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## How Would Firms Adjust Employment if Labor Market Regulations Were Eliminated? Evidence from the Enterprise Surveys

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# **How Would Firms Adjust Employment if Labor Market Regulations Were Eliminated? Evidence from the Enterprise Surveys<sup>1</sup>**

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## **ABSTRACT**

The present paper avoids some of the well-known pitfalls in estimating the effects on employment arising from actual labor market deregulation in particular countries or cross country comparisons of the rigidity of such regulations. It does so by making use of a rather new and different way of estimating the potential effect on employment at the firm level based on firm-specific responses to a common hypothetical question about the extent to which they would hire or dismiss workers if all existing labor regulations were to be eliminated. The analysis is based on a two stage analysis in which in the first stage the subjective seriousness of labor regulations as an obstacle to the firm's operations and growth is estimated with an ordered probit analysis, the results of which are then used to estimate the effects on percentage changes in employment in the second stage. Hypotheses are put forward about the directions of effects of labor deregulation on measures of both job creation and job destruction for each of several firm, industry and country characteristics. The procedure allows us to test two different links, that between existing measures of the rigidity of existing labor regulations and firm-specific perceptions of the serious of labor regulations as an obstacle to doing business and then between the latter and changes in that firm's employment if all existing regulations on labor were eliminated. The estimates are obtained by taking advantage of firm-specific data from the World Bank's Enterprise Surveys and Doing Business Surveys for some 73 countries and 124 different surveys. While there are limitations on the surveys themselves and the answers to hypothetical questions may not reflect what firms would actually do, the results support the hypothesized relationships and show that the effects could be quite large for those countries with high labor law rigidity indexes and certain firm and industry characteristics.

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## I. Introduction

The severe recession that has emerged throughout the world since the financial crisis that erupted in late 2007 has caused unemployment rates to rise in most countries to levels often not seen since the Great Depression of the 1930s. This has given rise to a diverse set of actions aimed at restoring unemployment rates to normal levels. In some countries because of the speed of its effects, expansionary monetary policy has been the primary means of employment stimulation. Yet, with a number of key countries locked into monetary unions and others with fixed exchange rate regimes tied to that of another country, for quite a few countries discretionary monetary policy is not an option. In some of those (like the US) where such a policy is an option, nominal interest rates are near zero implying that monetary expansion is likely to be ineffective in stimulating economic activity. In other countries, fiscal policy has been the most common policy tool. Yet, many countries have become sufficiently indebted that further use of expansionary fiscal policy to create employment has become either very risky or ruled out by international financial institutions. Other alternatives have included increasing protection on imports, currency depreciation, active labor market policies such as new ways of matching demand and supply of labor through training programs, employment agencies, and deregulation of various government regulations to allow firms more flexibility and the ability to expand. Yet, even protection and depreciation are self-defeating at the global level and rarely have the active labor market policies proven to be effective, especially in the short run. That leaves deregulation, but considering the multiplicity of regulations in effect at any point in time in virtually any country in the world, what should be deregulated?

While acknowledging that many other types of deregulation can potentially stimulate competition, investment, innovation and exports and thereby raise the returns to employment, the focus in this paper is on the deregulation of labor. The rationale is that if firms are discouraged from hiring more workers by the costly procedures that they may have to go through to either hire or fire workers, liberalizing the labor laws and regulations could increase employment. So too if firms are stuck with excessive numbers of workers or constrained in their ability to change work hours and types of workers to meet deadlines set by buyers or changing production technology, existing labor laws may have the effect of raising unit costs of production, lowering the overall efficiency and competitiveness of the economy. For these reasons, labor market deregulation could be a relatively low cost and efficient means of increasing employment and raising the efficiency and competitiveness of the economy.<sup>3</sup>

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<sup>3</sup> For rationale concerning efficiency-increasing effects of labor de-regulation, see Hopenhayn and Rogerson, 1993; Lagos, 2006 and Belot et al., 2007).

Yet, even if there should be some advantages of liberalizing labor regulations, there could be some important disadvantages in terms of undermining the incentive of firms for on the job-training, and commitment on the part of workers to their employers (Michie and Sheehan, 2009; Storm and Naastepad, 2007). Since increasing job-insecurity has been shown to have negative effects on subjective well-being in the well-being literature, even without directly increasing unemployment, the effect of labor market deregulation on simply increasing fears of the repercussions of future unemployment spells could be extremely costly in social terms. Indeed, liberalizing labor laws could actually induce firms to lower employment that were heretofore prevented from doing so by the laws. Especially in democratic countries where workers may be the median voter, governments may understandably be very reluctant to liberalize the labor regulations. Indeed, it is these concerns which explain why there are so few opportunities in any given country and even anywhere in the world at a point in time to evaluate the effects of actual changes in the labor laws. At the same time, these difficulties underscore the importance of better understanding the potential effects on employment if existing regulations were to be changed.

Even in cases where the labor laws are changed in a given country, as is well-known empirical estimation of the magnitude and character of the effects thereof is likely to be plagued by numerous problems. One important one is that, given the social and political concerns about the effects, any actual experience with deregulation is likely to be accompanied by numerous other policy changes (in some cases compensatory) making it difficult to distinguish the separate effects of these different policy actions. Second, even if the laws are changed and without complicating simultaneous changes in other policies, unless the laws are fully and consistently enforced, it still will not be possible to observe and evaluate the effects. Third, there is the usual difficulty of separating out the influence of other influences such as those of the business cycle, international trade, monetary and fiscal shocks, etc, which in some cases might in turn depend on the changes in labor regulations and firm reactions to these changes.

The present paper attempts to estimate the potential effects of labor market deregulation in a very different manner, namely, by making use of firm responses to the following simple hypothetical question: "If you could change the number of regular full-time workers your firm currently employs without any restrictions (i.e., without seeking permission, making severance payments, etc) what would be your optimal level of employment as a percent of your existing workforce?" Firm-specific responses to this question are taken from each firm included in the samples of the World Bank's Enterprise Surveys most of which were undertaken in one or two particular years between 2002 and 2008.

Since these responses vary considerably from sector to sector and even across firms in the same sector and region and may be correlated with the way in which firms view the severity of other institutional and other constraints on their business, we also make use of the

rankings and the degree of severity that firms assign to these other constraints. So as to maximize comparability across countries and years, we confine our attention to those Enterprise Surveys using a common questionnaire, classification system and coding procedures. We also make use of the attempts by the World Bank's Doing Business Surveys to objectively code each country's labor laws so as to construct indices of the degree of rigidity that these laws exercise over firms (primarily manufacturing firms) in hiring workers, firing workers, and adapting work hours to changing market conditions of the firm.

To mitigate the rather severe and well-known problems of selection, simultaneity and other sources of estimation bias in our results, we make use of a two-step estimation procedure. In the first step we estimate the determinants of firm-specific estimates of the perceived severity of labor regulations as an obstacle to that firm's business on the basis of factors exogenous to the firm at that point in time. Then in the second step, we estimate the effects of the perceived seriousness of labor regulations obstacle as well as various firm, industry and country characteristics on the firm's report of the magnitude and direction of changes in employment that the firm would undertake if all existing labor regulations were removed.

Since the effects of labor deregulation can be either positive (employment-creating) or negative (employment-destructing), we use four different measures of employment changes, namely, net job creation, (gross) job creation, job destruction and absolute job change (jobs to be created plus jobs to be destroyed). Also, since labor laws are multifaceted, but the rigidities of existing laws vary in importance from country to country, it is also important to identify at least crudely the types of deregulation that could have the greatest potential effects on employment. To that end we make use of three different indices of labor market rigidity for each country corresponding to the time in which of that country's Enterprise Surveys were carried out. The three different indexes are: an index of rigidity in hiring, an index of rigidity in firing and an overall labor market rigidity index.

Our results suggest that the effects of labor deregulation on firm employment vary substantially across firms within any individual sector, across sectors and across countries. The percentage increases in jobs that would result from labor deregulation are estimated to be larger in firms that are young, small, located in a capital city, significant exporters, technologically capable, domestically and privately owned, and in sectors like textiles and garments for which demand patterns vary over time. Moreover, these effects tend to be larger the more rigid are the country's labor laws and regulations. In most of these cases the effects of labor deregulation on the percentages of jobs destroyed are exactly the opposite, e.g., are larger in firms that are larger, older, foreign or government owned, and less technologically capable. But, on the other, the effects of deregulation on job destruction would increase with the perceived severity of labor regulations as an obstacle to the firm's operations and growth. The effects differ only slightly with respect to the particular type of employment regulatory rigidity.

The remainder of the paper is organized as follows. Section II reviews some relevant literature on labor market deregulation and other sources of employment growth and related methodological issues. Section III outlines the empirical model and identifies the measures used and data sources. Section IV presents the empirical results and Section V our conclusions.

## **II. Review of Literature**

Development economists as well as practitioners have increasingly come to realize that the growth and development of neither firms nor whole economies is strictly a matter of capital formation and human capital growth. Very importantly, there are a variety of risks and uncertainties and information problems which impinge on production, employment and sales decisions. Information asymmetries are especially prominent in long term employment contracts not only because both before and after hiring them, the diligence, conscientiousness and honesty of actual or potential workers may be costly or even impossible to assess, but also because the needs of employers may change with time. In particular, an employer may not know whether she will need as many employees in the future or even if she does, she may not know if she will need the same kind of worker. Especially when, regulations bar the use of short term contracts (to provide more protection to workers), and technology and market conditions are changing over time, employers offering employment contracts in time  $t$  may have little idea of what type of worker will be needed at some fairly distant future date, say  $t+m$ . With respect to both worker capabilities and cooperation on the one hand and firm practices and future firm requirements on the other, there are likely to arise information asymmetries which may give rise to moral hazard and adverse selection that tend to undermine the fulfillment of contracts between agents. Both these factors themselves and total factor productivity or technological growth are likely to depend rather heavily on a wide variety of institutions and policies. But, since each one of these may relax one or more constraints on the firm or the economy's growth, which ones are likely to matter more and of these which are likely to be more fixable at low cost and how?

There are many who claim that labor market deregulation can make it easier for firms to hire labor, and lower the long term costs of labor including eventual termination, thereby lowering the costs of employing labor and thereby stimulation employment. Nevertheless, since some of the labor market regulations are those designed to make it harder and more costly for firms to dismiss redundant workers, it is clear that deregulation of labor markets can in fact decrease employment, thereby raising rather than lowering unemployment rates. The removal of those labor regulations that have the objective of protecting workers from various kinds of exploitation, especially in the case of female workers, may also have the effect of reducing the perceived legitimacy of labor market participation. If so, labor market deregulation may discourage employment via the supply side of the market. Given strong reasons for seeing both positive and negative effects on employment and related

rights and responsibilities of workers on the one hand and employers on the other, it is not surprising that labor market regulation and deregulation are so controversial. Especially in democratic settings, proposals to move labor regulations in one direction or another are likely to receive a great deal of political heat, explaining why labor market reforms are relatively rare.

The empirical evaluation of employment and other effects of labor market regulations and of changes therein has received considerable attention, but mostly in highly developed OECD countries where productivity is high and the complementary institutions such as legal systems, law and order, property rights, and well-functioning bureaucracies are in place. This is also where the most resources have been devoted to the measurement of various kinds of labor market regulations. Yet, with the exception of a few debt crisis-ridden countries of Europe such as Greece, Portugal and Spain, these are for the most part countries with unemployment rates generally no higher than 10 percent, in contrast to many other countries where the rates are much higher. These other countries are also ones where high quality, complementary institutions are less prevalent.

Traditionally, the most common source of evidence on these important questions has come from cross-section studies comparing the effects on firm behavior or aggregate economic outcomes (including employment growth and worker well-being indicators) across countries.<sup>4</sup> Common problems in interpreting the results of such studies are endogeneity of the explanatory variables, even very carefully constructed institutional measures such as indexes of the strength of property rights, the degree of development of financial institutions, where causality could be going from development performance to any of these institutional indexes as well as the other way around. Further, a common finding in studies of this type is that the effects of labor market deregulation on firm or alternatively aggregate performance is that the strength and even direction of these effects may depend on the existence of complementary reforms. Still another common problem in many existing cross country studies examining the effects of labor regulations across countries is that they resort to data coming from different sources in the various countries which may not be comparable, thereby making it difficult to distinguish between different effects and differences in measurement across countries. But even if a common data source is used across countries, as Haltiwanger et al (2008) has shown, the effects of labor regulations on employment and other variables may vary by industry not only because the regulations might vary by industry (something that is actually not common) but more importantly because of the greater need of firms in some sectors to adjust to supply and demand shocks than that of firms in other sectors.

A second and useful source of data is time-varying data on individual countries. But the problem in this is that there is often insufficient variation in these institutional types of variables over time, especially for politically costly changes such as those in labor

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<sup>4</sup> See, e.g. Micco and Pages (2007).

regulations. While the availability of panel data combining repeated observations over time with those across countries and across firms can be appealing, the facts that the institutional indicators are national level ones and change little over time limit the usefulness of even such data. And even with panel data in which changes in the institutional measures can be detected, the context becomes more complex because of interdependencies among different type of regulations or reforms therein. For example, using panel data for OECD countries over the period 1980-2002, Fiori et al(2007) show that the effects of product market liberalization on employment is stronger when labor market regulations are especially strict. This would imply a certain degree of substitutability between the two types of reforms on employment creation. Moreover they also showed that product market liberalization tends to promote labor market deregulation.

Notably, in recent years a new source of data on the institutional and other obstacles that firms face in doing business have come into use based on the Doing Business Surveys of the World Bank. Among other things, these surveys ask firm managers to subjectively rank and score by degree of severity the various identified obstacles to doing business. Among the obstacles identified are insufficient access to electricity, to finance, to transportation, and to the burdens of high tax rates, unclear or unfair tax administration, labor regulations, licensing procedures, unfair competition and the shortcomings of courts. Similar questions have been included in the World Bank's Enterprise Surveys which allow the analyst access to the firm-specific responses. Such surveys now exist for close to 100 countries (mostly developing and transition countries).<sup>5</sup>

Naturally, given the subjectivity of such responses, which could be subject to all sorts of random whims, for example about how well the respondent feels on the day of the survey, some skepticism about their validity is warranted. Yet, for the specific case of the firm level perceptions of labor regulations as an obstacle to doing business taken from the Investment Climate Surveys (that were forerunners to the Enterprise Surveys of the World Bank), Pierre and Scarpetta (2006) demonstrated that the country-specific scores on the index of rigidity of labor regulations constructed from the laws themselves was positively and significantly related to the firm level perceptions of the seriousness of this obstacle from the aforementioned surveys.<sup>6</sup>

As noted in Carlin and Seabright 2007 and Carlin, Schaffer and Seabright (2007), studies making use of these responses to construct new measures of Institutional factors of relevance to firm and country economic performance have already led to some interesting paradoxes that have in turn led to several interesting approaches to try resolve or explain these paradoxes. For example, Dollar et al (2005) made several important points based on

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<sup>5</sup> In quite a few cases, these surveys sample the same country at more than one point in time and in a few cases at least for they do so for some of the same firms.

<sup>6</sup> Also relevant to the present study is that they showed that the effect of the rigidity of the labor regulation index was stronger in firms that were either expanding or contracting employment and in those that were innovators.



the managerial surveys as well as firm accounting data from four large developing countries with similar industrial structures and levels of per capita GDP in 1990 but very different growth trajectories in the subsequent decade (Bangladesh, China, India and Pakistan). First, they showed that the various elements of the business environment varied not only across countries but also across regions and industries within each country. Second, they pointed to an important paradox in that while telecom (delays in getting a phone line) was seldom mentioned as of above average importance by the managers, it was the most important of the institutional indicators in explaining firm productivity. Third, they showed that the firms in locations with better investment climate have higher productivity indexes and higher wage rates and higher growth rates than those with more disadvantageous institutional indicators. Although the introduction of country dummies (capturing the cross country differences in other non-measured and or non-included factors) considerably lowers each of the aforementioned effects, most of these effects are still significant, reflecting the influence of the within-country differences in these factors.<sup>7</sup> Much of the analysis was concentrated on garment firms, many of which are exporters. The authors explain their results by arguing that firms in locations with less favorable investment climates were able to export only thanks to lower wage rates and returns to capital. None of the institutional indicators or obstacles to business, however, included labor market regulations.

Another example of the attempt to examine the effect of institutional obstacles to firm growth and development identified from firm-level responses from the Enterprise and other similar surveys is Ayyagari et al (2008). These authors make use of larger number of these institutional indicators. One of their main findings was the interrelatedness of the different indicators. Many of the indicators included were found to have only indirect influences on firm growth through their influence on other indicators. Using both Directed Acyclic Graph (DAG) methodology and regressions, they found that only crime, political instability and especially access to finance had significant direct effects on firm growth. Other factors often rated even higher on the list of obstacles - like tax rates and tax administration -, on the other hand, turned out not to have significant negative effects. By the same token, however, these results might suggest that lower-ranked obstacles could turn out to be the most important if they had important influences on the effects of several other institutional indicators. Once again, these authors did not include labor regulations among the indicators considered.

Carlin and Seabright 2007 and Carlin, Schaffer and Seabright (2007) contribute to the resolution of some of these apparent paradoxes in the following ways. First, with respect to the telecommunications paradox arising in Dollar et al (2005), they suggest that one explanation could be reversed causality (applicable also to some of the findings using

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<sup>7</sup> An even stronger result with respect to within country versus between country differences in the institutional indicators can be found in Commander and Svejnar (2007) which showed that within country variations in these indicators across sectors and firm sizes) were nowhere near as important in their influence on firm performance as were foreign ownership and the degree of competition faced by the individual firm.

conventional measures of institutions) wherein countries with higher incomes may also demand more in the way of telecommunication services. While this possibility could be addressed and tested through the use of appropriate instruments in the empirical estimation, the authors reported that they were unable to identify any variables that satisfied the requirements for good instruments. Second, as an alternative explanation of this and other similar paradoxes, they point out that some of these perceived constraints on or obstacles to doing business are more likely to be relaxed by increased supply of private goods (like finance or electricity) whereas others would be more likely to be relaxed by increased supply of public goods (like control of corruption, more efficient operations in the customs or more efficient labor regulations). Telecommunications constraints could in principle reflect either but the fact that it becomes so significant leads them to believe that it is not the externality (relaxed by a public good supply) but rather the private good element (reflecting the benefit of having a telephone at lower cost in terms of time and money). They apply the same logic to the Ayyagari et al (2007) paradox, by arguing that the indicators found to be important in explaining firm performance (especially crime and finance) would again be ones in which the private good elements of their benefits would be especially important whereas those ranked more highly, like tax regulations and tax administration, would be more public goods oriented, but as such not exogenous. This is because societies in which firms demand more in the way of public goods are likely to be willing to pay higher taxes.

Another paradox that Carlin et al (2007) attempt to resolve by the use of the firm level manager evaluations is one identified in Hausman, Rodrik and Velasco (2005). These authors proposed a relatively simple macroeconomic framework based on interest rates, rates of return, what happens when remittances or export earnings rise for exogenous reasons, etc. for identifying the most important constraint operating in each country. Of the two Latin American countries analyzed within this framework, Brazil was identified as one where the constraints are excessive macroeconomic risk and increasingly inadequate domestic savings. For the other, El Salvador, however, because banks appear to have excess liquidity and despite sharply increased remittances and supposedly good institutions, investment does not rise, they suggested that the constraint must be lack of innovation and entrepreneurship. Carlin et al (2007) show that the respective country-level averages of the absolute scores assigned to some of the relevant constraints by the managers surveyed in the Enterprise Surveys of these countries are quite consistent with this analysis. In particular, the obstacles associated with macro level risks and problems, like high tax rates and financial costs, were seen as serious obstacles in Brazil, but entrepreneur-level ones like crime, corruption and anti-competitive behavior in the relevant markets were ranked relatively high in El Salvador. The differences, however, were quite small. Moreover, El Salvador's average scores for crime, corruption and anti-competitive behavior are (again in absolute terms) lower than those not only of Brazil but also of the other four countries in Central America. Yet, they point out that, when one compares instead the importance of the

scores given to each individual indicator **relative** to the average of all scores across countries, one finds much more pronounced differences, suggesting that the within country variations among firms in relative importance may contribute substantially to the analysis. Nevertheless, aside from one figure indicating that labor regulations were ranked as above average in importance in less than 20 percent of the countries, even Carlin et al (2007) have not seriously indicated the influence of the labor regulations constraints.

The two recent studies that to our knowledge come closest to the present study are Seker (2010) and Bhaumik et al. (2011). Seker (2010), following earlier studies (Melitz, 2003 suggesting that the most efficient and profitable firms are more likely to export and Helpman and Itskhoki, 2009 suggesting that labor market rigidities impede exports), hypothesized that labor market rigidity is more likely to impede the ability of export in those sectors for which job turnover is more important but which is impeded by labor regulations. The results support the author's hypothesis about the firm's ability to export and are shown to be robust to alternative specifications of the set of explanatory variables, definitions of exports, firm size and industry samples and the composition of workers, and the use of panel data.

Bhaumik et al (2011), on the other hand, examined the effect of a measure of labor market flexibility from Botero et al (2004) (which was a forerunner to the indexes of employment law rigidity constructed in Doing Business) as well as other institutional indicators on firm level productivity across countries and especially within countries across different types of firms based data on firm performance from the Enterprise Surveys. They did this for a single industry, textiles and clothing, in nine developing countries, each of which afforded a sufficient number of firm-specific observations. The choice of this industry was also fortuitous because it is a sector believed to reflect comparative advantage of a number of developing countries and also because it is a sector in which worker turnover is high and hence labor market regulations are very relevant. Hypothesizing that the effects of labor market rigidity (or in their case flexibility) would vary across different types of firms, they found that indeed small and other disadvantaged firms were negatively affected by labor market deregulation, thereby calling into question the validity of "one size fits all" labor market reform proposals.

Seker (2010) and Bhaumik et al (2011) shared the same focus as in the present study on the effects of labor regulations (among other institutional factors) and the use of similar or even identical data. In the case of Seker (2010) our commonality also extended to the use of responses to the same question in the firm level surveys, namely, "If you could change the number of regular full-time workers your firm currently employs without any restrictions (i.e., without seeking permission, making severance payments, etc) what would be your optimal level of employment as a percent of your existing workforce? (e.g., 90% implies you would reduce your workforce by 10%, 110% means that you want to expand by 10%)".

There are, however, some very significant differences between our study and these other two studies. First, while Seker's study was restricted to 26 countries of Central and Eastern Europe and Central Asia, some of which had rather small samples in the years between 2002 and 2005, and Bhaumik's to nine developing countries, our study makes use of the so-called "Comprehensive" (and more strictly comparable) Enterprise Surveys from the 50 or more (mostly developing) countries from several different continents, each with reasonably large samples with answers to the most relevant questions. Many of these surveys are for somewhat more recent years centered more or less on 2005. Second, while in Seker (2010) net job creation was computed at the industry level and then used (along with other firm level controls and industry dummies) as an exogenous variable to explain variation across firms in their ability to export, and in Bhaumik et al (2011) the focus was on the effects on productivity, in our case we make use of the individual firm measures of net job creation and use them to explain the effects of the labor rigidity indexes on employment creation.

### **III. Data and Empirical Model**

As noted above we attempt to assess the usefulness of labor deregulation on employment by relating firm-specific answers to the aforementioned hypothetical question<sup>8</sup> about the extent to which the firms would respond to the elimination of existing labor regulations to firm, to a variety of industry and country level characteristics, including the country's index of the rigidity of existing labor regulations. The firm-specific responses to this question are taken from the samples for the World Bank's Enterprise Surveys undertaken between 2002 and 2006. To maximize comparability, we confine our attention to those surveys making use of the Comprehensive Survey Questionnaire and common coding system and survey procedures. This source contained surveys from the 85 countries listed in the first column of Table 1, as indicated in some cases with separate surveys for more than one year within this interval, for a total of 124 surveys. This same source is used for data on relevant firm and industry characteristics (size of firm, age of firm, location, industry, indicators of technology, and export). Another set of measures of crucial relevance to the study are the subjective evaluations by each firm in each such survey of the relative importance (usually on a 0-4 scale) of a whole series of constraints or obstacles to doing business<sup>9</sup> including labor regulations. Another related indicator for each country and survey is that country's score on three different indexes of rigidity its employment laws and regulations constructed by the World Bank's Doing Business Surveys for the year corresponding to the year of the Enterprise Survey. The three different indicators are one for difficulty in hiring, another for difficulty in firing and an overall index. Data for most other firm and industry characteristics are taken from other firm specific responses in the Enterprise Surveys.

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<sup>8</sup> "If you could change the number of regular full-time workers your firm currently employs without any restrictions (i.e., without seeking permission, making severance payments, etc) what would be your optimal level of employment as a percent of your existing workforce?"

<sup>9</sup> The other obstacles are listed in Table 2 below

However, not all of the 124 surveys contained responses to the aforementioned key hypothetical question as well as answers to each of the other explanatory variables used in the analysis. After omitting all such surveys with entirely missing information on any of the most relevant measures, this left us with the 73 countries and 107 Enterprise Surveys listed in the fourth column of Table 1 along with the number of observations for all relevant indicators from each survey. While the sample includes a few highly developed countries like Germany and (South) Korea, some Southern European countries and several very poor countries from Africa, and Asia, middle income countries (many of which are from Central and Eastern Europe, Latin America and Asia) are well represented in the sample.

To mitigate the rather severe and well-known problems of selection, simultaneity and other sources of estimation bias in our results, we make use of a two-step estimation procedure. In the first step we estimate the determinants of firm-specific estimates of the perceived severity of labor regulations as an obstacle to that firm's business on the basis of factors exogenous to the firm at that point in time. Then in the second step, we estimate the effect of the perceived seriousness that obstacle as well as various firm, industry and country characteristics on the firm's report of the magnitude and direction of and changes in employment that the firm would undertake if all existing labor regulations were removed.

The specification of the two stages is as follows:

In the first stage of the analysis, we focus on two instruments, one of the aforementioned three country-specific measure of rigidity of labor regulations (Hiring, Firing or Overall) at the country-level and another measuring the firm's subjective index of severity of certain other obstacles to doing business. These include obstacles that were believed to be closely related with labor regulations and employment, such as inadequately educated workforce (Obstacle Education), practices of competitors in the informal sector (which presumably do not abide by the various regulations including of course labor regulations)(Obstacle Informal) , as well as the difficulty of business licensing and permits (Obstacle License) and a simple average of the seriousness of several other obstacles to doing business (Obstacle Avg.)<sup>10</sup> The rationale for the latter less labor-related indexes was to control for variations across firms in their overall tendency to rate the obstacles as very serious.<sup>11</sup> Since small firms are more likely to be informal themselves and therefore not view labor regulations as

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<sup>10</sup> Obstacle Avg. is the mean of the difficulty of access to (1) telephone, (2) electricity, (3) transportation of goods, supplies and inputs, and (4) land as well as the seriousness of (5) tax rates, (6) tax administration, (7) customs and trade regulations, (8) political instability, (9) macroeconomic uncertainty, (10) corruption, (11) crime, theft and disorder and (12) courts.

<sup>11</sup> This should have the effect of allowing the absolute value of the Obstacle Labor index to at least partially reflect relative importance of the labor obstacle relative to others.

a serious obstacle to their own business, we also include dummy variables for medium and large size (Medium Size and Large Size, respectively)<sup>12</sup>.

Each firm's observed evaluation of the severity of labor regulation is used to estimate an unobserved latent variable for that firm,

$ObstLabor_i$ , in terms of other individual individual firm and country characteristics, including the firm's evaluations of the other obstacles, labor law rigidity index (Law Index) and firm size in the following way:

$$ObstLabor_i^* = \alpha_0 + \alpha_1 Law Index_i + \alpha_2 ObstAvg_i + \alpha_3 ObstInformal_i + \alpha_4 ObstLicense_i + \alpha_5 MediumSize_i + \alpha_6 LargeSize_i + \varepsilon_i,$$

The observed evaluation  $ObstLabor_i$ , is a categorical ordered response variable ranging from "No Obstacle", "Minor Obstacle", "Moderate Obstacle", "Major Obstacle" to "Very Serious Obstacle". As with all the other obstacles used as instruments determining Obstacle Labor mentioned above, the responses are coded on a 0-4 scale, with 0 for "No obstacle" and 4 for "a Very Serious Obstacle". This observed variable is assumed to be related to the latent variable in the following way:

$$ObstLabor_i = \begin{cases} 0 & \text{if } ObstLabor_i^* < c_1 \text{ (No obstacle)} \\ 1 & \text{if } c_1 < ObstLabor_i^* < c_2 \text{ (Minor obstacle)} \\ 2 & \text{if } c_2 < ObstLabor_i^* < c_3 \text{ (Moderate obstacle)} \\ 3 & \text{if } c_3 < ObstLabor_i^* < c_4 \text{ (Major obstacle)} \\ 4 & \text{if } c_4 < ObstLabor_i^* < c_5 \text{ (Very Severe Obstacle)}, \end{cases}$$

Where  $c_1, c_2, c_3, c_4, c_5$  are threshold levels and  $c_1 < c_2 < c_3 < c_4 < c_5$ .

In the second stage of the analysis, we aim to estimate the effects of the perceived seriousness of labor regulations obstacle ( $ObstLabor_i$ ) on the magnitude and direction of and changes in employment that the firm would undertake if all existing labor regulations were removed ( $Job_i^*$ ).

$$Job_i^* = \beta_0 + \beta_1 ObstLabor_i + \beta_2 LaborIntensity_i + \beta_3 ObstLabor_i * LaborIntensity_i + \beta_4 Size_i + \beta_5 ObstLabor_i * Size_i + \beta_6 X_i + \mu_i,$$

Among the explanatory variables ( $X_i$ ) included in the second stage of the analysis are firm, industry and country level characteristics. The firm level characteristics included are Age (and Age squared  $A^2$ ), location in the capital city (Capital City) dummy variables for being a large direct or indirect exporter (Large Direct Export and Large Indirect Export), dummy variables representing two different minimum thresholds of foreign ownership (Foreign 1 and Foreign2), a dummy for government ownership, two measures for technological

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<sup>12</sup> Small-sized firms are defined as firms with up to 20 employees(including permanent workers and temporary workers); Medium-sized firms are firms with the employee number between 20 and 100. Large-sized firms are firms with more than 100 employees.

proficiency, possessing a Quality Certificate and using email for conduct of business (Email). For industry level controls we include dummy variables for different sectors, Service, Textiles and Garments and Other manufactures, as well as an index of labor intensity for the more narrowly defined sector in which the firm operates (Labor Intensity). To avoid endogeneity, the labor intensity index is intended to reflect technological differences across sectors and is constructed from US data. Finally, the other country level control is for GDP per capita. As indicated in the specification for equation (2) above, we allow for interactions between Obstacle Labor and the labor intensity.

Since the effects of labor deregulation can be either positive (employment-creating) or negative (employment- destructing), we use four different measures of the employment changes the firm believes would result if the labor regulations were removed. These are (1) the net percentage increase in employment (positive or negative), (2) the percentage increase in employees (Job Creation), (3) the percentage decrease in employees (Job Destruction) and (4) the percentage change in employment in either direction (Job Change) that the firm's respondent says would occur if the country's labor regulations were eliminated.

$$Job_i = \begin{cases} 0 & \text{if } Job_i^* < 0 \\ Job_i^* & \text{if } Job_i^* > 0 \end{cases}$$

where  $Job_i = \{Job\ Creation, Job\ Destruction, Job\ Change, Absolute\ Job\ Change\}$ .

As is well known to the users of the World Bank's Enterprise Surveys and as can be seen on the survey's website (<http://www.enterprisesurveys.org/>) in quite a few countries, especially those where either the labor laws and regulations are rated as very low on the rigidity index of the World Bank's Doing Business Surveys or where most firms are in the informal sector, labor regulations are seldom rated as even of moderate importance as an obstacle. Since in obtaining our estimates of the potential effects of labor market deregulation, we wanted to take advantage of within country variations in the perceived importance of labor regulations to the extent possible, we have divided the available sample of countries into three groups according to the likelihood of potential variation within countries in the perceived relevance of labor regulations. To that end we made use of answers to another question in these surveys, out of all the 15 obstacles to the operations and growth of the firm identified in the survey, the one which was rated the most important. Countries included in our preferred group (Group 1) were those where a minimum of 1.5% of the firms in the survey mentioned labor regulations as the most important obstacle. Group 2 was the group of countries for which less than 1.5% identified labor regulations as the most important obstacle. The remaining countries put into Group 3 were those for which this information was not available. Hence, the Group 1 sample would be expected to be a promising one for measuring the possible effects of removing the labor regulations whereas the Group 2 sample would be unlikely to be useful because of the relative unimportance of labor regulations. Lacking the relevant information on the

percentage of firms rating labor regulations as the most important obstacle, the usefulness of Group 3 is considered unknown, possibly with results in between those of Groups 1 and 2.

Descriptive statistics (means and standard deviations), along with more precise definitions of some of the measures, are provided in Table 2 for the full sample and for Groups 1-3 separately. These are the samples for which information on all relevant variables in the analysis is available. Size is a variable that ranges from 1 to 3, for small, medium and large firms, respectively. All the other measures are as defined above (and in the footnotes to the table). As can be seen from the bottom row there are almost 40 thousand forms in the full sample with a little over half in Group1.

In the full sample, the average firm has been in operation for a little over 16 years, small in size, a little over a quarter of them located in the capital city, under 10% are classified as being a large exporter, about 10% of them have foreign ownership exceeding 50% and an additional 2% have foreign ownership shares between 1% and 50%, and a little over 5% are at least 50% government owned. 15% of the sample firms have a quality certificate and 60% use email. With respect to the relative importance of the different obstacles to the operations and growth of the firm, in general the labor obstacle is not ranked very high, indeed only slightly above the minimum to be classified as a minor obstacle and is ranked below all the other obstacles in importance except the license and permits obstacle. With respect to the three broad sectors for which we use dummy variables in the second stage of the analysis, 37% are in Services, over 31% in Other Manufacturing and 11.6% in Textiles and Garments, a sector that is both labor intensive and likely to prefer very flexible labor markets so as to be able to meet the changing seasonal, technological and especially market conditions typical of this sector. With respect to both the overall labor rigidity index and the rigidity of firing index, the average firm in the sample is in a country ranked 44 on a 0-100 index. On the rigidity of hiring rigidity index, the average firm is in a country ranked a little above 36<sup>th</sup>. Because of large numbers of zeros among the responses to the reported employment changes, on average the percentage changes either in net job creation, job creation, job destruction or absolute job change are quite modest, ranging from 3% for job destruction to about 14% for absolute job change.

While few of the differences in these measures across groups are statistically significant, one can see that our preferred group, Group 1, has firms that are slightly older, slightly smaller, less likely to be located in the capital city, less likely to be a large exporter, and either foreign or government owned. As expected, on average, firms in group 1 rate the seriousness of the labor obstacle a little higher and are more likely to be in Textiles and Garments than those in other groups. Somewhat surprisingly, Firms in Group 1 do not stand out from those in the other groups in any of the other dimensions, including the labor law indexes and the various job change variables.



Before proceeding to our two-step estimation procedure, for comparison purposes we provide initial estimates with a simple one-step procedure “Naïve Regressions” for each of the four dependent variables, using each of the other variables listed in Table 2 as explanatory variables. Because of the different ranges that the observations can take for the different measures, these naïve regressions use different estimation procedures, namely, OLS for Net Job Creation since for this measure the values can be either positive or negative, but Tobit for each of the other measures since these are bounded from below at 0.

Before turning to the results themselves of these naïve regressions, let us state what we might expect. Since from the existing literature on job creation and firm entry and exit in which these are known to occur especially among relatively new and small firms, we would expect both age and the large and medium size dummies to have negative influences in all tables involving job creation but the opposite for job destruction. Because location in the capital city might imply stricter enforcement of labor and other regulations, one might expect the coefficient for Capital City in these regressions, especially those concerning job creation, to be positive. Because foreign owned firms might be expected to have important production options in other countries, they might well be less affected by the elimination of existing labor regulations. Because many government owned firms are already overstaffed since appointment to them can be politically important, we hypothesize that government owned firms would be less likely to hire workers but more likely to fire workers if labor regulations were abolished. As indicated above, because of their labor intensity as well as their vulnerability to seasonality and changing stylistic, technological and market conditions, we would expect the dummy variable for Textiles and Garments to have positive effects on all four measures of the dependent variable and probably the same for the Labor Intensity index. While we are less sure as to what to expect from the large exporter and technological proficiency variables, we offer at least a guess that these measures would have positive influences on the job creation measures but negative ones on the Job Destruction. For the influence of GDP per capita we are totally agnostic because this measure could reflect many different influences, e.g., higher wage rates and better enforcement of regulations that might lead us to expect positive influences on all measures or higher levels of development and therefore better developed markets, less vulnerability to business cycle and other influences, and greater ability of firms to adjust to changing circumstances.

Last but not least with respect to the results we might expect, we would expect the effect of Obstacle Labor to be positive on each of the four dependent variables, especially so for Group1, and perhaps not at all for Group 2. Indeed, only if we can find some support for a positive effect of Obstacle Labor on at least some of the employment change variable (Job) for Group 1 would encourage moving onto the two step estimation procedure identified above.

#### IV. Empirical Estimates

The OLS estimates of the Naïve Regression for Net Job Creation are given in Table 3, and the Tobit estimates for Gross Job Creation, Job Destruction and Absolute Job Change are given in Tables 4, 5 and 6, respectively. Given the aforementioned importance of the Obstacle Labor effect on the four different Job Change measures for the validity and relevance of our two-step procedure, the coefficients of Obstacle Labor are highlighted in each of these tables.

For reasons give above, it is only important that the coefficients of Obstacle Labor should be positive and significant in the estimates based on the Group 1 sample. In fact, we might expect no positive and significant effects in the case of Group 2 because this group was limited to countries where the labor laws were either not at all rigid or most firms were informal so that they would not be directly affected by changes in labor regulations. Notice that for the Group 1 sample, in each of these four tables, the coefficient of Obstacle Labor is in fact positive and significant at the 1% level whereas for Group 2 the coefficient is negative and not significant at even the 5% level for any of the Job Creation measures, though it is positive and significant in Table 5 for Job Destruction. As expected also, the results for Group 3 are more mixed, with insignificant effects of Obstacle Labor in Tables 3 and 4 but positive and significant (though rather small) ones for in Tables 5 and 6 for Job Destruction and Absolute Job Change, respectively. In all four tables the coefficient of Obstacle labor on the dependent variable is positive and significant for the full sample.

In the interest of space, we do not repeat what can easily be seen directly from the tables about the effects of the other variables. While as expected the effects of age are generally nonlinear, as hypothesized the effects of age on the three Job Creation measures are negative and significant in most samples but positive and significant on Job Destruction. The effects of Capital City location are positive and significant for most samples in all four tables, and as hypothesized the effect of at least one of the large exporter measures is positive and significant for the full sample and Group 1 in Tables 3, 4 and 6 but negative and somewhat significant for the full sample in Table 5 for Job Destruction. Similarly, the effect of the Textiles and Garments dummy is positive and significant for most samples in Tables 3, 4 and 6 but negative for Job Destruction in Table 5. The effects of Labor Intensity are somewhat more mixed especially since Labor Intensity also appears in interactions with Obstacle Labor. But, the stand-alone effect is positive and significant for the full sample and for Group 1 in Tables 4-6. The effects of Foreign ownership are as expected negative and significant for Group 1 and the full sample in Tables 3, 4 and 6 whereas those for Government ownership are negative and significant in Tables 3 and 4 but positive in Tables 5 and 6 in most samples. As expected, the effects of the Medium Size and Large Size dummies are negative and significant in the Job Creation Tables (Tables 3 and 4) in most samples and positive and significant in Table 5 for Job Destruction with more mixed results for Absolute Job Change in Table 6. With respect to the technological capacity indicators, Quality Certificate and Email,

where they are significant, they are positive in Tables 3, 4 and 6 and negative in Table 5 for Job Destruction.

Given the evidence from these Naïve Regressions in support of the relevance of Obstacle Labor and most of the other determinants included in the models for each of the four Job Change measures under study here, we turn next to the empirical estimates based on the two-step estimation procedure as specified in equations (1) and (2) above.

Table 7 presents the results for the ordered probit estimates for Obstacle Labor in which it is the Overall Labor Law Index that is used as one of the determinants, the others being Obstacle avg, Obstacle Education, Obstacle Informal, Obstacle License, Medium Size and Large Size. As can be seen in the table, each of the determinants is estimated to have positive and highly significant effects on Obstacle Labor in all samples, with but two minor exceptions, Obstacle Informal in the Group 2 sample and Medium Size in the Group 3 sample. In both of these exceptional cases, the coefficients are positive but not statistically significant. According to the pseudo  $R^2$  reported in the table, the explanatory power of this important first stage is at least respectable. Especially important are the effects and significance of the first five of these measures which play the role of instruments, appearing in this first stage but not the second stage of the two-step procedure. The first of these determinants is the Overall Labor Law Rigidity Index. The fact that it is positive and highly significant serves to link the rigidity of existing labor laws and regulations to firm-specific measures of the perceived severity of labor regulations as an obstacle to the firm's operation and growth. Since the Overall Rigidity Index is scored on a 0-100 scale, one can interpret the parameter value of 0.00514 for Group 1 for this variable as indicating that if the country were to undertake such a reform as to change it from the maximum labor Law rigidity to rank it as the least rigid country in this respect, it would add 0.514 to the average firm's perceived value of Obstacle Labor as an obstacle to its operations and growth. For the full sample the corresponding estimate would be 0.71, still not large but nevertheless not inconsequential. Note, that from experimenting with other versions of this equation in which some of the other obstacles were excluded, we have found that this coefficient would be larger, but at the cost of lower overall explanatory power (indicated by the Pseudo  $R^2$ ) which even as it is only fairly modest.

Next we turn to the results of the second stage regressions in which the predicted values for Obstacle Labor from the Ordered Probit estimates are used on the right hand sides of these equations both independently and interacted with both Labor Intensity and the Medium and Large Size dummy variables. Table 8 presents the OLS estimates for Net Job Creation, and Tables 9, 10 and 11 the Tobit estimates for (Gross) Job Creation, Job Destruction and Absolute Job Change, respectively.

As can be seen, the direction and statistical significance of most of these determinants are the same as they were in the corresponding Naïve Regressions. For example, the effects of age are negative and significant in all samples for Net Job Creation, Gross Job Creation and

Absolute Job Change but positive and significant for Job Destruction. Just the opposite results are again obtained for Capital City, with positive and significant parameter values for most samples in the equations for Net Job Creation, Gross Job Creation and Absolute Job Change but negative and significant ones for Job Destruction. A similar pattern, though less frequently statistically significant is evident for one of the Larger Exporter variables. The patterns for foreign and government ownership in Tables 8-11 are almost identical to those for the same variables in the Naïve Regression Tables of Tables 3-6. Similarly, the effects of either or both Quality Certificate and Email are positive and significant on Net and Gross Job Creation and Job Change in Tables 8, 9 and 11 but negative and significant for both Group 1 and the full sample in Table 10 for Job Destruction just as they were in the corresponding Naïve Regression tables. The pattern for the Labor Intensity, Medium Size and sector dummy variables are also very similar to what they were in the earlier tables. For the most part, all these findings support our expectations concerning the direction of each of these effects.

Of crucial importance to the basic objective of the paper are the effects of Obstacle Labor from the two-step procedure on the various Job Change measures. The coefficients represent the estimates of the percentages by which each respective job change variable would be affected by reducing the overall labor regulation rigidity index by one unit. Recalling from the means of Table 2 that the severity of that index was generally only a little over 1 for Group 1, implies that a unit decrease in Obstacle Labor would reduce it to zero. Hence, for the average firm in Group 1 7.6% would represent the maximum net job creation that could be achieved. However, for firms which rank Obstacle Labor somewhat higher with a value of 2, 3 or 4, complete deregulation could have somewhat larger effects. Notice, moreover, that the effect of Obstacle Labor on Gross Job Creation in Table 9 is considerably higher (over 29%). Even in the overall sample, the Obstacle Labor coefficient is over 20%. The effects of Obstacle Labor on Job Destruction in Table 10 are almost 8% for Group 1 and over 6% in the full sample. As can be seen by comparing these coefficients across the various samples, the stand-alone effects of this measure are now more consistently positive and significant across samples and the job change tables and also generally larger in magnitude than they were in the Naïve regressions. For example for Group 1, according to Table 9 with the two-step procedure, for every one unit higher value of Obstacle Labor, labor deregulation would now increase gross job creation by 29% whereas in table 4 from the naïve regression estimates this would have been only a little over 16%.

Naturally, since there are also interaction effects of Obstacle Labor with the size and labor intensity variables, an evaluation of the overall effects is more complicated. From the two size interaction terms it can be seen that the aforementioned 29%% increase in Gross Job Creation from the Group 1 results in Table 9 would be reduced almost 5% if the firm was of medium size and by over 7% if it was of large size. While again for Group 1 and Table 9 an increase in the labor intensity of the sector in which the firm operates by one unit would by itself raise job creation by over 3%, this effect would be 1.2% lower for each unit increase in

Obstacle Labor. Hence since these various interaction terms involving Obstacle Labor are mostly negative for large firms in labor intensive sectors the effect of job creation might well be considerably smaller than indicated by the coefficient of Obstacle Labor itself. On the other hand, if the firm was in the Textiles and Garments sector and located in the capital city the positive coefficients for these variables would further increase the potential job creation effects of labor deregulation.

Tables 12 and 13 present the ordered probit results for Obstacle Labor when instead of the overall labor law rigidity index that was used in Table 7, we use the Labor Law Rigidity Index for Hiring Labor (in Table 12) and that for Firing Labor in Table 13. As can easily be seen the results are very similar, though because the explanatory power and size of the coefficients for Labor Law Rigidity index is a little larger in Table 7 than in these two new tables, we feel that the Overall Labor Law Rigidity index is more appropriate than either of the more detailed rigidity indexes. For this reason also, and because the results are very similar to those in Tables 8-11, we do not present the second stage tables for Net Job Creation, Gross Job Creation, Job Destruction and Absolute Job Change derived from each of these ordered probit equations.<sup>13</sup>

## **V. Conclusions**

For most policy changes, existing studies of their effects are based on assessing the effects of observed policy changes taking advantage of “before and after” comparisons or much better “difference in difference” or even “triple diff in diff” methods. Difference in difference methods could also be extremely useful in identifying the kinds of firms, workers, industries and regions where these effects might be more positive or more negative. Nevertheless, in the case of labor deregulation, the ability to use these methods is greatly limited by the fact that substantial reforms are extremely rare and where they occur they apply to all firms and regions. The rarity of real reforms is in large part attributable to the complexity of their effects and the likelihood that they would give rise to substantial distributional effects. As a result, even countries with very inflexible labor regulations and high rates of unemployment and/or high rates of informality (which can also have harmful effects on development and social welfare) usually delay making such reforms until the crisis is critical (as it became in Spain in 2012). As a result, however, there is not a lot of experience to draw upon to help policy makers make informed decisions about if, when and how to introduce labor reforms.

As explained above, the present study attempts to contribute to knowledge about the likely effects on employment of deregulation of labor markets and to distinguish the effects of different environmental conditions on the effects of labor deregulation in different industries and regions in countries by taking advantage of firm-specific answers to a hypothetical question about the extent to which the firm would raise of lower employment

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<sup>13</sup> These tables are available upon request.

if existing labor regulations were eliminated. The nice thing about this question is that in the World Bank's Enterprise Surveys it has been asked of many thousands of firms in a large number of countries and different years. Since the firms differ by location, size and ownership and by the rigidity of the labor laws under which they operate, in principle, at least, this should allow one to predict what would happen to employment at the firm level in different kinds of firms in a wide variety of circumstances if labor market deregulation were to take place.

Naturally, issues can be raised about the representativeness of the sample firms in each country in these Enterprise Surveys. So too one can be concerned about the absence of information from these surveys on many other characteristics of the firms, industries and countries which might be deemed relevant and important for such evaluations. Above all, it remains unclear the extent to which, in practice, firms would exercise the changes in employment that they indicate in their survey responses to the hypothetically changed condition. Furthermore, the surveys tell us nothing about how workers might be affected by these changes and the extent to which additional workers would be able to take up the new jobs created and how they would adjust to the dismissals that would also occur from the labor reforms.

As a result of the aforementioned but quite understandable limitations of the Enterprise Surveys, the results presented here cannot be accepted without much additional testing. Indeed, given the relevance of reasonably well-documented potentially deleterious effects or labor law deregulation on wellbeing, on training, commitment by workers to their firm, and management worker cooperation, in addition to those on employment, it would seem very important to take these likely effects into consideration. For this reason, we deem it important to support the development of social safety nets so as to get the benefits of such reforms without some of the costs as demonstrated by Acemoglu (2000). But, all this would be largely irrelevant if the labor creation benefits of labor deregulation were negligible or small.

Nevertheless, the two-step approach taken here allows us to test for the existence of two key links between labor deregulation, on the one hand, and the possibility of substantial job creation and destruction, on the other. The first link is that between existing indexes of labor market rigidity by country and the firm-specific responses to their perceptions about the severity of labor regulations as an obstacle to doing business (Obstacle Labor). The second is the link between those Obstacle Labor perceptions and the extent of both job creation and destruction that would occur if existing labor regulations were eliminated. Both of these links are identified, and the results presented here support a hypothesis that liberalization of labor laws and regulations could have fairly significant effects on employment creation. What is especially impressive is the extent to which the effects increase in proportion to the seriousness of the perceived importance of labor regulations as a barrier to the firm's operations. The latter varies quite substantially across countries as

well as industries and firms. The results also suggest that the percentages of jobs that would be created by deregulation vary by size, location and age, being larger in firms that are small, relatively new, in the capital city, in the textiles and garments sector. As expected the effects on job destruction of these same characteristics are often opposite to those for job creation, and the effects would be much smaller for firms in Group 2 where less than 1.5% of the sampled firms rated labor regulations to be the most important obstacle to their firms' operations.

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