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**Labor Market Reforms:  
The Good, The Bad and The Ugly**

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## **1. Introduction**

Compared to the pace of structural reforms aimed at liberalizing product and capital markets, labor reforms have been scarce. In many instances, when they have occurred, they have increased the level of protection afforded to workers. However, many observers argue that without further labor market reforms aimed at liberalizing labor markets, Latin American economies will not be able to compete in international markets. But what are the costs of not reforming? What types of reforms are necessary? Is dismantling the current levels of regulation and protection the way to go? In this paper, we assess labor market regulations in Latin America and briefly document their recent history. We then examine the costs that this regulatory system imposes on the labor market. We argue that the current regulatory system exacts substantial costs in terms of labor market performance and that such costs call for far-reaching labor reforms; however, demand is high for social protection, meaning that future reforms should aim at providing this protection at a lower cost.

One fundamental issue feeds the debate on regulations and reforms, and this is the question of whether the labor market needs regulations. From the point of view of neoclassical economic analysis, with the right set of conditions in place, labor markets by themselves and without intervention would be expected to deliver efficient outcomes. According to this view, regulations are the result of political pressures that have little to do with improving the functioning of labor markets. It is argued that even if the purpose of regulators is to achieve positive social outcomes (e.g., redistribution of income from employers to workers or from one type of workers to another), labor markets operating according to such a rule will malfunction, delivering high unemployment or

discriminating against certain types of workers, thereby undoing the positive effects intended by the law.

Of course, whether this scenario holds true and dismantling all forms of regulation is the right reform depends on whether labor markets are expected to deliver efficient outcomes without intervention. To assess whether they could work efficiently without regulations, it is useful to describe the assumptions involved. In a perfect market, many workers compete for comparable jobs and many firms compete for comparable workers. Informed workers examine their options and accept offers of employment that provide the best labor conditions and the highest wages for the same expected effort. Firms that offer poor labor conditions might not be able to hire workers or might lose workers to other firms. Therefore, all firms end up offering similar wages for similar work and wages equate the marginal product of labor. Moreover, in such a market, workers correctly assess their probability of involuntary separation and buy insurance toward that event.<sup>2</sup> If insurance, coupled with personal savings were not enough, workers would borrow against their future savings to compensate for periods of job loss.

How likely are these assumptions to hold? The first point to notice is that the market for private unemployment insurance is plagued with adverse selection and moral hazard problems and therefore private unemployment insurance is generally not available. Consumption credits to unemployed workers are generally not available either. This implies that workers are forced to sustain periods of job loss with their own savings, borrowing from friends or family, or sending inactive household members to search for jobs. Because many workers do not have the resources to sustain periods of productive

job search, they may be forced to accept the first job that comes their way, because they cannot afford to remain without income. In this scenario, workers may not have the resources to move to where the jobs are, reducing the competition for jobs and workers in the labor market and shifting the balance of bargaining power to firms. In addition, because workers do not have the time to search for jobs that match their abilities, the qualities of the matches in the labor market may be very low, reducing current wages and the incentives to invest in training or technology that bring future productivity gains.

This argument makes it clear that there may be costs and benefits to regulations and that therefore, the right approach is not to discuss when or how to deregulate. Instead, the discussion must be based on which set of institutions and regulations will improve the functioning of labor markets, and whether the regulations that are already in place achieve their goals or instead need to be amended.

The rest of the paper is organized as follows. Section 2 provides a brief history of regulations and reforms in Latin America, and compares the current regulatory system with regulations in other parts of the world. Section 3 summarizes what is known about the costs of the current regulatory system. Section 4 assesses the demand for social protection in the region as well as its benefits. Finally, Section 5 discusses options for reform.

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<sup>2</sup> They could save for that event as well, but because unemployment involves substantial losses of income that occur with a relatively small probability, buying insurance is a more efficient mechanism to hedge

## **2. Labor Regulations and Labor Reforms in Latin America**

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. Finally, another important set of regulations aims at providing employment security to workers by making dismissals more costly.

Latin American countries started regulating their labor markets at the beginning of the twentieth century. The Mexican constitution of 1917 articulated the principle that protecting workers was one of the duties of the State. By the 1930s and 1940s most countries had a Labor Code. For many years, successive reforms expanded the protection that the law afforded to workers without questioning whether such regulations would have economic costs. Yet, until the 1980s most countries in the region heavily protected their industries and labor regulations were one way to redistribute rents from employers to employees.

### **2.2 Working Conditions and Social Security Regulations**

Labor laws regarding working conditions in Latin America are protective by international standards. Figure 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 employment regulations and more protective regulations for

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against such negative income shocks.

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.<sup>3</sup> 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 industrial countries do. Latin America is surpassed only 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, while 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 et al., 2003).

Social security benefits (and contributions) are lower in Latin America and other developing countries than in industrial countries. In figure 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.<sup>4</sup> 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 other industrial countries and countries in Eastern

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<sup>3</sup> See Djankov et al. (2003) for more on calculating this measure.

<sup>4</sup> This index is the normalized sum of the following components: the difference between retirement age and life expectancy; months of contributions required for normal retirement to qualify for health and unemployment insurance programs, if available; 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.

Europe and Central Asia. However, the index for Latin America is higher than for other developing regions, including 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 industrial 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.

### **2.3 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, specification of the causes that justify dismissal, and compensation for 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 consultations 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.

The analysis uses information gathered by Djankov et al. (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 3, Latin America and the Caribbean is the world region with the most protected job security. English-speaking industrial 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.

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 contributions to mandatory individual savings accounts.<sup>5</sup> 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 of recording 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 4 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 countries in the Organization for Economic Co-operation and Development (OECD). 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 et al. (2003), appears relatively flexible in the Heckman 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 common belief, employment protection for permanent workers did not weaken in most countries in the 1990s. In Chile, Brazil and the Dominican Republic, at the beginning of the 1990s and later in Nicaragua (1996) reforms aimed at restoring the political balance after military regimes produced more protective labor regulations. In the case of Chile, in 1990 a new law increased maximum indemnities from 5 to 11 months of pay. It also re-introduced the need for firms to prove just cause for dismissal, although unlike the case in other countries, the new law considered the economic needs of the firm a just cause.

Brazil enacted a new constitution in 1988, which enshrined new benefits and expanded existing ones. The new Constitution also modified the mandatory individual saving accounts system created in 1966. Prior to the reforms, the law required employers to deposit 8% of employees' wages in a worker-owned account. In case of separation, workers could withdraw the accumulated funds (plus the interest rate). In addition, if a firm initiated a separation it had to pay a penalty equivalent to 10% of the amount accumulated in the account. As part of the 1988 reform, this penalty was increased to 40%, considerably increasing the cost of dismissing a worker.

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<sup>5</sup> 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

In Colombia and Peru, regulations reduced the total amount of the transfer to be paid to workers. In 1990, Colombia reformed many aspects of the labor code. Among the most important changes were the reform of the *Cesantias*, or mandatory pay that firms have to provide workers at the end of the work relationship regardless of the cause or the party that initiated separation. These benefits were converted into an individual mandatory savings account greatly reducing the costs associated with providing this benefit.<sup>6</sup> In addition, the reforms eliminated the right to re-instatement for workers with more than ten years of tenure. However, reforms also increased the cost of indemnities for dismissal.

In 1991, Peru reduced the cost of dismissing workers hired under indefinite contracts. During 1971-1991, Peru had an extremely protective labor law that granted permanent job security to workers. From 1991 onwards, workers hired after that year could be dismissed upon payment of a severance benefit. Indemnities for dismissal were reduced in 1991, and then again in 1995; however, in 1996 they increased again.

In other cases, reforms increased one component of the transfer and reduced another. In Panama (1995) and Venezuela (1997) reforms simplified and reduced indemnities for dismissal but considerably increased the additional amount that firms had to pay as severance pay. Also, in Colombia, reforms reduced the amount that firms paid to such savings accounts but increased severance payments for workers with more than 10 years of seniority.<sup>7</sup>

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the event that a worker separates from a job either voluntarily or involuntarily.

<sup>6</sup> The high cost of operating this benefit derived from the fact that workers could make early withdrawals against this benefit. But while the pay was indexed to the last wage prior to separation, withdrawals were credited against the severance pay without adjusting for inflation. High inflation made this system costly.

### **3. The Cost of Not Reforming**

#### **3.1 The Cost of Working Conditions and Social Security Regulations**

Labor laws regulate the conditions of wage employment by establishing the types of contracts that can be issued to workers, 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, many employers, economists, and politicians claim that labor regulations inflict large costs on labor markets. 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 disturbingly high levels of inequality, employment instability, and deplorable labor conditions, and argue that without rules, work conditions, job stability, and social protection would be even worse.

In this section we summarize the existing evidence regarding the costs, if any, that the current regulatory and institutional system in the labor market imposes on the behavior of the market and on workers' welfare.

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

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<sup>7</sup> Reforms also eliminated these workers' right to sue for back pay and reinstatement; however, this is not captured in the index.

agree on which benefits the laws 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. It 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 incidence 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. 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.

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.

### **Effects on Employment, Unemployment and Wages**

A simple and telling empirical exercise correlates measures of regulations with labor market and economic performance measures across 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 Table 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.<sup>8</sup> 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, “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

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<sup>8</sup> 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.

share of the cost.<sup>9</sup> In addition, using a panel of countries in OECD and Latin America, Heckman and Pagés (forthcoming) also estimate the direct impact of social security contributions on employment. They find that such contributions reduce employment and increase unemployment in the joint sample and within each region. Therefore, the evidence is fairly robust that although benefits are partly paid by employees, mandatory benefit regulations have a cost in terms of lower employment.

### **Effect on Compliance**

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 partially explain why compliance with social security regulations is low (see figure 5). Fifty percent or more of employees are not covered in Nicaragua, Peru, Bolivia, the Dominican Republic, and El Salvador. 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

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<sup>9</sup> Gruber (1994) for the United States and Gruber (1997) for Chile find that workers bear all the costs. Edwards and Cox-Edwards (1999), Mondino and Montoya (2000), and MacIsaac and Rama (1997) find

concentrate in these firms to begin with. Excessive protection may also explain why younger and female workers (who are likely to be covered by the contributions of other members of the household) are less likely to be covered than older and male workers. Table 2 shows that social security programs protect a lower percentage of women, young, unskilled, and lower-wage workers than men, older, more skilled, and richer workers.

### **3.2. The Cost of Job Security**

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, 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.

#### **Effects on Turnover**

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

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that the cost is shared by employers and employees.

protection would have lower turnover rates. Surprisingly, the comparison of turnover rates across countries does not show this effect. Figure 6 plots average turnover rates and the Djankov et al. (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 between one year and the year before, 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.

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, like the United States and Canada, have turnover rates similar to Italy and France, which have higher job security. Moreover, Mexico and Brazil, which have higher employment protection than the United States, 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. Loboguerra and Panizza (2003) provide evidence that supports this argument because countries with more stringent job security regulations have larger employment losses associated with cyclical changes in economic activity.

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 like 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, Krueger (2000) 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 instability 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.

Micco and Pagés (2003) provide a formal test of the causal relationship between labor market regulations and job turnover. This test is based on the simple notion that more volatile industries should be more affected by strict employment protection than less volatile industries. While, for reasons related to their specific technology or the characteristics of their product market, some industries may require sizable adjustments in factors, others live in stable environments and require small adjustments in labor and capital. The results suggest that employment protection reduces turnover and that this is particularly the case in industries that are more volatile or require less specific human capital. This suggests that very regulated economies are not friendly to these types of industries. This could imply that high technology industries may not thrive in Europe because they are too volatile, while low human capital specific industries may not thrive in Latin American countries despite their relatively lower labor costs.

### **Effects on Employment and Unemployment**

In some respects, job security regulations can be interpreted as mandatory benefits, so analyzing 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 less 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 industrial 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 industrial employment rates. However, studies examining labor reforms in Chile and Brazil find no evidence of statistically significant effects.<sup>10</sup>

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 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.<sup>11</sup> For Colombia, Kugler (forthcoming) finds that after a reform in 1990 that reduced job security, the average duration of unemployment declined from its pre-reform 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

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

<sup>11</sup> See Nickel and Layard (1999) and the references therein.

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 relative decline in the demand for unskilled workers relative to skilled workers.<sup>12</sup> The effects are quite sizeable. For instance, a 10 percent increase in job security reduces the employment rate of young, unskilled workers by almost 0.5 percentage points (see figure 7). 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.<sup>13</sup> 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

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<sup>12</sup> Pagés and Montenegro (1999) and Montenegro and Pagés (2003).

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 like the United States, Canada, and New Zealand, which are characterized by low job security, had lower average productivity growth than countries like Spain, Italy, and Belgium, which have 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

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<sup>13</sup> See Hopenhayn and Rogerson (1993) and Blanchard and Portugal (2001). See also the extensive literature on reallocation and productivity growth summarized in Davis and Haltiwanger (1996).

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.

#### **4. Demand for Social Protection**

According to the Latinobarometro, a public opinion survey that covers 17 countries in Latin America, unemployment ranks first on the list of people's concerns. On average, more than 20 percent of the survey responses pointed to unemployment as the most pressing problem.<sup>14</sup> Moreover, according to the same source, in 1996, 85 percent of Latin Americans were either unemployed or worried about losing their job. These numbers were even larger in 2001. Surprisingly, these magnitudes are similarly high in countries like Mexico, Costa Rica or Guatemala, where unemployment is traditionally very low.

To understand this concern for unemployment it is important to look beyond the unemployment rate and examine job and worker flows. Small stocks of unemployment can hide a phenomenal amount of reallocation activity in the labor market. Recent evidence (IDB, 2004) suggests that in any given year, a large number of firms are expanding their staff while others are reducing employment. These high rates of turnover are found in all sectors of activity, no matter how narrowly defined, and occur regardless of whether the economy is going through a period of expansion or recession. Figures 9.1 and 9.2 present turnover data (that is the sum of job creation and job destruction in a given year) for the overall economy and for the manufacturing sector in a sample of countries. These figures indicate that turnover rates in Latin American countries are large

but within the ranges found in other industrial or developing countries. To give an idea of the magnitudes involved, see for instance that an annual job turnover rate of 34%, as is the case in Mexico for the overall economy, indicates that about 1 out of 3 jobs is created or destroyed in a given year.<sup>15</sup>

The evidence also suggests that most reallocation is associated with firm-specific rather than aggregate shocks. Thus, the high rates of job creation and destruction that set Latin American labor markets in perpetual motion are not associated with the excessive macro volatility of the region; rather, they come with the daily business of creating firms, hiring new workers in the face of firm-specific good news, or downsizing the scale of companies or closing in case of firm-related adverse circumstances.

High rates of job turnover imply that many workers are involuntarily separated from their jobs every year. They also imply that many new jobs are created. However, in Latin America most workers are ill prepared to sustain periods of joblessness. Current forms of social protection based on mandatory severance pay reach only a minority of workers. So what happens to involuntarily separated workers? Do they find jobs within a reasonable amount of time, and do these jobs afford the same level of pay and benefits as the jobs they held before?

Table 3 shows that on average 36% of the unemployed spend less than 1 month in unemployment. This contrasts with 8.28% of the unemployed in Eastern Europe, or 11.23% in Continental Europe. Similarly, only a handful of workers remain unemployed one year or more. The average for Latin America (11.18%) contrasts with much higher percentages in Eastern Europe (41.5%) or Continental Europe (42.02%) and is more

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<sup>14</sup> See Figure 8

similar to the level observed in the United States (7.35%). Nonetheless, some countries such as Colombia and Panama stand out for their relatively high shares of long-term unemployment.

But the welfare consequences for an unemployed person depend crucially not only on the probability of finding a new job but also on the probability of finding a similar (or better) one. Data assembled from the household surveys rotatory panels for Mexico and Argentina suggest that workers may be liquidity-constrained in their search. Thus, while women and youth have a lower probability to transit from unemployment to employment within six months than men and prime-age workers, they tend to find better jobs. Thus, women and youth are more likely to find jobs that pay benefits mandated by labor laws. They are also more likely to find jobs as wage-employees and in large firms. While it is unclear whether all self-employed workers are worse off than wage employees, it is a well-known fact that wages tend to increase with the size of the firm. Considered together, these findings suggest that those workers that are more likely to be supported by other members of the family and that therefore can search for longer periods are able to find better jobs.<sup>16</sup>

Recent economic literature emphasizes the value of social insurance not only in its role of smoothing consumption during periods of job loss, but also as an instrument to bring productivity gains by promoting better job-worker matches. In the context of a general equilibrium model, Marimon and Zilibotti (1997) show that in economies with unemployment insurance, unemployment increases more in bad times, but wage

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<sup>15</sup> Turnover rates for Mexico and Brazil are computed from social security registries (Mexico) and surveys of registered firms (Brazil) therefore reflect large rates of turnover in the formal sector.

<sup>16</sup> See Chapter 2 of IADB (2004)..

inequality grows less and productivity grows more due to better job-worker matches. Similarly, Acemoglu and Shimer (1998) argue that unemployment insurance can increase labor productivity by encouraging workers to seek higher-productivity jobs and by encouraging firms to create those jobs.

## **5. Directions for Reforms**

### **Improving Mandatory Benefit Regulations**

Mandatory benefit regulations improve the welfare of workers in the formal sector. However, in addition to the employment cost of these policies, the current system of protection based on mandatory transfers from employers to employees or individual contributions (in the case of self-employed workers) *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 undertake to examine whether the level (and bundling) of benefits prescribed by their national labor code is the optimal one, 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 among 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 cost. 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.<sup>17</sup>

### **Improving Social Insurance**

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 may increase the duration of unemployment and bias the composition of employment against young and unskilled workers; such problems may also be associated with lower employment rates. Despite these costs, reforms have not been possible in many countries. 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. However, in many cases reformers have not attempted to provide alternative means of insurance. The current system should be amended to provide protection at a lower cost.

This said, there is an advantage to job security regulations as a means of providing unemployment insurance in low and medium-income countries: the transfer to the unemployed is paid directly by the employer. This is not a small thing. In poorer

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<sup>17</sup> 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

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 on women, young, and unskilled workers because they tend to have lower tenure. Reducing 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 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 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 traditional systems based on

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shift in the relative price of capital will not affect the employment costs of social security programs.

severance pay) is that workers with short tenures prior to termination may not have accumulated enough funds in their accounts to survive an unemployment spell. In this respect, individual savings accounts do not constitute 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 are 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 most developed countries. These systems look much like the collective savings account mechanisms described above, with the difference that payments to the unemployed are not disbursed 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 who 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.

Of course, 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 may be 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 has to 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 who 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 Bolivia, where the size of the informal sector would make it too costly to administer.

### **Avoid Partial Labor Market Reforms**

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 reduced by 100 percent. However, these contracts were eliminated in 1998, when the share of workers under these modalities 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, which is concentrated among the young. The evidence also suggests that turnover increases, but there is no evidence that unemployment or the duration of unemployment declines as a result of this measure.<sup>18</sup>

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 that need them the most. These effects become larger the greater is the difference in dismissal costs between permanent and temporary workers. The lesson is that the more protective is the legislation of employment protection, the larger are the distortions and negative consequences of partial reforms. Therefore, despite the difficulties in passing comprehensive reforms, partial reforms are not a good substitute

## **Conclusions**

This paper shows that labor markets in Latin America are extremely protected while a large fraction of the labor force is excluded or opts out of the system. The lack of coverage and the large costs in terms of employment, reallocation, composition of employment, and possibly, productivity growth warrant reforms. However, the large demand for social protection in the region suggests that such reforms cannot simply take the form of deregulation. They have to involve a transformation of social insurance mechanisms in the region. There is no one-size-fits-all solution. Each country has to

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<sup>18</sup> See Saint-Paul (2000) for Spain, Blanchard and Landier (2001) for France, and Hopenhayn (2000) for Argentina.

choose modalities that are compatible with its institutional capabilities, its preferences and its level of development.

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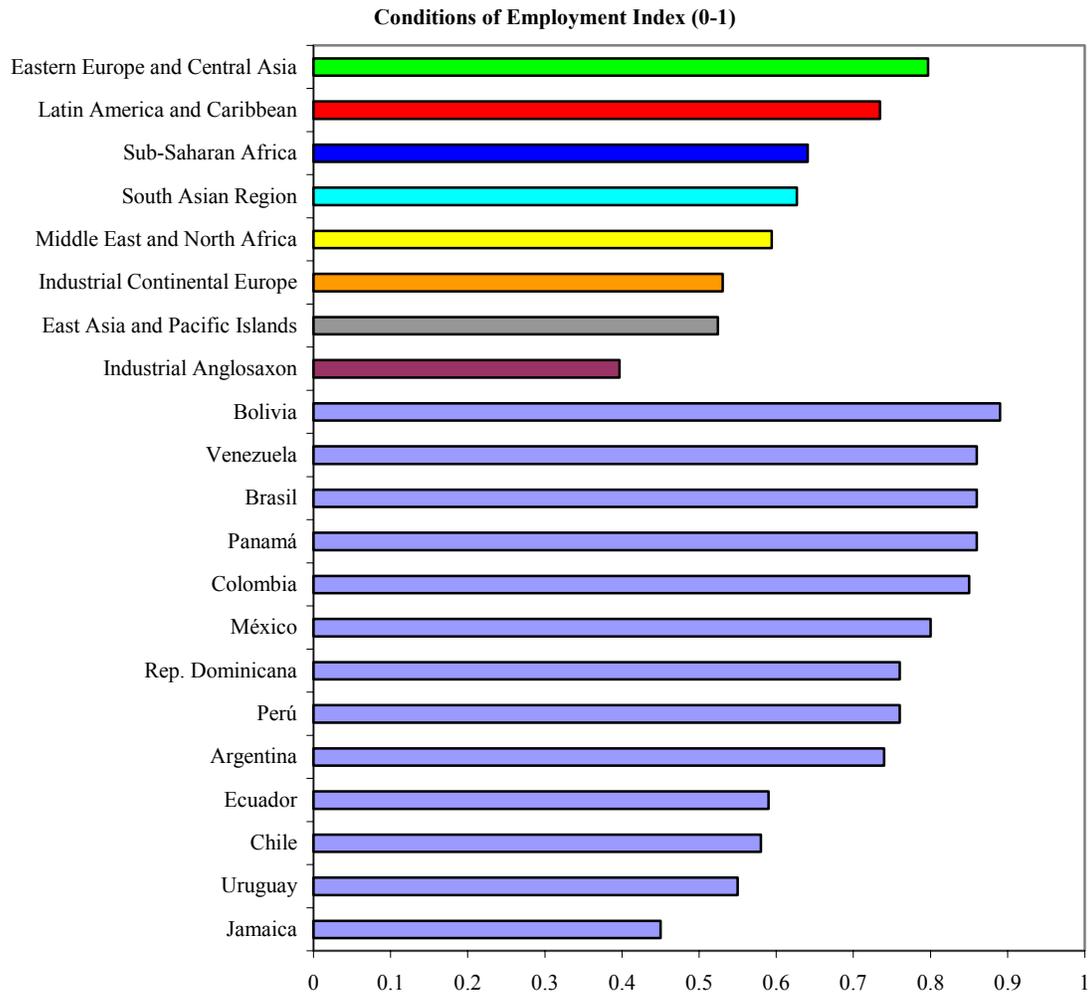
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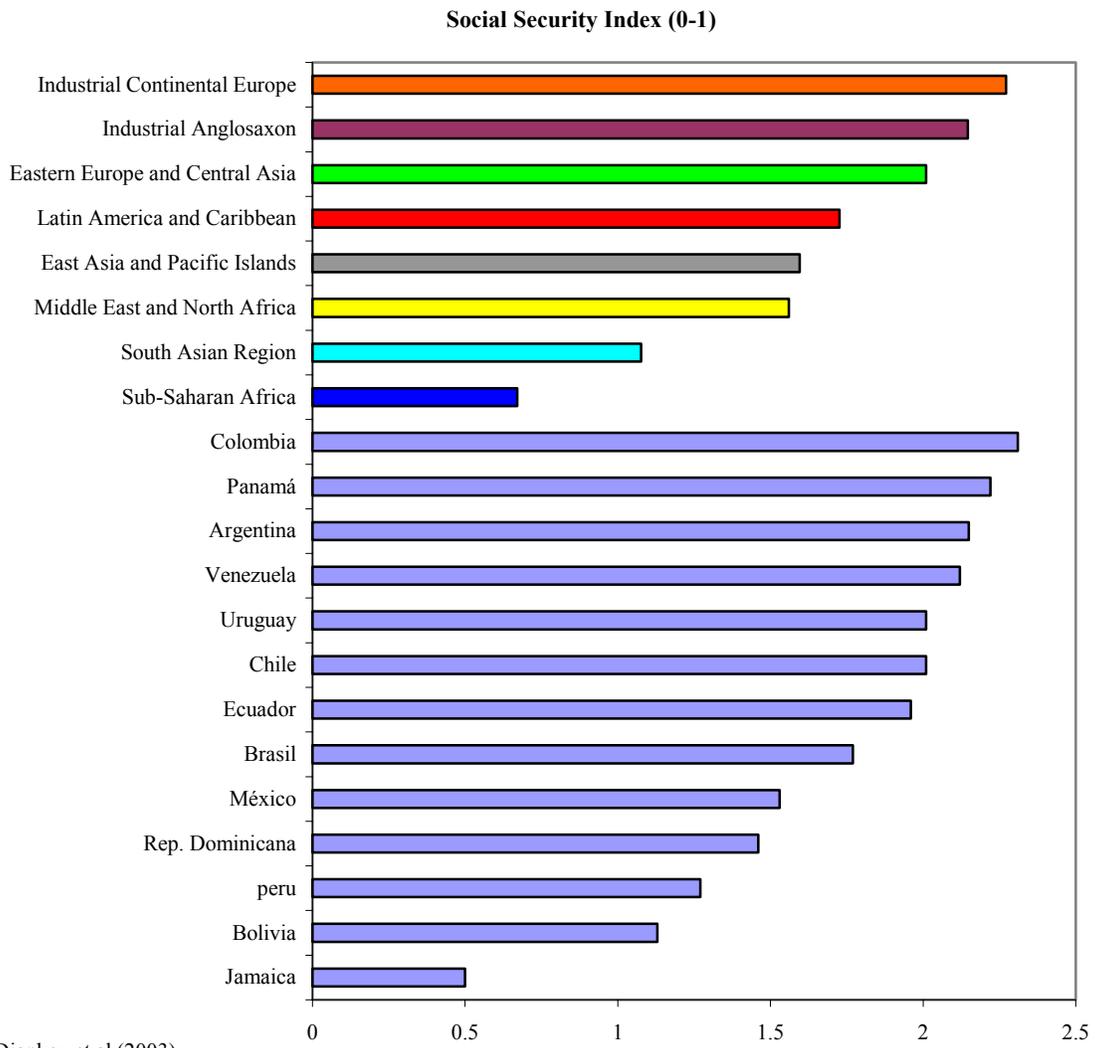
## Figures and Tables

Figure 1



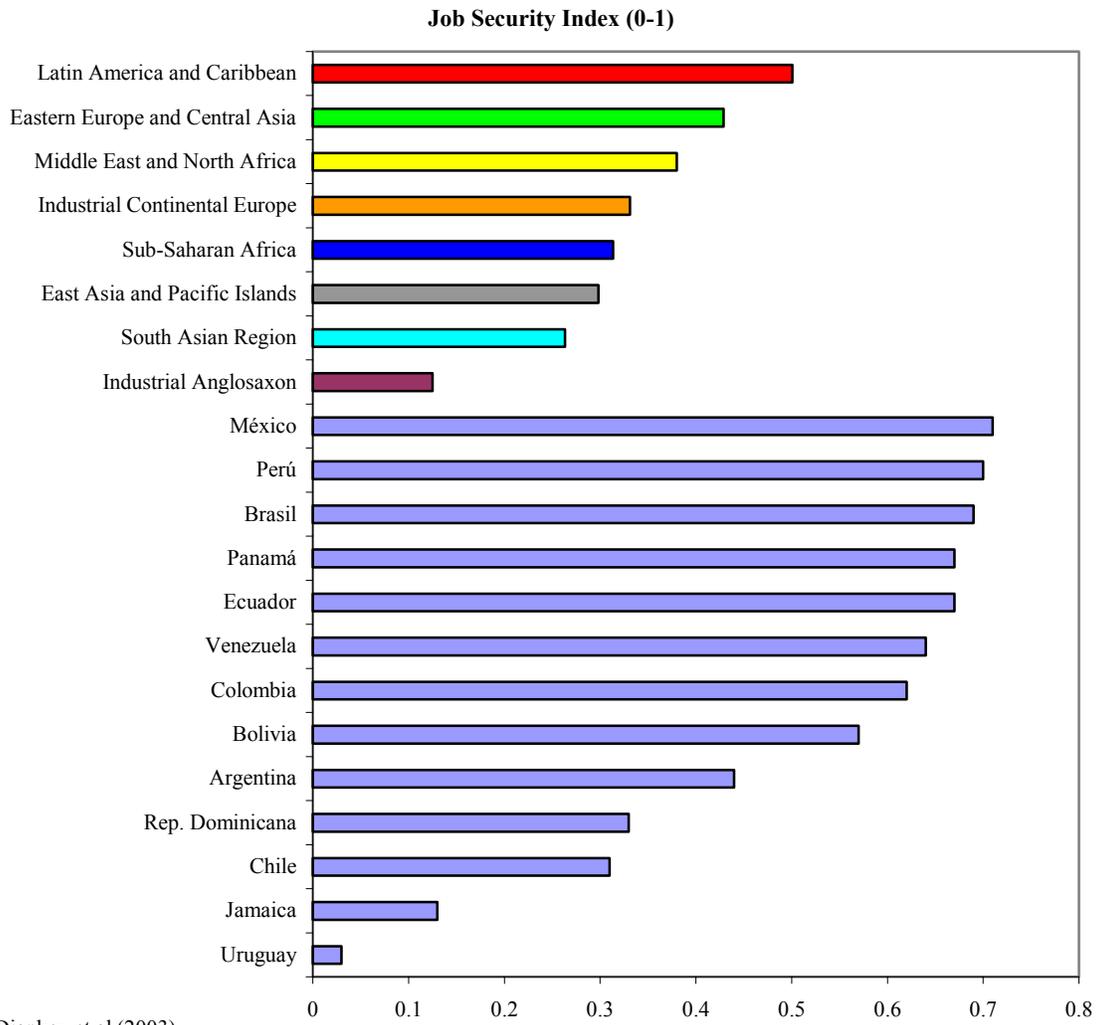
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Figure 2



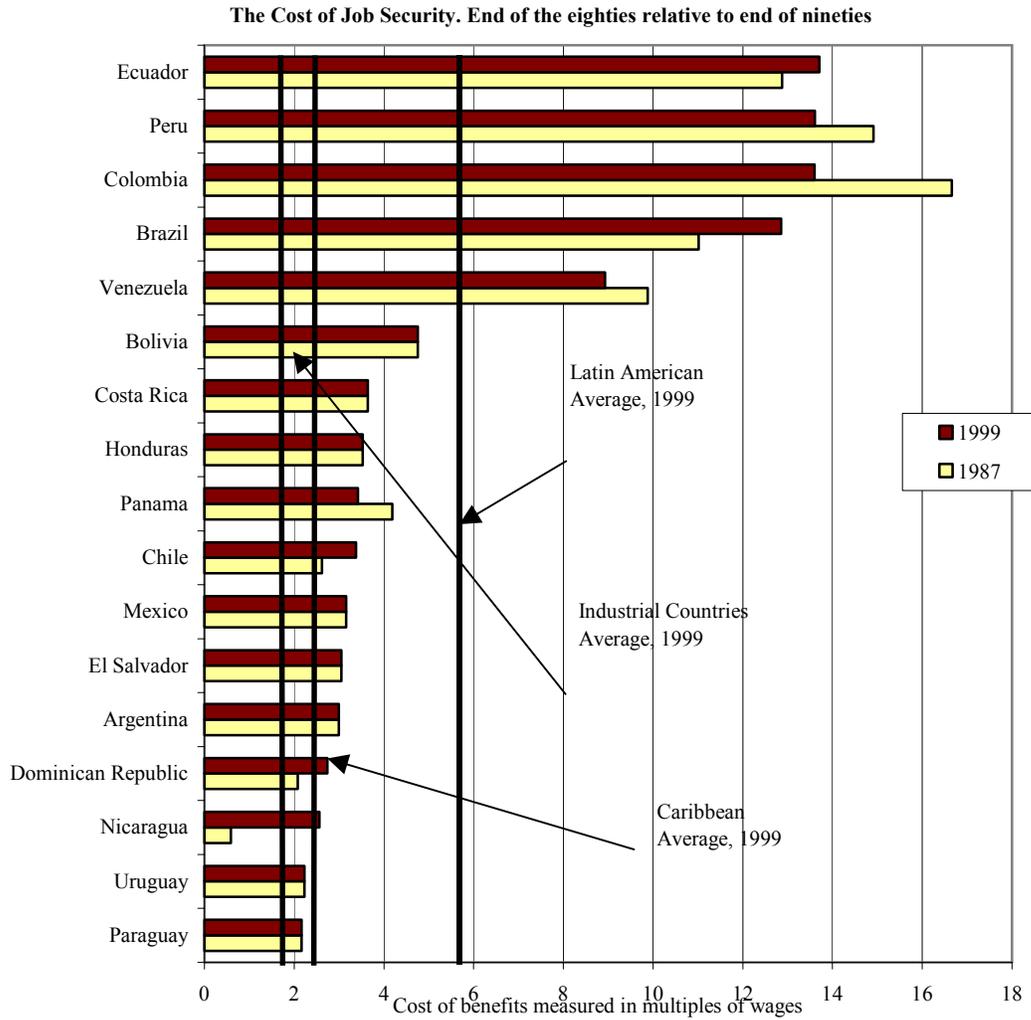
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Figure 3



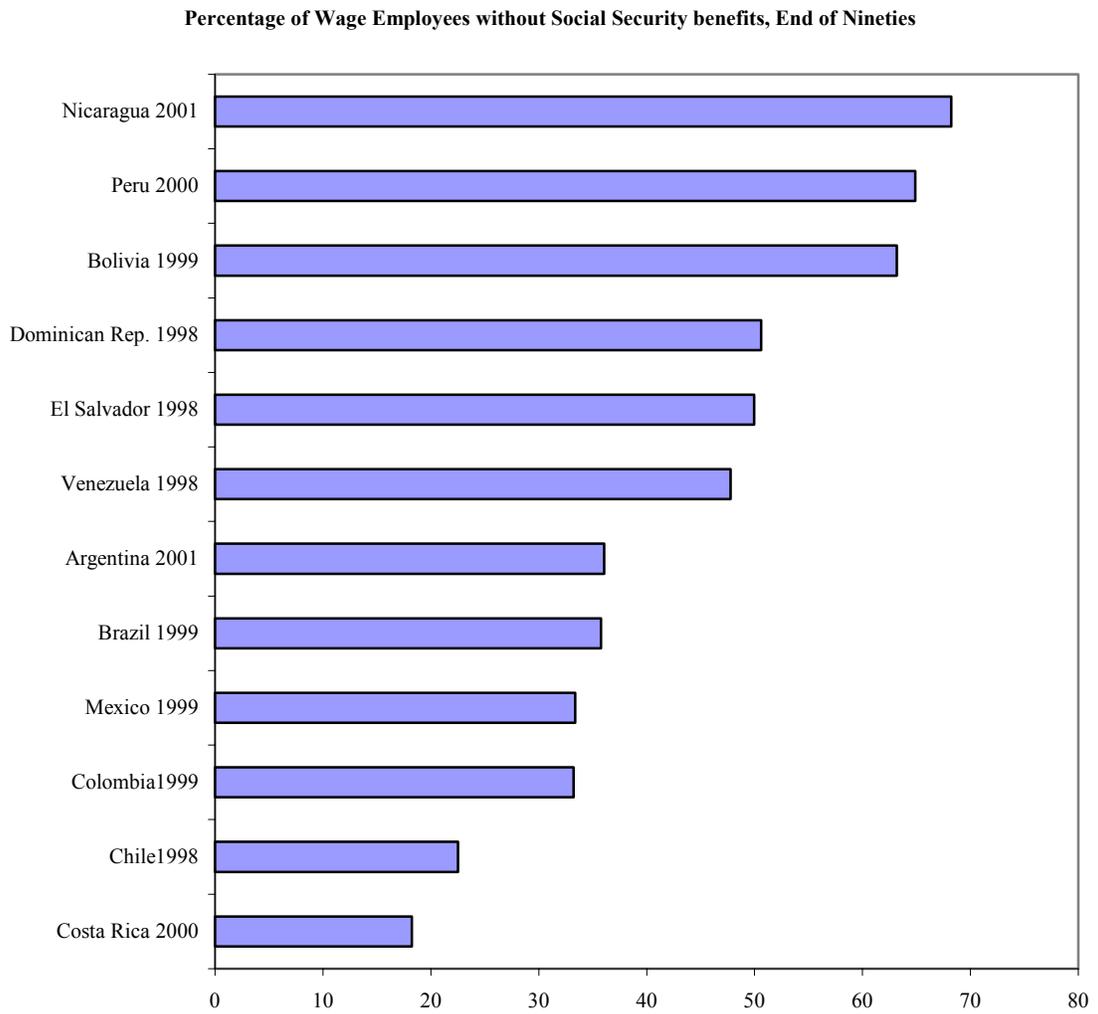
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Figure 4



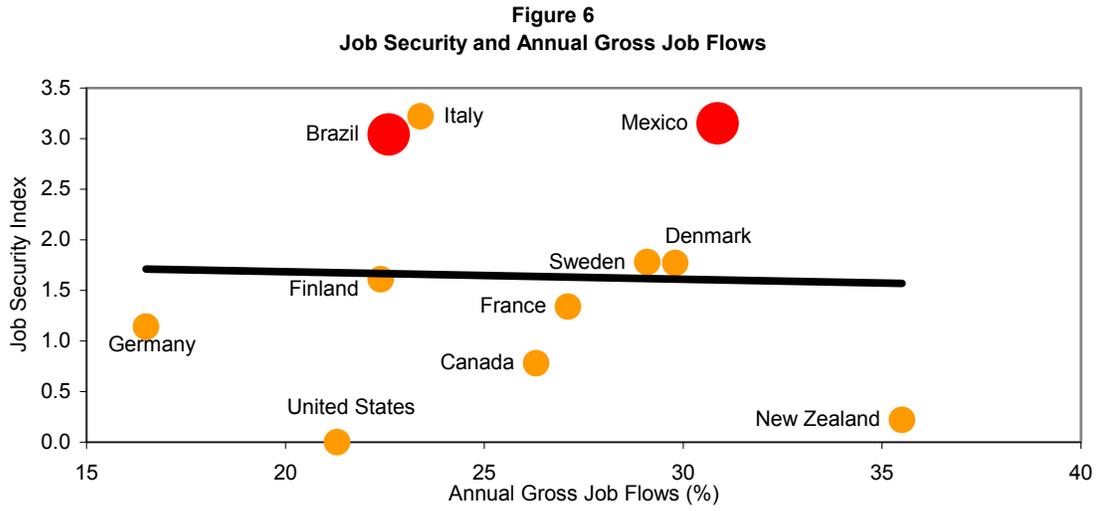
Source: Ministries of Labor of Latin America and the Caribbean  
 Cost of Job security includes advance notice+Indemnities for dismissal +Seniority Pay

Figure 5



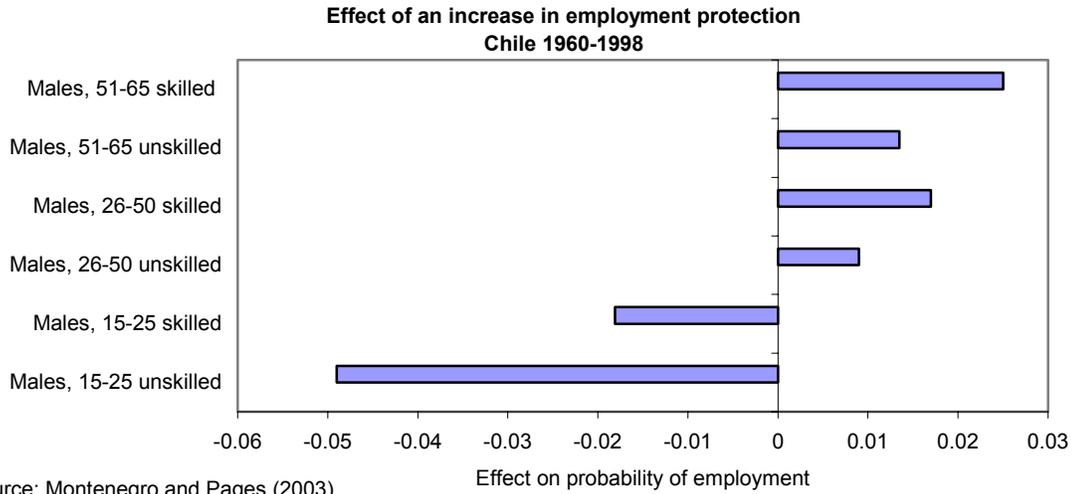
Source: IDB

Figure 6



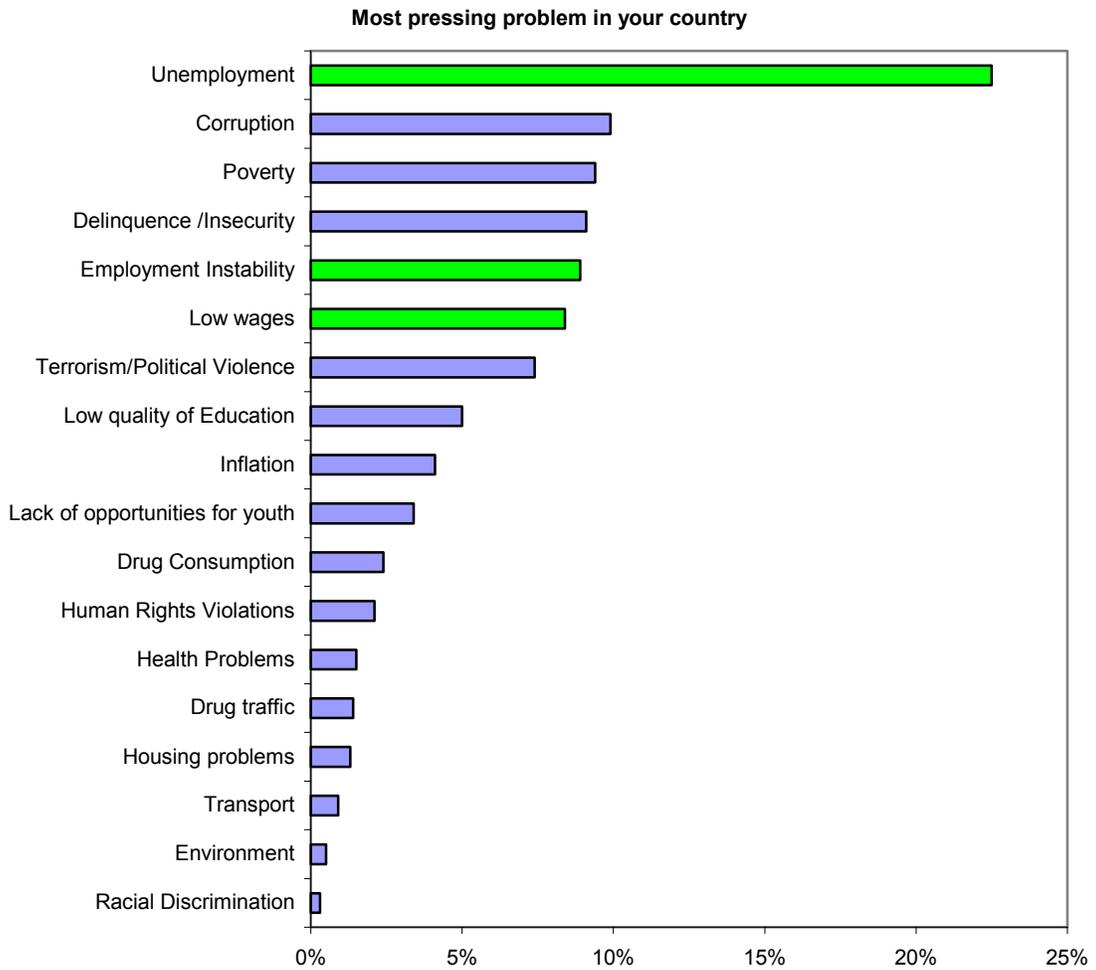
Source: Djankov et al (2003) for the Job Security Index, and Figure 2.1 in chapter 2 for annual gross job flows.

Figure 7



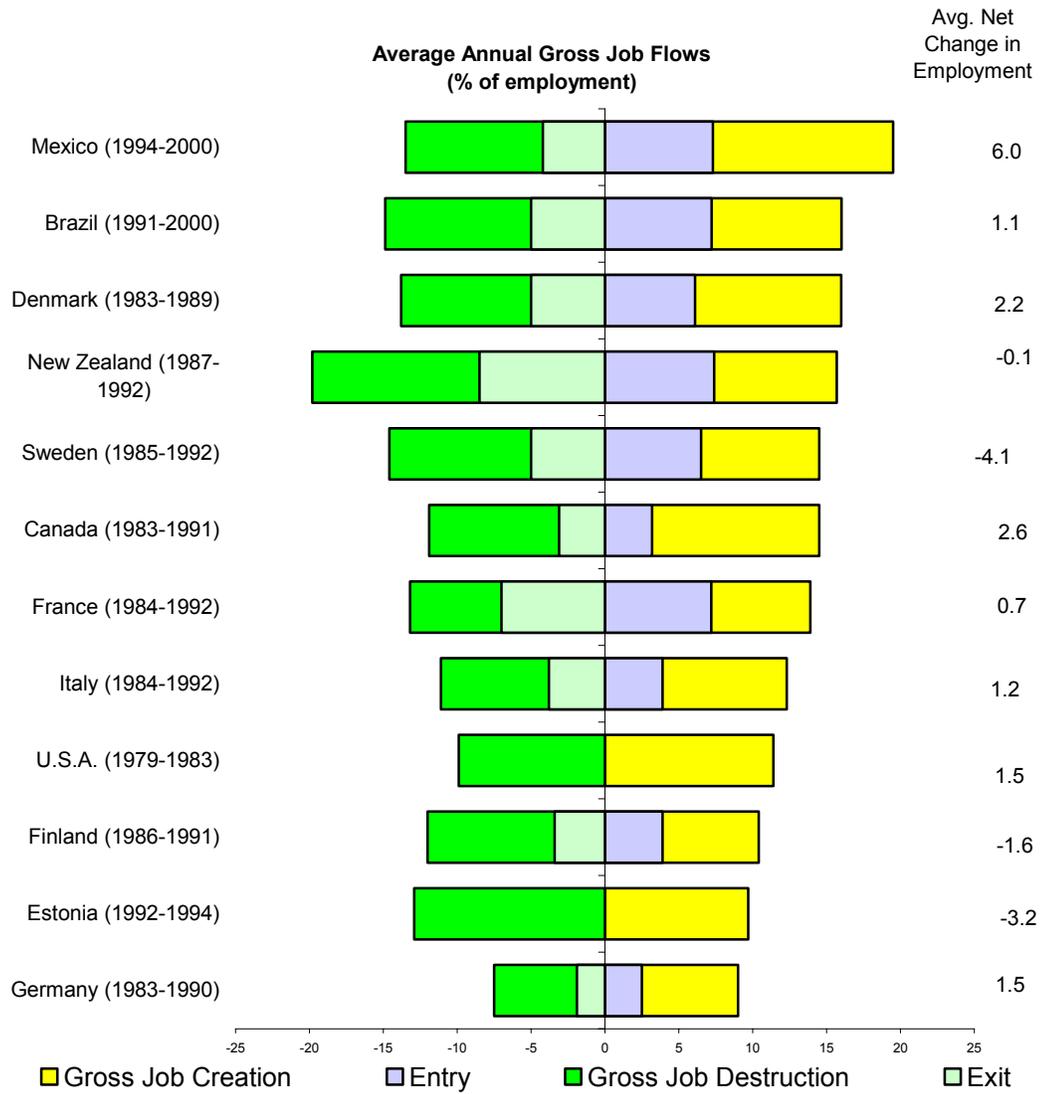
Source: Montenegro and Pages (2003)

Figure 8



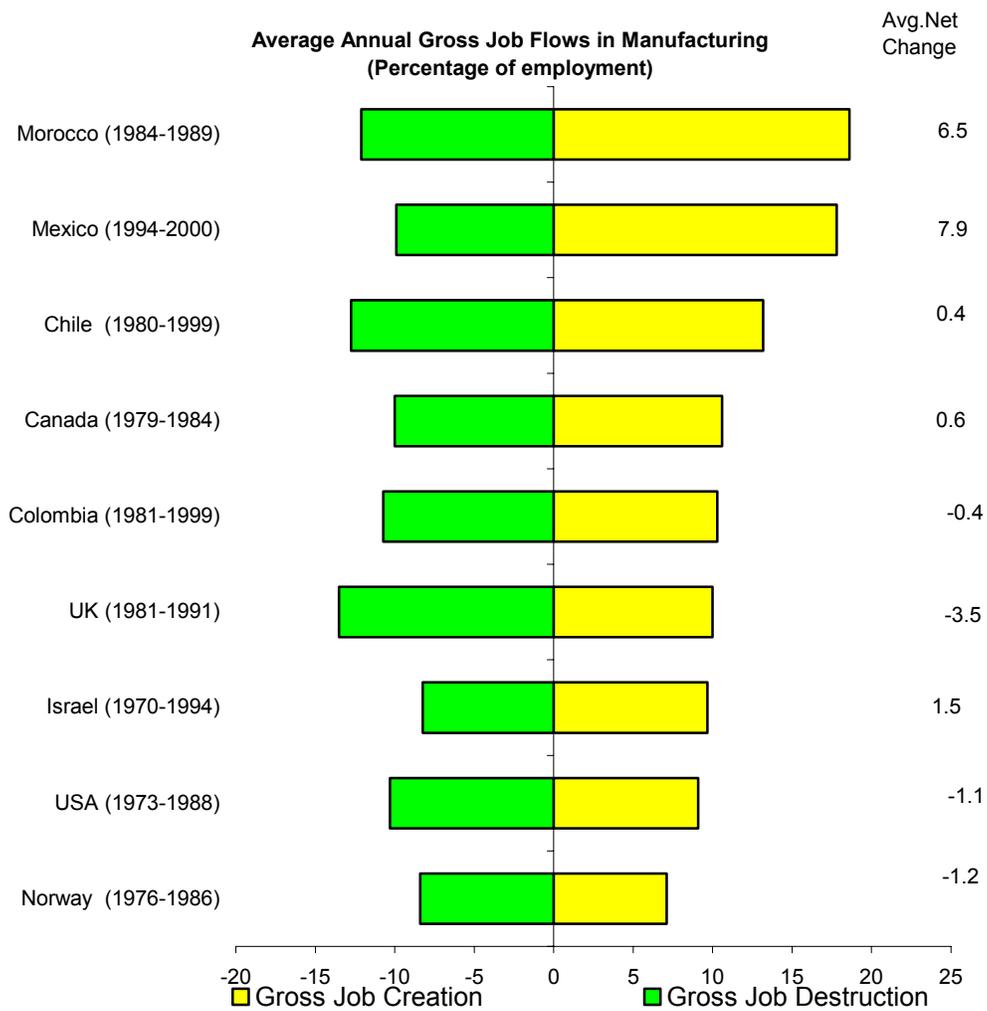
Note: Average of responses for 17 countries of Latin America.  
Source: Latinobarometer (2001)

Figure 9.1



Source: OECD Employment Outlook 1996, Davis and Haltiwanger (1999), Kaplan, Gonzalez and Roberts (2003) and Menezes-Filho et al (2003).

Figure 9.2



Source: IDB contruction, Davis, Haltiwanger and Schuh (1996), Barnes and Haskel (2002), Menendez (2002), Gronau and Regev (1997)

Table 1

|  |                   | Employment rate<br>(employment/population<br>, mean 1995-2001) | Unemployment<br>rate (mean 1995-<br>2001) | Employment<br>growth (Number of<br>employees, mean<br>1990-2001) | %SS<br>contributors of<br>Labor Force <sup>3</sup> | % Selfemployed<br>(mean 1995-2001)<br><sup>4</sup> | Total factor<br>Productivity<br>Growth rate<br>(mean 1995-99) | Real GDP per worker<br>Growth rate, (mean<br>1995-99) | % unemployed<br>(reporting duration)<br>more than a year.<br>(mean 1995-2001) |
|--|-------------------|--|---|--|--|--|---|---|---|
| <b>Conditions of<br/>Employment</b>                                    | Coefficient       | -7.24  | 3.12                                      | -2.53  | 67.01  | 12.67  | 0.38  | 1.35  | 31.83   |
|  | t-statistics      | (1.27)   | (0.67)                                    | (1.21)   | (2.18)*  | (2.40)*  | (0.27)  | (0.89)  | (1.64)  |
|  | # of Observations | 54   | 39  | 40   | 22   | 33   | 64  | 83  | 38  |
|  | R-squared         | 0.11   | 0.13                                      | 0.13   | 0.44   | 0.75   | 0.05  | 0.03  | 0.11  |
| <b>Social Security</b> <sup>1</sup>                                    | Coefficient       | -3.61  | 1.02                                      | -1.77  | 32.96  | -0.87  | -0.71   | -0.30   |   |
|  | t-statistics      | (1.62)   | (0.71)                                    | (2.31)*  | (5.61)**   | (0.29)   | (1.66)  | (0.71)  |   |
|  | # of Observations | 54   | 39  | 40   | 22   | 33   | 64  | 83  |   |
|  | R-squared         | 0.12   | 0.13                                      | 0.21   | 0.74   | 0.7  | 0.09  | 0.02  |   |
| <b>Social Security<br/>contributions<br/>(as % wages)</b> <sup>2</sup> | Coefficient       | -12.48   | 3.86                                      | -3.16  | 42.10  | -0.08  | 0.61  | 1.64  | 73.04   |
|  | t-statistics      | (1.97)   | (0.93)                                    | (2.14)*  | (0.86)   | (0.01)   | (0.33)  | (0.79)  | (4.51)**  |
|  | # of Observations | 42   | 36  | 32   | 17   | 38   | 40  | 42  | 40  |
|  | R-squared         | 0.18   | 0.12                                      | 0.29   | 0.48   | 0.7  | 0.23  | 0.17  | 0.39  |
| <b>Job Security</b> <sup>1</sup>                                       | Coefficient       | 0.60   | -0.64                                     | 1.67   | 9.76   | 0.77   | -0.30   | 0.49  | -3.45   |
|  | t-statistics      | (0.10)   | (0.18)                                    | (0.80)   | (0.34)   | (0.16)   | (0.23)  | (0.35)  | (0.20)  |
|  | # of Observations | 54   | 39  | 40   | 22   | 33   | 64  | 83  | 38  |
|  | R-squared         | 0.08   | 0.12                                      | 0.11   | 0.3  | 0.7  | 0.05  | 0.02  | 0.05  |
| <b>js_pages99</b> <sup>2</sup>   | Coefficient       | -1.38  | -0.97                                     | 0.32   | -7.71  | -0.36  | 0.05  | 0.17  | -0.15   |
|  | t-statistics      | (1.37)   | (1.52)                                    | (1.08)   | (1.59)   | (0.36)   | (0.16)  | (0.67)  | (0.47)  |
|  | # of Observations | 42   | 37  | 32   | 17   | 38   | 40  | 41  | 42  |
|  | R-squared         | 0.21   | 0.17                                      | 0.24   | 0.53   | 0.71   | 0.19  | 0.34  | 0.12  |
| <b>Collective<br/>Disputes</b>   | Coefficient       | -5.11  | 3.01                                      | -0.07  | -18.30   | 3.24   | -1.80   | -0.05   | 1.25  |
|  | t-statistics      | (0.74)   | (0.85)                                    | (0.03)   | (0.54)   | (0.56)   | (1.30)  | (0.03)  | (0.06)  |
|  | # of Observations | 54   | 39  | 40   | 22   | 33   | 64  | 83  | 38  |
|  | R-squared         | 0.09   | 0.14                                      | 0.1  | 0.31   | 0.7  | 0.07  | 0.02  | 0.04  |
| <b>Industrial<br/>Collective<br/>Relations Laws</b>                    | Coefficient       | -4.11  | 0.82                                      | -0.92  | 7.95   | 0.43   | -0.24   | 0.27  | 5.09  |
|  | t-statistics      | (2.04)*  | (0.72)                                    | (1.28)   | (0.74)   | (0.27)   | (0.49)  | (0.50)  | (0.92)  |
|  | # of Observations | 54   | 39  | 40   | 22   | 33   | 64  | 83  | 38  |
|  | R-squared         | 0.15   | 0.13                                      | 0.13   | 0.32   | 0.7  | 0.05  | 0.02  | 0.07  |

Notes: Per capita GDP in US\$ dollars is used as control in all regression, and a constant is also estimated but not reported.

Absolute value of t-statistics in parentheses

\* significant at 5% level

\*\* significant at 1% level

Data sources:

<sup>1</sup> Botero et al. (2002)

<sup>2</sup> Heckman and Pagés (2002)

<sup>3</sup> Rama (2002)

<sup>4</sup> Blanchard (1996)

Table 2

## Percentage of Wage Employed Workers with Social Security by Category

| Country<br>Year of Survey                       | Argentina<br>2001  | Brazil<br>1999  | Costa Rica<br>2000   | Chile<br>1998  | Mexico<br>2001   | Peru<br>2000  | Bolivia<br>1999   |
|---|--|---|--|--|--|---|---|
| <b>Gender</b>                                   |  |   |  |  |  |   |   |
| Male  | 66.34%   | 64.71%  | 80.18%   | 79.03%   | 66.66%   | 36.15%  | 34.86%  |
| Female  | 60.69%   | 63.57%  | 85.19%   | 72.82%   | 68.22%   | 33.17%  | 40.80%  |
| <b>Education</b>                                |  |   |  |  |  |   |   |
| No school                                       | n.a.   | 35.36%  | 65.01%   | 56.00%   | 43.12%   | n.a.  |   |
| Primary incomplete                              | 37.36%   | 46.13%  | 69.30%   | 59.21%   | 45.94%   | 14.38%  | 15.11%  |
| Primary complete                                | 50.31%   | 59.21%  | 75.36%   | 67.07%   | 56.71%   | 17.71%  | 5.46%   |
| Secondary incomplete                            | 50.59%   | 60.88%  | 81.35%   | 70.06%   | 64.13%   | 17.47%  | 22.48%  |
| Secondary Complete                              | 71.69%   | 81.80%  | 91.76%   | 82.29%   | 79.71%   | 30.53%  | 40.48%  |
| At least some Tertiary                          | 79.61%   | 88.64%  | 96.70%   | 88.84%   | 79.83%   | 55.80%  | 61.51%  |
| <b>Activity</b>                                 |  |   |  |  |  |   |   |
| Agriculture, Hunting, Forestry and Fishing      | n.a.   | 31.91%  | 74.42%   | 61.36%   | 40.81%   | 6.27%   | 5.98%   |
| Mining and Quarrying                            | 86.04%   | 67.99%  | n.a.   | 93.50%   | 69.48%   | n.a.  | n.a.  |
| Manufacturing                                   | 66.86%   | 78.79%  | 86.36%   | 83.24%   | 80.72%   | 38.83%  | 29.43%  |
| Electricity, Gas and Water supply               | 86.03%   | 94.25%  | 94.62%   | 89.34%   | 91.04%   | n.a.  | n.a.  |
| Construction                                    | 31.96%   | 41.93%  | 57.62%   | 72.82%   | 42.83%   | 16.38%  | 11.68%  |
| Wholesale and Retail Trade and Hotels and       | 52.76%   | 67.50%  | 81.75%   | 79.23%   | 63.12%   | 21.18%  | 24.41%  |
| Transport, Storage                              | 57.17%   | 78.18%  | 79.74%   | 73.39%   | 53.67%   | 20.63%  | 17.08%  |
| Financing, Insurance, Real Estate, and Business | 79.79%   | 86.94%  | 89.80%   | 85.55%   | 84.91%   | 49.20%  |   |
| Community, Social and Personal Services         | 80.83%   | 65.26%  | 86.91%   | 76.70%   | 64.93%   | 53.27%  | 64.12%  |
| <b>Age</b>                                      |  |   |  |  |  |   |   |
| Age 15-24                                       | 44.06%   | 49.56%  | 69.68%   | 62.18%   | 55.81%   | 10.25%  | 12.20%  |
| Age 25-49                                       | 68.95%   | 70.62%  | 85.82%   | 79.18%   | 71.85%   | 43.02%  | 45.27%  |
| Age 50-64                                       | 67.25%   | 65.36%  | 87.60%   | 79.10%   | 66.82%   | 46.34%  | 49.73%  |
| <b>Zone</b>                                     |  |   |  |  |  |   |   |
| Urban   | 63.93%   | 67.50%  | 85.02%   | 78.54%   | 67.25%   | 39.86%  | 38.54%  |
| Rural   | n.a.   | 44.00%  | 78.06%   | 61.68%   | n.a.   | 17.16%  | 25.22%  |
| <b>Family</b>                                   |  |   |  |  |  |   |   |
| Head  | 71.44%   | 70.09%  | 87.00%   | 81.96%   | 71.56%   | 43.27%  | 43.46%  |
| Spouse  | 64.24%   | 66.77%  | 86.39%   | 73.80%   | 69.15%   | 39.16%  | 57.92%  |
| Son, daughter                                   | 54.67%   | 56.51%  | 75.08%   | 70.69%   | 61.49%   | 26.01%  | 19.00%  |
| Other relatives                                 | 54.71%   | 55.90%  | 77.68%   | 71.12%   | 62.56%   | 56.55%  | n.a.  |
| Other non relatives                             | n.a.   | 51.40%  | 74.86%   | 66.78%   | 73.69%   | n.a.  | n.a.  |
| Domestic workers                                | n.a.   | 69.08%  | n.a.   | 76.90%   | 56.91%   | n.a.  | n.a.  |
| <b>Firm Size</b>                                | 1-5 workers   25.78%<br>6-15   57.80%<br>16-50   81.57%<br>51-100   87.60%<br>more than 100   92.38% | 1-5 workers   37.77%<br>6-10   62.07%<br>11 and more   85.43% | 1-5 workers   58.67%<br>6-9   72.50%<br>10-19   82.47%<br>20 and more   94.99% | 1-5 workers   52.32%<br>6-9   70.34%<br>10-49   79.55%<br>50-199   86.58%<br>200 and more   91.59% | 1-5 workers   16.45%<br>6-15   46.03%<br>16-50   74.90%<br>51-100   85.94%<br>more than 100   90.02% | 1-5 workers   8.17%<br>6-10   27.46%<br>11-50   49.81%<br>51-100   65.17%<br>more than 100   73.80% | 1-4 workers   12.26%<br>5-19   14.22%<br>20-49   42.24%<br>50-99   61.51%<br>more than 100   72.08% |
| <b>Multiples of minimum wage</b>                |  |   |  |  |  |   |   |
| less than 90%                                   | 50.41%   | 11.65%  | 74.65%   | 53.53%   | 18.68%   | 11.63%  | 10.58%  |
| 90-120%   | 25.96%   | 41.18%  | 88.58%   | 75.49%   | 28.67%   | 28.82%  | 13.39%  |
| 121-200%  | 45.39%   | 60.03%  | 93.01%   | 84.64%   | 42.50%   | 43.68%  | 16.68%  |
| 200-300%  | 65.45%   | 73.61%  | 93.47%   | 88.46%   | 62.33%   | 68.75%  | 28.79%  |
| 300% and more                                   | 77.26%   | 83.66%  | 85.57%   | 82.39%   | 76.66%   | 67.54%  | 55.67%  |

Table 3

| <i>Unemployment Duration**</i>               |                 |   |   |
|--|-----------------|---|---|
| <b>Country</b>                               | <b>No. Obs.</b> | <b>Unemployment Duration:<br/>up to 1 month</b> | <b>Unemployment Duration:<br/>at least 1 year</b> |
|  |                 | Mean 1990s<br>(1)                               | Mean 1990s<br>(2)                                 |
| <b><i>Latin America</i></b>                  | <b>50</b>       | 36.14   | 11.18   |
| Argentina                                    | 10              | 27.05   | 9.22  |
| Bolivia (1997)                               |                 | 15.22   | 22.60   |
| Chile (1996)                                 |                 | 49.16   | 2.74  |
| Colombia                                     | 6               | 20.06   | 33.72   |
| Costa Rica                                   | 6               | 37.26   | 10.57   |
| Dominican Republic (1996)                    |                 | 44.55   | 3.30  |
| Ecuador (1998)                               |                 | 57.35   | 5.20  |
| Guatemala (1998)                             |                 | 52.24   | 0.08  |
| Honduras                                     | 5               | 46.01   | 4.01  |
| Mexico                                       | 12              | 49.66   | 0.78  |
| Nicaragua (2001)                             |                 | 65.37   | 1.16  |
| Panama                                       | 6               | 13.20   | 24.63   |
| Paraguay (1999)                              |                 | 9.25  | 21.61   |
| Peru (2000)                                  |                 | 52.00   | 1.10  |
| Uruguay                                      | 5               | 19.92   | 23.48   |
| Venezuela (1999)                             |                 | 19.91   | 14.75   |
| <b><i>Anglosaxon<sup>1</sup></i></b>         | <b>48</b>       | 17.32   | 32.51   |
| <b><i>Continental Europe<sup>2</sup></i></b> | <b>104</b>      | 11.36   | 42.04   |
| <b><i>Eastern Europe</i></b>                 | <b>29</b>       | 8.28  | 41.52   |
| <b><i>United States</i></b>                  | <b>12</b>       | 39.65   | 7.35  |

\*\*Unemployment duration is the percentage of the unemployed who declared duration.

<sup>1</sup> 57 observations in columns (2)

<sup>2</sup> 115 observations in columns (2)

Data is incomplete, the mean and trend were computed

Sources:

Latin American and the Caribbean: IDB calculations based on Household Surveys (comparable across countries). National data (Argentina, Bolivia, Mexico, and Uruguay are urban). Age group 15-64.

OECD: OECD on Line Databases, Labor Force Statistics Data and National data. Age group 15-64.

Anglosaxon: Australia, Canada, England and New Zealand (Ireland included in columns (2)).

Continental Europe: Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Spain, and Sweden (Portugal included in columns (2)).

Eastern Europe: Czeck Republic, Hungary, and Poland.