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Labor regulations and contract labor use: Evidence from Indian firms☆

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ABSTRACT

Labor regulations in India differ by states and apply differently across types of laborers. The most restrictive laws make it harder to fire permanent workers for firms. However, these laws do not apply to workers hired through contractors (contract workers). Using firm-level data from India, I find that compared to firms in flexible labor regulations, those in more restrictive labor regimes hire more contract workers as a response to transitory local demand shocks. I find no differential response in hiring of permanent workers by firms faced with these shocks. This suggests that firms circumvent labor laws by hiring workers indirectly through contractors in the face of economic fluctuations.

1. Introduction

The Industrial Disputes Act (IDA, 1947) and its various amendments that have made layoffs, retrenchments, and firm closures harder have been the focus of many studies on Indian labor regulations. One strand of literature has found negative economic impacts of amending the IDA regulations that make it harder to fire workers — lower output, employment, investment, and productivity in formal manufacturing Ahsan and Pages (2009), Besley and Burgess (2004), lower demand elasticities that respond less to trade reforms Hasan et al. (2007), lower growth in industrial output following delicensing Aghion et al. (2008), lower sensitivity of industrial employment to local demand shocks Adhvaryu et al. (2013) and lower employment in the retail sector Amin (2009).[1] Other scholars however, have questioned whether amendments made to the IDA have increased or decreased flexibility in firing Bhattacharjea (2006) or whether these regulations have even been enforced Nagaraj (2002). There is some evidence that the use of contract workers (employed through contractors and not directly employed by the firm) has increased in states with stricter labor regulations because these workers are not covered by the IDA Sen et al. (2010). This might be suggestive evidence that firms are circumventing the labor laws through the use of contract workers. However, there is a lack of rigorous empirical work investigating the relationship between labor laws and contract labor use.

In this paper, I test whether firms in stricter labor regulations differentially hire more contract/temporary workers in response to transitory demand shocks. Specifically, I use an empirical strategy similar to Adhvaryu et al. (2013) — (hereafter ACS), interacting rainfall shocks with various measures of labor regulations to look at employment responses of firms. Indian states and districts provide an ideal setting to analyze the firm-level employment responses to demand shocks in different labor regimes for a number of reasons. First, different states in India have amended various labor laws to make the regime either more worker-friendly or employer-friendly, providing variation in labor regulations over space. Secondly, India is still largely an agrarian economy that is dependent on rainfall. Rainfall shocks directly affect the income and consumption levels of households through their effect on agricultural production. Finally, India has detailed firm-level panel data that can be used to analyze responses of firms to demand shocks across labor regimes. I use labor regulation measures constructed by Besley and Burgess (2004) and Gupta et al. (2009) that vary cross sectionally over states/districts. I find that compared to firms in more flexible labor regimes, those in more restrictive labor regimes hire more contract workers (not covered under IDA) in response to demand shocks. There is no differential response in the hiring of permanent workers (covered by the IDA regulations) by firms across labor regimes (in response to shocks). This suggests that firms in stricter labor regimes might be hiring contract workers to get around the strict labor laws.

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[1] Fallon and Lucas (1993) looked at a particular amendment to the IDA that required larger firms to seek permission from the government before retrenchment of workers and found a large drop in employment.

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This paper is closely related to ACS, who use state-industry and district-level data[2] to find that total employment in states/districts with more flexible labor regimes are more responsive to demand shocks. However, it is more appropriate to use firm-level panel data to look at the employment responses of firms to demand shocks rather than studying aggregated industrial outcomes. In this paper, I use the Indian firm-level panel dataset from 1998 to 2008 that allows me to control for time invariant firm characteristics. Furthermore, in contrast to the ACS dataset, the firm-level panel data divides total employment into workers hired directly by the firm and workers hired through contractors (contract workers). This distinction is central to this paper because the IDA regulations only affect directly hired workers and firms are thus free to hire and fire contract workers at will. Moreover, the firm-level data set can be used to look at firm size cutoffs as an additional measure of labor regulation.[3] Ramaswamy (2013) also uses these firm size cutoffs and finds that the proportion of contract workers to total workers is significantly larger in firms just below the cutoff than for firms just above the cutoff.

This paper adds to existing work on cross-country analysis of the effects of labor regulations on employment Botero et al. (2004), Micco and Pages (2006), Kahn (2007), within-country analysis of employment protection on productivity Autor et al. (2007), Dougherty et al. (2011), and regulation enforcement on firm size and informality Almeida and Carneiro (2009), Almeida and Carneiro (2012). The results of this paper are also broadly related to theoretical work on employment protection and temporary workers in the European context Blanchard and Landier (2002), Cahuc and Postel-Vinay (2002), Cahuc et al. (2012).

This paper is organized as follows. The next section discusses labor laws in India. Then, Section 3 discusses the empirical strategy, Section 4 describes the data and the results, and robustness is discussed in Sections 5 and 6. Finally, Section 7 concludes.

2. Labor laws in India

The Industrial Disputes Act (IDA) of 1947 is the core of labor laws in India and covers various aspects such as resolution of industrial disputes by setting up tribunals and labor courts, hiring and firing workers, closure of establishments, strikes and lockouts in the formal sector. Although the IDA was passed by the federal government, it has been amended several times by state governments. Some amendments have made the states more employer-friendly by making it easier to hire and fire workers and some have made them more worker-friendly by increasing job security for laborers. Through these amendments, different states in India have developed different labor regimes.

Layoffs and retrenchments are covered under Sections V-A and V-B of the IDA. Section V-A lays down regulations for establishments with 50 or more workers.[4] For example, a retrenched worker is entitled to compensation equaling 15 days' average pay for each year of service and for layoffs, every worker is paid fifty percent of basic wages and a dearness allowance for each day that they are laid off (maximum of 45 days).[5] Regulations in Section V-B cover all establishments with 100 or more workers. This section is more stringent and requires firms to take government permission to lay-off or retrench a single worker. Closing down of establishments also requires sixty days (Section V-A) or ninety days (Section V-B) of prior notification with the government. Both these sections of the IDA make it costly for firms to fire workers.

IDA regulations however, do not cover contract workers and casual workers. Contract workers are hired through contractors and are hence not directly on the payrolls of the principal employing firm.

[2] They aggregate three years of firm level data from 1987, 1990, and 1994 to construct a district-level data set.

[3] This also allows me to address the Bhattacharjea (2006) critique of the Besley and Burgess (2004) labor regulation measure.

[4] See Malik (2007) for details.

[5] For layoffs — workers need to be given a month's notice.

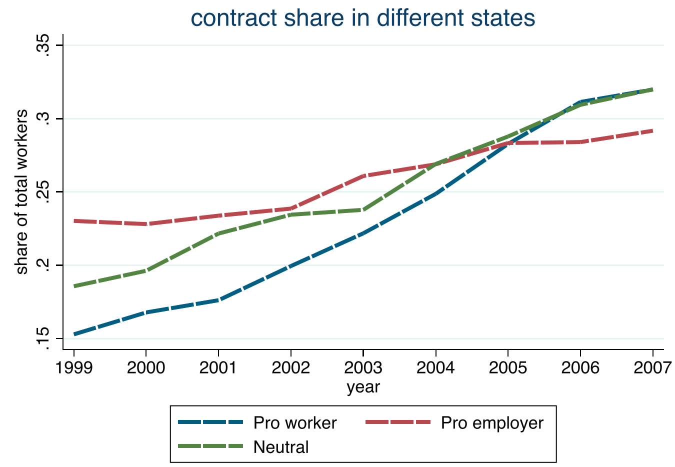

Fig. 1. Share of contract workers across labor regimes.

Contract workers are also generally paid lesser than permanent workers and are not covered by trade unions. Firms are free to hire and fire contract workers as market conditions change without being subject to the provisions of the IDA. Fig. 1 shows the growth in the use of contract workers across states with different labor regulations. There has clearly been a large increase in the use of contract workers by firms.

3. Data

In this paper, I use (i) Annual Survey of Industries (ASI) firm-level panel data set from 1998 to 2008, (ii) Rainfall data from Terrestrial Precipitation: 1900–2010 Gridded Monthly Time Series (version 3.01), Center for Climatic Research, University of Delaware, (iii) Labor regulation measures from Besley and Burgess (2004) and Gupta et al. (2009) and (iv) National Sample Survey (NSS) employment–unemployment rounds from 1999 to 2000, from 2004 to 05 and from 2009 to 10. The sources of the various data sets are tabulated in the Data description table in the Appendix.

The firm-level panel data comes from the Annual Survey of Industries (ASI), conducted by the Ministry of Statistics and Program Implementation (MoSPI) in India. The ASI covers all registered industrial units, which includes units with 10 or more workers and use electricity, or have least 20 workers but do not use electricity. The ASI frame is divided into census (surveyed every year) and sample (sampled every few years) sectors. The definition of these two sectors, however, has undergone some changes over the years. The census sector covers all firms in five industrially backward states (Manipur, Meghalaya, Nagaland, Tripura and Andaman and Nicobar Islands) and large factories. In the ASI, the definition of a large factory to be covered in the census sector has changed from 200 or more employees (1998–2000) to 100 or more employees (2001 onwards). The rest of the firms are covered in the sample sector. A third of these firms are randomly selected in the survey each year. The reference year for the ASI is the accounting year from 1st April of the previous year to 31st March of the next year. For example, data from 2004 to 05 will include the period from 1st April 2004 to 31st March 2005. In this paper, I restrict the sample to the major states and remove Jammu & Kashmir and the states in the north-east namely Manipur, Meghalaya, Nagaland and Tripura and the union territories. This data set is well suited for this paper as it has employment broken down by permanent and contract workers at the firm level. Furthermore, I restrict the data to cover only the manufacturing sector firms and do not include firms involved in agriculture, hunting and forestry, fishing, mining and quarrying, electricity, gas and water supply, construction, wholesale and retail trade or services. For the employment variables, I "winsorize" by setting the value above