

Labor Costs and Competitiveness

International trade theory posits that a country will have a comparative advantage if it produces goods and services that intensively use the factor of which the country has a relative abundance. Possessing more of a given factor implies that its price will be low relative to other more scarce inputs. Goods produced with relatively cheaper inputs command lower prices and therefore are more competitive than these same goods produced somewhere else. This theory has been applied to Latin America to establish that the region has an advantage producing goods that are intensive in the use of labor, since it is assumed this is its most abundant factor. If the region's competitiveness depends on cheap labor, the argument goes, it follows that policies that improve the welfare of workers necessarily imply higher labor costs and lower price competitiveness.

This chapter reviews these claims by assessing, first, whether Latin America has a comparative advantage producing goods with unskilled labor. Secondly, it examines the importance of labor costs to successful exports. Finally, it looks at whether the various policies and mechanisms introduced to improve the welfare of workers in fact diminish the region's ability to be competitive.

The chapter shows that Latin America's comparative advantage does not lie in producing goods using uneducated workers, as is the case of Asia (excluding East Asia). Nor does it lie in producing goods with semi-skilled or skilled labor, as in East Asia and the OECD countries. Instead, Latin America lies somewhere in between, with an abundance of workers with primary education, and, therefore, with an advantage in producing goods that require that level of skill.

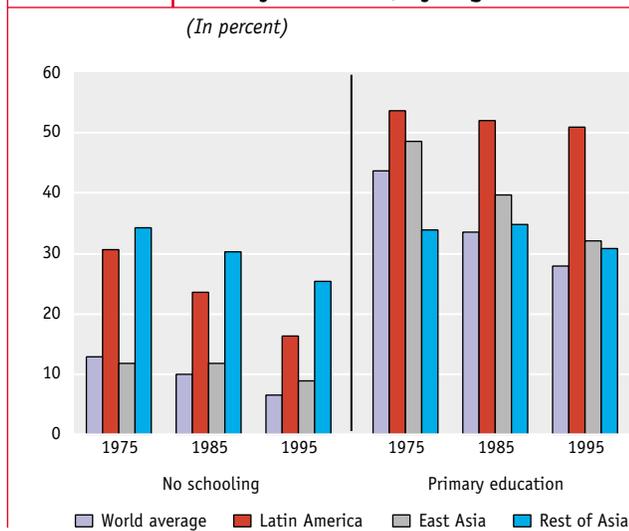
However, the evidence for developed and developing countries alike suggests that export success depends

on productivity-adjusted labor costs rather than on labor costs themselves. This implies that if a country's productivity is low, its cheap labor is irrelevant. As long as labor costs move together with productivity levels, there is no real trade-off between achieving a high level of cost-competitiveness and increasing workers' welfare.

Mandatory provisions such as social insurance benefits funded with labor contributions, job security provisions and minimum wages will decrease cost-competitiveness only if they are de-linked from productivity, or if the benefits afforded by those contributions are not valued by workers at their true costs. The evidence suggests that the quality of these benefits in Latin America is low in relation to their price, and that they therefore reduce competitiveness in the region. The policy implication is not to dismantle those benefits, but to make them cost effective and valuable from the point of view of both employers and employees.

Does Latin America Have a Comparative Advantage in Unskilled Labor?

When the trend toward trade liberalization started in the mid-1980s, Latin America was considered a region abundant in unskilled labor. Standard trade theory predicted that given its comparative advantage, Latin America would experience a surge in demand for unskilled labor, which in turn would boost the wages of workers with lower schooling levels, who are normally the poorest. But this prediction has not materialized to date. Even though most countries in the region resumed positive growth after the "lost decade" of the 1980s,

Figure 9.1 Population with No Schooling or with Primary Education, by Region

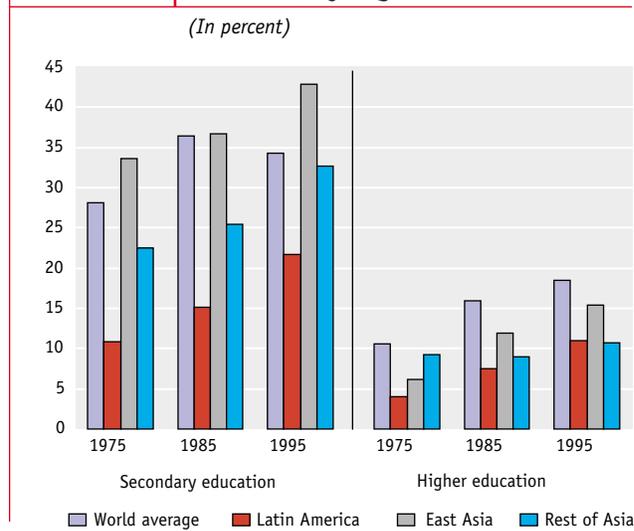
Source: Barro and Lee (2000).

the evidence is that this was achieved in the context of lower than expected poverty reduction.¹ Moreover, the wage gap between skilled and unskilled workers has widened considerably. While the wages of workers with higher education have been rising continuously, the wages of the unskilled have basically stagnated.²

What has gone wrong? What if, for instance, the region is not really that abundant in unskilled labor? The evidence suggests that Latin America in fact has no advantage in producing unskilled labor-intensive goods at low cost. It seems that the region is at a point between two worlds. On the one hand, it is not the region of the world most abundant in unskilled labor. On the other, schooling progress has been so slow in the past few decades that the region has not made the big push seen in other areas (such as East Asia) needed to achieve comparative advantages in middle-skilled labor.³

This interpretation is supported by Figures 9.1 and 9.2, which plot endowments of labor available for production (that is, the population over 25 years of age) by levels of education.⁴ Latin America has a much larger share of the working-age population with no schooling than the East Asian economies or the world average, but has a considerably lower share than the rest of Asia, the most populous region in the world. Furthermore, the share of uneducated workers in the labor force has declined at a faster pace than in any other region.

Where Latin America stands out is in the abundance

Figure 9.2 Population with Secondary and Higher Education, by Region

Source: Barro and Lee (2000).

of workers with primary schooling. The bulk of the working-age population in Latin America actually has achieved only some primary education. This is not the case in Asia, where primary schooling still seems to be a “luxury good” for most. And it is not the case in East Asia, either, where there has been considerable progress in schooling. The share of the population that has either no schooling or only primary education in this region is very low. In Latin America, unlike all other regions, the share of workers with primary education has remained virtually constant over the last two decades.

Latin America falls far behind East Asia, the rest of Asia, and the world average with respect to its endowment of secondary school workers. While in the rest of

¹ See Székely and Hilgert (2000).

² See Behrman, Birdsall and Székely (2000) and IDB (1998-99).

³ Hong Kong, Korea, Singapore and Taiwan are included in the group of East Asian “tigers.”

⁴ Figures 9.1 and 9.2 plot the factor endowments of the world and for selected regions, computed through the following methodology. First, the share of adults with no primary, secondary and higher education from the updated Barro-Lee database is used to measure the human capital endowment of each country. Second, to obtain regional or world averages, each country's share in world (or regional) trade is computed, and this share is multiplied by the factor endowment to obtain a trade-weighted average. The weights are used because the factor endowment of a country only competes in the world market if the country actually trades. Therefore, endowments of countries totally closed to international trade have no weight in the average, while those of countries that do trade are weighted by the importance of this country in international markets.

Asia about 33 percent of the working-age population have achieved secondary schooling, only 20 percent have done so in Latin America. The region is evidently not well endowed with workers with higher education, although their share has been rising steadily.

The result of Latin America's labor situation is that it cannot compete with countries where unskilled labor is abundant and cheap. Yet, nor can it compete with countries that have made enough schooling progress so as to have an abundant middle-skilled labor work force. If the comparative advantage of the region is an abundant, primary school-educated labor force, does this still mean that preserving cost-competitiveness requires low wages and few benefits? The answer, fortunately, is no.

Do Low Labor Costs Ensure Export Success?

One of the many ways that competitiveness has been measured has been by assessing a country's success in exporting certain types of goods and services. Two recent studies have measured the sensitivity of countries' export performance to changes in labor costs.⁵ To avoid the problem that higher wages are just a measure of higher labor productivity—and therefore not of higher labor costs—both studies distinguished between the raw cost of labor (that is, wages and other non-wage components of labor costs), and productivity-adjusted wage measures. These measures adjust labor costs for the fact that some workers are more productive than others, either because they have more and better capital to produce with, because they make more of an effort, or because the technology used by some plants is more efficient than others. They also correct for changes in productivity over time. The most widely used productivity-adjusted measure is the unit labor cost. This measure divides nominal wages, measured in dollars, by the average productivity of a worker. It can therefore be interpreted as the dollar cost of producing one unit of a product. Increases in productivity and exchange rate depreciation lower unit costs, while nominal wage increases and exchange rate appreciation increase them.

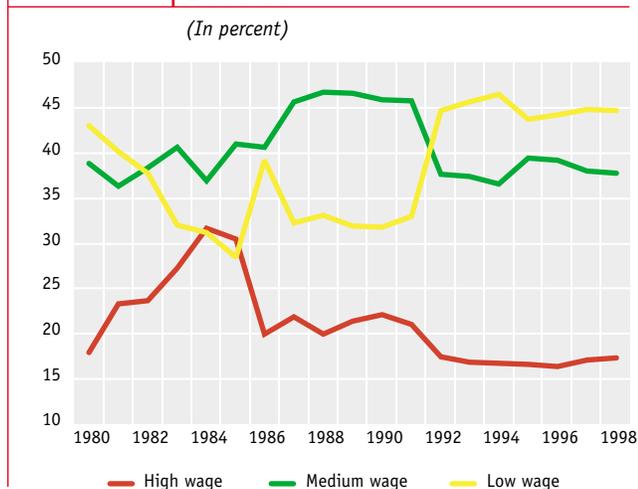
The studies find that within OECD countries, a 10 percent increase in unit labor costs in one particular country—vis-à-vis the average regional labor cost—leads to a 2.8 percentage point decline in the export

share of that country. Quite surprisingly, these results are very similar to those of a study of five large Latin American countries, where a 10 percent increase in the relative unit labor costs of one country was associated with a 2.5 percent decline in export market share. To assess the magnitude of this effect, however, it is necessary to consider the size of the average market share of the industrial or Latin American countries considered in the studies. On average, the market share of an industrial country (as a percentage of the total exports of 14 industrial countries) is around 7 percent. This implies that a 10 percent decline in unit labor cost would add 0.175 percentage points to an industrial country market share. In Latin America, the average market share is 14.2 percent, and a 10 percent decline in unit labor cost would increase this share to 14.6 percent. Although these are not large effects, they can have a substantial impact in periods of rising productivity-adjusted labor costs. Furthermore, there is evidence that this effect is larger in the industrial subsectors that employ the most workers in Latin America. The Latin American study groups each industrial subsector into different categories according to factor use, technological sophistication and average level of wages in that industry.⁶ Within the factor categories, the measured effects are larger in the sectors that use labor as their main factor of production (labor-intensive sectors). In these, a 10 percent increase in unit labor costs reduces export market shares by about 7 percent, an effect three times larger than the overall effect. In contrast, in the natural resource-intensive sectors, the effect of a 10 percent increase in unit labor costs on export market shares is about zero, implying that for these sectors, other factors such as the price of commodities or transportation costs might be more related to export success than unit labor costs.

There are also striking differences within sectors with regards to technological sophistication or wage levels. The effect of an increase in unit labor cost is much larger in low-technology industries, which presumably depend more on low-skilled labor. Indeed, while in low-tech industries a 10 percent increase in unit la-

⁵ See Carlin, Glyn and Reenen (2001) for the OECD countries and Pagés and Ruíz-Núñez (2001) for Latin America.

⁶ See Appendix 9.1 for a complete listing of the industrial sectors included in each classification.

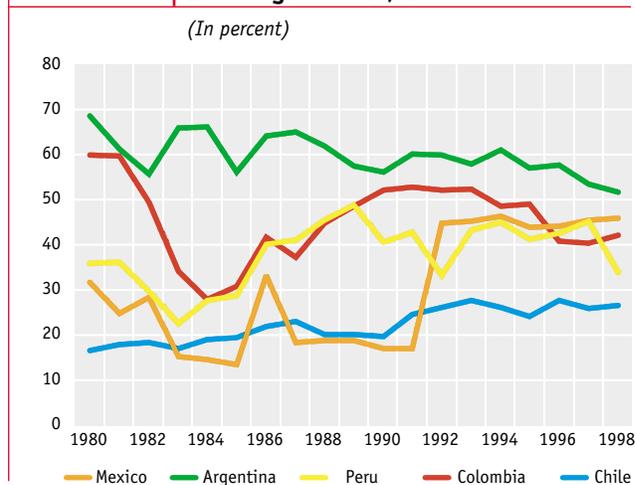
Figure 9.3 Evolution of Export Market Share, 1980-98

Notes: Average for Argentina, Chile, Colombia, Mexico and Peru. Excludes tobacco and oil sectors.

Source: Manufacturing surveys, PADI (ECLAC) and IDB calculations.

bor costs reduces export market shares by 2.6 percent, the average effect for high-tech industries is zero. In addition, the response of the export market share to labor costs is large and negative in the low-wage sectors and zero in the high wage sectors.

These results are very intuitive. Sectors that rely on labor are more sensitive to swings in labor costs, while sectors that intensively use other factors of production are less sensitive. But which factors do Latin American industries use the most? The average for 1980-96 for five countries for which disaggregated data at the sector level are available is that more than 50 percent of the manufacturing labor force is employed in labor-intensive sectors and 27 percent in natural resources-intensive sectors.⁷ By wage level classifications, about 56 percent of the workers are in low-wage sectors, 32 percent medium wage, and 12 percent high wage. The split according to technological sophistication is similar. More than 70 percent of workers are employed in low-tech industries and only about 5 percent in high-tech ones. Therefore, most workers are employed in sectors very sensitive to labor costs—a situation that did not change much during the late 1980s and the 1990s. If anything, there was a slight increase in labor-intensive and low-wage activities and a slight decline of high-wage sectors.⁸ However, the 15-year average of the distribution of exports by sector for the same group of countries shows a somewhat different picture. Some 26

Figure 9.4 Evolution of Export Market Share in Low-wage Sectors, 1980-98

Source: Manufacturing surveys, PADI (ECLAC) and IDB calculations.

percent of manufacturing exports originate from sectors that are resource-intensive, and 29 percent from sectors that are labor-intensive, while more than 38 percent of the exports are from sectors classified as low wage and only 21 percent originate from high-wage sectors. The time frame is quite revealing and corresponds to what would be expected given the comparative advantage of the region. Figure 9.3 show that although both the share of resource-intensive and labor-intensive exports declined substantially from 1980 to 1999, the share of exports by wage level fluctuated widely during the period. Thus, while the shares of high-, middle- and low-wage exports were similar in 1980 and 1998, there was a marked decline of high-wage exports—from 32 percent in 1985 to 17 percent in 1998—and a substantial increase in low-wage ones (from 28 percent to 45 percent).

Figure 9.4 shows that the share of low-wage exports followed a similar pattern in four of the five countries considered, with only Argentina showing a slight decline. This pattern is consistent with the evidence presented in Chapter 10, which shows that Argentina has the highest average years of education and the sec-

⁷ The five countries are Argentina, Chile, Colombia, Mexico and Peru.

⁸ The share of goods originated in high-tech sectors has also increased during this period, although its level remains very low.

ond highest percentage of college-educated people in Latin America.

Thus, trade openness and the reduction or elimination of export subsidies in strategic sectors during the mid and late 1980s implied that sectors for which the region did not have a comparative advantage—such as high-wage industries—declined as a proportion of total exports. Instead, as countries opened to international trade, the patterns of exports came in line with the relative abundance of low-skilled labor, and the sensitivity of export shares to unit labor costs increased.

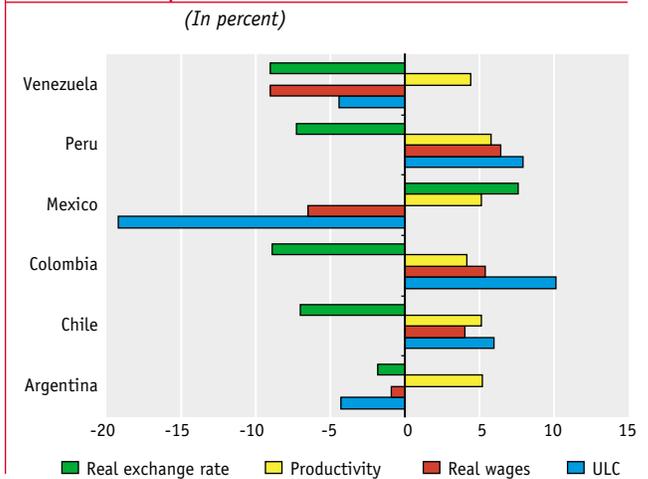
The lesson that emerges from this evidence is that the particular range of industries and sectors that form the bulk of Latin American exports and production are increasingly sensitive to unit labor costs. However, this cost sensitivity does not imply that in order to sustain export shares, wages have to be kept low. Rather, it suggests that wages have to move in line with changes in productivity in order to keep productivity-adjusted labor costs at competitive levels. This implies that increasing wages can accompany sustained increases in productivity without affecting unit labor costs. Therefore, achieving high and sustained levels of productivity is a competitiveness strategy that does not imply a trade-off between maintaining labor costs and improving the welfare of workers.

Labor Costs in the Region

Economic theory teaches that in labor markets where there is enough competition over workers, wages are likely to closely match workers' productivity levels. If wages are lower than productivity, another employer can recruit a worker for a higher wage and still make a profit. If wages are higher, employers will lose money and sooner or later let workers go. Therefore, the theory says, changes in wages should follow changes in productivity, which in turn implies that, except for swings in exchange rates and inflation, unit labor costs should remain fairly constant over time.

However, not all markets have enough competition over workers to ensure a match between wages and productivity. Wages may grow faster than productivity simply because they were at such a low level to begin with. There are a host of other reasons why movements in wages and productivity may not be equal, even with enough competition. Governments or labor unions may

Figure 9.5 Annual Change in Unit Labor Costs (ULC) and Their Components, 1994-98



Source: Manufacturing surveys, PADI (ECLAC) and IDB calculations.

alter labor costs without considering productivity, for example, by setting minimum wages or by mandating taxes or other measures that increase the cost of labor.

As expected, exchange rates and inflation have driven the movement of unit labor costs in the region. Real exchange rates appreciated over 1989-93 and from 1994-98 in all six countries sampled except Mexico (see Figure 9.5).⁹ This implies that in order to keep unit labor costs constant, countries had to maintain productivity growth above wage increases. However, average labor productivity in manufacturing sectors rose very slowly from the end of the 1980s to the beginning of the 1990s, and could not compensate for the real exchange rate appreciation even when wages declined in real terms. In contrast, over 1994-98, despite declines in total factor productivity, average productivity per worker in manufacturing grew at a healthy annual rate of 5 percent.¹⁰ This made possible a small decline in unit labor costs even as wages maintained their real values during the period.¹¹ Unit labor costs declined in Mexico, Argentina and Ven-

⁹ A decline in the real exchange rate implies a real exchange rate appreciation.

¹⁰ The fact that the average productivity per worker increased even when total factor productivity declined suggests a capital deepening, that is, a higher use of capital per person, rather than a more efficient use of labor and capital.

¹¹ Non-wage labor costs such as mandatory contributions are not included because no measure of total non-wage labor costs is available.

ezuela and increased in Chile, Colombia and Peru. In the last two countries, real wages grew above productivity, while in the others, real wages fell behind it.

Factors behind the Cost of Labor

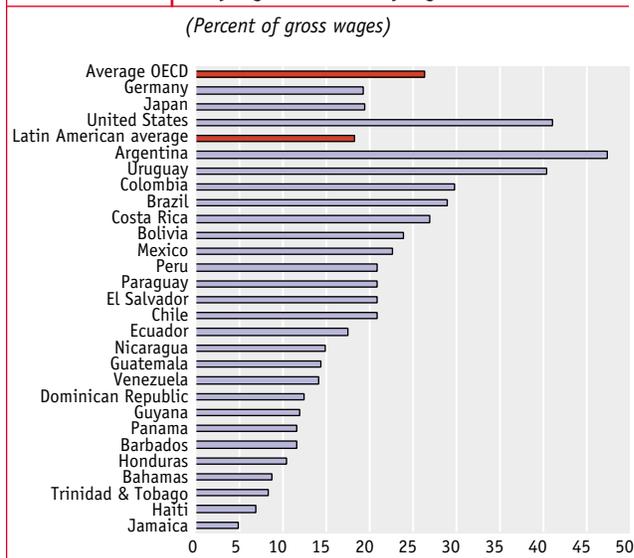
Besides wages, there are a number of factors that, if de-linked from productivity, may alter the costs of labor and reduce cost-competitiveness of the region. Governments legislate on a number of issues that have a bearing on the cost of labor. These interventions are generally motivated by the desire to protect workers against low incomes, income insecurity or poor working conditions. It has been said that these provisions increase the cost of labor, create unemployment and introduce a bias against labor.¹² Is this a reason for concern in Latin America?

Mandatory Benefits and Restrictions on Hiring and Firing

To some degree or another, all governments in the region mandate payroll contributions to such national programs as old age, disability and death pensions, health insurance, maternity benefits, unemployment insurance, workers' compensation and family allowances. Figure 9.6 shows mandatory contributions in and outside the region to social security programs, measured as a percentage of wages. The expected contribution rate in the region is high and only slightly lower than the average rate in OECD countries. Argentina, Uruguay, Colombia, Brazil and Peru all have contribution rates that are higher than the OECD average.

Argentina stands out as having the highest contribution rate in the region and the third highest, only after France and Italy, in the combined Latin American and OECD region. In contrast, some industrialized countries such as Japan or the United States have much lower contribution rates than the average Latin American country. Based on these comparisons, the Latin American countries are classified as having a high, middle or low level of expected contributions. The countries with rates above the OECD average constitute the high contribution group: Argentina, Uruguay, Colombia, Brazil and Peru. Venezuela, Costa Rica and Ecuador form the middle group, with contributions below the OECD average but above the Latin American one. Bolivia, Chile, the Dominican

Figure 9.6 Contribution to Social Security by Employers and Employees, 1999



Source: Social Security Administration (1999).

Republic, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay and El Salvador form the third group, with contributions below the Latin American average.

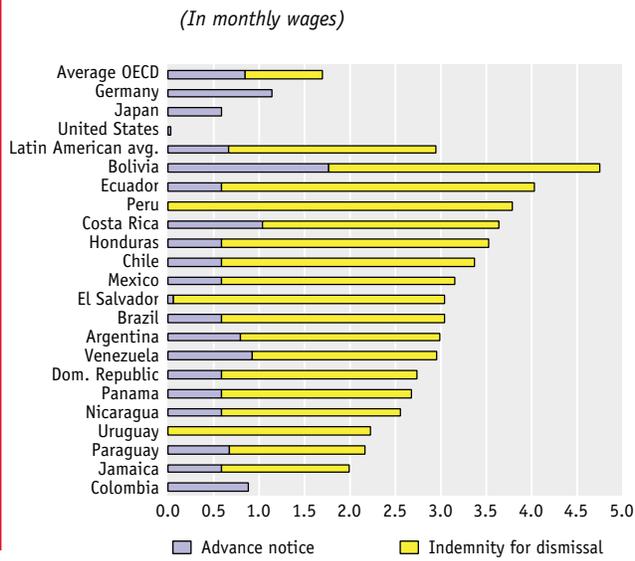
Governments have also intervened in the labor market by regulating firing and hiring. Termination laws require firms to abide by at least two types of regulations: advance notification and compensation for unjust dismissal. The objective is to increase job stability by taxing dismissals, but these laws may also increase labor costs and ultimately reduce employment opportunities for workers. Some recent studies have quantified the monetary cost of abiding by such laws in the OECD and Latin American countries.¹³ Figure 9.7 plots the expected future costs of dismissing a worker hired under the legislation in force in 1999.¹⁴ The cost is measured in multiples of monthly wages. The comparison reveals that, quite surprisingly, job security regulations are much more stringent in Latin American than in OECD countries. Indeed, the expected cost of job security regulations is higher in all Latin American countries—with the exception of Colombia—than in the average OECD

¹² *The Global Competitiveness Report* for 2000, for instance, rates countries with higher social security contributions as less competitive.

¹³ See OECD (1999) and Heckman and Pagés (2000).

¹⁴ In several countries, labor reforms have allowed for retaining certain benefits of workers hired prior to the reforms.

Figure 9.7 Cost of Mandatory Job Security Provisions, 1999

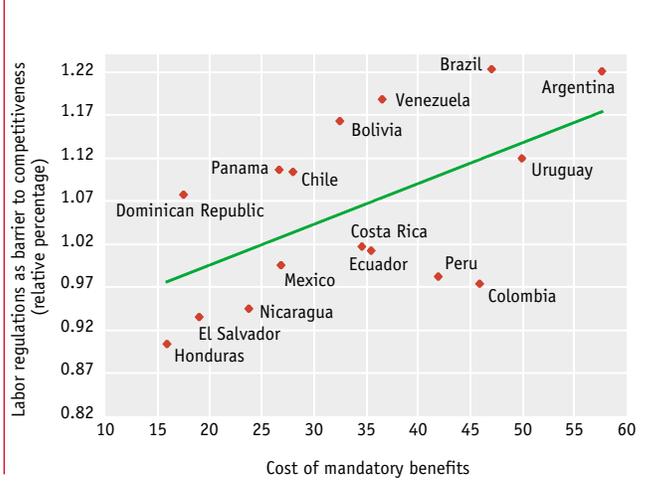


Source: Heckman and Pagés (2000) and Ministries of Labor.

country. Classifying again the countries according to high, medium and low job security costs, there is a high group with job security provisions above the Latin American average, including Bolivia, Ecuador, Peru, Costa Rica, Honduras, Chile, Mexico, El Salvador and Argentina. The medium cost group, with job security costs below the Latin American average but above the OECD average includes Venezuela, Dominican Republic, Panama, Nicaragua, Uruguay, Paraguay and Jamaica. Colombia is the only country in the low cost group with costs below the OECD average (although firing costs for workers hired before the 1991 labor reform are quite high).

Knowing the levels of contributions and costs does not tell much about the impact of these programs on competitiveness. Determining whether their cost results in higher labor costs requires assessing the extent to which workers and companies value the programs. It is customary to assume that contributions to these programs are taxes whose cost is borne by employers, but in fact this may not be the case. If workers value the benefits funded by these contributions, they would be willing to trade lower wages for access to valued benefits. In this case, wages adjust downwards and labor costs paid by employers remain constant regardless of the contribution rate. Of course, this argument assumes that workers value benefits at exactly their costs. Oth-

Figure 9.8 Opinion and Reality: Labor Regulations



Source: IDB calculations based on World Economic Forum (2000), and labor indicators from Heckman and Pagés (2001).

erwise, part of the contribution is perceived as a wage tax, and part of that tax results in higher labor costs for employers.¹⁵

How much do workers in the region value mandatory social security benefits? Although there is no direct way to know, some indirect evidence can be used, first by examining whether firms complain about the cost of labor regulations. If workers do not value mandated benefits, and wages do not fully adjust, firms in countries with high levels of contributions will face higher labor costs than others. Although one cannot discard the possibility that employers complain regardless of whether they suffer high or low costs, it is nonetheless useful to observe whether employers' complaints increase in purportedly high-cost countries. Figure 9.8 shows the relationship between the total costs of mandatory benefits, computed as the sum of social security and job security benefits, and the degree to which employers in the different Latin American countries find labor regulations to be a major obstacle to operation and growth of their businesses. To control for the possibility that employers in some countries may have a higher propensity to complain than in others, we report the percentage of em-

¹⁵ The one case where labor taxes are entirely paid by workers (and therefore do not increase the cost of labor) is when labor supply is perfectly inelastic. As will be argued later, this scenario is unlikely in Latin America.

employers who complain about labor regulations relative to the percentage that complain about other regulations such as business licensing, customs or foreign trade, the exchange rate or foreign currency, and environmental, fire and tax regulations. The figure shows that in the countries where abiding by labor regulations requires higher contributions, employers tend to complain more about labor regulations relative to other regulations affecting their businesses. This relationship suggests that at least part of the cost of mandatory benefits is not shifted to workers, and is therefore borne by employers in the form of higher labor costs.

Other types of studies provide further evidence that mandatory benefits may be increasing the cost of labor in the region. One group of studies compares wages of workers who have access to mandatory benefits (covered sectors) with wages of workers who do not have such access to benefits (uncovered sectors). Most but not all studies conclude that part of the cost of labor market regulations is shifted to workers in the form of lower take-home wages. However, a part of the cost is also shifted to employers, increasing the cost of labor. On average, these studies conclude that a 10 percent rise in mandatory contributions increases the cost of labor between 3 and 7.5 percent.¹⁶

Another way to examine whether workers are willing to trade lower take-home wages in exchange for higher benefits is to examine whether such contributions have a negative impact on employment rates. If there is a negative association between higher mandatory benefits and employment rates, then one can conclude that these measures increase the cost of labor. Recent studies comparing Latin America and the OECD countries conclude that firing costs reduce employment rates both in developed and developing countries.¹⁷ The studies also suggest that job security measures have a larger impact on the employment rates of younger workers.

Estimates reported in Appendix 9.2 suggest that both mandatory social security contributions and job security provisions have a negative effect on employment rates. They also suggest that social security contributions have a larger negative effect in Latin America. After enduring sustained deterioration in the quality of health benefits and the real value of pensions, workers in Latin America may value the benefits afforded by social security contributions less than workers in industrial countries. As a consequence, contributions that in

principle were aimed at improving the welfare of workers ended up being perceived as a tax on labor income, resulting in lower employment and higher labor costs. The obvious implication of these results is that in those countries where social security contributions or job security provisions have been rated as medium or high, labor policies affect the price competitiveness of the factor that is used the most in the sectors with an export advantage. Thus, these countries may be paying a large cost in terms of foregone exports and income to sustain programs that are not much valued by workers.

A reason why benefits are more valued in OECD than in Latin American countries seems to be the origin of the two regions' respective legal codes. Whether legal systems of a country originated in the French, Common Law (English), German or Scandinavian traditions has been shown to be correlated with structural characteristics of financial markets (see Part II) as well as with the level of mandatory benefits. Regarding social security, for example, countries with an English legal system have significantly lower average benefits than countries in the French, German or Scandinavian systems. Similarly, there are also statistically significant differences between job security measures in countries under French legal systems and the other systems. Since all countries of Latin America are under the French legal system, and all countries of the British Caribbean are under the English legal system, the correlation between legal origin and benefits suggests that the level of benefits responds more to the historical heritage of these countries than to the real needs of their workers.¹⁸

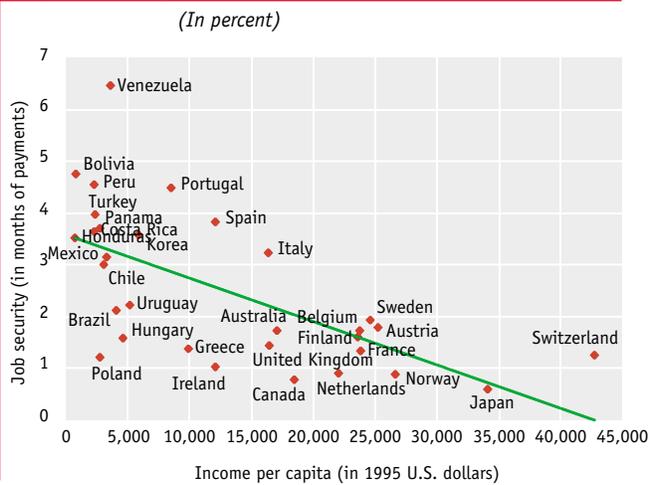
Additional evidence suggests some mismatch between the level of benefits and the purchasing power of workers in the region. While the level of contributions to social security programs is directly, though weakly, related to income—as would be expected if social protection is a normal good—the level of job security measures is negatively correlated with per capita income

¹⁶ See Edwards and Cox-Edwards (1999), MacIsaac and Rama (1997) and Mondino and Montoya (2000). See also Gruber (1997) for a study of the effect of the 1981 Chilean pension reform on wages and employment, which finds evidence that the cost of mandatory benefits is fully shifted to workers.

¹⁷ See Saavedra and Torero (2000), Kugler (2000) and Heckman and Pagés (2000).

¹⁸ This would also suggest that historical heritage is by nature permanent, perhaps due to the fact that once the law grants some benefits to workers, covered workers resist changes in the law.

Figure 9.9 Job Security and Per Capita Income



Source: Per capita income data from World Bank (2000) and job security data from Heckman and Pagés (2001).

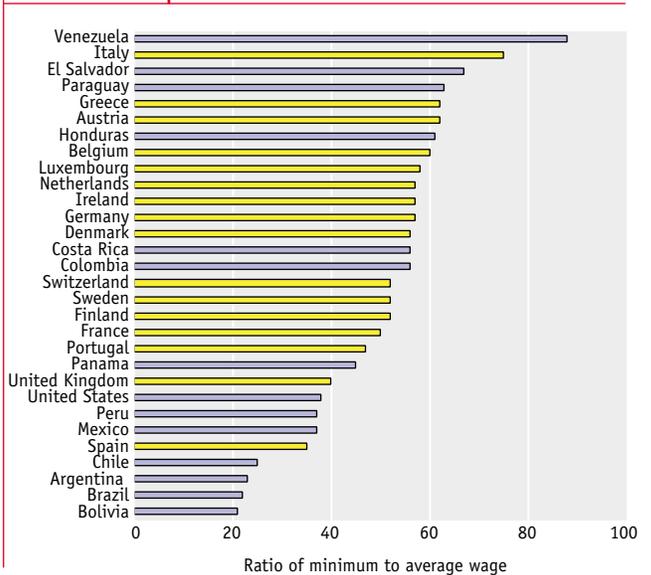
(see Figure 9.9). In addition, in countries of the region where social security contributions seem to be more binding—Argentina (not shown), Uruguay and Brazil—the level of contributions is high relative to their levels of income. All this suggests that the level and perhaps the design of social protection programs may not be appropriate for the countries of the region. Adapting existing programs to the true needs of countries would go a long way towards increasing the cost-competitiveness of labor.

Minimum Wage Laws

As with other labor market policies, minimum wages are set in order to improve the welfare of the poorest workers.¹⁹ However, raising wages far above productivity levels can result in massive losses of employment and a large decline in export market shares, both of which do little to improve the welfare of the workforce. Puerto Rico provides an example. After the island’s minimum wage was substantially increased to reach the mainland U.S. level in 1977, there was a massive drop in employment and a loss of price competitiveness. Many studies on the United States itself find no discernible effect of minimum wages on employment.²⁰

Do minimum wages pose a problem for price competitiveness in Latin America? Minimum wages may affect the cost of labor in the region because they tend to be particularly binding for low-skilled workers, that is, the group that represents Latin America’s competitive

Figure 9.10 Minimum Wage in OECD and Latin American Countries in the 1990s



Source: Maloney and Núñez (2001) and IDB (1998-99).

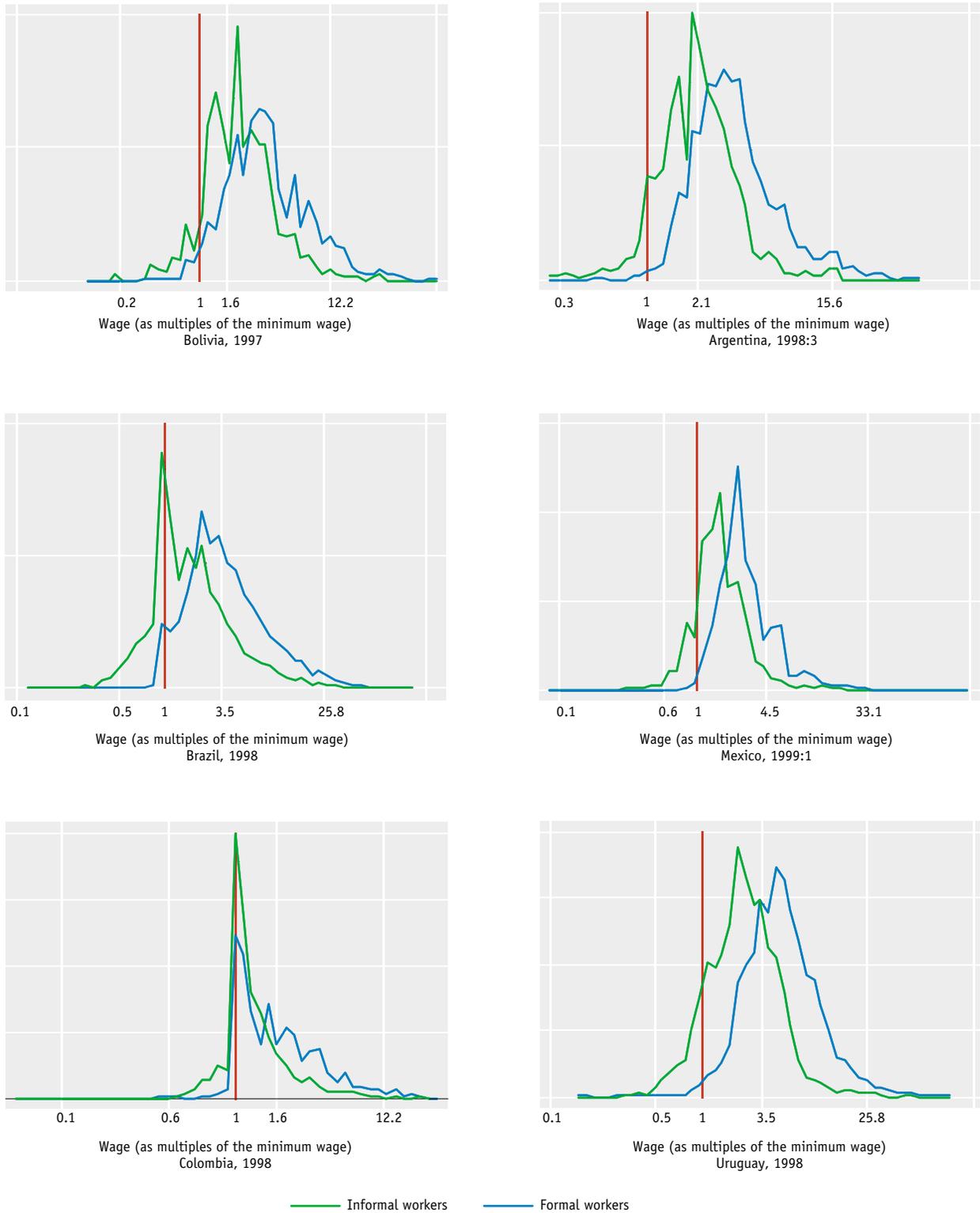
advantage. In addition, by fixing a wage floor for workers’ take-home income, a minimum wage may prevent wages from adjusting to compensate for increases in mandatory benefits. Whether this is the case depends of course on the level at which minimum wages are fixed.

Determining whether Latin America’s minimum wages are high or low requires more than just simply comparing the wage floor across countries. To say that minimum wages are higher in one country than another does not provide much information if productivity levels differ accordingly. A common way to relate the minimum wage level to some productivity measure is to compare it with a country’s average wage level. Such comparisons between OECD and Latin American countries reveal a wide range of minimum wage levels in Latin America (see Figure 9.10). Venezuela, El Salvador, Paraguay and Honduras have minimum wages relative to average wage levels that are higher than those prevalent in most OECD countries. Mexico, Chile, Argentina, Brazil, Bolivia and Uruguay have minimum wages relative to average wage lev-

¹⁹ The evidence on whether minimum wages can actually redistribute income in Latin America is ambiguous. Lusting and McLeod (1997) find that increases in minimum wages are associated with poverty reduction. IDB (1998-99), however, finds only a small impact of minimum wages on income inequality.

²⁰ See Card and Kruger (1995, 2000).

Figure 9.11 | Distribution of Workers by Wage Level



Source: Maloney and Núñez (2001).

els that are 20 to 35 percent lower than those of most OECD countries. (Minimum and average wages refer to the same year, but the minimum to average figures correspond to various years between 1995 and 1998.)

Even average wage-adjusted measures are insufficient to explain the impact of minimum wages on labor costs if laws are not enforced. To address this possibility, Maloney and Núñez (2001) examine the effect of minimum wages on the actual distribution of wages. The results are summarized in Figure 9.11. If minimum wages are either not binding or not enforced, the distribution of wages, summarized in the density plots, is bell shaped. However, if minimum wages are indeed binding and alter the distribution of wages, then there is a peak around the minimum wage level (vertical line in the figure). In Brazil and especially in Colombia, minimum wages alter the distribution of wages, while in Argentina, Mexico, Uruguay and Bolivia their effects are less pronounced. Of particular note is that minimum wages affect the distribution of wages in both the formal and informal sectors. In Argentina, Colombia and Brazil, the effect on informal sector wages appears more pronounced than the effect on the formal sector. Neri, Gonzaga and Camargo (2000) study this phenomenon for Brazil and label it the “lighthouse effect.” They argue that although not necessarily enforced by the law, the minimum wage operates as an important benchmark of what constitutes a “fair” wage. Moreover, Maloney and Núñez (2001) find that minimum wages alter wages at higher levels in the distribution due to a “numeraire” effect. That is, it is quite common to find that wages or other benefits are determined as multiples of the minimum wage level, effectively extending the influence of changes in the minimum throughout the distribution.

One final piece of evidence is still needed to conclude that minimum wages affect a country’s comparative advantage in low-skilled labor-intensive products. Do minimum wages reduce employment by increasing labor costs? If so, minimum wages alter productivity-adjusted labor costs. While empirical studies for some countries—most noticeably the United States—find substantial effects of minimum wages on the level and the distribution of wages, they do not find significant effects of minimum wages on employment rates. Instead, the evidence for Latin America suggests that minimum wages have larger effects in countries where the minimum wage is fixed at relatively high levels. Bell (1997) finds no evidence of effects of the mini-

um wage on employment in Mexico, but strong negative effects of the minimum wage on low-skilled workers in Colombia. Maloney and Núñez (2001) confirm the findings for Colombia with more recent data. Moreover, they find that the negative effects of the minimum wage on employment are spread along the distribution of wages through the “numeraire” effect.

To conclude, although at first glance the minimum wage may appear to be a sensible way to increase the welfare of the working poor, if set at levels not supported by productivity, it may do more harm than good to the very workers it is intended to help. The burden of such a policy is reflected not only in higher unemployment levels, but also in costly losses in export market shares.

Trade Unions and Labor Costs

Trade unions have been at the center of the debate on how labor market institutions affect price competitiveness and the welfare of workers. On the one hand, trade unions are seen as essential to defending worker rights and promoting sustained improvements in workers’ welfare. On the other, trade unions are seen as a threat to price competitiveness, since they can seek and obtain wage increases above productivity. Is there any evidence to support these claims in Latin America? By negotiating on behalf of a large number of workers, unions can obtain more favorable wage agreements than if every worker were to bargain over his or her own wage. However, union membership has declined steadily both in industrial countries and in Latin America. According to World Bank data, union membership declined from 39.7 percent of the workforce in the 1980s to 31.2 percent in the 1990s in industrial countries and from 24.6 percent to 15.5 percent in the Latin America. This decline has reduced unions’ influence in determining wages.

Empirical evidence for the United States and Canada suggests that, historically, union workers earn, on average, 15 percent more than non-union workers. The evidence for Latin America is mixed. In Mexico, for instance, non-union workers on average may earn more than union workers.²¹ But in Venezuela and Brazil, union workers earn wages that are above those earned by non-

²¹ Pagés and Shinkai (2001) use recent household survey data to examine the impact of unionism in Brazil, Mexico and Venezuela.

union workers. However, there are important differences within demographic groups. In all three countries mentioned as well as in the United States, the wages of low-skilled workers tend to be lower in the union than in the non-union sector, while the reverse is true for high-skilled workers. While it is still unclear what type of phenomenon is driving these findings, the results suggest that unions do not increase the cost of labor for low-skilled workers.

Finally, it should be stressed that the effect of unionism on wages is only part of the story regarding unions and price competitiveness. The second important piece is the effect that unions have on productivity. If unions seek and obtain higher wages for their members in exchange for higher productivity levels, then unions may increase workers' living standards without affecting unit labor costs. Unfortunately, little is known about the impact of unionism on productivity in the developing countries.

What Should Be Done?

This chapter has shown that Latin America has become more specialized in producing goods and services highly sensitive to productivity-adjusted labor costs. This implies that open economies should try to maintain these costs at competitive levels. However, this policy does not imply sustaining low levels of wages, but rather wages that are compatible with productivity levels. Achieving this requires that countries:

- ***Focus on policies that increase labor productivity***

Fast and sustained productivity growth allows wages and living standards to increase rapidly without altering competitiveness. Given the importance and complexity of the issue, the next chapter is devoted to discussing policies that increase labor productivity.

- ***Rationalize mandatory benefits and provisions***

This strategy should aim to design benefits packages that are valued by the majority of workers. This means frequently surveying workers about their willingness to pay for the benefits they currently receive and the benefits they actually need. It also implies assessing whether workers' needs are covered by the current system of so-

cial protection. The evidence to date is that they are not, as seen in low levels of coverage, the perception of implicit taxation on the part of employers, and the negative effects on employment. However, there are promising examples of changes in social protection programs that have been well received by workers. Recent pension reform in El Salvador, for example, resulted in an increase in affiliation of more than 50 percent in two years.

- ***Reassess minimum wages***

Countries that choose to have a minimum wage policy to protect workers or redistribute income should reassess its design to prevent some major drawbacks. First, increases in minimum wages should be tied to increases in productivity. Since productivity growth changes across sectors, it is important to choose indicators of productivity growth that are related to the sectors that are more likely to employ minimum wage workers. This prevents major changes in labor costs and employment rates while providing useful benchmarks of productivity growth to individual firms lagging behind. Second, creating a minimum wage package that includes wages plus contributions to mandatory benefits would eliminate barriers to wage adjustment. By fixing a benefits package that includes what employers (and employees) pay as social security contributions and other provisions, contributions and benefits can be changed without affecting the overall minimum income package. This is because wages can adjust to changes in contributions or benefits without affecting the cost of labor. These changes are parallel to recent policies in OECD countries directed towards paying gross instead of net (of taxes) unemployment insurance benefits.

- ***Promote venues for social dialogue***

Unions play an important role in the labor market. They are well placed to assess whether the quality and design of social security benefits respond to the needs of workers. They can also monitor productivity growth and ensure that wages increase accordingly. But labor unions can also exhibit monopolistic behavior, forcing wage increases above productivity growth. This is more likely to occur in instances where wage bargaining takes place at the sector level, since at this level unions do not internalize either economy-wide productivity growth or

that of individual businesses. It can also occur when union leaders do not understand the adverse consequences of their decisions. Finally, it can occur when employers want to buy some peace after a period of tense labor relations. Therefore, opening permanent

venues for dialogue between employers and employees, as well as improving the decision-making of employers and union representatives, can reduce monopolistic behavior, increase price competitiveness, and increase productivity growth.

Appendix 9.1 Sector Classification by Wage Level and Factor Intensity

	High wages	Medium wages	Low wages
Labor-intensive sectors		Fabricated metal products	Food products Beverages Tobacco Textiles Apparel, except footwear Leather products Footwear, except rubber or plastic Other manufactured products
Resource-intensive sectors	Petroleum refineries Miscellaneous petroleum and coal products	Paper and paper products Printing and publishing Pottery, china, earthenware Glass and products Other non-metallic mineral products Non-ferrous metals	
Science-based sectors	Other chemicals Machinery, except electrical	Professional and scientific equipment	
Other factor-based sectors	Industrial chemicals	Rubber products Plastic products Iron and steel Transport equipment	Wood products, except furniture Furniture, except metal Machinery, electric

Source: OECD.

Appendix 9.2

Social Security Contributions, Job Security Measures and Employment

Using a panel of data from OECD and Latin American countries, we investigate the impact of mandatory benefits—including social security contributions, dismissal indemnity, and advance notice prior to dismissal—on employment. The data come from employment indicators from the OECD and from a large set of household surveys from Latin America. Employment indicators have been constructed with a common methodology to assure comparability between countries and with the OECD data. The following regression is then estimated:

$$Emp = \alpha_1 + \alpha_2 LAC + \alpha_3 JS + \alpha_4 SS + \alpha_5 g + \alpha_6 GDP + \alpha_7 FemP + \alpha_8 Pop15to24 + v + \varepsilon$$

where *Emp* denotes employment measured as a percentage of the population between 15 and 65 years old, *LAC*

is a dummy that takes the value of 1 if the observation belongs to Latin America or the Caribbean and zero otherwise, and *JS* denotes the expected cost of paying dismissal indemnities and abiding by advance notice laws. (See Heckman and Pagés, 2001, for a complete description on how these variables are obtained.) These are the relevant policy variables whose effect on employment we want to capture. In addition, we control for a number of variables such as GDP growth (*g*), GDP level, female participation (*FemP*), and the share of the population between 15 and 24 years old (*Pop15to24*). Finally, ε is an error term and v is a country specific component of this error. We report three sets of coefficients for the variables of interest (*JS*, *SS*) depending on whether we use the overall sample, the Latin American sample, or the OECD sample.

Appendix 9.2 - Table 1 | **The Effect of Job Security and Social Security Contributions on Employment: Regression Results**

Dependent variable: employment as percent of population			
Independent variables	Overall sample	Latin American sample	OECD sample
Job security	-1.62 (-3.33)**	-1.79 (-3.19)	-1.86 (-1.68)*
Total payroll contributions	-0.043 (-1.18)	-.16** (-1.98)**	-0.005 (-0.11)
R ²	0.74	0.33	0.78
No. of observations	103	42	61
No. of countries	30	15	15

Notes: Methodology: panel estimation with random effects. t-statistics in parentheses.

* Significant at the 10% level.

** Significant at the 5% level.

*** Significant at the 1% level.