitable to the detriment of others that may be more productive, and because resources are devoted to disputes over claiming the rents, rather than to productive activities. Rent seeking by unions may also be harmful to innovation. Companies that fear that unions may seize the earnings from their inventions may opt to reduce their investment in research and development. Hence, through various routes, unions can generate rent-seeking costs.

Benefits from Participation and Resolution of Disputes

Unions play a role in the organization of companies by acting as channels of information between management and workers and as mechanisms for facilitating cooperation in the workplace. Unions are the collective voice of workers; they allow the exchange of information on concerns that workers individually would not be able or want to express. Thus, unions can help companies improve the work environment, offer more training that is more adequate to workers' needs, and facilitate on-the-job learning. Unions can also help maintain procedures for dialogue between companies and workers, thereby lowering the risk of costly disputes and strikes. And unions can help assure that agreements between companies and workers are observed, reducing uncertainty, which can be harmful to investment and to workers adopting abilities specific to the company. Finally, when a cooperative environment between a company and a union is developed, the latter can help adopt better techniques and work methods to improve productivity for the benefit of both sides. These are all benefits of participation and dispute resolution that may be provided by unions to the companies or sectors in which they operate.

In sum, theory is ambiguous on whether unions are beneficial to society. It depends on the balance between costs and benefits.

Source: Based on Aidt and Tzannatos (2002, chapter 3).

tribution, even controlling for the impact of other factors that may influence income distribution (such as taxes, government spending, or social security payments to families). According to Pagés

and Shinkai (2002), a 10 percent increase in union membership is associated with a 6 to 10 percent reduction in wage inequality. Therefore, the decline in union membership between the 1980s

and the 1990s could account for a 6.6 percent increase in wage inequality, which is greater than what actually took place (3.1 percent).

However, a more detailed country-by-country analysis indicates that this conclusion must be accepted with caution because it does not apply equally to all cases. For example, in Mexico and Venezuela, union membership helps lessen wage inequality among unionized workers, although unions benefit skilled more than unskilled workers. This effect is so strong that unions reduce total wage inequality. According to Pagés and Shinkai, in Venezuela the wage variance of all workers would be 20 percent greater without unions, and in Mexico it would be 13 percent greater.¹⁶ In Brazil, by contrast, unionization has the opposite effect on inequality because unions contribute to increased inequality among unionized workers and between them and other workers.¹⁷

Unions also seem to contribute to reduced wage gaps between men and women among unionized workers. In Mexico, unionization produces a similar effect for indigenous people (Aidt and Tzannatos 2002).

Unions achieve other benefits for their workers. Voluntary turnover is less and job permanence is greater in unionized companies (although at the cost, at least partly, of more involuntary dismissals).¹⁸ Work hours are less for unionized compared with nonunionized workers, and other benefits, such as severance pay, vacations, and pensions, are greater. Furthermore, unionized workers receive more training than their nonunionized peers, especially training directly related to company activities, although the evidence comes primarily from developed countries (Aidt and Tzannatos 2002). Whether this can be generalized to Latin American countries is not known.

Effects of Unions on Companies

Unions do benefit their members, but does this benefit occur at the expense of companies or other sectors of society? In relation to the effects on companies, the evidence is mixed. It has been found quite consistently that unionized companies are

less profitable, especially when such companies enjoy market power. However, unions seem to be sufficiently restrained to avoid bringing companies to bankruptcy. Indeed, there is no evidence that unionized companies go bankrupt more often than nonunionized ones do (Aidt and Tzannatos 2002; Kuhn 1998). The presence of unions in companies seems to have negative effects on investment, as indicated by evidence for the United States and the United Kingdom. However, no uniform pattern has been found in the effect of unionization on productivity. Differences are great from one industry to another, but they tend to be positive where companies operate in competitive markets and in an atmosphere where industrial relations are not very conflictive.

Although most studies of the effects of unions on company performance have to do with developed countries, the main conclusions seem to bear out for Latin American countries as well. Utilizing a set of companies in the manufacturing sector in Peru, Saavedra and Torero (forthcoming) find that the presence of unions reduces company profitability, and that this effect increases with higher unionization. In Guatemala, a study of coffee farms finds negative effects of unionization on productivity (Urizar and Lee 2003). Menezes Filho and others (2002) establish that in Brazil, the presence of unions lowers the profitability of manufacturing companies.¹⁹ However, Brazil is one of the few countries where worker participation in certain aspects of company management is mandatory. Menezes Filho and others find that the introduction of these mechanisms (particularly profit sharing) contributed to company performance in terms of productivity and profitability, and that this effect

¹⁶ In the United States, unions reduce inequality by 8 percent, according to the same study.

¹⁷ These conclusions of Pagés and Shinkai (2002) for Brazil are consistent with the findings of Arbache (1999).

¹⁸ Yet this is not true in Uruguay, one of the few countries in the region where this phenomenon has been studied. In Uruguay, those working in the more unionized industries are less likely to be fired (Cassoni, Allen, and Labadie forthcoming).

¹⁹ According to this study, union density has a nonlinear effect on productivity—it is positive and growing to intermediate levels and then gradually declining until it reaches the negative point.

was greater in the more unionized companies, possibly because unions facilitate communication between company management and workers.

Effects of Unions on the Economy

An issue that requires caution before leaping to any conclusion is the effects of unions on the economy as a whole. This is due not only to limitations of empirical research, but also to the fact that the influence of labor union action depends crucially on contextual aspects and especially on coordination between unions and/or companies.

Aidt and Tzannatos (2002) review comparative studies among countries (most of them in the OECD) and make the following observations:

- Union density (the proportion of all workers who are union members) per se has a weak association, or perhaps no association, with economic performance indicators such as the unemployment rate, inflation, the employment rate, real compensation growth, labor supply, adjustment speed to wage shocks, real wage flexibility, and labor and total factor productivity. There is, however, one significant exception: union density correlates negatively with labor earnings inequality and wage dispersion. However, even this conclusion must be taken with caution for Latin American countries.

- Bargaining coverage (the proportion of the workforce that is covered by a collective agreement) tends to be associated with higher real wage growth (with no impact on productivity growth), lower employment rates, higher unemployment rates, and higher inflation. As with union density, bargaining coverage correlates negatively with larger earnings inequality and age dispersion. (Aidt and Tzannatos 2002, p.11)

The foregoing conclusions mean that union action can have important effects for society as a whole. However, those effects depend critically on circumstances that differ between countries, particularly the degree of coordination between unions and/or between companies in wage negotiations. For example, in Uruguay between 1985 and 1991, unions operated under an arrangement of

three-way industry negotiations with government involvement, thereby entailing a high degree of coordination. Since 1992, unions have been free to bargain at the firm level with no government involvement. In this new system, chances of coordination are minimal.

It is important to distinguish coordination from centralization, which refers strictly to the level at which the negotiation takes place (in the plan, the company, the industry, or the economy as a whole). This means that there may be coordination between unions or companies even when the bargaining system is decentralized. The existence of labor and business organizations facilitates coordination between unions and companies, even when wage decisions are decentralized.

The evidence for developed countries suggests that countries where collective bargaining processes are coordinated at the national level tend to experience lower and less persistent unemployment rates, less wage inequality, and fewer disruptions because of strikes than those where coordination takes place at the industry level or where there is no coordination. There is also support for the claim that coordination at the intermediate or industry level produces the worst effects in terms of productivity and wage rigidity. Although these conclusions stand up better for the 1970s and 1980s than subsequently, the following statement remains generally valid for developed countries: "High union density and bargaining coverage do not contribute to poor unemployment performance so long as they are complemented by high bargaining coordination (particularly among employers)." (Aidt and Tzannatos 2002, p.13)

Hence, coordination of collective bargaining processes may avoid some of the negative effects that union action may have on the economy as a whole when unions or companies act without coordination. But coordination also brings its own risks, especially when it is based on centralized bargaining processes. It may reduce competitive pressure on companies, which, by acting together, can raise wages not supported by productivity improvements and thus translate into inflation, unemployment, or low growth. This risk is significant in economies that are not very integrated with the

rest of the world. Centralized coordination can reduce incentives for collaboration between companies and their unions to share information and improve productivity, and raise the risks of national strikes that can have high costs for society as a whole.

Labor unions may influence the ability of economies to adjust and their willingness to adopt reforms, an issue that is quite relevant for Latin America. Of all the labor institutions discussed in this chapter, only labor unions seem to have an influence on the depth and effectiveness of macroeconomic and structural reforms, according to an analysis of the experience of more than 100 countries between 1980 and 1996 (Forteza and Rama 2002). The countries with the highest unionization rates tend to experience greater recessions before adopting adjustment measurements, and subsequently they are slower to recover. These results suggest that in most cases labor organizations help delay and dilute reform processes. However, it is not clear whether this applies to countries with different levels of coordination, collective bargaining, and other institutions that may influence interaction among governments, business sectors, and workers in macroeconomic decisionmaking.

In closing, as summarized in Box 7.8, labor unions can bring important gains to society, but also induce substantial costs, depending on institutional, economic, and cultural factors.

Box 7.8 Effects of Labor Unions

Indications

Labor unions provide a voice to workers and facilitate dialogue between workers and firms. Labor unions prevent conflict between firms and workers by finding win-win solutions to problems and helping to increase productivity. They raise wages, working conditions, and employment levels for those covered in the negotiations.

Side Effects

Labor unions often reduce profits and investment and may promote inefficient policies and rent-seeking that will benefit their members but not society at large. Side effects are much less of a concern in firms/sectors subject to internal and external competition.

Caution

Benefits and side effects are difficult to foresee in advance because they are sensitive to the legal framework governing industrial relations, the level of coordination among unions, and coordination among unions, government, and business organizations.

Appendix Table 7.1 Economic Effects of Labor Laws and Regulations, Latin American and Developed Countries, 1995–2001

Dependent variable	Employment rate	Unemployment rate	Growth in employment ^a	Percent self-employed	Total factor productivity growth rate ^b	Real GDP per worker growth rate ^b	Percent unemployed more than a year
Conditions of employment	-7.24	3.12	-2.53	12.67	0.38	1.35	31.83
t-statistic	(1.27)	(0.67)	(1.21)	(2.40)**	(0.27)	(0.89)	(1.64)
Number of observations	54	39	40	33	64	83	38
R ²	0.11	0.13	0.13	0.75	0.05	0.03	0.11
Social security	-3.61	1.02	-1.77	-0.87	-0.71	-0.30	
t-statistic	(1.62)	(0.71)	(2.31)**	(0.29)	(1.66)	(0.71)	
Number of observations	54	39	40	33	64	83	
R ²	0.12	0.13	0.21	0.7	0.09	0.02	
Social security contributions (percentage of wages)	-12.48	3.86	-3.16	-0.08	0.61	1.64	73.04
t-statistic	(1.97)	(0.93)	(2.14)**	(0.01)	(0.33)	(0.79)	(4.51)***
Number of observations	42	36	32	38	40	42	40
R ²	0.18	0.12	0.29	0.7	0.23	0.17	0.39
Job security (Djankov measure)	0.60	-0.64	1.67	0.77	-0.30	0.49	-3.45
t-statistic	(0.10)	(0.18)	(0.80)	(0.16)	(0.23)	(0.35)	(0.20)
Number of observations	54	39	40	33	64	83	38
R ²	0.08	0.12	0.11	0.7	0.05	0.02	0.05
Job security (Heckman and Pagés measure)	-1.38	-0.97	0.32	-0.36	0.05	0.17	-0.15
t-statistic	(1.37)	(1.52)	(1.08)	(0.36)	(0.16)	(0.67)	(0.47)
Number of observations	42	37	32	38	40	41	42
R ²	0.21	0.17	0.24	0.71	0.19	0.34	0.12

** Significant at 5 percent.

*** Significant at 1 percent.

^a Number of employees, 1990–2001.

^b 1995–99.

Note: Per capita GDP in U.S. dollars is used as a control in all regressions, and a constant is also estimated but not reported.

Source: Self-employment data are from Blanchard (2002) and IDB household surveys. Social security data are from Djankov and others (2003). Data on social security contributions as a percentage of wages are from Heckman and Pagés (forthcoming). Job security measures are from Djankov and others (2003) and Heckman and Pagés (forthcoming).

APPENDIX 7.1 THE SPEED OF ADJUSTMENT AND LABOR MARKET INSTITUTIONS

This appendix summarizes recent work by Caballero and Engel (2003), which analyzes the relationship between the speed at which firms adjust employment to changes in the economic environment and labor market institutions.

The first step is to compute a measure of the speed of adjustment, λ . The following setup is used:

$$(1) \quad \Delta l_{jit} = \lambda(l_{jit}^* - l_{jit-1}) = \lambda(l_{jit}^* - l_{jit} - \Delta l_{jit})$$

where l and l^* represent the observed and desired levels of employment (in logs) for sector i in country j and period t . To estimate the gap between the current and desired levels of employment, $\text{gap} = (l_{jit}^* - l_{jit-1})$, it is assumed that wages equal the nominal marginal productivity of labor in the absence of adjustment costs. After some algebra, the following expression is obtained:

$$(2) \quad l_{jit}^* - l_{jit} = \Omega \frac{nmp l_{jit} - w_{j,t} - \phi_{jit}}{1 - \alpha \gamma_i}$$

where $nmp l$ is the nominal marginal productivity of labor (in logs) and w represents wages (also in logs).

To avoid the use of wages, they are proxied by the simple average of $nmp l$ by country and year. The denominator is one minus labor's share in income and ϕ is a variable that accounts for the composition of workers across industries and countries.¹ This parameter is estimated as the simple average in $t-2$ and $t-1$ of the difference between $nmp l$ and w . The parameter Ω is related to the substitutability between hours and employment, and is estimated by rewriting expression (2) as follows:

$$(3) \quad \Delta l_{jit} = -\Omega \frac{\Delta nmp l_{jit} - \Delta w_{j,t}}{1 - \alpha \gamma_i} + \Delta l_{jit}^*$$

and making use of the fact that the obtained coefficient is 0.3.

To compute equation (1), nominal output and employment data from the 2002 three-digit UNIDO Industrial Statistics Database are used. The UNIDO database contains data for 1963-2000 for the 28 manufacturing sectors that correspond to the three-digit ISIC code (revision 2). The analysis is based on data for 51 OECD and Latin American countries from 1980-2000 for which there is information on job security from Djankov and others (2003) and Heckman and Pagés (forthcoming).

Appendix Table 7.1 presents the results of estimation of equation (1). The first column reports the results without including the interaction term (gap * job security). As expected, the estimated coefficient on gap is positive and significantly different from zero at conventional confidence levels: changes in employment are proportional to the gap between wages and the marginal product of labor. The point estimates of the λ coefficient suggest that firms on average close 75 percent of the gap between the desired and current levels of labor.

The second column includes an interaction between the computed gap and the Djankov and others index of job security (a higher value implies more job security). The estimated coefficient on the gap * job security interaction is positive and (marginally) significant, contrary to the expected effect of job security on adjustment costs. A possible explanation for this finding is variation across countries in the degree of enforcement of labor market regulations.

To test this hypothesis, the third column includes an additional interaction term, gap * job security * rule of law. The estimated coefficient on this triple interaction should be (and is) negative and significant. Countries with higher job security and rule of law have a lower speed of adjustment. The effect of the estimated coefficients on the speed of adjustment is large. Moving from the low-

¹ Labor's share in income equals the labor-output elasticity divided by the markup. The coefficient is assumed to be equal across countries but varies across sectors.

Appendix 7.1 Table 1 Speed of Adjustment and Labor Market Regulation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gap	0.754 (0.011)***	0.752 (0.019)***	0.771 (0.018)***	0.841 (0.048)***	0.697 (0.019)***				
Gap* job security (Djankov)		0.007 (0.045)	-0.086 (0.050)*	-0.090 (0.050)*	-0.142 (0.051)***	-0.152 (0.051)***	0.197 (0.055)***		
Gap* rule of law			0.040 (0.016)**	0.041 (0.015)***			0.052 (0.017)***		-0.001 (0.021)
Gap* job security (Djankov) * rule of law			-0.129 (0.041)***	-0.130 (0.040)***			-0.112 (0.041)***		
Gap* job security (Heckman)							-0.032 (0.009)***	-0.032 (0.009)***	(0.009)***
Gap* job security (Heckman) * rule of law									0.001 (0.008)
Gap* medium-high income					0.085 (0.016)***	0.080 (0.017)***	0.095 (0.025)***	0.096 (0.025)***	0.096 (0.033)***
Gap* medium income					-0.001 (0.001)	0.007 (0.004)*	0.007 (0.004)*	0.013 (0.005)***	0.013 (0.005)***
Gap* low income					0.179 (0.024)***	0.179 (0.024)***	0.203 (0.032)***	0.152 (0.041)***	0.155 (0.060)***
Number of observations	20,332	20,332	20,332	20,332	20,332	20,332	20,332	10,676	10,676
R ²	0.71	0.71	0.72	0.72	0.72	0.72	0.72	0.73	0.73
Gap * ISIC dummies	No	No	No	Yes	No	Yes	Yes	Yes	Yes

* Significant at 10 percent.

** Significant at 5 percent.

*** Significant at 1 percent.

Note: The dependent variable is change in employment. Higher values represent lower contract flexibility. Each regression has a country-year fixed effect. Robust standard errors are in parentheses. Omega=0.3 The Djankov job security measure is from Djankov and others (2003); the Heckman measure is from Heckman and Pagés (forthcoming).

Source: IDB calculations.

est 20 percent of job security to the highest 20 percent reduces the speed of adjustment from around 0.6 to less than 0.1 with high rule of law. The same change has a lower effect for countries with weak rule of law: from 0.6 to 0.4.

These results are robust to the addition of sector-gap interactions to control for differences in the

speed of adjustment of sectors (the fourth column), dummy variables for the level of income interacted with the gap interactions (the fifth through seventh columns), and an alternative measure of job security (the eighth column).