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**BACKGROUND PAPER FOR THE  
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## **Labor Market Institutions: A Review of the Literature**

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## **Abstract**

This paper reviews the findings of over 150 studies on the impacts of four types of labor market institutions: minimum wages, employment protection regulation, unions and collective bargaining, and mandated benefits. The review places particular emphasis on results from developing countries. Impacts studied are on living standards (employment and earnings effects), productivity, and social cohesion, to the extent that this has been analyzed. Strong and opposing views are held on the costs and benefits of labor market institutions. On balance, the results of this review suggest that, in most cases, the impacts of these institutions are smaller than the heat of the debates would suggest. Efficiency effects of labor market regulations and collective bargaining are sometimes found but not always, and the effects can be in either direction and are usually modest. Distributional impacts are clearer, with two effects predominating: an equalizing effect among covered workers but groups such as youth, women, and the less skilled disproportionately outside the coverage and its benefits. While the overall conclusion is one of modest effects in most cases, this does not mean that impacts cannot be more dramatic where regulations are set or institutions operate in ways that exacerbate the labor market imperfections that they were designed to address.

*The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the World Development Report 2013 team, the World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.*

## 1. Introduction

This paper reviews the evidence on the impacts of selected labor market institutions. It sets out to make three contributions to the existing literature. First, it includes research findings from studies of countries at all levels of development but a particular effort is paid to developing countries where we know less. Second, an effort is made to go beyond the standard labor market outcome variables and understand how labor market institutions affect a broader set of variables. Third, the review attempts to bridge the two segmented literatures—one based on competitive labor market models and the other on the role of institutions—that have dominated this field of enquiry

The laws, practices, policies, and conventions that fall under the umbrella of “labor market institutions” determine *inter alia* what kinds of employment contracts are permissible; set boundaries for wages and benefits, hours, and working conditions; define the rules for collective representation and bargaining; proscribe certain employment practices; and provide for social protection for workers. The rationale for these institutions can be attributed to four factors: imperfect information, uneven market power (between employers and workers), discrimination, and inadequacies of the market to provide insurance for employment-related risks. Societies almost always introduce labor market institutions to protect workers or to redistribute income to them. However, there may be efficiency considerations as well since institutions can affect the functioning of the labor market and the productivity of firms.

The history of formal labor market institutions originates in the second half of the 19<sup>th</sup> century with the industrialization of Western Europe and North America. During the 1930s and the first three decades after World War II, a “modern” institutional framework was completed in developed countries, with comprehensive labor codes, rules for trade unions and collective bargaining, unemployment insurance, active labor market programs, and equity legislation. Developing countries also introduced similar institutions, often patterned after their colonizers’ laws and traditions (Botero *et al.* 2004). By the 1980s, debates over labor market institutions began to heat up as employment performance started to diverge across developed countries. In particular, the strong record of job creation and low unemployment in the United States relative to much of Europe raised questions about whether Europe’s more stringent labor regulations, more powerful unions and more extensive collective bargaining, and more generous unemployment insurance regimes might be a contributing factor.

Controversies over the role and impacts of labor market institutions have continued over the past two decades. In fact, this debate has intensified as globalization and technological change have exposed developed and developing countries to greater competition and raised the stakes for finding the optimal institutional framework (Hayter 2011). Through this period, the body of empirical evidence on the impacts of labor market institutions has continued to grow. Research in the 1990s, largely based on cross-country regressions, typically found that strong protective legislation and generous unemployment insurance did slow job growth and increase unemployment. These conclusions motivated the influential OECD (1994) Jobs Study which took a largely deregulation stance, recommending flexible rules for protecting employment and setting wages and hours, and unemployment and welfare systems that minimized work disincentives. A parallel body of evidence did not yet exist for developing countries but the dominant policy message was similar: while institutions were introduced with good intentions

and had a role in addressing market failures, they often had unintended negative consequences in terms of both efficiency and equity (World Bank 1990, 1995).

This is not the end of the story, however. As methods have improved and as better data have become available since the mid-1990s, the real impacts of most labor market institutions have become less—not more—clear. Indeed, in its assessment of labor market developments since the Job Strategy, the OECD (2006) was more equivocal about almost all of its recommendations than it had been 12 years earlier. Moreover, in the wake of the global recession, the stubbornly high unemployment rates in the U.S. and some other less regulated (largely Anglo-Saxon) countries have weakened the *prime facie* case for deregulation and less intervention in the labor market. The case for a “single peak” of superior labor market performance (e.g., deregulation, “light” institutions) has been supplanted by arguments for “dual” or even “multiple” peaks where comparable levels of performance can be reached using various regulatory and institutional combinations (Eichhorst, Feil, and Braun 2008).

So where does that leave us in assessing labor market institutions?

First, it is an open question as to whether empirical research—at least as it has been carried out to this point—might lead to a consensus on the impacts of labor market institutions. The views of two of the leading academics in the field demonstrate this nicely. Richard Freeman (2005) expresses scepticism about whether the debate can be resolved because of the variety and complexity of institutional configurations and continuous changes in the institutions themselves. He questions whether current methods will lead to better knowledge. Progress will require a more sophisticated understanding about how workers and firms respond to institutional settings and how institutions interact in markets. James Heckman (2007:2), coming from a very different perspective, more or less agrees. He acknowledges the “fragility of the evidence on the role of labor market institutions” but argues that better theories and measures “of the incentives generated by institutions and capturing the full array of institutions at work” are required. How exactly these advances that Heckman and Freeman call for will occur is not entirely clear.<sup>1</sup>

It is clear that “in the absence of empirical evidence, logically consistent stories that accord with intuition have great appeal” (Heckman 2007:2). This aptly describes the research on labor market institutions, which is dominated by two internally consistent but opposing intuitions—what Freeman (1993) once called “institutionalism” (institutions can reduce transaction costs, enhance productivity, and moderate crises) and “distortionism” (institutions impede economic efficiency). The theoretical starting points, the research methods, and even what constitutes evidence often differ between the two literatures. Each is limited in its own way. The institutionalist research too often downplays the value of sound empirical analysis that challenges its assumptions. And the distortionist research tends to be ahistorical, clinically measuring the impacts of institutions without appreciating that they have evolved through an endogenous social and political process, as part of a given society’s social contract.<sup>2</sup>

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<sup>1</sup> Freeman and Heckman do make some suggestions. Freeman (2005) proposes laboratory experiments and simulations of artificial agent modelling, plus the use of micro data. Heckman (2007) sees the next steps as expanding the data base and using cost-based measures of institutions, as well as more sophisticated modelling.

<sup>2</sup> For an elaboration on this point, see Deakin (2001) who explains how these institutions fit into the definition of the employment contract as countries develop. Typically, and this applies mostly to industrialized countries, the

Second, relatively little is still known about how labor market institutions function in developing countries. This observation is not meant to minimize research advances in these countries in recent years. However, theoretical advances seem to be lacking—dual sector models either explicitly or implicitly dominate even though these are put into question by some of the newer empirical work. Moreover, most of what we are learning through this research pertains to the (often) small share of workers and firms operating in the formal sector. Yet we know that labor market institutions also have effects on sectors where they do not strictly apply. More discussion of the research limitations and challenges is presented in the next section.

Third, the literature tends to look at only a narrow set of outcomes. This is a problem when an encompassing and developmental view of employment is taken, as is the case with the 2013 World Development Report. The dominant variables of interest in existing studies are employment, unemployment, earnings, and more recently, job and labor turnover. Only limited evidence exists on productivity effects. And there is almost nothing on the direct effect of different labor market institutions on social cohesion so any observations in this regard must be based on speculative inferences.<sup>3</sup>

The remainder of this paper is organized as follows. Methodology is the subject of section 2, reviewing the standard approaches that have been used, identifying some challenges and limitations, and explaining the approach used in this review to look at a broader set of outcomes than is normally the case in this literature. Sections 3-6 represent the substantive part of the paper, summarizing the evidence on impacts for minimum wages, employment protection rules, unions and collective bargaining, and mandated benefits. Conclusions are drawn in Section 7.

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implicit terms of that contract were a “promise of economic security which the employee received in return for becoming subject to the bureaucratic power of the enterprise”, with the state acting as a third party by sponsoring risk-management instruments, most notably through the creation of social insurance systems (p. 3).

<sup>3</sup> A partial recent exception is the OECD (2011a) review of the relationship between labor market institutions and social cohesion. However, this review demonstrates the limited relevant analysis and essentially makes inferences with respect to social cohesion based on existing research on effects of different institutions.

## 2. Methodology

Both qualitative and quantitative approaches have been used to analyze the impacts of different labor market institutions. Qualitative analysis is most common among “institutionalist” researchers who are interested in the complex interactions between institutions (especially unions) and the social and economic environment. However, regardless of perspective, quantitative analysis using various econometric techniques now dominates the field and, indeed, this review. Much of this research has been based on reduced form models that use aggregate cross-section data to explain the cross-country variation in various outcomes (such as unemployment) by differences in national labor market institutions. Increasingly, however, researchers are using longitudinal micro-data to estimate fixed effects models that isolate the variation in outcomes in a single jurisdiction over a period in which institutional change has occurred.

### 2.1 *Some methodological issues*

Isolating the impacts of labor market institutions is inherently difficult. Without attempting to be exhaustive, this section briefly raises challenges that researchers face in terms of identification, measurement, and modelling and interpretation.

*Identification issues* essentially result from the endogeneity of labor market institutions and the interactions between them. The endogeneity problem makes it difficult to attribute variations in outcomes to the institutions themselves, rather than other features of the societies in which they exist.<sup>4</sup> This is especially problematic when analysis is based on cross-country aggregate data and this is the major reason for scepticism about this approach. While single-country panels avoid this source of misidentification, they are not immune from endogeneity issues stemming from time-based sources—for example, certain institutional changes that are likely to be introduced at a certain point in the business cycle may be associated with outcomes that, in fact, could be due to the cyclical factors themselves.<sup>5</sup> Moreover, while single-country longitudinal studies may be useful for studying the impacts of some institutions that experience discrete changes (e.g., minimum wages), they are less suited for other institutions (e.g., unions) that evolve more gradually over time.

Interactions add to the challenge of identifying the effects of a specific law or policy. As Eichhorst, Feil, and Braun (2008) point out, it has become evident that two types of interactions are important to consider. One concerns interactions between different labor market institutions, with the impact of one being affected by another.<sup>6</sup> More generally, countries typically have “bundles” of complementary institutions (e.g., the lightly regulated Anglo-Saxon model, the Northern European flexicurity model, etc.) which make it difficult to isolate the effect of

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<sup>4</sup> In the first place, the institutions themselves are not exogenous variables but reflect the societies in which they exist. This includes, for example, the country’s legal tradition (Botero *et al.* 2004); the strength of its family ties (Alesina *et al.* 2010); and civic attitudes (Algan and Cahuc 2006).

<sup>5</sup> Model specifications can take into account this type of problem but require panel data series that are long enough to determine “normal” cyclical trends.

<sup>6</sup> One example of this is the relationship between social insurance contributions and minimum wages. How much the contributions affect employment will depend in part on who actually pays which in turn is affected by the minimum wage which limits the potential for shifting the costs to low-wage employees.

individual institutional features.<sup>7</sup> The second important interaction involves the relationship between institutions and the macroeconomic context. Analysis on this issue was pioneered by Blanchard and Wolfers (2000), showing how models that allow for shocks, institutions, and the interactions between them are important factors in the explanation of the evolution of unemployment in Europe from the 1960s to 2000.

*Measurement issues* stem from the fact that it is difficult to quantify many institutions. While this is not the case with minimum wages and union density, laws regulating contracts, anti-discrimination policies, collective bargaining practices, and some mandated benefits are less easily reduced to numerical values. Researchers have developed quantitative indices in some of these areas, most notably to measure the strength of employment protection legislation. These will be discussed more in Section 4. While these indices have extended the possibilities for quantitative analysis, they are not without controversy regarding what they actually measure and how well they do it.<sup>8</sup> In any event, institutional indices and purely quantitative measures like the minimum wage do not incorporate enforcement or adjudication and, accordingly, do not capture the real effect of laws and policies.<sup>9</sup> This gap between law and practice is especially relevant in the case of developing countries with large informal sectors and limited administrative and judicial capacity. Some of the more innovative studies in the field are now trying to incorporate how regulations and policies are actually applied into the analysis of the impacts of institutions (e.g., Boeri and Jimeno 2005; Micco and Pagés 2006; Almeida and Carneiro 2009).

There are also a number of challenges related to the *structure and scope of models* and the *interpretation* of results.

- First, models are usually specified to estimate average impacts and are less well suited to identifying differential effects of labor market institutions across types of workers and firms. Determining the winners and losers of institutional changes is important for assessing the overall attractiveness of different institutional options and for understanding the political economy of reform.
- Second, analysis needs to be able to accommodate the possibility that the impacts of many institutions are likely to be non-linear. It may well be that the effects of minimum wages or job security rules, for example, are qualitatively different at the tails of the distribution (i.e., very high or protective or very low or unregulated) than around the mean.
- Third, models have tended to focus on short-run effects with less consideration of long-run implications. Yet, there is a growing evidence of persistence in the labor market, which can be affected by institutions: for example, the permanent wage losses experienced by laid-off workers (e.g., Farber 2005; von Wachter, Song, and Manchester 2011); the enduring disadvantages experienced by young people who enter the labor

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<sup>7</sup> This leads to the possibility of testing the impact of different bundles of institutions or institutional models, rather than individual institutional features. For an example of this approach, see Eichhorst *et al.* 2010.

<sup>8</sup> IFC's Doing Business rigidity of employment index has been particularly controversial and has been criticized especially from the "institutionalist" perspective. See Berg and Cazes (2007).

<sup>9</sup> As an example, see Bertola, Boeri, and Cazes (2000) who highlight enforcement procedures as a factor in explaining the heterogeneity of employment protection institutions in OECD countries.

market in recessions (Kahn 2010; Oreopoulos, von Wachter, and Heisz 2010); and the long-term consequences of high minimum wages for low-skilled youth (Neumark and Nizalova 2007).

- Fourth, much of the research concentrates on whether specific institutions have effects on outcomes, not really considering the magnitude of the effect (i.e., paying attention to significance tests more than the size of the coefficient). Clearly, the magnitude is important for assessing trade-offs in making policy.
- Fifth, the importance of country context can make it complicated to generalize findings. Although this point is routinely acknowledged in cross-country studies, there are few examples of studies that attempt to rigorously assess the impacts of different institutions in different country contexts (e.g., degree of openness, economic structure, level of development, demographic structure, cultural values, etc.).

These points are not meant to constitute a complete list of challenges related to modelling, but they (and others) can influence the interpretation of empirical analysis in ways that have real consequences for analyzing the effects of labor market institutions and their policy implications.

## ***2.2 Methodology for this review***

This literature review is organized according to the conceptual framework used for the *2013 World Development Report*. That framework puts jobs at the center of a development process that leads to improved living standards, productivity, and social cohesion. The methodology for the review involves identifying indicators in these three areas that can be affected by labor market institutions. The limiting factor is that the literature has looked at a relatively narrow set of outcomes which can inform the WDR framework. Most studies focus on the impacts of institutions on standard labor market outcomes—employment, unemployment, earnings (including distribution), and job and labor turnover. A much smaller number of studies have evaluated productivity effects. There has been very little on the effects of different labor market institutions on social cohesion, and any relevant evidence must be deduced from (mostly) indirect indicators.

The review of labor market institutions will look at the impacts listed below.<sup>10</sup> Note that the level of evidence is very uneven.

### *Living standards*

For most households, employment is the primary source of income for improving living standards, providing economic security, and avoiding poverty. This set of indicators looks at the impacts of labor market institutions on access to employment and earnings from work.

- Access to jobs/good jobs

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<sup>10</sup> Note that there is a potential overlap in the outcome variables for each category. Some indicators listed in this section could arguably be put into another category. This overlap is especially relevant for distributional and equity variables that are relevant for both living standards and social cohesion.



- Aggregate labor force participation
- Aggregate employment (unemployment)
- Participation and employment for non-prime/vulnerable groups (e.g., women, youth, etc.)
- Employment status (formal/informal, regular wage vs. other types)
- Employment stability
- Earnings
  - Wages/earnings (overall)
  - Earnings differentials (gender, young/old, skilled/unskilled)
  - Earnings inequality (gini, top-to-bottom decile, etc.)
  - Poverty, working poor
  - Wage, earning stability

### *Productivity*

Labor market institutions can have an impact on productivity in a number of ways. This set of indicators includes overall labor productivity and a number of intermediate variables that can influence it.

- Labor productivity (level, growth)
- Multi-factor productivity (level, growth)
- Training
- Adoption of new technologies
- Efficiency of reallocation of labor
- Size structure of firms

### *Social cohesion*

Social cohesion is a multi-faceted phenomenon that typically includes social inclusion (“belonging” to community, civil society); a sense of fairness (equality of opportunity); active

social relationships (networks, support, trust); social order (freedom from fear, safety); and social and material well-being. The last of these is an essential (pre) condition for social cohesion but is considered in this paper under the “living standards” category. As noted above, links between labor market institutions and social cohesion are not well researched. However, the following indicators address different aspects of social cohesion and may be influenced by labor market institutions.

- Voice/participation in the workplace/community
- Employment of immigrants
- Youth indicators (employment/unemployment; relative earnings)
- Income inequality/polarization (ideally household)
- Income/employment security
- Balancing work and family

This framework is applied to a broad sample of studies that look at the impacts of labor market institutions included in this paper: minimum wages, the regulation of contracts, regulations regarding unions and collective bargaining, and mandated benefits. This sample attempts to broadly cover the literature but does not pretend to be exhaustive. A particular effort has been made to include studies of institutions in developing countries.<sup>11</sup> Finally, it has not been possible to assess the data and methodology of all of the studies included in this review so readers should be aware that differences in quality may be an unobserved explanatory factor.

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<sup>11</sup> In assembling the studies for this review, certain existing reviews have been particularly helpful. These include OECD (2004, 2006); Boeri, Helppie, and Maccis (2008); and Freeman (2010). The latter two were important sources for developing country studies.

### 3. Minimum wages

Most countries have some form of minimum wage, although the institutional arrangements can vary. While they are most often established through laws or regulations, in some countries (often European), minimum wages are set through a bargaining process involving employers and unions. Single national rates are most common but there are many examples of countries with sub-national, regional, industrial, or occupational rates. The underlying concept of the minimum wage is to set a universal floor but the reality is much more complicated. In some countries, sub-minimum wages can exist for certain groups, like teenagers or trainees. Some types of workers can be completely excluded—agricultural and domestic labor are common examples. Moreover, minimum wage rules are not designed to cover the self-employed or (unpaid) family workers. Nor do they apply to these and other categories of informal sector workers.

Minimum wages are controversial, in some ways reflecting Freeman's (1993) "institutionalist-distortionist" divide. The institutionalist perspective provides the rationale for minimum wage policies—to counter exploitation by providing all workers with a "fair" wage and, more generally, as an anti-poverty policy. This view sees minimum wages both in a rights-based framework (the right to a decent wage) and as a social policy.<sup>12</sup> The distortionist perspective—widely accepted by economists—raises concerns about the unintended consequences of minimum wages. While not necessarily repudiating the policy, this view argues that, if set above the competitive equilibrium wage, a minimum wage can price low-productivity workers out of the (formal) labor market, hurting exactly those people who were meant to benefit from the policy. Moreover, it questions minimum wages as an effective anti-poverty tool, arguing that it is not well targeted to poor households, who may be unlikely to have covered workers.

While this simple dichotomy of views may have accurately described the debate over minimum wages into the early 1990s, it is now more complicated. There have been two developments driving this, each contesting conventional models of labor market behavior. First, a burgeoning empirical literature over the past two decades has substantially widened the range of estimates regarding the employment impacts, with some studies even finding positive effects of minimum wage increases. These results have challenged the textbook model of competitive labor markets and its disemployment assumption, with non-competitive, monopsonistic theories generally used to explain the possibility of employment gains.

The second development pertains to minimum wages in developing countries, where virtually no empirical research had been carried out prior to the late 1990s. The orthodox thinking on minimum wages in these countries has been guided by a dualist model, with a formal sector and an informal sector, beyond the reach of a minimum wage. With displaced workers having the option of migrating to the informal sector, this somewhat complicated the competitive market theory on minimum wages, as it was applied in developing countries. So the expected effects of a rise in the minimum wage in developing countries were a decrease in employment in the formal sector and, because of an increase in the supply of informal labor, reduced wages and increased employment in the informal sector.<sup>13</sup> However, the empirical research has not always

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<sup>12</sup> See Eyraud and Saget (2008) for an articulation of the "institutionalist" view.

<sup>13</sup> This is admittedly a somewhat simplified depiction of dual labor markets in developing countries. As Fields (2005) explains, there are variations of this model, with different assumptions about wages and unemployment in the two sectors.

supported these expectations. Estimates of formal sector employment impacts are sometimes insignificant or positive, either because of monopsonistic employer behavior or limited compliance. And, several studies have found that minimum wage increases resulted in wage gains in the informal sector, most probably because of what is known as the “lighthouse” effect.

The proliferation of research on the minimum wage has contributed to a deeper understanding of how labor markets operate, but many questions remain about the impacts of the instrument itself. As we have already noted, and will further detail below, there is no clearer consensus on its employment impacts. Moreover, analysts continue to focus on employment and wage effects, with little research on other impacts that should be of interest to policy-makers.

### ***3.1 Impacts on living standards***

The minimum wage has consequences for living standards through its effects on the availability of employment, especially good jobs, and on the level and structure of earnings. The proliferation of studies on employment and wage impacts means that living standards is the area where knowledge has expanded the most.

#### *Employment*

Research done up to the 1980s was primarily based on U.S. times-series data and typically found negative employment impacts. In a comprehensive review of the analysis up to that time, Brown, Gilroy, and Kohen (1983) estimated that the elasticity of teenage employment with respect to the minimum wage was in the -0.1 to -0.3 range (i.e., a 10% increase in the minimum wage reduced teenage employment by 1-3%). According to Neumark and Wascher (2007), this became the consensus view among economists.

Beginning in the early 1990s, a new wave of studies significantly expanded the minimum wage research in a number of ways (Neumark and Wascher 2007). First, new econometric techniques were applied to the (continually longer) time-series data. Second, new research designs were introduced based on variations in within-country minimum wages (e.g., U.S. states). Third, new data sources were employed, including, for example, the employer phone interviews used in the well-known Card-Krueger-Katz studies. Fourth, more and more research was carried out in developed countries besides the U.S. and in an increasing number of developing countries, which meant that the minimum wage could be studied in a variety of economic and institutional settings.

An important development in extending—and complicating—the minimum wage literature was the series of studies by Card, Krueger, and Katz in the early-to-mid 1990s.<sup>14</sup> Their research exploited state-level variations in minimum wages, using Current Population Survey data (e.g., Card 1992) or phone survey data from fast-food establishments (Katz and Krueger 1992; Card and Krueger 1994) to model employment impacts. The studies consistently found significant positive employment effects of minimum wages, with elasticities ranging from .35 (teenagers) (Card 1992), to .73 (Card and Krueger 1994), all the way up to 1.70-2.65 (Katz and Krueger 1992).

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<sup>14</sup> For a complete treatment of this research, including the particularly influential New Jersey-Pennsylvania fast food study, see Card and Krueger (1995).

While this research has been influential, both in academic and policy circles, it has also been criticized by Neumark and Wascher, among others.<sup>15</sup> They have questioned the quality of the establishment phone data, measurement of the minimum wage variable, the adequacy of control groups, and the failure to consider longer-term effects. In any event, Neumark and Wascher (2007) determine from their extensive review of the minimum wage literature that the weight of the evidence still strongly supports the negative employment conclusion, with magnitudes similar to the consensus estimates of Brown, Gilroy, and Kohen (1983). They conclude that this finding is consistent when researchers focus on less-skilled groups and use aggregate data, as opposed to data for small areas or specific industries.<sup>16</sup> Going beyond purely technical considerations, many economists who question the Card-Krueger-Katz findings are, at a more fundamental level, skeptical about the idea that induced increases in the price of unskilled labor could result in anything but decreased demand for that labor (e.g., Deere, Murphy, and Welch 1995). In any event, there is no question that the Card-Krueger-Katz research raised questions about the validity of different labor market models<sup>17</sup> and left economists more divided about employment effects of minimum wages.<sup>18</sup>

These debates notwithstanding, what conclusions can be drawn from the ever-expanding international literature? On balance, the evidence suggests that an increase in the minimum wage is most likely to result in a modest negative employment effect though this is not always the case. For example, Brown (1999: 2154), in a frequently cited review, concludes that “the minimum wage effect is small (and zero is often hard to reject)”. In its reexamination of the Job Strategy, the OECD (2006) came to a similar conclusion, basing its policy advice on “the considerable number of studies [that] have found that the adverse impact of minimum wages on employment is modest or non-existent“(p. 86).

What about developing countries? The existing evidence largely pertains to Latin America, although there are some studies in Southeast Asia, Central Europe, and Sub-Saharan Africa.<sup>19</sup> The clear majority of studies do find some adverse effects, but again they are most often modest. Examples include estimations for Brazil (Lemos 2004; Fajnzylber 2001; Neumark, Cunningham, and Siga 2006); Colombia (Bell 1997; Maloney and Nunez Mendez 2004; Arango and Pachon 2004); Trinidad and Tobago (Strobl and Walsh 2003); Indonesia (Rama 2001; SMERU 2001; Alatas and Cameron 2003; Del Carpio *et al.* 2012); Costa Rica (Gindling and Terrell 2007); and

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<sup>15</sup> See Neumark and Wascher (2007) for an overall critique. For an interesting exchange, see Neumark and Wascher (2000), who repeated the New Jersey study with different data and came to different conclusions and a reply by Card and Krueger (2000).

<sup>16</sup> Reviewing 102 studies, Neumark and Wascher (2007) find that two-thirds show negative employment effects, with the share rising to 85 per cent for the studies they consider most credible. They conclude that there are very few, if any, credible studies that show positive employment gains from increases in the minimum wage.

<sup>17</sup> Card, Katz, and Krueger did not go much beyond stating that their results were consistent with monopsonistic theories.

<sup>18</sup> While the vast majority of U.S. economists accepted the proposition a generation ago that higher minimum wages led to lower employment, there has been less consensus more recently (Fuller and Geide-Stevenson 2003)

<sup>19</sup> For a compilation and summary of these studies, see Freeman (2010).

Hungary (Kertesi and Kollo 2003).<sup>20</sup> However, there are a few examples of studies finding no employment impact (e.g., Bell 1997 for Mexico; Lemos 2007 for Brazil).

Because most jobs are paid at levels well in excess of the minimum wage, it is unrealistic to expect large aggregate employment effects. Researchers are more likely to find significant impacts when they analyze effects on the lower end of the wage distribution where the minimum wage actually “bites” (Brown 1999). The effect can extend beyond workers earning around the minimum wage but it tends to dissipate and eventually disappear farther up the wage distribution. As a result, studies document stronger impacts on certain types of workers who tend to be low-earners than on the labor force at large.

For workers clustered around the minimum wage, positive employment effects have been found (e.g., the Card-Krueger-Katz studies), but most often the effects are negative. Most studies have found that youth or teenage employment is reduced by minimum wage increases (e.g., SMERU 2001; Montenegro and Pagés 2003 for Chile; Arango and Pachon 2004; Neumark and Nizalova 2007 for the U.S.). Consistent with competitive theory, Abowd *et al.* (2000) identified a fall in youth employment in France during the 1980s when real minimum wages were rising and increased youth employment in the U.S. over the same period when the real minimum wage was falling. Employment of women has been found to fall in several cases as a result of minimum wage increases (e.g. Feliciano 1998 for Mexico and Arango and Pachon 2004), although Montenegro and Pagés (2003) identified a shift in employment toward women in Chile. Where researchers have looked at employment impacts of minimum wage increases on the less-skilled, they typically find negative effects (e.g., SMERU 2001; Montenegro and Pagés 2003; Arango and Pachon 2004; Kertesi and Kollo 2003; Bhorat *et al.* 2011 for agricultural workers in South Africa). In general, workers in small firms are most likely to be affected by employment losses due to raises in the minimum wage (Rama 2001; Kertesi and Kollo 2003; Del Carpio *et al.* 2012).

As was noted earlier, conventional interpretations of dual labor market models in developing countries would suggest that increased minimum wages would shift employment from the formal sector to the informal sector. However, the studies that have looked at this question do not yield consistent results. Some do find a decrease in formal employment and an increase in informal employment (e.g., Maloney and Nunez Mendez 2004; Jones 1998 for Ghana). However, Gindling and Terrell (2007) identified no effect on informality in Costa Rica and Fajnzylber (2001) actually found a stronger negative effect of increased minimum wages in Brazil on wage workers in the informal sector than in the formal sector.

In the final analysis, the empirical literature on the employment impacts of the minimum wage does not always confirm the predictions of textbook labor market theories. However, it does indicate that, in most cases, low-wage employment will be reduced when the minimum is increased, although the magnitude of that reduction is often small. An important question, posed by Brown (1999), is why these effects are so modest. One factor, especially relevant in development countries is non-compliance, both because of large informal sectors and weak enforcement in the formal sector. Second, in almost all studies, the labor demand variable is

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<sup>20</sup> An interesting, but rarely studied, question is how the labor supply of other household members adjusts to job loss when it does occur. One exception is Neumark, Cunningham, and Siga 2006 who found that other household members did increase their participation in the labor force.

measured by employment. Hours would be a more complete measure, to the extent that employers can adjust to higher minimum wages through working time rather than the number of jobs. Another possibility is that the typical short-term time horizon for minimum wage research misses effects that increase over time.<sup>21</sup> For example, Baker, Benjamin, and Stanger (1999) and Neumark and Nizalova (2007) estimate, for Canada and the U.S. respectively, lagged negative employment effects that are significantly stronger than contemporaneous ones.<sup>22</sup> This is clearly an issue that merits more research in the future. Finally, as Freeman (2010) notes, policy-makers are aware of the potential harm that very high minimum wages could create so they tend to set them at a reasonable level.<sup>23</sup>

### *Earnings*

The impact of minimum wages on earnings is less contentious than its effects on employment levels. Virtually all studies that estimate the wage effect find, not surprisingly, that formal-sector wages rise with higher minimums. As would be expected, the positive impact is strongest around the minimum wage, persisting somewhat above the minimum because wage relativities are maintained, but diminishing as one moves further up the wage distribution (e.g., Gindling and Terrell 1995; Fajnzylber 2001; Maloney and Nunez Mendes 2004).<sup>24</sup>

More surprising has been the observation that increases in the minimum wage often raise, rather than depress, wages in the informal sector. This finding has been most notable in studies of Latin American countries (e.g., Gindling and Terrell 2004; Lemos 2004; Fajnzylber 2001; Maloney and Nunez Mendes 2004). It has been most commonly attributed to the "*Efeito Farol*" or "lighthouse effect", whereby the minimum wage is seen as a benchmark wage for unskilled labor throughout the economy, including the informal sector where it is not binding. But there are also competing theories, based on a variety of possible substitution and sorting effects (Boeri, Garibaldi, and Ribeiro 2010).

The empirical research is also consistent in demonstrating that the minimum wage compresses wage distributions and reduces earnings inequality. For example, Lemos (2004, 2007) finds wage compression in both the public and private sectors as a result of minimum wage increases in Brazil. Gindling and Terrell (1995) and Fajnzylber (2001) document wage compression in Costa Rica and Brazil, due to positive wage impacts being strongest for low-wage workers.

An important question concerns the role of minimum wages in the long-run increases in earnings inequality that have been observed in many countries. While technological change and globalization have traditionally been seen as the main drivers of this inequality, policy shifts have also been identified as an important factor as well (e.g., Koeniger, Leonardi, and Nunziata 2007). In fact, in its recent cross-country analysis of growing inequality, the OECD (2011b)

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<sup>21</sup> This focus has generally been justified by two arguments: that adjustments for low-wage labor happen quickly and that minimum wage changes are typically announced well in advance of implementation so employers have time to prepare (Brown 1999).

<sup>22</sup> In fact, Neumark and Nizalova (2007) find positive employment effects in the short run but negative ones in the long run.

<sup>23</sup> Where minimum wage increases are very large or are made at a time when labor demand is weak, more significant negative effects can be expected. This point is made by Kucera and Roncolato (2008) in explaining the negative impacts of Colombia's minimum wage increases in the late 1990s.

<sup>24</sup> There is essentially no evidence on whether non-wage benefits decrease because of these wage gains.

estimated that policies and institutions accounted for the largest share in the increase in the 9<sup>th</sup>/1<sup>st</sup> earnings decile ratio, more than technological change and much more than globalization. Declining real minimum wages are one of the institutional changes driving this inequality. This has been established for developed countries for a number of years—for example, DiNardo, Fortin, and Lemieux (1996) find that a falling real minimum wage explains a substantial proportion of the increase in U.S. inequality in the 1980s. Now research for developing countries is making the same association. For example, Bosch and Manacorda (2010) analyzed household data in urban Mexico from 1989-2001 and found that the steep decline in the real minimum wage accounted for a substantial part of the growth in inequality over this period.

But do the equalizing wage effects of higher minimum wages translate into poverty reductions? Indeed, advocates often present minimum wages as an anti-poverty tool. Proponents argue that, not only do minimum wages raise the earnings of low-wage workers but, because of intra-household transfers and the link with many social benefits, they have broader ripple effects (Eyraud and Saget 2008). On the other hand, many economists are more skeptical, partly because of any unemployment effects but even more because of the targeting of minimum wage rules—i.e., many workers covered by minimum wage legislation are not in poor households while the poorest households often do not have members covered by minimum wage rules. In a theoretical exposition, Fields and Kanbur (2007) show that the poverty impacts of the minimum wage are indeterminate and depend on the degree of poverty aversion, the elasticity of labor demand, the relationship between the minimum wage and the poverty line, and the extent of income sharing within the household.

The empirical evidence on the minimum wage-poverty relationship in developing countries largely comes from Latin America. The conclusions vary. Some find that increases in the minimum wage do reduce poverty (e.g., Lustig and McLeod 1997; Morley 1995). Gindling and Terrell (2006), using micro-data for Honduras, estimate that a 10% increase in the minimum wage reduced the likelihood of extreme poverty by 1.8% and poverty by 1% in that country. On the other hand, there are examples of studies that find no connection between minimum wages and poverty reduction (e.g., Neumark, Cunningham, and Siga 2006, for Brazil). Even where researchers do find such a link, they do not necessarily advocate minimum wages as an anti-poverty tool. Lustig and McLeod (1997: 81) point out that their results should not be seen “as a flat endorsement of minimum wages as a cost effective policy to reduce poverty” because of potential negative employment and growth effects, particularly in the long run. Nonetheless, they do argue that reducing minimum wages in developing countries will hurt the poor, at least in the short run.

### ***3.2 Impacts on productivity***

The effects of the minimum wage on productivity have been considered by researchers only infrequently. One systematic analysis to measure the productivity effect was carried out by Bassanini and Venn (2007), using cross-country aggregate data for 18 OECD member countries from 1979-2003.<sup>25</sup> They estimate that a 10 percentage point increase in the minimum wage-to-median wage ratio was associated with an increase of between 1.7 and 2.0 percentage points in

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<sup>25</sup> This research is also reported in OECD (2007).



long run labor productivity and multi-factor productivity levels. No comparable estimates for developing countries could be found for this review.

There are two likely reasons for observing a positive productivity effect. The first is the substitution of more skilled for less skilled labor due to the decreased demand for unskilled labor as minimum wages rise. To the extent that employers make this substitution, productivity levels will rise without any change in employment levels. The second possible reason is that employers could make productivity-enhancing adjustments—i.e., increased investments in training or new technologies—in response to the higher labor costs due to increases in the minimum wage.<sup>26</sup> As Bassanini and Venn (2007) point out, these two reasons have very different implications. The substitution effect is essentially a shuffling of employment opportunities with undesirable distributional consequences. On the other hand, increased training or technological innovation would suggest real efficiency gains. While Bassanini and Venn (2007) are unable to disentangle the effects of these two factors, they do speculate that substitution may be a large part of the story. Unfortunately, pertinent evidence could not be found from other studies that might provide more insight into the substitution vs. training/technology hypotheses.

The only other evidence from the literature that is potentially relevant in assessing productivity effects relates to the impacts of minimum wages on the size structure of firms. To the extent that (lower-productivity) small firms are disproportionately affected compared to medium- and large-size firms, as shown in studies for Indonesia (e.g., Rama 2001, Alatas and Cameron 2003; Del Carpio *et al.* 2012), it is possible that minimum wage increases might lead to a reallocation of resources towards more productive (larger) enterprises.

Finally, it should be noted that any possible productivity effects need to be considered in conjunction with any output effects due to changes in employment levels in order to evaluate the overall impact of minimum wages on economic production. This issue has not been addressed empirically in the literature.

### ***3.3 Impacts on social cohesion***

Researchers have rarely examined, in any direct fashion, the links between minimum wages and social cohesion. Recall that social cohesion has been defined in this paper to incorporate social inclusion, fairness, active social relationships, and social order. Some inferences can be drawn from the research on employment and wage effects of minimum wages, but any supporting evidence is inevitably speculative and unlikely to suggest more than a very minor effect on social cohesion.

Employment, especially “good” employment, can be an important determinant of social inclusion by enabling individuals to participate in the mainstream of social and economic life. Thus, to the extent that minimum wages can affect employment, it could have an impact on this dimension of social cohesion. We have already noted that aggregate employment effects may be positive in some cases but are more often insignificant or modestly negative.

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<sup>26</sup> The increased training incentives may be counteracted by the reduced room for employers to shift (specific) training costs onto workers through wage shifting if the minimum wage has been increased. Overall, the evidence on the relationship between minimum wages and training is inconclusive (OECD 2007).

In principle, minimum wages can contribute to the fairness aspect of social cohesion by protecting vulnerable workers from exploitative employment that pays less than a “decent wage”. This may be especially relevant where the labor market is not competitive due to monopsonistic behavior. In this vein, a meaningful minimum wage was one of the demands made by the social movement that eventually ousted the Mubarak regime in Egypt (OECD 2011a). Any such positive effect, however, would depend on the ability of a society to enforce minimum wages in an effective and non-discretionary manner.

There is some more direct, albeit partial, evidence relevant to the “active social relationships” dimension of social cohesion. Aghion, Algan, and Cahuc (2008) find a negative relationship between state regulation of the minimum wage and the quality of (voluntary) labor relations. In their model, this is explained by the substitutability of civil society and state regulation. Where the latter is strong, it crowds out voluntary investments in social capital and social dialogue, such as cooperative union-management relations. For example, strong minimum wage rules can obviate the need for workers and employers to invest in negotiating wage floors. However, the relationship can go the other way—i.e., in societies that have well-functioning labor relations, there is less need for governments to impose labor standards, like minimum wages.

Finally, the engagement of youth is often seen as an important factor in social cohesion. This is largely because the extent to which young people are able to find work and participate economically is negatively correlated with risks to social (and political) order.<sup>27</sup> Here, any effect of the minimum wage will depend on its impact on youth employment. As we have seen, those effects vary with the specific context and can be positive or (more likely) neutral or modestly negative.

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<sup>27</sup> See, for example, the literature that establishes links between youth labor market participation and crime in the U.S. (Freeman 1996) and France (Fougere et al. 2009).

The impacts of minimum wages on living standards, productivity, and social cohesion are summarized in the table below.

<b>Dimension</b>	<b>Indicator</b>	<b>Findings</b>	<b>Comments</b>
Living standards	Aggregate employment	Modest negative impact or insignificant impact.	Both developed and developing countries. A few studies show positive employment effect.
	Employment for particular groups	Groups most likely to have negative impact are youth and low-skilled.	A few studies show positive employment effect.
	Wages	Positive effect.	Effect strongest around minimum. Some evidence of positive effect in informal sector.
	Wage distribution	Reduces wage inequality.	
	Poverty	Reduces poverty.	Some studies find no effect.
Productivity	Labor and multifactor productivity	Unclear.	Very little evidence.
Social cohesion	Fairness	Provides “decent” wage.	Depends on enforcement and coverage.
	Social dialogue	Weaker where state regulates minimum wage.	Based on one study. Direction of relationship unclear.

#### 4. Employment protection rules

Many aspects of employment contracts are regulated through labor laws.<sup>28</sup> This section concerns one aspect of contract regulation—employment protection legislation (EPL), also known as job security rules. EPL refers to the rules governing the initiation and termination of employment. These cover the kinds of contracts permitted, the conditions under which workers can be terminated, and the procedures for termination, including severance requirements. EPL provides job security by restricting the ability of employers to hire workers on an explicitly non-permanent basis and/or by making dismissal costly. Governments introduce these rules for two reasons: to provide insurance for workers against the uncertainty of job loss and to ensure that employers meet some standard of social responsibility in the sense of assuring some commitment to employees (OECD 2004).

Different countries (and sometimes, jurisdictions within countries) have different EPL arrangements. These are often characterized along a continuum ranging from protective to unregulated, or rigid to flexible. At the more protective end of the scale, non-permanent employment contracts (temporary, fixed term) are restricted; limitations are placed on employer dismissal rights;<sup>29</sup> compulsory severance payments are substantial; and administrative requirements for layoffs (e.g., advance notice, government approval) are significant. At the less regulated end, few restrictions exist with respect to non-permanent forms of contracting or employer dismissal rights and the administrative and monetary costs of layoffs are minimal.

What determines the job security rules that different countries adopt? Botero *et al.* (2004) analyzed labor legislation in 85 countries and concluded that the strongest determinant was the country's legal tradition. Generally, countries with civil law traditions have more extensive job security protections than common law countries. Botero *et al.* (2004) find little evidence that a country's level of development matters. However, Holzmann *et al.* (2011) identify a consistent relationship between national income and one important form of job security—mandated severance arrangements. They find that low-income countries have the highest incidence of these plans and that the generosity of severance plans decreases with income level. Consistent with this, Heckman and Pagés (2004) calculate the average severance costs of Latin American and Caribbean countries to be three times those of OECD countries.

Although substantial differences exist across countries in terms of employment protection rules, there seems to be some evidence of convergence. The ILO (2012) has found that, since 2008, the majority of countries reforming EPL have relaxed dismissal provisions. In fact, according to the OECD (2004, 2006), the dominant trend since the late 1990s has been easing of protections in countries that traditionally have had strict EPL. For reasons of political expediency, this has typically involved expanding the scope for temporary contracts rather than reducing job security for permanent employees.<sup>30</sup> The inadvertent result of this has been an increase in the share of

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<sup>28</sup> Regulation can also occur through collective agreements or formal personnel rules of firms. However, the focus of this review is on statutory regulation.

<sup>29</sup> Particularly relevant are the rules governing whether and how workers can be dismissed for “economic” reasons – i.e., due to shrinking markets, increasing competitiveness, and so on. This class of terminations stands in contrast to dismissals for “noneconomic” reasons such as job performance.

<sup>30</sup> While this may be the longer-term trend, the ILO's conclusion about reforms since the beginning of the financial crisis is that easing of dismissal protections for permanent workers has been the most common change (ILO 2012).

non-permanent employment and the deepening of “two-track” labor markets characterized by these (growing) precarious jobs and (shrinking) permanent jobs. There is now a literature on this so-called “partial reform” and new proposals to unify “insider-outsider” labor markets, especially in southern Europe where this phenomenon is most prevalent (e.g., Bentolila, Dilado, and Jimeno (2011) for Spain; Boeri (2011) for Italy; Cahuc and Kramarz (2004) for France).

While EPL clearly provides job security protection to covered workers, it is controversial because of sharp differences in views about the overall efficiency and distributional effects. Once again, these differences basically reflect the institutionalist-distortionist divide, with the former view emphasizing the protection and security afforded workers and the latter focusing on potential employment losses and privileging “insiders”.

How might EPL affect the outcomes of interest to this paper? Theoretical considerations are largely indeterminate with respect to employment and productivity effects. Some models (e.g., Bentolila and Bertola 1990) show that more costly job security provisions should increase average employment within a given firm while a model by Hopenhayn and Rogerson (1993) demonstrate that, on the other hand, they will reduce employment on the extensive margin by lowering firm entry and job creation rates.<sup>31</sup> While not conclusive in terms of effects on employment levels, theory does suggest that EPL should moderate employment fluctuations over the business cycle and should reduce turnover (e.g., Bentolila and Bertola 1990). Some models (e.g., Kugler 2004) show that job security rules create incentives for high-turnover firms to operate in the informal sector. Theoretical expectations about productivity effects are also indeterminate (OECD 2007). On the one hand, strict EPL could constrain the flow of workers into emerging high-productivity sectors and discourage technological change that is labor-saving. On the other hand, because of commitment signals and expected tenure effects, it could increase worker effort and incentives to invest in human capital; at the same time, it could motivate productivity-enhancing investments to compensate for any additional costs associated with job security rules.

The empirical work on the impacts of EPL is complicated by methodological issues, some of which were discussed in section 2. Measurement is particularly troublesome since job security rules cannot easily be reduced to a single number, like the minimum wage. There are two dominant approaches used in the field. One is to create an index where values reflect the strictness of EPL. The most widely used example of this approach is the OECD EPL index which assesses countries on a 6-point scale in terms of the strictness of its provisions for protecting permanent workers against individual dismissal, for collective dismissal requirements, and for the regulations governing temporary forms of employment.<sup>32</sup> A second approach more directly attempts to measure the monetary costs an employer can be expected to incur in complying with job security regulations. For example, Heckman and Pagés (2004) compute the expected average cost (present value) at the time of hiring to the firm for dismissing a regular

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<sup>31</sup> In fact, in an early paper, Lazear (1990) shows that, in perfectly competitive labor markets with no credit constraints, job security provisions should have no employment effects since contracts could be written to compensate for any associated costs.

<sup>32</sup> Each of these has an index and they are combined into a composite index. For more on the OECD measure, see [www.oecd.org/employment/protection](http://www.oecd.org/employment/protection).

worker for economic reasons. Some measures used by researchers combine both indices and expected costs of compliance (e.g., Botero *et al.* 2004; Doing Business).<sup>33</sup>

Although there has been considerable work on measuring EPL, it is clear that indicators are imperfect. Most notably, the quantitative indicators do not take into account enforcement which obviously will have an effect on the real weight of job security rules (see Bertola, Boeri, and Cazes 2000). Second, while EPL indicators are essentially limited to the content of statutes, there are other ways in which some countries achieve similar goals—court interpretations, especially in common law countries, as well as through collective agreements.

The empirical literature on the impacts of EPL reflects the preponderance of evidence from OECD countries. Although increasing, there is less analysis pertaining to developing countries, with most of that research on Latin America. Living standards effects dominate the EPL research, with a limited number of studies on productivity impacts, and only indirect evidence on social cohesion effects.

#### ***4.1 Impacts on living standards***

Most of the relevant research examines the employment impacts of EPL. Much less attention is paid to any wage or income effects.

##### *Employment*

Studies on the employment impact of EPL are divided between those finding no significant effect and those finding a modest negative effect, i.e., higher unemployment and/or lower employment. It should be noted that employment and unemployment impacts are not always the same. Where job security does have a negative impact on labor demand, employment will almost certainly decrease but unemployment may not be affected if the decreased labor demand leads to a reduced labor supply. Indeed, a number of studies have found a negative employment effect but no effect on unemployment (e.g., Heckman and Pagés 2000; Nickell 1997; Nickell and Layard 1999).

Not only are the findings on employment impacts mixed, but the results also can be characterized as fragile. Findings are often sensitive to model specification and the treatment of data (Glyn *et al.* 2003, Howell *et al.* 2007). Sometimes researchers in different studies of a common set of countries have found different employment impacts. For example, using cross-sectional data for the 1980s and 1990s for Latin American and OECD countries, Heckman and Pagés (2000) found a negative employment effect of job security rules and then in a later study (2004) found no significant employment impact. Using similar data for many of the same countries, Micco and Pagés (2007) found a negative employment effect, especially in volatile sectors.

As was noted above, much of the analysis of EPL impacts has been carried out on OECD countries. There have been numerous studies designed to econometrically test the relationship

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<sup>33</sup> A third, but less used, approach is to categorize a country's EPL according to qualitative data based on assessments by managers regarding the flexibility of hiring and firing arrangements (e.g., Di Tella and MacCulloch 2005; Feldmann 2009).

between EPL (often using the OECD's EPL index) and labor market outcomes, using cross-sectional data over time. Interestingly, most of the earlier studies found a negative effect on employment and, in some cases, unemployment (e.g., Scarpetta 1996; Nickell 1997; Nickell and Layard 1999; Elmeskov, Martin, and Scarpetta 1998). Some more recent studies using this approach have found no significant employment impact (e.g., Baccaro and Rei 2005; Bassanini and Duvall 2006).

There has been some skepticism about whether cross-country regressions using aggregate data can accurately identify the impacts of EPL (and, indeed, other labor market institutions). In recent years, a number of researchers have examined the effect of a regulatory change in a single country using panel data (household or firm) and time-series models. A collection of these studies were compiled for a number of Latin American and Caribbean countries in Heckman and Pagés (2004). The results were not conclusive, with some studies identifying a negative employment effect of job security rules (e.g., Kugler 2004 for Colombia; Saavedra and Torero 2004 for Peru; Mondino and Montoya 2004 for Argentina) while others (Paes de Barros and Corseuil 2004 for Brazil and Downes, Mamingi, and Antoine 2004 for three Caribbean countries) found no significant effect. Using a similar approach, Petrin and Sivadsadan (2006) found that changes in EPL in Chile had no significant impact on employment.

Outside of Latin America, there has been very little analysis of the employment impact of EPL in developing countries. The major exception is India where a number of researchers have exploited the state-level variation in labor regulations (e.g., Besley and Burgess 2004; Gupta, Hasan, and Kumar 2009; Ahsan and Pagés 2009). In general, these studies have shown that states with more protective regulations have significantly lower (formal) employment than states with more flexible rules (World Bank 2010, 2012). To some extent, this research has been complicated by disagreements about the characterization of Indian states in terms of their EPL and, also, by the interaction between EPL and other labor market regulations.<sup>34</sup> Nonetheless, as Freeman (2010: 4673) concludes, "Indian labor institutions ... do more harm than good than the institutions in other countries, though their impact is limited ... due to the huge size of the Indian informal sector."

Some studies discover that employment impacts are significantly affected by interactions between job security rules and other labor market institutions. Unions and collective bargaining appear to be particularly relevant, at least in the OECD. However, there is some disagreement about the mediating effects of unionization. On the one hand, based on aggregate data for 20 OECD countries from 1960-98, the IMF (2003) found that EPL increases unemployment but that effect decreases with increased union density. On the other hand, Belot and van Ours (2000) concluded that EPL increased structural unemployment in OECD countries only when union density was above average. Elmeskov, Martin, and Scarpetta (1998) find that EPL increases structural unemployment in the context of "intermediate" bargaining structures (i.e., in terms of centralization and coordination).

Effects of interactions between institutions are also evident in research on developing countries. For example, Ahsan and Pagés (2009) find that EPL reduces formal sector employment in India

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<sup>34</sup> See Bhattacharjee (2006) for a critique of the Besley-Burgess index.

but they also find that job security rules are not as important as dispute resolution and that the effects of EPL are worse in those states where dispute resolution is poor. Enforcement is another institutional feature that matters. Almeida and Carneiro (2009) show that, across municipalities in Brazil, the negative effect of EPL depends on the strictness of enforcement.

While the evidence on the impact of job security rules on levels of employment and unemployment may be inconclusive, their effect on labor market dynamics is much clearer. One would expect that rules discouraging dismissals and temporary contracts would lengthen durations in different labor market states (employment, unemployment, not in the labor force) and, accordingly, would reduce flows between different labor markets states. This is exactly what researchers have typically found, both in Latin America and in OECD countries. For example, Kugler (1999) found that the 1990 reduction in firing costs in Colombia increased the exit rate out of unemployment and reduced average job tenure and increased employment exit rates. Other studies in Latin America have also linked reductions in EPL with lower average tenure and increased turnover (Saavedra and Torero 2004 for Peru; Hopenhayn 2004 for Argentina).

Cross-country studies have tended to establish similar associations. In an analysis of 19 member countries, the OECD (2004) found that higher EPL was associated with smaller flows in and out of unemployment, with the consequence of higher incidences of long-term unemployment. Haltiwanger, Scarpetta, and Schweiger (2008), analyzing data for 11 OECD and 5 Latin American countries, found that gross job flows were lower in more regulated labor markets than in the U.S. However, labor market dynamics are also affected by the product market and the interaction between labor market and product market regulations can be an important factor. In fact, Boeri *et al.* (2008) suggest that this may be the reason for the somewhat surprising finding that rates of job creation and job destruction are roughly similar between the U.S. and European countries with more protective labor regulations.

Employment protection legislation can also affect how labor markets adjust to external shocks (e.g., due to reduced labor demand or labor-saving productivity measures). However, this relationship can be complicated: while protective job security rules can limit the ability of firms to lay off workers in the event of a shock, strict EPL can increase unemployment by slowing the speed of firms' adjustment and by extending the duration of jobless spells. Consistent with this, empirical work in the OECD has found that stricter EPL can moderate the initial adverse effects of a shock, but then can contribute to their persistence (OECD 2006; Bassanini and Duvall 2006). Blanchard and Wolfers (2000) find the last effect dominates, at least in Europe, concluding that strong job security rules increase the negative impact of shocks on unemployment. Looking at the recent financial crisis, Bentolila *et al.* (2011) estimate that real differences in EPL (i.e., reflecting differences in enforcement) explain much of why the unemployment rate in France did not rise nearly as much as in Spain.<sup>35</sup> Caballero *et al.* (2006), based on a panel of 60 developing and developed countries, conclude that strict labor regulations have a negative effect on the speed of adjustment to shocks, but only in countries with strong rule of law and government efficiency. Not all studies, however, support a negative relationship

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<sup>35</sup> They find that, with the actual French EPL practice and taking into account its indirect effect on reducing mismatch, Spanish unemployment would have increased by 45% less than what it actually rose (i.e. from 8% to 14%, rather than to 19%) between 2008 and 2009 (Bentolila *et al.* 2011).



between strong EPL and adjustments to shocks. Petrin and Sivadasan (2006) find that 1991 and 1994 changes in Chile's EPL had no impact on speed of adjustment. Also, Eichhorst *et al.* (2010), looking at how different G20 countries adjusted to the recent financial crisis, found no systematic impact of different EPL levels.

The research has been quite consistent in identifying how impacts of EPL vary for different types of workers. As would be expected, effects are most favorable for those who are covered by job security rules. Typically, prime-age males and the better educated are overrepresented in this group. On the other hand, the lower hiring rates associated with strong EPL can have a negative effect for those not inside its protective umbrella (i.e., not working or in non-covered jobs). Youth, women, and the less-skilled are overrepresented in this group. Montenegro and Pagés (2003) found that the introduction of more protective rules in Chile had adverse effects for women relative to men, for youth relative to the more experienced, and for the skilled relative to the less skilled. Similarly, cross-country analysis by the OECD (2004) identified negative impacts of EPL on women and youth.

While strict EPL, then, tends to create employment barriers for certain groups, Kahn (2007) argues that liberalization will not necessarily benefit these "outsiders." Using panel data for 9 European countries, he finds that a dominant effect of liberalizing reforms that make it easier to fire permanent workers and hire non-permanent ones is to encourage the substitution of temporary jobs for permanent ones. So, any employment gains for women, youth, and the less skilled may be offset by the increased likelihood that employment will be in temporary rather than permanent jobs. Kahn (2007) recognizes that his results contrast with much of the international literature that finds that strict protections for permanent workers reduce their share in overall employment. He suggests that this may reflect longer-run outcomes while his conclusions may be more relevant for the short run. What is clearly established is that partial reforms where temporary contracting becomes less restrictive while permanent worker protections remain unchanged leads to increases in precarious employment, especially for vulnerable groups (OECD 2004, 2006). Indeed, this has been a dominant trend in several southern European countries.

### *Earnings*

Changes in EPL are mostly expected to affect employment and not wages. Accordingly, few studies have looked at earnings impacts. The research that does exist pertains to the distribution of wages and is essentially limited to OECD countries. The most extensive analysis of this issue has been carried out by the OECD (2011b) in its recent study of inequality. The finding of this research is that less strict EPL is associated with more wage dispersion.<sup>36</sup> That impact is driven entirely by reforms that liberalize contracting for temporary workers, with the effect concentrated on the lower part of the wage distribution.

## **4.2 Impacts on productivity**

As was noted earlier, the theoretical expectation about the productivity effects of job security rules is indeterminate. Empirical work, mostly limited to OECD countries, turns out to be

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<sup>36</sup> This is consistent with the argument that EPL tends to help unskilled workers more than skilled ones (Boeri *et al.* 2006).

somewhat inconclusive as well. Some researchers have identified a positive relationship between the level of EPL and productivity or productivity growth. For example, analyzing OECD countries, Belot, Boone, and van Ours (2007) found that stricter EPL increased productivity, but only in environments where workers invested in firm-specific skills. Nickell and Layard (1999) and Koeniger (2005) identified positive relationships between EPL and both labor and multifactor productivity growth in OECD countries, although results were generally weak and depended on model specification.

Some studies have to come to the opposite conclusion. Bassanini and Venn (2008, and OECD 2007) found that more protective job security for regular contracts reduced the annual growth rate for labor and multifactor productivity growth in OECD countries by at least 0.02 and 0.04 percentage points, respectively. However, their analysis drew no conclusion about the impacts of EPL for temporary workers. In a subsequent study, Bassanini, Nunziata, and Venn (2009) concluded that dismissal regulations had a depressing effect on total factor productivity growth and labor productivity although again restrictions on the use of temporary employment did not. In their analysis of 14 European countries, Cingano *et al.* (2010) find negative impacts of EPL on labor productivity particularly in sector with high rates of labor reallocation. In a study of developed and developing countries, Micco and Pagés (2006) conclude that labor regulations do not robustly affect labor productivity, although stricter EPL did affect output primarily through a decline in firm entry.

Other researchers have found that the productivity impacts of EPL can vary with productivity measure or the particular country context. Autor, Kerr, and Kugler (2007) found that effectively stricter dismissal rules in some U.S. states (through exceptions to the at-will employment doctrine) were associated with higher growth in labor productivity. However, total factor productivity decreased. In one of the few studies in developing countries, DeFreitas and Marshall (1998) find that job security protections have a positive productivity effect in some institutional contexts and a negative effect in others.

A few studies provide some insights into the dynamics underlying the effects of EPL on productivity. Where positive productivity impacts are found, this is typically due to adjustments firms have made to increase the output of factors of production. For example, Autor, Kerr, and Kugler (2007) attribute higher labor productivity growth in states adopting stricter dismissal rules to capital and skills deepening on the part of firms. Belot, Boone, and van Ours (2007) link positive productivity impacts to more training resulting from longer expected tenure in high-EPL jurisdictions.

On the other hand, researchers have identified some factors associated with strict EPL that can depress productivity. While, in theory, job security protections could spur employers to innovate in order to compensate for related costs, Calmfors and Holmlund (2000) found the opposite—that high firing costs reduce employer incentives to introduce new technology, therefore probably dampening productivity growth. Probably the dominant way in which job security rules can depress productivity growth is through its impacts on labor market dynamics which have already been discussed. Indeed, several studies have pointed to the effects of EPL in slowing down the speed of labor reallocation from low- to high-productivity activities (Boeri and Jimeno 2005; Micco and Pages 2006; Haltiwanger *et al.* 2008; Messina and Vallanti 2007).

### 4.3 Impacts on social cohesion

The degree to which a society chooses to provide job security—and the employment and distributional outcomes that result—could be expected to have implications for the inclusion, fairness, and social order elements of social cohesion. To the extent that job protections signal that firms are being socially responsible in difficult economic times, EPL can support social cohesion. By lengthening job tenure, these rules can also make a positive contribution by promoting well-being and security. However, when the effect of these rules is to deepen the “insider-outsider” divide, the opposite can occur. Countries that have responded to this situation by introducing “two-track” labor markets also can face risks to social cohesion (OECD 2011a).

Indeed, contracting arrangements have been at the centre of some prominent developments in recent years with direct relevance to social cohesion. Perhaps the most obvious example was the youth protests in France in 2006 over the proposed *Contrat première embauche* (first employment contract) which was introduced by the French Government in response to concerns about very high youth unemployment, especially among immigrants. This lack of job opportunities had been identified as one of the reasons for the serious civil unrest the previous year. Accepting the argument that strong EPL was contributing to youth unemployment, the *Contrat première embauche* would have made it easier for employers to dismiss workers 25 and under. However, after massive protests, the bill was never passed.<sup>37</sup>

Similar dynamics may be in play in the Middle East and North Africa where high youth unemployment, aggravated by job security rules that discourage new hires, has been identified as a factor in the Arab Spring protests.<sup>38</sup> Although more flexible EPL might open up employment opportunities for youth and other “outsiders”, the French experience and, more recently, the “los indignados” movement in Spain demonstrate the political difficulties of introducing reforms that are likely—or at least are seen—to encourage precarious work.<sup>39</sup>

EPL can also influence social cohesion through its potential impact on income inequality. In its recent study of inequality, the OECD (2011b: 156) found that the secular trend towards liberalizing rules for temporary contracts has had “a moderate disequalising effect on the overall earnings distribution among the entire population, mainly through the wage inequality channel”.

Finally, job security rules can effect family formation to the extent that it influences access to secure jobs. De La Rica and Iza (2004) looked at the Spanish experience where partial reforms created a rapid expansion in non-permanent relative to permanent jobs. They found that we find that fixed-term contracts delayed marriage decisions for men and entry into motherhood for women.

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<sup>37</sup> These protests opposed the *Contrat première embauche* and other related measures being proposed, as well as the process by which the Government introduced the bill.

<sup>38</sup> See, for example, World Economic Forum (2012).

<sup>39</sup> The Spanish Government introduced measures in 2010 and 2011 to reduce firing costs for regular contracts and to increase protections for temporary workers. Actually these initiatives were meant to break down the dual labor market which was encouraging non-permanent employment. However, they were met with large demonstrations. Nonetheless the measures were enacted. See Bentolila *et al.* 2011.

The impacts of employment protection rules on living standards, productivity, and social cohesion are summarized in the table below.

Dimension	Indicator	Findings	Comments
Living standards	Aggregate employment and unemployment	Either no impact or modest negative (positive) impact on employment (unemployment).	Both developed and developing countries (largely Latin America). Effect on unemployment weaker than on employment because of labor supply adjustments. Results tend not to be robust.
	Employment for particular groups	Prime-age males positively affected. Youth, women, and low-skilled negatively affected.	“Partial” reforms for “two-track” labor markets lead to more precarious employment for these groups
	Labor market dynamics	Longer durations in employment, unemployment, and not in the labor force. Lower flows between different labor market states.	
	Adjustments to shocks	Increase negative impact of shocks.	Not all studies find this relationship.
	Wage distribution	Reduces wage dispersion	
Productivity	Labor and multifactor productivity levels and growth	No consistent conclusion.	Evidence largely from developed countries
	Training	Positive effect.	Longer-duration employment associated with greater human capital investments.
	Technological change	Negative effect.	Very little evidence.
	Reallocation of labor	Negative effect.	
Social cohesion	Fairness	Signals social responsibility of employers.	Depends on enforcement and coverage. “Two-track” regulations can be seen as unfair.
	Security	Positive due to longer tenure.	Depends on enforcement and coverage.
	Income equality	Greater wage equality has modest equalizing effect on income distribution.	OECD countries.
	Family formation	Non-permanent contracts delay family formation.	Based on one study for Spain.

## 5. Unions and collective bargaining arrangements

Characterizing the impacts of trade unions and collective bargaining rules is probably more complicated and perhaps more controversial than is the case with other labor market institutions. Unions and collective bargaining arrangements are social and political constructs that reflect the society in which they operate. For a number of reasons, this has implications for their effects on living standards, productivity, and social cohesion as well as for assessing those impacts.

First, unions are complex organizations with a range of functions and roles. The traditional economist view of unions focuses on the extent to which they are able to negotiate higher pay and benefits, and better working conditions than would be the case under conditions of perfect competition. In this “monopoly” role, unions can improve the living standards of their members but often with efficiency costs. However, there is much more to unions and what they do. Through their “voice” role, unions can make a positive contribution to efficiency by improving workplace communication, enhancing cooperative relations, and reducing labor turnover.<sup>40</sup> Finally, unions can play a “political” role both as a player in the political process and as a voice in policy debates. Unions have historically contributed in important ways to the introduction of fundamental social and labor rights. In some developing countries, the political role of unions overshadows their role representing and bargaining for members. Through these political efforts, unions can influence social and economic policies; in some cases, this may have positive social returns while, in others, it may have aggregate efficiency costs or distributional effects in favor of their members at the expense of non-members.

Second, the impact of unions and the performance of collective bargaining systems can vary considerably from country to country. This could be due to differences with respect to the other social partners—i.e., variations in the behavioral norms guiding employers as well as how they are collectively represented and how government conducts itself as a player in the industrial relations arena. The nature of the economy also can matter a lot, with the impacts of unions and collective bargaining likely to differ according to the degree of product market liberalization, openness to trade, etc. Moreover, impacts can change at different times in a country’s history.

Third, as we have emphasized throughout this paper, interactions between institutions can be important, and this is certainly true in the case for unions and collective bargaining. As the OECD (2004: 165) has noted, “the impact of the organisation of collective bargaining on labour market performance appears to be contingent upon other institutional or policy factors and these interactions need to be clarified in order to provide robust policy advice.”

Fourth, multiple indicators are used to describe the nature of unions and collective bargaining arrangements in a given country.<sup>41</sup> Typically, three dimensions are considered. The most basic is union density, i.e., union members as a percentage of the workforce. (Interestingly, membership in employers’ bargaining organizations is rarely considered in the literature.) The second, collective bargaining coverage (sometimes referred to as union coverage), calculates workers covered by collective agreements as a percentage of the workforce. This measure goes beyond the strict concept of membership and is concerned with the broader reach of collective

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<sup>40</sup> See Freeman and Medoff (1984)

<sup>41</sup> For a more complete discussion, see Eichhorst, Feil, and Braun (2008).

agreements through extension to non-union members and unaffiliated employers. In some countries, the difference between these two measures can be substantial. France is an example. Union density and bargaining coverage are relatively straightforward indicators since they can be expressed in numerical terms. However, particularly in developing countries, these data are often only partial and difficult to obtain.

The third dimension looks at the structure of collective bargaining. This is difficult to summarize in a single or small number of measures. Typically, two aspects are considered. One is the extent to which bargaining is centralized—for example, at the national, sectoral (intermediate), or establishment level. The other is concerned with the degree of coordination, i.e., the extent to which negotiations are guided by “peak” organizations (e.g., industry or national unions or employers’ associations); by tripartite social pacts; by pattern bargaining; or are determined in some way by government-imposed terms. Collective bargaining structures are usually measured by indices to capture the range from low to high centralization and coordination. Most often, these two aspects are measured separately though some researchers combine them in a single “corporatism” indicator. There is considerable debate about how well indices capture collective bargaining arrangements, since subjective judgements are required and since the arrangements can vary in different situations within a single country.

Empirical work on the effects of unions and collective bargaining usually takes one of two forms (Aidt and Tzannatos 2002). “Micro” analysis estimates various effects (on wages, employment, productivity, etc.) of union membership and collective bargaining on union workers or firms relative to non-union ones, or between workers/firms under different collective bargaining arrangements. This literature is usually based on data from household or establishment surveys in a single country. “Macro” analysis is concerned with many of the same variables but at level of national economies, using cross-country comparisons based on aggregate data.

The research on the impacts of unions and collective bargaining has been carried out against the backdrop of significant changes in these institutions in recent decades. In many developed countries, union membership has been declining and bargaining has become more decentralized (OECD 2006). The situation in developing countries is not as clear but the limited data available suggest similar trends.<sup>42</sup>

Finally, any discussion of unions and collective bargaining in the context of developing countries must recognize the reality that these institutions in their traditional form are not well suited to much of the employment structure. This is especially the case in low-income countries where most people—such as farmers, the self-employed, and family workers—are not engaged in an employer-employee relationship. This is creating impetus for innovative institutions such as associations of self-employed workers. While these organizations may have some important impacts on the variables of interest in this review, they are not included.

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<sup>42</sup> Evidence on some developing countries can be found at the Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts (ICTWSS) database, 1960–2010, Amsterdam Institute for Advanced Labour Studies. The database is available at <http://www.uva-aias.net/208>.

## 5.1 Impact on living standards

The literature relevant to living standards impacts is voluminous, especially for developed countries. Many studies have estimated the union wage effect and any employment impacts that may result. There is also a substantial body of analysis on how different types of workers are affected by unions and collective bargaining.

### *Earnings*

Studies consistently find that union members and workers covered by collective bargaining earn higher wages than other workers. In their extensive review, Aidt and Tzannatos (2002) concluded that the size of this union wage effect was typically between 5 and 15% in developed countries. Although far fewer studies have looked at developing countries, the consensus view is that the size of the wage premium is as least as large. Freeman (2010) includes a number of union wage effect studies in his review of labor market institutions in developing countries. Two countries where a number of estimates have been made are Mexico and South Africa; the wage effect is in the 10-15% range in the former and 10-20% in the latter.<sup>43</sup> In Brazil, studies for manufacturing have found positive wage effects of 5% and 12% (Arbache 1998; Menezes-Filho *et al.* 2005). There are a few studies in Sub-Saharan Africa, including Ghana where wage premiums of 16% and 6% were estimated by Verner (1999) and Blunch and Verner (2004), respectively.<sup>44</sup> Very few studies have been made of the union wage premium in Asia. Some work has been carried out in Korea, with estimates suggesting very small positive impacts in the 5-6% range (Fields and Yoo 2000; Park 1991).

How do institutional features affect the union wage premium? Not surprisingly, union wage bargaining power tends to be greater in sectors where membership or coverage rates are high (e.g., Morgan and Mourougane 2001; Tzannatos 2008). However, there is no consistent evidence across countries with respect to the relationship between bargaining structure and the wage effect (Aidt and Tzannatos 2002; OECD 2004).

Unions and collective bargaining also have an equalizing impact on the distribution of earnings by reducing wage differentials along various dimensions (Aidt and Tzannatos 2002; OECD 2004; OECD 2011). The evidence largely comes from analysis in developed countries.<sup>45</sup> The union wage effect is typically strongest for less skilled workers, which narrows skills differentials. Most studies show that the wage effect is larger for women than men, although the evidence on other typically low-wage groups, such as ethnic and racial minorities, is less clear (Tzannatos 2008). The equalizing effect of unions seems to be strongest where union density is high (Aidt and Tzannatos 2002; Koeniger *et al.* 2007) and where bargaining is centralized and/or coordinated (OECD 2004; Aidt and Tzannatos 2002).

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<sup>43</sup> Some early research estimated much higher union wage effects for South Africa (as high as 60%) and this became an often-cited explanation for the high unemployment in that country. However, more recent research (e.g., Magruder 2010), based on better data and methodologies, has found more typical wage differentials.

<sup>44</sup> Some studies in Sub-Saharan Africa have identified negative union wage effects (e.g., Terrell and Svejnar 1989, for Senegal). However, Freeman (2010) questions whether these unions are actually engaged in typical collective bargaining.

<sup>45</sup> One exception is Popli (2005) who did find that unions decreased wage inequality in Mexico between 1984 and 2000, although the magnitude of this effect diminished over that period.

Research has shown that wage inequality falls during periods when union density is increasing and rises when union membership is in decline. For example, DiNardo, Fortin, and Lemieux (1996) find that increasing union density contributed to the decline in U.S. wage inequality from 1973-79 and that deunionization was an important factor in the growing wage inequality between 1979 and 1988. In its recent report on inequality, the OECD (2011b) concludes that the decreasing union membership in many OECD countries has made a modest, but significant, contribution to increased wage inequality. The equalizing effect of unions appears to be strongest on the upper parts of the wage distribution, due to a transfer away from their most skilled members.

### *Employment*

It is clear that unions have an effect on employment dynamics. They reduce voluntary turnover and increase job tenure. However layoffs (especially temporary layoffs) are more frequent in unionized firms (Aidt and Tzannatos 2002).

But what is their effect on overall levels of employment and unemployment? Given that unions usually do raise wages, they would be expected to increase unemployment and reduce employment, according to the “monopoly” model. On the other hand, the relationship may not be so straightforward if unions have positive efficiency effects, as suggested by the “voice” model.

On balance, studies are roughly divided between those that find that unions increase unemployment and those that find no significant effect. Almost all the relevant analysis looks at the effect of union density, using aggregate data over time for OECD countries. Examples of studies finding that union density increases unemployment include Bertola, Blau, and Kahn (2002); IMF (2003); Baccaro and Rei (2005); and Nickell, Nunziata, and Ochel (2005). Fewer studies look at the impact of collective bargaining coverage. Nickell (1997) finds that both coverage and density are positively related with unemployment. However, Belot and van Ours (2000) conclude that union density increases unemployment, but collective bargaining coverage does not. Where a significant relationship is found, the magnitude of the effect tends to be small. For example, the OECD’s (2011) most recent estimates find that a 10 percentage point decline in union coverage (which would be a substantial decrease) would increase employment by 0.8 percentage points.

While some studies do find a significant positive union effect on unemployment, many others find no relationship. Indeed, Aidt and Tzannatos (2002) conclude from their extensive review that union density has a very weak or no association with either the unemployment rate or the employment rate. The OECD (2006), in a review of 17 studies, found that only three showed a significant effect of union density or bargaining coverage on unemployment. Glyn *et al.* (2003) and Howell *et al.* (2007) review the robustness of the estimations that have been used, and raise questions on whether a relationship between union density or coverage and unemployment exists.

A related question concerns the impact of different bargaining structures on unemployment and employment. Virtually all of the evidence on these relationships is based on aggregate data for OECD countries. From their extensive review, Aidt and Tzannatos (2002) conclude that



countries with highly coordinated bargaining<sup>46</sup> tend to have lower unemployment rates than other countries. With respect to unemployment, they do not find support for the “hump-shaped” hypothesis—i.e., that both coordinated and uncoordinated bargaining lead to better performance than semi-coordinated bargaining (Calmfors and Driffill 1988). About two-thirds of the studies they reviewed found no significant association between the degree of bargaining coordination and employment rates.

A number of more recent studies find that coordinated and/or centralized bargaining structures are associated with lower unemployment. The OECD (2006), in its 17-study review, concluded that a high degree of corporatism (i.e., coordination and centralization) was associated with lower unemployment in many, though not all, studies. Some studies finding this relationship include Bassanini and Duvall (2006); Nickell, Nunziata, and Ochel (2005); IMF (2003); and Glyn *et al.* (2003). Other studies, such as Baccaro and Rei (2005), that find that union density/coverage increases unemployment conclude that this negative effect is reduced when bargaining is coordinated.

There is also no consistent story on whether different bargaining structures help or hurt employment when economies are hit by adverse shocks. Bassanini and Duvall (2006) conclude that high levels of coordination reduce the negative employment impacts of shocks while Bertola, Blau, and Kahn (2002) and Bertola *et al.* (2002) find the opposite effect. Blanchard and Wolfers (2000) determine that higher union density and coverage increase adverse effects of shocks but these are reversed to some extent by coordinated bargaining. In the end, the lack of consensus on the employment effects of bargaining arrangements is due at least in part to difficulties measuring structures and practices, especially given the variations that exist in different country contexts.

## **5.2 Impacts on productivity**

Most of the research in this area has been carried out in the U.S. and the U.K., with only a few studies from other developed countries or from developing countries. It is also interesting to note that most of the empirical research on productivity effects of unions and bargaining structure was carried out before 2000.

As has already been discussed, the “voice” theory suggests that unions can exert a positive impact on productivity. To what extent is this supported by empirical research? Aidt and Tzannatos (2002) conclude that results are not robust regarding productivity levels or growth, with a fair bit of disagreement between studies. Freeman’s (2010) review of developing country studies is also inconclusive. A positive union productivity effect has been found in Mexico (Fairris 2006) and Malaysia (Standing 1992); a negative effect has been found in Brazil except where there is profit sharing (Menezes *et al.* 2005); and the effect in Guatemala depended on the model specification (Urizar and Lee 2005). On balance, the context appears to matter a lot, with unions more likely to have a positive effect on productivity where product markets are competitive and the “quality” of industrial relations is good.<sup>47</sup> With respect to the latter factor,

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<sup>46</sup> They define “bargaining coordination” to include centralization, concentration, informal coordination, and corporatism (Aidt and Tzannatos 2002: 101).

<sup>47</sup> This conclusion is based on Bellman’s (1992) review of productivity effects in the U.S. Bellman uses grievances, strikes, quits, and the presence of long-term collective agreements as indicators of the quality of industrial relations.

Fakhfakh, Perotin, and Robinson (2011) demonstrate that the involvement of worker representatives (through unions or consultative groups) improved the productivity performance of firms in France and the U.K.

Aidt and Tzannatos (2002) find weak evidence that uncoordinated and coordinated bargaining structures have been associated with higher productivity growth than semi-coordinated structures. Support for this hump/U-shaped relationship appears to have been stronger in the 1970s and the 1980s than in the 1990s (OECD 1997).

There is some research that estimates the union impact on certain factors that can affect productivity. These include training and technological change, as well as the reallocation of labor, where unions are associated with low job turnover (Aidt and Tzannatos 2002). There are various institutional reasons why more training might be expected in unionized firms (Heyes and Rainbird 2011). Management (and unions) are likely to seek out and support measures that will increase productivity and compensate for higher labor costs. As well, the longer tenure in unionized establishments should also encourage training. On the other hand, unionized employers may choose to limit non-wage labor costs, including training, and the narrower wage differentials under collective bargaining could reduce employee incentives to invest in training. Although some studies have found no or even a negative union training effect (e.g., Frazis *et al.* 2000), most conclude that unionized workplaces do undertake more training than non-unionized ones. This has been found, for example, by Fairris (2006) in Mexico; Standing (1992) in Malaysia; Betcherman, McMullen, and Davidman (1998) for Canada; Booth, Francesconi, and Zoega (2003) for the U.K.; and Osterman (1995) for the U.S.

The union effect on the introduction of new technologies can also be affected by various, and opposing, factors. Union voice and management incentives to increase productivity in higher-cost unionized environments can be expected to increase technological change; however, management could be reluctant to introduce new technologies where negotiated work rules are a constraining factor and unions could oppose technical innovation if job loss is expected. In fact, the net effect of all of these factors appears to be neutral: differences between union and non-union firms in the introduction of new technology are not significant overall (Aidt and Tzannatos 2002).

### ***5.3 Impacts on social cohesion***

In principle, unions can contribute to social cohesion in a number of ways. At a conceptual level, unions and collective bargaining are meant to balance the power of labor against capital. Clearly, in many societies and at many points in time, unions have promoted fairness, equity, and social justice. The freedom of workers to organize and to bargain collectively are fundamental worker rights, enshrined in international conventions. Countries that do not respect these rights run the risk of sanctioning disregard for human rights, absence of trust, and inequality that run against notions of cohesive societies.

More concretely, as representatives of workers, unions can, in principle, do many things to support social cohesion. First, unions can contribute to a more equal distribution of wages. Some researchers contend that, more broadly, union membership/coverage is associated with less wage inequality at the societal level (e.g., Hayter and Weinberg 2011; Calderon and Chong

2009), although the recent OECD (2011a) study on inequality concludes that the society-wide effect is probably neutral. This conclusion reflects a dynamic whereby unions narrow wage differentials among their members but widen disparities between unionized and non-unionized workers. Second, unions can contribute to economic security through their effect on increasing job tenure and negotiating benefits (e.g., health insurance, pensions) that provide social protection to workers and their families. Third, through their “voice” role, unions can provide a vehicle for workers to participate in decisions and activities within their workplace, and in some cases, in the broader community. The outcomes of this process can have various benefits related to social cohesion; for example, unionized workplaces are more likely than others to have flexible working time arrangements and other policies that help employees balance work and family. Fourth, unions and the social dialogue process associated with collective representation provide opportunities for resolving disputes before they become conflicts (OECD 2011b). This can be true at the workplace and at the broader societal level.

Two additional considerations need to be kept in mind when assessing the impact of unions and collective bargaining on social cohesion. The first concerns the extent to which the benefits of unions accrue to society at large. In some cases, they clearly have: for example, through the widespread diffusion in some countries of social benefits and better working conditions that originated in the unionized sector. However, in societies where these advantages are limited to union members, the benefits for social cohesion are less clear because of the resulting duality between covered and uncovered workers.

The second consideration stems from the fact that unions differ substantially from country to country in terms of how they function, their objectives, and their impacts (OECD 2011b). Where their role is less tied to workplace representation and more to the political process, it becomes difficult to assess unions as an institutional feature of the labor market and as a factor in contributing to social cohesion.

The impacts of unions and collective bargaining on living standards, productivity, and social cohesion are summarized in the table below.

Dimension	Indicator	Findings	Comments
Living standards	Aggregate employment and unemployment	Not conclusive for union density/coverage. Coordinated bargaining associated with modestly lower unemployment.	Results tend not to be robust to different model specifications.
	Labor market dynamics	Unions reduce voluntary turnover and increase job tenure. Temporary layoffs higher in unionized firms.	
	Adjustments to shocks	Not conclusive with respect to bargaining structure	
	Wages	Unions increase wages. No significant effect of different bargaining structures.	Union wage premium ranges from 5-20%, depending on country and period. Wage premium higher when union density high.
	Wage distribution	Unions reduce wage inequality.	Reduce various types of differentials, including skill and gender. Equalizing effect stronger where union density high.
Productivity	Labor and multifactor productivity levels and growth	No consistent conclusion.	
	Training	Positive effect.	
	Technological change	No consistent conclusion.	
	Reallocation of labor	Negative effect.	
Social cohesion	Security	Positive for members.	Unions increase job tenure and negotiate social benefits. Risk of divided interests between union and non-union workers.
	Income equality	Not conclusive.	Studies divided on whether greater wage equality leads to more equal income distribution
	Family functioning	Positive for members.	Unions negotiate flexible work time and other family-friendly policies.

## 6. Mandated benefits

Various types of benefits may be mandated by governments. These include social insurance benefits for unemployment, pensions, health care, worker compensation, etc.; mandated non-regular (extra) earnings such as bonuses and vacation pay; and mandated family leave for birth, parenting, and child and other forms of care-giving. In this section, we concentrate on the effects of family-related leave programs. Social insurance benefits are excluded from this review and there is virtually no evidence on the impacts of extra earnings.

Mandated benefits can be designed in different ways but, with the exception of social insurance benefits, employers are typically required to provide them. It has been argued that this employer-delivered model can be more efficient than traditional public programs (Boeri, Helppie, and Macis 2008).<sup>48</sup> Sometimes benefits may be financed by governments, either through dedicated payroll taxes or general revenues, but most often, employers are expected to be responsible for the necessary financing. In this latter case, the ultimate costs are likely to be shared between employers and employees, with the distribution determined by how much employers can shift the costs through a wage “pass-through”. For example, MacIsaac and Rama (1997) found that the Ecuador’s various bonus wages increased labor costs by just 18% in complying firms despite representing about 75% of the cost of employing a worker at the minimum wage. The magnitude of the pass-through will depend on different factors including how much value employees attach to the benefit in question. How benefits are actually financed will have a significant impact on their wage and employment effects and productivity effects.

The effects of mandated benefits can vary for different types of workers. For example, Boeri, Helppie, and Macis (2008) distinguish between benefits that are a variable cost (i.e., increased with higher wages or hours) and those that are a fixed cost (i.e., per employee).<sup>49</sup> Fixed-cost benefits, in particular, can shift employer demand toward higher-skilled workers since the relative increase in labor costs will be greater for low-wage workers.<sup>50</sup>

There is much less evidence on the impacts of mandated benefits compared to the institutions covered in previous sections of this paper. In part, this is because of the heterogeneity of the benefits themselves since they often vary not only from country to country but also from firm to firm, where the design of benefits is left to employers. Parental leave tends to be easier to measure and, as a result, this benefit has been analyzed more than others. There has been very little research on the impacts of mandated benefits in developing countries. Not only are they less common compared to developed countries but even where they do exist, their impact is reduced because of informality and incomplete enforcement.

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<sup>48</sup> Potential advantages include the ability of employers to tailor benefits to the needs of their workforce, fewer inefficiencies due to the avoidance of the political aspects of public programs, and superior labor supply effects. While there may be efficiency effects, Summers (1989) argues that employer-delivered mandated benefits can be less equitable than standard public programs.

<sup>49</sup> Many variable-cost benefits become fixed-cost benefits at some point because of contribution ceilings.

<sup>50</sup> On the other hand, where the minimum wage is binding, employers have less room to pass on the costs to low-wage workers.

## **6.1 Impacts on living standards**

The existence of mandatory benefits can affect earnings, labor force participation, and employment. Most of the analysis on these outcomes pertains to parental leave, which includes maternity, paternity, and child-care leave (Gornick and Hegewisch 2010). These programs typically provide time off around and after the birth or adoption as well as a job-return guarantee. Parental leave has also been offered for an extended period, especially as a substitute for enrollment in public day care. Leave may be fully or partially paid, or unpaid. Although programs are increasingly designed to include fathers, mothers are still much more likely to take up parental leave.<sup>51</sup> As a result, research has tended to focus on the effects on women.

In theory, parental leave can exert counteracting effects on labor force participation and employment. On the one hand, by reducing the costs of not working, it creates incentives for parents to stay out of the workforce for the period covered by the policy. On the other hand, by offering job-return protection, it guarantees reemployment and strengthens longer-run commitment to the labor force.

In several OECD countries, including Canada, Sweden, and the U.K., paid maternity leave has been found to increase the likelihood that mothers would return to the labor market (Baker and Milligan 2005; Ronsen and Sundstrom 1999; Burgess *et al.* 2008). In a study of 9 European countries, Ruhm (1998) found that paid maternity leave of 40 weeks with a job-return guarantee would raise the employment rate for women of childbearing age (25 to 35) from 7-9%, and increase participation among all working-age women by 4.3%. In one of the few studies in developing countries, Zveglic and van der Meulen Rodgers (2003) estimated that maternity leave had a significantly positive effect on both employment and the number of hours worked by women but that these effects only became apparent after steps were taken to ensure enforcement of the policy.

But research suggests that the effects depend on the design of parental leave policy, including whether it is paid and the duration of the time period covered. While the results from OECD countries with paid leave are consistent in showing positive participation and employment effects, the evidence is less conclusive for the U.S. where a 12-week unpaid maternity leave (with job-return guarantee) was introduced in 1993. Some researchers have found no significant impact on women's likelihood to return to work at the end of leave while others have found a positive impact (Gornick and Hegewisch 2010). The labor force effects of leave policies appear to be non-linear, with impacts becoming negative after a certain period of leave duration. Jaumotte (2003), studying 17 OECD countries, concluded that the labor force participation dropped once leave went beyond 20 weeks. According to Gornick and Hegewisch (2010), in European countries where extended childcare leave programs (up to three years) were introduced, labor force participation decreased, particularly in lower-income families.

The effect of maternity leaves on women's wages depends on the length of the leave and whether the woman returns to her previous employer. The former has a negative effect while the latter has a positive one. The empirical results reflect these counteracting forces. In a cross-country

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<sup>51</sup> Gornick and Hegewisch (2010) point out that, even though most plans in OECD countries are now gender-neutral (outside of the birth itself), very few men take advantage of leave programs.

study, the OECD (2007) found no significant effect of maternity leave policies on female wages. Ruhm's (1998) study of 9 European countries concluded that the leave and wage relationship was non-linear, with leaves of 3 months or less having no effect while leaves of 9 months or more were associated with wage declines.

One concern with mandated benefits is that they may have unintended negative consequences for classes of workers covered by the policy. Does this apply to parental leave which still disproportionately covers women? Mandel and Semyonov (2005), analyzing 20 upper-income countries, concluded that maternity leave exacerbated the male-female wage differential because of longer non-employment periods for women and because of employers practising statistical discrimination. In a developing country context, Gindling and Crummett (1997) found that relative wages for women declined after an extension of maternity leave rights in Costa Rica. However, not all researchers find these unintended effects (e.g., Korpi, Ferrarini, and Englund 2009).

## **6.2 Impacts on productivity**

The OECD (2007) has summarized the different ways in which parental leave and care-giving leave programs might affect productivity. Positive impacts include improved morale and work commitment and, because of longer tenure, greater firm-specific human capital and investments in training on the part of both firms and workers. On the other hand, these policies could hinder productivity if the leave provisions reduce working time and incentives to invest in human capital or if they lead to inefficient or discriminatory hiring where employers do not hire qualified women or employ them in lower-skilled jobs than they are capable of filling.

Studies on the productivity effects of leave policies are often based on subjective perceptions of managers. According to the OECD (2007), the results are "mixed and difficult to generalise" (p. 79). The OECD's own analysis, based on quantitative data from 18 countries, finds that parental leave policies are associated with higher productivity levels. An additional week of unpaid leave results in a very small (between 0.005 and 0.01 percentage points) but statistically significant increase in both labor and total factor productivity levels. The effect is larger in the case of paid leave, but it is only statistically significant in the case of TFP. For example, if a country without paid parental leave introduced a policy of 15 weeks of paid leave (the OECD average), the study estimates that the long-run effect would be an increase in the total factor productivity level of 1.1% (OECD 2007; Bassanini and Venn 2007). It is not clear, however, whether the productivity gains from leave programs fully compensate for higher associated costs. An analysis in the U.K. also finds positive productivity effects associated with paid leave programs; however, the authors cannot determine whether paid leave policies are a cause or consequence of superior performance (Riley *et al.* 2008).

## **6.3 Impacts on social cohesion**

Family-related leave policies can exert some effect on various dimensions of social cohesion. The most obvious concerns the ability to balance work and family formation. Parental leave programs, especially those that provide for some wage replacement, are associated with higher employment rates for women of child-bearing years. At the same time, Gornick and Hegewisch (2010) conclude that fertility rates are higher where women are able to combine employment and

parenting with relative ease. Their observation pertains to OECD countries, where measures that increase fertility are desirable because of population aging. As was noted earlier, parental leave programs still disproportionately involve women but many countries have been modifying them to make them more attractive to men. To the extent that this effort is successful, social cohesion benefits can be expected in the future. Gornick and Hegewisch (2010: 13) point out that “a growing body of research points to positive effects of fathers’ early and more equal involvement in the care of children, from better family cohesion and reduced divorce rates to improved cognitive development and educational performance.”

Two other ways in which these programs can have an impact on social cohesion are through their effect on employment security and income security and on social and economic inclusion. Maternity leave, in particular, can provide women with employment security and, thus, their households with greater income security. By making it easier to combine family and work, this benefit also can keep women in the economic (and social) mainstream. As we have seen, women are more likely to return to work when they have coverage under these plans, especially when leave is paid.

There are some additional considerations in assessing the overall effects of family-related leave programs on social cohesion. First, studies show that positive employment or wage benefits disappear and may even be reversed when leave periods are very long. Second, there is some evidence that mandated parental leave programs can have unintended negative consequences for women, especially when they stay out of the labor market for extended periods or where employers discriminate against them because of assumed costs of the policy.



The impacts of parental leave policies on living standards, productivity, and social cohesion are summarized in the table below.

Dimension	Indicator	Findings	Comments
Living standards	Employment	Positive for women of child-bearing age.	Increases probability of returning to labor market. Effect clearer for paid leave; unclear for unpaid leave. Employment effects turn negative for long-duration leaves.
	Wages	No conclusive effect.	Duration of leave matters with length of leave negatively affecting wage.
	Wage differentials	Some evidence that male-female wage differential widens with leave, but not conclusive.	
Productivity	Labor and multifactor productivity levels	Probably positive for paid leave.	Not all studies find positive effect. Where positive productivity effect, not clear whether compensates for higher costs.
Social cohesion	Security	Positive.	Effect of increased employment.
	Family functioning	Positive.	Allows for combining work and family. Fertility higher, good for aging societies.

## 7. Conclusion

Ideally, empirical evidence could settle the debates over the extent to which labor market institutions provide important social and economic benefits that are not generated by labor markets or whether they are primarily a source of distortions that impede the functioning of those markets. However, even as studies have proliferated over the past two decades, there is still a lack of consensus on the impacts of labor market institutions. Methodological challenges are formidable: the nature of these institutions is very country-specific and they interact in complex ways. Data are limited in their ability to capture the true character of many institutions. Moreover, consensus is difficult to reach because of the very different lenses through which “institutionalists” and “distortionists” perceive and analyze these institutions.

Freeman (2000, 2007) has concluded that labor market institutions have clear distributional effects but that efficiency effects are hard to find. This review of minimum wages, employment protection rules, unions and collective bargaining, and family-related leave suggests he is largely right.

The conclusions on distributional effects include the following:

- Minimum wages, EPL, and unions/collective bargaining reduce wage inequality for covered workers. By disproportionately raising earnings of workers with less market power, these institutions narrow wage differentials based on skill, gender, and age.
- However, their ultimate effect on the overall distribution of income is less clear because the low-skilled, the young, and women are less likely to be covered by minimum wages, EPL, or collective bargaining. And, to the extent that these institutions affect the composition of employment, they tend to be against these groups and in favor of prime-age males and the better educated.
- It seems likely that labor market institutions have a modest effect in shifting income from capital to labor.

Impacts on efficiency are difficult to summarize but, on balance, they appear modest, with most studies showing no effect or small negative effects but some finding positive effects:

- EPL and unions/collective bargaining do not have a significant unidirectional impact on productivity. One possibility is that less efficient reallocation of labor across firms and sectors because of job security rules and other institutions are essentially cancelled out by institution-driven workplace gains due to the “voice” effect and longer tenures with greater investments in training.
- The effect of minimum wages, EPL, and unions on aggregate employment/unemployment is either insignificant or slightly unfavorable.

These conclusions do not mean that labor market institutions cannot be costly in terms of productivity or employment losses. Labor regulations or collective agreements that interfere too much with the normal functioning of the labor market can significantly hurt employment and

output. While the impacts of such institutional failures are often mitigated in developing countries through low compliance, this is not a desirable approach since it does not address the underlying market imperfections that motivate the creation of institutions in the first place. A similar problem exists where regulation is minimal and institutions for voice are weak. This, too, does not remedy information failures, asymmetric bargaining power, and inadequate risk management in the labor market. While these situations exist, the overall conclusion of modest impacts drawn in this review suggests that, in many cases, governments set regulations and workers and employers negotiate contracts that avoid the worst consequences of these potentially extreme risks.

Finally, the most difficult impacts to fully grasp are those that pertain to social cohesion. Labor market institutions can affect inclusion, fairness, social relationships, and security. Indeed, these are consistent in many ways with the purpose of institutions like the minimum wage, job security rules, and unions. However, to this point, there is little empirical work to establish how significant the links actually are.

## References

- Abowd, John M., Francis Kramarz, Thomas Lemieux, and David N. Margolis. 2000. "Minimum Wages and Youth Employment in France and the United States." in David G. Blanchflower and Richard B. Freeman (eds.). *Youth Employment and Joblessness in Advanced Countries*. Chicago and Cambridge, MA: University of Chicago Press and NBER. 427-472.
- Aghion, Philippe, Yann Algan, and Pierre Cahuc. 2008. "Can Policy Interact with Culture? Minimum Wage and the Quality of Labor Relations." IZA Discussion Paper No. 3680. Bonn.
- Ahsan, Ahmad and Carmen Pagés. 2009. "Are All Labor Regulations Equal? Evidence from Indian Manufacturing." *Journal of Comparative Economics*. 37 (1): 62-75.
- Aidt, Toke and Zafiris Tzannatos. 2002. *Unions and Collective Bargaining: Economic Effects in a Global Environment*. Washington, DC: World Bank.
- Alatas, Vivi and Lisa Cameron. 2003. "The Impact of Minimum Wages on Employment in a Low Income Country: An Evaluation Using the Difference-in-Differences Approach." Policy Research Working Paper No. 2985. Washington, DC: World Bank.
- Alesina, Alberto F., Yann Algan, Pierre Cahuc, and Paola Giuliano. 2010. "Family Values and the Regulation of Labor." NBER Working Paper Series No. 15747. Cambridge, MA.
- Algan, Yann and Pierre Cahuc. 2006. "Civic Attitudes and the Design of Labor Market Institutions: Which Countries Can Implement the Danish Flexicurity Model?" IZA Discussion Paper No. 1928. Bonn.
- Almeida, Rita and Pedro Carneiro. 2009. "Enforcement of labor regulation and firm size." *Journal of Comparative Economics* 37: 28–46
- Arango, Carlos and Angelica Pachón. 2004. "Minimum Wages in Colombia: Holding the Middle with a Bite on the Poor." Borradores de Economía Serie 280, Banco de la República de Colombia, Bogotá.
- Arbache, Jorge. 1998. "The Impact of Unions on Wages in Brazilian Manufacturing." Studies in Economics No. 9805. Department of Economics, University of Kent.
- Autor, David H., William R. Kerr, and Adriana D. Kugler. 2007. "Do Employment Protections Reduce Productivity? Evidence from U.S. States." *Economic Journal* 117 (6): 189–217.
- Baccaro, Lucio and Diego Rei. 2005. "Institutional determinants of unemployment in OECD countries: A time series cross-section analysis (1960-98)." International Institute for Labour Studies. Discussion Paper 160/2005.

- Baker, Michael, Dwayne Benjamin, and Shuchita Stanger. 1999. "The highs and Lows of the Minimum Wage Effect: A Time-Series Cross-Section Study of the Canadian Law." *Journal of Labor Economics*. 17 (2): 318-350.
- Baker, Michael and Kevin Milligan. 2005. "How Does Job-Protected Maternity Leave Affect Mothers' Employment and Infant Health?" NBER Working Paper Series No. 11135. Cambridge, MA.
- Bassanini, Andrea and Romain Duvall 2006. "Employment Patterns in OECD Countries: Reassessing the Roles of Policies and Institutions." OECD Economics Department Working Papers No. 486. Paris.
- Bassanini, Andrea and Danielle Venn. 2007. "Assessing the Impact of Labour Market Policies on Productivity: A Difference-in-Differences Approach." OECD Social, Employment, and Migration Working Paper No. 54. Paris.
- Bassanini, Andrea, Luca Nunziata, and Danielle Venn. 2009. "Job Protection Legislation and Productivity Growth in OECD Countries." *Economic Policy*. 24 (58): 349-402.
- Bell, Linda A. 1997. "The Impact of Minimum Wages in Mexico and Colombia." *Journal of Labor Economics*. 15 (3, part 2): S102-S135.
- Bellman, Dale 1992. "Unions, the Quality of Labor Relations, and Firm Performance." in Lawrence Mishel and Paula B. Voss (eds.). *Unions and Economic Competitiveness*. New York: M.E. Sharpe.
- Belot, Michèle and Jan van Ours. 2000. "Does the Recent Success of Some OECD Countries in Lowering their Unemployment Rates Lie in the Clever Design of their Labour Market Reform?," IZA Discussion Paper No. 147. Bonn.
- Belot, Michèle, Jan Boone, and Jan van Ours. 2007. "Welfare Improving Employment Protection." *Economica*. 74: 381-396.
- Bentolila, Samuel and Guiseppe Bertola. 1990. "Firing Costs and Labour Demand: How Bad is Eurosclerosis?" *Review of Economic Studies*. 57 (3): 381-402.
- Bentolila, Samuel, Juan J. Dilado, and Juan F. Jimeno. 2011. "Reforming an Insider-Outsider Labor Market: The Spanish Experience." IZA Discussion Paper No. 6186. Bonn.
- Berg, Janine and Sandrine Cazes. 2006. "The Doing Business Indicators: Measurement Issues and Political Implications." Economic and Labour Market Paper 2007/6. International Labour Organization. Geneva.
- Bertola, Guiseppe, Francine D. Blau, and Lawrence M. Kahn. 2002. "Labor Market Institutions and Demographic Employment Patterns." NBER Working Paper Series No. 9043. Cambridge, MA.

- Bertola, Guiseppe, Tito Boeri, and Sandrine Cazes. 2000. "Employment Protection in Industrialized Countries: The Case for New Indicators." *International Labour Review*. 139 (1): 57-72.
- Besley, Timothy and Robin Burgess. 2004. "Can Labor Regulation Hinder Economic Performance? Evidence from India." *Quarterly Journal of Economics*. 119 (1): 91-134.
- Betcherman, Gordon, Kathryn McMullen, and Katie Davidman. 1998. *Training for the New Economy*. Ottawa: Canadian Policy Research Networks.
- Bhorat, Haroon, Ravi Kanbur, and Benjamin Stanwix. 2012. "Estimating the Impact of Minimum Wages on Employment, Wages and Non-Wage Benefits: The Case of Agriculture in South Africa." Development Policy Research Unit Working Paper 12/149. University of Cape Town.
- Blanchard, Olivier and Justin Wolfers. 2000. "The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence." *Economic Journal*. 110: C1-C33.
- Blunch, Niels-Hugo and Dorte Verner. 2004. "Asymmetries in the Union Wage Premium in Ghana." *World Bank Economic Review*. 18 (2): 237-252.
- Boeri, Tito. 2011. "Institutional Reforms and Dualism in European Labor Markets." in Orley Ashenfelter and David Card (eds.). *Handbook of Labor Economics*. Vol. 4b. Amsterdam: North Holland. 1173-1236.
- Boeri, Tito, Pietro Garibaldi, and Marta Ribeiro. 2010. "Behind the Lighthouse Effect." IZA Discussion Paper No. 4890. Bonn.
- Boeri, Tito and Juan F. Jimeno. 2005. "The Effects of Employment Protection: Learning from Variable Enforcement." *European Economic Review*. 49(8): 2057-2077.
- Boeri, Tito, Brooke Helppe, and Mario Macis. 2008. "Labor Regulations in Developing Countries: A Review of the Evidence and Future Directions for Research." World Bank. Social Protection Discussion Paper 0833. Washington, DC.
- Booth, Alison L., Marco Francesconi, and Gylfi Zoega. 2003. "Unions, Work-related Training, and Wages: Evidence for British Men," *Industrial and Labor Relations Review*. vol. 57 (1): 68-91.
- Bosch, Mariano and Marco Manacorda. 2008. "Minimum Wages and Earnings Inequality in Urban Mexico. Centre for Economic Policy Research." Discussion Paper 7882. London.
- Botero, Juan C., Simeon Djankov, Rafael La Porta, Florencia Lopez De-Silanes, Andrei Shleifer. 2004. "The Regulation of Labor." *Quarterly Journal of Economics*. 119: 1339-1382.

- Brown, Charles. 1999. "Minimum Wages, Employment, and the Distribution of Income." in Orley Ashenfelter and David Card (eds.). *Handbook of Labor Economics*. Vol. 3B. Amsterdam: Elsevier. 2101-2163.
- Brown, Charles, Curtis Gilroy, and Andrew Kohen. 1983. "The Effect of the Minimum Wage on Employment and Unemployment." *Journal of Human Resources*. 18 (1): 3-31.
- Burgess, Simon, Paul Gregg, Carol Propper, and Elizabeth Washbrook. 2008. "Maternity Rights and Mothers' Return to Work." *Labour Economics*. 15(2): 168-201.
- Caballero, Ricardo J., Kevin N. Cowan, Eduardo M.R.A. Engel, and Alejandro Micco. 2004. "Effective Labor Regulation and Microeconomic Flexibility." NBER Working Paper Series No. 10744. Cambridge, MA.
- Cahuc, Pierre and Francis Kramarz. 2004. *De la précarité à la mobilité: vers une Sécurité sociale professionnelle*. Rapport au ministre de l'Économie, des Finances et de l'Industrie et au ministre de l'Emploi, du Travail et de la Cohésion sociale. Paris.
- Calderón, César and Alberto Chong. 2009. "Labor Market Institutions and Income Inequality: An Empirical Exploration." *Public Choice*. 138: 65–81
- Calmfors, Lars and John Driffill. 1988. "Bargaining Structure, Corporatism, and Macroeconomic Performance." *Economic Policy*. 6: 13-62.
- Calmfors, Lars and Bertil Holmlund. 2000. "Unemployment and Economic Growth: A Partial Survey." *Swedish Economic Policy Review*. 7: 107-153.
- Card, David. 1992. "Do Minimum Wages Reduce Employment? A Case Study of California, 1987-89." *Industrial and Labor Relations Review*. 46 (1): 38-54.
- Card, David and Alan B. Krueger. 1994. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania." *American Economic Review*. 84 (4): 772-793.
- Card, David and Alan B. Krueger. 1995. *Myth and Measurement: The New Economics of the Minimum Wage*. Princeton, NJ: Princeton University Press.
- Card, David and Alan B. Krueger. 2000. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania: A Reply." *American Economic Review*. 90 (5): 1397-1420.
- Cingano, Federico, Marco Leonardi, Julian Messina, and Giovanni Pica. 2010. "The Effects of Employment Protection Legislation and Financial Market Imperfections on Investment: Evidence from a Firm-Level Panel of EU Countries." *Economic Policy*. 25 (61): 117-163.
- Deakin, Simon. 2001. *Renewing Labour Market Institutions*. International Institute for Labour Studies. ILO Social Policy Lectures. Central European University. Budapest.

- Deere, Donald, Kevin M. Murphy, and Finis Welch. 1995. "Sense and Nonsense on the Minimum Wage." *Regulation*. 1: 47-56.
- De la Rica, Sara and Amaia Iza. 2004. "Career Planning in Spain: Do Fixed-term Contracts Delay Marriage and Parenthood?" *Review of Economics of the Household*. 3: 49-73
- Del Carpio, Ximena, Ha Nguyen, and Liang Choon Wang. 2012. "Does the Minimum Wage Affect Employment? Evidence from the Manufacturing Sector in Indonesia." World Bank. Processed.
- DiNardo, John, Nicole M. Fortin, Thomas Lemieux. 1996. "Labor Market Institutions and the Distribution of Wages, 1973-1992: A Semiparametric Approach." *Econometrica*. 64 (5): 1001-1044.
- DiTella, Rafael and MacCulloch, Robert. 2005. "The Consequences of Labour Market Flexibility: Panel Evidence based on Survey Data." *European Economic Review*. 49 (5): 1225-1259.
- Downes, Andrew, Nlandu Mamingi, and Rose-Marie Belle Antoine. 2004. "Labor Market Regulation and Employment in the Caribbean." in Heckman and Pagés (eds.). *Law and Employment: Lessons from Latin America and the Caribbean*. Cambridge, MA: NBER Books. 517-552.
- Eichhorst, Werner, Michael Feil, and Christoph Braun. 2008. "What Have We Learned? Assessing Labor Market Institutions and Indicators." IZA Discussion Paper No. 3470. Bonn.
- Eichhorst, Werner, Verónica Escudero, Paul Marx, and Steven Tobin. 2010. "The Impact of the Crisis on Employment and the Role of Labour Market Institutions." IZA Discussion Paper No. 5320. Bonn.
- Elmeskov, Jörgen, John P. Martin, and Stefano Scarpetta. 1998. "Key Lessons for Labour Market Reforms: Evidence from OECD Countries' Experience." *Swedish Economic Policy Review*. 5 (2): 205-252.
- Eyraud, Francois and Catherine Saget. 2008. "The Revival of Minimum Wage Setting Institutions." in in Janine Berg and David Kucera (eds.). *In Defence of Labour Market Institutions: Cultivating Justice in the Developing World*. New York and Geneva: Palgrave MacMillan and International Labour Organisation. 100-118.
- Fairris, David. 2006. "Union Voice Effects in Mexico." *British Journal of Industrial Relations*. 44 (4): 781-800.
- Fajnzylber, Pablo. 2001. "Minimum Wage Effects throughout the Wage Distribution: Evidence from Brazil's Formal and Informal Sectors." Working Paper Series 151, Centro de Desenvolvimento e Planejamento Regional, Belo Horizonte, Brazil.



- Fakhfakh, Fathi, Virginie Perotin, and Andrew Robinson. 2011. "Workplace Change and Productivity: Does Employee Voice Make a Difference?" in Susan Hayter (ed.). *The Role of Collective Bargaining in the Global Economy: Negotiating for Social Justice*. Cheltenham and Geneva: Edward Elgar and the International Labour Organisation. 107-135.
- Farber, Henry S. 2005. "What Do We Know About Job Loss in the United States? Evidence from the Displaced Workers Survey, 1984-2004." *Economic Perspectives*. QII: 13-28.
- Feldmann, Horst. 2009. "The Unemployment Effects of Labor Regulation around the World." *Journal of Comparative Economics*. 37: 76-90.
- Feliciano, Zadia. 1998. "Does the Minimum Wage Affect Employment in Mexico?" *Eastern Economic Journal*. 24 (2): 165-80.
- Fields, Gary S. 2005. "A Guide to Multisector Labor Market Models." World Bank. Social Protection Discussion Paper 0505. Washington, DC.
- Fields, Gary S. and Ravi Kanbur. 2007. "Minimum Wages and Poverty with Income-Sharing." *Journal of Economic Inequality*. 5: 135-147.
- Fields, Gary S and Yoo, Gyeongjoon. 2000. "Falling Labor Income Inequality in Korea's Economic Growth: Patterns and Underlying Causes." *Review of Income and Wealth*. 46 (2): 139-59.
- Fougère, Denis, Francis Kramarz, and Julien Pouget. "Youth Unemployment and Crime in France." *Journal of the European Economic Association*. 7 (5): 909-938.
- Frazis, Harley, Maury Gittleman, and Mary Joyce. 2000. "Correlates of Training: An Analysis Using Both Employer and Employee Characteristics." *Industrial and Labor Relations Review*. 53 (3): 443-462.
- Freeman, Richard B. 1993. "Labor Market Institutions and Policies: Help or Hindrance to Economic Development?" *Proceedings of the World Bank Annual Conference on Development Economics 1992*. Washington, DC: The World Bank.
- Freeman, Richard B. 1996. "Why Do So Many Young American Men Commit Crimes and What Might We Do About It?" *Journal of Economic Perspectives*. 10 (1): 25-42.
- Freeman, Richard B. 2000. "Single-Peaked vs. Diversified Capitalism: The Relations between Economic Institutions and Outcomes." NBER Working Paper Series No. 7556. Cambridge, MA.
- Freeman, Richard B. 2005. "Labour Market Institutions without Blinders: The Debate over Flexibility and Labour Market Performance." NBER Working Paper Series No. 11286. Cambridge, MA.

- Freeman, Richard B. 2010. "Labor Regulations, Unions, and Social Protection in Developing Countries: Market Distortions or Efficient Institutions?" in Dani Rodrik and Mark R. Rosenzweig (eds.). *Handbook of Development Economics*. Vol. 5. Amsterdam: Elsevier. 4657-4702.
- Freeman, Richard B. and James L. Medoff, 1984. *What Do Unions Do?* New York: Basic Books.
- Fuller, Dan and Doris Geide-Stevenson. 2003. "Consensus Among Economists: Revisited." *Journal of Economic Education*. 34 (4): 369-387.
- Gindling, Timothy H. and Maria Crummett. 1997. "Maternity Leave Legislation and the Work and Pay of Women in Costa Rica." Processed. University of Maryland Baltimore County.
- Gindling, Timothy H. and Katherine Terrell. 1995. "The Nature of Minimum Wages and Their Effectiveness as a Wage Floor in Costa Rica, 1976-91." *World Development*. 23 (8): 1439-58.
- Gindling, Timothy H. and Terrell, Katherine, 2004. "Legal Minimum Wages and the Wages of Formal and Informal Sector Workers in Costa Rica," IZA Discussion Paper No. 1018. Bonn
- Gindling, Timothy and Katherine Terrell. 2006. "Minimum Wages, Globalization and Poverty in Honduras." IZA Discussion Paper No. 2497. Bonn.
- Gindling, Timothy H. and Katherine Terrell. 2007, "The Effects of Multiple Minimum Wages throughout the Labor Market: The Case of Costa Rica." *Labour Economics* 14 (3): 485-511.
- Glyn, Andrew, Dean Baker, David Howell, and John Schmitt. 2004. *Labor Market Institutions and Unemployment: A Critical Review of the Cross-Country Evidence*. University of Oxford. Department of Economics Discussion Paper No. 168. Oxford.
- Gornick, Janet C. and Ariane Hegewisch. 2010. "The Impact of 'Family-Friendly Policies' on Women's Employment Outcomes and on the Costs and Benefits of Doing Business." World Bank. Processed.
- Gupta, Poonam, Rana Hasan, and Utsav Kumar 2009. "Big Reforms but Small Payoffs: Explaining the Weak Record of Growth and Employment in Indian Manufacturing." MPRA Paper 13496, Munich Personal RePEc Archive, University Library of Munich.
- Haltiwanger, John, Stefano Scarpetta, and Helena Schweiger. 2008. "Assessing Job Flows across Countries: The Role of Industry, Firm Size and Regulations." NBER Working Paper Series No. 13920. Cambridge, MA.
- Hayter, Susan. 2011. "Introduction." In Hayter (ed.). *The Role of Collective Bargaining in the Global Economy: Negotiating for Social Justice*. 1-19.

- Hayter, Susan and Bradley Weinberg. 2011. "Mind the Gap: Collective Bargaining and Wage Inequality." in Hayter (ed.). *The Role of Collective Bargaining in the Global Economy: Negotiating for Social Justice*. 136-186.
- Heckman, James J. 2007. "Comments on 'Are Protective Labor Market Institutions at the Root of Unemployment?' A Critical Review of the Evidence by David Howell, Dean Baker, Andrew Glyn, and John Schmitt." *Capitalism and Society*. 2 (1) Article 5: 1-4.
- Heckman, James J. and Carmen Pagés. 2000. "The Cost of Job Security Regulation: Evidence from Latin American Labor Markets." *Economia*. 1 (1): 109-154.
- Heckman, James J. and Carmen Pagés. 2004. "Introduction." in Heckman and Pagés (eds.). *Law and Employment: Lessons from Latin America and the Caribbean*. Cambridge, MA: NBER Books. 1-107.
- Heyes, Jason and Helen Rainbird. 2011. "Bargaining for Training: Converging or Diverging Interests?" in Hayter (ed.). *The Role of Collective Bargaining in the Global Economy: Negotiating for Social Justice*. 76-106.
- Holzmann, Robert, Yann Pouget, Milan Vodopivec, and Michael Weber. 2011. "Severance Pay Programs around the World: History, Rationale, Status, and Reforms." World Bank. Social Protection Discussion Paper 1111. Washington, DC.
- Hopenhayn, Hugo and Richard Rogerson. 1993. "Job Turnover and Policy Evaluation: A General Equilibrium Analysis." *Journal of Political Economy*. 101 (5): 915-938.
- Hopenhayn, Hugo. 2004. "Labor Market Policies and Employment Duration. The Effects of Labor Market Reform in Argentina." in Heckman and Pagés (eds.). *Law and Employment: Lessons from Latin America and the Caribbean*. Cambridge, MA: NBER Books: 497—516.
- Howell, David R., Dean Baker, Andrew Glyn, and John Schmitt. 2007. "Are Protective Labor Market Institutions at the Root of Unemployment? A Critical Review of the Evidence." *Capitalism and Society*. 2 (1) Article 1: 1-71.
- International Monetary Fund. 2003. *World Economic Outlook: Growth and Institutions*. Washington, DC.
- International Labour Organization. 2012. *World of Work Report 2012: Better Jobs for a Better Economy*. Geneva: International Labour Organization and International Institute for Labour Studies.
- Jones, Patricia. 1998. "The Impact of Minimum Wage Legislation in Developing Countries Where Coverage is Incomplete." Centre for the Study of African Economies. WPS 98/2. University of Oxford.
- Kahn, Lawrence M. 2007. "Employment Protection Reforms, Employment and the Incidence of Temporary Jobs in Europe: 1995-2001." IZA Discussion Paper No. 3241. Bonn.

- Kahn, Lisa B. 2010. "The Long-Term Labor Market Consequences of Graduating from College in a Bad Economy." *Labour Economics*. 17 (2): 303-316.
- Katz, Lawrence F. and Alan B. Krueger. 1992. "The Effect of the Minimum Wage on the Fast-Food Industry." *Industrial and Labor Relations Review*. 46 (1): 6-21.
- Kertesi, Gabor and Janos Kollo. 2003. "Fighting 'Low Equilibria' by Doubling the Minimum Wage? Hungary's Experiment." IZA Discussion Paper No. 970. Bonn.
- Koeniger, Winfried. 2005. "Dismissal Costs and Innovation." *Economics Letters*. 88 (1): 79-84.
- Koeniger, Winfried, Marco Leonardi, and Luca Nunziata. 2007. "Labor Market Institutions and Wage Inequality." *Industrial and Labor Relations Review*. 60 (3): 340-356.
- Korpi, Walter, Tommy Ferrarini, and Stefan Englund. 2009. "Egalitarian Gender Paradise Lost? Re-examining Gender Inequalities in Different Types of Welfare States." Paper prepared for the EMPLOY-FAMNET Workshop. Berlin.
- Kugler, Adriana D. 1999. "The Impact of Firing Costs on Turnover and Unemployment: Evidence from the Colombian Labour Market Reform." *International Tax and Public Finance*. 6: 389-410.
- Kugler, Adriana. 2004. "The Effect of Job Security Regulations on Labor Market Flexibility: Evidence from the Colombian Labor Market Reform." In Heckman and Pagés (eds.). *Law and Employment: Lessons from Latin America and the Caribbean*. 183-228.
- Lazear, Edward P. 1990. "Job Security Provisions and Employment." *Quarterly Journal of Economics*. 105 (3): 699-726.
- Lemos, Sara. 2004. "The Effects of the Minimum Wage in the Formal and Informal Sectors in Brazil." IZA Discussion Paper No. 1089. Bonn.
- Lemos, Sara. 2007. "*Minimum Wage Effects across the Private and Public Sectors in Brazil*." *Journal of Development Studies*. 43 (4): 700-720.
- Lustig, Nora C. and Darryl McLeod. 1997. "Minimum Wages and Poverty in Developing Countries: Some Empirical Evidence." in Sebastian Edwards and Nora Lustig (eds.). *Labor Markets in Latin America*. Washington, DC: Brookings Institution Press. 62-103.
- MacIsaac, Donna and Martin Rama. 1997. "Do Labor Market Regulations Affect Labor Earnings in Ecuador?" Policy Research Working Paper No. 1717. Washington, DC: World Bank.
- Magruder, Jeremy R. 2010. "Intergenerational Networks, Unemployment, and Persistent Inequality in South Africa." *Applied Economics*. 2 (1): 62-85.

- Maloney, William F. and Jairo Nunez Mendez. 2004. "Measuring the Impact of Minimum Wages: Evidence from Latin America." in Heckman and Pagés (eds.). *Law and Employment: Lessons from Latin America and the Caribbean*. 109-130.
- Mandel, Hadas and Moshe Semyonov. 2005. "Family Policies, Wage Structures, and Gender Gaps: Sources of Earnings Inequality in 20 Countries." *American Sociological Review*. 70 (6): 949-967.
- Menezes-Filho, Naercio, Helio Zylberstajn, Jose Paulo Chahad, and Elaine Pazello. 2005. "Unions and the Economic Performance of Brazilian Establishments." in Peter Kuhn and Gabriel Marquez (eds.). *The Economic Effects and Unions in Latin America*. Washington, DC: Inter-American Development Bank. 77-100.
- Messina, Julián and Giovanna Vallanti. 2007. "Job Flow Dynamics and Firing Restrictions: Evidence from Europe." *Economic Journal*. 117 (521): 279-301.
- Micco, Alejandro, and Carmen Pagés. 2006. "The Economic Effects of Employment Protection: Evidence from International Industry-Level Data." IZA Discussion Paper No. 2433. Bonn.
- Mondino, Guillermo, and Silvia Montoya. 2004. "The Effect of Labor Market Regulations on Employment Decisions by Firms: Empirical Evidence for Argentina." in Heckman and Pagés (eds.). *Law and Employment: Lessons from Latin America and the Caribbean*. 351-400.
- Montengero, Claudio E. and Carmen Pagés. 2003. "Who Benefits from Labor Market Regulations?" Policy Research Working Paper No. 3143. Washington, DC: World Bank.
- Morgan, Julian Benedict and Annabelle Mourougane. 2001. "What Can Changes in Structural Factors Tell Us About Unemployment in Europe?" Working Paper Series 081, European Central Bank.
- Morley, Samuel. 1995. "Structural Adjustment and the Determinants of Poverty in Latin America." in Nora Lustig (ed.). *Coping with Austerity: Poverty and Inequality in Latin America*. Washington, DC: The Brookings Institution.
- Neumark, David, Wendy V. Cunningham, and Lucas Siga. 2006. "The Effects of the Minimum Wage in Brazil on the Distribution of Family Incomes: 1996–2001." *Journal of Development Economics*. 80 (1): 136–59.
- Neumark, David, and Olena Nizalova. 2007. "Minimum Wage Effects in the Longer Run." *Journal of Human Resources*. 42 (22): 435–52.
- Neumark, David and William Wascher. 2000. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania: A Comment." *American Economic Review*. 90 (5): 1362-1396.

- Neumark, David and William Wascher. 2007. "Minimum Wages and Employment." IZA Discussion Paper No. 2570. Bonn.
- Nickell, Stephen J. 1997. "Unemployment and Labor Market Rigidities: Europe versus North America." *Journal of Economic Perspectives*. 11 (3): 55-74.
- Nickell, Stephen J. and Richard Layard. 1999. "Labour Market Institutions and Economic Performance." in Ashenfelter and Card (eds.). *Handbook of Labor Economics*. Vol 3C. 3029-3084
- Nickell, Stephen, Luca Nunziata, and Wolfgang Ochel. 2005. "Unemployment in the OECD Since the 1960s. What Do We Know?" *Economic Journal*. 115 (500): 1–27.
- OECD. 1994. *The Jobs Study: Facts, Analysis, and Strategies*. Paris: OECD.
- OECD. 1997. *Employment Outlook*. Paris: OECD.
- OECD. 2004. *Employment Outlook*. Paris: OECD.
- OECD. 2006. *Employment Outlook*. Paris: OECD.
- OECD. 2007. *Employment Outlook*. Paris: OECD.
- OECD. 2011a. *Perspectives on Global Development 2012: Social Cohesion in a Shifting World*. Paris: OECD.
- OECD. 2011b. *Divided We Stand: Why Inequality Keeps Rising*. Paris: OECD.
- Oreopoulos, Philip, Till von Wachter, and Andrew Heisz. 2012. "The Short- and Long-Term Career Effects of Graduating in a Recession." *American Economic Journal: Applied Economics*. 4 (1): 1-29.
- Osterman, Paul. 1995. "Skill, Training, and Work Organization in American Establishments." *Industrial Relations*. 34 (2): 125–146.
- Paes de Barros, Ricardo and Carlos Henrique Corseuil. 2004. "The Impact of Regulations on Brazilian Labor Market Performance." in Heckman and Pagés (eds.). *Law and Employment: Lessons from Latin America and the Caribbean*. 273—350.
- Park, Young-Bum. 1991. "Union/Nonunion Wage Differentials In the Korean Manufacturing Sector." *International Economic Journal*. 5 (4): 79-91.
- Petrin, Amil, and Jagadeesh Sivadasan. 2006. "Job Security Does Affect Economic Efficiency: Theory, A New Statistic, and Evidence from Chile." NBER Working Paper Series No. 12757. Cambridge, MA.
- Popli, Gurleen. 2005. "Rising Wage Inequality in Mexico: Structural Reforms or Changing Labor Market Institutions?" Working Paper 2005016. University of Sheffield, Department of Economics.

- Rama, Martín. 2001. "The Consequences of Doubling the Minimum Wage: The Case of Indonesia." *Industrial and Labor Relations Review*. 54 (4): 864–81.
- Riley, Rebecca, Hilary Metcalf, and John Forth. 2008. *The Business case for Equal Opportunities: An Econometric Investigation*. Department for Work and Pensions. Research Report No 483.
- Rønsen, Marit and Marianne Sundström. 1999. "Public Policies and the Employment Dynamics Among New Mothers—A Comparison of Finland, Norway and Sweden." Discussion Paper 263. Statistics Norway.
- Ruhm, Christopher J. 1998. "The Economic Consequences of Parental Leave Mandates: Lessons from Europe." *Quarterly Journal of Economics*. 113 (1): 285-317.
- Saavedra, Jaime, and Maximo Torero. 2004. "Labor Market Reforms and Their Impact over Formal Labor Demand and Job Market Turnover: The Case of Peru." in Heckman and Pagés (eds.). *Law and Employment: Lessons from Latin America and the Caribbean*. 131-82.
- Scarpetta, Stefano. 1996. "Assessing the Role of Labour Market Policies and Institutional Settings on Unemployment: A Cross-Country Study." *OECD Economic Studies*. 26 (2): 43-82.
- SMERU 2001 *Wage and Employment Effects of Minimum Wage Policy in the Indonesian Urban Labor Market*. SMERU Research Institute. Jakarta.
- Standing, Guy. 1992. "Do Unions Impede or Accelerate Structural Adjustment? Industrial versus Company Unions in an Industrializing Labour Market." *Cambridge Journal of Economics*. 16 (3): 327-354.
- Strobl, Eric, and Frank Walsh. 2003. "Minimum Wages and Compliance: The Case of Trinidad and Tobago." *Economic Development and Cultural Change*. 51 (2): 427–50.
- Summers, Lawrence H. 1989. "Some Simple Economics of Mandated Benefits." *American Economic Review*. 79 (2): 177-183.
- Terrell, Katherine and Jan Svejnar. 1989. *The Industrial Labor Market and Economic Performance in Senegal*. Westview Press.
- Tzannatos, Zafiris. 2008. "The Impact of Trade Unions: What Do Economists Say?" in Janine Berg and David Kucera (eds.). *In Defence of Labour Market Institutions: Cultivating Justice in the Developing World*. 150-191.
- Urizar, Carmen and Sigfrido Lee. 2005. "The Effects of Unions on Productivity: Evidence from Large Coffee Producers in Guatemala." in Kuhn and Marquez (eds.). *The Economic Effects and Unions in Latin America*. 143-172.

- Verner, Dorte. 1999. "Wage and Productivity Gaps: Evidence from Ghana." Policy Research Working Paper No. 2168. Washington, DC: World Bank.
- von Wachter, Till, Jae Song, and Joyce Manchester. 2011. "Trends in Employment and Earnings of Allowed and Rejected Applicants to the Social Security Disability Insurance Program." *American Economic Review*. 101 (7): 3308-3329.
- World Bank. 1990. *World Development Report 1990: Poverty*. New York: Oxford University Press.
- World Bank. 1995. *World Development Report 1995: Workers in an Integrating World*. New York: Oxford University Press.
- World Bank. 2010. *India's Employment Challenge: Creating Jobs, Helping Workers*. New Delhi: Oxford University Press.
- World Bank. 2012. *More and Better Jobs in South Asia*. Washington, DC: World Bank.
- World Economic Forum. 2012. *Addressing the 100 Million Youth Challenge: Perspectives on Youth Employment in the Arab World in 2012*. Geneva: World Economic Forum.
- Zveglich, Jr., Joseph E. and Yana van der Meulen Rodgers. 2003. "The Impact of Protective Measures for Female Workers." *Journal of Labor Economics*. 21 (3): 533-556.