

## Job and Worker Dynamics: The Hidden Side of the Labor Market

Although most studies focus on net changes in employment, unemployment, or inactivity, it turns out that relatively small net changes in these variables hide a phenomenal amount of reallocation activity in the labor market. In a given year, in all the countries examined here, a large number of firms are expanding their staff, while simultaneously many others are reducing employment. This occurs independently of whether the economy is going through a period of expansion or recession. It also occurs across sectors of activity and across firms of different ages and sizes. Thus, market economies are extremely fluid, require a constant reallocation of employment across uses, and have large worker flows. At any point in time, a large percentage of workers are transiting between jobs and between employment, unemployment, and inactivity. High levels of informal employment do not drive these large turnover rates; large levels of turnover in Latin America are also found among registered firms and skilled workers.

The evidence suggests that most reallocation is associated with firm-specific rather than aggregate shocks. This is true even in Latin America's highly volatile macro environment. The heterogeneity of firm-specific factors explains the large degree of job turnover in the market. It also explains why important productivity gains can be made by shifting resources from less productive to more productive activities. Thus, the analysis

explains that this perennial churning is a cause and a consequence of productivity growth. A significant share of productivity growth is associated with the reallocation of workers from less productive to more productive firms and from underperforming firms exiting the market to new firms.

Although some workers benefit from mobility, involuntary turnover can impose large welfare costs on workers. Perennial churning forces workers to go through involuntary periods of unemployment and to find new jobs. However, in Latin America, most workers are ill prepared for this. Current forms of social insurance based on mandatory severance payments reach only a minority of workers. Therefore, most workers cannot properly search for jobs because they cannot afford to remain without income. These workers are forced to accept the first job that comes their way, without insuring a proper match between their abilities and the requirements of the job. Indeed, involuntarily unemployed workers accept jobs that pay less than their former jobs. The fact that these losses tend to be greater for workers that change sectors or have more tenure also suggests that some specific skills are lost in the process of displacement. At least some job destruction may be inefficient from a social point of view.

New evidence of the strikingly high level of job and worker reallocation as well as large heterogeneity in productivity give rise to a new vision of

the labor market, which has important implications for economic policies. First, market economies are extremely fluid and require a constant reallocation of resources (employment) to their new, most efficient use. If the entry-exit process of new firms is at the core of this reallocation of resources, bureaucratic burdens that increase start-up costs may undermine aggregate growth. Second, the fact that worker turnover is even greater than job reallocation underscores the importance for workers to have flexible skills and for countries to institute widespread social insurance to reduce the cost of job instability. Third, social insurance not only serves an important role in consumption smoothing, but also can bring productivity gains by promoting better job searches. Fourth, the dominant role of idiosyncratic factors in firms' performance hampers the efficiency of targeted industrial policies to promote employment, first because the group of targeted firms would most likely be composed of efficient as well as inefficient firms, and second because the heterogeneity of shocks makes it more difficult to identify the final effect of these policies on employment and firm performance. And fifth, credit market development may be a way to avoid the destruction of efficient matches between workers and firms due to liquidity problems.

The evidence presented in this chapter offers little support for the dualistic view of the labor market. This view considers the informal sector as a marginal sector where workers are unlikely to progress or move to formal jobs. Contrary to this view, there is evidence of great mobility between formal and informal employment, regardless of the definition of formality considered.

## THE FLOW OF JOBS AND WORKERS

It is useful to begin the analysis of labor market dynamics with an assessment of employment changes in individual firms based on data sets that follow individual firms or plants over time. Unfortunately, only a few countries in the region have this type of data. Therefore, the coverage of countries is not as wide as in other chapters. Despite the

limited coverage, the results from a small, heterogeneous sample of countries are surprisingly consistent.

Total job turnover is defined as the sum of job creation (new jobs created in a given year) and job destruction (old jobs destroyed in a given year). (See Box 2.1 for more detailed definitions of the variables described in this chapter.) Figure 2.1 shows the annual average job creation and destruction rates for a sample of 12 countries.<sup>1</sup> Gross rates of job creation and destruction range between 8 and 20 percent, adding up to total job turnover rates that range between 16 and 35 percent.

To put these numbers in perspective, consider that a rate of 35 percent implies that about one in every three jobs is created or destroyed in a given year. In comparison, changes in net employment, that is, the difference between job creation and destruction, are about one full order of magnitude smaller than total job turnover. For instance, in Brazil, a rate of job creation of 1.1 percent a year hides an impressive amount of activity in the labor market: every year, 16.1 percent of all jobs are created while 15 percent are lost.

This constant churning of job positions characterizes both developed and emerging market countries (see Figure 2.1). The two Latin American economies for which data on turnover for the whole economy are available—Brazil and Mexico—show turnover rates that are within the ranges observed in developed countries. Since data from Mexico and Brazil come from social security registries, it is not the case that high rates of turnover for these two countries are driven by high rates of informal employment.<sup>2</sup> Instead, the data suggest that there are high rates of turnover within formal sector firms. In addition, a large fraction of job reallocation comes through firms that start up or shut down each year. New firms entering the market explain 40 percent of total job creation; firms that shut down explain 30 percent of job destruction.

<sup>1</sup> Brazil, Canada, Denmark, Estonia, Finland, France, Germany, Italy, Mexico, New Zealand, Sweden, and the United States.

<sup>2</sup> The high levels of job creation in Mexico may reflect an increase in the number of jobs that pay social security benefits.

### Box 2.1 Definitions of Gross Flows

*Job creation.* The sum of employment changes for firms that increase the workforce between years  $t-1$  and  $t$ , divided by average total employment in  $t-1$  and  $t$ .

*Job destruction.* The negative of the sum of employment changes for firms that decrease the workforce between years  $t-1$  and  $t$ , divided by the average total employment in  $t-1$  and  $t$ . By construction, job destruction is positive.

*Net employment rate.* The sum of employment changes for all firms between years  $t-1$  and  $t$ , divided by the average total employment in  $t-1$  and  $t$ . This statistic is equal to job creation minus job destruction.

*Job turnover or job reallocation.* The sum of the absolute value of firms' employment changes, divided by the average total employment in years  $t-1$  and  $t$ . This statistic is equal to job creation plus job destruction.

*Excess reallocation.* Job turnover minus the absolute value of the net employment rate.

*Job creation by entering firms (entry).* The sum of employment for firms that enter the market in year  $t$ , divided by the

average total employment in  $t-1$  and  $t$ . Job creation by entering firms is part of the previously defined job creation.

*Job destruction by exiting firms (exit).* The negative of the sum of employment (in year  $t-1$ ) for firms that exit the market between  $t-1$  and  $t$ , divided by the average total employment in  $t-1$  and  $t$ . By construction, this statistic is positive.

*Accession rate.* The sum of all workers hired between years  $t-1$  and  $t$ , divided by the average total number of employees in  $t-1$  and  $t$ .

*Separation rate.* The sum of all workers that leave a firm between years  $t-1$  and  $t$ , divided by the average total number of employees in  $t-1$  and  $t$ . This statistic includes fired workers as well as employees who quit.

*Worker turnover or worker reallocation.* The sum all workers who are hired or who leave a firm between years  $t-1$  and  $t$ , divided by the average number of workers in  $t-1$  and  $t$ . This statistic is equal to the sum of the accession and separation rates.

Source: Davis and Haltiwanger (1999).

Figure 2.1 Average Annual Gross Job Flows

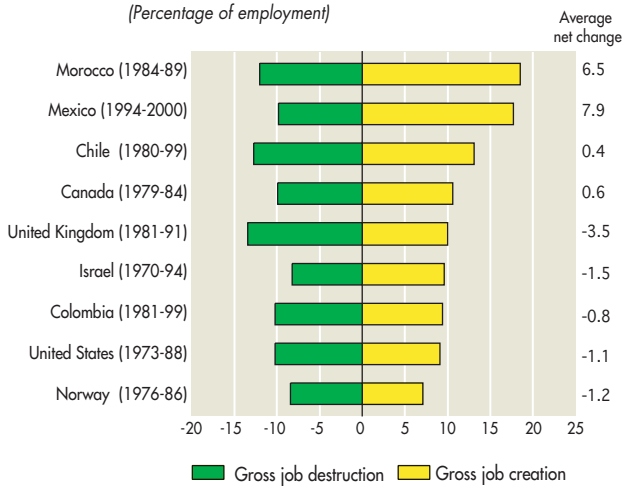


Source: OECD (1996); Davis and Haltiwanger (1999); Kaplan, Robertson, and Martínez (2003); Menezes Filho and others (2002).

High levels of job turnover can be observed in all areas of the economy. For the nine countries for which data are available for manufacturing, job turnover rates range between 15 and 30 percent (Figure 2.2). As for the whole economy (Figure 2.1), levels of job reallocation in the manufacturing sector in the countries in Latin America for which data are available (Chile, Colombia, and Mexico) are comparable to those in developed countries (Figure 2.2). This is a surprising result, considering the differences in labor market regulatory regimes across countries (see chapter 7).

Job flows are related to worker flows. As firms close positions, workers are forced to relocate to new jobs. However, workers also move across jobs and between employment, unemployment, and inactivity as a result of their own personal decisions. Thus, worker turnover is larger than job turnover. Figure 2.3 presents job and worker reallocation in five developed countries (Canada, Fin-

**Figure 2.2 Average Annual Gross Job Flows in Manufacturing**  
(Percentage of employment)



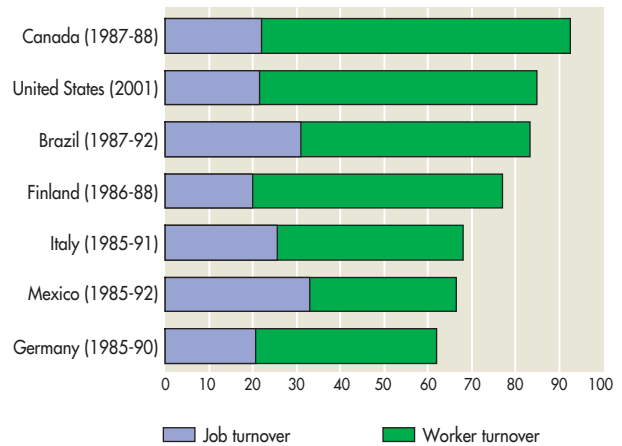
Source: IDB calculations; Davis, Haltiwanger and Schuh (1996); Barnes and Haskel (2002); Gronau and Regev (1997); Kaplan, Robertson, and Martínez (2003); Medina, Meléndez, and Seim (2003).

land, Germany, Italy, and the United States) and two developing countries (Brazil and Mexico). It shows that worker flows are larger than gross job flows by a factor of three. For each job created or destroyed in a year, approximately three workers either change from one job to another or change their employment status.<sup>3</sup> Again, Mexico and Brazil have patterns of job and worker reallocation that are within the ranges of those observed for the developed countries included in the sample.

This extreme level of job reallocation implies a large degree of heterogeneity in firms' behavior. Even within the same industry, firms face a broad range of shocks to the demand for their products, the cost of their inputs, and their production technology. The result is an equally broad range of productivity and employment patterns.

Three types of factors can drive changes in employment within firms: firm-specific shocks, sector shocks, and economywide aggregate shocks. Firm-specific factors are associated with changes in the demand for firms' products, changes in the cost of inputs, or changes in the technology used by individual firms. Sector shocks are driven by changes in price, technology, or the cost of inputs at the sector level. Economywide aggregate shocks tend to be associated with changes in the macroeconomic conditions of a country.

**Figure 2.3 Average Annual Gross Worker Flows**  
(Percentage of employment)



Source: Bertola, Boeri, and Cazes (1999); Davis, Haltiwanger, and Schuh (1996); Barnes and Haskel (2002); Kaplan, Robertson, and Martínez (2003); Menezes Filho and others (2002).

What is the relative importance of aggregate, sector, and firm-specific shocks in explaining job reallocation? Figure 2.4 shows that the lion's share of reallocation is associated with firm-specific rather than aggregate shocks. This is surprising given the volatility of Latin American economies.<sup>4,5</sup> These results imply that firm-specific factors play a dominant role in individual firms' performance even within narrowly defined sectors. This large heterogeneity in firms' performance explains why there is a large degree of turnover in the market. (Box 2.2 describes the importance of idiosyncratic shocks.)

## REALLOCATION OVER TIME

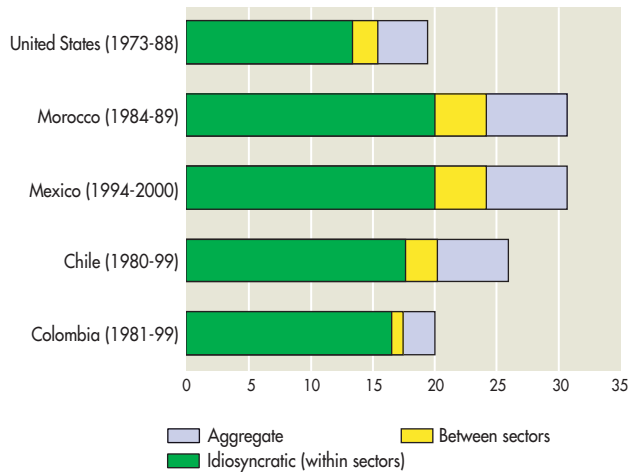
Some studies based on household survey data find that worker mobility increased in several countries in the region during the 1990s (Saavedra 2003). Figure 2.5 shows that excess turnover rates (see Box

<sup>3</sup> Employment status could be employed, unemployed, or inactive (out of the labor force).

<sup>4</sup> See Davis, Haltiwanger, and Schuh (1996) for a description of the methodology for this decomposition.

<sup>5</sup> Of course, the relative importance of sector shocks depends on the definition of the sectors. In this case, sectors were defined using the four-digit SITC classification.

**Figure 2.4 Job Reallocation by Type of Shock**  
(Percentage of employment)



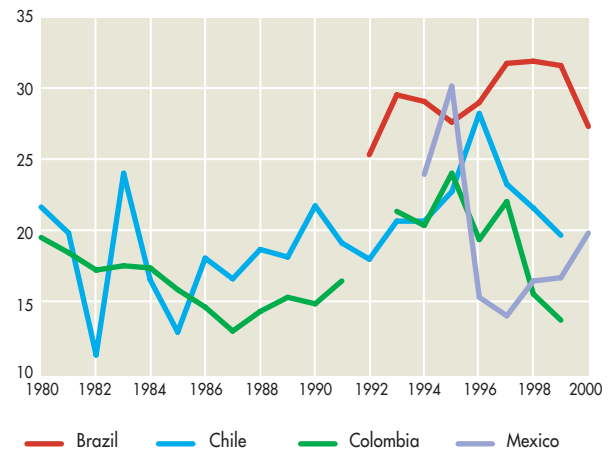
Source: IDB calculations; Barnes and Haskel (2002); Bergoing, Hernando, and Repetto (2003); Davis, Haltiwanger, and Schuh (1996); Kaplan, Robertson, and Martínez (2003); Medina, Meléndez, and Seim (2003); Menezes Filho and others (2002); Roberts and Tybout (1996).

2.1) in manufacturing (that is, turnover net of the effect of aggregate shocks) increased in Colombia after 1992.<sup>6</sup> The figure also shows a trend toward higher excess reallocation in Chile and Brazil during the 1990s. By contrast, turnover declined in Mexico in the 1990s. In principle, increasing turnover rates could be associated with higher reallocation across sectors of activity brought about by the far-reaching trade reforms implemented during the 1990s in most countries in the region. However, as shown in chapter 5, there is no statistical association between trade reforms and increased reallocation across sectors. Therefore, if structural reforms brought increased reallocation, this effect came from increased reallocation within narrowly defined sectors, that is, increasing heterogeneity across individual firms' performance.

## REALLOCATION AS A SOURCE OF PRODUCTIVITY GAINS

The evidence provided so far indicates that high rates of job reallocation are caused by firm-specific factors. It also indicates that firm entry and exit account for an important share of job turnover.

**Figure 2.5 Excess Job Reallocation over Time, 1980-2000**  
(Percent)



Source: Bergoing, Hernando, and Repetto (2003); Kaplan, Robertson, and Martínez (2003); Medina, Meléndez, and Seim (2003); Menezes Filho and others (2002).

These patterns suggest that firms may go through a process of learning in which trial and error plays an important role. This is confirmed by the observation that in both Colombia and Chile, younger firms have higher levels of reallocation (Figure 2.6). Moreover, younger firms tend to be less productive than firms that have been in operation for a longer time (Figure 2.7).

The fact that younger firms experience higher turnover rates suggests that new firms are uncertain about their costs of production and the demand for their final goods. The owners or managers of young firms continuously adjust their production and workforce based on their changing perceptions of market conditions and production costs. Some of them realize they cannot stay in business and close after a short time in operation.

As firms age, the learning process slows down and changes in employment become smaller and less frequent. In Chile, the probability that a new entrant exits after one year in business is 11 percent. After this initial difficult year, the probability of exiting the market goes down with the firm's age. After a decade in operation, the probability of exit

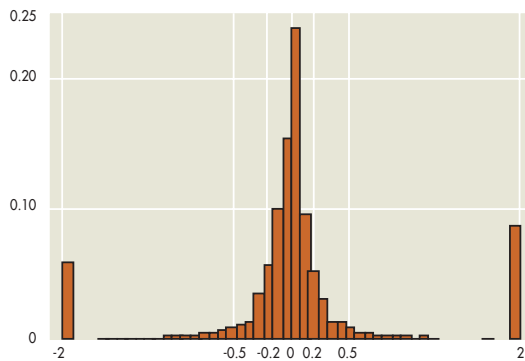
<sup>6</sup> Figure 2.5 plots excess reallocation (see Box 2.1 for a description).

### Box 2.2. The Importance of Idiosyncratic Shocks

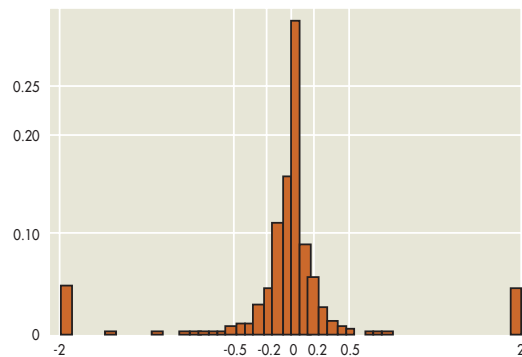
The figure below presents the distribution of the annual employment growth rate for firms in the manufacturing and bakery products sectors in Chile in 1995. In the manufacturing sector, employment grew at 1 percent, but more than 21 percent of firms contracted employment by more than 15 percent, 6 percent shut down, and 9 percent started up. This heterogeneity mainly comes from differences within narrowly defined subsectors. In particular, the Figure focuses on the bakery products industry (SITC 3117), and shows a level of heterogeneity similar to what is observed for the whole manufacturing sector.

This heterogeneity in employment has its counterpart in labor productivity. The figure shows the level (log deviation from the mean) and the rate of growth of firms' labor productivity in the bakery products industry in Chile. Firms in the 75th percentile had labor productivity three times larger than firms in the 25th percentile; the difference is more than 10 times between the 90th and 10th percentiles. Although industry-level labor productivity remained almost constant during 1994-95, more than 25 percent of establishments observed a drop in labor productivity larger than 15 percent.

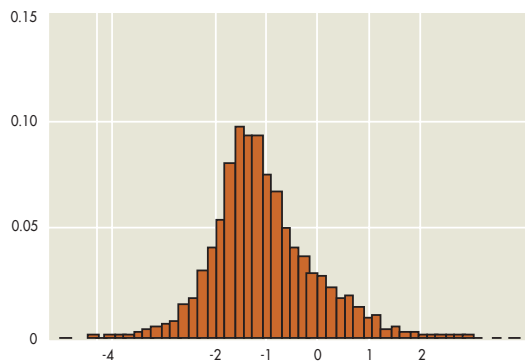
a. Employment Growth Distribution in Manufacturing in Chile, 1995



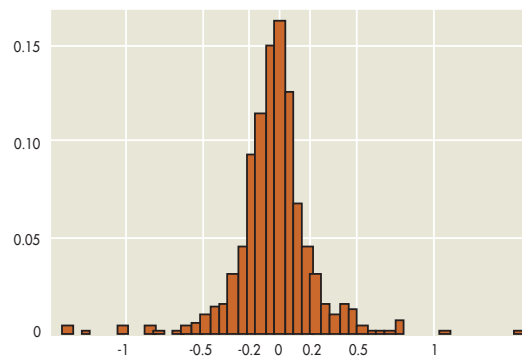
b. Employment Growth Distribution in Bakery Products in Chile, 1995



c. Labor Productivity Distribution in Bakery Products in Chile, 1995 (log deviation from the mean)

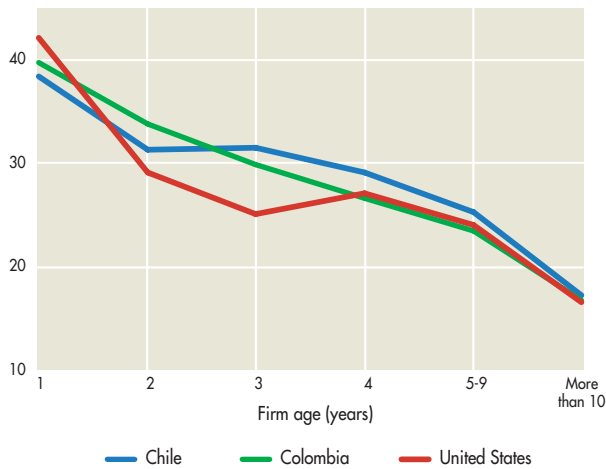


d. Rate of Growth of Labor Productivity in Bakery Products in Chile, 1995



Note: The rate of growth in figure d is calculated without entry and exit of firms.  
Source: IDB calculations.

**Figure 2.6 Job Reallocation by Age of Firm**  
(Percentage of employment)



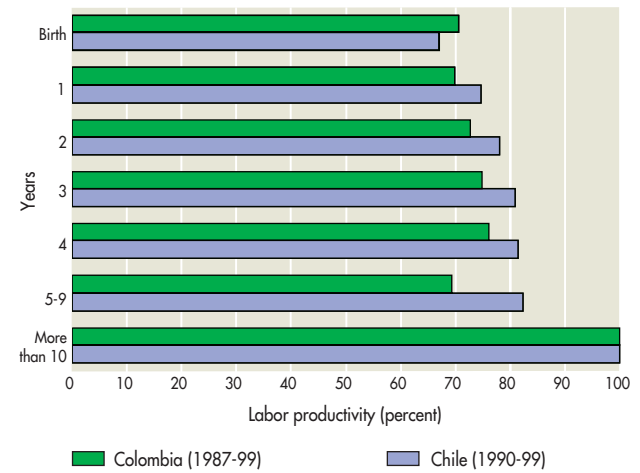
Source: IDB calculations; Davis, Haltiwanger, and Schuh (1996); Bergoing, Hernando, and Repetto (2003); Medina, Meléndez, and Seim (2003).

is reduced to 5-7 percent. This process of learning also explains why firms become more productive as they age. Over time, firms develop ways of producing more efficiently, leading to a learning curve in which mature firms tend to have higher productivity but lower levels of productivity growth.

This process of trial and error is important for growth. In countries with low entry and exit costs, entrepreneurs launch many projects and maintain the ones that end up being successful. In countries with high entry and exit costs, entrepreneurs have limited incentives to experiment and many good projects may never be tried.<sup>7</sup> Little is known about the costs of experimenting. However, Figure 2.8 suggests that the cost of starting a new firm is quite hefty in Latin America. This is reflected in the fact that the size of new entrants relative to incumbents is 60 and 45 percent in Chile and Colombia, respectively. In relative terms, entrants in these countries are greater than start-up firms in Canada, the United Kingdom, and the United States, but comparable to those in France and Italy (Figure 2.9).

An economy's productivity may grow because existing firms become more productive as they age and invest in new ways to produce (learning), less productive firms exit the market (selection), or less productive firms shrink while more productive firms expand (reshuffling). To find the share of pro-

**Figure 2.7 Labor Productivity by Age of Firm in Chile and Colombia**  
(Percent)



Note: Labor productivity is relative to firms age 10 years or older.  
Source: IDB calculations; Bergoing, Hernando, and Repetto (2003); Medina, Meléndez, and Seim (2003).

ductivity growth that is due to each of these factors, aggregate labor productivity growth can be decomposed into three components: (1) productivity growth in existing establishments, (2) productivity growth from shifts in market shares among existing firms with different productivity levels, and (3) productivity growth from reallocation of workers from exiting firms to more productive entering establishments. This accounting procedure does not take into account that strategic interactions among firms may induce important interactions among the three components of aggregate productivity growth. For example, entry of new firms may stimulate productivity-enhancing investment by incumbents to preserve their market shares.

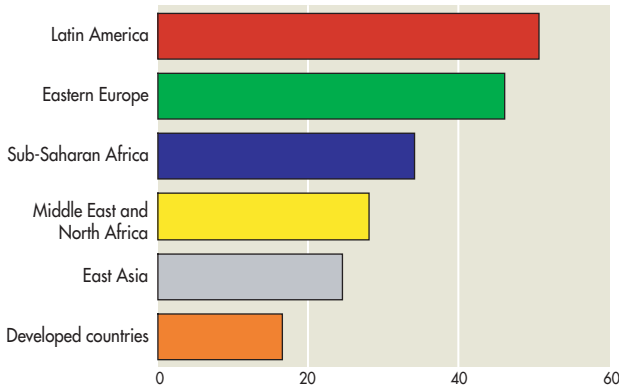
Figure 2.10 presents the decomposition of labor productivity growth in manufacturing at five-year intervals.<sup>8</sup> The sample includes eight developed countries and two economies in Latin America.

<sup>7</sup> The costs of not experimenting are even higher considering that successful entrepreneurs could generate positive externalities by revealing a country's comparative advantage (Hausmann and Rodrik 2002).

<sup>8</sup> The productivity decompositions depend on the period in which productivity growth is calculated. The larger is the period, the larger is the importance of entry and exit in aggregate productivity growth. When the period is increased, a larger percentage of firms either enters or exits, and a larger percentage of the learning-by-doing process is accounted for by the entry-exit component.

**Figure 2.8 Start-up Costs Ranked by Region**

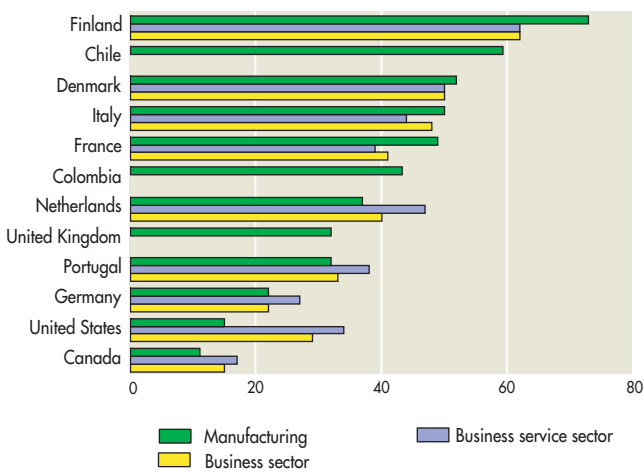
(Index)



Note: For each region, the index is for the median country. Lower rank indicates lower cost of starting a new firm.  
Source: World Economic Forum (2003).

**Figure 2.9 Relative Size of Entering Firms with Respect to Incumbents**

(Percent)



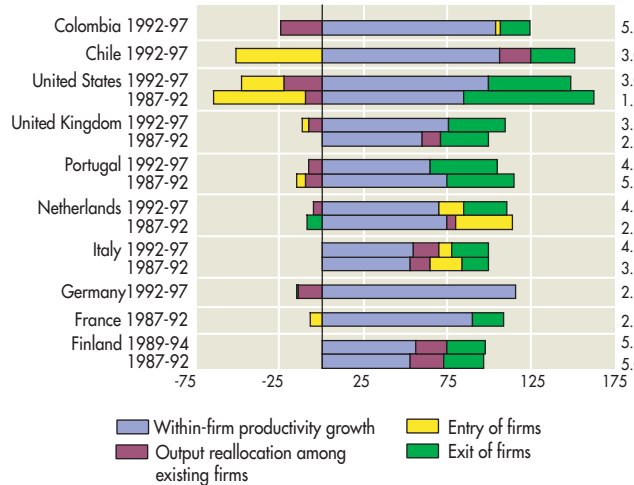
Source: IDB calculations; Scarpetta and others (2002); Medina, Meléndez, and Seim (2003).

Results suggest that firms' learning accounts for most of the growth in aggregate productivity (50-85 percent). The reshuffling component is typically small. The entry-exit component is positive in all but one case and accounts for 20-40 percent of total productivity growth. Focusing on Latin America, the exit component is lower than for the United States, but comparable to that for Italy, France, Finland, and the Netherlands.

**Figure 2.10 Labor Productivity Growth Decomposition**

(Percent)

Average growth rate



Source: Scarpetta, and others (2002); Bergoing, Hernando, and Repetto (2003); Medina, Meléndez, and Seim (2003).

In general, the selection process contributes to productivity growth because exiting firms have lower productivity than incumbent ones. Entering firms reduce aggregate productivity because, just after entering the market, they have on average lower productivity levels than incumbent firms. This is particularly the case in Chile, despite the fact that Figure 2.9 indicates that the typical entering firm is large. In general, the low average productivity of new firms is explained by the fact that these entrepreneurs have not yet experienced learning and the process of selection has not yet taken place.

Summing up, Figure 2.10 suggests that the reallocation process, which includes between-firm and entry-exit components, accounts for around 15 to 50 percent of aggregate productivity growth in the sample. In developed countries, these results have been interpreted as an indication of the importance of having low entry and exit costs. Reallocation has also been found to be important for explaining total productivity growth (Barnes and Haskel 2002; Scarpetta and others 2002). Thus, the high costs of adjusting employment could reduce productivity growth.

## FACTOR SPECIFICITY

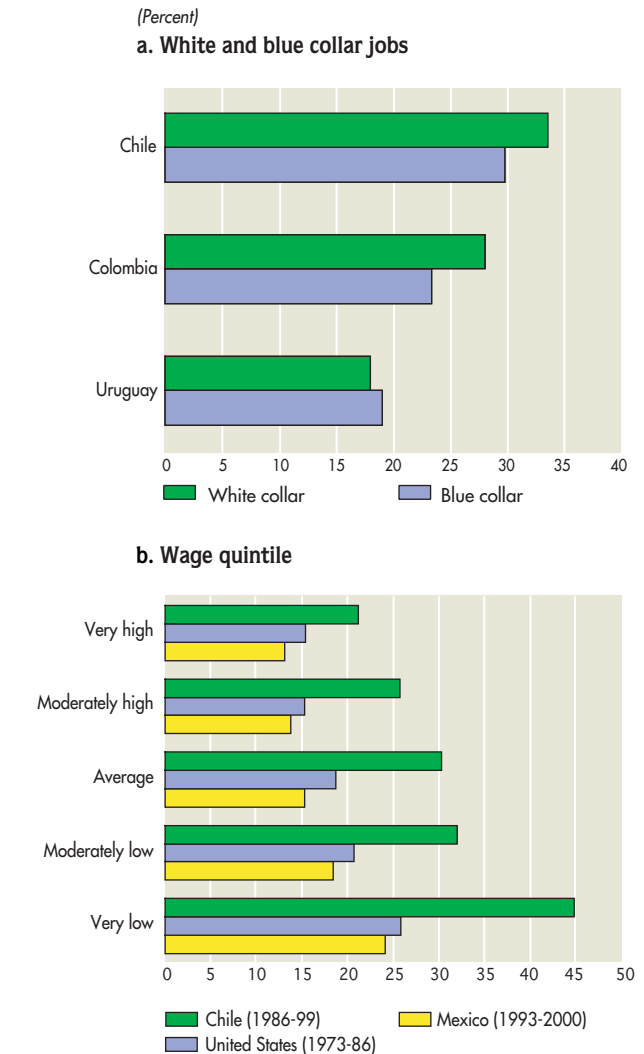
A factor of production is specific to a firm when its contribution to output within the firm is larger than its contribution outside the firm. For workers, this specificity may arise from specialized training, experience gained on the job that is only relevant in the current workplace, or the time required to search for a new job. In turn, capital may be specific to a firm because it has been adapted to a particular process and location, or because it is worth less in the hands of other workers and/or entrepreneurs.

If employers and workers share the returns of this specificity, both parties have incentives to maintain the employment relationship. Hence, specificity may provide a buffer against firm-specific, sector, or aggregate shocks, and therefore reduce employment volatility. In fact, employers will be more reluctant to lay off workers that are difficult to replace. Variations in the specificity of labor may therefore explain differences in employment volatility across different types of workers.

Specificity is likely positively associated with the level of human capital. Therefore, higher levels of turnover would be expected for less-skilled jobs (Mincer and Jovanovic 1981; Bulow and Summers 1986). Surprisingly, white and blue-collar jobs do not demonstrate this relationship in Chile, Colombia, and Uruguay according to the measure of job reallocation in Figure 2.11a. Contrary to the hypothesis that job turnover decreases with specificity, the figure shows that in Chile and Colombia, blue collar jobs appear to be more stable than white collar jobs in manufacturing. (The opposite is true in Uruguay, although the difference in turnover between white and blue collar jobs is small and not statistically significant.<sup>9</sup>)

A possible explanation is that the implicit assumption that blue collar workers are less skilled than white collar workers is incorrect. Another way to approach the problem is to proxy specificity with the average level of wages of a firm. It is expected that firms that pay higher wages employ more skilled workers. Under this measure, reallocation clearly declines with the skill level. Figure 2.11b measures job reallocation across wage quintiles. It shows that

**Figure 2.11 Job Reallocation**



Note: The data on job reallocation in Mexico and Uruguay are only for continuous firms. Source: IDB calculations; Bergoeing, Hernando, and Repetto (2003); Medina, Meléndez, and Seim (2003); Casacuberta, Fachola, and Gandelman (2003); Davis, Haltiwanger, and Schuh (1996).

the higher the level of human capital, the lower the level of job reallocation. For example, job turnover for Mexican firms with very low wages is almost twice as large as job flows for firms with very high wages. This negative relationship is monotonic and does not change, even controlling for other firm characteristics such as sector, age, and firm size. These results suggest that most of the burden of employ-

<sup>9</sup> The data on job reallocation in Uruguay are only for continuous firms in manufacturing.

ment reallocation falls on workers with low levels of human capital and low wages.

## FIRM SIZE

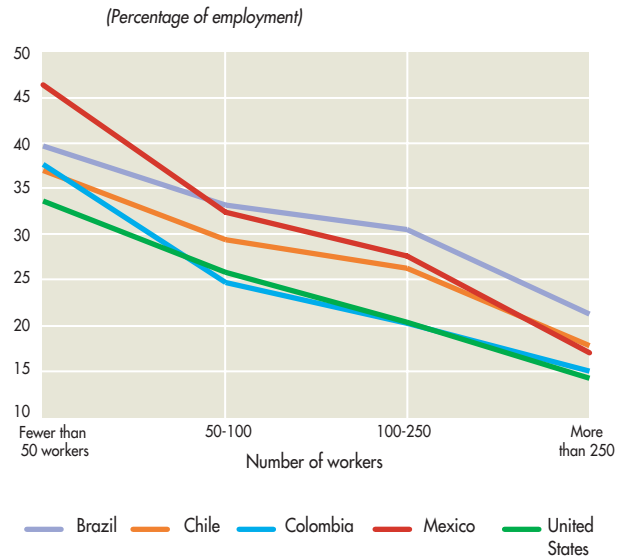
In general, small firms have higher probabilities of exiting the market and pay lower wages than larger firms. It is therefore expected that turnover would be higher in smaller firms than in larger ones. The available data confirm that there is a strong association between firm size and turnover rate (see Figure 2.12). For each of the five countries in Figure 2.12, there is a negative monotonic relationship between firm size and job reallocation. In the case of Brazil, for instance, establishments with fewer than 50 workers have on average a level of job reallocation twice as large as that of firms with 250 or more employees.

## EXCESSIVE DESTRUCTION AND LIQUIDITY SHOCKS

The previous section discussed the importance of a fluid labor market for the process of learning, reshuffling, and selection to take place. It highlighted that in the presence of uncertainty regarding the varieties of goods to be produced or the type of technology that should be used, the optimal production structure can be found only through a process of trial and error. A fluid labor market is also at the core of the Schumpeterian process of creative destruction. According to this view, aggregate productivity increases thanks to the continuous incorporation of new technologies that displace obsolete ones. Firms that incorporate new, efficient production processes gain market share and force inefficient producers to shut down.

These mechanisms assume that job reallocation is socially efficient, and that obstacles to reallocation reduce welfare. This may not always be the case. The following sections of the chapter discuss cases in which job creation and destruction are socially inefficient. Evidence for this perspective comes, in part, from studies of the private costs of job separations; the findings suggest that dis-

**Figure 2.12 Firm Size and Job Reallocation in the Manufacturing Sector**



Source: IDB calculations; Bergoing, Hernando, and Repetto (2003); Davis, Haltiwanger, and Schuh (1996); Kaplan, Robertson, and Martínez (2003); Medina, Meléndez, and Seim (2003); and Menezes Filho and others (2002).

placed workers take substantial wage cuts in their new jobs.<sup>10</sup>

Why would firms inefficiently destroy jobs? A possible explanation is that when negative shocks hit firms, imperfect capital markets constrain the ability of the firms to keep valuable workers, leading to the destruction of profitable firms and jobs. This factor is likely to be important in many Latin American countries that have underdeveloped financial markets. To date, no study has analyzed whether capital market underdevelopment leads to inefficient destruction of jobs. However, some indirect evidence suggests that small firms, in particular, may be severely credit constrained and destroy too many jobs. Thus, the results in Appendix Table 2.1 show that small firms have high levels of reallocation even after controlling for firm age, sector of activity, and level of wages.<sup>11</sup> This excess of turnover could be explained by the fact that small

<sup>10</sup> See Hall (1995) and Jacobson, LaLonde, and Sullivan (1993) for the United States and the references in the next sections for the region.

<sup>11</sup> In all specifications, dummies for larger firms are negative, indicating that larger firms have on average a lower level of job reallocation even after controlling for age and wage levels.

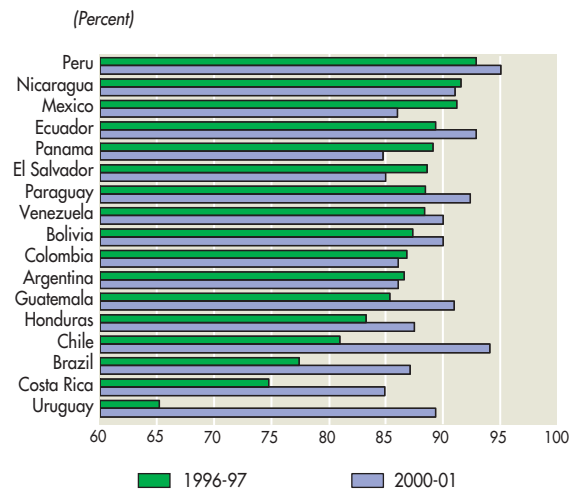
firms face lower adjustment costs and therefore their employment levels react more to shocks. Caballero, Engel, and Micco (2003) do not find support for this hypothesis. An alternative hypothesis is that small firms are more severely credit constrained, and therefore more vulnerable to inefficient destruction when faced with a liquidity shock.

## WORKER FLOWS AND WORKER WELFARE

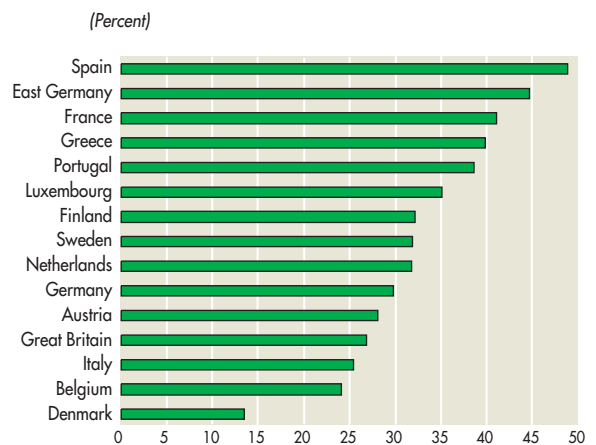
In market economies, the constant reallocation of labor is a key engine of productivity and wage growth. However, the process of labor reallocation may also bring large costs to displaced workers if it takes some time to find a new job or if workers have to accept jobs that pay lower wages than their previous jobs. Opinion surveys suggest that mobility may impose substantial costs on workers. According to the Latinobarometer, a public opinion survey conducted annually in Latin American countries, 85 percent of Latin Americans were either unemployed or worried about losing their jobs in 1996 (Figure 2.13a). In 2001, this feeling of malaise had increased in 11 of the 17 countries in which the survey was done. This concern is shared even in countries like Mexico, Costa Rica, and Guatemala, where unemployment rates are below 6 percent. In comparison, workers are more anxious about their jobs in Latin America than in Europe, despite the fact that the available data suggest that rotation rates are similar in the two regions. Thus, according to the Eurobarometer, only 32 percent of the workers in Europe felt insecure about their jobs in 1996 (Figure 2.13b).<sup>12</sup> What factors explain these differences?

The following sections assess whether reallocation is costly for workers. It turns out that, although job mobility can bring substantial welfare gains for many workers, for others the process of reallocation is not smooth. The absence of widespread social insurance may explain why Latin American citizens are especially concerned about keeping their jobs.

**Figure 2.13 Public Opinion Survey Results**  
**a. Unemployed or worried about losing current job, 1996-97 and 2000-01**



**b. Current job is not very secure or not secure, 1996-97**



Source: Latinobarometer (various years); Eurobarometer (1996, 1997).

<sup>12</sup> This was estimated from Gallie (1997) for Austria, Belgium, Denmark, East Germany, Finland, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Northern Ireland, Portugal, Spain and Sweden, the United Kingdom, and West Germany based on data from the Eurobarometer (1996).

## THE WELFARE COST OF DISPLACEMENT

From a worker's standpoint, the continuous creation and destruction of jobs introduce opportunities and uncertainty. On the one hand, large gross job creation flows allow workers to move from less attractive to more attractive jobs. This reallocation process is generally associated with welfare gains. On the other hand, large job destruction flows imply that workers always face the threat of job loss. How this constant churning of labor affects workers' welfare depends on three factors: the risk of unemployment, the short-term income loss associated with unemployment, and the possible long-run losses associated with accepting jobs that pay less than previous jobs.

The earnings foregone and the length of the unemployment spell determine the short-run income losses associated with unemployment. Obviously, the existence of some form of social insurance (such as unemployment insurance or mandatory severance payments) alleviates the income loss associated with unemployment. In addition, the higher is the probability of finding a suitable job, the lower is the welfare loss associated with an unemployment spell.<sup>13</sup> In Latin America, the per-period income loss associated with unemployment is likely to be large because many workers do not have access to mandatory severance payments. On average, only 44 percent of the workers are covered by this form of social insurance (see chapter 1). Moreover, because severance pay depends on the number of years a worker has been in a firm, there are many workers who, despite having access to benefits, receive small amounts. These are, for instance, workers who have just entered the labor market (in general, young people), intermittently enter and exit the labor market (for example, women), or had a previous spell of unemployment. Chapter 7 analyzes the level and availability of social insurance. The next two sections focus on the probabilities of losing and finding a job and the post-unemployment conditions that determine the long-run cost of unemployment.

## THE PROBABILITY OF LOSING OR FINDING A JOB

On average during the 1990s, workers in Latin America experienced a higher inflow to unemployment than workers in OECD countries. Some of this difference could be explained by increasing unemployment rates due to low growth in gross domestic product in the region. Box 2.3 shows the correlation between growth in gross domestic product and worker flows from employment to unemployment and from unemployment to employment in Argentina and Mexico in the 1990s. Figure 2.14 shows the number of workers that spent one month or less in unemployment as a share of total employment in Latin America and OECD countries. This measure offers a proxy for the probability that an employed worker enters unemployment. The probability of moving from employment to unemployment is particularly large in Argentina and Nicaragua, two countries that experienced high unemployment rates during the 1990s.

These measures are only approximations of the probability of finding a job. This is because newly unemployed workers could also come from inactivity (instead of only from employment, as assumed above). To better assess the probabilities of transitions across labor market states, that is, employment (E), unemployment (U), and being out of the labor force (N), requires information on the labor market state of a worker in a given period and in the following period. Thus, it is necessary to have panel data following individuals over time, but the data are available for only a few countries.

To get a more detailed view of the dynamics of the labor market from the workers' side, Figure 2.15 presents panel data on workers in Argentina in 1993-2001, a period of high and increasing unemployment. Comparing the labor status of an individual between two points in time, there are nine potential transitions or worker flows. For instance, an employed worker in time  $t$  might be unemployed in  $t+1$  (E-U in Figure 2.15) or an unem-

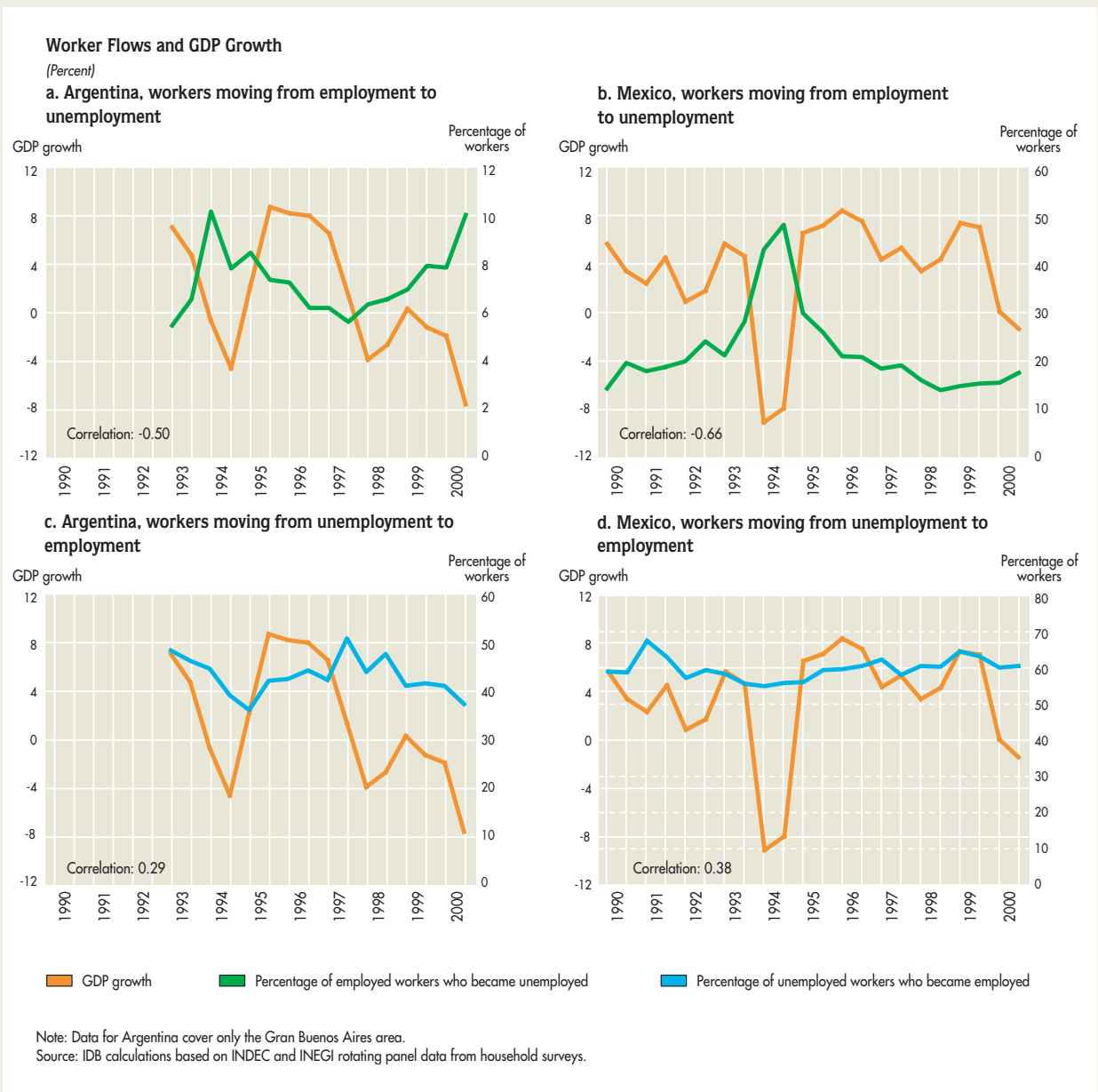
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<sup>13</sup> Gruber (1997a) finds that workers who receive higher unemployment insurance payments face a smaller reduction in consumption (a typical measure of welfare).

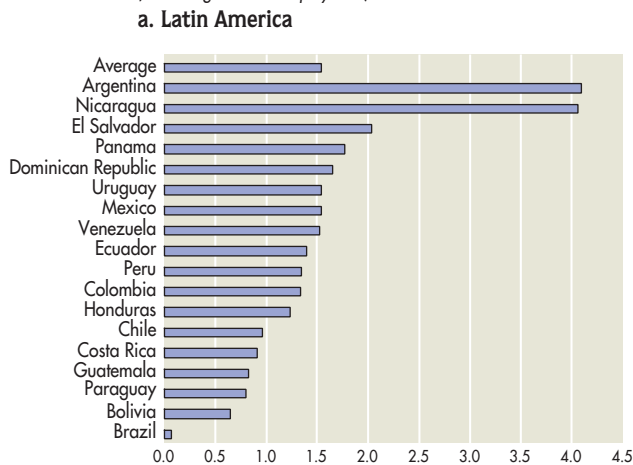
**Box 2.3. How Does Aggregate Volatility Affect Worker Flows?**

If worker flows respond to movements in gross domestic product (GDP), then greater volatility would lead to greater volatility in worker flows, greater uncertainty, and, thus, greater welfare loss. The effect of volatility is calculated based on simple correlations between worker flows and GDP growth. The Figure below illustrates the change in GDP and

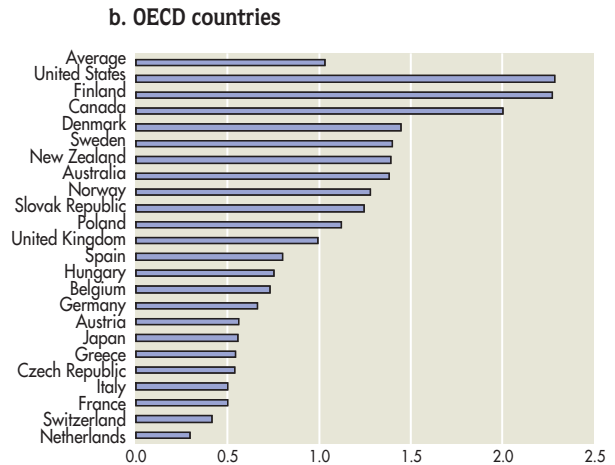
some transition probabilities (from employment to unemployment and from unemployment to employment) in Argentina and Mexico in the 1990s. As expected, in both countries, higher GDP growth is correlated with a lower risk of becoming unemployed and with a higher chance of finding a new job.



**Figure 2.14 Workers Unemployed for One Month or Less**  
(Percentage of total employment)

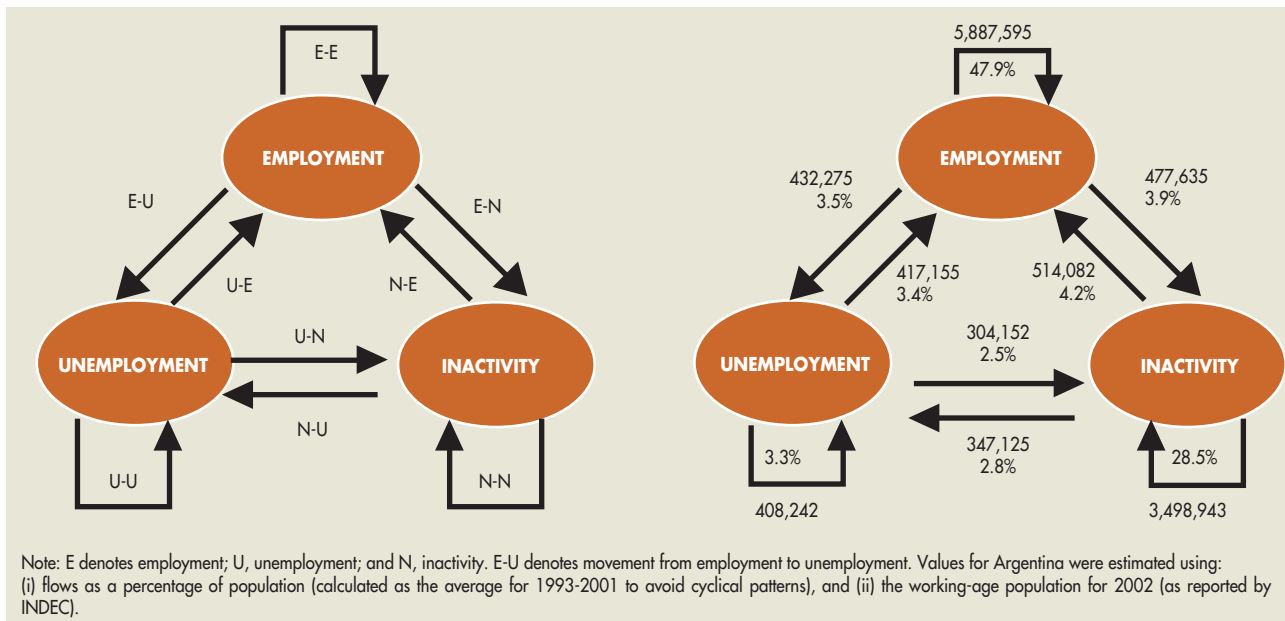


Source: IDB household surveys.



Source: OECD.

**Figure 2.15 Six-month Transitions across Labor Market States, Argentina, 1993-2001**



employed worker in  $t$  might be employed in  $t+1$  (U-E in Figure 2.15).

Dividing the expected worker flows by the population in Argentina in 2003 gives an idea of the magnitudes involved.<sup>14</sup> In a six-month period, about 3.5 percent of the population between ages 15 and 64 transits from employment to unemployment, while 3.4 percent makes the reverse (U-E) transition. These are large flows; for example,

approximately 400,000 workers move from employment to unemployment and vice versa. The percentage of people entering and leaving the labor market is also significant: 4.2 percent of the popu-

<sup>14</sup> The number of people transiting from one state to another is computed using the period average flows multiplied by the projected population in 2003. All the data for Argentina correspond to the Gran Buenos Aires area.

lation moves from inactivity to employment (N-E) and 2.8 percent from inactivity to unemployment (N-U), while 3.9 percent moves from employment to inactivity (E-N) and 2.5 percent from unemployment to inactivity (U-N). Consequently, behind small movements in observed employment, unemployment, and participation rates, there are large flows of people.

Note that this information can be used to calculate, for instance, the gross probability of transition from employment to unemployment by dividing the number of people that made the transition by the stock of people that were employed. In more general terms, the transition between state  $i$  (in time  $t$ ) and state  $j$  (in  $t+1$ ) is calculated by dividing the flow between  $i$  and  $j$  by the stock of workers that were in state  $i$  in time  $t$ . So E-U, for example, represents from now on the probability that an individual is unemployed at time  $t$ , conditional on being employed at time  $t-1$ .

Comparing these probabilities across countries in Latin America and across regions yields the following results (see Appendix Table 2.2). First, as also suggested by the measures shown in Figure 2.14, the probability of entering unemployment during the 1990s was higher for the average of the three countries in the region for which data are available (Argentina, Mexico, and Peru) than for the United States or Eastern European countries (Figure 2.16). The probability of entering unemployment is two times larger in Latin America than in the United States. This finding contradicts the widespread perception that unemployment is not an issue in developing countries. Approximately 5 percent of the employed workers exited employment and entered unemployment as an intermediate step between jobs or between activity and inactivity. Within the region, the risk of unemployment was higher in Argentina and Peru, and much lower in Mexico.

During the 1990s, flows from employment to inactivity were also larger in the three Latin American countries than in the United States or Eastern Europe. Within the region, these transitions were higher in Mexico and Peru than in Argentina. These figures suggest that labor force attachment increases with the level of development and, as

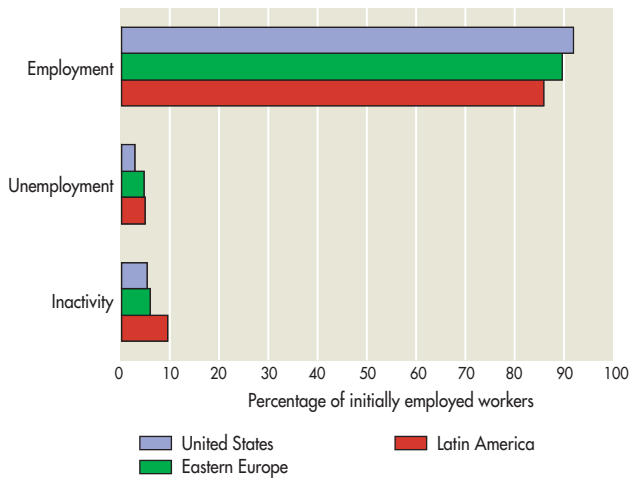
workers become more attached to the labor force, there are more transitions through unemployment and less to inactivity. This explains part of the differences in unemployment levels between Mexico, Peru, and Argentina.

The probability of exiting unemployment and finding a job was higher in the United States than in the other regions, followed by the average for the three Latin American countries. This confirms the results presented in chapter 1, showing that during the 1990s, the duration of unemployment in Latin America was higher than in the United States and lower than in Eastern and Western Europe. These results may reflect the fact that social insurance in Europe is more widespread and more generous than in Latin America and the United States. Europeans may just be spending more time finding a good job compared with unemployed workers in Latin America. In fact, Ehrenberg and Oaxaca (1976) show that increasing unemployment insurance benefits can induce further productive job searching, which in turn has a positive impact on post-unemployment wages. However, the literature also indicates that too generous unemployment insurance can be inefficient because it reduces job search effort. There is consequently an optimal level of unemployment insurance (Shavell and Weiss 1979; Hopenhayn and Nicolini 1997; Acemoglu and Shimer 1999a).

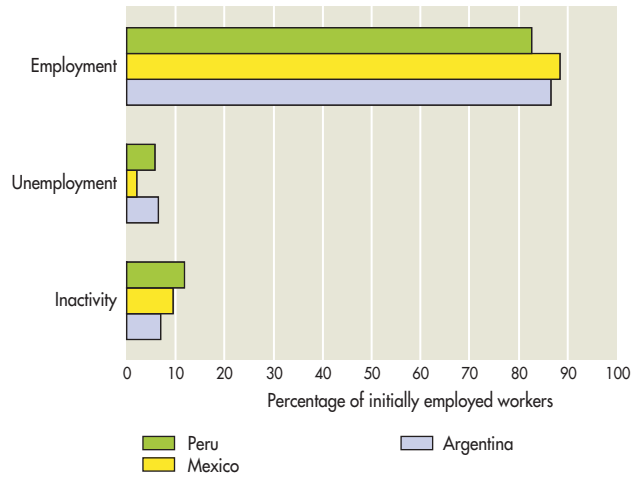
Within the region, the probability of exiting unemployment and finding a job is higher in Mexico than in Peru or Argentina. Indeed, in Argentina, the probability of finding a job is as low as in Western Europe. The probability of leaving unemployment to inactivity is also higher in the three countries in Latin America than in any other region. It is particularly high in Peru and Mexico and lower in Argentina. These figures suggest again the lower level of labor force attachment in Peru and Mexico relative to Argentina or the developed countries. These results are also consistent with the much higher rates of transition from inactivity to employment in Mexico and Peru than in Argentina.

Transitions across labor market states differ substantially across demographic groups. Data for Argentina and Mexico show that female, young, and unskilled workers are the most vulnerable

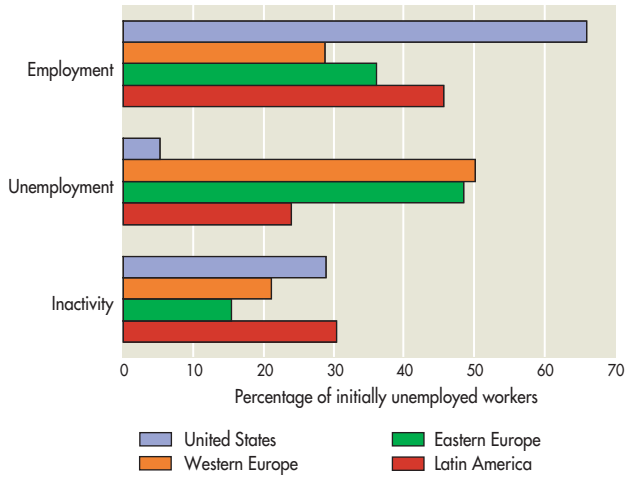
**Figure 2.16** Six-month Transitions between Labor Market States  
**a. From employment to...**



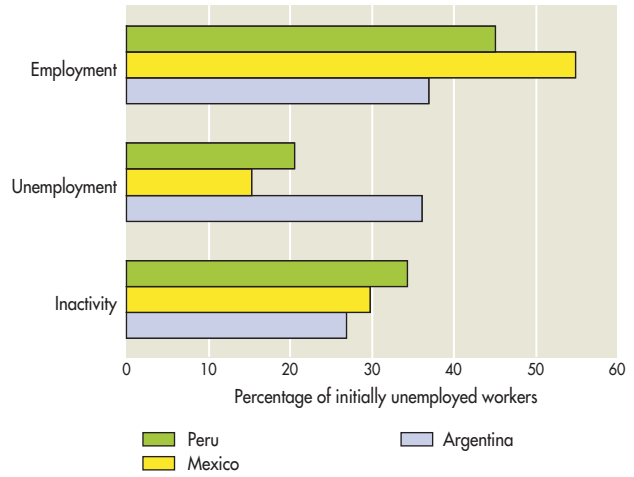
**b. From employment to...**



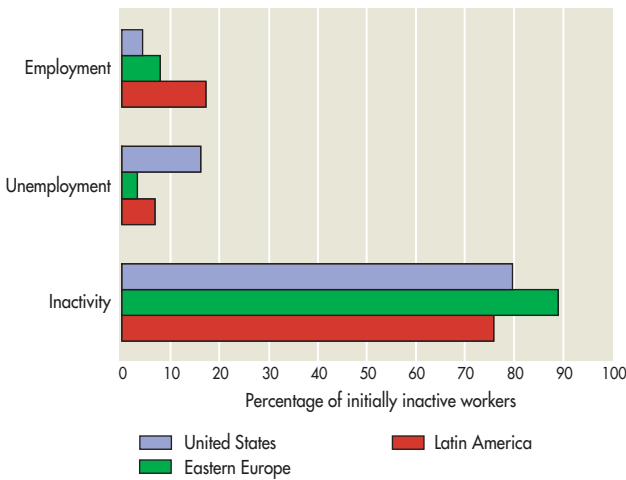
**c. From unemployment to...**



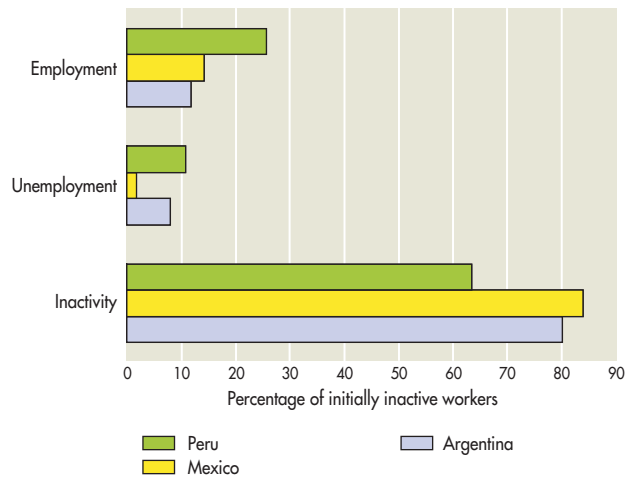
**d. From unemployment to...**



**e. From inactivity to...**



**f. From inactivity to...**



Source: IDB household surveys for Argentina, Peru, and Mexico; OECD data for regions and the United States.

**Table 2.1** Labor Market Transitions by Group in Argentina and Mexico, 1990s

(Percent)

Country and group	From employment to			From unemployment to			From inactivity to		
	Employment	Unemployment	Inactivity	Employment	Unemployment	Inactivity	Employment	Unemployment	Inactivity
<i>Argentina, 1993–2001</i>									
Total	86.6	6.4	7.0	36.9	36.1	26.9	11.8	8.0	80.2
Male (prime age)	91.8	5.9	2.2	53.7	37.9	8.4	37.9	17.8	44.3
Female (prime age)	84.9	4.5	10.5	28.2	31.0	40.8	12.1	7.6	80.3
Prime age	89.2	5.4	5.4	40.8	34.4	24.8	14.2	8.5	77.3
Young	79.1	10.6	10.3	34.9	37.6	27.5	11.8	9.8	78.3
Skilled (prime age)	92.7	3.6	3.7	38.5	37.6	23.9	14.4	8.5	77.1
Unskilled (prime age)	86.1	7.1	6.8	41.9	32.7	25.4	13.9	8.3	77.8
<i>Mexico, 1990–2001</i>									
Total	88.4	2.0	9.6	54.9	15.3	29.8	14.3	1.8	83.9
Male (prime age)	96.8	1.8	1.3	75.9	16.2	7.9	40.7	6.1	53.2
Female (prime age)	83.3	1.1	15.6	38.6	14.1	47.3	13.4	1.2	85.4
Prime age	91.9	1.6	6.5	60.3	15.2	24.5	15.0	1.4	83.6
Young	82.4	3.6	14.0	50.5	15.8	33.7	14.6	2.7	82.7
Skilled (prime age)	94.0	1.4	4.6	56.9	18.1	24.9	16.9	2.4	80.7
Unskilled (prime age)	90.6	1.7	7.7	62.9	13.3	23.8	14.0	1.1	84.9

Note: Data are for six-month transitions. Data for Argentina are for the Gran Buenos Aires area.

Source: IDB estimates based on EPH-INDEC for Argentina, and Encuesta Nacional de Empleo Urbano (ENEU)-INEGI for Mexico.

groups to the risks of unemployment and exit from the labor market (Table 2.1).<sup>15</sup> Thus, the probability of losing a job is higher among women, youth, and unskilled workers than among prime-age, male, and skilled workers. Workers without social insurance are at high risk. They are not entitled to benefits in case of job loss, and their risk of unemployment is higher than for covered workers (see Figure 2.17 c and d and Appendix Tables 2.3, 2.4, and 2.5).

Youth and female workers have a lower probability of exiting unemployment than prime-age and male workers (Table 2.1). Instead, unskilled unemployed workers tend to exit unemployment toward a job faster than their skilled counterparts. These patterns could be explained by more job opportunities for prime-age, male, or unskilled workers, but most likely respond to a higher eagerness to accept jobs by primary earners and poorer workers relative to secondary earners (women and youth) and richer workers (skilled). Finally, women, youth, and unskilled workers tend to have higher transitions from and to inactivity than

prime-age and male workers, perhaps as a result of lower levels of attachment to the labor market.

This research yields important results for the countries for which data are available. First, the probability of moving from employment to unemployment is as high (or higher) in the three considered countries in Latin America than it is in other regions. This implies that Latin American workers face a high risk of losing their jobs and going through a spell of unemployment. Second, women, youth, and unskilled workers tend to have a higher risk of unemployment than other workers. Third, workers in the uncovered sector bear a higher risk of unemployment than workers with the benefits mandated by labor laws. Fourth, transitions from unemployment to employment are also high by international standards, although lower than in the United States. Fifth, unskilled workers and prime-age workers tend

<sup>15</sup> This is based on rotating panel data on households. INDEC gathered Argentina's panel, which covers 1993-2001. INEGI generated Mexico's panel, which covers 1990-2001.

**Figure 2.17** Six-month Transitions in Employment Status by Type of Job, Mexico and Argentina  
(Percentage of workers in initial job status)



Source: IDB estimates based on data from EPH-INDEC for Argentina, and Encuesta Nacional de Empleo Urbano (ENEU)-INEGI for Mexico.

to exit unemployment faster than women and youth. These high transitions may reflect the lack of widespread social insurance, in particular for unskilled workers, and the existence of informal within-household insurance for women and young workers.

These findings suggest that some common perceptions about the incidence and importance of unemployment in Latin America are unwarranted. The first common perception is that workers without the benefits mandated by labor laws are less affected by unemployment than formal workers. As has been shown in the data for Mexico and Argenti-

na, workers without benefits have a high risk of unemployment, in some cases higher than formal workers. The second common perception is that for poorer and more vulnerable workers, such as the unskilled, unemployment is not the issue; the issue is the low quality of jobs. The reality is that Latin American workers are much more vulnerable to the risk of unemployment than workers in developed countries, regardless of the aggregate rate of unemployment. This is because unskilled workers in Latin America not only have a higher probability of entering unemployment, but also are much less likely to receive some form of insurance while

searching for new jobs compared with unskilled workers in developed countries.

## POST-UNEMPLOYMENT CONDITIONS

The welfare consequences of an unemployment spell depend crucially not only on the probability of finding a *new* job, but on the probability of finding a *similar* job, that is, a job with similar characteristics, pay, and benefits. Imagine that two workers face the same probability of unemployment with the same level of social insurance if unemployed. At time  $t$ , the firms at which they work go bankrupt and exit the market, leaving both workers (involuntarily) unemployed. After some period of time, one of the workers finds a similar job, earning the same wage. The other worker cannot find a similar job and, being the main household breadwinner, accepts a job offer with a lower wage. Clearly, the welfare outcomes of these two workers are very different. Thus, it is important to study not only the probability of becoming unemployed, but also the conditions under which a worker that becomes unemployed finds another job. This is particularly relevant in Latin America, where unequal levels of social insurance imply that many workers may not have the means to search for jobs that provide good matches for their abilities. To determine whether this is the case, it is useful to address the following two questions: Which jobs do the unemployed find? And do they indeed accept lower wages?

To address these questions, the analysis exploits the panel dimensions of the labor force surveys of Argentina and Mexico. In both countries, most unemployed workers find jobs in the uncovered (or informal) sector. In Argentina, 81 percent of the unemployed that find jobs do so in jobs that do not offer social security (see Figure 2.17 and Appendix Table 2.3). In Mexico, the corresponding figure is 61.5 percent (Appendix Table 2.4). A substantial proportion of the unemployed that become employed do so by creating their own jobs and becoming self-employed (28 percent in Argentina, 15.7 percent in Mexico). In comparison, in OECD countries, transitions from unemployment to self-

employment are 7 percent (OECD 2000).<sup>16</sup> Moreover, of those that find jobs as employees, a large proportion of the unemployed enter employment via small firms (60 percent in Argentina and 44 percent in Mexico).

These patterns differ across workers (see Appendix Tables 2.3 and 2.4). Unskilled workers are more likely than skilled workers to create their own jobs. They are also more likely than their skilled counterparts to find jobs in small firms and in firms that do not provide the benefits mandated by law. Instead, women and youth are much less likely than men and prime-age workers to exit unemployment creating their own jobs. Moreover, youth and female workers tend to have a higher probability of exiting unemployment through a job in a medium or large firm, and a job that pays social security benefits, compared with men and prime-age workers. This is also true if the analysis adjusts for the percentage of employment in each category by population group (see Appendix Tables 2.3 and 2.4). These results suggest that taking the time to search pays off. Thus, while young and female workers are less likely to exit unemployment in six months, they are more likely to find jobs with benefits than other types of workers.

The evidence suggests that unemployment is associated with wage loss after reemployment. Assessment of the magnitude of this wage loss is based on the average wage change of an individual that is employed in time  $t$  and  $t+2$ , but in  $t+1$  is unemployed, involuntarily unemployed, or inactive. However, the assessment requires a basis of comparison because workers who have been employed from  $t$  through  $t+2$  may also suffer wage losses due to poor economic outcomes. Therefore, a so-called “control group” is constructed. For instance, the control group for an individual who is employed in  $t$ , becomes unemployed in  $t+1$ , and finds a job in  $t+2$  is comprised of individuals that *ex ante* have the same probability of transiting

<sup>16</sup> It should be noted, however, that these estimations do not take into account that some of these flows might be voluntary. That is, some workers might decide to enter a small firm, enter a firm with no social security, or become self-employed.

through those states (although ex post they do not) and share similar demographic characteristics (such as age, education, and gender).

During the 1990s, the average monthly wage loss of an individual who became involuntarily unemployed in  $t+1$  and found another job in  $t+2$  was very large in Argentina and Mexico. Relative to the control group, displaced workers lost 15 percent of their monthly wages in Mexico and 8 percent in Argentina (see Figure 2.18).<sup>17</sup> Average monthly and hourly wage losses relative to the control group were greater for workers who had an involuntary spell of unemployment (because their firm went bankrupt or they were laid off) compared with workers who voluntarily left the labor force in  $t+1$ .<sup>18</sup>

In both Mexico and Argentina, on average, displaced men tended to experience higher wage losses than displaced women, both in absolute terms and relative to the counterfactuals (see Figure 2.19). Similarly, displaced workers whose previous jobs did not entitle them to social security and severance pay benefits had higher wage losses than covered workers. Finally, in Mexico, prime-age workers experienced higher wage losses than younger and older workers; in Argentina, the association between age and the cost of unemployment is less clear.

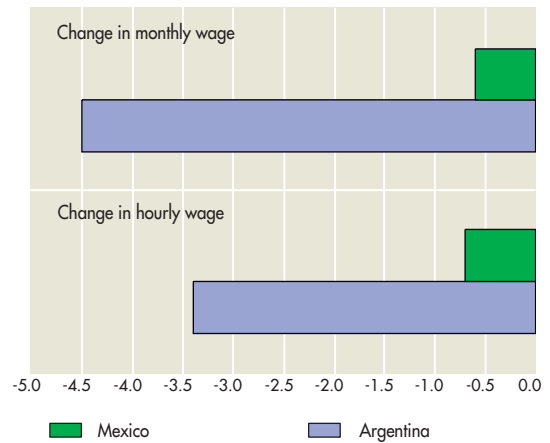
Wage losses associated with the event of re-employment may be related to a number of factors. First, displacement may induce the loss of some firm-specific skills that are useless in other jobs. The available data give some support to this hypothesis. The evidence that wage losses are higher for skilled workers than for unskilled workers suggests the loss of specific skills. This is because skilled workers tend to acquire more specific skills than unskilled workers.

Second, post-displacement wage losses could also be associated with the stigma of unemploy-

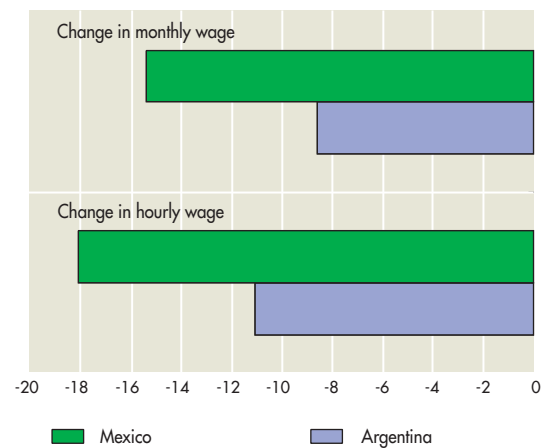
**Figure 2.18** Average Wage Loss of a Displaced Employed Worker in Mexico and Argentina

(Percent)

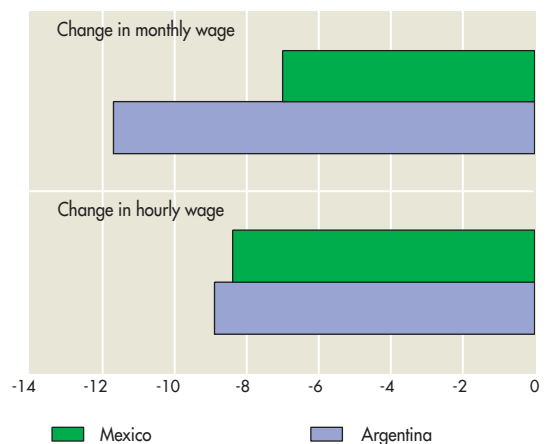
**a. Unemployed**



**b. Involuntarily unemployed**



**c. Inactive**



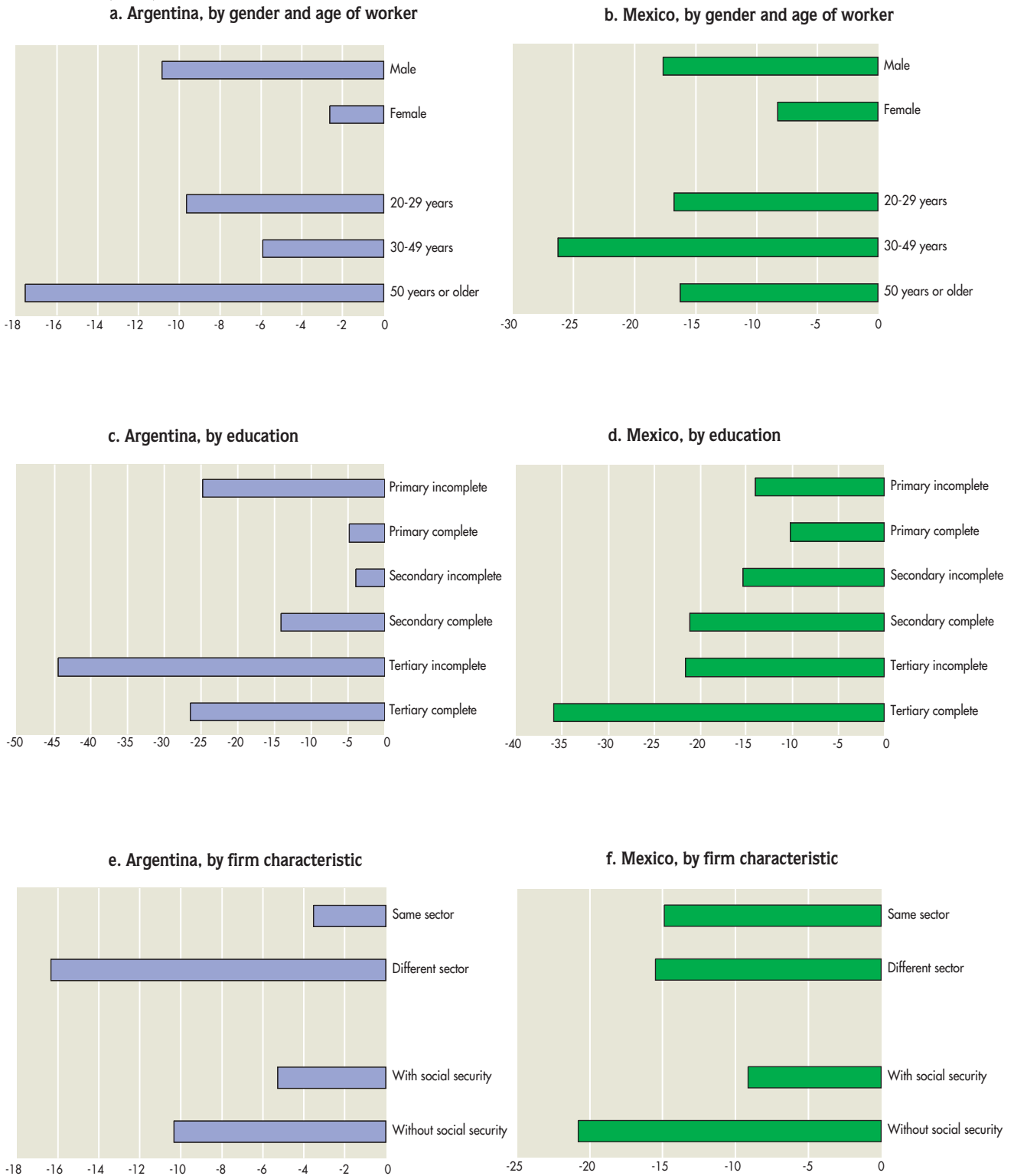
<sup>17</sup> The wage loss is computed by subtracting the wage change of the displaced workers from the wage change of the control group.

<sup>18</sup> Involuntarily unemployed workers are those who do not have a job, are searching for one, and were laid off or the firm in which they used to work closed. See Appendix Table 2.5.

Note: The figure shows the difference between treatment and control groups. Source: IDB estimates based on EPH-INDECI (1993-2001) for Argentina, and Encuesta Nacional de Empleo Urbano (ENEU)-INEGI (1990-2001) for Mexico.

**Figure 2.19** Average Wage Loss for Displaced Workers by Worker and Job Characteristics in Argentina and Mexico

(Percent)



Note: Changes in wages are relative to individuals in a control group. See text discussion.

Source: IDB estimates based on EPH-INDEC (1993-2001) for Argentina, and Encuesta Nacional de Empleo Urbano (ENEU)-INEGI (1990-2001) for Mexico.

ment. If firms are more likely to dismiss lower-performing workers than other workers, laid-off workers may have a “mark” that indicates their lower than expected performance. This could explain why workers take some wage losses after displacement, but not why some types of workers bear higher displacement costs than others.

Recent studies suggest that an important component of post-displacement wage loss is indeed associated with the loss of specific skills. To discriminate between the specific skills and the “stigma” hypotheses, the studies concentrate on workers who have been displaced from firms that have reduced their labor forces by more than 60 percent. The idea here is that when firms have to undergo such large adjustments, they have to lay off their good workers along with their poorer-performing employees. Therefore, the stigma effect should be lower for workers displaced in mass layoffs. Another important advantage of these studies is that they use data that follow individuals for a long time. This allows the authors to measure whether wage losses are permanent or temporary.<sup>19</sup>

In the case of Mexico, Kaplan, Robertson, and Martinez (2003) find that workers displaced in bad periods and in regions of low economic activity endure higher long-term losses compared with workers displaced in better periods and in thriving regions. To estimate these results, the authors use the social security administration data set, which records individual employment histories for affiliated workers from 1993 to 2000. Menezes Filho and others (2002) use a similar data set for 1992 to 1998 and a similar methodology to estimate the displacement cost in Brazil. He finds evidence of long-term wage losses associated with displacement. He also finds that these losses tend to be larger among workers employed in small firms, highly skilled workers, and workers with greater tenure. This evidence suggests that an important reason why displaced workers suffer wage declines is because they are not able to use their specific skills in other jobs.

It is important to mention that mobility is not always bad for workers. For many workers, changing jobs is a way to achieve higher wage gains. In Mexico, people who transit to inactivity and move

back to employment do not suffer wage losses. Moreover, some people improve their situation by moving to another job even when they have involuntarily lost their jobs. In addition, note that in every case, the wage gains and losses of those individuals who left employment were higher than the average wage gains and losses for those who did not change (the control group). Similarly, for the case of Brazil, Menezes Filho (2003) finds that many workers who switch jobs receive an increase in pay, and that on average the raise is larger than for workers who remain in the same job.

## JOB-TO-JOB TRANSITIONS

This chapter has documented the large degree of rotation in registered jobs and how within those jobs, small firms are more volatile. This evidence suggests that there is a large degree of volatility in all sectors of the economy.

This section explores the degree of mobility across jobs. The dualistic view of the labor market maintains that there are two sectors—formal and informal—and that these sectors operate in segmented labor markets, that is, there is limited mobility between the two.

The evidence suggests that there is high mobility across the formal and informal sectors. Some authors define an informal worker as one who does not receive the benefits mandated by labor laws. Using this definition, the average probability of an informal worker transiting to a job with these benefits is 16 percent in Mexico and about 12 percent in Argentina (see Figure 2.20 and Appendix Table 2.6). The probability of the reverse shift is of similar magnitude, 15.6 percent in Mexico and about 10 percent in Argentina. These numbers are large: they imply that in a given period of six months, about 16 percent of the workers in Mexico and 22 percent of the workers in Argentina

<sup>19</sup> Long panel data allow comparing wages some periods before displacement with wages some periods after reemployment. This is important because wages in distressed firms could have started declining some periods prior to the event of displacement. If that is the case, the estimates here underestimate the cost of displacement.

move from a formal to an informal job or from an informal to a formal job. Thus, it is difficult to justify the segmented view of the labor market with this evidence.

Not all workers have the same probability of moving from jobs without benefits to jobs with benefits. The probability is higher for young workers and for the skilled. The lower opportunities are found among women and unskilled workers. These findings suggest that while young workers may enter the market with worse jobs, there is considerable upward mobility for this group. There is also considerable upward mobility for skilled workers. Instead, women and unskilled workers are less likely to move to jobs that provide social security. This could be because these workers are rationed away from those jobs, or because they are less willing to pay for those benefits.<sup>20</sup>

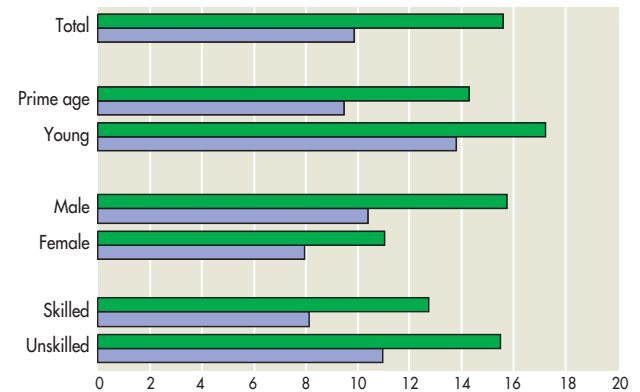
Using instead the International Labour Organization's definition of informal workers, which is based on category of employment, there is also ample evidence of mobility. In a given six-month period, about 23 percent of workers transit from self-employment to wage employment in Mexico and Argentina (see Figure 2.21). The reverse transition is smaller. About 5.3 percent of the wage employees in Mexico and 6.1 percent in Argentina transit from wage employment to self-employment.

About 16-17 percent of the workers employed in firms with fewer than five employees move to larger firms in a given six-month period in Mexico and Argentina (Figure 2.21). The reverse transition is also large. Thus, 6.6 percent of workers employed in large firms and about 25 percent of workers employed in medium firms transit to small firms in a given six-month period.

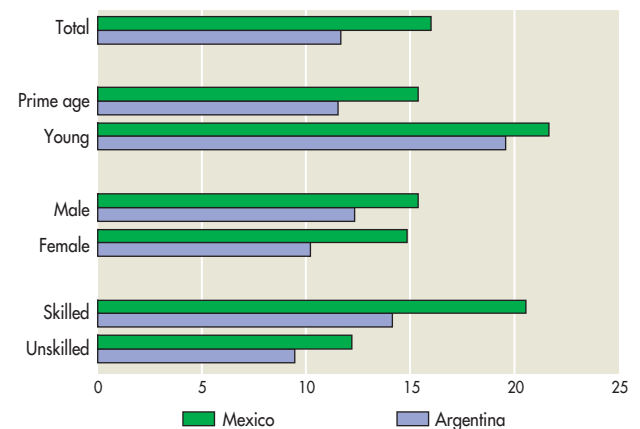
So regardless of the definition of informal workers considered, the evidence does not support the segmentation approach. At least for Mexico and Argentina, transitions to and from informal work are large, suggesting that even if all transitions from the formal sector to the informal sector were forced by involuntary displacement, opportunities to return to the formal sector abound.

Maloney (1998) studies the evidence on wage changes for movements from the formal sector to

**Figure 2.20 Six-month Job Transitions, Mexico and Argentina**  
(Percentage of workers in the initial state)  
**a. From a job with social security to a job without social security benefits**



**b. From a job without social security to a job with social security benefits**

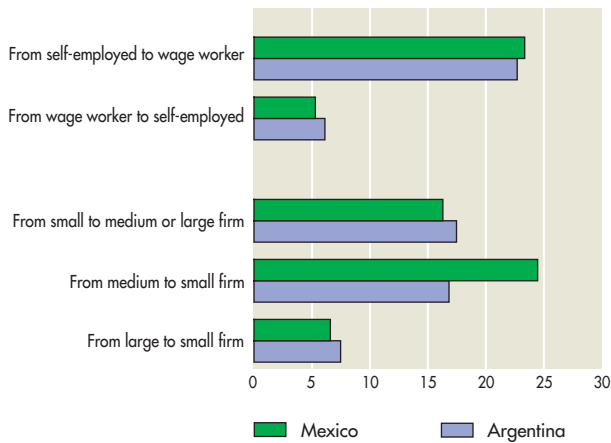


Source: IDB estimates based on EPH-INDEC (1993-2001) for Argentina, and Encuesta Nacional de Empleo Urbano (ENEU)-INEGI (1990-2001) for Mexico.

the informal sector and vice versa, using the same panel data for Mexico as those used in this study. From Maloney's results, it is not clear that the formal sector should always be preferred to the alternatives. Movements from formal salaried employment always lead to increases in wages; movements to formal salaried employment from self-employment or contract employment are associated with a wage decline.

<sup>20</sup> See chapter 7 for a discussion of the incidence of mandatory benefits.

**Figure 2.21 Six-month Job Transitions: Small Firms and Self-employment in Mexico and Argentina**



Source: IDB estimates based on EPH-INDEC (1993-2001) for Argentina, and Encuesta Nacional de Empleo Urbano (ENEU)-INEGI (1990-2001) for Mexico.

## CONCLUSIONS

This study has presented a new approach to the study of labor market dynamics in Latin America. It has shown that the relatively small net changes in employment, unemployment, and inactivity hide a large amount of activity in the labor market. This change in view is important not only because it exposes the process by which productivity growth takes place, but also because it reveals the

high risk that workers bear throughout the process. For the countries and sectors studied, there are no significant differences between the rates of turnover in developed and emerging economies; however, there are important differences in how well equipped workers are to navigate through this process. In Latin America, current forms of social insurance based on mandatory severance payments only reach a minority of workers. Many workers cannot search for good jobs because they cannot sustain themselves without income. Inefficient job-worker matching could be one explanation for the low productivity levels and low productivity growth rates in Latin America.

This analysis has important consequences for policy. First, it suggests the importance of reducing bureaucratic barriers to the entry and exit of firms and to the reallocation of workers and jobs. Second, it underscores the importance of developing better social insurance systems that extend coverage to the large majority of the workforce (see chapters 7 and 8 for further discussion on this issue). Third, it emphasizes the importance of building flexible and adaptable skills as an insurance mechanism for workers. Fourth, it highlights the challenges inherent in industrial policies targeted at sectors: even within a narrowly defined sector, there will be efficient as well as inefficient firms. Finally, the analysis points to the importance of credit market development as an instrument to prevent the inefficient destruction of specific skills.

**Appendix Table 2.1** Reallocation of Employment by Firm Size in Chile and Mexico, 1990s

Variable	Chile, 1990–99	Mexico, 1993–2000 <sup>a</sup>	Mexico, 1999–2000 <sup>a</sup>
49–99 workers	–0.096 (0.007)***	–0.014 (0.003)***	–0.030 (0.005)***
100–249 workers	–0.105 (0.008)***	–0.026 (0.003)***	–0.032 (0.005)***
More than 249 workers	–0.157 (0.010)***	–0.043 (0.003)***	–0.044 (0.005)***
Second wage quintile	–0.072 (0.008)***	–0.028 (0.003)***	–0.025 (0.006)***
Third wage quintile	–0.063 (0.008)***	–0.044 (0.003)***	–0.041 (0.006)***
Fourth wage quintile	–0.058 (0.008)***	–0.052 (0.003)***	–0.043 (0.006)***
Fifth wage quintile	–0.032 (0.008)***	–0.055 (0.003)***	–0.040 (0.006)***
Average	0.441	0.159	0.133
Number of observations	48,344	39,822	10,432
Age fixed effect	Yes	No	Yes
Year fixed effect	Yes	Yes	Yes

\*\*\* Significant at 1 percent.

<sup>a</sup> Does not include entry or exit of firms.

Note: Results are from OLS regressions using data on manufacturing firms. Standard errors are in parentheses.

Source: IDB calculations.

Appendix Table 2.2 Labor Market Transitions by Region

(Percent)

Region or country	From employment to			From unemployment to			From inactivity to		
	Employment	Unemployment	Inactivity	Employment	Unemployment	Inactivity	Employment	Unemployment	Inactivity
<i>Latin America</i>									
Argentina, 1993–2001	86.6	6.4	7.0	36.9	36.1	26.9	11.8	8.0	80.2
Mexico, 1990–2001	88.4	2.0	9.6	54.9	15.3	29.8	14.3	1.8	83.9
Peru, 1997–2000	82.6	5.7	11.7	45.1	20.5	34.4	25.7	10.8	63.5
Unweighted average	85.9	4.7	9.4	45.6	24.0	30.4	17.3	6.9	75.9
<i>Eastern Europe</i>									
Bulgaria, 1994–95	84.9	5.9	9.2	32.3	43.3	24.4	9.2	4.4	86.4
Czech Republic, 1994–99	96.1	1.3	2.6	42.9	46.4	10.7	3.9	1.2	94.8
East Germany, 1990–91	83.6	9.3	7.1	35.0	37.3	27.7	16.0	4.1	79.9
Poland, 1992–94	89.1	4.0	7.0	35.8	48.4	15.9	8.5	4.4	87.2
Slovakia, 1994–95	93.2	2.3	4.5	23.7	68.5	7.8	1.8	1.7	96.5
Estonia, 1997–97	91.3	4.7	4.0	37.2	56.4	6.4	7.4	3.8	88.8
Russia, 1992–96	89.6	4.4	6.0	45.8	39.2	15.1	8.2	2.4	89.5
Unweighted average	89.7	4.6	5.8	36.1	48.5	15.4	7.8	3.1	89.0
United States, 1992–93	91.9	2.8	5.3	65.9	5.3	28.8	4.3	16.1	79.6
<i>Western Europe</i>									
Austria, 1995–97				33.6	43.3	23.1			
Belgium, 1990–97				23.6	50.8	25.6			
Denmark, 1990–97				35.3	36.8	27.9			
Finland, 1995–97				26.9	45.9	27.2			
France, 1990–97				32.2	51.6	16.2			
Germany, 1992–97				25.4	49.6	25.0			
Greece, 1990–97				27.1	61.4	11.5			
Ireland, 1990–97				19.1	58.2	22.7			
Italy, 1992–97				22.4	47.4	30.2			
Portugal, 1990–97				35.8	41.8	22.4			
Spain, 1990–97				29.2	63.6	7.2			
Sweden, 1996–97				29.4	52.0	18.6			
United Kingdom, 1990–97				33.3	49.3	17.4			
Unweighted average				28.7	50.1	21.2			

Source: For Argentina, Mexico, the United States, and regional averages, IDB calculations; for Peru, Herrera and Shady (2003); for countries in Eastern Europe, Boeri and Terrel (2001); for countries in Western Europe, OECD (2000).

**Appendix Table 2.3 Labor Market Transitions in Argentina, 1993–2001**

(Percent)

Transition	All	Prime age	Young	Prime age		Prime age	
				Male	Female	Skilled	Unskilled
<i>From unemployment<sup>a</sup></i>							
To unemployment	36.2	34.4	37.6	37.9	31.1	37.6	32.7
To inactivity	26.9	24.8	27.5	8.4	40.8	23.9	25.4
To employment	36.9	40.8	34.9	53.7	28.1	38.5	41.9
<i>From unemployment to employment<sup>b</sup></i>							
Owner	0.8	1.0	0.5	0.8	1.5	1.2	0.9
Self-employed	27.9	32.2	13.6	36.3	24.5	27.0	35.5
Wage worker	71.3	66.8	85.8	62.9	74.0	71.8	63.7
Small firm	60.4	61.5	51.0	61.7	61.2	47.5	68.5
Medium firm	22.2	19.7	28.4	20.8	17.6	23.5	18.0
Large firm	17.4	18.8	20.6	17.5	21.2	28.9	13.5
Job with benefits	18.8	19.3	23.4	19.3	19.3	31.1	13.3
Job without benefits	81.2	80.7	76.6	80.7	80.7	68.9	86.7
<i>From unemployment to employment, adjusted by share of employment in each category<sup>a</sup></i>							
Owner	14.6	15.2	43.7	9.0	53.6	14.7	16.6
Self-employed	151.2	167.3	179.0	190.7	124.9	226.8	143.6
Wage worker	94.0	90.1	94.1	87.1	95.3	90.0	91.0
Small firm	143.6	153.9	135.2	152.0	157.6	180.4	137.0
Medium firm	137.0	135.6	125.5	132.3	142.5	191.4	111.1
Large firm	41.7	41.3	52.0	40.1	43.4	47.2	40.0
Job with benefits	41.0	39.6	49.1	39.8	39.4	53.2	32.2
Job without benefits	150.2	157.2	146.4	156.5	158.3	166.2	147.8
<i>From unemployment</i>							
to unemployment	36.2	34.4	37.6	37.9	31.1	37.6	32.7
From inactivity							
to unemployment	8.0	8.5	9.9	17.8	7.6	8.5	8.3
From employment							
to unemployment	6.4	5.4	10.6	5.9	4.5	3.6	7.1
<i>From employment to unemployment<sup>c</sup></i>							
Owner	2.4	1.7	8.2	1.6	1.9	1.2	2.4
Self-employed	7.8	7.4	12.6	8.7	5.3	4.9	9.1
Wage worker	6.2	5.0	10.4	5.4	4.4	3.5	6.6
Small firm	8.0	7.0	13.0	7.7	5.9	4.9	8.3
Medium firm	5.7	5.1	8.6	5.7	3.9	3.5	6.7
Large firm	4.3	3.4	9.0	3.8	2.8	2.6	4.7
Job with benefits	3.5	3.2	6.0	3.5	2.6	2.6	3.8
Job without benefits	8.9	7.7	14.1	8.9	6.3	5.1	9.4

<sup>a</sup> Values are the percentage of workers who were unemployed.<sup>b</sup> Values are the percentage of workers who moved from unemployment to employment.<sup>c</sup> Values are the percentage of each type of worker that became unemployed.

Source: IDB calculations based on EPH (1993–2001)-INDEC.

**Appendix Table 2.4 Labor Market Transitions in Mexico, 1990–2001**

(Percent)

Transition	All	Prime age	Young	Prime age		Prime age	
				Male	Female	Skilled	Unskilled
<i>From unemployment<sup>a</sup></i>							
To unemployment	15.4	15.3	15.9	16.3	14.2	18.3	13.3
To inactivity	30.0	24.6	34.0	7.9	47.5	25.1	23.9
To employment	54.6	60.1	50.1	75.8	38.3	56.6	62.8
<i>From unemployment to employment<sup>b</sup></i>							
Owner	2.4	3.6	0.7	4.6	0.9	4.0	3.3
Self-employed	15.7	22.0	6.8	24.0	17.2	19.7	23.4
Wage worker	81.9	74.3	92.5	71.4	81.9	76.2	73.4
Small firm	44.0	46.6	38.7	49.0	40.9	36.2	53.3
Medium firm	20.2	18.0	23.0	18.0	17.7	18.7	17.4
Large firm	35.8	35.4	38.3	33.0	41.4	45.1	29.3
Job with benefits	38.5	37.2	41.8	35.8	40.1	42.7	33.5
Job without benefits	61.5	62.8	58.2	64.2	59.9	57.3	66.5
<i>From unemployment to employment, adjusted by share of employment in each category<sup>a</sup></i>							
Owner	48.8	74.4	85.2	75.0	31.5	59.6	105.0
Self-employed	73.4	99.2	65.5	106.7	78.8	105.9	91.8
Wage worker	111.1	102.0	104.2	100.0	108.8	102.2	102.7
Small firm	97.8	107.0	92.1	117.5	87.8	106.6	101.8
Medium firm	76.3	68.3	71.3	66.9	70.0	65.8	71.7
Large firm	125.7	117.5	148.9	105.2	147.0	119.9	125.4
Job with benefits	82.1	74.6	96.5	70.0	83.8	72.0	81.4
Job without benefits	115.8	125.2	102.7	131.3	114.8	140.7	113.0
<i>From unemployment</i>							
to unemployment	15.4	15.3	15.9	16.3	14.2	18.3	13.3
<i>From inactivity to</i>							
unemployment	1.9	1.4	2.8	6.2	1.2	2.4	1.1
<i>From employment</i>							
to unemployment	2.0	1.6	3.6	1.8	1.1	1.4	1.7
<i>From employment to unemployment<sup>c</sup></i>							
Owner	1.1	1.1	1.9	1.1	0.8	0.8	1.4
Self-employed	1.7	1.6	3.5	1.9	1.0	1.8	1.5
Wage worker	2.2	1.7	3.6	1.9	1.2	1.4	1.8
Small firm	2.1	1.7	3.6	2.0	1.2	1.7	1.8
Medium firm	2.7	2.1	3.7	2.4	1.6	2.1	2.1
Large firm	1.8	1.3	3.4	1.5	0.9	1.2	1.4
Job with benefits	1.8	1.3	3.3	1.8	0.9	1.2	1.5
Job without benefits	2.2	1.8	3.8	2.2	1.3	1.7	1.9

<sup>a</sup> Values are the percentage of workers who were unemployed.<sup>b</sup> Values are the percentage of workers who moved from unemployment to employment.<sup>c</sup> Values are the percentage of each type of worker that became unemployed.

Source: IDB calculations based on ENEU (1990–2001)-INEGI.

**Appendix Table 2.5 Labor Market Transitions by Group Including Voluntary and Involuntary Unemployment in Argentina and Mexico, 1990s**

(Percent)

Country and transition	Unskilled	Prime-age skilled	Female	Prime-age male	Young	Prime age	All
<b>Argentina, 1993–2001</b>							
<i>From employed to</i>							
Employed	86.2	92.8	85.0	91.9	79.8	89.2	86.8
Voluntarily unemployed	1.0	0.7	1.0	0.8	2.4	0.9	1.1
Involuntarily unemployed	6.0	2.8	3.4	5.1	7.4	4.5	5.1
Inactive	6.8	3.7	10.5	2.2	10.4	5.4	7.0
<b>Mexico, 1990–2001</b>							
<i>From employed to</i>							
Employed	90.6	94.0	83.3	96.8	82.4	91.9	88.4
Voluntarily unemployed	0.8	0.6	0.6	0.7	2.1	0.7	1.1
Involuntarily unemployed	0.9	0.8	0.5	1.1	1.4	0.9	1.0
Inactive	7.8	4.6	15.6	1.3	14.0	6.5	9.6

Note: Involuntarily unemployed workers are those who do not have a job, are searching for one, and were laid off or the firm in which they used to work closed.  
Source: IDB estimates based on EPH-INDEC (1993–2001) for Argentina, and Encuesta Nacional de Empleo Urbano (ENEU)-INEGI (1990–2001) for Mexico.

Appendix Table 2.6 Labor Market Transitions by Job Type in Argentina and Mexico

(Percent)

Transition	All	Prime age	Young	Prime age		Prime age	
				Male	Female	Skilled	Unskilled
<b>Argentina, 1993–2001</b>							
<i>From employment<sup>a</sup></i>							
To unemployment	6.4	5.4	10.6	5.9	4.5	3.6	7.1
To inactivity	7.0	5.4	10.3	2.2	10.5	3.7	6.8
To employment	86.6	89.2	79.1	91.9	85.0	92.7	86.1
<i>To employed<sup>b</sup></i>							
Owner – owner	58.3	55.2	25.0	57.0	48.5	61.4	43.5
Owner – self-employed	27.6	29.5	25.0	28.7	32.6	25.4	38.1
Owner – wage worker	14.0	15.3	50.0	14.3	18.9	13.2	18.4
Self-employed – owner	7.2	7.5	2.3	8.8	4.9	10.9	5.2
Self-employed – self-employed	70.1	69.7	48.3	70.0	69.0	69.8	69.6
Self-employed – wage worker	22.7	22.9	49.3	21.2	26.1	19.3	25.2
Wage worker – owner	0.8	0.9	0.4	1.0	0.6	1.0	0.6
Wage worker – self-employed	6.1	6.5	4.5	6.6	6.3	4.4	8.5
Wage worker – wage worker	93.1	92.6	95.1	92.4	93.1	94.6	90.9
Small firm – small firm	83.7	82.3	73.4	82.3	87.2	81.3	86.3
Small firm – medium firm	10.9	12.0	18.7	12.0	7.9	12.3	9.3
Small firm – large firm	5.3	5.7	7.9	5.7	4.9	6.4	4.4
Medium firm – small firm	16.8	18.9	19.5	18.9	11.4	12.7	19.6
Medium firm – medium firm	60.8	58.5	59.4	58.5	65.7	62.1	60.7
Medium firm – large firm	22.3	22.5	21.1	22.5	22.9	25.2	19.7
Large firm – small firm	7.4	7.4	9.4	7.4	6.5	5.5	9.2
Large firm – medium firm	18.8	17.9	24.2	17.9	19.1	17.2	19.9
Large firm – large firm	73.8	74.7	66.4	74.7	74.4	77.3	70.9
With social security – with social security	90.1	90.5	86.2	89.6	92.0	91.9	89.0
With social security – without social security	9.9	9.5	13.8	10.4	8.0	8.1	11.0
Without social security – with social security	11.7	11.5	19.6	12.3	10.2	14.1	9.4
Without social security – without social security	88.3	88.5	80.4	87.7	89.8	85.9	90.6
<b>Mexico, 1990–2001</b>							
<i>From employment<sup>a</sup></i>							
To unemployment	2.0	1.6	3.6	1.8	1.1	1.4	1.7
To inactivity	9.6	6.5	14.0	1.3	15.6	4.6	7.7
To employment	88.4	91.9	82.4	96.9	83.3	94.0	90.6
<i>To employed<sup>b</sup></i>							
Owner – owner	54.3	54.2	35.8	54.6	52.4	62.0	45.5
Owner – self-employed	26.4	26.3	27.3	25.8	30.5	19.9	34.0
Owner – wage worker	19.3	19.5	36.9	19.6	17.1	18.1	20.5
Self-employed – owner	8.8	9.4	5.0	11.4	4.6	14.1	7.8
Self-employed – self-employed	67.8	67.4	51.2	63.7	77.4	63.4	69.3
Self-employed – wage worker	23.3	23.2	43.7	24.9	18.0	22.5	22.9
Wage worker – owner	1.5	1.8	0.5	2.4	0.5	1.9	1.6
Wage worker – self-employed	5.3	5.5	3.4	6.5	3.4	2.9	7.7
Wage worker – wage worker	93.2	92.7	96.1	91.1	96.0	95.2	90.7
Small firm – small firm	82.5	82.7	73.8	82.7	87.2	81.3	85.2
Small firm – medium firm	10.2	10.0	16.4	10.0	7.3	9.0	9.3
Small firm – large firm	7.3	7.3	9.8	7.3	5.5	9.7	5.5
Medium firm – small firm	24.5	25.5	24.3	25.5	18.0	18.4	26.2
Medium firm – medium firm	50.9	49.2	51.9	49.2	56.1	51.0	51.2
Medium firm – large firm	24.6	25.3	23.8	25.3	25.8	30.5	22.6
Large firm – small firm	6.6	7.0	7.4	7.0	3.4	4.0	7.8
Large firm – medium firm	9.0	8.9	12.7	8.9	5.8	5.8	10.5
Large firm – large firm	84.4	84.2	80.0	84.2	90.8	90.2	81.7
With social security – with social security	84.4	85.7	82.7	84.2	89.0	87.2	84.5
With social security – without social security	15.6	14.3	17.3	15.8	11.0	12.8	15.5
Without social security – with social security	16.0	15.4	21.7	15.4	14.8	20.5	12.2
Without social security – without social security	84.0	84.6	78.3	84.6	85.2	79.5	87.8

<sup>a</sup> Values are the percentage of workers who were employed.

<sup>b</sup> Values are the percentage of workers in each category who moved from the first state to the second. For example, for owner – self-employed, the value is the percentage of workers who were firm owners who became self-employed.

Source: IDB calculations based on EPH-INDEC for Argentina and ENEU-INEGI for Mexico.