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**LABOR MARKETS AND INSTITUTIONS:
AN OVERVIEW**

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**LABOR MARKETS AND INSTITUTIONS:
AN OVERVIEW**

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Resumen

Este artículo revisa los temas y trabajos presentados en la VII Conferencia Anual del Banco Central de Chile sobre Mercado Laboral e Instituciones que pronto saldrán compilados en un libro en inglés con ese nombre. En él se discuten los orígenes de las regulaciones laborales, las que no siempre están asociadas a una falla de mercado específica. Además, se miden sus efectos en el mercado laboral, en el crecimiento económico y en la desigualdad, efectos que dependen del tipo de regulación, del contexto en que se aplica y cuán respetada es. Por último, se plantea cómo deberían diseñarse las regulaciones laborales para generar los incentivos adecuados tanto en los trabajadores como en las empresas. Los trabajos revisados son potencialmente muy útiles para el entendimiento de qué regulaciones hacen falta, cuándo y cómo implementarlas.

Abstract

This paper reviews the issues and papers presented at the VII Annual Conference of the Central Bank of Chile on Labor Market and Institutions, that will soon be compiled in a book by the same name. It discusses the origins of labor regulations, which are many times not associated to specific market failures. It measures its effects on labor markets, growth and inequality. Effects that vary by type of regulation, the context in which they are applied and the degree of enforcement. Finally, the paper presents work how regulations should be designed in order to generate the appropriate incentives for both firms and workers. The papers reviewed are potentially very useful in the understanding the type of regulation that should be implemented, when and how.

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INTRODUCTION

The importance of the labor market is indisputable. The countries' economic outcomes rely to a significant extent on its performance, as production, economic growth, and prices are all intimately linked with it. Moreover, the functioning of the labor market is a key determinant of social welfare. Elements such as unemployment and its duration, job quality, wages and compensations, greatly influence individual well being, and are in turn greatly influenced by the performance of the labor market and its institutions. Thus, labor markets and their response to shocks or changing conditions, the functioning of labor institutions under different scenarios, the ways in which they can be modified to improve their efficiency and the endogeneity of sub-optimal institutional arrangements, are some of the very significant issues that are analyzed in the collection of studies presented at the VII Annual Conference of the Central Bank of Chile on *Labor Markets and Institutions* and soon to be included in a book with the same name. Surely, it will contribute to a better understanding of this market by proposing new empirical evaluation approaches, and will enlighten the policy discussion by suggesting ways to improve the design of labor regulations and institutions.

Regulations and institutions govern labor markets all over the world. Regulations are more stringent in some markets than in others, but labor markets that are allowed to freely allocate resources with no intervention at all are hard to find. Every day, firms must abide by a labor code when hiring or firing people or when determining work loads, schedules, and other conditions.

The pervasiveness of labor regulations has led people to question their very existence and wonder what the world would be like without them. How would macro- and microeconomic variables respond to shocks in the absence of labor market regulations? Questions of this nature—together with issues related to the specific effects of regulations on different outcome variables, the optimal design of regulations, and the motivations behind them—drive the authors of all the papers presented in the conference. The recent theoretical and empirical research reported here contributes to a better understanding of the functioning of labor markets and thus offers important evidence for economic debates on themes as varied as growth, inequality, poverty, unemployment, and human capital.

The field of labor economics can be simplified into two basic lines of thought, which offer alternative explanations as to why regulations came to life and how they managed to subsist in the modern world. Economists in the first group, often called distortionists, believe that institutions are born because of pressure from rent seekers—mostly employed workers who benefit from the regulations they push, causing inequality—and that they produce adverse economic effects by driving the market away from its supposedly optimal *laissez-faire* position. Researchers adhering to this approach regard regulations as the creators of distorted incentives that misguide economic agents' behavior, which results in inefficient resource allocation. The best the society can do is to remove all regulations and let the market function freely, because the best possible outcome will be achieved when each agent looks out for its own benefit.

The second group, frequently called institutionalists, contends that regulations originate as a response to market failures, which lead to suboptimal outcomes. These economists claim that labor institutions pursue an efficiency objective and not just a redistributive one. Properly designed and implemented regulations are believed to play a role in moving the market toward a better equilibrium that Pareto-dominates the *laissez-faire* position.

Contrary to the distortionist view, institutionalists assume that it is not always desirable to remove existing regulations. Deregulatory movements may be fully justifiable in many circumstances, however, including changes in the nature of the market failure or in the way agents and institutions interact.

It is not difficult to think of problems associated with the labor market that could be an impediment to its efficient behavior. The typical arguments used to justify intervention on efficiency grounds are that markets are incomplete and imperfect, cause external effects, and have some characteristics of a public good. All of these failures are easily found in most labor markets, at some point in time. One case of market incompleteness, for example, occurs when private insurers are unable to fully insure the labor income of risk-averse workers. Unemployed workers are then incapable of smoothing consumption, and they suffer a significant welfare loss as a result. Worker allocation among jobs is suboptimal in this case, as workers tend to stay in stressful jobs or accept an offer that is not their best match, just to avoid the income loss during the transition or the uncertainties of an employment change. Employers' behavior may also be affected, in that they will probably fire too often if they do not consider the cost imposed on the redundant worker. This inefficiently functioning laissez-faire market will trigger the design of institutions to improve its behavior. Common regulations and institutions for addressing this specific failure are unemployment insurance, severance payments, job banks, and search agencies.

The classic example of market imperfection is that of a labor market consisting of only one employer that behaves monopsonistically when hiring its employees. This would be the case, for instance, of a one-firm town. This unregulated market generates a wage and a number of hired workers that are both lower than they would have been had a benevolent social planner solved the equilibrium. Consequently, regulations like minimum wages are introduced as a means of forcing the monopsonist to behave in a competitive manner.

Finally, conditions at the workplace, such as comfort and security, are examples of nonrival and nonexcludable goods, and they can therefore be classified as public goods. Workers are inclined to free ride on the effort of others to attain better conditions, thus obtaining less than is socially optimal given the total value assigned to them. Worker organizations, such as unions, serve a purpose in this specific case, too.

All these regulations that are intended to solve a specific market distortion and ultimately help people often end up doing neither. Generous unemployment benefits may provide a good safety net for those who lose their jobs, but they also imply costs in the form of higher taxes or lower wages to finance the system and distorted search incentives for the unemployed. High severance payments discourage firms not only from firing, but also from hiring workers. High minimum wages in a non-monopsonistic market improve the welfare of some workers, but they lower overall employment and raise unemployment among the young and unskilled.

Thus, although the regulatory framework can bring about benefits, success is not guaranteed. Many elements play a role in determining their final outcome, including the type and severity of the market failure, the design and implementation of the specific regulation, the degree of compliance, and interaction with agents and other regulations. Even when a regulation is correctly designed for the distortion in the market at a given time and then effectively implemented, changing conditions may render that regulation useless or even counterproductive at a later time, and it may not apply at all under different circumstances or in a different country. It is therefore essential to design adaptable regulations that can change with evolving conditions.

Regulations are not bad per se and need not be abolished altogether. Some should be eliminated, however, as they do not serve their purpose, either because they were badly designed or implemented or because conditions have changed, making the regulations unfruitful or even perverse. A modern view of the regulatory role thus combines both the institutionalist and distortionist perspectives. It starts from the premise that many labor markets today ache from market failures of varying degrees and natures that inhibit them from functioning well without proper regulation. It recognizes that many of these regulations are badly designed and require major makeovers or even elimination, as they hurt more than they help. Moreover, the selection of specific regulations and their design should be closely tailored to the precise problem observed in the market, since one size does not fit all.

This proposition raises several questions. How did the labor market regulations currently in place come into being? What are the effects of today's regulations? What should optimal labor regulations look like? The papers compiled in the book represent steps forward in answering these questions. We address them one at a time below.

1. THE ORIGINS OF CURRENT LABOR MARKET REGULATIONS

Interventions are justified on efficiency grounds when they respond to some market failure that inhibits the market from arriving at a competitive equilibrium. Thus, if we expect the regulations to be driven by concerns for efficiency, we should expect their design to follow a careful study of the market, its flaws, and options for solving them. This is typically not the case. More often than not, regulations are promoted by interest groups, whose influence depends on a country's social and political structure.¹ Similarly, well-intentioned policymakers frequently dictate rules to help specific groups of people, only to end up hurting them or others.

The stylized model presented by Giuseppe Bertola (2005) highlights additional mechanisms that motivate collective interventions aimed at altering laissez-faire wage and employment outcomes. These are tested both in a competitive labor market and in a market that fails to achieve its optimum because of mobility costs and limited access to financial markets. The key insight is that workers do not hold a proportion of all production factors as the representative agent. Consequently, workers maximize a welfare function, which leads to a situation that departs from the competitive market outcome. In this case, the portion of total production that does not accrue to them in the form of wages is ignored. Therefore, workers may push for a reduction in employment, since it has a negligible negative effect at the point at which the wage equals nonemployment opportunities, but a first-order beneficial effect on the still-employed workers' welfare.

So, regulations are not necessarily implemented to maximize production, employment, or welfare. They often obey specific interests and may result in outcomes that are even worse than those produced by the imperfect market in the first place. Implementing them is not free of cost; it requires substantial information acquisition and interpretation. Monitoring is not cheap, either. As Bertola points out, countries will therefore create different kinds of regulations to confront the same market distortion, in order to best accommodate their information processing, monitoring, and enforcement capacities. Moreover, the same regulations will have different effects depending on the characteristics of the economy in which they are applied.

1. See Saint-Paul (2000).

2. THE EFFECTS OF TODAY'S LABOR MARKET REGULATIONS

Independently of the motivation behind regulations, most of the relevant literature tries to estimate their effect on specific variables of interest, such as measures of aggregate and disaggregate labor market outcome or macroeconomic variables and trends. Not surprisingly, the estimated effects of different regulations, in different countries at different times, are varied. Common sense indicates that changing circumstances make each country's regulations more or less suitable to pursue their objectives. Bertola presents simple descriptive analyses for countries in the Organization for Economic Cooperation and Development (OECD) and in Latin America that show that the effects of given regulations do vary in a changing world.² For instance, the cross-country evidence has established that the same institutions were associated with very different outcomes in the 1960s and 1980s. In general, the evidence presented by Bertola for OECD countries shows that job security provisions are detrimental to job creation. High layoff costs reduce both hiring and firing, thereby lowering turnover and, with it, employment volatility. The economic literature is not conclusive regarding the overall effect on average employment, since it depends on the specifics of each economy.

Nevertheless, cross-country comparisons do not say much about the effects of regulations because such effects are regularly endogenous. As Agell (2002) puts it, we do not know "what comes first, the chicken or the egg." Most unemployment protection regulations are present in high-unemployment countries—as a consequence, but also as a cause of the unemployment (see Bertola, 2005). This endogeneity complicates cross-country comparisons because the real effects of the regulatory framework must be disentangled from the structural features that led to them.

Additional problems arise in such comparisons because the effects of regulations vary with other variables normally excluded from the analysis, such as the type of market failure, the intensity and nature of shocks that hit the economies, and the initial conditions of the market. This last variable is shown to be important by Juan J. Dolado, Marcel Jansen, and Juan F. Jimeno (2005), who model state-contingent effects of partial reforms on various labor market outcomes based on a search equilibrium model. What they find corroborates the intuitive idea that the effects will vary according to the circumstances and market conditions.

For instance, a reduction in layoff costs targeted to less productive workers in sclerotic labor markets may reduce low-skilled workers' unemployment without affecting the unemployment rate of high-skilled workers, and it may increase the wage and welfare of both categories. In tight labor markets, however, such a policy often increases unemployment among low-productivity workers and has little effect on the unemployment rate of high-productivity workers. The welfare of low-productivity workers typically falls, while the welfare of the more productive ones increases. Obviously, the policy is much less politically feasible in this second scenario than in the first.

According to Heckman and Pagés (2004) the aforementioned problems—endogeneity and variation in effects depending on initial conditions—explain why the evidence for the OECD is not conclusive on the effects of regulations. They claim that research on Latin American countries should be

2. Bertola, Blau, and Kahn (2002) and Blanchard and Wolfers (2000) arrive at similar conclusions.

more fruitful in that endogeneity is less of an issue, since most reforms followed big political regime changes and thus were mostly exogenous. Their findings are open to controversy, however. This, Bertola says, is due to the low quality of the data on Latin American labor markets, which resemble the data available for the OECD fifteen years ago. Another serious problem involves defining how to measure the regulatory framework. Should one use an aggregate index of regulations, or some degree of disaggregation? How should one capture the fact that the same regulation is more stringent in one country than in other? For example, an accurate analysis must consider not only the existence of minimum wages, but also their level and enforcement. Finally, one must capture both the aggregate effect of a regulation and its distribution among workers.

Claudio Montenegro and Carmen Pagés (2005) address the issue of the distributive impact of labor regulation. They use the large variation in labor market regulations experienced in Chile since the 1960s to analyze the impact of the regulations on the distribution of employment across age, gender, and skill level. They consider the effects of the total costs of dismissing workers, including advance notice, severance payments for each tenure level, and the probability that a firm's economic difficulties serve as justification for termination. They also consider the effects of the minimum wage on employment distribution. Their detailed analysis confirms that young, low-skilled workers and women are the most hurt, although an increase in the minimum wage seems to benefit women.

Nevertheless, it is not only the aggregate and distributional effects of regulation that matter, but the way they may interact with other variables is also a concern to many policymakers. Pierre-Richard Agénor (2005) makes an appealing point in describing—analytically and empirically—the potential tradeoff between institutional changes oriented at alleviating poverty and those intended to reduce unemployment, such as payroll tax cuts for unskilled labor and reductions in minimum wages or severance costs.

The papers by César Calderón and Alberto Chong and by César Calderón, Alberto Chong and Rodrigo Valdés (2005) further contribute, in a number of ways, to the literature on the effects of the regulatory framework of the labor market. First, they focus on two macroeconomic variables that accurately signal the total effect of regulations: growth and inequality. If a regulation's aim is to correct an inefficiently achieved equilibrium in an imperfect labor market, it should enhance efficiency and thus produce a growth effect. If the regulation has a distributive rationale, then it should result in changes in overall inequality. Moreover, these two variables not only capture the initial motivation for the regulation, but also reflect its aggregate effects quite concisely.

A second important contribution is the way the authors treat regulations. They incorporate two measures—one that reveals the amount of regulation (their *de jure* or "thickness-of-the-code-book" measure) and one that reflects the stringency of the regulation and the degree to which it is enforced (their *de facto* measure). Additionally, regulations are not added up; rather, each is introduced individually, as they may and will have different effects on the outcome variables. They find that some regulations deter growth (for example, minimum wages and trade unions), but not all of them produce a significant negative effect. Moreover, the effects are extremely small, requiring drastic regulatory changes to produce a modest increase in growth. The authors also find that inequality is negatively affected by some regulations, specifically by minimum wages. Other labor regulations, such as unionization, maternal leave, and government employment plans, seem to improve income distribution.

The conclusions of these two papers are intuitively appealing, in that *de facto* regulation dominates *de jure* legislation when explaining labor market

outcomes. Also, adding regulations up in a single index conceals information, because the effects of each legislative statute vary. Finally, in most cases, the effects found are very small.

Another alternative to the traditional approach of assessing directly policy measures is to analyze quantitatively the actual performance of the market. For that purpose, they could either use micro or macroeconomic data to build indicators to look whether the market is farther from its competitive equilibrium than markets in other countries or to compare the behavior of the market returning to the equilibrium after being disturbed.

Gilles Saint-Paul (2005) builds indicators of wage rents, as proxy for labor market competition, to evaluate the impact of recent labor reforms in European countries. On analyzing the evolution of within-industry wage differentials and welfare differences between employed and unemployed workers, he finds that contrary to popular belief, most European countries are neither more nor less competitive than in earlier periods.

A technique designed to determine the relative flexibility of labor markets is chosen and applied, using macroeconomic data from a sample of OECD and emerging markets, in Elías Albagli, Pablo García and Jorge Restrepo (2005) and, using plant-level data from five Latin American countries, in Ricardo Caballero, Eduardo Engel and Alejandro Micco (2005).

When evaluating flexibility, these two papers introduce alternatives to the traditional approach of directly measuring labor regulation (typically *de jure* regulation) in the style of the work done at the OECD and Heckman and Pagés (2004). Instead, they measure labor market flexibility by the way the market is functioning. Albagli, García, and Restrepo do so at the macroeconomic level, while Caballero, Engel, and Micco focus on microeconomic plant-level data.

Measuring *de facto* rigidity in labor markets requires first distinguishing its source. What is perceived as labor market rigidity in the raw data may actually be the economy's response to a sequence of negative shocks over a given period of time. In addition, the response of macroeconomic variables will be different in the presence of labor market rigidity. For instance, the more rigid the labor market is, the longer unemployment will last. What is called for is identifying and disentangling the set of structural shocks driving the economy, which can be done by estimating a structural vector autoregression (SVAR). Albagli, García, and Restrepo use this econometric technique to identify four structural shocks, based on an open economy model, with a supply side and wage bargaining à la Blanchard and Summers (1986). They use this methodology to compute a direct measure of labor market rigidity—namely, unemployment persistence—for a heterogeneous sample of countries.³ They assess each country's performance by its responses to identified structural shocks.

This paper's contribution over previous work on this line of research is, first, to extend the model to small open economies; this is a natural way of proceeding, since many of the countries in the authors' sample are small and open. Second, their index is comparable across emerging and OECD economies. Their index of the half-life of unemployment—after the economy is hit by a shock—depends exclusively on the rigidity coefficient in the wage-bargaining equation of the model. In contrast, some of the rigidity indices found in the related literature depend not only on this rigidity parameter, but also on other structural parameters. This does not represent a serious problem if the economies being ranked are similar, but it can lead to misinterpretation of results when the sample includes countries with heterogeneous levels of development and openness. The authors find that Chile, Hong Kong, Korea, and

3. Balmaseda, Dolado, and López-Salido (2000), Dolado and Jimeno (1997), and Fabiani and Rodríguez-Palenzuela (2001) are examples of the same approach for closed economies.

the United States rank among the most flexible labor markets, while Colombia, Germany, Spain, and Sweden stand among the most rigid.

Caballero, Engel, and Micco, in turn, follow a different approach to assessing labor market flexibility. Based on earlier work by Caballero and Engel (1993) and Caballero, Engel, and Haltiwanger (1997), they measure and compare microeconomic flexibility by estimating the speed at which establishments close the gap between labor productivity and the marginal cost of labor.⁴ Their methodology is derived from an adjustment hazard model in which a change in the employee headcount at any plant is a probabilistic function of the gap between desired and actual employment. The model allows for nonlinearities (lumpy adjustments) and state-dependent responses. This strategy had never before been applied to Latin American countries.

The authors estimate that Brazil, Chile, and Colombia are more flexible than Mexico and Venezuela. A detailed analysis of the Chilean case identifies signs of a downward trend in microeconomic flexibility after the 1998 crisis. This conclusion points in the same direction as Heckman and Pagés (2004).

3. OPTIMAL LABOR REGULATIONS

Labor regulations and institutions undoubtedly affect the dynamics of important variables of the labor market. The impact varies depending on circumstances and design. Any perverse effect of a regulation does not necessarily imply that no regulation is needed, but rather that the specific regulation has not been designed or implemented efficiently to address a specific market failure at a specific point in time. In this sense, we lack analysis on what optimal regulations should look like.

Identifying the market failure and its effects is first and foremost, in order to evaluate alternative regulations and defined policies that best solve the defined problem. The regulation's implementation and design depend crucially on the market conditions under which it will be applied. The ongoing research of Blanchard and Tirole (2003) in optimal labor market institution design is probably one of the most recent efforts of modern economics in this field. It is particularly relevant because it presents a concrete analysis of a specific market failure, its effects, and the detailed design of regulations that solve the problem. It also recognizes how other institutions and interactions between agents and the market modify the way in which the regulation should be designed.

Based on that joint research, Olivier Blanchard proposes a system in which unemployment insurance and employment protection, in the form of layoff taxes, coexist, and in which their specific design is molded by complications that may arise from the interaction in the market between firms and workers. The identified failure is the workers' limited access to financial markets. Thus, he works through a detailed design of unemployment insurance intended to diminish the negative utility effect on dismissed workers and to make firms internalize layoff costs, trying to have the appropriate incentives to avoid misbehavior. Therefore, he examines the effects of labor regulations on hiring, firing, and job search decisions in markets where workers are not fully insured against changes in income.

Blanchard considers elements such as how the insurance amount, periodicity, and administration affect firms' firing and hiring decisions and workers' job search and acceptance decisions. He also introduces ex post wage bargaining power and worker heterogeneity into the analysis to build concrete proposals on how the design should adjust to them. For example, he proposes limiting

4. Caballero, Engel, and Haltiwanger (1997) reproduce the aggregate dynamics of the U.S. labor market using data from a large set of individual firms.

payments if the fact that workers can collect income while unemployed diminishes search incentives. While one size does not fit all, certain elements of markets can be analyzed and translated into specifically designed regulations that work efficiently to solve an identified market failure. The paper works through several of them, but in the end each country's authority must consider all the possible complications and interactions to arrive at an optimal regulatory design.

In the specific case presented by Blanchard, the problem arises from the inability to insure workers' income in bad states of nature, such as unemployment spells, during which income drops drastically and unexpectedly. Consequently, the probability of falling into a bad state is a crucial element for the design of the optimal regulation. When this probability is high, the usefulness and necessity of unemployment protection increases from the workers' perspective. This happens, in particular, when markets are not complete and risks are not covered, meaning that consumption cannot be insulated from income shocks.⁵ It is therefore critical to study the evolution of workers' income during their life cycle. Cristóbal Huneus and Andrea Repetto (2005) make a remarkable empirical contribution to the knowledge of the earnings process for the specific case of Chile. They find that, as in other countries, adverse income shocks as a result of unemployment spells are more likely to occur as workers become older, but they are less likely to happen at all in Chile than in the United States. Their empirical analysis also confirms that government transfers in Chile have little effect on consumers' ability to compensate persistent shifts in their earnings. They show that the Chilean distribution of income is highly persistent, which is explained by the underlying variability of the earnings process. One conclusion is that it is much harder for Chilean than U.S. consumers to smooth consumption and move to a higher income quintile. As Huneus and Repetto put it, the welfare consequences of income uncertainty are high in a developing economy, where the public welfare system is small and consumers cannot share risks or are liquidity constrained. These findings should be taken into account in the design of regulations in Chile and in the analysis of cross-country differences in institutional arrangements.

Another element that interacts with labor market imperfections and regulations and should be considered when assessing and designing labor market policies is the long-run trend in the demand for skilled workers. In Chile, as in other emerging economies, the demand for skills has grown more than proportionally, in association with international trade, as confirmed by Olga Fuentes and Simon Gilchrist (2005).⁶ Fuentes and Gilchrist's analysis covers the period between 1979 and 1995. The authors disaggregate their data by trade orientation: export-oriented, import-competing, or nontradable sectors. They then examine labor composition and wage premiums between skilled and unskilled workers and also estimate the relative demand for skilled workers. Their results suggest the existence of skill-biased technological change. This long, deep process is related to characteristics of the production function that, in the presence of labor market imperfections, could affect income distribution and heighten the vulnerability of low-skilled workers.

5. Dynarski and Gruber (1997) show that even in a developed economy like the United States, income risks related to unemployment are not pooled, so families' consumption is not perfectly insured. Smoothing consumption could also be in the interest of entrepreneurs, since it could contribute to smoothing business cycles.

6. Previous work on the subject reports increasing relative demand for skilled workers, which translates into increased returns for education and rising wage dispersion. Studies of developing economies include Meza (1999) and Cragg and Epelbaum (1994) for Mexico; Robbins (1999) and Attanansio, Goldberg, and Pavcnik (2003) for Colombia; and Robbins (1994) and Pavcnik (2002) for Chile.

4. SOME FINAL REMARKS

The papers reviewed are useful in several ways. They explain theoretically why existing labor regulations, though not optimal, were originally put in place. The major conclusion is that market failures are at the heart of labor regulations. Given the existence of those failures, some of the papers suggest appropriate regulations for handling them (for instance, layoff taxes and unemployment insurance), together with their optimal or efficient design in order to generate the appropriate incentives for both firms and workers. Other papers focus on how initial conditions affect the final outcome, how different outcome variables and types of workers are affected, and how each type of regulation may have a different effect on the same outcome variable when applied in a different context, time, or place.

Not all regulations are properly designed to achieve the most efficient outcome given the specific market conditions and type of failure to be addressed. Many regulations are not intended to improve efficiency, and those that are often do so ineffectively, either because the regulations are not implemented correctly or because they were designed without an adequate analysis of market interactions. For example, several design failures are identified in the specific case of unemployment protection regulation. The final outcome of any regulation thus depends on many factors, including initial conditions, as evidenced by the modeling of state-contingent effects of partial reforms.

The book also provides a wide-ranging empirical analysis of labor markets and their regulatory framework. The effects of regulations are not easily accounted for. Data problems and endogeneity are just some of the obstacles to obtaining a robust estimate of the effects. Furthermore, the importance of enforcement versus legislation is highlighted, as is considering each regulation independently, as individual regulations have varying effects on different outcome variables, such as growth and inequality. In addition, regulations also have an impact on the composition of unemployed workers with regard to skill level, age and gender.

Given the difficulties of measuring the impact of specific regulations, several papers of the book offer alternative methods for assessing the degree of labor market flexibility by looking directly at the adjustment processes. Two papers provide a cross-section view of the adjustment process at the macro- and microeconomic level, respectively, while another presents a time-series analysis of the recent evolution of competitiveness in European countries.

Designing better regulations, particularly unemployment insurance, requires detailed knowledge of the earnings dynamics of the respective country. In the case of Chile, the empirical work done on this issue helps determine how much workers would be willing to give up to stabilize their income. It is also confirmed that the demand for skills in Chile has grown more than proportionally in association with international trade, similarly to what has been reported in other emerging economies. This long-run trend interacts with labor market imperfections and should be taken into account when assessing and designing labor market policies and regulations.

Finally, the very relevant issues that are analyzed in the collection of studies reviewed here will definitely contribute to the understanding of the labor market, and will enlighten the discussion with new suggestions of ways to assess it empirically, and proposals to design better labor regulations and institutions.

REFERENCES

- Agell, J. 2002. "On the Determinants of Labour Market Institutions: Rent Seeking versus Social Insurance." *German Economic Review* 3(2): 107-35.
- Agénor, P.R. 2005. "Unemployment-Poverty Trade-offs". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Albagli, A., P. García and J. Restrepo. 2005. "Assessing the Flexibility of the Labor Market in Chile: An International Perspective". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Attanansio, O., P. Goldberg, and N. Pavcnik. 2003. "Trade Reforms and Wage Inequality in Colombia." Working paper 03-06. London: Institute for Fiscal Studies.
- Balmaseda, M., J.J. Dolado, and D. López-Salido. 2000. "The Dynamic Effects of Shocks to Labour Markets: Evidence from OECD Countries." *Oxford Economic Papers* 52(1): 3-23.
- Bertola, G. 2005. "Distribution, Efficiency, and Labor Market Regulation in Theory, in OECD, and in Latin America". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Bertola, G., F.D. Blau, and L.M. Kahn. 2002. "Labor Market Institutions and Demographic Employment Patterns." Working paper 9043. Cambridge, Mass.: National Bureau of Economic Research.
- Blanchard, O. 2005. "Designing Labor Market Institutions". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Blanchard, O. and J. Tirole. 2003. "Contours of Employment Protection Reform." Working paper 03-35. MIT, Department of Economics (available through the Social Science Research Network).
- Blanchard, O. and L.H. Summers. 1986. "Hysteresis and the European Unemployment Problem." *NBER Macroeconomics Annual 1986*, edited by S. Fischer, 15-89. MIT Press.
- Blanchard, O.J. and J. Wolfers. 2000. "The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence." *Economic Journal* 110(462): C1-33.
- Caballero, R. and E. Engel. 1993. "Microeconomic Adjustment Hazards and Aggregate Dynamics." *Quarterly Journal of Economics* 108(2): 359-83.
- Caballero, R., E. Engel, and J. Haltiwanger. 1997. "Aggregate Employment Dynamics: Building from Microeconomic Evidence." *American Economic Review* 87(1): 115-37.
- Caballero, R., E. Engel and A. Micco. 2005. "Microeconomic Flexibility in Chile". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Calderón, C. and A. Chong. 2005. "Are Labor Market Regulations an Obstacle for Long-Term Growth". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Calderón, C., A. Chong and R. Valdés. 2005. "Labor Market Regulations and Income Inequality: Evidence for a Panel of Countries". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Cragg, M. and M. Epelbaum. 1994. "The Premium for Skills: Evidence from Mexico." Columbia University.
- Dolado, J., M. Jansen and J.F. Jimeno. 2005 "Targeted Employment Policies and Partial Labor Market Reforms: Theory and Some Empirical Evidence".
- Dynarski, S. and J. Gruber. 1997. "Can Families Smooth Variable Earnings?" *Brookings Papers on Economic Activity* 1997(1): 229-84.
- Dolado, J. and J.F. Jimeno. 1997. "The Causes of Spanish Unemployment: A Structural VAR Approach." *European Economic Review* 41(7): 1281-307.

- Fabiani, S. and D. Rodriguez-Palenzuela. 2001. "Model-based Indicators of Labour Market Rigidity." Working paper 57. Frankfurt: European Central Bank.
- Fuentes, O., and S. Gilchrist. 2005. "Trade Liberalization and Labor Market Evolution: Evidence from Chilean Plant Level Data". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Heckman, J. and C. Pagés. 2004. "The Cost of Job Security Regulation: Evidence from Latin American Labor Markets." Working paper 7773. Cambridge, Mass.: National Bureau of Economic Research.
- Meza, L. 1999. "Cambios en la estructura salarial de México en el período 1988-1993 y el aumento en el rendimiento de la educación superior." *Trimestre Económico* 66(262): 189-226.
- Montenegro, C. and C. Pagés. 2005. "Who Benefits from Labor Market Regulations? Chile 1960-1998". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Pavcnik, N. 2002. "What Explains Skill Upgrading in Less Developed Countries?" Dartmouth College.
- Repetto, A. and C. Huneus. 2005. "The Dynamics of Earnings in Chile". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.
- Robbins, D. 1994. "Worsening Wage Dispersion in Chile during Trade Liberalization and Its Causes." Discussion paper 1. Harvard University, Institute for International Development.
- . 1999. "Wage Dispersion and Trade in Colombia: An Analysis of Greater Bogotá, 1976-1989." In *Colombia: An Opening Economy*, edited by C. Callahan and F. Gunter, 97-129. Stamford, Conn.: JAI Press.
- Saint-Paul, G. 2000. *The Political Economy of Labour Market Institutions*. Oxford University Press.
- Saint Paul, G. 2005. "Did European Labor Markets Become More Competitive in the 1990s? Evidence From Estimated Worker Rents". In *Labor Market and Institutions*, Restrepo, J. and A. Tokman (eds.) forthcoming 2005.

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