

**Labor Market Policy Research for Developing Countries:  
Recent Examples from the Literature  
What do we know and what should we know?**

Maria Laura Sanchez Puerta  
The World Bank  
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Abstract:

This paper documents recent advances of research on labor market institutions, behavior, and policies in developing countries and makes suggestions for future research. The four areas of research analyzed are: i) theoretical and empirical implications of employment protection legislation on labor outcomes; ii) the issue of shifting from job to worker protection, namely, the different alternatives to severance pay: unemployment insurance and unemployment insurance savings accounts and their application to developing countries; iii) the effect of active labor market programs, particularly of training, on labor market outcomes, and iv) the causes and consequences of informality in the labor market, with special emphasis on the efforts to model the informal sector. The focus of the four sections is on theoretical and empirical work on published in the last 5 to 7 years, and each one concludes with new directions for future research.

## **I. Introduction**

This paper documents recent advances of research on labor market institutions, behavior, and policies in developing countries and makes suggestions for future research. Labor market institutions include a wide range of topics going from wage-setting mechanisms (collective bargaining, minimum wages), labor tax policies, product market regulation, EPL (employment protection legislation), to active and passive labor market programs (training, public works, unemployment insurance). Despite the relevance of all these for labor market outcomes, the focus of this review of the literature is narrowed down to the following four topics:

- i) Effects of employment protection legislation on labor market outcomes,
- ii) Shifting from job to worker protection,
- iii) Effects of active labor market policies on labor market outcomes, and
- iv) Causes and consequences of formality and informality in the labor market.

In this paper, I look at theoretical and empirical work published in the last 5 to 7 years. The pieces of work reviewed include research papers published in peer reviewed journals or books, and working papers of similar style. The next section presents theoretical and empirical implications of employment protection legislation on labor outcomes, as well as some stylized facts. Section III addresses the issue of shifting from job to worker protection and describes some of the different alternatives to severance pay, namely, unemployment insurance and unemployment insurance savings accounts and their application to developing countries. Section IV concentrates on the effect of active labor market programs, particularly of training, on labor market outcomes. The last substantial section analyzes the causes and consequences of informality in the labor market, with special emphasis on the efforts to model it for developing countries. Each of the four sections ends with new directions for future research; finally, Section VI concludes.

## **II. Effects of Employment Protection Legislation<sup>1</sup>**

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<sup>1</sup> Severance pay refers to lump-sum payments made to discharged workers either voluntarily by employers (through collective agreements or as part of firm policy) or as mandated by governments. In developing countries, generally, severance pay is provided only in some sectors or only in firms above certain sizes. Minimum years of service requirements are also sometimes used to limit eligibility (Vodopivec, 2004). Mandatory severance pay is an attractive system in developing countries because it requires little administrative capacity to monitor the unemployment status, does not require the collection of social contributions, and, given that it is paid as a lump sum, does not affect the efficiency of job search (Vodopivec, 2004). However, severance payments have many drawbacks than they have benefits. First of all, these payments offer only limited pooling of unemployment risk (within firms, not across them). Secondly, they do not protect workers against the duration of the risk. Those workers who remain unemployed for a long time might not receive enough funds to endure the unemployment spell. Last but not least, the proportion of all workers covered by severance payments tends to be low, as one of the pre-requisite seems to be for these workers to have formal indefinite contracts in the private sector (Pages et al, 2007). Furthermore, even among eligible workers, actual coverage is low (Sehnbruch, 2006).

Employment protection legislation refers to hiring and firing arrangements. The idea behind most employment protection rules is to enhance job security by making dismissals costly to the employer. Moreover, by reinforcing job security, EPL may enhance productivity performance, as workers will be more willing to co-operate with employers in the development of the production process. However, by making dismissal more costly, EPL can also have the unintended effect of creating hiring disincentives for employers, and tend to reduce labor reallocation from less to more productive activities and reduce firms' performance and their potential for job creation. Additionally, rules restricting "non-standard" employment (fixed-term contracts, temporary agency workers, etc) reinforce job security rules that constrain employer dismissal rights.

This section of the literature review concentrates on the latest theoretical and empirical work on the effects of EPL on different economic outcomes, such as employment, unemployment, turnover, productivity, and poverty.

These institutions seem to have little impact on the labor markets of some regions, where most of the employment is in the informal economy (see section V of this review for an overview of informality). On the other hand, labor market institutions are perceived as a binding constraint in other regions. This section of the literature review looks at the regions of the world where research on EPL has been conducted, namely, Europe and Central Asia, Latin America and the Caribbean and South Asia.

### **Theoretical Implications**

There are various ways in which these rules can affect labor market outcomes including labor dynamics, employment levels, the composition of employment, and productivity growth. In this subsection, I review the theoretical implications; in the next, I concentrate on the empirical findings.

Theoretically, the clearest effects are on labor market dynamics. EPL can be expected to lengthen job tenure and reduce labor turnover. All other things equal, stronger job security stabilizes employment levels, not only reducing layoffs in downturns but also reducing hiring in upturns. This will protect jobs for incumbent employees but limit hiring opportunities for the unemployed and underemployed. As a result, duration of unemployment (and employment) is expected to be positively correlated to the degree of employment protection.

The impact of employment protection on the average level of employment (and unemployment) through the business cycle is more ambiguous. Whether employment rates within the firm increase or decrease with tighter EPL depends on how the decline in hiring compares with the decline in firing. This in turn depends on assumptions about the persistence of labor demand shocks, the elasticity of labor demand, how firms discount future hiring costs at the time of hiring, etc (Betcherman, 2004).

Job security rules, however, should affect the composition of employment in various ways: they can shift labor demand to informal sectors, firms, or employment types. An example in the recent literature is Kugler (2004). The author proposes a theoretical model in which job security regulations provide incentives for high turnover firms to operate in the informal sector. This decision would entail producing at a small, less efficient scale in order to remain inconspicuous to tax and labor authorities.

The theoretical literature on the impact of EPL on productivity growth seems to show that stringent hiring and firing restrictions are costly in terms of average productivity. Among the recent theoretical literature, Poschke (2007) develops a model of endogenous growth through selection and imitation. In this framework, firing costs not only induce misallocation of labor, but also affect growth by affecting firms' exit decisions. The authors' simulations show a reduction in growth, and the impact on growth rates is larger in sectors where firms face larger idiosyncratic shocks, as in services. Also, by raising the cost of labor adjustments, EPL slows down the process of adoption of new technologies (see World Bank (2004) for a review).

In the end, there are arguments that EPL raises efficiency, reduce efficiency, and have no effect on outcomes beyond distribution. To determine which arguments are valid for which institutions under which economic conditions requires evidence on the actual link between institutions and outcomes.

## **Empirical Evidence**

Determining how employment protection legislation affects outcomes across countries is challenging. The literature has encountered a series of empirical problems that make it difficult to draw causal relationships between EPL and labor market outcomes and to extract general conclusions: problems in creating standardized measures of *de jure* EPL, and the, sometimes limited, connection of *de jure* to *de facto* enforcement, and, among others, difficulties endemic to cross-country analysis.

In this subsection, I review research papers dealing with problems of measurement of EPL, problems of attribution of outcomes to EPL, as well as different solutions proposed in the recent literature. Finally, I present some stylized facts regarding the effects of EPL on labor market outcomes.

### **Measuring EPL**

There have been various approaches to measuring the degree of job security protection. Most studies have created *ordinal indices* based on statutory rules. This approach is the most commonly used in OECD countries (see Freeman (2007) for a review).

Another approach, and the most ambitious one, is to create a *cardinal index* by calculating the costs to employers of complying with EPL. The most complete effort to do this has been done for Latin America and the Caribbean by Heckman and Pages (2000). The authors create a job security index which attempts to measure the expected future cost, at the time of hiring, of dismissing a worker for economic reasons (cost of

complying with severance pay and advance notice requirements). Naturally, consideration of the monetary costs requires taking into account factors that capture the probability that severance pay will be paid and to whom. Therefore, data on voluntary turnover and the distribution of the labor force by the same characteristics as define the entitlements for severance pay (i.e. occupational and tenure distributions) is essential. According to Addison and Teixeira (2001), absent some heroic assumptions, the virtue of simplicity of this cardinal measure is lost.

A third approach is based on the *judgment of executives* in different countries regarding how hard it is to adjust employment levels to economic realities (Pierre and Scarpetta, 2004). This strategy allows a longer time series to be assembled and can measure the varied dimensions of dismissals protection. However, some obvious problems with this approach are subjectivity, the consistency of responses when economic conditions facing firms differ, changes in the identity of the manager respondent, and even changes in the relevant question.

### **Measuring the impact of EPL**

Labor regulations change very infrequently and tend to be applied at the national level to all workers. Therefore, determining the empirical effects of labor institutions is a challenging endeavor.

Most studies resort to *cross-country differences* in institutions and outcomes. However, those estimates are not sufficiently reliable. Given the small number of countries and limited time variation in these studies, they cannot control for unobserved country differences. Many studies also fail to control for endogeneity of regulations. Furthermore, cross-country estimates do not account for differences in measurement across countries, introducing measurement error in the dependent variable.

To surmount some of the problems faced by existing cross-country estimates, Micco and Pages (2006) propose a new method to estimate the economic effects of employment regulations. Their test exploits time and geographical variation, as well as sector differences across countries, to implement a difference-in-differences methodology. Contrary to most existing literature on employment regulation, which is based solely on industrial countries, this study relies on a sample of developed and developing countries. The authors argue that by expanding the sample to developing countries and by using difference-in-differences estimation, the likelihood of omitted variable bias is reduced. This study also controls for differences in the level of enforcement, proxied by rule of law measures. The authors develop a simple theoretical model, in which sector differences in the intrinsic volatility of demand and supply shocks lead to differential effects of employment protection across sectors. They find that EPL reduces job flows, particularly in more volatile sectors. These effects occur both in developed and developing countries, but are stronger in countries with better law enforcement. The authors also state that employment and value added of high-reallocation sectors decline in relative terms, and these employment effects are entirely driven by a reduction in the entry of new plants in those sectors, as employment per plant is not significantly affected. Finally, the study concludes that, by reducing the size of the most affected industries,

labor regulations are likely to reduce firm entry, employment, and value added at the aggregate level.

Haltiwanger et al (2006) also use a difference-in-difference approach to minimize possible endogeneity and omitted variable problems associated with cross-country regressions. The authors review the process of job creation and destruction across a sample of 16 industrial and emerging economies over the past decade. They exploit a harmonized firm-level data-set from business registers and enterprise census data. Their empirical results suggest that stringent hiring and firing costs reduce job turnover, especially in those industries that require more frequent labor adjustment. Regulations also seem to distort the patterns of industry/size flows.

A second type of study focuses on *changes in institutions*. This type of analysis holds fixed country and year, and therefore isolates the effect of policies on outcomes by comparing countries that underwent policy changes (treatment group) with those which did not (control group). The downside of this type of analysis is that developments in other countries are not necessarily good counterfactuals for the countries which did change policies (Freeman, 2007). To overcome this, Abadie et al (2007) propose a method to produce a better counterfactual consisting of a composite of countries that give the best predictor of outcomes for the country prior to its change in policy.<sup>2</sup> Even if a given institutional change produced a particular change in one country, it is not clear that the same effect will be produced elsewhere.

A third type of study compares *outcomes between workers within countries*, where different institutions coexist. This approach is better than the second one in that it holds fixed the factors that affect a country. A few examples of this type of analysis in developing countries in the recent past are described below (Petrin and Sivadasan, 2006 for Chile; Besley and Burgess, 2004 and Ahsan and Pages, 2007 for India).

Petrin and Sivadasan (2006) use census data of Chilean manufacturing firms for the years 1979-1996 to study the effect of EPL, taking advantage of two significant increases in the cost of dismissing employees in the period. The authors develop a new statistic to estimate the within-firm gap between the marginal revenue product of labor and the wage directly, using plant-level production data. They show little evidence of a negative impact on labor demand, but find that EPL introduces economically and statistically significant costs to the economy. Their empirical test confirms their theoretical predictions that firing costs drive a wedge between the marginal revenue product and its marginal cost. The authors find large and statistically significant increases in both the mean and the variance of the within-firm gap between the marginal product of labor of labor and the wage for both white and blue collar workers; however, they find little positive effect on the mean and variance gap for non-labor inputs.

Besley and Burgess (2004) present a theoretical model and an empirical test of the effect of labor regulations on economic outcomes, such as employment, productivity, and poverty. The authors take advantage of the fact that in India most regulatory authority lies

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<sup>2</sup> Software to compute the estimators proposed in this article is available at the authors' web-pages.

vested in the central authorities with the exception of labor regulation and analyze the effect of changing labor regulations in explaining the performance of Indian manufacturing in the period 1958-1992.<sup>3 4</sup> This paper also lays out a theoretical model that links bargaining power with economic performance in the manufacturing sector, assuming this sector is embedded in a larger economy only through wages and prices. As a first step of their empirical methodology, Besley and Burgess look at each of the state level amendments to the Industrial Disputes Act of 1947 and code them as being either neutral, pro- or anti-worker. This time and cross-sectional variation within India is used to identify the effects of changes in labor regulations. The authors show that pro-worker amendments are associated with lowered investment, employment, productivity, and output in registered manufacturing. Furthermore, they find a positive association with increases in urban poverty.

Ahsan and Pages (2007) follow the methodology laid out in Besley and Burgess (2004) with the following modifications. The main innovation of this paper is on distinguishing the effects on economic outcomes of the amendments of the laws concerning job security and those related to the resolution of labor disputes. The authors also pay special attention to the most contentious regulation of all: Chapter 5b of the Industrial Disputes Act, which stipulates that firms above a certain size threshold cannot retrench workers without permission from the State. Secondly, they provide a first attempt to study the combined effects of legal amendments on different types of *de jure* labor regulations and of the increasing use of contract labor (*de facto*) in India. Finally, the authors assess whether there are differential effects across individual industries and across labor and capital intensive sectors. Ahsan and Pages find that both types of regulations (EPL and dispute resolution) hurt registered sector workers and bring substantial costs on society. Labor-intensive industries, such as textiles, are the hardest hit by job security regulations, while capital-intensive industries are most affected by changes in dispute resolution procedures. The widespread and increasing use of contract labor brought some employment and output gains, but it did not make up for the adverse effects of labor laws, particularly on employment.

Bhattacharjea (2007) offers a critique of these two and other empirical studies on the impact of labor regulation on industrial performance in India. The author also reviews earlier studies that tried to infer the effects on manufacturing employment of amendments to the Industrial Disputes Act (IDA) in 1976 and 1982 that required government permission for layoffs, retrenchments and closures, and shows that the results are ambiguous. The study then criticizes the widely-used index of state-level labor regulation devised by Besley and Burgess (2004) and used by Ahsan and Pages (2007), and the econometric methodology they use to establish that excessively pro-worker regulation led to poor performance in Indian manufacturing. Several points are mentioned: a) scoring of several individual measures is erroneous, b) combination of scores is not comparable across states, c) other laws are ignored, etc. The author, however, does not attempt to

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<sup>3</sup> Labor legislation falls concurrently under the authority of both Central and State governments.

<sup>4</sup> Similarly, Autor et al (2006) exploits variation in the extent and timing of adoption of employment protection across U.S. states.

address these issues empirically and it is not clear if results would change significantly once his points are taken into account.

Another criticism to this third approach is that these comparisons measure differences between institutionally determined and market determined outcomes but not necessarily identify the structural impact of the institutions. According to Freeman (2007), this approach misses potential spillover of institutionally determined outcomes on other workers, who can be helped or harmed depending on the nature of the interactions between sectors.

### **Stylized Facts**

Despite measurement problems, however, much has been learned and some stylized facts are found in the empirical literature in developing countries:

- Consistent with the theoretical literature, employment promotion legislation has been shown to reduce turnover (Betcherman et al, 2001; Maloney, 2001; IADB, 2004; World Bank, 2006; Haltiwanger et al (2006) ; Ahsan and Pages, 2007). An exception to this evidence is Gonzaga (2003); the author finds that EPL in Brazil actually encourages turnover at the expense of investments in specific human capital.
- Also consistent with the theory, findings are not conclusive regarding the effects of institutions on other aggregate economic outcomes, such as employment and unemployment (Micevska, 2004; Freeman, 2007; also see Heckman and Pages, 2004 for more examples). However, this could happen because of measurement problems (ordinal ranking indicators). As discussed above, Micco and Pages (2006), using difference-in-difference estimation approach in their cross-country analysis find a negative relationship between EPL and employment. Furthermore, some argue that the ambiguous conclusions result from studies based on the analysis of cross-country time series with little variation in regulatory policies. Evidence from studies using large micro-data sets find negative relationships between EPL and employment (Haltiwanger et al. (2003) for CEE, Russia, and Ukraine, Heckman and Pages (2004) for LAC, Autor et al (2006) for the US, plus the examples analyzed in this review: Besley and Burgess (2004) and Ahsan and Pages (2007) for India).<sup>5</sup>
- Employment protection changes the composition of employment. When hiring and firing becomes difficult, firms tend to hire and retain only those workers who are viewed as highly productive, relative to their cost. (Betcherman et al, 2001;

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<sup>5</sup> Freeman (2007) tells the story of the evolution of the debate in OECD countries. First, he cites a statement from 2005: "The broad movements in unemployment in the OECD can be explained by shifts in labor market institutions". Then, Freeman reviews recent critical analysis of the evidence in developed countries that has rejected these strong statements. However, the debate continues as Bassanini and Duval (2006) found changes in tax and labor policies explain about half of the 1982-2003 changes in unemployment among OECD countries. These authors take into account many of the criticisms of earlier cross-country time series data (comparability across countries, new econometric techniques)

Micevska, 2004; Freeman, 2007)<sup>6</sup>. Heckman and Pages (2004) find that job security in the LAC region reduces the employment prospects of young, female and unskilled workers, and segregates the labor market between workers with secure jobs and workers with very few prospects of becoming employed formally. Furthermore, there is a positive association between employment protection and self-employment (Addison and Teixeira, 2001; Betcherman et al, 2001; World Bank, 2006 for ECA countries) Further progress in understanding this association requires that more work is done on the opportunity costs of self-employment, including the relative level of security contributions that have to be paid by the self-employed.

- Theoretically, restrictions should reduce productivity growth; however, empirical evidence is scarce. The literature on the impact on productivity growth is thin at the international level and thinner still in developing countries (see Besley and Burgess (2004) for India; Pages and Micco (2006) for 11 developed and 7 Latin American countries; Hoek (2007) for Brazil; Autor et al. (2007) for the US).<sup>7</sup>
- Most studies in developing countries concentrate on efficiency outcomes and not on equity. An exception to this is Besley and Burgess (2004) and Heckman and Pages (2004), described above.<sup>8</sup>

## **Directions for Future Work**

There is still work to do. As Blanchard (2005, pp.1) puts it “There is fairly wide agreement among economists on what constitutes optimal or, at least, good product market and financial market institutions. There is much less agreement on what constitutes optimal or, at least, good labor market institutions”.

Besides from improving the actual measurement of EPL and the methods by which its effects on labor market outcomes are captured, it is advisable to direct future work on the following areas:

### **Improving data availability**

1. Analyzing micro data sets that focus on measuring labor practices (such as the UK’s Workplace Employment Relations Survey, WERS)

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<sup>6</sup> Also, regarding employment outcomes, the empirical literature has not explored in depth whether there are differential effects in the intensive and extensive margins: that is, have employment levels changed because of a change in average employment or output per firm or because of a change in net entry of firms. Exceptions to this are Micco and Pages (2006), Besley and Burgess (2004), and Kluger and Pica (2005).

<sup>7</sup> Abidoye et al (2007) show that the presence of firing costs significantly distorts hiring decisions by firms. The authors use a difference in difference specification on data collected between 1995 and 2003 by the Central Bank of Sri Lanka on employment growth by firm. They show that the Termination of Employment of Workmen Act, which requires firms with more than 14 employees to pay severance costs to displace workers, induces clustering at 14 employees unless firms are atypically productive.

<sup>8</sup> Almeida and Carneiro (2007) analyze the efficiency-equity trade-off of labor market regulations for the case of Brazilian cities; however, their measure of labor market regulations is not EPL.

2. Adding measures of labor policies and practices to matched employee-employer to allow comparisons of behavior of the same worker under different labor practices, the effect of practices on selectivity of workers, and the effects of practices on productivity.

### **Analyzing the economic significance of EPL**

One of the issues raised in the literature is the suggestion that, whatever the sign, the economic significance of employment protection is modest. According to Addison and Teixeira (2001), this assertion has two strands: i) are effects of EPL small?, and ii) are these effects important when considered alongside other features of a country's labor market?. Their answer to the first question is that employment effects of EPL can be substantial. On the second question, however, the balance of the empirical literature suggests that there are offsets to potentially costly employment protection rules (for instance, the favorable association between collective bargaining and economic outcomes). Following Addison and Teixeira, future studies should analyze the consequences of the interaction of EPL with labor market institutions on labor market outcomes.

### **Analyzing the political economy of labor market reforms**

1. In the area of labor market reform, the available knowledge of political economy seems to be practically non-existent. Even if we build up the knowledge base about the most useful substantive directions in labor market reforms, this will need to be complemented by a better understanding of the political aspects of a successful reform.
2. Adapting labor legislation to the feminization of the labor force

### **Taking advantage of other areas of research**

Freeman (2007) suggests that to help increase the knowledge of institutions, other areas of research should be explored:

1. Experimental economics: experiments that reflected real world institutions, such as group decisions, would provide researchers with realistic priors about what to expect from those institutions outside the laboratory.
2. Game theory and implementation Theory: theories of behavior under different bargaining rules could direct attention at institutional reforms that would increase the potential for Coase-theorem bargains.
3. Artificial agent simulations: analysts would "grow" artificial economies and then simulate the effects of institutional changes on economic outcomes.

## **III. Shifting From Job to Worker Protection**

This section of the paper reviews recent research on how to shift from job to worker protection, by promoting change from the current protection mechanisms based on employment protection legislation towards income support mechanisms. It is believed that this new approach can provide adequate protection against the risk of unemployment

while creating fewer distortions in the economic activity. Some research has been trying to deal with specific issues such as unemployment insurance, and individual savings accounts.

This section addresses the following questions: Are there ways to improve income support schemes for the unemployed so as to shift protection from jobs to workers affected by layoffs? Are the examples of individual savings account adopted by some LAC countries viable options for other countries?

### **Passive Labor Market Programs**

There is a range of passive instruments sponsored by governments to help workers deal with the risk of involuntary job loss, the short-term loss associated with not receiving labor income during unemployment, and the possible long-run losses associated with accepting jobs that pay less than previous ones. Most prominent are severance pay (covered in previous section), and various systems for providing payments contingent on the state of being unemployed (which includes being available and searching for work). These include unemployment insurance (IU), individual savings accounts (ISA), and unemployment assistance (UA). The main differences among these instruments are related to eligibility, funding, and risk-pooling (for details on the differences among programs, see De Ferranti et al, 2000).

It is important to carefully evaluate the strengths and weaknesses of all options for providing income support to unemployed workers. Vodopivec (2002) identifies two main classes of performance criteria: distributive effects and efficiency effects. Distributive effects include coverage, adequacy of support, and income distribution. In terms of efficiency effects, the following are included: job-search efforts, post-unemployment wages, equilibrium labor market outcomes (employment, unemployment, labor force participation), restructuring and overall economic adjustment, labor supply of other family members, taking jobs in regular versus informal sector, and aggregate output and growth.<sup>9</sup>

Most developing countries have weak social security systems. *De facto* they tend to provide protection to formal jobs rather than workers. The main form of income support for formal workers is severance pay that suffers from lack of pooling of the unemployment risk and lack of reliability since it depends on the financial conditions of the firm. The existence of unemployment insurance, on the other hand, depends on the level of development and region. Virtually all developed countries, most transition countries in Eastern Europe and some Latin American countries have UI plans. Elsewhere, UI systems are not common. Unemployment assistance is prevalent in many European countries as a second-tier for UI exhaustees; however, it is a primary income replacement program only in a few countries, such as Australia. Given that UA does not seem to be viable in developing countries, its analysis is not included in this review.<sup>10</sup>

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<sup>9</sup> De Ferranti et al (2000) presents a similar, though less detailed, framework to assess options in Latin America (coverage, cost, incentives, insurance aspects).

<sup>10</sup> Providing an income-support program which does not exclude those who have not paid program contributions would be fiscally unsustainable for countries with large proportions of underemployment or

Finally, individual savings accounts exist in some Latin American countries (Brazil, Colombia) where they have tended to evolve as funded severance pay systems (De Ferranti et al, 2000).

### **Severance Pay**

The discussion on EPL presented in the first section of this paper, suggest the need to move away from these job protection mechanisms, particularly, in countries in which most of the protection takes the form of lengthy and difficult administrative procedures.

### **Unemployment Insurance**

One of the alternatives to severance pay systems is unemployment insurance (UI), and much of the literature on income protection is centered around moving into this type of income protection mechanism. Thanks to its wide risk-pooling, UI enables a high degree of consumption smoothing, thus offering a high degree of protection for formal sector workers. By providing additional resources, UI can contribute to shorten unemployment spells by enabling a more effective job search; however, direct evidence on the intensity of job search by benefit claimants is scarce and inconclusive (Vodopivec, 2004) . The costs of the system are covered either through general taxation, through social security payments, or both. The latter way of financing is the most common as the government generally provides the surplus financing when the system does not finance itself (Pages et al., 2007). Therefore, UI can act as an automatic macroeconomic stabilizer.<sup>11</sup>

However, UI typically brings various negative effects on efficiency that most likely outweigh its positive efficiency effects. In general, key conditions for UI to function properly are not present in developing countries: large variations in the probability of risk; extremely asymmetric information, with limited and costly opportunities for the insurer to obtain relevant information about individuals, which creates strong moral hazard and adverse selection problems; and high covariant risk (Vodopivec, 2006). Furthermore, by affecting job-search intensity and wage bargaining, benefits are found to prolong unemployment spells and increase equilibrium unemployment. (Van Ours and Vodopivec, 2006, below).<sup>12</sup> In addition, by interacting with shocks, benefits contribute to persistence of unemployment. Some other effects –on employment, labor force participation, and output and growth- are less clear and likely insignificant. Moreover, actual coverage of UI is low and, as in all systems which benefit mostly registered

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unemployment. Applicability of UA programs seems to be limited to countries with relatively developed administrative capacity and a small informal sector (Vodopivec, 2006).

<sup>11</sup> Pages et al (2007), however, suggest that in Argentina, the government controls spending through decreasing benefits in times of recession.

<sup>12</sup> However, Commander and Heitmueller (2007), using both aggregate and individual level data for a number of transition countries, find little evidence that institutions, particularly unemployment benefits, can explain differences in aggregate unemployment rates or flows. The change in aggregate unemployment rates and the increased share of the long-term unemployed with limited benefit entitlements suggests that the overall link between institutions and unemployment rates has been weaker than in Western Europe and other OECD countries.

workers, beneficiaries are disproportionately from the richer segment of the population (Vodopivec, 2004b).

In the following paragraphs, I analyze four papers on unemployment insurance in more detail (Van Ours and Vodopivec, 2006; Boeri and Macis, 2007; Boeri et al, 2003; and Vodopivec, 2004a).

Van Ours and Vodopivec (2006) investigate the disincentive effects of shortening the potential duration of UI benefits, by exploiting changes in Slovenia's UI system. This "natural experiment" involved substantial reductions in the potential duration of benefits for four groups of workers and no change in benefits for the control group. The authors find that the change in potential duration of UI benefits had a positive effect on the exit rate from unemployment for unemployment spells of various lengths and for several categories of unemployed workers. In a follow up paper, Van Ours and Vodopivec (2007) use difference in difference estimation to show that the reduction on potential duration of UI was not accompanied by lower quality of post-unemployment jobs in terms of stability, type of appointment, and precariousness.

Boeri and Macis (2007) make use of yearly panel data from a large number of countries for the period 1980-2001 to test whether unemployment insurance has allowed for more and "better" structural change to take place (measured as job creation, job destruction, job turnover, and sector reallocation). The authors focus on policy "experiments", given the introduction from scratch of UI in many countries. Given the longitudinal nature of the data, the authors can control for selection, endogeneity and omitted variables issues. The introduction of UI seems to be associated with higher rates of turnover and labor reallocation across sectors.

Boeri et al (2003) document the presence of a trade-off between unemployment benefits (UB) and employment protection legislation (EPL) in the provision of insurance against labor market risk. The mix of quantity restrictions and price regulations adopted by the various countries would seem to correspond to a stable politico-economic equilibrium. The authors develop a theoretical model in which voters are required to cast a ballot over the strictness of EPL and over the generosity of UB. Agents are heterogeneous along two dimensions: employment status - there are insiders and outsiders - and skills - low and high skills. Boeri et al show that if there exists a majority of low-skill insiders, the voting game has a politico-economic equilibrium with low UB and high EPL; otherwise, the equilibrium features high UB and low EPL. Another testable implication of the model is that a larger share of elderly workers increases the demand for EPL. The authors show that in the case of Italy, panel data on institutions and on the age and educational structures of the populations are broadly in line with their results.

Vodopivec (2004a) describes the case of Sri Lanka, where non-transparent and costly severance pay regulations discourage employment, hinder efficient reallocation of labor and push workers to the informal sector. Political considerations made the reform of the current system contingent on the introduction of an unemployment insurance system. Therefore, the author analyzes how to adapt UI to Sri Lanka's circumstances, to

minimize its adverse employment effects and administrative costs and to ensure affordability. Recommendations are to eliminate the conditions for continuing benefit eligibility, piggybacking on its existing channels and administrative capacity to administer benefit claims, and paying the UI benefit as a lump sum deposit to the beneficiary's special savings account. Given that most of the unemployed belong to the non-poor population, financing by employers' and workers' contributions is also recommended.

Ultimately, the performance of UI depends on the design of the program –and also on country-specific conditions. Its smooth and successful performance relies on strong administrative capacity to monitor program eligibility, an informal sector of modest size, a low incidence of underemployment, and low political risk. These conditions are typically lacking in developing and transition countries. Particularly in developing countries, its existence may also reduce incentives for self-protection and break down the habit of self-help within local communities (Attanasio and Rios-Rull, 2000)

A way of improving the effectiveness and targeting of income support is to link it to active labor market programs (see section below on ALMPs). This has several advantages: only workers seeking a job are willing and able to participate in ALMPs and as such, the link with them becomes a targeting mechanism. However, in developing countries two constraints arise: administrative capacity and quality of service (see Pages et al. 2007 for LAC; Hahn and Vodopivec, 2007 for China).

Introducing UI may be viewed as a possible longer-term goal for many developing countries (Vodopivec, 2006). In protecting workers from the risk of unemployment, countries can also consider other policies or programs. For instance, by avoiding or reducing the moral hazard problems inherent in UI, programs such as UI Savings Accounts might be promising options for developing countries where initial conditions seem to be suitable (see sub-section on UISAs below). East Asia and Latin America could be candidates, as the existence of pay programs may ease the transition.

### **Unemployment Individual Savings Accounts**

To tackle the shortcomings of severance payments, some countries have introduced a form of pre-funding of payments, UISAs, to bring them more in line with international experience. One of the most important advantages of this system is that it reduces the moral hazard inherent in traditional unemployment insurance, by internalizing the costs of unemployment insurance.

Individual unemployment savings accounts (UISA) require employers (and sometimes employees; i.e. Chile) to deposit a monthly contribution into individual workers' accounts. Upon separation –and in most countries, regardless of the reason for separation– workers can make withdrawals from their savings accounts as they wish. Given that funds are owned by the workers, UISA does not require identifying the unemployment status and does not affect search intensity, avoiding moral hazard issues. Therefore, administration costs and requirements are reduced considerably. Furthermore, UISA has the potential to attract informal sector workers.

However, there are a few disadvantages to the implementation of this system. The volatility of returns and the knowledge that the government will compensate for negative balances sometimes motivates workers to withdraw their funds in advance, through collision with firms. Furthermore, in many instances, funds are withdrawn for reasons other than unemployment. These features effectively make these funds part of the workers' wage and undermine the primary role of the scheme. This is why in LAC, Colombia, Panama, Peru and Venezuela have adopted UISA, in addition to mandatory severance payments.

Given that individual savings accounts are self-insurance mechanisms, they do not pool risks across workers; rather they smooth an individual's income over his/her lifetime (Blanchard 2005). Chile and Ecuador have combined those with their unemployment insurance system (Pages et al., 2007). This dual system combines the benefits of both types of schemes; unemployment insurance can take over in the case where workers who face repeated unemployment spells have run down their UISA funds and are left without income support.

Acevedo et al (2006) describe the unemployment insurance scheme in Chile, which, the authors argue, could be suitable to the reality of many developing countries. Its design consists of savings accounts and a redistributive pillar. This combination reduces the overuse and abuse problems associated with traditional UI and thus improves the focus and efficiency of the overall system. An important innovation has to do with the administration of the individual accounts and Common Fund; the system auctions the market to a single fund administrator for 10 years to avoid impossibly high administration fees. However, the short time of implementation and the lack of pre-established control and treatment groups reduce the scope for evaluation of the program.

The UISA program has been largely untested; therefore, there is a need for further research in terms of its effects and design parameters (Vodopivec, 2004b). The only empirical study of UISA is Kugler (2005) on the effects of the 1990 conversion of Colombia's severance pay program into funded severance pay with individual accounts. The author uses data from the National Household Surveys for 1988-1996 and looks at wages of formal and informal workers (those covered and not covered by severance payments) who were hired before and after 1990. Kugler finds that the conversion increased both hiring and firing, and that it shifted between 60 to 80 percent of the cost of protection onto workers, in the form of lower wages.

In the absence of other suitable real-world practices, Vodopivec and Rejec (2002) simulate the working of a UISA program for a transition country (Estonia). The protection provided by unemployment benefits is the same as under their current program, but it is financed through UISAs, to which individuals are required to contribute four percent of their wages. The authors find that 8-27 percent of workers end their active lives with negative cumulative balance on their UISA account, and 35-54 percent of workers experience negative balances on their UISA account at least once during their

working lives (the lower numbers refer to the low-unemployment and the higher to the high-unemployment scenarios).

This accounting exercise is very insightful; however, it is also important to evaluate the welfare implications of these systems. Hopenhayn and Hatchondo (2002) use data from Estonia (as Vodopivec and Rejec, 2002) and analyze the welfare consequences of alternative designs of UISAs, taking into account that costs and benefits depend on the specified rules and the behavioral response of the workers involved. Their specification helps eliminate Pareto dominated specifications, and provides a better picture of the trade-offs between governments' cost and workers' welfare. They find that a properly designed system can be a good substitute for full-insurance and that for moderate degrees of risk aversion, a cost effective system can be obtained with relatively high levels of worker contributions to their accounts and moderate replacement rates.

In conclusion, the overall effect of UISAs depends on a vast array of country characteristics and program parameters. The success of these programs is greatly affected by its implementation, existing labor regulation, the extent of the informal economy, and the scope for collusive behavior (Ferrer and Riddell, 2004). This calls for a more extensive research effort in this area.

## **New Directions**

### **Further testing of existing systems, specially UISAs**

In developing countries where informal sectors are large, questions are raised about all unemployment benefit systems (including UI and UISAs) in terms of covering the labor force and identifying and verifying benefit eligibility. The fact that the above programs do not cover informal workers also means that they in fact may not include poorer sections of the population. In a context of low social protection, individuals who cannot afford to remain unemployed and are most likely to suffer poverty in the case of unemployment, will likely end up working in the informal sector. These individuals are the ones who then face higher probabilities of becoming unemployed and are not protected by social protection systems (Pages et al, 2007).<sup>13</sup> The question whether there should be a minimum form of insurance also to those outside the formal sector and of what kind, remains open.

### **“The Optimal Design”**

Unemployment insurance and employment protection are typically discussed and studied in isolation. Much of the policy discussion of labor market institutions has been at the margin, with proposals to tighten unemployment benefits, reduce employment protection, and so on. There has been little discussion however of what the ultimate goal and architecture should be.

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<sup>13</sup> As described in the last section of this paper, a significant portion of informal workers may have freely chosen to belong to the informal sector in order to avoid high taxes, cumbersome regulations and lack of prospects.

An exception to this is Blanchard and Tirole (2007). The authors make “a first pass” at this and focus on characterizing this ultimate goal, the optimal architecture of labor market institutions. In their paper, they draw out the implications for current policy debates and reform proposals, from the financing of unemployment insurance, to the respective roles of severance payments and unemployment benefits. They start the analysis with a simple benchmark, with risk averse workers, risk neutral firms and random shocks to productivity. In this benchmark, they show that optimality requires both unemployment insurance and employment protection--in the form of layoff taxes; it also requires that layoff taxes be equal to unemployment benefits. The authors then explore the implications of four broad categories of deviations: limits on insurance, limits on layoff taxes, ex-post wage bargaining, and heterogeneity of firms or workers, and show how the architecture must be modified in each case. The scope for insurance may be more limited than in the benchmark; so may the scope for employment protection. The general principle remains however, namely the need to look at unemployment insurance and employment protection together, rather than in isolation.

#### **IV. Effects of Active Labor Market Policies**

The income support policies described in the previous section tend to work better when complemented with effective active labor market policies (ALMPs from now on). ALMPs include programs that enhance labor supply (through training); increase labor demand (through public works or subsidies); and improve the functioning of the labor market (through employment services). This section of the paper analyzes the most recent literature on the effects of ALMPs in developing countries. Even though extensive in developed countries (OECD countries especially), empirical or theoretical research on the effects of ALMPs is still sparse in developing countries (Auer et al, 2005).

This review will focus mainly on the effects of training. Generally, training and re-training programs account for a significant share of expenditures in ALMPs, ranging between 40% to 60% in most countries (Betcherman et al, 2004). To the extent that some training programs are specifically targeted to the unemployed, and provide an income allowance to the trainees, they can be viewed as a form of income support.

Training and retraining for the unemployed aim to provide job seekers with marketable skills that potentially increase their chances of getting a job as well as their earning capacity. Generally, the main types of disadvantaged job seekers that training programs target are the following: a) the long-term unemployed, under-employed or those with repeated spells of unemployment (individuals who experience difficulties in securing gainful employment); b) the workers made redundant in downsizing sectors (mass layoffs); and c) the disadvantaged youth entering the labor market (Betcherman et al, 2004).

The most important questions this literature has been trying to answer are: What are the impacts of program participation on the future labor market outcomes of participants?, and What is the cost-effectiveness of programs? Unfortunately, most evaluations focus on the first question only; very few adequately address the cost question. In most ALMP

evaluations, the key impact indicators are post-program employment rates and earnings. However, some evaluations also look at other social indicators such as criminal rates, teenage pregnancy, and receipt of government benefits.

### **The experience in Latin America and the Caribbean**

Special efforts to evaluate training programs have been done in Latin America and the Caribbean (Ibarraran and Rosas, 2006; Betcherman et al, 2007 and Puerto, 2007 for youth programs in particular)

Ibarraran and Rosas (2006) produced an extensive review of job training programs in LAC, financed by the Inter-American Development Bank. This review includes scientific impact assessments in Argentina, Chile, Dominican Republic, Mexico, Panama and Peru, and thorough institutional assessments in Paraguay and Colombia. Employment effects range from null to ten percentage points, on average slightly better than those reported in the literature for OECD countries. The impacts are not homogeneous and vary by age, gender and region; in general women and the youngest exhibit higher employment rates. Conditional on employment, the authors find positive impacts in terms of the quality of jobs trainees get. They provide evidence on the cost effectiveness of the programs, by attempting to measure whether the direct monetary costs are recovered. The authors conclude that direct costs are recovered in a relatively short period in Dominican Republic and Panama (where the best data on costs and benefits is available). Furthermore, programs in Peru, Chile, and Argentina show positive rates of return under a wide set of assumptions.

Puerto (2007) presents a review of youth programs in LAC. These have focused on motivating youth and fostering on-the-job training of young school dropouts and other vulnerable youths. Mainly, programs that combine training with other services such as job search assistance (Jovenes program) have been developed since the 1990s in the LAC region, and they have been rigorously evaluated in countries such as Argentina, Chile, Peru, and Dominican Republic, among others. Net impact evaluations have shown that these programs improve employment and earnings prospects of participants. The quality of the training seems to make a significant difference in the outcomes of the participants. Youth attending high quality courses in Peru had greater subsequent earnings (32 percent higher) 18 months after the program than those attending low quality courses (Chong and Galdo, 2006). The favorable assessments of these programs in Latin America raise the possibility that the disappointing track record of youth training in industrialized countries may not apply in developing countries. However, one should keep in mind that most evaluations only analyze the short-term impact of the program (maximum of 18 months after program exit), and they do not include an assessment of cost-effectiveness, even though costs per participant tend to be quite high.

### **Training tends to have a positive impact on productivity**

The available rigorous empirical evaluations of training programs find that training increases firm-level productivity in Mexico (Tan and Lopez Acevedo, 2003) and in the Caribbean (McArdle, 2006).

Tan and Lopez Acevedo (2003) use panel firm-level data to study in-firm training in Mexican manufacturing in the 1990s, its determinants, and effects on productivity and wages. The authors find that over this decade, not only did the incidence of employer provided training become more widespread among manufacturing enterprises, but a higher proportion of the workforce received training within firms. Technological change, as proxied by R&D, was an important driver of these training trends. The authors analyze the productivity and wage effects of training in three ways: (1) estimating the wage and productivity effects of training treated as endogenous; (2) using training event histories to examine the impacts of changing training status over time; and (3) looking at how training (and technology) practices changed over the 1990s. These cross-sectional and panel analyses show that training had large and statistically significant wage and productivity outcomes, that joint training and R&D yielded larger returns than investments in just one or the other, and that both training and technology investments enabled firms to improve their relative position in the wage and productivity distribution between 1993 and 1999.

Mc Ardle (2006) analyzes firm and worker training in the Caribbean and concludes that a significant amount of training is taking place in the region, both in the firms and through the public sector financed programs. Training in firms is conducted to improve productivity; however, this is not the central policy objective for public sector providers. According to the author, evidence suggests that government-training programs as compensatory devices for deficiencies in the education system do not work; therefore, emphasis should be on actual training on productivity of firms. Since training in firms is different from institutional training and relates more closely to productivity, policies about financing training can be modified to improve cost-sharing, as in the case of Barbados.

**The efficacy of training differs by provider and modality.**

The majority of firms in the LAC region receive training from private providers. Naturally, there exists a large variation within the region. In Chile and Uruguay, employers rely mostly on private external training sources, whereas firms in other countries, such as Belize, Ecuador, Nicaragua, and Trinidad and Tobago involve public training suppliers to a larger extent (Cintefor, 2001, De Ferranti et al 2003).

Studies of programs in Mexico find that on the job training is more effective than classroom training (World Bank, 2004; Pages et al, 2007 for a review). Further, private training centers seem to outperform public training centers in the Caribbean, Colombia and Brazil (Marquez, 2002; Barrera and Higuera, 2004)

Marquez (2002) discusses the institutional structure of training systems in Latin America and its adequacy to coordinate the acquisition and use of skills by the workforce. In order to examine the performance of these training systems, the author presents a number of impact evaluations in the region and concludes that they have had little impact on wages and on employability for most groups of the population, with the exception of adult

women. Marquez concludes that private training providers have higher impact than public ones.

Barrera and Higuera (2004) use data from the Social Household Survey and the Firms' Perception Survey in Colombia to assess both the characteristics of the trainees and of the firms demanding and/or providing training. The authors find that larger firms tend to have the financial resources to provide training. Moreover, the capital intensity of a firm is positively associated with the demand for training, possibly indicating a complementarity between human and physical capital. On the household analysis, they find that training serves both as a substitute for formal education and to improve job conditions. The majority of the firms train their personnel at the workplace, rather than at the SENA (Servicio Nacional de Aprendizaje) or other private institutes; and this trend increased significantly between 1997 and 2002.

The enforcement of quality and monitoring of relevant training, however, remains with the public sector. Such control from the authorities helps workers and employers choose among providers through transparent information on the value of the programs and provides a benchmark that new providers are expected to reach (Pages et al. 2007)

### **Randomized Evaluations - LAC**

Randomized evaluations are not easy to carry out; they are expensive and often bring up political economy issues. This is why all the studies cited in this section have been based on quasi-experimental methods. In LAC, only Card et al (2007), and Attanasio et al (2007) have performed randomized evaluations of training. Their work is described below.

Card et al (2007) present the results from the first impact evaluation based on an experimental design for a job training program in Latin America. Between 2001 and 2005 the government of the Dominican Republic implemented a job training program for low income youth population in urban areas. The courses consisted of classroom training followed by an internship in a private sector firm. The eligible population was randomly selected, and information was gathered 10-14 months after graduation for both trainees and members of the control group. While most of the previous evaluations of similar programs, based on a quasi-experimental design, report positive impacts of training on the probability of having a job and on labor earnings, this evaluation does not find a significant impact on the likelihood of having a job. However, the authors find an impact on wages, of 10% on average, and also for the coverage of health insurance, conditional on employment. However, both results are only marginally significant. The results suggest that there is significant heterogeneity of impacts, with male teens being the group that benefits from the program; impacts were not found for women or for young adults. The authors suggest that the costs of the program are recovered in two years if the impact on wages is maintained over time.

Attanasio, Kugler and Meghir (2007) represent the second of two randomized trials conducted in developing countries. The authors evaluate the impact and cost-effectiveness of a randomized training program introduced in Colombia in 2005 on the

labor market outcomes of trainees. Contrary to Card et al (2007)'s findings in Dominican Republic, Attanasio, Kugler and Meghir find that raining had large, widespread effects on women, but fewer and less pronounced effects on men. The authors find that women have higher probability of being employed, of having a formal job and of having a job with a written contract. Women also tend to earn higher wages and profits. Their cost-benefit analysis suggests that the program generates a large net gain, especially for women. Lower bound estimates of the internal rates of return are around 13.5% for women and 4.5% for men.

### **The Experience in Other Regions**

Betcherman et al (2004) review the overall experience in developing and transition countries. In particular, the authors pay attention to the quality of available impact evaluations and include only the “rigorous” ones (those performed using a control group).<sup>14</sup> They examine 49 evaluations of training programs primarily aimed at the unemployed. Most of these programs have the objective of skills development through classroom and/or on-the-job training, which can include gaining work experience. Some courses are not vocational in nature but are aimed at building self-confidence, basic job readiness, and enhancing knowledge of the job market. Of the 49 evaluations (19 from the study by Dar and Tzannatos in 1999 plus 30 new ones), only 14 are not from industrialized countries (10 from transition countries and four from developing countries). These programs often do have a positive impact on the future employment of participants – this was the case in 11 of the 14 studies where an effect could be determined. The impact on future earnings was much less favorable with only 3 of 9 studies where a clear effect could be determined showing a positive result.<sup>15</sup>

Betcherman et al (2007) present a global inventory of interventions to support young workers. The authors find that the most popular type of intervention in all regions is skills training for young people. One of the main objectives of the assessment is to find out “what works”; therefore, special attention is given to the quality of the available evidence on impact and cost-effectiveness of the evaluations. Regions such as Middle East and North Africa, South and East Asia and the Pacific, and Sub-Saharan Africa have performed almost no impact evaluations of their youth training programs. The region of Europe and Central Asia has some share of impact evaluations; however, most of those impact evaluations occurred in the 1990s through programs financed/evaluated by the World Bank. Overall, the authors find that only 20% and 7% of the training programs for young people had had, respectively, net impact evaluations and net impact with cost analysis evaluations. Among those training programs with net impact evaluations, about 60 percent were found to have positive effects on the employment and/or earnings of the participants; and when cost effectiveness enters into the calculations, only one-third of all programs seem successful.

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<sup>14</sup> The dominant methodological design for the training evaluations is quasi-experimental, with most applying matching techniques to analyze employment-related outcomes.

<sup>15</sup> In the case of transition countries, all programs had positive employment impacts although in three of the five programs where earnings effects could be determined, they were neutral or negative. Of the four developing country evaluations, only one showed any gains in terms of employment or earnings.

Reviews of impact evaluations by the World Bank, OECD, and others have concluded that policy makers must be cautious regarding what training programs can realistically achieve (Martin and Grubb, 2001; Auer et al, 2005; Kluve, 2006) . The evidence suggests that these programs are not the panacea for unemployment, but some types of interventions, properly designed, can be effective for some workers.

### **Future Work**

While knowledge of the impacts of ALMPs continues to grow in the context of developing and transition countries, there is still much more to learn. Further areas for future research are the following:

#### **General Equilibrium Effects**

Many studies do not estimate the deadweight, substitution, and displacement effects and thus cannot account for the general equilibrium impacts of programs. Even in the case of Europe, Kluve et al (2006) point out that the vast majority of evaluation studies continues to focus on effectiveness at the microeconomic level. A more complete assessment of ALMP effectiveness requires an investigation of general-equilibrium effects.

#### **ALMPs as Insurance Mechanisms?**

Attanasio et al (2007) represent one of the few papers in which, among other issues, the role of ALMPs as insurance mechanisms is studied. The authors analyze the Colombian workfare program “Empleo en Accion” to shed light on various issues: a) whether or not the program crowds out labor effort by members of the household different from the participant, b) whether or not there are gains from participating in the program six months after the program has finished, and c) whether or not there are gains in household consumption, so as to assess the role of the program as an insurance mechanism. The authors find that the program positively influenced number of hours worked and both individual and household labor income. Household income increased more than individual’s income, indicating that the program had some positive externality in the other members of the household.

### **V. Causes and Consequences of Formality and Informality in the Labor Market**

This section of the review is not concerned with labor policies per se, but with the part of the literature that tries to characterize the working of the labor market. Different papers have attempted to model the relationship between the formal and informal sectors, with the ultimate objective of explaining the drivers of labor market outcomes and to identify the appropriate policy responses.

The concept of informal sector has recently been receiving widespread and growing attention; as Blunch et al (2001) put it, it might be fair to talk about a re-emergence of the concept in the debate related to social protection and poverty reduction.

The informal sector merits treatment first not only because it ostensibly consists of the largest mass of unprotected, but also because recent evolution in thinking has implications for the design of social protection systems (Canagarajah and Sethuraman, 2001). The ultimate effect of labor market institutions depend on the functioning of the labor market. Since the empirical evidence on the efficiency (and equity) of labor market institutions has provided mixed results, it is important to develop an economic model to help us think about policy options.

### **What is the informal sector? And what is its actual size?**

Given the prominence of the formal-informal dichotomy in the development discourse, one would expect to find a clear definition of the concepts, that is consistently applied across the theoretical, empirical, and policy analysis. However, this is definitely not the case.

Sindzingre (2007) suggests that definitional problems also stem from the plurality of methodologies aimed at quantifying informal activities. There is no unique statistical aggregate that corresponds to the concept of informal economy; statistical certainty is limited to the sub-sectors, such as the types of enterprises or employment that fulfill certain criteria of size, organization, payment of taxes, etc. The quantification of the concept is deduced through various tools that produce large approximations: national accounts, macro-models, and household and enterprise surveys. There is a discrepancy between the informal sector as an artifact of national accounts with specific criteria, which is coherent with other macroeconomic aggregates and allows for international comparisons, and the plurality of meanings at the microeconomic level.

The concept of the informal labor market relates to the notion of non-participation in tax systems, in social security systems, and meeting regulatory requirements. This non participation can be the result of legitimate exclusion (e.g. by size of the firm) or from non-compliance. According to Betcherman (2002), this informal sector is typically seen to include three types of people: a) microentrepreneurs, b) self-employed, and c) employees operating in informal sector firms or in informal employment arrangements within registered firms.

There is an array of dimensions of informality (Blunch et al, 2001; Jutting et al, 2007; Chen, 2007). In the literature, one can find definitions linked to: contribution to employment, contribution to output, types of activities and enterprises, type of employment, skills and human capital, earnings, access to capital and credit, duality within the informal sector, legality, poverty, female workers, etc.

Measuring informal employment is difficult, due to different definitions and data limitations. As a consequence, it is often not possible to get a good idea on the size and the growth of the informal sector. Many establishment surveys often overlook small informal sector operators leading to a downward bias in the measurement of the sector. Furthermore, more reliable indicators are often available only on the urban informal sector; the rural informal sector is more difficult to capture.

Henley et al (2006) is a good example of how different definitions of informality could lead to very different measurements. The authors use data from Brazil for the period 1992 to 2001, to compare three definitions of informality based on employment contract registration, social security protection, and the characteristics of the employer and employment. They find that around 64 percent of the economically active population was informal according to at least one definition, while only 40 percent was informal according to all three. There seems to be closer correspondence between informality defined by not having a registered employment contract and not contributing to a social security scheme. However, a substantial number of workers is classified as informal according to the nature of the employment/employer, even when they might contribute to social security and have registered contracts.

Likewise, Sindzingre (2007) exemplifies how the plurality of measurement methods leads to large variations in estimates as well as figures that are both high and highly aggregated. The informal economy, as unreported income from the production of legal goods and services, in 2000 would have represented 41 percent of the gross national income in developing countries. However, informal employment would have represented between one-half to three-quarters of non-agricultural employment in development countries. The figures would be higher if informal employment in agriculture is included.

#### Regional Evidence on Informal Employment

According to Charmes (2000), available evidence suggests that the informal sector is larger in sub-Saharan Africa than in other parts of the developing world, generally accounting for 60-80 percent of total non-agricultural employment. In Asia, the informal sectors in the South and Southeast are also considered equally large. In comparison, the informal sectors in Latin America and North Africa appear to be somewhat smaller, generally between 30 and 60 percent of non-agricultural employment.<sup>16</sup> The informal sector in Eastern Europe and Central Asia accounts for only about 5-20 percent of non-agricultural employment; however, there seems to be an upward trend given weak employment creation in its nascent private sector (World Bank Reports on Albania and Serbia)

#### Evidence on Output of the Informal Sector

For obvious reasons, empirical evidence on the contribution of the informal sector to GDP is scarce; however, where estimated, the figures suggest that the informal sector contributes significantly to GDP. Charmes (2000) determines that in sub-Saharan Africa (excluding South Africa), the informal sector contributes between 20-50 percent of non-agricultural GDP. His estimates for few countries in South and Southeast Asia, and Latin America fall mostly within the same range.

In the end, as Guha-Khasnobis et al (2007) suggest, the formal and informal sectors are better thought as metaphors of mental pictures of whatever the user has in mind at a

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<sup>16</sup> Charmes regards the informal sector as a group of production units which form a part, within the System of National Accounts (SNA), of the household sector as unincorporated enterprises owned by households.

particular time. Among the mass of alternative uses of the terms and characterizations, they highlight two strands: one is the notion of informal as being outside the reach of different levels and mechanisms of official governance (unregistered firms, illegal enterprises, etc) and the second has to do with the nature of the organization or the degree of structuring (informal is identified with “lacking structure”, “unorganized”, “unpredictable”). These two dimensions do interact and therefore, both are needed to adequately characterize activities and analyze interventions. The policy issue would then be about the “right” reach of the government, taking into account the objectives, the implementation of the intervention, as well as the response of the structuring of activities to it.

Guha-Khasnobis et al conclude that informality should not be associated directly with “chaotic” or “unstructured”, as this association has led to policy disasters. However, the authors suggest that the informality-formality terminology can fruitfully characterize a continuum of the reach of official intervention in different economic activities.

This section seems to show that the dichotomy informal-formal might give rise to as many problems as the solutions it is aiming to provide. The dichotomy gathers empirical facts that are heterogeneous. In the next section, the focus is on the different theoretical approaches used to model informality.

### **How to model it?**

The traditional development perspective has been a dual labor market view of the informal sector as the disadvantaged low-paying and unprotected sector where workers go if they are unable to find work in the superior, formal sector. This undoubtedly applies to some extent, as informal employment and poverty seem to be strongly correlated. Examples are India, Bolivia, Brazil, Panama (Blunch et al, 2001) and LAC (Gasparini and Tornarolli, 2007; Perry et al. 2007).

However, the traditional view overstates the dualism. There are many gray areas between a purely informal and purely formal employment arrangement and linkages between the two sectors. Fields (1990) argues that the informal sector labor markets can be modeled in several alternative ways. One is as a free-entry sector, to which workers go when there is no other way to make a living. A second model of the informal sector is that it is a desirable sector, to which workers aspire. A third model combines the first two and allows for duality within the informal sector, which then consists both of an easy-entry component and an upper-tier component. Thus, the informal sector would have *its own internal duality*.<sup>17</sup>

Especially strong is the evidence of voluntary self-employment in LAC. Maloney (2003, 2004), Gasparini and Tornarolli (2007), Arias and Khamis (2007), Packard (2007), among others, support the emerging view that an important part of informality may be “voluntary”, and therefore, traditional focus on segmentation in the Harris-Todaro

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<sup>17</sup> Another way of modeling the duality of the informal sector is to specify two informal sectors that are *geographically* distinct (Fields, 2005).

tradition might be overstated. The idea is that many workers, firms and families choose their optimal level of engagement with the institutions of the state, depending on their valuation of the state's enforcement effort and capability and of the net benefits associated with formality (Perry et al, 2007).

Maloney (2004) revisits the concept of informality for the case of Latin America. The author uses panel data from Mexico, Argentina and Brazil to follow workers as they move across sectors. The bulk of the analysis focuses on males who are self-employed or owners of unregistered microenterprises with less than five employees, the « informal self-employed ». Maloney argues that this informal sector resembles the voluntary entrepreneurial small firm sector found in advanced countries, and not a residual comprised of workers rationed out of formal jobs. He also emphasizes that being voluntarily informal does not imply not living in poverty, but it often reflects the optimal decision given their preferences, their constraints, and the level of formal sector productivity in the country.

According to Gasparini and Tornarolli (2007), the cross-section evidence in LAC seems to be consistent with the idea of voluntary selfemployment. Unskilled young people enter the labor market as wage earners, accumulate knowledge, capital and contacts, and then set up their own informal businesses. However, on average, being informal implies lower wages, even when controlling for observable factors. Informal male workers without a secondary education on average earn 30% less than their formal counterparts.

Arias and Khamis (2007) use recently developed econometric models of essential heterogeneity to analyze the relevance of labor market comparative advantage and segmentation in the participation and earnings performance of workers in formal and informal jobs in Argentina. The authors find no significant differences between the earnings of formal salaried workers (those salaried workers with social security contribution) and the self-employed (independent workers with no employees and micro-entrepreneurs of small firms with 1 to 5 employees), once they account for positive selection bias into formal salaried work based on tastes. According to the authors, this is consistent with compensating differentials and comparative advantage based on tastes as the main driver of choice between salaried work and self-employment. On the other hand, they find a considerable negative selection bias into formal relative to informal salaried work and only modest positive sorting based on expected earnings gains. Thus, the paper supports both the “exclusion” and “voluntary” nature of informal employment.

Packard (2007) uses data for Chile (1998-1999) to estimate a model with three employment types (formal, informal and self-employment). The author finds that there are significant barriers to self employment (i.e. an endowment of physical capital) and that entrepreneurs can be pushed out of self employment during economic downturns just as others are pushed out of formal employment. However, informal employment (without a contract) seems to exhibit features of a free-entry, employment safety net depicted in the dualistic literature.

Perry et al (2007) find that in selected Latin American countries, the bulk of the self-employed in the informal sector have moved to that sector voluntarily, whereas most informal wage employees are found in the informal sector because they are excluded from formal activities.<sup>18</sup>

Gunther and Launov (2006) test this hypothesis for the case of urban Côte d'Ivoire. The authors use an econometric model which allows for a heterogeneous informal sector with unobserved individual affiliation and which takes into account selection bias induced by the employment decision of individuals. They estimate two specifications of the model: one with an homogeneous informal sector and another one with an informal sector consisting of two latent groups. Their test results for the urban labor market in Côte d'Ivoire indeed show existence of both competitive and segmented employment in the informal sector.

Bennett and Estrin (2007) use a simple two-firm, two-period theoretical model to analyze the process of entrepreneurial entry for a developing economy. The authors focus on the entry by new firms into an industry that did not previously exist in that country and their choice between formal and informal status. They analyze how informality may enable an entrepreneur to test the profitability of an industry without incurring large sunk costs, and how strategic interaction may affect such entrepreneurial decisions. They find that, under certain circumstances, the industry would not become established in absence of an informal sector.

Nopo and Valenzuela (2007) use difference-in-differences estimates and non-parametric matching to analyze the impact on income, hours devoted to work, and home responsibilities, of the switch from waged employment to entrepreneurship (self-employment and headship of micro-enterprises) for the case of Chile from 1996 to 2001. The authors find that the income gains associated with this switch are positive, statistically significant, and financially substantial. In addition, these gains are larger for women than for men.

The modern view is, then, that informal sector comprises both workers preferring formal sector employment (involuntary informal) and those preferring the qualities of unregulated entrepreneurship. The relative size of these groups varies across countries depending on overall productivity levels and labor institutions. If the micro-enterprise sector is used as a proxy for the “upper-tier”, it is generally larger in Latin America and Southeast Asia than in sub-Saharan African and South Asia (Blunch et al, 2001; Arunatilake, 2004 for the case of Sri Lanka).<sup>19</sup>

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<sup>18</sup> Perry et al (2007) argue that even among those informal wage employees, there are workers who have voluntarily chosen this option.

<sup>19</sup> The case of South Africa is puzzling as unemployment is widespread and unemployed do not seem to be entering the informal sector. Kingdon and Knight (2001) find that the unemployed do not choose to be unemployed, but various impediments to entry into the informal sector increase open unemployment. Some hypotheses mentioned by the authors are: lingering licensing controls, zoning regulations, and effective detection and prosecution of offenders used to repress informal activities; inhibition of development of entrepreneurial and social skills and of social networks caused by disempowerment of Africans under apartheid. Cichello et al (2006) also analyze perceived barriers to self-employment in Khayelitsha, a

Gasparini (2002) illustrates the use of microeconomic decomposition techniques to characterize changes in aggregate variables. In particular, the author studies the effect of changes in the employment structure on the labor informality rate for salaried workers in the greater Buenos Aires area (Argentina). To that aim it computes the difference between the informality rate at moment  $t'$  and the rate that results from combining the population at moment  $t$  with the parameters estimated at moment  $t'$  that link observable individual characteristics to the informality decision, based on a model of equalizing differences for job amenities. The article concludes that the deep change of the employment structure in Argentina during the 1980s and the 1990s has had a significant but minor effect on the labor informality rate.

Galiani and Weinschelbaum (2007) develop a theoretical model of an economy in which the sizes and wages of the formal and informal sectors are endogenously determined. This model consists of a continuum of types on both sides of the labor market (i.e., firms and workers). Firms choose whether to operate formally or informally and workers choose in what sector they work. In the equilibrium, managerial ability determines size dualism at the firm level, and human capital is the factor that determines whether workers are employed in the formal or informal sector. Their model accounts for the following stylized facts in Latin America: 1) formal wages can be higher than, equal to, or lower than informal wages, 2) small firms tend to operate informally while large firms tend to operate formally; 3) unskilled workers tend to be informal while skilled ones have formal jobs; 4) *Ceteris paribus*, secondary workers are less likely to operate formally than primary workers (The authors use data for Latin America to empirically investigate the hypothesis that secondary workers, *ceteris paribus*, are more likely to work informally if the head of household works in the formal sector and found evidence supporting this hypothesis).

There are two labor markets, one formal and the other informal, and both firms and workers act unconstrained in them. By contrast, a prominent feature of the pre-existing literature is the idea that worker's decisions play no role in determining the equilibrium of the economy. The authors show that an increase in the participation of secondary workers would tend to raise the level of informality in the economy. This effect partially accounts for the increases in informality seen in Latin America over the past two decades.

Gutierrez-Romero (2007) presents a theoretical model linking inequality and the size of the informal sector. Then she goes on to calibrate it for 99 countries and show that the size of the informal economy is affected by inequality, the registration fees, and the financial and legal environment. Therefore, business-friendly policies that reduce the cost

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township in Cape Town. The following are the main perceived hindrances: crime, risk of business failure from one unlucky month, a lack of access to start-up capital, high transport costs, and jealousy within the community individuals.

and time required to set up a business are only one way of encouraging formal sector participation.

Loayza and Rigolini (2006) study the trends and cycles of informal employment. The authors present a theoretical model in which the size of informal employment is determined by the cost to become and remain informal and the distribution of workers' skills. Specifically, the productivity differential has a worker-driven component, given by workers' individual skills, and a sector-related component, given by the relative formal-informal regulatory burden, the strength of enforcement, and the access to productive public services. The size of informal employment is then given by the proportion of workers whose skills fall below a threshold level where the worker is indifferent between the two sectors. The model derives its main results conducting comparative statics exercises on the cumulative function of the skill distribution (i.e., the relative size of informal employment) and the elasticity of this cumulative function with respect to productivity shocks (i.e., the short-run response of informal employment). The paper then uses an error-correction framework to test the model. For this purpose, it uses country-level data at annual frequency for a sample of developed and developing countries, with the share of self-employment in the labor force as the proxy for informal employment. The paper finds that, in the long run, informality is larger in countries that have lower GDP per capita and impose more costs to formal firms, in the form of more rigid business regulations, less valuable police and judicial services, and weaker monitoring of informality. In the short run, informal employment is found to be counter-cyclical for the majority of countries, with the degree of counter-cyclicity being lower in countries with larger informal employment and better police and judicial services. Moreover, informal employment follows a stable, trend-reverting process.

All the models of the informal sector, and of dual-sector economies, presented in this review have concentrated on disparities in the input markets faced by firms in the two sectors. However, there is also a literature focused on the dualism of outputs (Banerji and Jain, 2007), i.e., informal firms often produce less sophisticated substitutes for the formal sector's product. The authors present a theory of quality dualism, defined in terms of the gap between the highest quality good produced in the informal sector and the lowest quality good produced in the formal sector. In their model, firms producing in the formal and informal sectors face different factor prices, and have a relative advantage in the manufacture of different qualities. The authors examine the cyclical behavior of the respective sizes of the two sectors and conclude that the countercyclical behavior of the informal sector can be understood as a consequence of the countercyclical demand for the informal sector's relatively cheap, and relatively low quality, output. Finally, the authors emphasize that the prescriptions for reducing the informal sector may differ greatly from (and sometimes be directly contrary to) the prescriptions for reducing the degree of dualism in the economy.

### **What factors are behind its apparent growth?**

Policy-makers and economists had initially assumed that the informal sector in developing countries would diminish over time as countries became industrialized.

However, this has not happened (Blunch et al, 2001). In the case of LAC, Saavedra (2003) shows that the percentage of workers with access to health and pension benefits has diminished in most countries, the share of temporary contracts within the formal sector has increased, and turnover has generally increased. Informality has been increasing with development (Perry et al., 2007)

Betcherman (2002) presents some alternative hypotheses that have been put forward to explain these trends:

- a) The “no-growth” hypothesis: the modern industrial/formal sector has not grown fast enough to absorb the growing labor force and hence the informal sector has continued to expand.
- b) The “jobless growth” hypothesis: the technology used in the formal sector has not been conducive to the absorption of labor in the formal sector.
- c) The “growth from below” hypothesis: small and micro-enterprises themselves represent a vibrant sector and some entrepreneurs may choose to operate in this sector.
- d) The “regulatory disincentive” hypothesis: employers and, sometimes workers, choose the informal sector because it is too costly to operate in the formal sector.

Another hypothesis is on the effects of trade on the labor market. According to Gasparini (2000), the tendency towards somewhat higher informality does not seem particularly due to trade. Though the sector has absorbed some of the workers displaced by foreign competition in LAC, the author argues that the rise of informal salaried work predates liberalization by half a decade.

World Bank (2006) confirms that there has been a shift from stable formal jobs to casual and less formal jobs, including self-employment in ECA. According to this study, this trend reflects in part strict employment protection legislation in some countries and also flexibility on the part of firms and workers in coping with the situation. This explanation seems to be consistent with the “regulatory disincentive” hypothesis.

**What is the optimal degree of intervention in the labor market? Should we aim at a unique theoretical framework for middle income countries or do the different country experiences require different setups?**

According to Fields (2005), whether a policy of formal sector employment creation would be expected to have favorable labor market effects depends on which labor market model best fits a particular country’s institutional circumstances. Models used in East Africa are not expected to fit East Asia, South Africa or Latin America. The “right” model is definitely context-specific. Even though blending empirical analyses and theoretical modeling has yielded great advances, much more remains to be done.

**New Directions**

**Migration**

Migration is quite likely the most important macro and microeconomic instrument to deal with natural and man-made shocks. Migration is used across the full scale of social risk management strategies and includes preventive, mitigating and coping actions. Yet the impact of migration on labor markets, employment, and poverty reduction is little researched and understood.

### **Role of the Government**

Reducing the government-induced distortions between formal and informal employment (universal non-contributory SS, reduction in the tax rates at the bottom of the wage scale).

### **Empirical/data issues**

1. There is concern about lack of cross country comparability of labor market indicators.
2. New modules in household surveys: There is a need for a generalized effort toward a better and more homogeneous coverage of social protection issues in household surveys. HDNSP's Informality Project under TFESSD has produced a sample module on informality which has been adapted and implemented to Bulgaria and Tajikistan household surveys. The LAC region has been working with focus groups to analyze the informational needs to improve the design of these modules.
3. How often and why do workers/firms cross the boundaries between formality and informality? Availability of matched employer-employee data in developing countries would help answer these kinds of questions.

## **VI. Conclusion**

In this paper, I reviewed recent advances of research on labor market institutions, behavior, and policies in developing countries and made suggestions for future research. The four areas of research I focused on were: i) theoretical and empirical implications of employment protection legislation on labor outcomes; ii) the issue of shifting from job to worker protection, namely, the different alternatives to severance pay: unemployment insurance and unemployment insurance savings accounts and their application to developing countries; iii) the effect of active labor market programs, particularly of training, on labor market outcomes, and iv) the causes and consequences of informality in the labor market, with special emphasis on the efforts to model the informal sector. The focus of the four sections was on theoretical and empirical work on published in the last 5 to 7 years, and each section concluded with new directions for future research.

Given that theoretical arguments about how EPL affects labor market outcomes are generally ambiguous, much effort has been put in determining these effects empirically. Despite measurement problems, much has been learned and some stylized facts are found in the empirical literature of developing countries. EPL has been shown to reduce turnover and to change the composition of employment; furthermore, there is a positive association between EPL and self-employment. Most recent studies using large micro-data sets and new econometric methods have found a negative relationship between EPL

and employment. Besides from improving the actual measurement of EPL and the methods by which its effects on labor market outcomes are captured, it is advisable to focus future work on improving data available, analyzing the political economy of labor market reforms, taking advantage of other areas of research, and analyzing the economic significance of EPL.

The discussion on EPL suggested the need to move away from this type of job protection mechanisms, particularly, in countries in which most of the protection takes the form of lengthy and difficult administrative procedures. Therefore, I reviewed recent research on how to shift from job to worker protection. Even though there have been speeches and public debates, there is no clear framework for analyzing this topic. I focused on research dealing with unemployment insurance and individual savings accounts in developing countries. Ultimately, the performance of both UI and UISA depends on the design of the program and on country-specific conditions. This calls for more extensive research in the area: by further testing existing systems, and by analyzing the “optimal architecture” of labor market institutions (EPL and UI analyzed jointly and not in isolation).

The income support policies described above tend to work better when complemented with effective active labor market policies. In this review, I found that the effects of training programs on labor market outcomes have been mainly analyzed in Latin America and the Caribbean. The evidence suggests that these programs are not the panacea for unemployment, but some types of interventions, properly designed, can be effective for some workers. Unfortunately, most evaluations do not address the question of the cost-effectiveness of the programs. Some areas for future research were identified: further investigation of general-equilibrium effects, as well as the study of the role of ALMPs as insurance mechanisms.

The final substantial section was concerned not with labor policies per se, but with the part of the literature that tries to characterize the working of the labor market. Different papers have attempted to model the relationship between the formal and informal sectors. The traditional development perspective of a dual labor market view of the informal sector has been challenged by many. Especially strong is the evidence of voluntary self-employment in Latin America. As for future work, the impact of migration on labor markets, employment, and poverty reduction should be better understood, as well as the role of the government-induced distortions between formal and informal employment. Finally, there is a need for more and better empirical data in the form of new modules for household surveys, matched employer-employee data, and cross-country comparable labor market indicators.

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