

## LABOR REFORM AND EMPLOYMENT IN LATIN AMERICA

Sebastian Edwards†

In Latin America the 1980s are known as the “lost decade.” During that period, growth per capita was negative, unemployment reached unprecedented levels, and inflation was remarkably stubborn. This poor performance was the consequence of a number of factors, including vastly overvalued real exchange rates, very large fiscal imbalances, and an increasingly complex array of microeconomic regulations that resulted in large distortions and in a sharp decline in productivity. In addition, when Mexico announced in 1982 that it could not pay its foreign debt, capital flows into Latin America and the Caribbean came to an abrupt end, forcing every country in the region to go through severe macroeconomic adjustment processes.

Toward the end of the 1980s three important and interrelated developments took place in Latin America:<sup>1</sup> First, after years of military rule, democracy returned to most of the region. Second, a comprehensive program aimed at restructuring foreign debt was put in place—the so-called Brady Plan—and, third, a series of far-reaching market-oriented reforms were implemented in country after country. Although the specific aspects of these reforms—including their timing and depth—varied across countries, in most instances they shared some core components, including the opening up of international trade, the implementation of anti-inflationary programs, the privatization of state-owned enterprises, and the deregulation of markets.

In the late 1980s and early 1990s, and as part of this modernization drive, an increasing number of Latin American and Caribbean countries began to reform their labor markets. In many

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† Henry Ford II Professor of International Economics, University of California, Los Angeles and National Bureau of Economic Research, January, 2005. I thank Alejanrda Cox Edwards for very useful comments.

1. Latin America and the Caribbean is a very large region, with thirty-three very diverse countries. For a detailed account of the economic and political reform process during the late 1980s and early 1990s, including country-by-country accounts, see SEBASTIAN EDWARDS, *CRISIS AND REFORM IN LATIN AMERICA: FROM DESPAIR TO HOPE* (1995).

countries labor market reform amounted to a relaxation of decades-old regulations; in others, it increased labor security and strengthened workers' rights. The volume *Law and Employment: Lessons from Latin America and the Caribbean* deals with the nature of these reforms, and investigates their effects on employment and other labor market outcomes.<sup>2</sup> The volume, which summarizes the result of a project sponsored by the American Bar Foundation and the Interamerican Development Bank, opens with a long and extremely useful introductory essay by the editors.<sup>3</sup> This is followed by a chapter on minimum wages by William F. Maloney and Jairo Nuñez Mendez,<sup>4</sup> and by country chapters on Peru (Jaime Saavedra and Máximo Torero<sup>5</sup>), Colombia (Adriana D. Kugler,<sup>6</sup> Mauricio Cárdenas and Raquel Bernal<sup>7</sup>), Brazil (Ricardo Paes de Barros and Carlos Henrique Corseuil<sup>8</sup>), Argentina (Guillermo Mondino and Sylvia Montoya,<sup>9</sup> Hugo A. Hopenhayn<sup>10</sup>), Chile (Claudio Montenegro and Carmen Pagés<sup>11</sup>), Uruguay (Adriana Cassoni, Steven Allen, and Gaston Labadie<sup>12</sup>), and the Caribbean (Andrew Doves, Nlandu Mamingi, and Rose-Marie Belle Antoine<sup>13</sup>). The book closes with a short but meaty essay on labor demand in Latin America and the Caribbean by Daniel S. Hamermesh.<sup>14</sup>

2. LAW AND EMPLOYMENT: LESSONS FROM LATIN AMERICA AND THE CARIBBEAN (James J. Heckman & Carmen Pagés eds., 2004) [hereinafter LAW AND EMPLOYMENT].

3. INTERAMERICAN DEVELOPMENT BANK [IADB], MAKING SOCIAL SERVICES WORK (Wash. D.C., 1996). James J. Heckman & Carmen Pagés, *Introduction*, LAW AND EMPLOYMENT, *supra* note 2, at 1.

4. William F. Maloney & Jairo Nuñez Mendez, *Measuring the Impact of Minimum Wages: Evidence from Latin America*, in LAW AND EMPLOYMENT, *supra* note 2, at 109.

5. Jaime Saavedra & Máximo Torero, *Labor Market Reforms and Their Impact over Formal Labor Demand and Job Market Turnover: The Case of Peru*, in LAW AND EMPLOYMENT, *supra* note 2, at 131.

6. Adriana D. Kugler, *The Effects of Job Security Regulations on Labor Market Flexibility: Evidence from the Colombian Labor Market Reform*, in LAW AND EMPLOYMENT, *supra* note 2, at 183.

7. Mauricio Cárdenas & Raquel Bernal, *Determinants of Labor Demand in Colombia: 1976–1996*, in LAW AND EMPLOYMENT, *supra* note 2, at 229.

8. Ricardo Paes de Barros & Carlos Henrique Corseuil, *The Impact of Regulations on Brazilian Labor Market Performance*, in LAW AND EMPLOYMENT, *supra* note 2, at 273.

9. Guillermo Mondino & Silvia Montoya, *The Effects of Labor Market Regulations on Employment Decisions by Firms: Empirical Evidence for Argentina*, in LAW AND EMPLOYMENT, *supra* note 2, at 351.

10. Hugo A. Hopenhayn, *Labor Market Policies and Employment Duration: The Effects of Labor Market Reform in Argentina*, in LAW AND EMPLOYMENT, *supra* note 2, at 497.

11. Claudio Montenegro & Carmen Pagés, *Who Benefits from Labor Market Regulations? Chile, 1960–1998*, in LAW AND EMPLOYMENT, *supra* note 2, at 401.

12. Adriana Cassoni, Steven Allen & Gaston Labadie, *Unions and Employment in Uruguay*, in LAW AND EMPLOYMENT, *supra* note 2, at 435.

13. Andrew Doves, Nlandu Mamingi & Rose-Marie Belle Antoine, *Labor Market Regulation and Employment in the Caribbean*, in LAW AND EMPLOYMENT, *supra* note 2, at 517.

14. Daniel S. Hamermesh, *Labor Demand in Latin America and the Caribbean: What Does It Tell Us?*, in LAW AND EMPLOYMENT, *supra* note 2, at 553.

The fundamental conclusion of this impressive body of empirical work is that labor market regulations matter. The editors summarized the project's findings as follows:

The evidence presented here challenges one prevailing view that market labor regulations affect only the distribution of labor incomes and have minor effects on efficiency. The results presented in this volume suggest that mandated benefits reduce employment and that job security regulations have a substantial impact on the distribution of employment and on turnover rates. . . . [J]ob security regulations promote inequality among demographic groups.<sup>15</sup>

#### I. LABOR MARKETS AND THE SEQUENCING OF ECONOMIC REFORM

For a long time scholars that study the economic reform process have worried about the sequence in which different markets are deregulated. Most early analyses on this subject concentrated on the sequencing of international trade and capital markets reforms, and asked whether the trade account should be liberalized before or after restrictions on international capital mobility have been lifted. During the 1980s, however, a number of authors became concerned with the role of labor market deregulation in the reform process. According to simple trade theory, the effect of trade liberalization is different in countries with a completely unregulated labor market, and in countries with labor market policy interventions. Perhaps the simplest case is that of a labor abundant country with an economy-wide minimum wage, and sector-specific capital in the short run. In this case a trade reform that reduces (or eliminates) import tariffs will result in (short-run) unemployment.<sup>16</sup> If, however, the minimum wage is removed first—that is, if the labor market is deregulated before the trade reform is implemented—there will be no unemployment. In this case labor will be reallocated from the formerly protected (and capital intensive) sector toward the labor intensive export sector; wages will decline in terms of the numeraire, and will increase in terms of importable goods. This result, however, is not very robust, and is highly sensitive to the assumptions made in terms of number of sectors in the economy, the nature of wage rate indexation, and the

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15. *Id.* at 2 (citation omitted).

16. Rigorously, the result will depend on whether the minimum wage is set in terms of the exportable or importable good. For the outcome discussed in the text to take place, the minimum wage should be set in terms of the exportable good, or in terms of a basket of goods where the exportable has a large enough weight.

coverage of the minimum wage. At the end of the road, whether the sequencing of the labor market reform within the overall reform process matters from an efficiency point of view is an empirical issue.

Many of the papers collected in this volume deal with the sequencing of reforms. For instance, in the introductory chapter Heckman and Pagés analyze whether labor market reform in Latin America and the Caribbean took place before, simultaneously, or after trade reform. They also investigate the sequence between labor market reform and the return to democracy after a military regime. In doing this Heckman and Pagés distinguish between two types of labor market reforms: (a) labor reform that reduces legal protection to workers, and (b) labor reform that increases labor protection to workers. In general, they find that there is no clear sequencing pattern between trade reform and labor market reforms.<sup>17</sup> Heckman and Pagés do find, however, that many labor market reforms tended to take place during periods of negative economic growth, and that many reforms that strengthened workers' rights took place in the period following the return to democracy.

Although this type of analysis is important for having a clearer understanding of the political economy of reform, it may be misleading. A fundamental problem is that it is not easy to date precisely when reform actually took place. Reforms tend to be dynamic and evolving processes, and not discreet events. Should we date a particular reform the day the authorities announce it, or should we do it the day new legislation is enacted? Further, should any changes in legislation qualify as reform, or should we concentrate on major changes? Heckman and Pagés are clearly aware of this problem, and state that in their analysis "only major changes in labor codes or other major government interventions in the labor market are included."<sup>18</sup> The problem, however, is that, in order to investigate sequencing issues, one should also be careful in dating other reforms, including, in particular, trade reforms. And in this area Heckman and Pagés are not equally careful. For instance, they incorrectly state that Chile's trade reform took place at the end of 1984. Chile liberalized trade between 1976 and 1979; in 1983, and as a way to deal with the international debt crisis, Chile introduced temporary import duty surcharges, but the overall level of protection continued to be very low both from an historical and from an international comparative perspective. Also, Heckman and Pagés date trade reform in Uruguay

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17. Heckman & Pagés, *supra* note 3, at 14.

18. *Id.* at 13 n.8.

in 1991. In fact, trade liberalization was implemented in Uruguay in 1978; after a brief backtracking during the initial phases of the debt crisis, trade reform was intensified in 1986.<sup>19</sup>

In order to advance further in our understanding of issues related to the sequencing of reform we need a more careful analysis on the actual timing of the different reforms. My conjecture is that when this is done, we will find out that in most of Latin America and the Caribbean labor reform was postponed, and was undertaken toward the end of the market-oriented and modernization reform process.

## II. MEASURING THE COSTS OF LABOR REGULATIONS

One of the most useful contributions of this volume is the computation of the cost of labor market regulations for a number of Latin American and Caribbean countries, as well as for a group of OECD nations. In the introductory essay, for example, Heckman and Pagés compute two indexes of labor market regulation costs: (a) the costs associated with social security payments (SSP); and (b) costs related to job security (JS) laws. The former is defined as follows:

$$(1) \text{SSP}_{jt} = \sum_{i=0}^T \beta^i (ss_{j,t+1}^e + ss_{j,t+1}^w),$$

where  $ss_{j,t+1}^e$  and  $ss_{j,t+1}^w$  are the costs of payroll taxes paid by the employer and the employee, expressed as a percentage of wages, and  $\beta$  is the rate of discount.

The expected cost of job security, on the other hand, is defined as:

$$(2) \text{JS}_{jt} = \sum_{i=0}^T \beta^i \delta^{i-1} (1-\delta) b_{j,t+i} + \sum_{i=0}^T \beta^i \delta^{i-1} (1-\delta) [a_j y_{j,t+i}^k + (1-a_j) y_{j,t+i}^w] + \sum_{i=0}^T \beta^i c_{j,t+i},$$

where  $\delta$  is the probability of a worker remaining in her job in a given period,  $i$  is the tenure at firm  $i$ ,  $T$  is the maximum tenure (assumed to be twenty years).  $b_{j,t+i}$  is the advanced notice of dismissal that has to be given to a worker with a tenure of  $i$  (measured in monthly wages);  $a_j$  is the probability that the economic difficulties faced by the firm are considered to be a cause for “just” dismissal; and  $c_{j,t+i}$  is the

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19. To be fair, they use data from IADB to date the trade reforms. But this does not mean that those dates are correct. In fact, in a number of cases they are questionable. See Heckman & Pagés, *supra* note 3.

(required) contribution to a worker's savings account. In computing (1) and (2), Heckman and Pagés assume the same discount rate (8%) and dismissal rate (12%) across countries and time.

Their results indicate that costs associated to job security are significantly higher in the Latin American nations than in the OECD countries. On the other hand, the costs of social security payments are higher in the advanced countries than in Latin America.

Within Latin America and the Caribbean, they found that in the late 1990s the costs of severance payments were highest in Peru, Colombia, and Ecuador, and lowest in the Caribbean countries. The average (expected) cost of severance payments in Latin America is equivalent to 2.46 times monthly wages; in contrast, in the advanced OECD countries this cost is 0.8 of monthly wages. With respect to social security contributions, the highest costs are in Argentina and Uruguay, and the lowest are, once again, in the Caribbean. From their estimates, Heckman and Pagés conclude that: "Latin American and Caribbean countries have a higher burden of regulations that affect *adjustment processes* in the labor market. European countries have a higher burden of payroll taxation that *affects labor demand* but not labor adjustment."<sup>20</sup>

An important question is the extent to which social security contributions are considered a tax by workers. One of the potential benefits of social security reforms that create individual retirement accounts, such as the reforms implemented in many Latin American countries, is that they increase the connection between contributions and (future) benefits. In a system based on individual accounts employees would, ideally, consider contributions to their accounts to be a deferred form of compensation. In this case, the labor market effect of social security contributions would be significantly different than in pay-as-you-go social security regimes, where there is almost no connection between contributions and benefits. In this type of traditional pay-as-you-go system, social security contributions (or a high percentage of them) are usually considered to be a tax; benefits are considered to be an entitlement.

Many of the country studies collected in this volume use expressions similar to (1) and (2) to estimate the evolution through time of the costs of labor market regulations. Saavedra and Torero, for example, document in great detail the remarkable decline in the cost of job security programs (severance payment) in Peru between

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20. Heckman & Pagés, *supra* note 3, at 31 (emphases added).

1991 and 1997.<sup>21</sup> According to their index, during this period the costs to firms of the severance payments program were reduced by one half (this calculation assumes a constant probability of dismissal). Cárdenas and Bernal provide a similar computation for Colombia, and show that, after the labor reform of 1990 and the social security reform of 1993, non-wage costs faced by Colombian firms increased significantly.<sup>22</sup> Montenegro and Pagés constructed a comprehensive index of the costs of job security legislation in Chile since the early 1960s.<sup>23</sup> They show that in 1966 this cost increased very significantly to the equivalent of 4 times average monthly wages. Costs were drastically reduced to less than one average wage during the early part of the Pinochet regime in the mid-1970s. Costs increased to 2.4 times wages during the 1981 labor reform, and further increased to 3 times wages after the return of democracy in 1991.

### III. THE EFFECTS OF LABOR REGULATIONS ON LABOR MARKET OUTCOMES

The authors in this volume use extensive micro data sets to analyze the effects of regulations on (a) employment levels, and (b) employment flows. The former effect is related to static costs, while the latter relates to dynamic or transition costs. Two methodological approaches are used to address these issues. First, labor demand equations were estimated to evaluate the effects of regulations on employment levels. To the extent that regulations increase the cost of labor, they will generate a move along the demand curve and, thus, a reduction in employment. While most country studies relied on static demand schedules, in a number of cases an effort was also made to incorporate adjustment issues. Second, turnover rates were computed in order to understand whether regulations affected the fluidity and the dynamics of labor regulations. Although in different chapters the authors use different specific techniques, all contributions carefully rely on advanced econometric and statistical methods.

#### A. Labor Demand

Most labor demand analyses followed Bentolia and Saint Paul<sup>24</sup> and Burgess and Dolado.<sup>25</sup> Cárdenas and Bernal, for example,

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21. Saavedra & Torero, *supra* note 5.

22. Cárdenas & Bernal, *supra* note 7.

23. Montenegro & Pagés, *supra* note 11.

24. Samuel Bentolila & Gilles Saint-Paul, *The Macroeconomic Impact of Flexible Labor, with an Application to Spain*, 36 EURO. ECON. REV. 1013 (1992)

estimated the following equation for Colombia (this specification is representative of most studies in the volume):<sup>26</sup>

$$(3) \quad n_t = c + \alpha_0 y_t + \alpha_1 y_{t-1} + \beta_0 (w_t + nw_t) + \beta_1 (w_{t-1} + nw_{t-1}) + \gamma_t n_{t-1} + u_t,$$

where,

$$(4) \quad \gamma_t = \gamma_0 + \gamma_1 R1_t + \gamma_2 R2_t.$$

In equation (3),  $n$  is employment,  $y$  is a rolling autoregression forecast of production,  $w$  is a rolling autoregression forecast of wages, and  $nw$  are nonwage labor costs.  $\gamma$  measures the cost of adjustment, and is assumed to vary through time, and to be determined by equation (4). In this equation,  $R1$  is an index that measures the cost of severance payments, and  $R2$  measures the cost of dismissal. These equations have been written as time series, but in most country studies firm-level panel data were also used in the estimation. There are two parameters of interest in the estimation of this type of equation: the own elasticity of labor demand with respect to labor costs, and the speed of adjustment of the labor market to disturbances. As denoted by equation (4), the speed of adjustment, which in a way measures the degree of fluidity of the labor market, is assumed to depend on the extent of job security regulations, captured by parameters  $R1$  and  $R2$ .

The vast majority of the studies in this book found that the constant-output own-wage labor demand elasticities are significantly negative. The estimated values of these elasticities ranged, for all workers, from -0.17 to -0.69; the values for white collar workers ranged from -0.44 to -0.59; and for blue collar workers, from -0.32 to -1.37. These results indicate clearly that in Latin America and the Caribbean labor market regulations that increase labor costs have a negative impact on the level of employment. Moreover, quantitatively this effect appears to be very important: The average estimated elasticity for all workers is -0.28, indicating that labor

25. Simon M. Burgess & Juan J. Dolado, *Intertemporal Rules with Variable Speed of Adjustment: An Application to U.K. Manufacturing Employment*, 99 *ECON. J.* 347 (1989).

26. Cárdenas & Bernal, *supra* note 7, at 256.



market reform that reduces labor costs by 10% will result in an increase in employment of 2.8%.<sup>27</sup>

The studies in this volume suggest that the speed of adjustment in Latin American labor markets has been rather slow; indeed, slower than in the advanced nations. Those authors that analyzed whether the speed of adjustment had changed in response to changes in regulations, obtained conflicting results: while Saavedra and Torero found that increased regulations slowed the speed of adjustment significantly in Peru,<sup>28</sup> Cárdenas and Bernal,<sup>29</sup> and Paes de Barros and Corseuil<sup>30</sup> found that in Colombia and Brazil the reforms had no significant effect on the speed of adjustment.

### *B. Job Security, Employment, and Turnover*

From a theoretical point of view the effects of job security legislation on the level of employment are ambiguous. The reason for this is that this type of legislation has two offsetting effects: on the one hand, hiring is discouraged; on the other hand, firings tend to decline. Most theoretical models, however, suggest that job security legislation unambiguously reduces the rate of job turnover. Also, according to some recent models—including the models by Kugler<sup>31</sup> and Pages and Montenegro in this volume—job security legislation affects the composition of employment, reducing employment in the formal sector (or sector that abides by the regulations) and increasing employment in the informal sector.

Most country studies in this volume relied on some form of differences-in-differences to analyze the effect of changes in legislation on turnover rates and other labor market outcomes. One of the challenges of this type of analysis is to define the “control group” of workers that are not subject to the change in regulation (or treatment). Most studies use some definition of the “informal” sector as the control group. In their study on Peru, Saavedra and Torero, for example, define the formal and informal sectors on the bases of legal criteria: an individual is classified as being in the formal sector if during that year she belonged to a union, had a pension plan, or had a

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27. Within this framework it is not possible to know what is the effect of regulations on the rate of unemployment. In order to deal with this issue we would need a well-defined framework for dealing with labor supply decisions.

28. Saavedra & Torero, *supra* note 5.

29. Cárdenas & Bernal, *supra* note 7.

30. Paes de Barros & Corseuil, *supra* note 8.

31. Kugler, *supra* note 6.

health insurance program.<sup>32</sup> In her chapter on Colombia, Kugler defines as formal sector workers those that make contributions to social security.<sup>33</sup> In the Brazilian study by Paes de Barros and Corseuil, informal workers are defined as those that don't have a labor contract.<sup>34</sup> Although in principle these definitions are reasonable, they have some limitations, including the fact that the criteria used to define the control group—labor informality—is not invariant to the “treatment” (i.e., the change in regulations). This issue, however, is not easy to deal with, and is a problem with most studies of this type.

The findings reported in this volume indicate that stricter job security regulations tend to reduce labor turnover, and the degree of flexibility of labor markets. In addition, Montenegro and Pagés found that job security legislation in Chile had a negative effect on women and low skilled workers and, thus, tended to make income distribution more unequal.<sup>35</sup>

### C. International Comparisons

In the introductory chapter, Heckman and Pagés report the results of a comparative study of the Latin American and OECD experiences with labor market regulations.<sup>36</sup> They use an unbalanced panel for 1983–1999, with 417 observations covering twenty-three OECD advanced countries and fifteen Latin American nations. They are interested in understanding the way in which their measures of labor market regulations—as defined in equations (1) and (2) above—affect (aggregate) employment and unemployment rates in these two groups of countries. They estimate a number of fixed effect models for the pooled sample as well as for separate samples for OECD and Latin American countries. In addition to different indexes of the costs of regulations the regressions include GDP per capita, real growth, and a number of demographic controls.

Heckman and Pagés found that higher social security contributions have resulted in a reduction in the level of employment

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32. Saavedra & Torero, *supra* note 5, at 131.

33. Kugler, *supra* note 6, at 183.

34. Paes de Barros & Corseuil, *supra* note 8, at 273. In Brazil, all workers have a document (the *carteira de trabalho*) where the main aspects of labor contracts—current and past—are recorded. The existence of this document makes the separation of workers into with and without contract groups easy.

35. Montenegro & Pagés, *supra* note 11, at 401.

36. Heckman & Pagés, *supra* note 3. This is an extension of the authors' earlier paper. See James J. Heckman & Carmen Pagés-Serra, *The Cost of Job Security Regulation: Evidence from Latin American Labor Markets*, 1 *ECONOMIA* 109 (2000).

and in an increase in the rate of unemployment. This result holds for the complete sample, as well as for the separate OECD and Latin American sample. They also found that “seniority separation pay” has had a positive effect on employment, while severance payments have had a negative effect on OECD employment. According to these estimates, all variables measuring the costs of regulations have positive coefficients in the unemployment equation for Latin America; the coefficients, however, are estimated in an imprecise way, and are not significant at conventional levels. The most important results stemming from this analysis is that when all the components of the costs of regulations are combined into a single indicator, its coefficient is significantly negative in the employment equation and significantly positive in the unemployment regression.

#### IV. MINIMUM WAGES AND LABOR MARKETS

For a long time the role of minimum wages has been debated in Latin American policy circles. During the last few years this debate has become more generalized as a number of critics of the market-oriented reforms have argued that these have resulted in a worsening of social conditions. According to these critics, higher minimum wages would help reduce poverty and would contribute to the improvement of social conditions in the region. This policy discussion, however, has been characterized by a lack of persuasive empirical evidence on the effects of minimum wages on the region’s labor markets.

The chapter by Maloney and Nuñez Mendez in this volume provides one of the few comprehensive empirical studies on the impact of minimum wage legislation in a group of Latin American countries—Argentina, Bolivia, Brazil, Chile, Colombia, Honduras, Mexico, and Uruguay.<sup>37</sup> The authors use kernel density plots to analyze whether during the late 1990s minimum wages were binding in the countries in their sample. Their findings may be summarized as follows: minimum wage legislation appears to have been binding in all countries and to have had a particularly important effect on labor markets in Colombia, Honduras, Brazil, and Chile. Moreover, there is evidence that the minimum wage serves as a benchmark for all sectors of the economy, including those not legally bound by it (i.e., the “informal” sector). This finding is particularly important since it suggests that dual labor markets models that assume wage flexibility

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37. Maloney & Nuñez Mendez, *supra* note 4.

in the informal (or uncovered) sector may not be particularly relevant for the case of the Latin America region.

Maloney and Nuñez Mendez also use detailed rotating panel data for Colombia to investigate the way that increases in the minimum wage affect some of the most important labor market variables.<sup>38</sup> They found that hikes in the minimum wage affect the wage distribution in the neighborhood of the minimum wage itself, resulting in higher wages both for those earning less than the minimum and for those workers earning more than the minimum (up to four times the minimum wage). This result contrasts with the case of advanced nations, where changes in minimum wages affect a much smaller segment of the wage distribution. Maloney and Nuñez Mendez also found that increases in minimum wages have negative effects on employment. The Chile study, by Montenegro and Pagés, suggests that increases in minimum wages have a negative effect on the probability of employment of those workers with lower skills and among women.

#### V. FURTHER ISSUES, ALTERNATIVE APPROACHES, AND FUTURE RESEARCH

The studies collected in this volume provide an impressive amount of evidence on the functioning of labor markets in Latin America and the Caribbean. In particular, they show persuasively that labor market regulations matter. Regulations that increase the cost of labor (mostly social security contributions) tend to reduce employment; while regulations that increase job security tend to reduce labor markets' fluidity and slow the labor market adjustment process.

There are a number of labor market related issues, however, that are still poorly understood. Further research in this area should concentrate on the effects of globalization, the consequences of other regulations, and the interaction between labor market regulation and human capital formation. In the rest of this section I discuss some topics for future research, and I deal with some methodological and measurement issues raised by the Heckman and Pagés volume.

During the last few years, the majority of the Latin American countries have been pursuing free trade agreements with the

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38. Since 1997, Colombia has created a rotating panel where the same household is interviewed in two consecutive surveys.

advanced nations.<sup>39</sup> Many of these agreements have come with “labor side agreements,” where the Latin nations commit themselves to certain labor practices. Analyzing the way in which the regulations incorporated into these side agreements affect labor outcomes would help understand the true costs and benefits of these free trade deals. Along the same lines, the analysis of other labor regulations (including those encapsulated in different ILO conventions) such as those affecting child labor, would be very useful for having a better idea on the way in which increased globalization is likely to affect the emerging markets in general, and the Latin American countries in particular.

Most of the studies in this book have relied on the estimation of constant-output labor demand equations. In an increasingly globalized world, however, it is crucial to understand how changes in output stemming from changes in international terms of trade or from changes in the labor regulations themselves, affect labor market outcomes. Incorporating the reaction of output into the analysis of the consequences of labor market regulations would be a natural further step in this type of work.

One of the most important contributions of this volume is the construction of indexes that measure the costs associated with different labor market regulations, including social security contributions, severance payments, advanced notice, and seniority pay (see equations (1) and (2) above). Indeed, the construction of these indexes plays a crucial role in the research strategy followed in the volume: On the one hand, they are used in the regressions that estimate the effect of regulations on employment; on the other hand, these indexes help determine the timing of the reforms, and thus are crucial for the differences-in-differences analyses that compare labor market outcomes before and after labor market reforms. However, as Heckman and Pagés themselves recognize it, there are numerous difficulties in constructing these indexes. For example, in the introductory essay Heckman and Pagés say:

[Our] measure of the cost of regulation omits some important components of labor cost. For example, the costs of abiding by certain laws are hard to quantify and are omitted . . . [T]his measure does not include the cost of regulating the length of the standard workweek and overtime work. It does not include the

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39. For example, at the time of this writing two countries—Chile and Mexico—have free trade agreements with the United States, and a free trade agreement between the United States and the Central American nations is awaiting ratification by the national congresses.

cost of complying with minimum wage laws or other income floors.

We do not include regulations on temporary labor contracts.<sup>40</sup>

These difficulties in actually measuring the full costs of regulation suggest that a complementary approach could be useful as a way of verifying the robustness of the results. A promising avenue of inquiry would be to estimate reduced form equations for labor market behavior, and investigate whether it is possible to detect the presence of structural breaks in the data. Indeed, if labor market reforms have an impact on labor outcomes, we would observe structural changes in the parameters of the key labor equations.<sup>41</sup> In a recent paper on Chile's experience with labor reform, Edwards and Edwards followed this approach and estimated an equation on the dynamics of unemployment of the following type:<sup>42</sup>

$$(5) u_t = \alpha_t + \beta_t u_{t-1} + \gamma(g^* - g) + \varepsilon_t,$$

where  $u_t$  is the rate of unemployment in period  $t$ ,  $g^*$  is the long-term trend of real GDP per capita growth,  $g$  is the actual rate of GDP per capita growth, and  $\varepsilon$  is a zero mean error. The coefficient  $\beta$  ( $0 \leq \beta \leq 1$ ) measures the degree of persistence of unemployment and is assumed to vary through time;  $\alpha$  is related to long run "equilibrium" unemployment (i.e., the natural rate of unemployment) and is also allowed to change through time.<sup>43</sup> If a labor market reform reduces the costs of regulations, one would expect that the degree of persistence of unemployment (that is, the coefficient  $\beta$ ) would decline significantly around the time of the reform.<sup>44</sup> In addition, from the estimation of this equation it is possible to analyze whether the "natural" rate of unemployment experienced a (statistically significant) change around the time of the reforms. Edwards and Edwards used Chilean data for 1960–1999 to estimate equation (5) using a Kalman filter time-varying coefficients technique. Their results suggest that the degree of unemployment persistence experienced a significant decline in 1982, one year after the reform. These estimates also indicate that there was a statistically significant decline in Chile's natural rate of unemployment in 1988–1989.

40. Heckman & Pagés, *supra* note 36, at 24.

41. See, e.g., Burgess and Dolado, *supra* note 25. See also equation (4) above.

42. Sebastian Edwards & Alejandra Cox Edwards, *Economic Reforms and Labor Markets: Policy Issues and Lessons from Chile*, 15 *ECON. POL'Y* 183 (2000).

43. The long run "natural" rate of unemployment is given by:  $\alpha/(1-\beta)$ .

44. Blanchard and Summers discuss the way in which labor market regulations affect the degree of persistence of unemployment. See Olivier Blanchard & Lawrence Summers, *Hysteresis and the European Unemployment Problem*, 1 *NBER MACROECON. ANN.* 15–78 (1986).

## VI. CONCLUDING REMARKS

Heckman and Pagés have put together an extremely impressive and useful collection of papers on labor markets and labor market regulations in Latin America. This volume will become the standard reference on the subject in the years to come. Future researchers will take their point of departure from the work reported here, and the quality of future work will be measured relative to the high standards set by this volume.

In the last essay of the volume, Hamermesh succinctly and aptly summarizes the results from this body of work. It is useful to end this review article by directly quoting from Hamermesh:

Taken together, the Latin American evidence [presented in this book] should add considerably to economists' and policy advisors' assurance in emphasizing the long-run economic costs of so-called job protection policies . . . They should underline the essential irrelevance of a spate of mathematically clever theoretical models based essentially on arguments about market imperfections that claim that such policies may actually increase employment . . . They should also make one very dubious about empirical results from cross-country comparisons that claim that such policies have no impact on employment levels. . . .<sup>45</sup>

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45. Hamermesh, *supra* note 14, at 557.

