What Role Does the Employment Protection Legislation Play in the Wage Determination under Segmented Labour Markets? A State-level Analysis

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Submitted By

Dr. Irfan Ahmad Sofi (Project Director)
Assistant Professor
Department of Economics
Islamic University of Science and Technology, Awantipora (J&K)

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Abstract

Over the past few decades, policy makers and researchers have profoundly studied and debated India's employment protection legislation (EPL) , which is believed to be among the complex labour law regimes in the world. Previous research studies mostly focus on employment and productivity effects of EPL and ignore its role in wage determination. Using a novel approach to the measurement of EPL, we examine its role in wage determination in India's formal manufacturing sector, which has increasingly become segmented especially in the post-reform period.

We carry out a detailed review of as many as 1057 court judgments distributed across 15 major states of India. Only those labour disputes are considered that were resolved under Chapter 5A and 5B of the Industrial Disputes Act, 1947 which concern with majority of the employment protection legislation in India. Under Chapter 5A and 5B of the IDA, 1947 we consider eight sections: Section 25-B, 25-F, 25-C, 25-FF, 25-O, 25-FFF, 25-M, and 25-N. Our study deals with only those court cases that were resolved by the respective state high courts. We follow the Leximetrics approach to arrive at the final index of EPL. Two separate measures of EPL are constructed: a broader measure of EPL and a specific measure. The broader measure of EPL concerns with overall judicial outcomes, irrespective of whether the labour disputes arises from employment conflict, wage conflict, or any other job related conflicts. On the other hand, the specific measure of EPL deals with only those court judgments that pertain to wage-related disputes. Additionally, we perform separate analyses using Besley and Burgess Index combined with OECD Index, and compare the results with that of our own judicial outcome-based Index of EPL.

We use state-level panel data sets of different time-periods. The descriptive analysis of this study covers time-period 1990-91 to 2013-14. However, the wage discrimination analysis (descriptive) of contractual vs. regular workers is restricted to 2002-03 to 2013-14 because of the lack of worker-category-wisewage data before 2002-03. As far the econometric analysis is concerned, it covers time period1999-00 to 2013-14 only because the data on court judgments could not be collected beyond such time period. We estimate both fixed and random effects regression and report Hausman test results enabling the reader to make a right choice between the two sets of results for policy implications.

We use a set of control variables including number of strikes, real fixed capital per worker and real net value added, alternatively in different regressions depending upon the dependent variable. The fixed capital per worker controls for technology, while the real net value added accounts for overall health of the economy and the market. As far as the number of strikes are concerned, it control for union activism.

The study is based on secondary data, which has been collected from different sources. The economic variables have been collected from Annual Surveys of Industries (ASI), Labour Bureau, Government of India, EPWRF, Indiastat, and CMIE States of India. To convert nominal figures into real figures, we use WPI and CPI, which have been collected from the RBI. The data on court judgments has been collected from Ligitquest.com and Legalcrystal.com.

The results of our econometric analysis reveal that the specific measure of EPL, which is based on wage-related labour disputes, has a positive effect on share of real wages or real emoluments in real output. We observe more or less theoretically consistent coefficients on control variables including real fixed capital per worker (proxy for technology), number of strikes (proxy for labour union activism), and real net value added (a proxy for market demand for goods and services). The effects of wage-related measure of our EPL on wage or emolument shares are robust to changes in empirical specification. Besides, they do not change significantly when we replace our own index with previous Indices of Besley and Burgess and OECD Index. Further, our results show that EPL has a positive effect on number of strikes, which is used as a proxy for labour bargaining power. However, we find that the effects of EPL on daily wages per worker or daily emoluments per worker are negative. Besides, they are not robust to alternative Indices. Like empirical analysis, our descriptive analysis reveals that the number of strikes by labour unions (used as a proxy for labour bargaining power) is higher in states that have witnessed more pro-worker court judgments as compared to pro-employer court judgments. This indicates that the implementation of EPL has positive effect on labour activism and thereby on the labour bargaining power. However, our descriptive analysis reveals that wage rate of contract workers in pro-worker states is more or less as compared to that in the pro-employer states, indicating that EPL does not determine the bargaining power of contract workers, since the latter is kept outside the ambit of labour laws.

Putting our empirical results in the backdrop of the labour market segmentation theory, we are able to answer the following questions: Can market forces eliminate the dualistic labour market segmentation in absence of labour regulation? And, is it possible to mitigate the effects of the labour market segmentation using active labour market policies in Indian context? Using insights from the labour market segmentation theory, we arrive the conclusion that market forces can induce full contractualisation, marking the end of the segmentation in the long-run. However, that would lead us towards the absolute deregulation of labour, which can have negative welfare consequences backfiring the economy through fall in consumption expenditure over time.

Further, we conclude that the success of the active labour market policy in mitigating the effects of segmentation depends on the nature and level of divergence of regulation between contractual employment and regular employment. Too much strictness in numerical flexibility in case of formal employment, and cost free hiring and firing model in case of contract labour would undermine the success of active labour market policies in curbing segmentation. On the other hand, extra bit of flexibility in hiring and firing of regular workers and more regulation of contract labour would encourage formalisation and avoid over-dependence of contract labour, besides reducing wage and other forms of discrimination between the two types of labour inputs.

We identify the following limitations of our study and advise the readers to take them into account while making any inferences based on our findings. First, our data regarding court judgments must be treated as a sample from a large number of labour disputes, as we restrict our data collection to state high court judgments only. There should be other court judgments from lower courts, which could not be retrieved from the available sources. Similarly, we are not certain whether the online search engines we employed for retrieval of court judgments account for 100 per cent of the total number of court judgments. However, we tried our best to not miss to retrieve any available relevant court judgments on legal search databases. More importantly, while due caution was taken in the interpretation of the nature of the court judgments, still there are chances of error in it, though it is likely to be randomly distributed across the states or over time. Last but not least, robustness checks with high degree of data granularity must be considered before drawing final policy implications.

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Chapter 1: Introduction and Conceptualization

1.1 Introduction

India has a plethora of center and state labor laws governing industrial relations, wages, employment, and social securities. The Indian constitution provides that the central and state governments can together deal with labour. The power to make changes in the existing body of labour laws lies with both the levels of government. This shared responsibility over labour has resulted into differences across the states in terms of strictness of labour laws. There are as many as 47 central laws and 200 state laws, governing the employer-employee relation (Anant et al., 2006). However, employment protection legislation (EPL) is among the most controversial and debatable piece of labour law.

The EPL intends to safeguard workers against market fluctuations by regulating layoffs and retrenchments. The EPL aims to provide job security to employees, by making lay-off or retrenchment of workers costly. These legislations in India are implemented under the Industrial Employment (Standing orders) Act (1946), Industrial Dispute Act (1947), and Contract Labor (Regulation and Abolition) Act 1970. As per the Chapter 5A and 5B of the IDA, 1947, firms have to obtain prior permission from the relevant government to initiate retrenchment or closure of a business undertaking. The same procedure is applicable if an undertaking wants to lay-off workers.

Further, section 25-B, which is a part of the Chapter 5B of the IDA provides for the continuation of the worker's service in case he/she works for a minimum of two hundred forty days. Under section 25-F, if an employer wants to initiate retrenchment, he/she must pay a compensation payment and serve a prior notice to a workman, explaining clearly the reason of the same. The contract workers are regulated by Contract Labour Act, 1970, which permits employment of the non-regular labour input in seasonal and non-perennial business activities. Under section10 k (1) of the CLA, the government can, any time, prohibit with a justification the use of contract labour. Further, rule 2(v)-(a) of the Contractual Labor Act mentions that contractual and regular workers will get the same wage if they perform similar work.

In the recent years, the demand for pro-business labor law reforms has intensified in India as well as internationally. The debate on labor laws has revolved around the employment protection

legislation (EPL). Critiques of labor laws claim that pro-employer reforms in EPL are necessary to bring more flexibility in the labor market and stimulate investment. Some economists have asserted that a strict labour law regime aiming to empower workers would actually hurt them (Besley & Burgess, 2004). While there is a wide agreement that labor market flexibility is central to faster industrial economic growth, it remains controversial in the literature whether EPL has any harmful effect on industrial business and labour market performance. Over the past few decades, much attention has been devoted to investigating the impact of India's EPL regime on its industrial performance.

The empirical studies that have emerged in recent years from India include, among others, Sofi and Kunroo (2018), Sofi and Sharma (2016, 2015), Sapkal (2016), Chaurey (2015), Roychowdhury (2014), Adhvaryu et al. (2014), Dougherty et al. (2013), Maiti (2013), Saha et al. (2013), Goldar and Agarwal (2012), Deakin and Sarkar (2011), Fragenas (2010), Besley and Burgess (2004). These studies have generally focused on productivity, output, and labour demand effects of EPL. However, they report conflicting results. For example, Besley and Burgess (2004), Mitra and Ural (2006), Dougherty et al. (2013) find negative effects, while Fragenas (2010), Deakin and Sarkar (2011), Roychowdhury (2014), and Sofi and Kunroo, 2018 do not find any harmful effects of EPL. Moreover, the methodological approach for measurement of the strictness of India's EPL regime has been widely criticized for misinterpretation, faults in coding, and failure to account for weak enforcement (Bhattacharjea, 2006, 2019).

Most of the empirical research from India can be classified into two categories on a methodological basis. Broadly speaking, two different methodologies have been popularized to capture the economic effects of EPL on various aspects of industrial business and labour market in India, namely the Leximetric approach and the "Before and After" approach.

Fallon and Lucas (1993) used the "before and after" approach to study the effect of labour regulations on industrial performance. They use the before and after approach in their study to investigate the effect of employment regulations on industrial performance. In 1976, some major pro-worker reforms were introduced in Industrial Dispute Act, 1947. Accordingly, the author divides their sample between two time periods, before and after, 1976. To measure the impact of pro-labor reforms they provide dummy 1 and 0 for post-1976 period and pre-1976 period

respectively. Roy (2004) used a similar approach to analyze the dynamics of employment and the impact of labour regulations in Indian industry. However, this approach was criticized, as it does not take into account labor reforms that might have occurred over the period.

On the other hand, Besley and Burgess (2004) use the leximetric approach. To capture the effect of employment protection legislation on industrial performance, Besley and Burgess (2004) use state-level variation in labor regulations. They construct an index using state-level amendments in Industrial Dispute Act (IDA). The study classifies states based on amendments in IDA, to be pro-employer, pro-worker, or neutral and provide code of -1, 1 or 0 respectively. These codes are then cumulated over time to get a regulatory measure of EPL. Our index varies from -1 to 1 and it increases in rigidity. The higher the value of the Index, the more pro-worker is labour market of the given state.

However, Bhattacharjea (2006) brings out several issues with the Besley and Burgess Index, including errors in coding and misinterpretation of several labor legisations (Bhattachargea, 2006). The Besley & Burgess Index has been modified in view of the critique (Ahsan and Pages, 2009). The modified index has been used by several researchers in recent years (Dougherty et al., 2013; Adhvaryu et al., 2014). However, it is found that the results derived using the modified Besley and Burgess Index were not much different as compared to the earlier. In view of the critique against the Besley and Burgess Index, many researchers were motivated to use the OECD index of labor regulations for India. This index is also criticized for its time-invariant nature. It does not allow the researchers to incorporate the fixed effects in the model especially if our panel data is collected at the industry-by-state level. As far as the effects of EPL on industrial performance are concerned, most of the empirical studies from India imply that EPL is bad for industrial growth. For example, Besley and Burgess (2004) find a negative effect of India's labour laws on industrial output, investment, and employment. They claim that by affecting industrial growth, labour laws may actually end up hurting workers also. Similarly, Ahsan and Pages (2009) find a negative of India's labour law on the manufacturing output and employment. Other studies showing negative effects of India's labour laws include Dougherty et al. (2013) and Adhvaryu et al. (2014), among others. However, very little scientific knowledge exists regarding the role of EPL in wage determination especially under dualistic labour markets

featuring co-existing of regular and non-regular workers. Therefore, the present study aims to pursue the following research objectives:

1.2 Research Objectives

1. To study the dynamics of wages in India's formal manufacturing sector across the states with a significant industrial base.
2. To analyze labour disputes across states and their judicial outcomes, particularly focusing on cases resolved under chapter 5A and 5B of the Industrial Disputes Act (IDA).
3. To investigate the effect of employment protection regulation on wage determination.

1.3 What is labour market segmentation?

According to the International Labour Organisation (ILO), the labour market segmentation is the division of the labour market into sub-markets or segments. The sub-markets or the segments differ in terms of basic characteristics and behavioural rules. For example, some labour market segments may offer higher wages and better working conditions than others. Traditionally, the segmentation divides the labour market broadly into primary and secondary sectors (Doeringer and Piore, 1971). The primary sector is characterised by higher wages, better job security, and working conditions, chances of progression, and career advancement. On the other hand, in the secondary market, workers have to face job insecurity along with poor working conditions. They earn a lesser amount of wages and have limited career advancement opportunities.

One of the core issues with the labour market segmentation is the lack of mobility of labour from the secondary sector to the primary sector, causing persistent divergence of labour market outcomes across the segments. As a result, the labour market segmentation may have consequences on equity and efficiency of labour market outcomes as well as on the degree of transition across the sub-markets. The differences in working conditions across the segments are not attributable to differences in labour productivity alone. This means that the wage rate of two workers employed in two different segments could be different even if their skill sets and labour productivity are similar.

There have been differences in opinions regarding methodology or criteria to delineate the boundaries of segments. Confusion exists over how many segments should be created on a theoretical basis. However, over the past few decades, the discourse on labour market segmentation has evolved within a dualistic framework, demarcating informal and formal sector sectors of the economy. This criterion also pins down the dualistic employment systems within or outside the informal and formal sectors. The dual labour market theory defines segmentation in terms of job roles and wage determination mechanism, assuming that wages are determined through different mechanisms under primary and secondary sectors. Businesses are categorized into core and peripheral. Core businesses usually offer primary employment. They have established firms using relatively capital-intensive technologies, with high labour productivity and returns to capital. In these firms, employment is characterised by better working conditions and high wage rates.

On the other hand, peripheral firms mostly operate with small portions of skilled labour. They are a less capital-intensive business, with a predominant share of unskilled labour.

Several schools of thought attempting to conceptualise the segmentation on informal vs. formal lines have emerged, including the structuralist school, the legalist view, and the voluntarist school. The structuralist school argues that the pressure of gaining competitiveness under capitalism stimulates informality through which capitalists are able to bring down costs to survive in the market. The capitalists also leverage informality against unionisation of labour and government regulations. The legalist view claims that a cumbersome and complicated legal system motivates individuals to work informally within a set of their own extrajudicial and informal norms. This school argues that governments and formal businesses work in collusion, creating costly regulatory processes to discourage the entry of small informal businesses into the formal sector. The voluntarist viewpoint suggests that businesses voluntarily choose to work in the informal system after performing the cost-benefit analysis of the formal vs. informal system. This school claims that the business is less costly within the informal system, as it does not involve taxes and regulatory costs. Thus, instead of blaming the legal system for encouraging the informalisation of business, the voluntarist school invokes cost advantage in the informal sector to explain its growth.

1.4 Neo-classical theory vs Labour Market Segmentation theory

According to neo-classical economics, producers and workers are rational and their main aim is profit and utility maximisation, respectively. A producer hires labour till its marginal revenue productivity is equal to its wages. Wages are determined by marginal productivity, which in turn depends upon individual skills or human capital. The human capital endowment can be enhanced through investment in education and training. Thus, wage differences among workers are linked to productivity differentials, and the latter arises due to differences in investment in education and training at the individual level. Thus, as per the neo-classical theory, labour market segmentation emanates from the supply side of labour, rather than the demand side. It places the core focus on skills, experiences, and competency as sources of the heterogeneous nature of labour as a factor of production.

The neo-classical theory assumes that workers make a rational choice of their jobs from a range of options, considering their preferences, tastes, skill, and abilities, with their compensation depending upon their human capital endowment. The role of the labour market is to facilitate the utility and profit maximisation of producers and workers, respectively. As such this theory implies that the transition from secondary to primary or from low-paying to high-paying sectors is possible through skill development. However, several classical economists believed that the labour market is divided into segments of non-competing professional groups, where employees compete within their specific professional group.

The labour market segmentation theory, on the other hand, challenges the neo-classical assumptions. It claims that labour market segments are created from the demand side where it is facilitated by labour market institutions. Leontaridi (1998) argues thatthe structure of jobs is influenced by industrial organization, product market, technological conditions, strategies adopted and controlled by managers, and labour market regulations.

This theory attempts to explain that portion of wage discrimination that is left unexplained by the human capital theory. Segments are identified based on different rules for wage determination and employment. In some sectors, access to employment is restricted, leading to an excess supply of labour for such sectors. Hence, the labour markets do not clear. The limited access especially in the primary sector hinders labour mobility between the sectors. In the past research,

significant evidence points to inter-industry and intra-industry wage differences (Dickens and Katz, 1987 a & b; Krueger and Summers, 1987; Groshen, 1987). Further, research also highlights the persistence of the wage differentials over time (Dickens and Katz, 1986 b). Evans (1989) and Conant (1988) study inter-employer differences in wages. They find that differences in clerical skills do not explain such type of wage differentials. The literature on inter-industry wage differences has generated significant evidence in support of the labour market segmentation theory (Dickens, 1987 a and b). Besides, the literature also confirms the barriers to entry in the primary job market, thereby hampering labour mobility between the sectors. Dickens (1992) believes that the dual labour market model offers a better explanation of income determination than the traditional human capital theory does. According to him, if skill development programmes and industrial policies are analysed using the labour market segmentation theory, we may arrive at different conclusions as compared to that of the human capital theory.

Dekker, Grip, and Heijke (2002) in their paper conduct an empirical test of the labour market segmentation theory. They classify the labour market into three segments: the internal market of the firm, the professional market, and the secondary or supplementary labour market. In the internal and the professional labour markets, which are considered as the sub-segments of the primary market explained above, wages are determined by a set of institutional rules. The demarcation of the professional market considers occupations requiring vocational skills. Vocational training develops required skills applicable for the professional market, hence serves as a guarantee for entry in the latter. The internal market is identified with large-size firms with set administration rules and procedures for employment and wage determination mechanisms. As far as the secondary labour market, Dekker et al. (2002) identify it with a broader version of the secondary market, including but not limited to low quality unskilled jobs only. The study makes some important observations. First, they do not find a high rate of mobility on the internal labour, which signifies rationing of career advancement in this segment. However, Dekker et al. (2002) finds greater upward mobility in the internal market segment as compared to the supplementary segment. The authors note that workers in the supplementary market do have career advancement opportunities. Dekker et al. (2002) find that career training does not guarantee upward mobility in the internal labour market; hence it is not a sufficient condition for promotion in this segment. However, they find that mobility is positively associated with career

training in the supplementary labour market. This finding contradicts the prediction of the labour market segmentation theory. Overall, the study by Dekker et al. (2002) concludes that the supplementary labour market serves as a transitional platform between training and the primary labour market. Investment in human capital does enable workers to climb up the higher job levels. Thus, there exist differences in theory as well as in empirical findings regarding the principles governing the functioning of labour markets, especially in contemporary economies.

We believe that the segmentation theory is also supported by labour market wage rigidities emanating due to multiple factors such as efficiency wage considerations, labour market regulations, trade unions, and the insider-outsider problem. The efficiency wage theory justifies downward wage rigidity in that employers deliberately offer higher wages than the prevailing market wage rate to increase labour productivity. The efficiency wage acts as a barrier to labour mobility between primary and secondary labour markets. Similarly, the insider-outsider model explains how insiders, i.e. the privileged workers protected by job security laws under formal labour markets, use labour turnover costs associated with hiring and firing to bargain for higher wages and prevent the entry of outsiders into the labour market. Labour unions strategise the labour supply to control wage determination in the primary market. Moreover, they resist wage cuts during negative demand shocks forcing employers to opt for employment cuts in the primary market, which eventually creates job rationing within this sector (Deakin, 2013).

The foregoing discussion raises a fundamental question of whether labour regulations help address the labour market segmentation problem or stimulates it. One implication of the labour market segmentation theory is that the state intervention can mitigate the segmentation by facilitating universal vocationalisation of education and skill development (Deakin, 2013). Strict implementation of labour laws mandating equal pay for equal work can reduce wage discrimination, which is increasingly being used as a cost-cutting strategy for gaining competitiveness. Similarly, strengthening of contractual employment laws especially for core business activities combined with extra numerical flexibility in the formal sector can disincentive casualization of labour and encourage formalization of the industrial sector.

Deakin (2013) underlines deregulation of labour combined with active labour market policies as one of the approaches to tackle segmentation of labour market. This approach implicitly works on the assumption that deregulation of labour market would eliminate the demand side

considerations in favour of segmentation for the employer, but segments would come up from the supply side due to worker attributes including gender dimension and access to human capital. The latter could be narrowed down using active labour market policies.

1.5 India's EPL Regime

The Indian labour law regime provides for a significant body of employment protection legislation (EPL). The EPL is mainly provided under Chapter V, Chapter VA, and Chapter VB of the Industrial Disputes Act, 1947. While Chapter V lays down conditions for strikes and lockouts, Chapter VA and Chapter VB regulate lay-offs and retrenchments in industrial establishments. The section 25C, 25FF, and 25FFF provide for a right to monetary compensation to workmen affected due to a layoff, transfer of undertakings, and closing down of undertakings. Further, sections 25F and 25M of Chapter VA and VB, respectively provide that no workman (other than a casual worker) shall be laid off or retrenched without government permission and issuance of one month's notice. The central EPL regime has not changed much over the past few decades. However, several states have implemented labour reforms from time to time. Apparently, the state-level reforms have increasingly been biased towards businesses, as the policymakers have shifted their focus from development-led growth models to growth-led development models.

1.6 EPL and Labour Market Dynamics: Conceptualisation

The conceptualisation of channels through which EPL affects labour market dynamics are drawn from theoretical literature on hiring and firing costs. Theoretical models in labour market literature show that firing costs or restrictions can create rigidities in labour adjustments and thereby lead to the in-optimal allocation of factor inputs (Nickell, 1986; Hopenhayn and Rogerson, 1993; Garibaldi, 1998). However, these models do not explain how firing costs or EPL affects production and employment policies especially in response to market shocks. Using insights from the existing theories, we attempt to develop a further understanding of the issue in the context of the Indian labour market.

The fundamental aim of the EPL is to safeguard workers from sudden dismissals and exploitation. It provides for collective bargaining and job severance payments. The EPL creates firing costs and makes job destruction costly, thereby affecting the propensity to fire. The

anticipation of such costs, in the long-run, can also reduce a firm's propensity to hire. In the short run, the effect of the firing costs on a firm's job destruction policy is likely to outweigh that on the job creation policy (Bertola, 1990). Therefore, during a period of a negative demand shock, the average employment rate is likely to be higher under a costly EPL regime. However, the long-run effects on employment may vary depending on the stochastic nature of firm-level shocks (Hopenhayn and Rogerson, 1993).

As far as productivity effects are concerned, EPL can generate both negative and positive channels. For example, a strict EPL regime can ensure stability in the workforce, which can further induce innovation and investment in firm-specific employee training and thereby increase labour productivity (Belot et al., 2007; Lechthaler, 2008). On the other hand, tight restrictions on firing can hamper employment adjustments, resulting in redundant labour and a decline in average labour productivity (Hopenhayn and Rogerson, 1993). The theoretical conclusions pertaining to productivity and average employment may vary across firms and industries, hinging on how EPL affects their labour-cost adjustment strategy amidst market shocks. Therefore, the fundamental question for empirical analysis remains the following. How do firms respond to market shocks amid strict labour laws?

Firms have three potential response options to deal with demand shocks: wage adjustments, employment adjustments, and combined wage-employment adjustments. All three response options create costs to the firm. The efficiency wage model predicts that a reduction in the real wage would affect a firm's labour productivity, as it can induce shirking among the workers (Stiglitz, 1974; Shapira and Stiglitz, 1984). On the other hand, lay-offs and retrenchments create labour turnover costs and create instability in the workforce. Labour turnover costs include hiring costs such as those incurred on recruitment and training for the recruits. Under a strict EPL regime, firms have firing costs in the form of mandatory severance and compensation payments towards workers affected by layoffs and retrenchment (Besley and Burgess, 2004). The insider-outsider theory demonstrates that firing costs associated with EPL create a bargaining power for existing workers, enabling them to resist wage cuts (Lindbeck and Snower, 1987). Thus, strictness in EPL has the potential to hamper both wage and employment adjustments.

In segmented labour markets, employers can leverage a dual employment system, enabling them to hire both contract and regular workers. Since contract workers fall outside the purview of EPL

(Sofi and Kunroo, 2018), their wage bargaining remain low and they can be fired without having to incur firing costs. The contract labour serves as a buffer against the relative inflexibility of regular employment (Bertola et al., 2010). Thus, employment and wage adjustments in response to market shocks are relatively easier with contractual employment. However, wages are usually determined by wage contracts existing both in the form of explicit formal agreements (Weber, 2016; Kunovac and Pufnik, 2015) or implicit informal agreements (Macleod and Malcomson, 1989; Kunovac and Pufnik, 2015). Therefore, irrespective of the nature of employment, base nominal wages tend to be less flexible than employment. However, the non-base wage components such as bonuses, which are not fixed through collective agreements, may exhibit some degree of downward flexibility amidst negative demand shocks (Babecky et al., 2010). Nevertheless, firms have to weigh other downsides of wage and employment adjustments for making the optimal choice. As discussed above, if a firm opts for a wage cut, it may risk a decline in labour productivity. On the other hand, if it cuts the employment, it has to incur a hiring cost in the future recruitment once the economy normalises. The choice of the firm is determined by the cost-benefit analysis of the options.

1.7 Methods of the study

This study uses state-level panel data sets of different time-periods. The descriptive analysis of this study covers time-period 1990-91 to 2013-14. However, the wage discrimination descriptive analysis of contractual vs. regular workers is restricted to 2002-03 to 2013-14 because of the lack of separate wage data for these two types of labour inputs. As far as the econometric analysis is concerned, it covers period 1999-00 to 2013-14 only because the data on court judgments could not be collected beyond such a time period. We estimate both fixed and random effects regression and report Hausman test results enabling the reader to make right choice between the two sets of results.

One of the main features of this study is that it comes up with a novel index of employment protection legislation based on judicial outcomes regarding labour disputes. We carry out a detailed review of as many as 1057 court cases distributed across 15 major states of India. Only those labour disputes are considered that were resolved under Chapter 5A and 5B of the Industrial Disputes Act, 1947 which concern with the majority of the employment protection legislation in India. Under Chapter 5A and 5B of the IDA, 1947 we consider eight sections:

Section 25-B, 25-F, 25-C, 25-FF, 25-O, 25-FFF, 25-M, and 25-N. Our study deals with only those court cases that were resolved by the respective state high courts.

We basically follow the leximetrics approach to arrive at the final index of EPL. The court judgments are classified into pro-worker and pro-worker. For each pro-worker and pro-employer court judgment, we give a state '1' and '-1' points, respectively. The process is repeated over time in each of the 15 states. Finally, cumulative scores are calculated in each year, with a positive value of the same representing a relatively higher number of pro-worker court judgments as compared to pro-employer court judgments.

1.8 Novelty of the study

We attempt to bring novelty to our study through multiple dimensions. First, most of the previous researches regarding labour laws in India investigates the employment and productivity effects of labour laws. Very little research exists on wage effects of EPL, though labour economics theory provides implications of a positive relationship between wages and labour regulations. Our study has the potential to extend the contours of the debate on labour law reforms, which has intensified over the recent years.

Second, our Index of EPL is an entirely new concept, especially in the Indian context. By using data on court judgments, our index directly accounts for the implementation of employment protection legislations, which otherwise have remained a highly controversial issue in the previous empirical literature from India. Third, we construct two separate measures of EPL: a broader measure of EPL and a specific measure. The broader measure of EPL concerns with overall judicial outcomes, irrespective of whether the labour disputes arise from employment conflict, wage conflict, or any other job-related conflicts. On the other hand, the specific measure of EPL deals with only those court judgments that pertain to wage-related disputes. Theoretically, a wage-specific measure of EPL is more relevant for a wage-related analysis. The previous labour law indices such as that of the Besley and Burgess (2004) and the OECD Index (2007) are too broader in nature in that they club all labour laws into a single basket, undermining their relevance in a wage analysis.

Fourth, unlike previous empirical literature, we attempt to conceptualize the channels by which EPL can affect the labour market dynamics and influence wage determination. In the previous

literature especially in the Indian context, researchers have made lesser attempts to contribute to the conceptual framework underlying the debate on labor laws. We explain how employers facing EPL strategize their adjustment policies to deal with market fluctuations. Our attempts towards the conceptualization bring more concreteness and open up more areas of debate in this field. We utilize the labour market segmentation theory to better understand the dualism creeping rapidly even across formal segments of the industrial sector.

1.9 Importance of the study and limitations

Over the past few decades, the Indian policymakers have been facing a dilemma over which particular model of labour market would better serve the nation both from the business and welfare perspectives. Several states have reformed their labour law regimes amidst strong resistance from trade unions and a section of economists. However, the central governments over time have been rather reluctant to implement radical changes in rules governing the functioning of the labour markets, even though the need for more flexibility has been increasingly emphasized from time to time. The stakeholders of the debate on labour laws are polarized with opposite perspectives regarding the role of EPL in the contemporary job market. While the growing number of researchers and stakeholders have recognized the need for rationalization of India's labour law system, it is important to predict its future effects on workers for a balanced approach to labour market policy. India's industrial sector is dualistic along formal and informal segments. In fact, the dualism has spread sharply even in the formal segment, and its negative consequences for the workers have increasingly been recognized both in academic and policy circles.

Thus, the call for increased flexibility on the one hand and the segmentation within the formal sector increases the complexity of the policy-making particularly in the backdrop of limited research findings. By making attempts to pin down the role of EPL in wages and performing an empirical investigation, our study would particularly inform the welfare effects of rationalization or de-regulation labour. Our study also addresses the reliability issue pertaining to the previous empirical literature, which lacked information regarding the enforcement and implementation of India's EPL regime.

The findings of this study must be considered in the backdrop of the following limitations. First, our data regarding court judgments must be treated as a sample from a large number of labour disputes, as we restrict our data collection to state high court judgments only. There should be other court judgments from lower courts, which could not be retrieved from the available sources. Similarly, we are not certain whether the online search engines we employed for retrieval of court judgments account for 100 percent of the total number of the actual number of court judgments. However, we tried our best to not miss to retrieve any available relevant court judgments on legal search databases. More importantly, while due caution was taken in the interpretation of the nature of the court judgments, still there are chances of error in it, though it is likely to be randomly distributed across the states or over time. Last but not least, robustness checks with a high degree of data granularity must be considered before drawing final policy implications.

Chapter 2: Review of Literature

2.1 Theoretical Literature review on wage determination

According to the neo-classical theory, wages are determined by the marginal productivity of labour. This theory assumes that there are two inputs of production: labour and capital. The employer employs the labour and capital inputs to earn profits, which is the sole motive of the producer. The producer hires factor inputs in exchange of compensation payment. The capital receives its compensation in the form of rent, while the labour is paid wages, which is defined as the reward for services of labour. The neo-classical theory assumes that the cost of production comprises of wages bill and rent. There is a diminishing marginal productivity of labour. As more and more labour units are employed, the change in the total output due to one unit change in labour keeps on falling, although the total output may still increase. The producer continues to add to its labour inputs till the cost of hiring additional units of labour becomes equal to its marginal contribution towards total revenue, called as marginal revenue productivity. Marginal revenue productivity is the marginal physical productivity multiplied by the market price of the product, which is assumed to be given.

According to the neo-classical theory, the total output is distributed among owners of capital and labour as per their productivity. Wage rate can increase only if there is increase in marginal productivity of labour, and the same applied to rent. The implication of the neo-classical economic theory is that there is no exploitation in the labour market. If workers want to increase their share in total output, it is possible through skill enhancement, which increases labour productivity and thereby the wage rate. The neoclassical theory attributes the low wages in developing countries to poor job skills and low labour productivity.

How does neo-classical theory explain dualistic segmentation in India's formal sector and the wage discrimination between contract and regular workers? As far as informalisation is concerned, the neo-classical line of thought suggest that informal workers are less costly to hire, thereby boosting profitability of the establishments. Since producers are assumed to be rational and clever, they compare the costs of regular workers and contract workers. As contractual workers are excluded from labour laws, labour adjustment with such workers involves lesser firing and hiring costs as compared to that of regular workers. Therefore, a profit maximizing

employer would prefer contract labour, unless the latter has lower productivity than the former. Thus, using the insights from the neo-classical theory, the contractualisation in India's formal sector can be attributed to the cost considerations.

Does neo-classical theory explain wage discrimination between regular and contract workers? One of the implications of neo-classical theory is that two workers with same productivity are likely to have same wages, since wages are determination by labour productivity alone. In other words, if there is a wage gap between two categories of labour inputs, it must be due to the difference in their productivity.

Over time economists have identified a house of factors influencing wage determination in developed as well as developing countries. Institutional factors have received much attention over the past few decades. One of the main institutional factor that controls wage determination is unionization. A strong labour union acts as an element of monopoly in the labour market. The union so formed negotiates with the employer on the question of wages, on the behalf of each worker. Labour unions enter into collective bargaining to stipulate regarding employment and wages with producers. Labour unions can also exert their influence on wage and employment settings through strikes against unfair treatment from employers.

Macroeconomic factors such as growth of GDP and rate of unemployment can also play a significant role in wage determination. Positive growth rates of GDP keeps the market demand for labour high and have positive effects on wages also. However, the effect of GDP growth in short-run on wages depends on unemployment rate. High rate of unemployment prevents benefits of GDP growth from trickling down to workers through wages in the short-run. Excess labour supply reduces bargaining power of workers and press wages down. However, over time increase in GDP would increase the demand for labour permanently in the economy, and reduce the excess labour supply. As the surplus labour supply is eliminated, the labour market becomes competitive and yield more bargaining power to workers. According to Oritiz and Bautista (2019), the rate of wage growth would be equal to rate of labour productivity in the economy.

In a market economy, wages are controlled by supply and demand. The demand for labour is associated with the demand and the market value of the product the former produces. Increase in the price of the product increases the profitability of the firm, which then demands more labour.

In this context, if workers are backed by institutions facilitating collective bargaining, then the derived labour demand can translate into higher wages. However, in this context, the success of labour bargaining would also other alternatives available to workers in the economy. Lesser job opportunities in other firms would discourage workers to bargaining for higher wages. Consequently, the benefits of the increase in the market price or derived demand would not come through wages. Employers take several factors into account while fixing the wage rate. First they take into account the wage rates of other firms. A higher wage rate compared to rival firms would raise the cost of the product relative to other firms and make it difficult to sell the produce at the competitive price. Similarly, lower wage rate as compared to the rival firms would increase job quits and create instability in the workforce (Flanagan and Robert, 1992).

Traditionally, different theories were propounded to explain wage determination. One of the popular traditional theories is the subsistence wages theory developed by Adam Smith and later popularized by other classical economists. According to this theory, employers offer only that much wage which is necessary for subsistence of labour. In other words, wages are equal to the amount just sufficient for survival. The determined wages remain fixed. This theory further adds that if actual wages are higher than the subsistence level, it will lead to an increase in population, as workers are encouraged to marry and to have large families. Increased population increases labour supply and lead to fall in wages back to substance level. If actual wages are below the subsistence level it will lead to a decrease in population, as marriages and birth rates are discouraged, besides under-nourishment increases death rates. This results into a decrease in labour supply, which in turn leads to increase in wages up to the subsistence level. The tendency of wages to settle at the subsistence level is known as the Iron law of wages, a concept popularized by Lassalle, a German economist.

Another popular traditional theory is the wage fund theory, which was developed by J. S. Mill. According to this theory, produces main a fixed amount of total fund to be paid to the labour input. The wage fund is divided among the workers. Higher the number of workers, the lower would be the wages per worker, and vice versa. Thus, according to the wage fund theory, wages are determined by two elements: number of workers and the total wage fund. The average wage rate at the given workforce would increase only if the wage fund increases. The implication of this theory is that an increase in capital intensity would stifle the growth of wage fund and

thereby the average wage rate, and that the increase in wages per worker requires fall in employment. Another theory that is similar to the wage fund theory is the standard of living theory developed by Torrance. This theory argues that wage are determined by the standard of living of the workers. Workers are paid wages necessary to maintain their standard of living.

American economist, Walker, propounds the Residual claimant theory, which explains that wage is the portion left out after other factors of production such as capital paid off. Walker states that interest and rent are determined by formal contracts, while there is no formal mechanism for wage setting. According to this theory, employers pay rent and interest first, and then take out profits, followed by payment of the residual amount to workers in the form of wages. Walker believes that increase in wages is possible only if the efficiency or productivity of workers increase.

Thunnen developed the Marginal productivity theory of wages, which was modified latter by other economists including Wicksteed, Walrus, and J. B. Clark, etc. This theory is an extension of the marginal productivity theory of distribution. It argues that workers get wages equal to marginal productivity. Marginal productivity of labour refers to increase in total output consequent upon one additional unit of labour. Under perfect competition, employers continue to higher workers till their marginal productivity becomes zero. Firms under perfect competitive settings are left out with zero profits, though they still remain in business.

One of the popular theories developed in the recent years is the Insider-outsider theory pioneered by (Lindbeck and snower, 1984). According to this theory, there are outsiders and insiders in the laobur market. Insiders are the employed workers and the outsiders are unemployed people available for work. Insiders exert their control over the wage determination. Although the outsider unemployed labour are willing to work at lower wages, the insiders prevent fall in wages, thereby persisting the unemployment of outsiders. This theory assumes imperfect competition in goods and labour market, and the wages are determined by implicit agreement between employers and the trade unions. The wage setting under the insider-outsider framework brings wage rigidity. Gunawan and Amalia (2015) argue that the equilibrium wages under this model are more than what could otherwise be determined by the market forces (Gunawan and Amalia, 2015).

The efficiency wage theory, developed by Shapiro and Stiglitz (1984) rejects the argument that under perfect competition wages are associated with the marginal productivity of workers. This theory on the other hand argues that paying higher than market wages is a rational choice for firms to get more productive effort from workers. As per this theory, it is not possible for a firm to check the efforts made by each and every worker. Some of the workers take advantage of this limitation and indulge in shirking. If workers are caught while shirking, they have to pay the cost of that in terms of job loss, and they need to find a new one. However, if the firm pays more wage than the market price, it increases the cost of shirking, as other firms would offer lesser wages than the present employer. As a result, workers stop shirking. Rather, they work efficiently to minimize the risk of losing the job. In this way wages are set at a level where a specific productivity target is met. Shapiro and Stiglitz further add that the payment of wages higher than other firms increase the retention of workers in the existing firm, which ensures stability in the workforce and promotes efficiency. Another aspect of efficiency wages is that more and more people are attracted to the firm, enabling the employers to recruit the best of the lot. Efficiency wages lead to a healthy life style of workers, reducing number of sick leaves or absenteeism fro work. Besides, good health as a result of efficiency wages increase the desterity of workers, which boosts their productivity and thereby maximize profits of the firm (Katz, 1986).

Under the Keynesian model, wages are not determined by the productivity in the short-run, but by the effective demand. According to Keynes there is an inverse relationship between real wages and nominal wages. This is because an increase in nominal wage is accompanied with a rise in price of goods and services, bringing down real wages (Keynes, 1936; 1939). Keynes assumed that nominal wages tend to rise as output grows, and falls when the level of employment increases. The changes in the level of output and employment are determined by the effective demand. Nominal wages exhibit downward rigidity because workers and labour unions resist wage cuts. According to Keynes, workers are concerned with nominal and relative wages (Meccheri, 2007). They compare their wages with that of other workers whom their consider equal to their status.

The government plays a significant role in wage determination. In India, various committees were formed from time to time to regulate wage determination through different pieces of labour laws. The primary focus of these laws is to protect the labour from the exploitation by employers. Wages in the organized sector are generally determined through the negotiations and settlements between the employees and the employer. In the unorganized sector, labour is vulnerable to exploitation due to illiteracy and lack of effective bargaining power. India has been first among the developing countries to introduce minimum wage Act. It was introduced soon after the independence in the year 1948. The Minimum Wage Act is an Act passed by the Indian parliament to provide for minimum wages to skilled and unskilled laborers. The minimum wage rates are fixed by both Central and the state governments from time to time.

2.2 Review of Theoretical Models Regarding EPL

Theoretical literature on labor economics argues that EPL raises the cost of labour adjustment in response to market fluctuations (Nickell, 1986, Hopenhayn and Rogerson 1993).However, the picture in the empirical research on EPL is not clear (Bitcherman, 2014). While Mitra and Ural (2008), Besley and Burgess (2004), and Messina et al 2007, in their empirical work on European countries and India (respectively) find the negative effect of EPL on productivity, output and employment. However, several other empirical studies did not find any significant impact of EPL on industrial performance (Roy, 2004; Bertola, 1990).

The above mentioned theoretical models have manifold limitations. First, although they explain the effect of EPL on hiring and firing, their explanations regarding the effect of the legislation on employment remains ambiguous. The net effect of EPL on employment can be positive if its effect on the firing rate is stronger than its effect on the hiring rate, and vice versa. Second, these models are inherently based on the assumption that labour is homogeneous. Due to the homogeneity assumption, they cannot be applicable to segmented labour markets where employers have the choice of hiring both regular and contract workers. This limitation becomes even more serious in a context where informal workers following outside the ambit of EPL hold a significant share in the company's workforce. Finally, they underestimate the role of EPL on wages.

In labor economics, several theoretical models or theories (Efficiency wage theory, contract theory, Insider-outsider) explain employment protection regulation can affect wages. The efficiency wage theory explains that productivity of labor is positive function of its wage rate. Hence, firms would avoid making wage cuts, because the profits might fall. The wage cuts not only influence productivity but also the probability of workers to quiet. Moreover, cuts in wages might increase the labor turnover, which reduces the profitability of firm. Stiglitz (1974), in his turnover model argues that firms that make wage cuts will experience higher job losses and they have to incur higher costs in terms of providing on job training and hiring new employees. The turnover model envisages that wages are more rigid for high skilled workers, because they are typically associated with higher training and hiring costs. Similarly, Shapiro and Stigiltz (1984), in their shirking model explain that cut in earnings will induce worker to shrink. Since shirking reduce productivity, the firm is compelled to increase wages above market clearing level to avoid shirking.

Insider-Outsider theory (Lindbeck and Snower, 1984), explains the behavior of economic agents who are in a more privileged position than others are. The firm did not replace these privileged(Insiders) with outsiders who are job seekers and are willing to work at lower wages They fail to replace them, because there are labor turnover costs(hiring and training costs) associated in replacing insiders with outsiders. Moreover, these turnover cost can also arise when insider are not cooperative towards outsiders willing to work at lesser wages. Above-mentioned costs give some sort of market power to insiders. They use this power to negotiate wages at above market clearing level. It also implies that workers with permanent jobs have more power to negotiate wages than newly hired/ temporary workers (outsiders). This imbalance in power provides higher and downward rigid wages to permanent workers (insiders).

2.3 Review of Empirical Studies

Mathae et al (2019) use firm level dataset from 25 EU countries to examine how firms make adjustments in labor costs (wages, employment, hours worked) in response to demand shocks. The study found that during 2010-2013 firms responded to market shocks bringing down the levels of employment. The cut down in employment was followed wage adjustments and changes in working hours. Further, the study reveals that in case of positive demand shocks, firms initially respond through wage hikes, and subsequently they increase employment and

number of work hours. Besides, the study finds that employment protection regulations and strong wage bargaining power make it difficult for firms to make wage cuts in response to negative demand shocks.

This study is based on cross-country dataset. In cross-country analysis, the chances of omitted variable bias often remain high. It would be interesting to see how the results appear based on a state-level analysis within a single country.

Sofi and Kunroo (2018) investigated the effect of EPL on labour turnover, which they use as a measure of employment adjustments to market shocks. They note that there were more adjustment responses in states with stringent labor regulations. Moreover, they find an inverse association between labour turnover and EPL, which they believe reflect a positive effect of the latter. The finding of the study reveals that EPL does not create hindrance for employers regarding hiring and firing of workers.

While the study examines the effect of EPL on employment adjustment in response to demand shocks in detail; it, however, does not cover wages.

Marotzke et al. (2017) in their study examine the effect of wage adjustments on employment, with focus on the role of nominal wage rigidity. Their study confirms the evidence of nominal wage rigidity. This study covers 25 European countries for survey dataset .The two main channels through which rigidity in wages could emerge are collective bargaining coverage and asymmetry in demand elasticity of wages. The study examines the impact of wage adjustments on employment by using collective pay agreements as instrumental variables for wage adjustments. Estimated results confirm the negative effect of downward wage rigidities on employment. They conclude in their study that firms covered under collective pay agreements are more likely not to make cut in wages.

This study is based on cross-country analysis. The chances of omitted bias variable remain high in cross-country analysis. The results could vary considerably on state level analysis in a particular country.

Sapkal (2016) studies the effect of labour regulations on informal employment. Like Sofi and Sharma (2015a), it uses 3digit industrial data for formal manufacturing sector in India. The study

is based on industry-by-state panel. It uses fixed effects model and employs IV 2SLS to control for endogeneity. The study finds that tougher labour regulations are associated with higher informality in employment. These results are quite similar with Sofi and Sharma (2015a). However, the study measures employment protection slightly differently.

Chaurey (2015) examines the link between informal employment and EPL for India using an econometric analysis. He uses panel data from the formal manufacturing sector. The study follows a modified Besley and Burgess approach and relies on dummy interaction effects. The study finds an association between labour regulations and contractual employment. But like previous studies in the similar direction, it does not account for the implementation of labour laws, which supposedly remains quite weak especially in developing countries like India.

Sofi and Sharma (2015a) examines the linkage between EPL and informalisation of employment in the Indian manufacturing sector, using 3-digit industrial data with state-by industry panel for the period 1999-00 to 2007-08. The study uses instrumental variable technique to remove endogeneity that arises in their econometric model. The study concludes that tougher EPL leads to higher incidence of informalisation. In other words, they find that in states with stringent EPL regime, the manufacturing industries had more usage of contractual employment. Besides, the study also investigates the effect of volatility in market demand on informalisation. It concludes that volatility, as measured using fluctuations in real output, is one of the significant determinants of contractualisation in the formal manufacturing sector.

Sofi and Sharma (2015b) assesses the impact of employment protection legislation on efficiency of industries. It measures efficiency using total factor productivity, which is derived through the Data Envelopment Analysis (DEA). The study finds that employment protection legislation does not have a significant negative effect on industrial efficiency. The main departure in this study is that it controls for contractualisation while estimating the effect of EPL on total productivity.

Sofi and Sharma (2015c) investigates the effect of employment protection legislation on labour productivity and employment. It uses modified version of the Besley and Burgess (2004) approach and the OECD Index (OECD, 2007). It also takes into account the effect of contractualisation by including it as a control variable in the econometric model. The study finds that after controlling for contractualisation, the negative coefficient pertaining to productivity

disappears. However, the study finds negative effect of employment protection on employment, which is an interesting finding.

Pal and Rathore (2016) examine the impact of labor regulations and industrial deregulations on workers bargaining power and firms mark up in Indian manufacturing sector. Empirical results in their studies confirm the decline in workers bargaining power due to industrial deregulations and trade liberalization. However, they conclude that amendments to labor regulations by state governments have shown positive effect on workers bargaining power. Surprisingly, their econometric findings did not find any effect of Employment protection legislation on workers bargaining power. The study employs Besley-Burgess index, which has been controversial because of the underlying problematic coding and interpretation, as pointed out by Bhattacharjea (2004). Although, this study examines the impact of labor regulations on workers bargaining power, it ignores the effect of labor laws on wages. While estimating the bargaining power of workers the author did not incorporate the effect of contractual workers. The growing share of contract workers in Indian manufacturing might have contributed to declining bargaining power.

Dougherty, Frisancho and Krishna (2013) study the impact of labor market regulations on firms' productivity. Using state level variation in labor regulations, they find the impact of EPL and other labor market regimes on firm's productivity in India. To capture the effect of Employment protection legislation, they compare states with low and high levels of labor requirements. They argue that EPL will restrict firms with large labor requirements. As a result, labor-intensive industries will have substantial productivity losses operating in states with stringent labor regulations compared to firms located in states with flexible EPL. .

The study uses OECD index, which is criticized for its time invariant nature. Besides, no attempt is made in that study as far as wage effects of labour laws are concerned.

Babecky et al (2010) provides new evidence on downward nominal and real wage rigidity across Europe .The study uses bivariate probit regression to examine the factors responsible for wage rigidity. The empirical estimates indicate that institutional differences across countries is a crucial factor behind wage rigidities. Moreover, regression analysis reveals that real wage rigidity increases with high collective bargaining coverage. Similarly, another institutional factor held responsible for creating wage rigidity is related to lay off workers. The study finds a

positive association between nominal wage rigidity and strictness of Employment Protection Legislation (EPL). Additionally, the permanent contracts are positively associated with nominal wage rigidity in countries with stringent EPL. The study highlights the role played by institutional factors in creating downward wage rigidities.

Dougherty (2008) analysis reallocation of job rates in manufacturing sector from 2000 to 2008.They find a negative relation between labor regulations and labor turnover in Indian manufacturing sector. The study suggests that labor market outcomes are affected by wider range of labor laws, besides Industrial Dispute Act (IDA).They argue that there is dire need of labor reforms, in order to reduce costs associated with formal employment. The study reveals that reforms will reduce the ill effects that high labor costs have on labor market dynamics. Moreover, these reforms will enhance productivity as well as the wage share of workers.

Ahsan and Pages (2009) in their study estimate the economic effects of employment protection legislation (EPL) and labor dispute resolution (DL) in Indian manufacturing sector. They find that legislations that enhance the cost of employment protection or dispute resolution will reduce the employment and output. It is argued in their study that there is strong evidence of complementarities on labor regulations. The states where resolution of disputes is difficult, the employment or output cost of EPL will be larger there .The study reveals that there is no benefit of EPL or DI on worker, as there is no increase in wage bill or labor share. It is concluded in their study that employment protection have negative effect on labor- intensive industries. While as, labor dispute resolution mostly affect capital-intensive industries.

Although, this study examines the ill- effects of labor regulations on employment and output. It fails to reveal the impact of labor laws on wages adjustments and workers bargaining power. Moreover, to capture variation in labor regulations across states they follow Besley –Burgess (2004) index which is criticized fiercely for its faulty coding.

Micco and Pages (2006) analyze the economic effects of employment protection legislation across different developed and developing countries. Their study shows that labor turnover, value added and employment of highly volatile sectors decline due to stringent employment protection regulations. They further argue that labor regulations decline the entry of firms, value

added and employment at aggregate level also. The study finds that decline in employment and value added is driven by fall in the net entry of firms.

This study explores the effect of EPL on labor turnover, employment and value added. However, like most of the other studies, it does not study whether wages are linked to labour regulations, and how different types of labour law reforms affect the wage determination.

Besley and Burgess (2004) studies Indian labour laws in detail and identify changes in the provisions under the IDA, 1947 since 1952 to 1992. Using the leximetrics approach, they categorize the amendments to the IDA in to three categories: pro-worker, pro-employer, and neutral. Using three dimensional panel model, they find that increase in pro-worker reforms leads badly affect employment, labour productivity and output. However, it does not pay much attention to wage effects of the labour laws.

Roy (2004) investigated the effect of job security legislation on the dynamics of employment adjustment. The present study explores the impact of Industrial Dispute Act 1976 and 1983 on employment adjustment across 16 major industry groups in Indian manufacturing sector. The study provides the evidence of lag in employment adjustment. Econometric analysis of the paper reveals significant rigidities in labor adjustment. The degree of labor adjustment varies across industries and types of labor .It is examined in the study that job security legislations did not have a uniform adverse impact on job adjustments .In conclusion, the study indicates that current rigidities are inherent characteristic of every firm and job security legislations are not solely responsible for it.

It only explores the impact of labor regulations on employment adjustment and ignores the effect of regulations on wages. Moreover, it did not explore the dualism in employment which is prevalent in India's manufacturing sector.

Fallon and Lucas (1993), using an econometric analysis for India and Zimbabwe study the effect on demand for labour of pro-worker provisions under the Chapter 5B of the IDA, applicable to undertakings with more than 300 workers. The aim is to investigate whether the requirement of prior government permission for layoffs or retrenchment leads to increase or decrease in the labour demand. The find negative effect of the same on labour demand. They also find that the decline in demand for Indian manufacturing jobs vary considerably across different industries.

This study examines the affect of job security regulations on demand for employees. However, the study fails to explore the impact of job security legislations on wage adjustments and bargaining power of workers.

Holzer and Montgomery (1993) study wage-employment responses to positive and negative demand shifts. Their results show that wage responses are sluggish in comparison to employment adjustments. Using firm level data, the study find very small adjustment in wages compared to employment adjustments, with coefficient of variation greater in the later than in the former. Empirical evidence in this study suggests that wages are rigid in downward direction when they face negative demand shocks.

The study ignores the impact of labor regulations on the dynamics of wages. Besides, this study is based on short time period (2 years), which may lead to biased estimates. It may be that results are influenced by considering particular time. Data for longer period might have indicated greater wage response to negative demand shocks.

2.4 Research Gaps

Following research gaps were identified from the literature review:

1. Previous literature in Indian context has paid less attention to analyzing the dynamics of wages in the formal manufacturing sector.
2. There is a lack of state-level studies on wages of workers employed in the organized manufacturing sector.
3. The role of labour laws on wage determination has been ignored especially in India.
4. Limited literature exists on dispute settlement mechanism and judicial outcomes of labour disputes.

2.5 Research Hypotheses

Hypothesis 1: Larger the number of pro-worker court judgments, the higher is the real wages or share of real wages in output, and versa.

Hypothesis 2: The strictness of EPL has no effect on wages of contract workers.

Hypothesis 3: Workers bargaining power (measured by number of strikes per lakh population) is negatively associated with pro-employer court judgments.

Chapter 3: Methodology

3.1 Construction of EPL Index using Court Judgments

To construct a novel EPL index, we study 1057 court judgments regarding labour disputes collected from 15 states of India for the period 1999-00 to 2013-2014. We select only those court judgments which were resolved under Section 25-B, 25-F, 25-C, 25-FF, 25-O, 25-FFF, 25-M, and 25-N of Chapter 5A and 5B of the Industrial Disputes Act, 1947. The reason why we restrict our analysis to these eight sections of the IDA only is that they are central to India's employment protection regime and most controversial both in academic and in policy circles. A total number of 1057 court judgments were retrieved and reviewed, covering the time-period 1999-00 to 2015. However, there were many states with no data regarding court judgments for 2014 and 2015. Therefore, our econometric analysis is restricted to the time-period 1999-00 to 2013-14.

Industrial Disputes Act, 147

The IDA, 1947 lays down a dispute settlement mechanism and aims to safeguard workers against illegal retrenchments and layoffs. It applies to firms that are registered under the factors Act, 1948. It covers most of the economic activities falling under the organized sector. The Act established a dispute resolution system with three tiers for smooth resolution of labour disputes. The three tiers include conciliation, arbitration and adjudication.

There are more than 20 sections under chapter 5A and 5B of IDA ,1947. These chapters exclude industries that are seasonal in character and work intermittently. Further they exclude the labour force from layoff compensation who are badli or casual in nature. Chapter 5A of IDA lays down rules for business undertakings with at least 50 workers. Under section 25-B (chapter 5A) of the Act, workers with continuous service of 240 days can claim regularisation of their employment. Under section 25F, workers are entitled to compensation payments and one month prior notice in writing from the employer for causing retrenchment.

Under section 25-C, employers are required to pay compensation to workman affected by layoffs in case they are registered on the muster rolls. The compensation is equivalent to 50 per cent of the basic wages payable to the worker if not laid-off. Similarly, the section 25-FF requires that in case the employer seeks transfer of the business establishment, he/she must provide compensation to workman affected by the same. However, for workers to be entitled to the

compensation or notice in case of layoffs or retrenchment, they must have been in continuous services for at least one year. The notice and compensation in this regard is applicable as per section 25-F of Chapter V-A of the Act. As per chapter 5A, there is no requirement for permission from the government for layoffs, though a prior notice to the government is necessary. In case of close down of a business establishment, the section 25-FFF requires employer to submit a prior notice, 60 days before, to the government. Under this section, the workforce affected due to the close down are entitled to compensation payment from the employer.

As far as the Chapter 5B is concerned, it lays down rules for layoffs, retrenchments, transfer and closure of undertakings. However, this chapter is applicable to establishment with at least 100 workers. It requires a prior permission from the appropriate government to layoff of close down an undertaking. Similarly, for retrenchments, the employer is required to submit 90 days prior notice to government. Further, the section 25-N under chapter 5B lays down the conditions that must be fulfilled before any workmen can be retrenched. Workers with at least 1 year experience are entitled to three months notice explaining the reasons of retrenchment. In this regard, the employer must get a permission from the government for retrenchments.

The section 25M (chapter 5B) relates to prohibition of layoffs. This section is not applicable to badli worker or casual worker. Under this section, a worker that is registered on muster rolls cannot be laid off except after a formal permission from the government is received. In case any worker is laid off in violation of the section 25M, the layoff shall be considered as illegal. In this case, the worker shall be entitled to all the benefits of his/her employment.

Finally, the section 25-O relates to closure of undertaking. An employer cannot close down an undertaking unless a prior notice is served to the government 90 days in advance, providing justification for the closure. The provisions of the selected sections are shown in Table 3.1 given below.

Table 3.1: Provisions under the selected sections of Chapter 5A and 5B of the Industrial Disputes Act, 1947.

Table 3. 1: Provisions under the selected sections of Chapter 5A and 5B of the Industrial Disputes Act, 1947

S.No.	Section	Chapter	Provisions
1	25-B	5A of IDA	Continuation of employees services
2	25-C	5A of IDA	Compensation payment for layoffs.
3	25-F	5A of IDA	Severance payment and one month notice for retrenchment
4	25-FF	5A of IDA	Compensation payment in case of transfer of the business undertaking.
5	25-FFF	5A of IDA	Payment of compensation to workers in case of closing down of undertakings.
6	25-M	5B of IDA	Prohibition of layoffs without prior government permission.
7	25-N	5B of IDA	Conditions to be fulfilled for retrenchment, including prior permission from the government and three months' notice.
8	25-O	5B of IDA	Procedure for closure of business undertakings.

We divide the court judgements on labour disputes into three categories: Pro-worker, Pro-employer and neutral. If court judgement goes in favour of worker, the judgement is denoted as pro-worker. Similarly, if the court judgement goes in favour of employers, it is then denoted as pro-worker. In case, the judgement partly goes in favour of employer and partly in favour of

worker, then the case is labelled as neutral. In some cases, a litigation surfaces from both employment and wage disputes together. With such type of cases it is possible that the nature of the court ruling on wage dispute may go in one direction, while that on the employment goes in the other direction. To capture such multiple aspects of the court judgements, we create separate indices for employment and wages, apart from an aggregate index. Thus, the separate index on wages is based on court judgements pertaining to only wage disputes between employers and labourers. Similarly, the separate index for employment captures the court's interpretation of provisions under the IDA, 1947 relating to employment alone. On the other hand, as far as the aggregate index is concerned, which combines both wage and employment disputes, it captures the overall effect of the pro-worker labour law regime as contained under the Chapter 5a and 5b of the IDA, 1947.

Our approach to the measurement of employment protection is novel and of particular importance in the labour law research. This index brings several new features as compared to that of the previous index. As discussed above, the main index used in the previous empirical research is the Besley and Burges Index (BBI), which is based on legislation existing on paper. The BBI does not take into account the implementation aspect of the labour laws. The critics of the Besley and Burgess Index has often cited this limitation to invalidate its findings along with other studies using the same approach. To capture the implementation directly, instead of relying on laws existing on paper, we relied on their actual implementation through the court of law. Our index is a time variant index enabling us to include fixed effects in the econometric model. The previous classification of states by Gupta et al. (2007) is time invariant indicator, which forces the research to estimate random effects model, since the software package STATA do not accept the same in presence of a time in-variant independent variable. Last but not least, we develop two separate Indices of EPL: broader measure and specific measure. The broader measure of EPl is based on all the eight sections under Chapter 5A and 5B of the IDA, 1947 such as Section 25-B, 25-F, 25-C, 25-FF, 25-O, 25-FFF, 25-M, and 25-N. On the other hand, the specific measure of EPL takes into account wage-related court judgments only. In Table 3.2, we show few examples of the court judgments reviewed and categorized by us for our study.

Table 3.2: Few examples of the court judgments reviewed by the authors of this study for the construction of EPL Index:

Table 3. 2: Few examples of the court judgments reviewed by the authors of this study for the construction of EPL Index

S.No.	State	Complainant	Case Description	Judgement
1	**Gujarat**	**Anida (Vachara) Jute Seva Sahakari Mandali Ltd. vs. Manibhai Punjabhai Patel**	Petitioner Seva Sahakari Mandali Ltd initiates this petition against the award passed by Industrial Tribunal, Rajkot dated March 4, 1997, whereby the tribunal had directed the petitioner company to reinstate the respondent workman with full back wages. Brief facts leading to submission of this writ petition is that the respondent was working with the petitioner company since January 1, 1978 and last salary drawn was 450 rupees. Thereafter the workman was terminated from the service based on the charge of dishonesty and misappropriation. The said order of termination was challenged by respondent employee by filling compliant against the petitioner .The Industrial Tribunal, Rajkot while examining the facts of case concludes that the respondent workmen has been illegally terminated as there was no compliance with the provisions of section 25f of IDA,1947. As far as the case of dishonesty and misappropriation is considered, no departmental inquiry was initiated against the employee. Therefore, based on these evidences industrial tribunal directed the petitioner employer to reinstate the workman with full back wages. The present writ petition is filed against the said order of Industrial tribunal, Rajkot. The present court after taking into consideration all the documentary and oral evidences concludes, that industrial tribunal Rajkot has not committed any error while passing the said order. Before the tribunal petitioner, company fails to prove that respondent workman was gainfully employed during his termination tenure. Therefore, the tribunal was right in ordering reinstatement with full back wages. Hence, the present writ petition stands dismissed. Thus, in this petition, the court decision goes in favour of worker in terms of employment and wages.	Pro-worker
2		**United India Insurance Co Ltd. vs. Mahijibhai Mangalbhai Gohil**	The petitioner United India Insurance Co Ltd, has filed this writ petition against the judgment dated August 12, 1996 of industrial court, Ahmadabad .The industrial tribunal had ordered reinstatement of respondent employee with 50% back wages. It was the case of petitioner that respondent workman alleged that he initially worked with Petitioner Company from 29 November 1980 to 24 December 1981 and artificial breaks were given to him during that period. Further the respondent also claimed that he performed his duties properly with the petitioner company until June 15, 1983 and their after his job was illegal terminated. The respondent has also contended that he has completed more than 240 days of continues service and therefore he is eligible to be reinstated with full back wages. While as the case of Petitioner Company was that, the respondent worked as casual employee whenever the work was available on leave vacancies. The petitioner company admits that respondent was their employee up to 24.12.1981 and most up to 12 June 1983.Thereafter, the respondent left the job of Petitioner Company himself as he has find the better job opportunity somewhere else. The respondent raised the issue after ten years demanding reinstatement with full back wages. It is therefore contended that petitioner was not in service for 10 years and he is not entitled for any relief. After taking the entire facts and circumstances into consideration, the present court declared the award passed by labor court, Ahmadabad not justified in granting reinstatement of respondent with 50 percent back wages. The present court is of the view that since the respondent employee has not completed 240 days of continuous service, moreover he has not filled reference in 10 years; the court is not inclined to accept the award passed by labor court.	Pro-employer

			Hence, the award passed by labor court Ahmadabad is set aside and the petition filed by United India Insurance Ltd stands allowed. Thus, this court decision goes in favour of the employer in terms of both employment and wages.	
3	**Madhya Pradesh**	**Vikram Cement Vs. Lalit Kumar Saxena**	This petition has been filed by petitioner company Vikram Cement against the award passed by the Industrial court, Indore dated 03.04.2001,which in turn affirms the order passed by the labor court ,dated 12.10.2000. It was the case of respondent workman that he was working with the petitioner company since 1991.In June 18, 1992 the respondent was terminated from service by Petitioner Company on charges of long absence i.e. from 18.06.1992.To challenge his order of illegal termination respondent workman filed an appeal before the labor court. The respondent employee contended that his termination order was passed without holding any departmental inquiry and without any charge sheet being served to him. It was also complained that termination order was in contrary to the provisions of section 25f of Industrial disputes act 1947. The respondent argues that if the petitioner company wants to terminate him by way of retrenchment, then it was necessary for Petitioner Company to pay retrenchment compensation. On the other hand, the Petitioner Company alleged that the performance and conduct of respondent employee at workplace was not satisfactory and his long absence from service led to his ultimate dismissal. The labor court while examining the case did not find any alleged misconduct against the respondent employee and declare the termination as an illegal retrenchment. The labor court abolish the termination order and gave direction to reinstate the workman with full back wages. The petitioner company filed appeal against this order of labor court, and by impugned order dated 03-04-2001; the Industrial Court, Indore dismissed the appeal and upheld the award of previous labor court. This order of industrial court is under challenge in the present petition. The present court after hearing the learned counsel of the petitioner and going through the court orders did not find any merit in the present writ petition. The court argues that Petitioner Company failed to prove the alleged misconduct of respondent in both the courts (labor and industrial courts). Further, it is also argued that once it is clear that the alleged misconduct charge against the respondent employee was not proved, the termination order becomes bad. It is also an admitted fact that petitioner paid no retrenchment compensation to respondent, and therefore the termination of respondent (workman) was in contravention to the provisions of section 25F of IDA, 1947.Since termination was bad in law, respondent (workman) will be reinstated along with full back wages. Both the Labor and industrial court awarded full back wages, because the petitioner employer failed to prove that the respondent employee was gainfully employed during his termination tenure. Hence, in view of the aforementioned discussion the present petition stands dismissed. Thus, the final discussion of labor court goes in favor of the workman both in terms of wages and employment.	Pro-worker
4		**Kayum Khan Vs. Executive Engineer M.P. Grah Nirman Mandal**	Petitioner kayum khan has filed this petition challenging the impugned award dated October 06, 2008 and Feb 22, 2010 passed by labor court Gwalior. In the Gwalior court, appeal filed by petitioner workman regarding his illegal termination was rejected on the ground that he failed to prove that he had worked for more than 240 days in a year prior to his termination. The learned counsel appearing for the petitioner employee has invited the attention of this court to the order of termination of petitioner employee dated Feb 29 2000. The termination order in its very first	Pro-worker

			paragraph clearly mentioned that the petitioner was working as a muster role employee for seven years and three months. Therefore, it is contended that the decision of the labor court Gwalior of petitioner employee not having completed more than 240 days of continuous service was perverse. After hearing, the learned counsel for both the parties and on examination of the record available including the original award of the labor court, it is evident that the termination document clearly mentions that the petitioner employee had worked for seven years and three months prior to his termination from service on Feb 29 2000. Further, the retrenchment compensation granted by respondent employer to petitioner for working seven years and three months is also mentioned in the termination order. Therefore, this admits to clear admission on part of employer that the petitioner workman has worked continuously for 7 years and 3 months prior to his termination. The aforementioned aspect of the respondent employers acceptance contained in termination order missed the attention of the previous labor court. Moreover, no one from employer's witnesses has challenged the authenticity of the termination order. From the above discussion, it is clear that petitioner had worked for almost 7 years and three months prior to his termination from service i.e. Feb 29 2000. Since the respondent employer has complied with the provisions of section 25f of Industrial Disputes Act 1947, the only query that remains is the violation of Section 25-N of IDA, 1947.The employer has failed to seek permission from appropriate government or authority to the retrenchment of petitioner workman. Due to non-compliance of section 25-N of IDA, 1947 this court holds the termination of petitioner workman as illegal retrenchment. Accordingly, this writ petition stands allowed and the impugned award passed by labor court Gwalior, stands quashed. The petitioner workman is eligible to be reinstated in service with fifty percent back wages. Therefore, the court decision is favorable for workman in terms of both wages and employment, we deem it pro worker.	
5		**Sachiv, Krishi Upaj Mandi Samiti vs Aditya S/O Baijnath Shukla**	This petition is filed by Petitioner employer against the award of labor court, Khandawa dated 5-10-2002, whereby the respondent workman has been ordered to be reinstated with back wages. The present court agrees with all the genuine findings recorded by the previous labor court while declaring the award in respondent workman's favour. As observed prior, following upon the dismissal of respondent workman industrial dispute was raised to decide the legitimacy of termination order. Based on facts and evidence submitted by both the parties, it was concluded that the respondent workman had worked more than 240 days in a year prior to his termination. Moreover, no charge sheet and inquiry was held before the dismissal of respondent employee from service. In addition, no retrenchment compensation was paid to respondent workman preceding to his termination. As a result the labor court declare the termination of workman as perverse The learned counsel of petitioner failed to reveal any mistake of law before the present court in the impugned award declared by last labor court, as far as the above mentioned findings are concerned. These findings are in fact required to attract protection under labor laws. The present court concluded that once it is evident that dismissal was based on no inquiry and no charge of misconduct was found, then the termination order becomes bad in law. Further, if a worker has worked continuously for 240 days in the preceding year prior to his termination then he is eligible for protection under labor laws. Learned council for the petitioner employer also contended that no	Pro-worker

			order for payment of back wages should be passed. The present court declined this submission also by arguing that once it is evident that the termination order is bad in law then direction for back wages follows naturally. It is only when the employer is able to prove that the worker was employed during his termination tenure, order for payment of back wages cannot be passed. In the present petition employer fails to prove that worker was working for gains during his termination tenure. In the absence of any reliable evidence being produced, the direction for full back wages has to follow. Accordingly, this petition fails and is hereby dismissed. Therefore, the present court decision went in favor of respondent workman in terms of both wages and employment.	
6	**Karnataka**	**The Management of Hindustan Aeronautics Limited**	Petitioner Hindustan aeronautics limited has endorsed this intra court appeal. The learned single judge by the impugned order, has dismissed the petition filed by petitioner employer challenging the order of labor court, where by the respondent was directed to be reinstated with 50% back wages. The appellant management has offered job to respondent employee on the post of Plastic and fiber worker in its aircraft division. The offer letter clearly mentions that the appointment is temporary in nature for one year and the service will be automatically terminated on expiration of the period of appointment. During the service, if the work of employee was found unsatisfactory he will be terminated without any notice. On acceptance of these working conditions, the respondent joined the service with effect from June 11, 1986. Before the expiry of one-year contract, his tenure of appointment was further extended by two years i.e. up to 31-03-1989, based on same working conditions as were mentioned in first offer letter. On expiration of two more years of appointment, the respondent was communicated through letter that his service stands ceased with effect from 31-3-1989. In reply to his termination from service respondent employee filed an application before labor court under section 25f of IDA, 1947.The labor court declared that the termination of workman amounts to retrenchment and the provisions of section 25f of IDA, 1947 were not complied with and therefore his termination as such was bad. Accordingly, reinstatement of respondent was directed by labor court with 50% back wages. Petitioner management through a petition filed in this court challenged the above-mentioned award. The learned single judge despite having noticed the terms of employment on which the respondent employee was appointed took the view that there was no mention in the offer letter that appointment was temporary in nature and consequently upheld the decision taken by the last labor court. The present court find it difficult to concur with the view taken by the learned single judge ,because for the simple reason that the appointment letter clearly mentions that the respondent employee was appointed for one year period which was further extended for two years up to 31-03-1989. Indeed, on expiry of the contract period, the respondent employee could not have remained in petitioner's service. It is an admitted fact that the respondent had accepted the services of petitioner management with full knowledge that his engagement was for a fixed period. As already, found by the court that termination of respondent employee was due to the expiry of contract and as such, it does not amount to retrenchment. Therefore, the provisions of section 25f had no application to the particulars of present case. For the reasons aforementioned, the award passed by labor court is dismissed and appeal filed by management of Hindustan aeronautics limited is allowed. Therefore, the present court decision is unfavorable for respondent workman in terms of both wages and employment.	Pro-employer
7		**T.D.**	This writ petition is filed by petitioner workman challenging the order	Pro-

		Vasantha Kumar vs. the Assistant	passed by the learned single judge who has modified the judgment of the labor court, which had directed reinstatement of petitioner with fifty percent back wages to that of a monetary compensation. The petitioner workman was working as a daily wager with the respondent employer. His services were terminated on October 01 1987. He raised an industrial dispute claiming that he had worked for more than 240 days and his dismissal is in contrary to provisions of section 25f of industrial Disputes Act, 1947. The labor court after proper inquiry found that workman had worked for 240 days and therefore his termination from service is in contravention to section 25f of the IDA, 1947. It also took note of the fact that the dispute was raised after nine years of delay. Therefore, the labor court awarded reinstatement with only fifty percent of back wages. Aggrieved by the decision of labor court, both the parties filed their respective writ petitions. Both these petitions were heard together and the learned single judge directed that it is the case of termination of daily wager and the reinstatement will not be appropriate. Instead of reinstatement, monetary compensation would be an appropriate remedy. Accordingly, the learned single judge quashed the order of reinstatement with fifty percent back wages and substituted it with monetary benefits of 80, 0000 rupees. Distressed with the said award petitioner workman has preferred this petition. The learned council appearing for the petitioner workman, while assailing the award of the learned single judge, contended that when termination is declared illegal, as a rule the workman is eligible for reinstatement with full back wages. However, taking into consideration the delay in raising the dispute coupled with the petitioner being a daily wager reinstatement with fifty percent back wages was just, but the interference of learned single judge was not justified. Even if compensation is to be paid, Rupees 85000 is too little; the petitioner workman is eligible to higher compensation. The present court did not find any merit in these contentions. The particulars of the case are not in dispute. The position of petitioner workman is that of a daily wager. Although he was illegal terminated from service, he is not entitled to be reinstated on the same post, is the law stated by Apex court. Because he was illegally terminated and he had worked for 240 days prior to his termination, he is entitled only for monetary compensation by way of damage and not for reinstatement. The present court agrees with the view taken by the learned single judge, as it is just and proper. However, court did not find any merit in the appeal filed by petitioner workman and accordingly it is rejected. Therefore, the court decision is unfavorable for petitioner workman in terms of both wages and employment.	employer
8		**The Himalaya Drug Company Vs. Taj Ahmed (2005)**	The management of Himalayan Drug Company and workman Taj Ahmad has initiated present writ petitions against the impugned order of Industrial Tribunal dated August 10, 2004, whereby the tribunal had directed reinstatement of workman but without any back wages. It was the case of workman that that he was appointed by employer-management as a worker on October 10, 1994 on daily wages. He continued to work until December 22, 1995 on which date, his service were terminated without any notice being served to him. Moreover, the workman claimed that he had worked for 240 days in the year prior to his termination. On the contrary, it was the case of the employer-management that the workman was engaged as Mazdoor on daily wages initially for period between October 18, 1994 and December 28, 1994. After that, he continued to work from time to time until his last temporary engagement between October 4, 1995 and December 22, 1995 on which day he was finally dismissed from service. Further, the management contended that entire engagement of workman does not exceed 240 days of service and he is not eligible for any sort of relief.	Pro-employer

			Before the Industrial tribunal, respective parties raised the abovementioned contentions. After thoroughly examining the material on record, the tribunal allow the reference of workman and held that he had worked for more than 240 days of continuous service(including national holidays and Sundays) and consequently, directed the employer management to reinstate him but without any back wages. Aggrieved, by the court order, the employer management has filed W.P.NO-42199 of 2004 and being disappointed with the rejection of back wages, the workman has filed W.P.NO-50235 of 2004. S.N.Murthy, learned advocate appearing for management claimed that as per the wage register workman had worked for only 197 days under the management from December 22, 1994 to December 21, 1995 on which day, he was dismissed. Therefore, the workman has not worked for 240 days continuously in the year prior to his termination. The industrial tribunal has wrongly concluded that workman has worked for 240 days as could be seen from the discussion made in concluding paragraph of its award, where court has incorrectly taken into consideration unpaid holidays and Sundays in support of his argument. On the other hand, the counsel appearing for workman has strongly submitted to incorporate Sundays and other holidays while computing the 240 days of continuous work in the preceding year prior to termination. The present court after hearing the rival contentions raised by both the parties declared that only question that needs to be addressed is whether unpaid Sundays and other festival holidays needs to be taken into account while invoking the section 25-F along with section 25-B of the IDA,1947. The answer to this question is in negative. Because the Supreme court in its numerous awards have declared that only those days will be taken into consideration for which wages have been paid. In other words, those days will not be counted to determine whether the worker has worked continuously for period of 240 days in which no wages have been paid to workers. There is no deny to the fact that workman had worked for only 197 days and was paid wages for only those days. The materials on record evidently show that the workman was not paid wages for Sundays and other holidays. Moreover, the court claims that no standing order or notification was bring to his notice to show that casual workers are allowed to be paid even on Sundays and other holidays during which they have not worked. If the Sundays and other holidays are excluded, then the total number of days workman had actually worked are only 197. Thus, it is evident that employee has not worked for 240 days continuously prior to his termination from service. Therefore, the industrial tribunal is not justified in holding that workman has worked continuously for 240(including Sundays and other holidays) days in the year prior to his termination. Consequently, the impugned award of Industrial tribunal cannot be sustained and is hereby quashed. Hence, the petition filed by employer-management is accepted and the writ petition filed by workman stands dismissed. So, the net effect of court decision (in terms of both wages and employment) was in favor of employer.	
9	**Punjab**	**Sher Singh vs. State of Punjab (1999)**	This writ petition is filed by workman against the award of the labor court dated January 22, 1999, which was declared against him. It is the case of petitioner workman that on November 11, 1991 he joined the service of the respondent management as chowkidar/laborer. His job was illegally terminated on August 1; 1992.Further, the petitioner claims that he has completed 240 days of continuous service in the last calendar year, before the termination of his service. Then the respondent management made new appointment after his termination and, therefore, there is clear violation of section 25f of the IDA, 1947. On the other hand, the respondent management is of the view that the petitioner was appointed on contingency basis and there was no employer-employee relationship between them. They argued that the	Pro-worker

			petitioner workman joined service on November 25 1991 and not on November 1 1991.Further, they contended that there was no termination order issued on August 01, 1992 and that the workman never worked after June 30 1992.They also claimed that petitioner workman has worked only for 218 days. After hearing both the learning counsels for the parties, the present court found that the petitioner was illegal terminated from service and he had worked with the respondent management for a period of more than 240 days. Further, the court also found that the petitioner workman was not gainfully employed during his termination tenure. Therefore, the petition deserves to be accepted and the award of first labor court is hereby quashed. The petitioner is therefore reinstated with full back wages. Hence, the petition of petitioner workman is hereby accepted. So, the court decision went in favor of petitioner workman both in terms of employment and wages.	
10	**Maharashtra**	**Standard Motor Union Vs. Shakuntala P. Shene**	The present case is initiated by standard motors union Ltd against its employee Shakuntala P.Shene. The petitioner company has challenged the legality of the award dated 29-08-1988 passed by labor court Thane, whereby the court has ordered reinstatement of respondent workman with full back wages. In 1978, Petitioner Company hired respondent employee as an unskilled workmen. Unfortunately, in 1977 she met an accident due to which she lost her three fingers. She was taken to hospital for treatment and after that, she never reported for work. Further, it is the case of company that due to adverse financial conditions, the factory was closed down on and from Sep 19 1977.And all, the workers who were working at that time were discontinued after legal dues were paid to them. On Nov 6, 1977, the respondent workman also receives his dues from factory office. The petitioner company restarted its work on and from I January 1979. The information bulletin was put on notice board of the company and information was circulated among factory workers that all those who are willing and interested in joining would be allowed to join. In response to information circulated by company for its ex-workmen almost all of them comeback to work and joined except the present respondent employee. The respondent workmen did not report until January31, 1979 when the petitioner company had engaged another worker man in her place. Further, it appears that the workmen reported for work at the industry on December 7, 1978.The Company through its official letter on December 7, 1978 informed the respondent workmen that she had lost her claim to employment and she cannot be allowed to join her duties at such a late stage. Thereafter it appears that respondent workmen has replied to the said letter by claiming that she was terminated from service on 27 October ,1978 illegally. Then, she filled a complaint in the office of government labor officer on January 8, 1979.After intervention by labor officer Rs. 750 was paid to her in Feb 11, 1979 as final settlement for her claim. Despite receiving the said amount the workman did not kept quiet and sends the demand letter to Petitioner Company to reinstate her with full back wages. Consequently, an industrial dispute was raised and it was referred to second labor court, Thane for adjudication. Before the labor court, it was the case of workman that she was illegal terminated and that no enquiry was held before terminating her and there was no compliance with the provisions of section 25f of IDA 1947. The present court after going through the award and other evidences on record found that the company has made full payment for 3 to 4 months from the date of accident to the respondent workman. It is also evident from the record that the petitioner company paid wages to workman every month from the date of award obligatory under section 17-b of IDA, 1947 during the pendency of this writ petition under present court dated 13-05-1989. Considering the fact that she just works for six months as temporary worker and after that, she herself remained away	Pro-employer

			from employment and was never concerned to report for work. Moreover, she has received rupees 750 on two occasions as final settlement for her dues. Besides, she has received Rs. 27000 as a settlement with Franco India ltd during the pendency of present industrial dispute with the petitioner. The Learned single judge of present court argues that substantial justice has already been done with the respondent workman. Further, it is apparent from the evidence that no order of termination was declared by Petitioner Company and in view of the fact that respondent workman has herself remained away from work, order of reinstatement with full back wages will be wrong. As a result, the court ordered that there is no illegality in the action of petitioner company Standard Motors Union and set aside the impugned award passed by Labor court, Thane dated 28-08-1988. In view of the above, the present petition of Standard Motors Union Ltd Stands allowed. Therefore, the court decision is unfavorable for respondent workman in terms of both wages and employment.	
11		**Kunwar Prasad vs. Creative Garments**	The petitioner employee Kunwar Prasad has filed this writ petition against the award dated January 21, 1999 passed by labor court, Mumbai rejecting his reference for reinstatement with full back wages. It is the case of petitioner workman that he was in employment of the respondent company as pressman from 1989. On and from June 15, 1992 he was terminated from job orally without giving any reason and there was no compliance with the provisions of section 25f of IDA, 1947. On the other hand, the respondent company argues that the petitioner workman was never their employee, and therefore, there exists no employer-employee relation between them. Hence, there was no industrial dispute, which could be referred to labor court for adjudication. After going through the oral and documentary evidence of the case, the present court found the award passed by the labor court, Mumbai as perverse that deserves to be quashed and set aside. Consequently, the court directs the respondent company to reinstate the petitioner workman with full back wages and other consequential benefits. Hence, this petition of workman Kunwar Prasad stands allowed. So, the court decision is favorable for petitioner workman both in terms of wages and employment.	Pro-worker
12		**Khandu Rambhau Bhosale Vs. Western Maharashtra Development Corporation Lt**	The petitioner workman has filed this writ petition against the award of labor court dated April 29, 1987, whereby the court had ordered reinstatement of petitioner workman but without back wages. The petitioner employee had raised an industrial dispute for reinstatement with full back wages on the ground that he was in employment as watchmen with effect from April 10, 1982. His services were illegally terminated from July 28-1982.Subsequently, the case was referred to labor court for adjudication by state government. Both the parties submit their evidence before the court. It was the specific case of respondent Corporation that the petitioner was not their employee and he is not liable to reinstate and to grant any kind of relief to him. After examining the whole evidence submitted by both parties, the labor court found that the petitioner was illegally terminated from service. Further, the court did not find any evidence of petitioner being gainfully employed during his termination tenure. Therefore, the court declared that the petitioner workman is entitled to be reinstated with full back wages. The decision of the previous court is modified to the extent by granting reinstatement along with full back wages to petitioner workman. For the reasons recorded above, present petition of workman stands allowed. Therefore, the court decision went in favor of petitioner workman in	Pro-worker

			terms of both wages and employment.	
13	**Rajastha n**	**Sukha Ram vs. Executive Engineer, I.G.N.P**	This petition is initiated by petitioner workman challenging the award passed by labor court dated 10-5-1993 whereby, the reference submitted by state government has been dismissed by labor court holding that the order of termination of petitioner workman was not illegal. The brief facts of the case are that the petitioner was appointed as a daily wager on March 1985.Thereafter; his services were terminated on 13-9-1986. Before the labor court, it was contended that termination was in contravention of section 25f of Industrial Disputes Act. Further, it was also contended that no compensation has been paid to petitioner workman at the time of termination. The present court after going through the evidence material on record found that the petitioner has himself admitted that he had received the compensation at the time of termination. As a result, the present labor court did not find any infirmity in the order of termination. The learned counsel appearing for petitioner workman contended that respondent has declared in the affidavit that the petitioner workman was given notice on 30-8-1986 and compensation was paid on 01-10-1986 as such, no compensation was paid to workman at the time of termination. The present court did not find any substance in this contention as workman has himself acknowledged that at the time of termination he was paid compensation. In view of the above, the present writ petition stands dismissed. So, the decision of labor court is unfavorable for workman in terms of employment we deem it pro employer in employment category section.	Pro-employer
14		**Sawaimadhopur and Tonk Zila Dough Utpadak Sahakari Sangh Ltd. and anr. Vs. Om Prakash Sharma**	Petitioner employer has filed this petition against the impugned order dated November 11, 2001. The respondent workman was engaged initially as a daily wager on 01-10-1977. While he was working with Petitioner Company on daily wages since 01-10-1977, appointment order was given to him on 21-09-1983 for three months. However, the respondent workman was allowed to work until his dismissal from service by order dated 10-05-1984. The respondent workman claimed that his services were terminated without any compliance with the provisions of section 25f of the Industrial Disputes Act (IDA) 1947. Eventually, the industrial dispute was raised by respondent workman in labor court, Bharatpur on January 1992.The labor court, Bharatpur adjudicated the dispute and held that the termination was clearly in violation of section 25 f of IDA, 1947 to the extent that no retrenchment compensation was paid to respondent workman. Consequently, on 20-07-1995 the labor court directed reinstatement of respondent along with 60% back wages. The learned counsel appearing for petitioner employer does not challenge the order of reinstatement but submitted that the relief of granting 60 percent back wages was wrong. Since the industrial dispute was raised after a delay of seven years, no back wages for workman should have been ordered. The present court after going through the details of the case does not found any infirmity in the award passed by previous labor court. The present court argues that the retrenchment of respondent workman was illegal and the relief of granting 60% of back wages was legitimate. In our opinion, we did need to interfere with award passed by previous labor court as it just and proper. We absolutely concur with the views taken by the learned single judge of previous labor court. Hence, the present appeal of petitioner employer stands dismissed. So, the net effect of court decision (in terms of wages and employment) went in favor of respondent workman.	Pro-worker
15		**Ishwarlal Vs. State of Rajasthan**	The petitioner workman has filed this petition against his illegal termination form service on February, 1992.The petitioner was working as daily wager since April 01, 1991.Initially the appointment order were given in writing ,but after Nov,1991 no written appointment	Pro-employer

			orders were there and the petitioner was asked to work verbally. The petitioner workman claimed that his services were also terminated verbally form March 1992 without following the necessary requirements for retrenchment under the Industrial Disputes Act (IDA), 1947. He further claimed that he had worked continuously for one year within the meaning of section 25b of IDA, 1947 and is eligible for all the protection governing the legal retrenchment under the IDA, 1947. On the other hand, the respondent employer admitted that petitioner was working as daily wager for 183 days from April 01, 1991 to September 30, 1991 and after that, he left the job voluntarily. The respondent employer denied the allegations of verbal engagements and terminations and pleaded the case for deliberate abandonment. Thus, the claim of petitioner for working 240 days continuously in the year prior to termination was not accepted. The present court after going through the minutes of the case found that the petitioner workman has actually worked for 240 days in a year prior to his termination. Consequently, pleading for voluntary abandonments was not accepted by the court. Therefore, when procedure prescribed under the industrial disputes act for valid retrenchments was not followed, termination was certain to be stated as illegal. However, the labor court found that this is not a case were reinstatement will be an appropriate remedy instead it allowed compensation for workman in lieu of reinstatement for illegal retrenchment. The reasons put forward by the labor court to support its argument were that the petitioner workman has himself admitted that during his termination tenure, he was earning 70-80 rupees per day; whereas the wages from June 1998 for daily rated workers were only 44 rupees per day. As a result, the wages earned by workman were twice the amount what he could have earned while remaining in service. Thus, financially the termination did not ssresult any loss to petitioner workman. The court also found that there is no work available presently where the petitioner could be reinstated. Further, the status of workman was daily wager since 1992 he could have got the same position if reinstated. In addition, government had prohibited the employment of daily wagers under the respondent employer. Besides these contentions taking into account also the long time gap between the date of retrenchment and date of award and the nature of employment of petitioner workman, it was considered appropriate by court to order compensation instead of reinstatement. Consequently, compensation of Rs-12500 in lieu of reinstatement was paid to petitioner workman. From the reasons recorded above, this petition of petitioner workman fails and is hereby dismissed. Therefore, the court decision has an unfavorable effect in terms of employment for worker.	

Source: Author's own analysis based on his review of court judgments.

The state-wise cumulative scores from overall court judgments covering the period 1999-00 to 2013-14 are given in Table 3.3 below. As shown, Karnataka is the state with the lowest latest cumulative score of -20, while Haryana has the highest cumulative score of 32. It may be noted that these cumulative scores are for the latest year (i.e. 2013-14). In other words, these scores represent cumulative sum with 1999-00 as the starting time period and 2013-14 as the end time period. We

separately show the state-wise cumulative scores from court judgments covering wage-related disputes between worker and employers. These cumulative scores cover the period 1999-00 to 2013. As shown in Table 3.4, Punjab has the highest cumulative scores of 20, while Maharashtra has the lowest cumulative score of -23.

Table 3.3: State-wise cumulative scores from overall court judgments (Aggregated), covering 1999 to 2013

Table 3. 3: State-wise cumulative scores from overall court judgments (Aggregated), covering 1993 to 2013

S.No.	State	Classification	Cumulative Score
1	Andhra Pradesh	Flexible	-7
2	West Bengal	Rigid	5
3	Gujarat	Rigid	24
4	Maharashtra	Flexible	-12
5	Rajasthan	Rigid	7
6	Madhya Pradesh	Rigid	9
7	Tamil Nadu	Rigid	13
8	Karnataka	Flexible	-20
9	Uttar Pradesh	Flexible	-7
10	Orissa	Flexible	-5
11	Punjab	Rigid	15
1	Haryana	Rigid	32
13	Assam	Rigid	2
14	Bihar	Rigid	1
15	Kerala	Rigid	4

Finally, we show the state-wise total number of court judgments under the selected 8 sections of Chapter 5A and 5B of the IDA. This is shown in Table 3.5 below. It is important to mention that they include cases from 2014 and 2015 periods, though there are a very few number of cases from these two years, which is why they are excluded from our econometric analysis. In Table 3.5, we see that

Maharashtra has the highest number of court judgments with 160, followed by 150 in Haryana. On the other hand, Assam with just 20 judgments is the state with least number of court judgments. For more details regarding court judgments, refer to Appendix B1, given at the end.

Table 3.4: State-wise cumulative scores from court judgments on labour disputes regarding wages.

Table 3. 4: State-wise cumulative scores from court judgments on labour disputes regarding wages

S.No.	State	Cumulative Score	Classification as per judicial outcomes
1	Andhra Pradesh	-7	Pro-employer
2	West Bengal	-1	Pro-employer
3	Gujarat	-1	Pro-employer
4	Maharashtra	-23	Pro-employer
5	Rajasthan	-18	Pro-employer
6	Madhya Pradesh	-4	Pro-employer
7	Tamil Nadu	-5	Pro-employer
8	Karnataka	-18	Pro-employer
9	Uttar Pradesh	-9	Pro-employer
10	Orissa	0	Neutral
11	Punjab	20	Pro-worker
12	Haryana	2	Pro-worker
13	Assam	4	Pro-worker
14	Bihar	-3	Pro-employer
15	Kerala	2	Pro-worker

Source: Author's calculation using data on court judgments.

Table 3.5: State-wise total number of court cases resolved under chapter 5A and 5B of IDA, 1947.

Table 3. 5: State-wise total number of court cases resolved under Chapter 5A and 5B of IDA, 1947

S.No.	State	Cumulative Score
1	Andhra Pradesh	54
2	West Bengal	27
3	Gujarat	100
4	Maharashtra	160
5	Rajasthan	110
6	Madhya Pradesh	43
7	Tamil Nadu	83
8	Karnataka	70
9	Uttar Pradesh	60
10	Orissa	38
11	Punjab	88
12	Haryana	150
13	Assam	20
14	Bihar	25
15	Kerala	29

Source: Author's calculations using data on court judgments.

3.2 Econometrics Model

To find the effect of pro-employer reforms in EPL on wages, the following econometric model is estimated:

$$y_{st} = \alpha_0 + \alpha_1 EPL + X_{st}\beta + \lambda_s + \varepsilon_{st}$$

where y_{st} is average real daily wages or emoluments per worker. In alternative regressions this dependent variable represents share of real wages in real output or share of real emoluments in real output. We use CPI (base year= 2001) to arrive at real figures of daily wages per worker or real emoluments per worker, while WPI (base year 2001) is used to arrive at real output. The term EPL in the right hand side of the model is a time-variant variable, which takes both negative and positive values. This EPL variable represents the cumulative scores from court judgments over time. If the state's cumulative score for a particular time period is negative, it suggests more pro-employer court judgments than pro-worker judgments have taken place in such states till the given time period, and vice versa. The $X_{st}\beta$ represents a vector of control variablesincluding real net value added, number of strikes, and real fixed capital per worker.We used WPI (base year= 2004-05) to arrive at real figures of net value added and fixed capital per worker. The logarithms of number of strikes controls for labour bargaining power. The previous research suggests that workers' bargaining power, which is an important determinant of wages, is influenced by the ability of labour unions to go on a strike to protest against the injustice (Saha, Sen, & Maiti, 2013). Similarly, the capital per worker, which is one of the determinants of labour productivity, controls for technology. Finally, the real net value added controls the demand for labour. It may be noted that the demand for labour is a function of output or net value added. We adjust the data on net value added and output for inflation using the Wholesale Price Index (WPI) with 2004-05 as the base year. Finally, $\gamma_s, \varepsilon_{st}$ represent state dummies and error term, respectively. Since the *EPL is a* time-variant variable, it is possible for us to estimate the fixed effect model. The previous Indexes, such as the one developed by Gupta et al. (2009), were time-invariant, which creates an estimation issue. The STATA does not recognize a time-invariant variable under the fixed effects model. To check for the robustness, we run alternative regressions and replace average real daily wages with the share of real wages in output. The data on WPI and CPI was collected from the RBI, and the remaining variables were collected from the Labour Bureau, Government of India, CMIE States of India and Indiastat.com, Indiastat.com,

and EPWRF. The sample of our econometric analysis is restricted to the organized manufacturing sector, covering 15 states of India for the period from 1999-00 to 2013-14.

3.3 Data Sources

The data on wages, number of workers, contract and regular workers, output, net value added, emoluments, number of strikes and lockouts has been collected from Annual Survey of Industries (AS) and Economic and Political Weekly Research Foundation (EPWRF). The data relates to the time period 1991-2014 for the selected 15 states. The data is restricted to the organized manufacturing sector. We have adjusted the inflation factor using Consumer Price Index (CPI) and Whole Sale Price Index (WPI). The data on strikes was collected from Labour Bureau, Government of India and Indiastat. The WPI and CPI have been collected from Reserve Bank of India. Finally the data on court judgments were collected from Legalcrystal.com and ligitquest.com, which are online search engines enabling us to retrieve detailed court judgments invoking various sections and chapters of the Industrial Disputes Act, 1947. The collection of data on court judgments is restricted to eight sections of chapter 5A and 5B of the IDA, 1947, including Section 25-B, 25-F, 25-C, 25-FF, 25-O, 25-FFF, 25-M, and 25-N.

3.4 Robustness Checks using Previous Indices of EPL

We perform robustness test of our empirical results discussed in the previous section. In this robustness check, instead of using our own EPL Index, we use the quantitative indicator of the labour law created by Gupta et al (2009) based on the Besley and Burgess Index (2004), OECD Index and insights from Bhattacharjea (2006).

Besley and Burgess (2004) have studied the labour reform activity of the Indian states from 1950s through 1990s, in detail. They categorize the amendments into a pro-worker, pro-employer, and a neutral and then create an Index (henceforth, BB Index) for the Indian states. In the light of a critique of this Index by Bhattacharjea (2006), several researchers have modified the classification (see e.g., Ahsan and pages, 2009). Gupta et al. (2009) attempt to account statewise variation in the enforcement aspect of labour laws. Instead of using the BB Index separately, Gupta et al. (2009) combine it with the OECD Index along with Bhattarcharjea (2006) using majority rule. It may be noted that unlike Besley & Burgess (2004), the OECD Index deals with the "enforcement" of labour laws as well. As per the Gupta et al.'s classification, states that have carried out net pro-worker labour law reforms include West

Bengal, Orissa, and Maharashtra (henceforth, pro-worker regimes). Similarly, states that have carried out net pro-employer labour law reforms include Rajasthan, Tamil Nadu, Utter Pradesh, Karnataka, and Andhra Pradesh (henceforth, pro-employer regimes). Finally, states whose labour reforms were based on a neutral stance include Punjab, Haryana, Assam, Bihar, Madhya Pradesh, Kerala, and Gujarat (henceforth, neutral states). Pertinently, much of the previous research suggests that Kerala has a pro-worker labour market. Therefore, in this study, we include Kerala in the category of pro-worker regimes. It may be noted that the previous research provides many instances of "reforms by stealth" in India (Jenkins, 1999; Nagaraj, 2004).Therefore, the neutral states might not have remained neutral as far as the balance of power between labour and employer is concerned. This may be well understood after studying the pattern of wages which can be used as a reflection of the actual condition of the state's labour law regime.

Chapter 4: Descriptive Analysis

Before coming to the empirical analysis, we first perform a descriptive analysis of the key labour market indicators both at the aggregate level and state-wise. We first present the backdrop of the key labour market indicators by describing the magnitudes of the key variables at all India level (restricted to manufacturing sector) and its dynamics over time. The variables being incorporated for analysis at the all India level include workers, value of output. Then, we carry out a graphical analysis of wages, output, and net value added across different categories of states including pro-worker and pro-employer. We use two separate measures of EPL for state classification: Gupta et al.'s (2009) measure and our Index of EPL based on court judgments. The empirical analysis following this chapter is also based on court judgment index (which is a novel approach being used in this study) as well state classification of Gupta et al. 2009).

The value of output for the year 1999-2000 at all India level was 8,97,93,835 lakh Rs. This value increased to 37,33,03,593 lakh Rs in the year 2009-10, and further to 80,72,17,258 lakh Rs in the year 2017-18.

The state wise increment in the value of output and the ranking of them in the same indicates that weather it is 1999-2000, 2009-10 or 2017-18, Bihar had topped the list from below. In year 1999-2000 the value of output in Bihar was 6,67,046 lakh Rs, which was the lowest among the selected fifteen states. In year 2009-10 the value of output in Bihar increased to 28,25,481 lakh Rs, but still a least performer. In year 2017-18 its value of output increased to 60,02,667 lakh Rs, which was again lowest among the states. Its value of output increased but at a very slow rate.

Maharashtra has been at top in year 1999-2000, having the highest value of output. It had 1,81,33,252 lakh Rs worth of value of output in 1999-2000. It was Gujarat which was the best performer in year 2009-10 with having value of output equal to 6,42,65,756 lakh Rs. Maharashtra have been a good performer too in the in year 2009-10 with 6,24,04,918 lakh Rs as its value of output. In year 2017-18 Gujarat again proved to be the best performer in terms of value of output, it had 13,59,97,115 lakh Rs as its value of output. In this year Maharashtra had the value of output equal to 11,99,71,795 lakh Rs which was the second highest after Gujarat.

Assam have been a weak performer also in terms of value of output, it had value of output equal to 7,77,592 lakh Rs in year 1999-2000. It has been the second lowest performer in terms of value

of output. The other low performing states in year 1999-2000 were; Orissa having value of output equal to 11,82,658 lakh Rs, Kerala having value of output equal to 24,86,296 lakh Rs, Rajasthan having value of output worth 29,95,996 lakh Rs and west Bengal having value of output equal to 34,85,892 lakh Rs.

States like Andhra Pradesh, Uttar Pradesh, Madhya Pradesh, Haryana and Karnataka were the medium performing states in terms of value of output in year 1999-2000. These states had the value of output equal to; Andhra Pradesh (58,49,398 lakh Rs), Uttar Pradesh(61,04,692 lakh Rs), Madhya Pradesh(44,08,900 lakh Rs), Haryana(44,45,636 lakh Rs), Karnataka (42,50,452 lakh Rs).

In year 2009-10, along the top performing states Gujarat and Maharashtra, Tamil nadu was a good performer too, it had its value of output equal to 3,75,78,406 lakh Rs. States like Assam, Madhya Pradesh and Orissa have turned out to be low performing states along the Bihar in 2009-10. Madhya Pradesh which was in the list of moderate performing states in year 1999-2000 was not able to make it to the list, because of its low value of output in year 2009-10. It had its value of output equal to 86,93,863lakh Rs. Assam recorded its value of output equal to 36,67,156 lakh Rs, and Orissa experienced its value of output equal to 65,66,234 lakh Rs in year 2009-10.

Five states namely Haryana, Punjab, Kerala, Rajasthan and West Bengal have been the medium performing states in year 2009-10. These value of output in these states in 2009-10 was equal to: Haryana (1,77,10,694 lakh Rs), Punjab (1,17,54,534 lakh Rs), Kerala (1,55,45,081 lakh Rs), Rajasthan (1,08,56,432 lakh Rs) and West Bengal (1,57,04,706 lakh Rs). The remaining three states namely Andhra Pradesh, Karnataka and Uttar Pradesh witnessed the performance in-between the medium and top performing states. Value of output in these three states was, Andhra Pradesh (23,446,174 lakh Rs), Karnataka (2,33,25,405 lakh Rs) and Uttar Pradesh (2,25,68,130 lakh Rs) in year 2009-10.

In the year 2017-18 along Gujarat and Maharashtra, Tamil nadu also performed well in terms of value of output as it was in year 2009-10. Tamil nadu noted its value of output equal to 8,63,80,870 lakh Rs. which is witnessed to be much more than the value of output of the year 2009-10. The middle line between the best performing and low performing states is drawn mainly by states like Haryana, Karnataka and Uttar Pradesh. West Bengal and Rajasthan can be

put in the same category of medium performing states, as these states have also performed better on the said variable. The value of the output in these moderate performing states in year 2017-18 is as, in Haryana it was 5,03,33,586 lakh Rs, Karnataka witnessed 5,28,93,789 lakh Rs , Uttar Pradesh had its value of output equal to 5,14,63,543 lakh Rs, in West Bengal it was 3,19,12,464 lakh Rs and Rajasthan had its value of output equal to 2,97,45,019 lakh Rs.

The low performing states in terms of value of output in year 2017-18 are Assam, Kerala, Madhya Pradesh, Orissa and Punjab alongside the state of Bihar. Orissa has always been the second low performing state after Bihar in terms of value of output. The value of output in Assam in year 2017-18 was 67,32,646 lakh Rs, Kerala witnessed value of output equal to 1,63,56,600 lakh Rs in the same year. Madhya Pradesh recorded the value of its output equal to 2,57,23,164 lakh Rs, Orissa had it, worth 2,29,97,037 lakh Rs. Punjab witnessed the value of output equal to 2,12,10,410 lakh Rs.

The number of workers in 1999-2000 at all India level was 62,80,659, this number increased to 91,57,802 in year 2009-10 and further to 1,22,24,422 in year 2017-18.

The state wise distribution of the number of workers gives the picture of states with highest number of workers and the states with lowest number of workers. The highest number of workers in year 1999-2000 were in the state of Tamil nadu it had 8,88,350 workers. The lowest number of workers were witnessed in Bihar it had only 55,338 workers in year 1999-2000. In year 2009-10 it was again Tamil nadu which had highest number of workers. Bihar continued to be the last in having lowest number of worker. Bihar had 73,443 workers in year 2009-10. Tamil nadu had again highest number of workers and Bihar continued to be the state with lowest number of workers in year 2017-18. Tamil nadu had 20,95,223 while as Bihar had 1,04,057 number of worker in the year 2017-18. Tamil nadu has remained to be the state with highest number of workers while Bihar has remained to be the last state in having lower number of workers across the three time periods.

In the year 1999-2000 Maharashtra, Gujarat and Andhra Pradesh witnessed a maximum number of workers, thus being the states with highest number of workers after Tamil nadu. Maharashtra with 8,54,349 number of workers was the second highest. The number of workers in Gujarat

were 6,13,409, and Andhra Pradesh recorded 7,70,522 numbers of workers. The states with lowest numbers of workers alongside Bihar in year 1999-2000 were Assam, Madhya Pradesh, Orissa and Rajasthan. The number of workers in Assam in year 1999-2000 were 95,592, Madhya Pradesh had 1,95,912 number of workers. Orissa witnessed 99,735 number of workers, while as Rajasthan recorded 1,76,941 number of workers. The remaining states Haryana, Karnataka, Kerala, Punjab, Uttar Pradesh and West Bengal were the states having reasonable number of workers in year 1999-2000. There were 2,15,094 workers in Haryana in year 1999-2000, 3,68,749 in Karnataka, 2,57,790 in Kerala, 2,65,261 in Punjab, 4,28,913 in Uttar Pradesh and 4,62,666 in West Bengal.

In the year 2009-10, Gujarat, Andhra Pradesh and Maharashtra had the maximum number of workers after Tamil Nadu. Thus these four states were the top most states in terms of number of workers in year 2009-10. Gujarat had 8,90,600 workers , Andhra Pradesh had 9,41,565 workers and Maharashtra had 10,62,524 workers. As usual Bihar has again been followed by Assam in having lowest number of workers. In year 2009-10 Assam had 1,25,759 workers, and being the second lowest in terms of number of workers. The other states which had low number of workers were; Madhya Pradesh and Orissa. Madhya Pradesh had 2,09,317 number of workers and Orissa had 1,87,756 workers in year2009-10.

The remaining states had the number of workers in-between the highest and the lowest states. These states and their number of workers are as; Karnataka(5,84,140), Haryana(4,63,570), Kerala(3,15,423), Punjab(4,54,334), Uttar Pradesh(5,90,788), Rajasthan(3,08,132) and West Bengal(4,66,191).

In year 2017-18, the trend is followed by the states but there is a lot of difference in the number of workers among states. Gujarat and Maharashtra followed the top state Tamil Nadu but the number of workers was much bigger in Tamil Nadu as compared to the number of workers in Maharashtra and Gujarat. The number of workers in Gujarat in year 2017-18 were 14,03,204 and in Maharashtra the number of workers were 14,14,565 compared to these Tamil Nadu had 20,95,223 workers. The difference is eminent among the top states. Andhra Pradesh which was among the top states in year 1999-2000 and continued to be same in 2009-10 was among states having medium number of workers in year 2017-18. The number of workers in Andhra Pradesh was 4,86,846 in 2017-18.

The other states and their number of workers in the group in-between highest and lowest categories are; Haryana(6,74,373), Karnataka(8,28,689), Punjab(5,69,266), Uttar Pradesh(8,39,121), west Bengal(5,16,740).

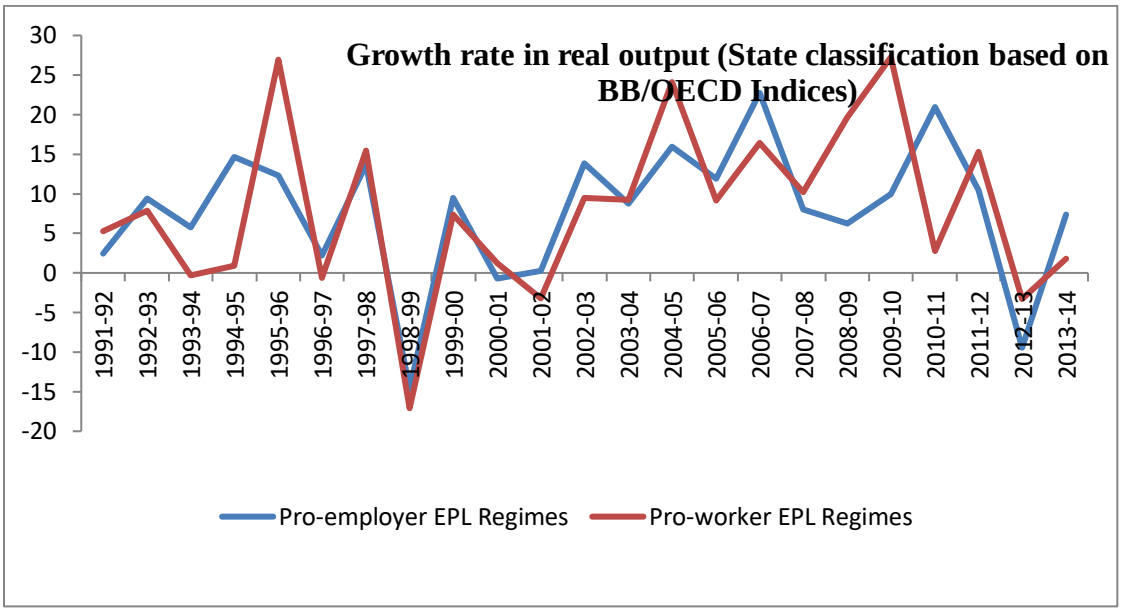
Those states which fall in the category of low number of workers in year 2017-18 are Assam as usual following Bihar, Kerala, Madhya Pradesh, Orissa and Rajasthan. There were 1,80,489 number of workers in Assam in year 2017-18, and 2,41,789in Kerala. The number of workers in Madhya Pradesh were 2,81,063, and in Orissa there were 2,29,036 number of workers. The number of workers in Rajasthan were 4,32,434 in the year 2017-18.

4.1 Descriptive analysis using BB/OECD Index and court judgment index

This section is devoted to the trends analysis of key labour market and economic indicators. The graphical analysis compares pro-employer and pro-worker states. We analyse the trends using two different Indices of labour law. One Index is based on Gupta et al. (2009), which is in turn primarily based on Besley and Burgess Index and OECD Index. Besides, it also incorporates insights from Bhattacharjea (2006). The second Index is based on court judgments, which we have constructed on our own, as discussed in the methodology section. We put into perspective the results from both indices to see whether they differ. Pertinent to mention that the BBI and OECDI are based on laws existing on paper, while our index based on court judgments captures the actual implementation of provisions of EPL provided under the Industrial Disputes Act, 1947.

We first present the trend on average growth rate in real output across pro-employer and pro-worker states in graph 4.1 and 4.2 given below. The classification of states into pro-worker and pro-employer is based on Gupta et al. (2009), while that of graph 4.2 is based on court judgments. The pattern of average growth rates in real output does not show a systematic pattern. The trend is similar between both these categories of states. Further, these trends are robust to changes in the Index. The trends of pro-worker and pro-employer states, based on court judgments are similar to that which are generated by Gupta et al. (2009).

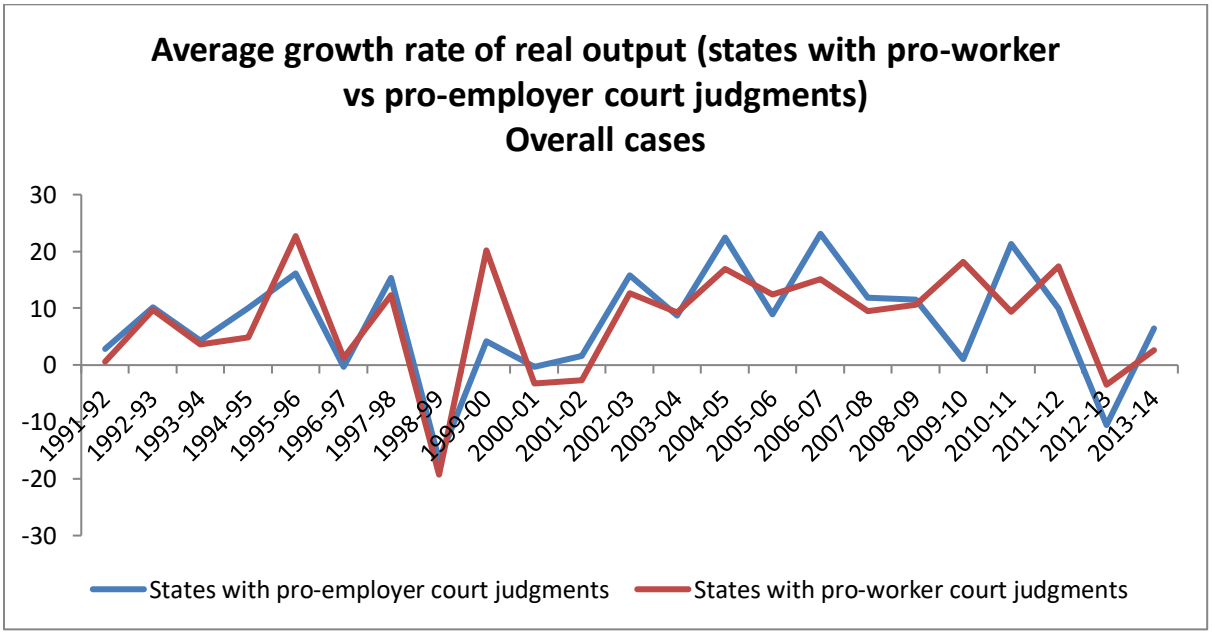
Figure 4. 1: Growth rate in real output across pro-employer vs pro-worker states (Classification is based on BBI and OECDI).



Data Source: Annual Survey of Industries (ASI).

Notes: Figures are adjusted for inflation using WPI, with 2004-05 as the base year.

Figure 4. 2: Average growth rate of real output (states with pro-worker vs pro-employer court judgments), with overall cases.



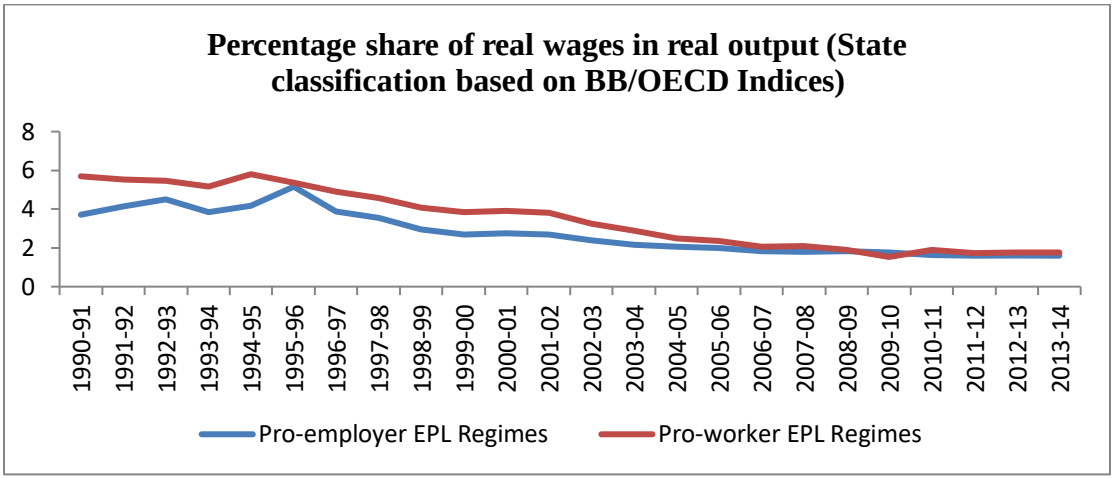
Data Source: Annual Surveys of Industries (ASI).

The average real daily wages of workers for the time-period from 1990-91 to 2013-14 are plotted in figure 4.3 and figure 4.4. The figure 4.3 shows trends from BBI and OECDI, while the figure 4.4 presents that of our own index based on court judgments. Interestingly, both these figures show that the share of real wages in real output has declined over this 24 year time period. Besides, these figures reveal that the difference in the share of real wages in real output between pro-worker and pro-employer states has converging over time. The declining share of real wages in real output must be looked within backdrop of overall positive growth rates in real output throughout the given time period. In a similarly context, we analyze the average real daily wages per worker using BB/OECD Index and court judgment Index in figure 4.5 and 4.6, respectively. These figures reveal that real wages per worker have more or less remained flat throughout this time-period.

4.2 What explains the continuous declining share of real wages in real output?

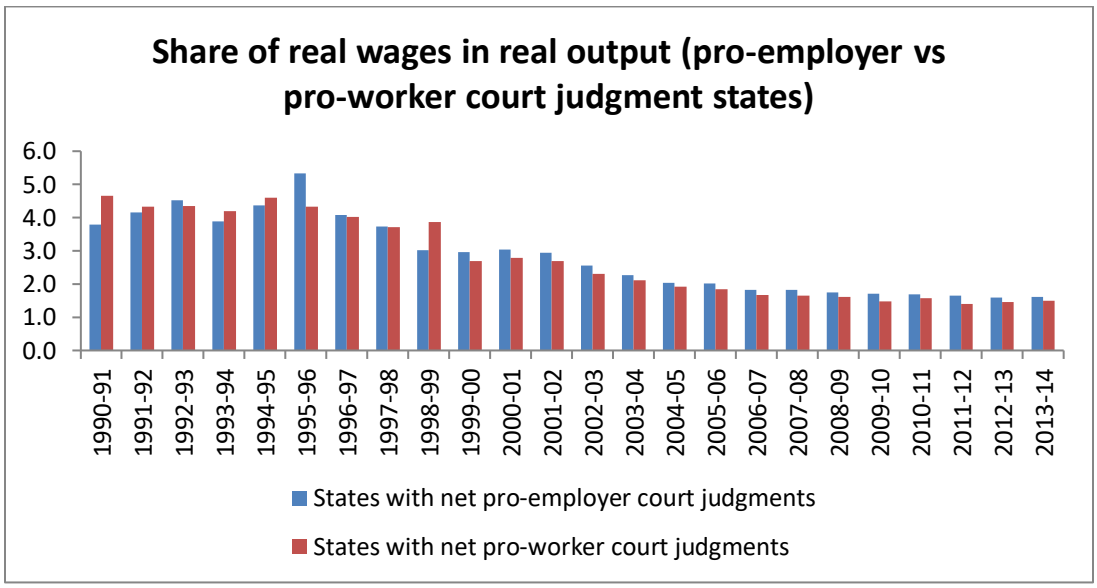
The primary reason for the declining share of real wages in real output is the flat trajectory of real wages as shown both in figure 4.5 and 4.6. However, we must dig deeper to identify factors responsible for the declining in the wage share and sluggishness growth of real wages. The share of wages in output or simply the wage rate depends, among other factors, on bargaining power of workers. Bargaining power of workers is associated with several factors including individual characteristics, institutional factors such as labour laws and strength of labour unions, and unemployment rate, among others. We use number of strikes organized by labour unions as a proxy for labour bargaining power, since previous research suggests that the latter is positively associated with the former (Saha et al., 2013). We present the data for pro-worker and pro-employer states for the period 1990-91 to 2013-14 in figure 4.7 and 4.8. The estimates of number of strikes in pro-worker and pro-employer states, using BB/OECD Index are presented in figure 4.7, while that which are based on Index of court judgments are shown in figure 4.8. Irrespectively, of whether we use BB/OECD Index or court judgment index, the graph on number of strikes continuously declines from 1990-91 to 2013-14 both in pro-worker and pro-employer states.

Figure 4. 3: Share of real wages in real output.



Data Source: Annual Survey of Industries (ASI).

Figure 4. 4: Share of real wages in real output (pro-employer vs pro-worker court judgment states), with overall cases.

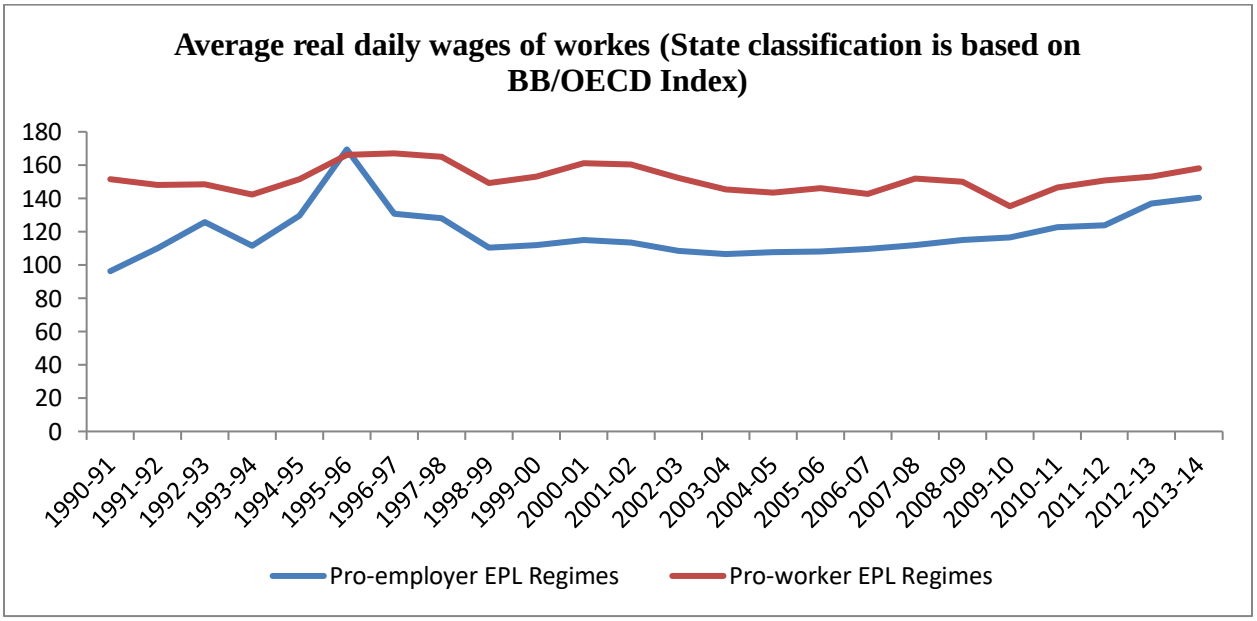


Data Source: Annual Surveys of Industries (ASI).

If we put the share of real wages in output (given in figure 4.3 and 4.4) on one hand and the number of strikes by labour unions (given in figure 4.7 and 4.8) on the other, we find a clear positive association between the two variables. The trajectory of wage-shares closely follows that of the number of strikes. In the recent years, both variables seem to be converging across pro-worker and pro-employer states. What does the falling trajectory of number of strikes by

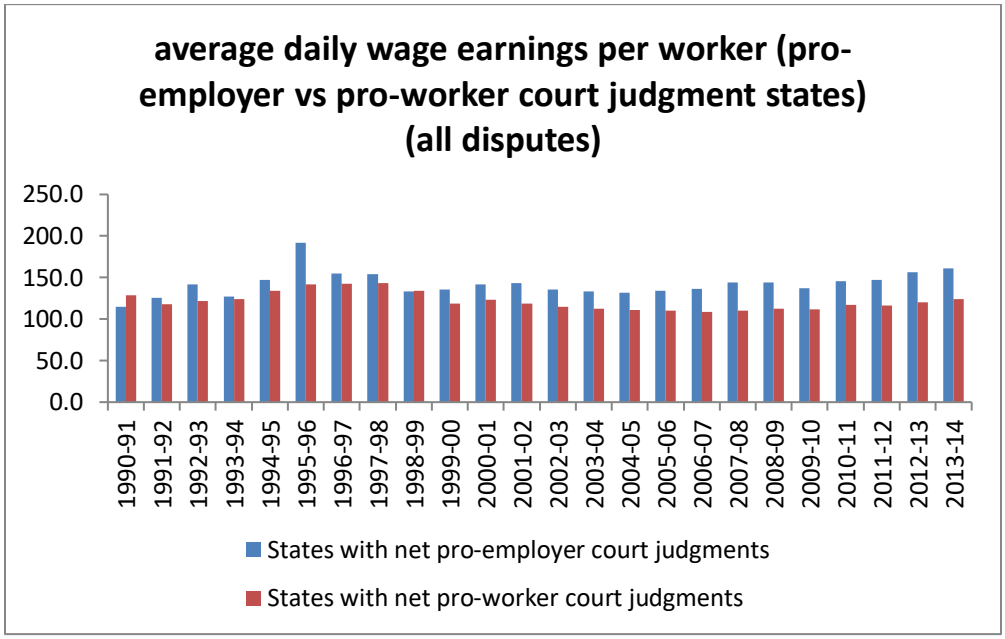
labour unions mean for workers? The falling trajectory of the number of strikes by labour unions indicate that the activism on the part of workers or labour unions is missing over time. The previous literature suggests that strikes are associated with labour bargaining power, i.e. higher the number of strikes, the higher is the workers' bargaining power (Saha et al., 2013). Falling number of strikes combined with a declining trend in wage share over time suggests that workers or labour unions are losing their voice. What explains this issue? There could be several factors behind this development. First, many Indian states have carried series of labour reforms over time in order to provide more flexibility to business. They did this to stimulate investment and growth in the industrial sector. Most of these reforms were pro-employer in nature, leading to deregulation of labour in the formal sector (Sood et al., 2014). As a result, the strength of labour unions have weakened over the years, which is reflected in a declining trend in strikes by labour unions. As the labour got deregulated and labour union strength has fallen, the decline in the wages was an inevitable outcome.

Figure 4. 5: Average real daily wages of workers



Data Source: Annual Survey of Industries (ASI).

Figure 4. 6: Average daily wage earnings per worker (pro-employer vs pro-worker court judgments states, with overall court cases.



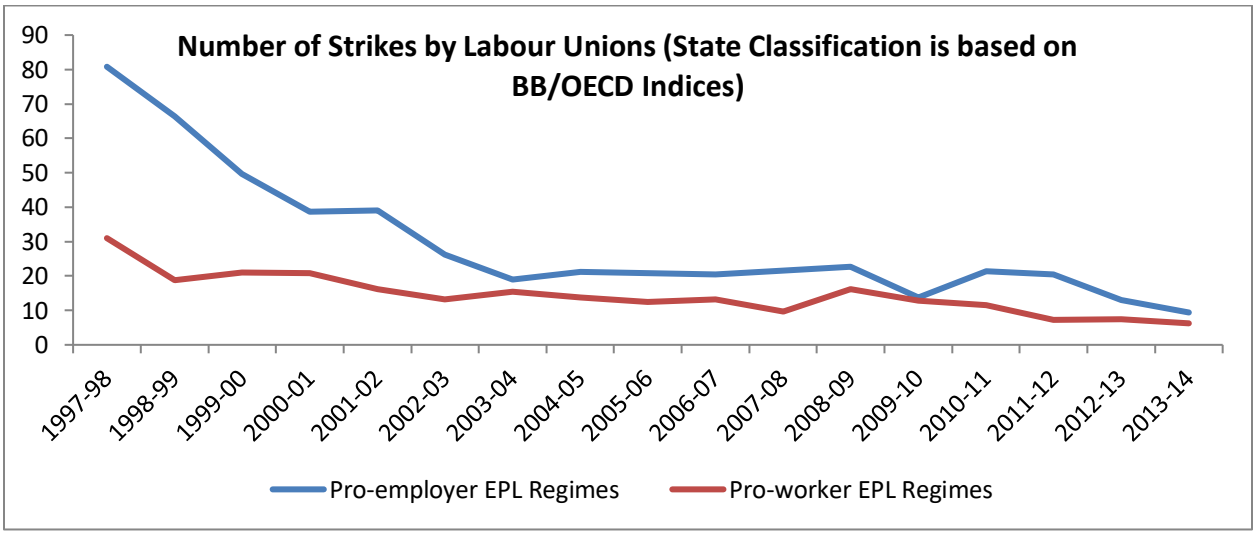
Data Source: Annual Surveys of Industries (ASI).

Second, in the recent years, contractual employment has seen a sharp rise, cutting across various industrial sectors of Indian economy. The share of contract labour has gone up 13 per cent in the year 1999-00 to about 35 per cent in the year 2011-12. Since contract workers are excluded from EPL, they can be subjected to sudden dismissals and wage discrimination. According to ASI, contract workers get below 70 per cent wages of that of the regular workers (Sofi and Sharma, 2015b). These contract workers cannot form labour unions, and they are usually not registered with labour unions. Thus, as the share of regular workers kept on falling, while share of contract workers increased, the position of overall labour or trade unions weakened. Hence, this dimension can be one of the factors explaining fall in the number of strikes by labour unions overtime, accompanying by fall in share of wages in output.

As far as the declining share of wages in output is concerned, it can happen in two ways. First, through an increase in capital intensity, which means more use of capital relatively to that of labour. Second, through a slow growth of wages relatively to that of fixed capital. In the current context, both these cases are applicable. The total nominal wage bill increased from Rs. 1319205 lakhs in 1990-91 to Rs. 12649644 lakhs in 2013-14, which is around 850 increase over the 24

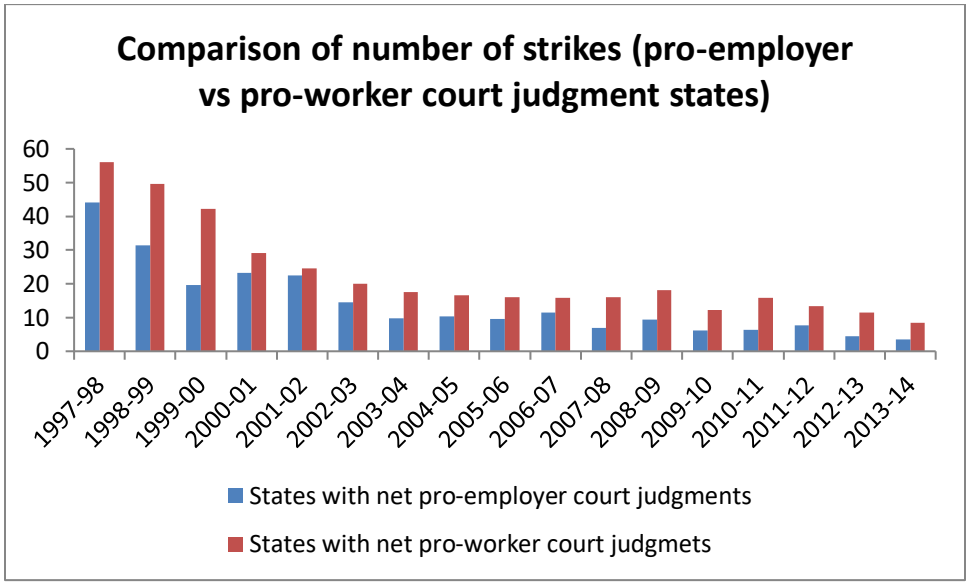
year-period. As far as the total real wage bill is concerned, it has increased from Rs. 3165079 lakhs in 1990-91 to Rs. 5360018 lakhs in 2013-14, with 69 per cent growth rate over the 24 year time-period. In other words, the real wages have growth at annual rate of 2.87 per cent, which is lower than the growth rate of real output shown in figure 1 and 2. But as far as growth of fixed capital is concerned, it increased from Rs. 13364756 lakhs in 1990-91 to Rs. 237371903 lakhs in 2013-14, which nearly 1700 per cent increase over the 24 year time period. As far as real fixed capital is concerned, it has increased from Rs. 33955172 lakhs in 1990-91 to Rs. 133655350 lakhs in 2013-14, with 294 per cent growth rate over the 24 year time-period. In other words, real fixed capital has growth at annual rate of 12.2 per cent, which is much higher as compared to that of annual growth rate of total real wage bill. Thus, over the last few decades, capital intensity in terms of monetary value has increased drastically, while wages have seen a rather sluggish trend. Consequently, the share of wages in output has following a downward trend.

Figure 4. 7: The number of strikes organized by labour unions.



Source: This data is taken from the CMIE, States of India.

Figure 4. 8: Comparison of number of strikes across states with pro-employer vs pro-worker court judgments (overall court judgments).

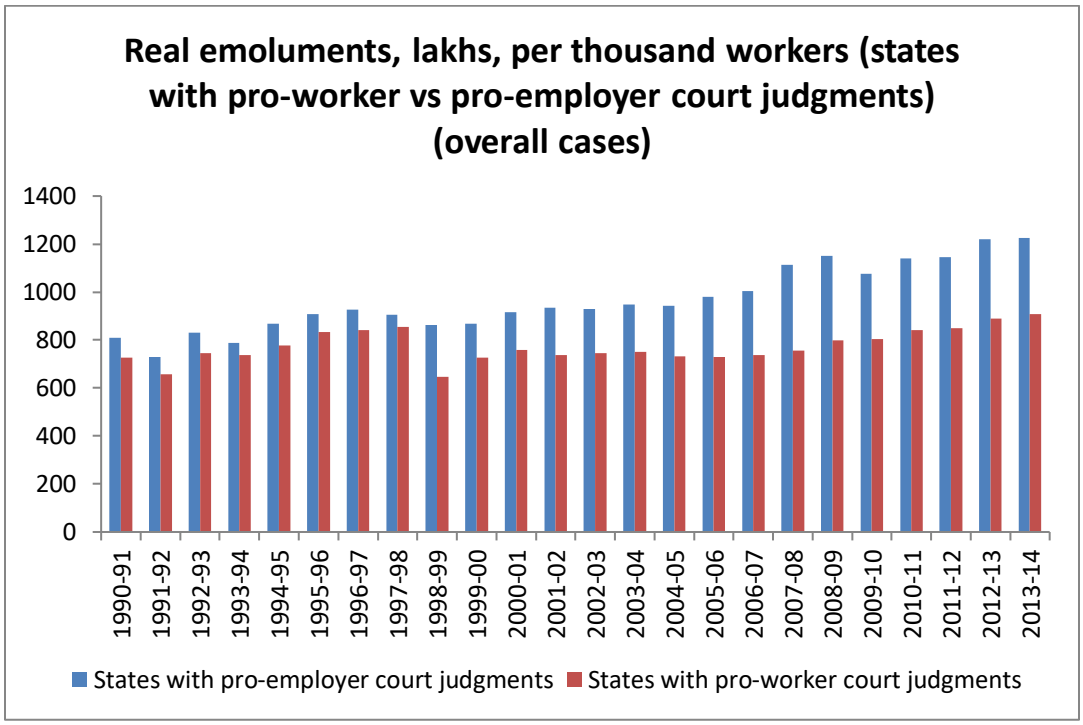


Data Source: Annual Surveys of Industries (ASI).

We also analyze the changes in real emoluments (in Rs. Lakhs) per thousand workers. Before comparing pro-worker and pro-employer states, it is important to discuss its all India figures. Total emoluments are defined as sum of wages and salaries including bonus. In other words, total emoluments include compensation of workers, supervisorial and managerial staff, other employees, and bonus of all staff, The total emoluments (lakhs) has grown from Rs. 2058630 lakhs in 1990-91 to Rs. 27241500 lakhs in 2013-14, with 1223 per cent growth rate over the 24 year time-period (i.e. the annual growth rate of 50 per cent). The real emoluments increased from Rs. 4939131 lakhs in 1990-91 to Rs. 11543008 lakhs in 2013-14, with 134 per cent growth rate over the 24 year period (i.e the annual growth of 6 per cent). Interestingly, the annual growth rate of real emoluments is significantly higher than that of real wages, though it is much lower relative that of real fixed capital. On the other hand, the percentage of real wages in real emoluments has gone down from 64 per cent in 1990-91 to 46.4 per cent in 2013-14, which seems to be a significant fall. What does the falling share of real wages in real emoluments signify? The falling share of real wages in real emoluments or, for that matter, the higher growth rate of emoluments as compared to wages show that the compensation given to supervisorial and managerial staff is rising faster as compared to that of workers. This could also reflect on the weakening bargaining relation between workers and employers relative to that of

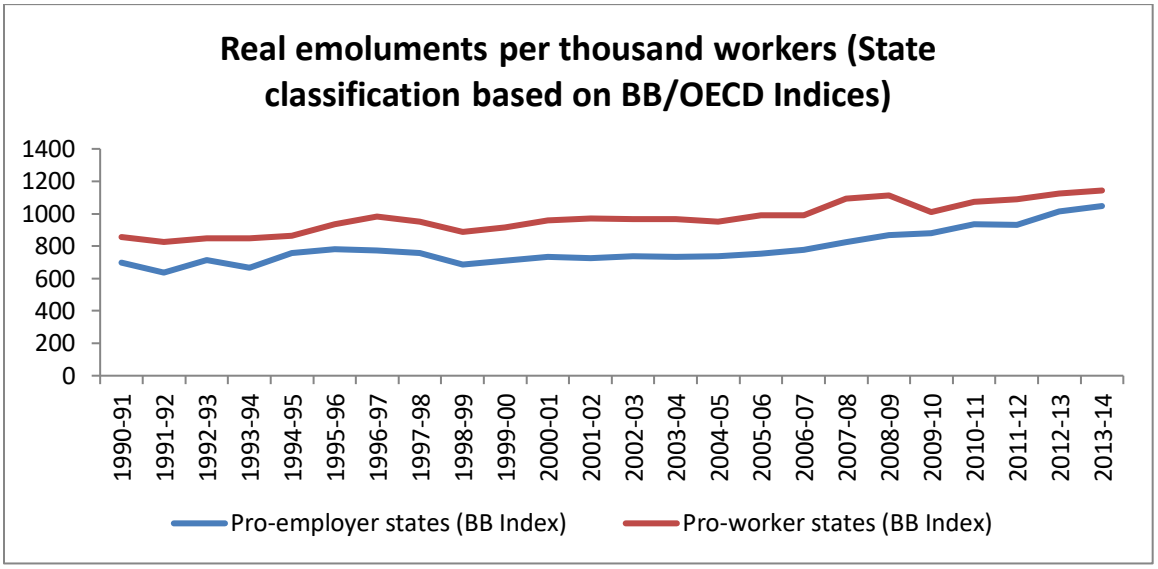
supervisors/managers. However, this could be also explained by skills or human capital. It is possible that over the years, the supervisory and managerial staff may have been benefited by skill training and education. This skill training and education may be funded by employers or by the employees themselves either on-campus or off campus. Another reason that can explain this trend is contractualisation of employment. Contractual employment in organised manufacturing sector usually prevails in the lower levels of job hierarchy as compared to upper levels such as managerial and supervisory staff. It is widely believed that contractual employment system brings low bargaining power, which results into a lower growth of wages of workers compared to total emoluments including salaries of supervisors, managers, other employees and bonus of all staff.

Figure 4. 9: Real emoluments, lakhs, per thousand workers across states with pro-worker vs pro-employer court judgments.



Data Source: Annual Surveys of Industries (ASI).

Figure 4. 10: Real emoluments per thousand workers across pro-worker and pro-employer states, using BB and OECD Index.



Data Source: Annual Surveys of Industries (ASI).

If we compare the estimates generated from BB/OECD Index and court judgment index, we find a glaring difference between the two in some variables. As far as the average growth rate of real output is concerned, the trajectories do not differ by the changing the EPL index underlying the classification of the states. In this case, the trajectories of pro-worker and pro-employer states very much overlap each other, and the over-lap remains the same when we use the alternative Index of EPL. Similarly, the trajectories for share of real wages in real output are more or less same for both BB/OECD Index and court judgment Index. Both the Indexes show convergence of the wages across pro-worker and pro-employer states, irrespective of whichever Index we use for state classification. However, the BB/OECD-based state classification show that from 1990-91 to 2004-05, the wage shares were higher in pro-worker states as compared to pro-employer states. But surprisingly, the patter for average real daily wages earnings per worker across pro-worker and pro-employer states is highly sensitive to alternative use of EPL Indexes. If we use the BB/OECD Index, the trajectory of average real daily wages per worker across pro-worker states is noticeably at a higher position as compared to that of pro-employer states. However, if we use the Index of court judgments, the graph exhibits an opposite picture altogether. Real emoluments per thousand workers in figure 4.9 and 4.10 exhibit a similar pattern. Further, if we compare the findings from BB Index and our index in terms of number of strikes, we again find a

marked divergence. The trajectory of number of strikes under BB/OECD classification is higher in pro-employer states, but the same is lower when using the Index of court judgments.

These divergences of findings under two Indexes have a serious implication not only for academic research in this field but also for the policy-making. As mentioned earlier, most of the previous studies are based on BB Index and OECD Index, which are unable to account for implementation of labour laws that exist on paper. On the other hand, our index of court judgments accounts for the implementation of most of the employment protection legislations. Therefore, the divergence of the labour market estimates between BB Index and our Index of court judgments may be attributed to failure of the former to account for implementation.

4.3 Which set of results should be trusted more in this context?

The reliability of the results generated from the previous Index and our own index must be objectively analyzed based on data and facts before using them to draw policy implications. As far as the BB/OECD Index is concerned, they face several shortcomings. First, it is widely accepted that countries like India has poor implementation of labour laws. There may exist a significant degree of employment protection on paper, but what matters is that which exists actually in practice. Second, previous research also suggests that over the last few decades, stealthy labour reforms have been carried out in India to avoid resistance from trade unions. Third, employers have used contractual employment system at large scale in the recent years. Previous research suggests that employers prefer contractual employment to evade most of the labour laws. All these issues affect the reliability of the BB/OECD Index much as compared to the reliability of that of ours, since the latter enables us to capture that which exists in practice. Therefore, we believe that results from our index would be more reliable than those that are generated from the previous indexes.

However, the results from the descriptive analysis using our court judgment Index are not consistent with economic theory and our expectations. For example, the average daily wage per worker are expected to be higher in states which registered greater number of pro-worker court judgments than the pro-employer court judgments. The same is our expectation regarding other variables such as real emoluments, number of strikes and share of wages in output. But surprisingly, the results from the descriptive analysis are the other way around, except for number of strikes, which are well within our expectation. Higher number of strikes in states with

more pro-worker court judgments than pro-employer judgments is justifiable. When the court resolves a labour dispute in favour of worker, it provides a further motivation for trade unions to seek their rights, thus leading to higher number of strikes in these states compared to others states, where court decides in favour of employers. However, contrary to our findings from descriptive analysis, the wages or emoluments in states with relatively higher number of strikes were theoretically expected to be higher as compared to states with lesser number of strikes. This inconsistence could be linked to other factors. It is possible that other key determinants of wages and emoluments are the inconsistency in the results. Hence, it calls for an econometric analysis, which enables us to control for other key factors linked to our variables of interest.

4.4 Contract workers vs regular workers

The post reform period in India has been marked by large contractualisation in the organized manufacturing sector. The data given in Table 4.1 below shows that the share of contract workers in total workers has grown from 19.73 per cent in 1999-00 to 63.99 per cent in 2016-17. Total contractual employment has increased from 6280659 in 1999-00 to 11663947 in 2016-17. The figure 4.11 shows that the share of contractual employment has continuously increased throughout the period 1999-00 to 2016-17. The rate of increase seems to have slowed down between 2010-11 to 2013-14, but picked up again in the recent years. This is a worrying trend, since it can have negative effects not only for the workers but also for the businesses in the long-run. Previous empirical research shows that contractual employment in Indian manufacturing sector has a negative effect on labour productivity or efficiency, since it does not provide motivation for investment on training and skill enhancement (Sofi and Sharma, 2015b; Maiti, 2013). On the other hand, contractual employment can negatively affect workers since it does not fall within the purview of most of labour laws, and hence considered as informal employment. Informal workers generally face exploitation and poor working conditions, which may in turn affect their productivity.

Table 4.1: Growth of contract workers.

Table 4. 1: Growth of contract workers

Type of employment	Year	
	1999-00	2016-17
Directly employed workers	80.27	63.99 %
Contract workers	19.73	36.01 %
Total workers	6280659	11663947

Source: Annual Survey of Industries.

Figure 4. 11: Percentage share of contractual employment in total workforce in India's manufacturing sector.

4.5 State-wise trends in contractual employment.

We analyse the trends on percentage share of contract workers across pro-worker and pro-employer states using previous Index of EPL as well as our own Index of EPL. The estimates are separately shown in figure 12 and 13. As per figure 4.12, which is based on BB/OECD Index, the percentage share of contract workers across pro-worker states grew from 15.5 per cent in 1999-00 to 36.5 per cent in 2013-14. The share of contract workers across pro-employer states increased from 21.8 per cent in 1999-00 to 29.6 per cent in 2013-14. On the other hand, as per the Index of court judgments, the share of contract workers in pro-employer states grew from

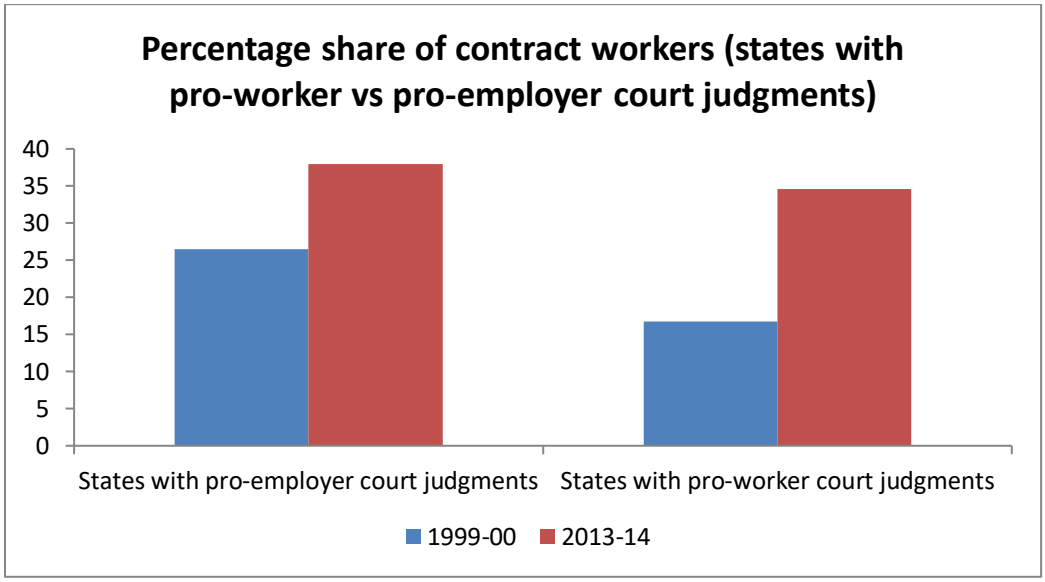
26.5 per cent in 19999-00 to 37.9 per cent in 2013-14, while the same share across pro-worker states increased from 16.7 per cent in 1999-00 to 34.6 per cent in 2013-14.

Thus, the comparative analysis shows that the share of contract workers has grown both in pro-worker and pro-employer states irrespective of whichever index we use for state classification. Further, both Indexes show that share of contract workers has risen relatively faster in pro-worker states. Thus, overall, the court judgment index and the BB/OECD Index generate the same results in case of dynamics of contract workers.

4.6 What explains the faster rise of contractual employment in pro-worker states?

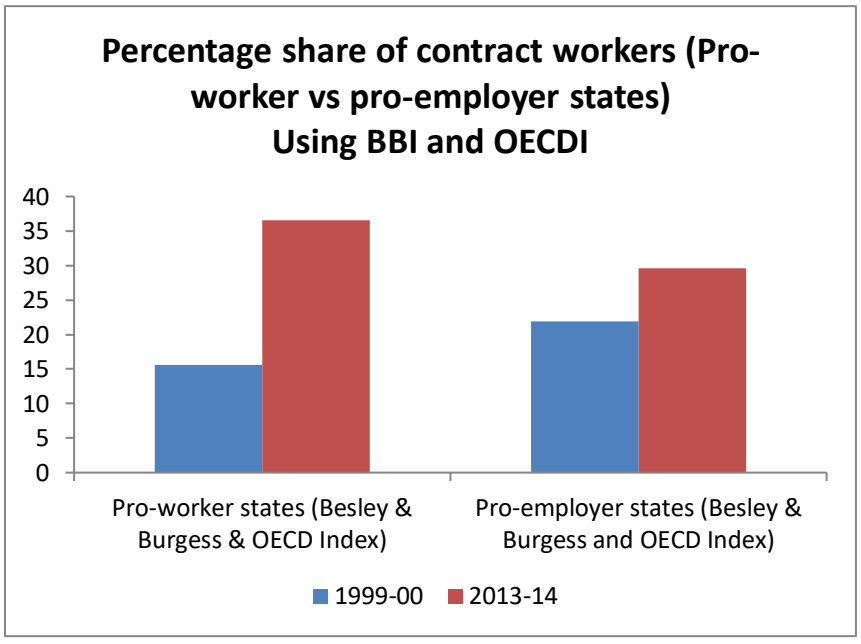
The relatively faster rise of contractual employment in pro-worker states as observed in figure 4.12 and 4.13 could be linked to labour laws. Pro-worker states have strict labour laws both in terms of implementation and legislations on paper. Previous research shows strict labour laws have a negative effect on industrial performance (Besley and Burgess, 2004). It is argued that the strict EPL regime in India creates rigidity in business, as it makes difficult for employers to adjust to market demand shocks. In view of such line of thought, several researchers have investigated if tight labour laws also induce contractualisation (Sapkal, 2016; Sofi and Sharma, 2015a; Chaurey, 2015). These researchers have found that contractualisation is positively associated to labour laws, suggesting that contractual employment trends to grow faster in states with strict labour laws. However, it is not clear whether India's EPL regime is really strict, and whether it creates a substantial rigidity in employment adjustments. In their econometric analysis by Sofi and Kunroo (2018), they find that employment adjustments to negative market shocks were not hindered in states with allegedly strict labour laws in India. Further, in their empirical paper, Sofi et al. (2015a) make an attempt to explain the relative faster growth of contract workers in pro-worker states. They argue that employers do not resort to contractualisation to avoid rigidity but to be able to reduce workers bargaining power and then maximise the producer surplus.

Figure 4. 12: Percentage share of contract workers (states with pro-worker vs pro-employer court judgments), overall measure of EPL.



Data Source: Annual Surveys of Industries.

Figure 4. 13: Percentage share of contract workers (pro-worker vs pro-employer states), using Besley and Burgess Index and OECD Index.

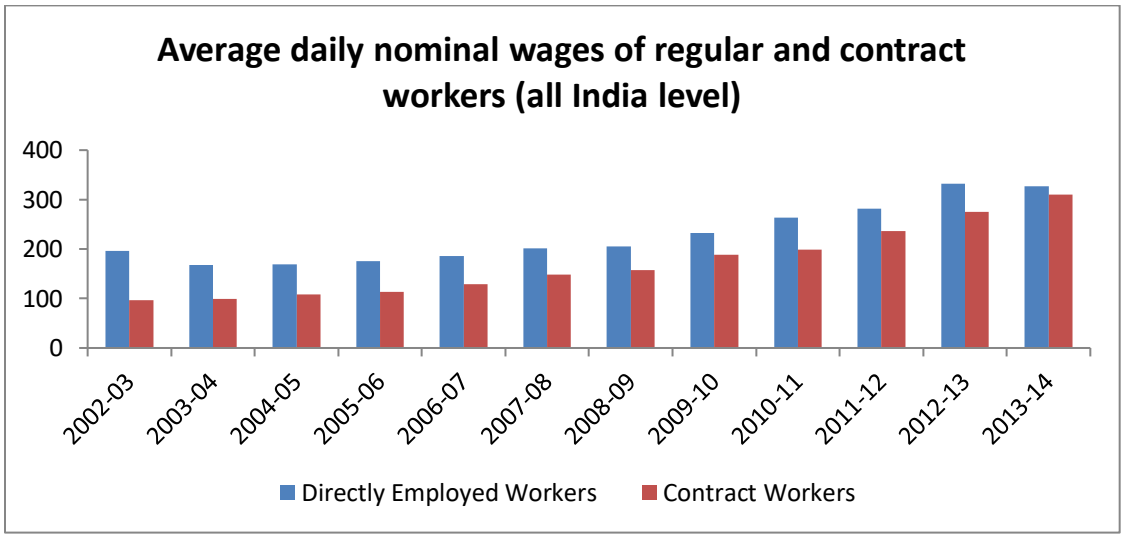


Data source: Author's calculation using Besley & Burgess Index and OECD Index.

4.7 Wage discrimination between contract and regular workers

We analyse the dynamics of average daily nominal wage earnings of regular and contract workers at all India level, before coming to state-wise analyse. Here, instead of using real wages, we have considered nominal wages, since we are only interested in a comparative analysis between contract and regular workers. Therefore, whether we use real wages or nominal wages does not affect our findings. From figure 4.14, we find a glaring difference in wages of contract workers and that of regular workers. The trajectory of wages of contract workers has been lower throughout the given time period. It may be noted that we could not use recent data on wages, since our Index of court judgments being used later in this analysis does not cover beyond the year 2014 due to lack of data on court judgments. Besides, the data on wages of contract and regular workers was available only from the year 2002-03. From the figure 4.14, it can be calculated that in 2002-03, contract workers (with daily wage earning of Rs. 96) received only 49 per cent of wages of regular workers (with daily wage earning of Rs. 196). However, interestingly, in 2013-14, contract workers' daily wage earning was Rs. 310 compared to Rs. 326 of regular workers. Thus, in 2013-14, contract workers received 95 per cent of wages of regular workers. This is a significant and very interesting development, as it suggests a convergence of wages between contract and regular workers, and the narrowing of the wage differential. To seek further insights concerning this development, we analyse state-wise dynamics of wages, considering pro-worker and pro-employer state classification using the court judgment index and BB/OECD Index, separately.

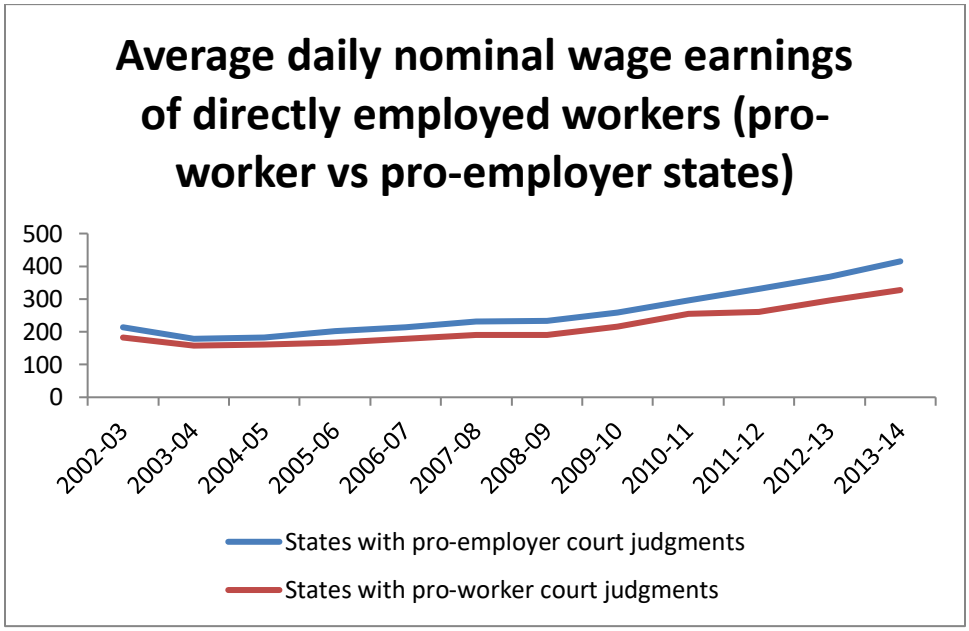
Figure 4. 14: Average daily nominal wages of regular and contract workers (all India level).



Data Source: Annual surveys of industries.

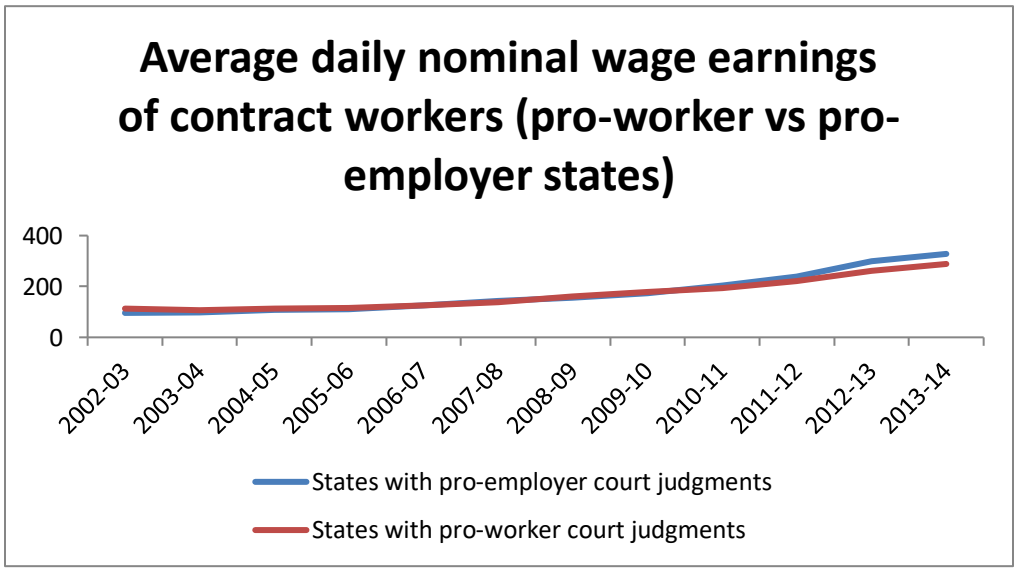
In figure 4.15 and 4.16, we compare the daily wage earning trajectories for regular and contract workers between states with pro-worker court judgments and states with employer court judgments. The figure 15 shows that average daily nominal wage earnings of directly employed (regular) workers has been higher in pro-employer states throughout the given time period. In pro-employer states, nominal wages have grown from Rs. 214 in 2002-03 to Rs. 415 in 2013-14. This shows a 93 per cent growth rate, growing annually at the rate of 8 per cent. On the other hand, in pro-worker states, the nominal wages have increased from 182 in 2002-03 to Rs. 327 in 2013-14, with 80 per cent growth rate (average annual growth of nearly 7 per cent). Thus, the wages have grown relatively faster in flexible states. However, as far as contract workers are concerned, the figure 4.16 shows an overlapping trend between pro-worker and pro-employer states. The individual state-wise wage-gap between directly employment workers and contract workers is provided in Appendix A1-A15 for deeper analysis.

Figure 4. 15: Average daily nominal wage earnings of directly employed workers (pro-worker vs pro-employer states), using overall measure of EPL.



Data Source: Annual Surveys of Industries.

Figure 4. 16. Average daily nominal wage earnings of contract workers across pro-worker and pro-employer states, using overall measure of EPL.



Data Source: Annual surveys of Industries.

4.8 What explains the relative faster growth of wages in pro-employer states?

Theoretically, the states that have registered more pro-worker court judgments than pro-employer court judgments are expected to see higher workers in a relatively better off position. The daily wage earnings in the pro-worker states were expected to be higher than other states because more pro-worker court judgments were thought to force employers to avoid unfair exploitation of labour. Hence, the finding is theoretically not consistent. The reason behind this surprising finding needs to be unearthed. One reason behind this could be the following. In our descriptive analysis, we look at the pro-worker court judgments from an independent variable point of view, while the wage are considered from dependent variable point of view, and expect a positive association of the latter with the former. It is possible that states registering more pro-worker court judgments are those states in which workers face higher degree of unfair exploitation in employment. It may be that the higher level of exploitation translates into litigations and eventually lead to pro-worker court judgments. If this interpretation is true, then the higher pro-employer court judgments would represent lesser exploitation of workers, which is why court resolves the dispute in favour of employers.

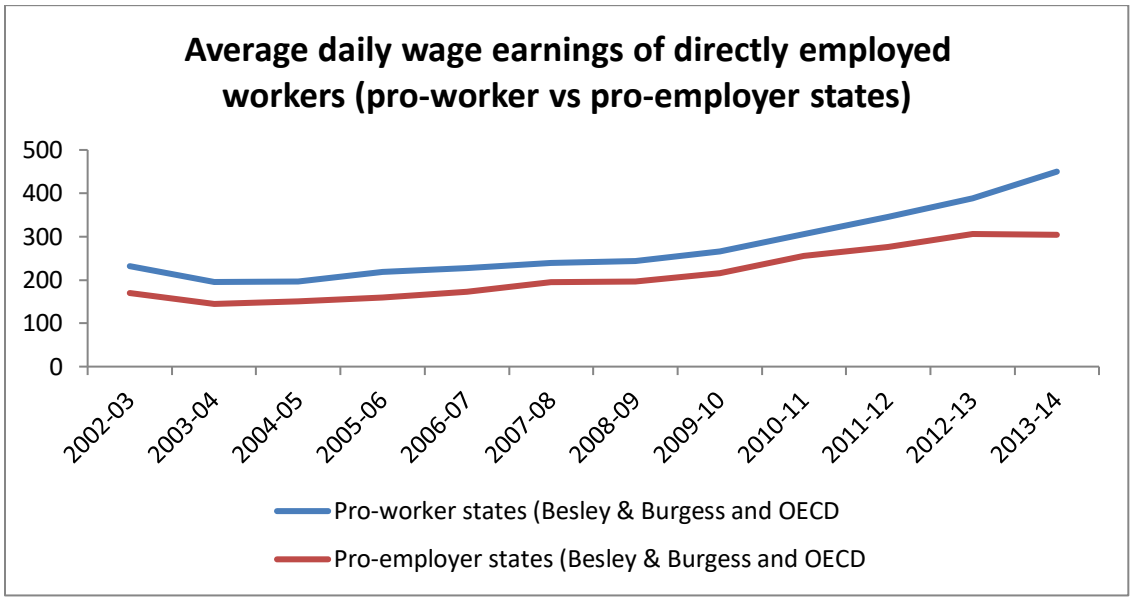
Thus, the states registering more pro-worker court judgments than pro-employer judgments are likely to be relatively exploitative states, with exploitation reflecting through lesser wages. On the other hand, the states registering more pro-employer court judgments are likely to be relatively less exploitative states, as the same is reflected in terms of higher wages in such states. However, other state-specific factors driving the trajectories of wages across the states may likely influence our findings. Therefore, such factors must be incorporated in the analysis before drawing policy implications. We attempt to do that in our empirical analysis which is following this chapter.

4.9 Discrepancy in findings from BB/OECD Index and court judgment Index

We also analyze the average daily nominal wage earnings of regular and contract workers across pro-worker and pro-employer states, using BB/OECD Index. The calculations are presented in figure 4.17 and 4.18 given below. Surprisingly, as far as directly employed workers are concerned, their graph on nominal wages is noticeably higher in pro-worker states as compared to that in the pro-employer states. In case of contract workers, the graph on nominal wage earnings in pro-worker and pro-employer states overlaps each other. In fact, the trajectories on

wage earnings of contract workers under BB/OECD Index very much resembles with that under the court judgment index.

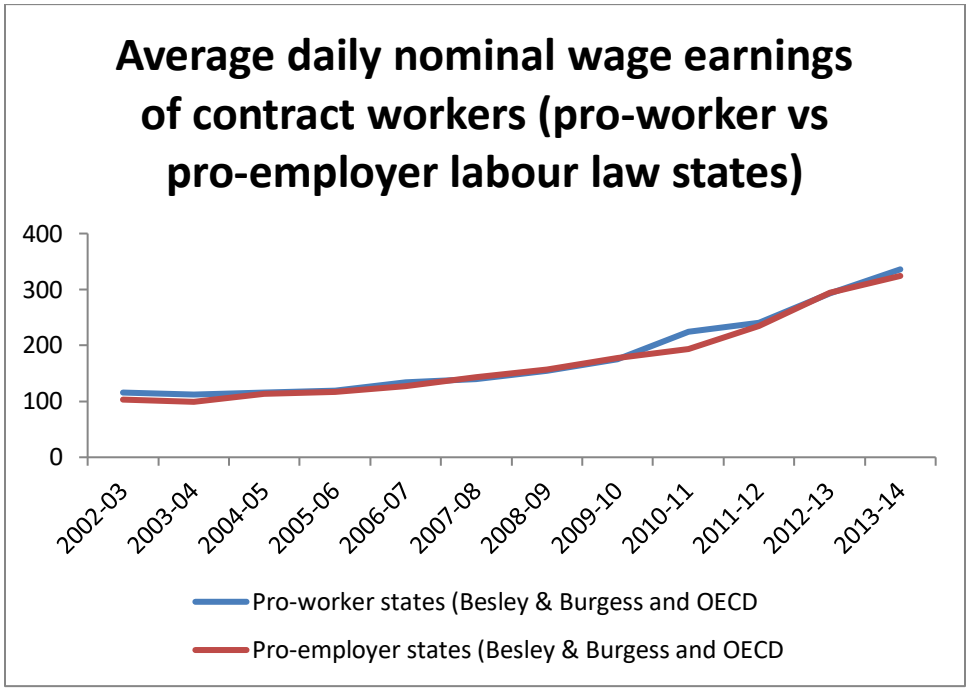
Figure 4. 17: Average daily wage earnings of directly employed workers across pro-worker vs pro-employer states, using BB/OECD Index.



Data source: Annual surveys of Industries.

One of the main reasons behind the overlapping trends on wage earnings of contract workers across pro-worker and pro-employer states is due to its exclusion from most of the labour laws. As mentioned earlier, the contract labour does not come under the purview of most of labour laws. Contract workers are said to have usually lower degrees of bargaining power as compared to that of the regular workers. Since contract workers are excluded from employment protection laws, their bargaining positions remains same both in pro-worker states and pro-employer. As a result, we see lower and overlapping trajectories on wage earnings of contract workers.

Figure 4. 18: Average daily nominal wage earnings of contract workers across pro-worker vs pro-employer states, using BB/OECD Index.



Data source: Annual surveys of Industries.

4.10 Summary

In this chapter, we analysed the state-wise dynamics (as well as at all India level) of the key labour market indicators including share of wages in output, average daily wage earnings, emoluments per workers, number of strikes and growth of contract workers, daily wage earnings of contract and regular workers. We also analysed changes in growth rate of real output during the study period. The analysis is restricted to India's organized manufacturing sector because of its particular relevance to employment protection legislations. We mostly used Annual Surveys of Industries, which were collected from several sources including Indiastat.com, EPWRF, and Labour Bureau, Government of India. We used CPI and WPI to adjust the inflation factor wherever it was required.

We classified the states into pro-worker and pro-employer depending upon the number of pro-worker and pro-employer court judgments invoking EPLs provided under the Industrial Disputes Act, 1947. Besides, we also performed a descriptive analysis using previous Indexes of Besley and Burgess (2004) and OECD Index (2007) and compare its findings with the court judgment index which we constructed on our own.

From our descriptive analysis, we find that the share of real wages in total real output has declined continuously since 1990-91 to 2013-14. The decline is witnessed both in pro-worker and pro-employer states, irrespective of whichever index we use for state classification. We raised the question of what explains the declining share of real wages in total real output and investigated it by examining the trends in relevant variables that are theoretically lined to it. We attribute the problem to four main factors including rise of capital intensity, falling trend in number of strikes by labour unions, sluggish growth of real wages and rising contractualisation. We find that monetary value of fixed capital has risen much faster than the total wage bill. The data shows that real wages have grown very slowly both in pro-worker and pro-employer states. The sluggish growth of real wages can be explained by declining bargaining power of workers, which is reflected by falling trend on number of strikes by labour unions. One of the reasons behind apparently diminishing position of workers could be the growing use of contract workers, which fall outside the purview of employment protection legislation.

The comparative analysis of pro-worker and pro-employer states using court judgment index reveal that real wages and emoluments were relatively higher in the latter category of states.

Moreover, these variables grew relatively faster in pro-employer states in the recent years. Similarly, we find that contractual employment grew faster in pro-worker states as compared to pro-employer states. This is a surprising finding which is in contrary to our expectation. We had expected real wages to be higher in states that have registered more pro-worker court judgments. However, this paradoxical finding suggests that the pro-worker court judgments do not actually translate into a better quality of employment, rather it they are the outcome of unfair exploitation. From such explanation, we can conclude that states registering higher pro-worker judgments are actually pro-employer states and vice versa.

We also look into wage discrimination between contract and regular workers. The data reveals a glaring wage discrimination. However, it suggests that the wage differentials between regular and contract workers have narrowed down over time, especially in the recent years. We find that the wages of regular workers grew relatively faster in pro-employer states. However, the trajectories on wages of contract workers are same across pro-employer and pro-worker states. We attribute the overlapping trajectories on wages of contract workers across pro-worker and pro-employer states to the fact that these workers fall outside the purview of labour laws, and the distribution of their wages is not influenced by differences in employment protection.

Chapter 5: Empirical Results

In this chapter, we discuss the results from our econometric analysis. As discussed in the methodology chapter, for our econometric analysis, we use state-wise panel datasets for the period 1999-00 to 2013-14. The selection of the sample period is based on the availability of the data on court judgments regarding labour disputes. We could find the data on the labour disputes only for the said period. In panel econometric model, there are mainly two approaches: Fixed Effect Model and Random Effect Model. The choice between these two models is decided using the Hausman test. We derive results through both fixed effect model and random effect model, and report p-values of the Hausman test. In cases, where the null hypothesis under the Hausman test is rejected, we use the results from the fixed effect model for conclusion and policy implications. On the other hand, if the null hypothesis is accepted, then we use results from the random effect model.

5.1 Effects of EPL on Real Daily Wages per Worker

Initially, we measure the impact of the employment protection legislation (EPL) on logarithms of real daily wage per worker. The results are presented in Table 5.1. The EPL is measured using the court judgments regarding labour disputes. In this regression. We consider the overall court judgments Index, in which all the court judgments are used to construct the index. We lag the court judgments by one period because we believe that the effect of the judicial outcomes of labour disputes does not come instantaneously, rather it appears after some time. The variable EPL represents the state-wise cumulative scores over-time from pro-worker court judgments (coded as 1) and pro-employer court judgments (coded as -1). A positive cumulative score in a given year shows that the number of pro-worker court judgments is greater than that of pro-employer court judgments, and vice versa.

To estimate the effect of EPL on the logarithms of real daily wage per worker, we run four regressions, as shown in column I-IV in Table 5.1. In the first regression, we

estimate the impact using random effect model, without control variables. We find that the coefficient on EPL is negative and significant at five per cent level of significance. Since the dependent variable is put in logarithmic form, the result indicates that one unit increase in cumulative score of EPL leads to 0.002 per cent rise in real daily wage per worker. The coefficient is small, but it is significant. In the second regression, presented in column II, we include control variables also. We include the real fixed capital per worker, number of strikes, and real net value added. The real fixed capital per worker accounts for technology. Theoretically, higher the fixed capital per worker, higher should be the productivity of workers, which may in turn lead to higher wage under the neoclassical model. As far as the real net value added is concerned, it accounts for demand side of the economy. Higher is the real net value added, better would be the market demand. As per the neoclassical theory, the higher market demand would translate into greater demand for labour, which may push the wages upward. In column II, we find that the sign of the coefficient on EPL does change, neither the magnitude of the coefficient changes much after including control variable in the model. Still EPL has a negative and significant effect on the dependent variables. The coefficient on the real fixed capital per worker is positive and highly significant, which is consistent with economic theory. The coefficient on real net value added is positive, but it is insignificant. Finally, the coefficient on the number of strikes is negative but insignificant.

In third regression, we estimate fixed model, which is aimed at controlling for state-specific systematic distribution of unobservable characteristics, which could be captured through data. Under the fixed effect model, we run two regressions: one without control variables and the other with control variables. The results of the fixed effect regression without control variables are presented in column III. As shown, the coefficient on EPL is still negative, but its p-value has increased slightly, making it significant only at 10 per cent level of significance. In column IV, we include the control variables also. The inclusion of the control variables in the fixed effect model increases the significance of

the coefficient on EPL slightly, making it significant at five per cent level of significance. The coefficients on the control variables remain more or less same as in column II.

Table 5.1: Impact of employment protection legislation (measured using overall court judgments under Chapter 5A and 5B of IDA, 1947) on logarithms of real daily wage per worker.

Table 5. 1: Impact of employment protection legislation (measured using overall court judgments under Chapter 5A and 5B of IDA, 1947) on logarithms of real daily wage per worker.

Dependent variable=Logarithms of real daily wage per worker	REM		FEM	FEM
	Col (I)	Col (II)	Col (III)	Col (IV)
	Without control variables	With control variables	Without control variables	With control variables
Constant	4.79*** (0.060)	4.72*** (0.051)	4.79*** (0.006)	4.74*** (0.02)
EPL (overall) – lag1	-0.002** (0.001)	-0.003** (0.001)	-0.002* (0.001)	-0.002** (0.001)
Real fixed capital per worker	---	5.98*** (1.37)	---	5.49*** (1.38)
Real net value added	---	8.52 (6.40)	---	4.96 (6.66)
Number of strikes	---	-0.000 (0.000)	---	-0.000 (0.000)
R.Square	0.050	0.403	0.05	0.363
No. of observations	210	210	194	210
Hausman test (p-value)	---	0.22	---	0.22

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

We perform Hausman test to decide the relevance of fixed effects vs. random effects model. The p-values of the Hausman test statistic is given in column II and column IV.

The null hypothesis under the Hausman test is accepted because the p-value is large (0.22). Hence, in this context, the random effect model is most relevant for our future discussion.

Table 5.2: Impact of employment protection legislation (measured using overall court judgments under Chapter 5A and 5B of IDA, 1947) real daily wage per worker.

Table 5. 2: Impact of employment protection legislation (measured using overall court judgments under Chapter 5A and 5B of IDA, 1947) real daily wage per worker.

Dependent variable= real daily wage per worker	REM		FEM	FEM
	Col (I)	Col (II)	Col (III)	Col (IV)
	Without control variables	With control variables	Without control variables	With control variables
Constant	124*** (7.31)	116*** (5.94)	124*** (0.74)	118*** (2.93)
EPL (overall) – lag1	-0.347** (0.15)	-0.37** (0.15)	-0.323** (0.16)	-0.34** (0.15)
Real fixed capital per worker		7.71e*** (1.58e)	---	7.13e*** (1.57e)
Real net value added		8.00e (7.35e)	---	3.55e (7.60e)
Number of strikes		-0.05 (0.086)	---	-0.082 (0.089)
R.Square	0.08	0.449	0.08	0.407
No. of observations	210	210	210	210
Hausman test (p-value)	---	0.01	---	0.01

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

In the second set of regressions, instead of using logarithms of real daily wage per worker, we use the absolute values of the variables to check whether the results are robust. We present the results in Table 5.2 in volume I to IV. As far as the coefficients on EPL is concerned, they are

significant at five per cent level of significance and have negative signs in all the regressions, which is consistent with previous set of results. Similarly, the coefficients on control variables is more or less the same as in previous set of results. However, in this case, the p-value of the Hausman test statistic is very small. Therefore, the null hypothesis is rejected, indicating that the fixed effect is more relevant in this context. Thus, overall, the results of the logarithmic dependent variable regression are similar to that of the simple regression.

Table 5.3: Impact of employment protection legislation (measured using court judgments regarding wage disputes alone) on real daily wage per worker.

Table 5. 3: Impact of employment protection legislation (measured using court judgments regarding wage disputes alone) on real daily wage per worker.

Dependent variable= real daily wage per worker	REM		FEM	FEM
	Col (I)	Col (II)	Col (III)	Col (IV)
	Without control variables	With control variables	Without control variables	With control variables
Constant	122*** (7.11)	115*** (5.87)	122*** (0.88)	118 (2.93)
EPL (wage disputes) – lag1	-0.57*** (0.18)	-0.41** (0.20)	-0.54*** (0.18)	-0.41** (0.20)
Real fixed capital per worker	--	7.72e*** (1.59e)	--	7.04e*** (1.58e)
Real net value added	--	-6.90 (8.29)	--	-5.56 (8.51)
Number of strikes	--	-0.036 (0.86)	--	-0.066 (0.088)
R.Square	0.12	0.42	0.12	0.36
No. of observations	210	210	210	210
Hausman test (p-value)	--	0.34	---	0.34

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

In the third set of regression analysis, we measure EPL using court judgments on wage disputes only instead of using overall court judgments. We expect that effect of that EPL measured using court judgments on wage disputes alone would be stronger as compared to the effect of the EPL based on overall court judgments. We present the results from the narrowed EPL index in Table 5.3 in column I to IV. We use real daily wage per worker as the dependent variables, while the independent variables remain the same as in previous analyses. As shown in Table 5.3, the size of the coefficients on EPL is greater than that in earlier regressions in all the four columns, and it has more significance than previous especially in column I and III. The coefficients on the control variables is more or less same as in previous sets of regressions. The Hausman test statistic has a large p-value. Therefore, the null hypothesis under the Hausman test is accepted, indicating that the random effect model is more relevant in this context.

Thus, the consistency of the results across three different sets of regressions leads us conclude that favourable EPL measured using court judgments on labour disputes has a negative effect on wages of workers.

5.2 Effect of EPL on Real Emoluments per Worker

In the next set of regressions, we assess the effect of EPL on daily real emoluments per worker. The emolument is a more comprehensive measure as compared to wages. Emoluments comprise both wages and bonuses, so it could capture the picture better. Employers can use bonuses for adjustment in wages. The results from the emolument regressions are presented in Table 5.4. Like in the previous regression, the dependent variable is an absolute measure. The control variables, same as previous analyses, are included in second and fourth regression. In this set of results, we use the narrow measurement of EPL based on court judgments on wage disputes alone. The column 1 shows results of the random effect model without control variables. The coefficient on EPL has a negative sign and its p-value to very small, indicating it is significant only at 1 per cent level of significant. Thus, this finding is in line with previous results. In the second regression, we include control variables also. The results of the second regression (see Column II) show consistency in the signs and significance of coefficient on EPL. In fact, in the second regression, the coefficient associated to EPL significant at only one per cent level of significance. The coefficients on real fixed capital per worker and real net value added are positive and highly significant, though they are small in magnitude.

In third and fourth regressions, we present results of the fixed effect regressions. In third regression, we run fixed effect regression without control variables. As shown in Column III, the coefficient has a negative sigh, and its p-value is extremely small. In the fourth regression, we include the control variables also. The results are robust, with no significant change as compared to random effects regression with control variables. The p-value of the Hausman test statistic is very large. Therefore, the null hypothesis underlying the Hausman test is accepted, indicating that random effects model is the appropriate model for the study under consideration.

Table 5.4: Impact of wage-related EPL on daily real emoluments per worker.

Table 5. 4: Impact of wage-related EPL on daily real emoluments per worker.

Dependent variable= daily real emoluments per worker	REM		FEM	FEM
	Col (I)	Col (II)	Col (III)	Col (IV)
	Without control variables	With control variables	Without control variables	With control variables
Constant	228*** (17.6)	203*** (13)	228*** (1.93)	205*** (5.25)
EPL (wage disputes) – lag1	-4.01*** (0.39)	-2.06*** (0.367)	-3.96*** (0.402)	-2.07*** (0.36)
Real fixed capital per worker	---	0.00001*** (2.83e)	---	0.00001*** (2.83e)
Real net value added	---	0.00001*** (1.50e)	---	9.81e*** (1.52e)
Number of strikes	---	-0.35** (0.15)	---	-0.37** (0.15)
R.Square	0.25	0.63	0.25	0.62
No. of observations	210	210	210	210
Hausman test (p-value)	--	0.78	--	0.78

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

To assesses the effect of the overall measure of EPL on real daily emoluments per worker, we run four regressions whose results are presented in column I to column IV in Table 5.5. The coefficient on EPL in the first regression is -0.53, but it is insignificant. In the second regression, we include control variables also, and we find effect of EPL, with low p-value. We find a positive effect of real fixed capital per worker and real net value added on real daily emoluments per worker, which is consistent with theory and in line with those in the previous analyses. Interestingly, in this regression, we find that the number of strikes is negatively associated to the dependent variable, with low p-value. The negative relationship between number of strikes and the dependent variable is contrary to insights from previous literature (Saha et al., 2013).

The previous research suggests that labour bargaining power is positively associated with strikes led by labour unions. If that is true, then the emoluments in states witnessing higher number of strikes ought to be higher, since it is the positive function of bargaining power. More research would be needed to unearth a scientific explanation for the inverse relationship between strikes and emoluments. We check the robustness of this finding using fixed effect model whose results are presented in column III and IV. In third regression, we run the regression using fixed model without control variables. As shown, the coefficient on EPL is still negative, but it is significant. In the fourth regression, we also include the control variables. However, the coefficient on EPL is robust. Moreover, the coefficients on real fixed capital per worker and real net value added are positive and highly significant, while the coefficient on number of strikes is negative and significant at 5 per cent level of significance. We find a fairly high R-square value of 0.63 and 0.62 in random effect model with control variables and fixed effect model with control variables, respectively. It may be noted that null hypothesis under the Hausman test is accepted, showing that random effect model is most relevant model in this context.

Table 5.5: Impact of employment protection legislation (measured using overall court judgments) on daily real emoluments per worker.

Table 5. 5: Impact of employment protection legislation (measured using overall court judgments) on daily real emoluments per worker

Dependent variable= daily real emoluments per worker	REM		FEM	FEM
	Col (I)	Col (II)	Col (III)	Col (IV)
	Without control variables	With control variables	Without control variables	With control variables
Constant	240*** (19)	202*** (13)	240*** (1.95)	203*** (5.51)
EPL (overall) – lag1	-0.53 (0.41)	-1.01*** (0.28)	-0.47 (0.42)	-0.99*** (0.28)
Real fixed capital per worker	---	0.00001*** (2.95e)	--	0.00001*** (2.95e)
Real net value added	---	0.00001*** (1.39e)	--	0.00001*** (1.43e)
Number of strikes	---	-0.38** (0.16)	--	-0.40** (0.16)
R.Square	0.06	0.62	0.06	0.62
No. of observations	210	210	210	210
Hausman test (p-value)		0.66		0.66

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

5.3 Effect of EPL on Share of Real Emoluments in Real Output

One of the popular proxy for labour bargaining power is the share of wages or emoluments in output. According to economic theory, higher share of workers' emoluments in output represents the higher bargaining position of workers or labour unions. This measure is better than daily wage per worker, since it accounts for changes in wages relative to that of output. If share of emoluments in output is compared with share of capital and profits in output, the relative

position of workers can be easily captured. Therefore, we analyse the effect of EPL on share of real emoluments in real output. Like in previous analyses, we run both random and fixed effects regressions, with and without control variables. In these regressions, we exclude the real net value added because of its exogeneity is doubtful in this context. The doubtful nature of the exogeneity of real net value added as an independent variable arises from the fact that our dependent variable is the ratio of real emoluments in real output, with latter being closely correlated with real net value added. The potential correlation between real net value added and the denominator of the dependent variable may lead to violation of the OLS assumption of independence between the explanatory variable and the error term. Consequently, the results could be biased, unless the endogeneity problem is resolved. Therefore, we exclude the real net value added from this set of regressions. We used WPI to arrive at real output, while CPI was used to arrive at real emoluments.

The results are presented in Table 5.6. In the first regression using random effect model without control variables, we see that the coefficient on EPL is positive and significant at five per cent level of significance. In the second regression, we include control variables also. However, after controlling for real fixed capital per worker and number of strikes, the size of the coefficient on EPL shrinks enough to become insignificant. As far as the coefficients of the control variables are concerned, they are theoretically consistent. The negative and highly significant coefficient of real fixed capital per worker is obviously due to high capital intensity. Higher the capital intensity, the lower would be the share of emoluments in output. Similarly, the coefficient of number of strikes is positive and significant at one per cent level of significance. The positive sign of the coefficient indicates here that strikes led by labour unions are effective in boosting workers bargaining power, as reflected in its positive association with share of emoluments in output.

In third regression, we run the fixed effect model without control variables to check the robustness of the estimates. The coefficient on EPL turns out to be positive and highly significant again. In the fourth regression, we also include control variables in the model. After including control variables in the fixed effect model, we again find a decline in the size of the coefficient of EPL along with its significance. The coefficient is now significant only at ten per cent level of significance. However, the coefficients on the control variables are more or less same as in the

second regression. The null hypothesis under the Hausman test is accepted because the p-value is very large. This shows that the relevant model in this context is the random effect model.

Table 5.6: Impact of employment protection legislation (measured using court judgments regarding wages) on share of real emoluments in real output.

Table 5. 6: Impact of employment protection legislation (measured using court judgments regarding wages) on share of real emoluments in real output.

Dependent variable= share of real emoluments in real output	REM		FEM	FEM
	Col (I)	Col (II)	Col (III)	Col (IV)
	Without control variables	With control variables	Without control variables	With control variables
Constant	4.31*** (0.24)	4.23*** (0.29)	4.34*** (0.072)	4.29*** (0.18)
EPL (wage disputes) – lag1	0.035** (0.014)	0.02 (0.01)	0.04*** (0.01)	0.025* (0.014)
Real fixed capital per worker	--	-3.02e** (1.23)	--	-3.48e*** (1.28e)
Real net value added	--		--	
Number of strikes	--	0.022*** (0.006)	--	0.02*** (0.006)
R.Square	0.006	0.034	0.006	0.08
No. of observations	210	210	210	210
Hausman test (p-value)	---	0.47	---	0.47

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

We analyse the effect of overall measure of EPL on share of real emoluments in real output. The results are presented in Table 5.7 in Column I to IV. As shown, although the coefficient on EPL still has negative sign in all the four columns, its magnitude and significance has declined. It is insignificant in regression II, III and IV, while it is just weakly significant in regression I. On the other hand, the coefficients on the control variables are significant and in line with the earlier

results. The p-value under the Hausman test is a bit larger, and hence the null hypothesis cannot be rejected, suggesting the random effect model is applicable in this situation.

Thus, overall, we find weakly negative effects of EPL on share of real emoluments in real output using the narrow measure of EPL, while the effect of the broader measure of EPL on the said dependent variable is insignificant. If we compare the effects of EPL on daily wage/emoluments per worker and share of emoluments in output, we find two opposite stories, with the former showing negative effects while the latter shows weakly positive effects. This inconsistency in the findings is a research gap to be investigated in future research.

Table 5.7: Impact of overall EPL on the share of real emoluments in real output.

Table 5. 7: Impact of employment protection legislation (measured using overall court judgments) on the share of real emoluments in real output.

Dependent variable= share of real emoluments in real output	REM		FEM	FEM
	Col (I)	Col (II)	Col (III)	Col (IV)
	Without control variables	With control variables	Without control variables	With control variables
Constant	4.24** (0.22)	4.21*** (0.27)	4.23*** (0.06)	4.24*** (0.18)
EPL (overall) – lag1	-0.020* (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.008 (0.012)
Real fixed capital per worker	--	-3.29e*** (1.21e)	--	-3.88e*** (1.28e)
Real net value added	--		--	
Number of strikes	--	0.02*** (0.006)	--	0.02*** (0.006)
R.Square	0.08	0.08	0.08	0.06
No. of observations	210	210	210	210
Hausman test (p-value)	--	0.16	--	0.16

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

5.4 Effect of EPL on share of real wages in real output

It would be interesting to examine the effect of EPL on the share of real wages in real output in the backdrop of the above analysis on the share of emoluments where weak evidences are observed. In the emolument (share) analysis above, the results are not conclusive enough for policy conclusion. Therefore, using the similar methodology, we analyse the link between share of real wages in real output and EPL. The results are given in Table 5.8 in column I-IV. In this analysis, we use the EPL based on wage disputes alone. Interestingly, we find a conclusive evidence for a positive association between EPL and wages. In column, we can see that the coefficient on EPL is positive and significant at one per cent level of significance. The results do not change much when we include control variables in column II. Moreover, the coefficients on control variables, too, are highly significant and consistent. The positive coefficient on the number of strikes is in line with theory, since it signifies a positive role of labour union activism in worker's bargaining power, as reflected in the positive coefficient. In third column, we run the fixed effects regression. The coefficient on EPL is still robust. In the fourth column, we include control variables along with fixed effects. As shown, the coefficient on EPL is still positive and significant at only one per cent level of significance. The p-value of the Hausman test statistic given in column II and IV is 0.43, which too large to reject the null hypothesis. Therefore, random effect model is the most relevant model for drawing policy conclusions from this analysis.

Finally, in Table 5.9, we replace the narrow measure of EPL with the broader measure of EPL. Interestingly, the results given in column I to IV show the broader measure of EPL has no significant effect on the share of real wages in real output. As far as the coefficients on control variables are concerned, it can be seen that they or more or less same as above. The coefficient on real fixed capital per worker is still negative and highly significant. Similarly, the coefficient on the number of strikes is positive and highly significant.

Thus, the findings from these final set of regressions are more conclusive and stronger than that of the previous sets of results pertaining to emolument analysis. In view of these results, we can conclude that pro-worker court judgments pertaining to labour disputes on wage related issues significantly lead to higher bargaining power of workers, as reflected in the positive association between EPL (wage disputes) and the share of real wages in output. However, there is a

mismatch if we compare these findings with those of the daily wage per worker. Further research would be needed to explain this discrepancy.

Table 5.8: Impact of employment protection legislation (measured using court judgments regarding wage disputes) on share of real wages in real output.

Table 5. 8: Impact of employment protection legislation (measured using court judgments regarding wage disputes) on share of real wages in real output

Dependent variable= share of real emoluments in real output	REM		FEM	FEM
	Col (I)	Col (II)	Col (III)	Col (IV)
	Without control variables	With control variables	Without control variables	With control variables
Constant	2.04*** (0.13)	1.99*** (0.17)	2.06*** (0.046)	2.01*** (0.11)
EPL (wage disputes) – lag1	0.04*** (0.009)	0.029*** (0.008)	0.048*** (0.009)	0.031*** (0.009)
Real fixed capital per worker	---	-2.71e*** (7.39e)	---	-2.99e*** (7.75e)
Real net value added	---	---	---	
Number of strikes	---	0.018*** (0.003)	---	0.019*** (0.003)
R.Square	0.021	0.109	0.021	0.109
No. of observations	210	210	210	210
Hausman test (p-value)	--	0.43	--	0.43

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

Theoretically, the association between real daily wage per worker and EPL must be positive, especially in a case where there is a positive link between the share of real wages in real output. To delve deeper into this issue, it is pertinent to know what the positive link between the share of real wages in real output and EPL (wage disputes) indicates. This link actually shows that states witnessing greater number of pro-worker court judgments than the pro-employer judgments have

higher share of real wages in real output. How does it happen? What are the channels leading to higher share of real wages in real output across these states? These are crucial questions meriting investigation and scientific explanation. An ideal explanation would be that the relatively higher number of pro-worker court judgments on labour disputes concerning wages conflicts, tilt the bargaining power relation in favour of workers, which in turn increase their bargaining power and eventually the daily wage rate. However, in the context of our study, we find a negative effect of EPL on daily wage rate. Hence, such explanation is not applicable in this case. Therefore, more research would be needed to explain this phenomenon.

Table 5.9: Impact of overall EPL on the share of real wages in real output.

Table 5. 9: Impact of employment protection legislation (measured using overall court judgments on the share of real wages in real output

Dependent variable= share of real emoluments in real output	REM		FEM	FEM
	Col (I)	Col (II)	Col (III)	Col (IV)
	Without control variables	With control variables	Without control variables	With control variables
Constant	1.93*** (0.12)	1.93*** (0.16)	1.93*** (0.04)	1.93*** (0.11)
EPL (overall) – lag1	-0.01 (0.007)	-0.007 (0.007)	-0.008 (0.008)	-0.002 (0.007)
Real fixed capital per worker	---	-3.08e*** (7.49)	--	-3.42e*** (7.90e)
Real net value added	---		--	
Number of strikes	---	0.01*** (0.003)	--	0.022*** (0.004)
R.Square	0.039	0.118	0.03	0.101
No. of observations	210	210	210	210
Hausman test (p-value)	---	0.15	---	0.15

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

5.5 Results of our Robustness Analysis using Previous Indices of EPL

We carry out robustness test of our empirical findings, using Gupta et al.'s (2009) classification of states into pro-worker, pro-employer and neutral. We assign numerical code '1', '-1', and '0' for pro-worker, pro-employer, and neutral states respectively. First, we carry out robustness test using the share of real wages in real output as the dependent variable. The results are presented in Table 5.10. We run four regressions, shown in column I to column IV. In the first regression, we do not include year and fixed effects, neither we include control variables. As shown, the coefficient on EPL is positive, but it is insignificant. In the second regression, we include number of strikes and real fixed capital per worker as control variables. The coefficient on EPL turns out to be positive and significant at 1 per cent level of significance. Our results do not change significantly when we include sate and year dummies in regression third and fourth. Moreover, the coefficient on real fixed capital per worker is negative and highly significant, which is theoretically consistent. However, the coefficient on number of strikes is not robust and theoretically consistent.

Finally, we run another robustness check by using share of real emoluments in real output as the dependent variable along with Gupta et al.'s measure of EPL. We run 3 regressions in this regard, whose results are given in Table 5.11 below. In all these three regressions, the coefficient on EPL is positive and highly significant. The coefficients on control variables are also significant and theoretically consistent. Thus, interestingly, our empirical findings based on Gupta et al.'s state classification, which is based on Besley and Burgess Index (2004), OECD Index (2007) and Battacharjea's (2006) critique against Besley and Burgess Index, are similar when share of real wages or real emoluments are considered as our dependent variables. More importantly, the findings based on such dependent variables are theoretically consistent. Therefore, our policy conclusions shall be derived from the same set of results, while attempts shall be made to explain divergence of findings when daily wages or emoluments per worker were used as dependent variables.

Table 5.10: Impact of employment protection legislation on share of real wages in real output, using Gupta et al's (2009) state classification.

Table 5. 10: Impact of employment protection legislation on the share of real wages in real output, using Gupta et al's (2009) state classification

Dependent Variable=Share of real wages in real output	Col (I)	Col (II)	Col (III)	Col (IV)
Constant	1.98 (0.13)	2.06*** (0.17)	2.67*** (0.13)	3.76*** (0.15)
EPL (Gup et al.'s sate classification)	0.19 (0.17)	0.35*** (0.18)	0.41*** (0.09)	0.43*** (0.67)
Real fixed capital per worker	--	-3.52e*** (7.87e)	-3.82*** (8.30)	-1.6e** (6.41)
Number of strikes	--	0.01*** (0.003)	0.01*** (0.003)	-0.003 (0.002)
R.Square	0.03	0.17	0.56	0.809
No. of observations	225	225	225	225
State Dummies	No	No	Yes	Yes
Time Dummies	No	No	No	Yes

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

Table 5.11: Impact of employment protection legislation on share of real emoluments in real output, using Gupta et al's (2009) state classification.

Table 5. 11: Impact of employment protection legislation on share of real emoluments in real output, using Gupta et al's (2009) state classification

Dependent Variable=Share of real emoluments in real output	Col (I)	Col (II)	Col (III)	Col (IV)
Constant	6.40*** (0.20)	5.17*** (0.22)	6.92*** (0.27)	
EPL (Gup et al.'s sate classification)	0.64*** (0.11)	0.60*** (0.15)	0.62*** (0.11)	
Real fixed capital per worker	---	-4.60e*** (1.34e)	-3.36e*** (1.11)	
Real net value added	---	---	---	
Number of strikes	---	0.02*** (0.005)	-0.008* (0.004)	
R.Square	0.77	0.57	0.78	
No. of observations	225	225	225	
State Dummies	Yes	Yes	Yes	
Time Dummies	Yes	No	Yes	

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

5.6 Impact of wage-related EPL on labour activism

Finally, we measure the effect of EPL on labour activism, for which we use number of strikes as a proxy. We use wage-related measure of EPL, since it yields theoretically consistent results, as seen above. We run three regressions, with the dependent variable being the number of strikes. Like previously, we lag the EPL index by one period. Our results shown in Table 5.12 reveal a positive effect of EPL on number of strikes. In the column I of Table 5.12, we run random effect model without control variable. We find a positive and highly significant coefficient on EPL. The coefficient does not significantly change after including control variable (real fixed capital per worker).The coefficient on the control variable is negative and significant which is

theoretically consistent, since an increase in capital intensity reduces labour bargaining power or the union activism. We also run a fixed effect model in column III, along with the control variable. Interestingly, the coefficient on EPL does not change significantly, while the coefficient on the control variable is still theoretically consistent. We conclude that EPL has a positive effect on labour union activism, which is in turn linked to labour bargaining power, as suggested in the previous literature.

We check the robustness of the foregoing analysis, replacing the simple number of strikes by number of strikes per thousand workers in the formal manufacturing sector. The results are given in Table 5.13 below. As shown in column I to column III of Table 5.13, the coefficient on the number of strikes per thousand workers is still positive and highly significant. Like above, the coefficient on the control variable is negative and highly significant.

Table 5. 12: Impact of wage-related EPL on labour activism measured using number of strikes.

Dependent Variable=Number of strikes by labour unions	Col (I)	Col (II)	Col (III)
	REM	FEM	FEM
Constant	16.12***	16.21***	19.7***
	(3.97)	(0.77)	(1.47)
EPL (Wage-related) – lag 1	0.49***	0.52***	0.43***
	(0.15)	(0.16)	(0.16)
Real fixed capital per worker	---	--	-3.87e***
			(1.39e)
Wald chi2 (p-value)	0.001	---	---
F statistic (p-value)	--	0.001	0.000
No. of observations	210	210	210
Fixed Effects	No	Yes	Yes

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

Table 5. 13: Impact of wage-related EPL on labour activism measured using number of strikes per thousand workers.

Dependent Variable=Number of strikes per thousand workers	Col (I)	Col (II)	Col (III)
	REM	REM	FEM
Constant	0.041***	0.054***	0.06***
	(0.004)	(0.005)	(0.004)
EPL (Wage-related) – lag 1	0.001***	0.001***	0.001***
	(0.0004)	(0.0004)	(0.0005)
Real fixed capital per worker	--	-1.40***	-1.98e***
		(3.74)	(3.39)
Wald chi2 (p-value)	0.000	0.000	---
F statistic (p-value)	---		0.000
No. of observations	210	210	210

Note: (i) Figures in parenthesis are standard errors. (ii) ***p<0.01; **p<0.05; *p<0.10.

5.7 Summary

In this chapter we presented the results from our econometric analysis investigating the effect of EPL on different concepts of wages. Two measures of EPL were used: broader measure and specific measure. The broader measure of EPL is based on court judgments pertaining to labour disputes resolved under Section 25, Section 25-F, Section 25-C, Section 25FF, Section 25-O, Section 25-M, and Section 25-N, irrespective of whether the case is associated with employment or wage issue. On the other hand, in the specific (narrow) measure of EPL, we considered only those disputes that arise because of wage conflicts between the employer and the worker. The EPL reflects cumulative scores over time from pro-worker (denoted as 1) and pro-employer judgments (denoted as -1). Thus, a positive cumulative score reflects greater number of pro-worker judgments than that of pro-employer judgments. In other words, increase in the value of EPL can be interpreted as an increase its strictness, and vice versa. We analyse the effect of the two measures of EPL on real daily wage per worker, real emoluments per worker, share of real emoluments in real output, and share of real wages in real output. We used CPI (Base Year=2001) to arrive at real wages and real emoluments, whereas WPI (Base year=2004-05) was used get to the real output.

Our analysis employed state-wise panel datasets spanning from 1999-00 to 2013-14. The selection of the sample period was based on availability of data on court judgments. We estimated both fixed effects model and random effects model, with and without control variables, and reported Hausman test for the reader to make the correct choice between the two models for policy conclusions.

The results from various sets of our regression analyses are slightly surprising. As far as the effect of EPL on real daily wages per worker and real emoluments per worker are concerned, we find a negative effect. However, on the other hand, we find a positive effect of EPL on share of real wages or real emoluments in real output. Besides, we find that an increase in the strictness of EPL increases labour union which is measured by number of strikes. The coefficient on the wage-related measure of EPL in relation to the number of strikes is positive and highly significant. We observe more or less theoretically consistent coefficients on control variables including real fixed capital per worker (proxy for technology), number of strikes (proxy for

labour union activism), and real net value added (a proxy for market demand for goods and services). We observe relatively more consistent results using the specific measure of EPL, which is based wage disputes alone. Overall, the results drawn using the overall measure of EPL are relatively weaker and inconsistent. The difference in the results from the two measures of EPL was well expected in advance. As this study focuses particularly on wage aspects of the labour market, the specific measure of EPL constructed solely based on wage disputes ought to be more applicable than the overall measure of EPL taking into account disputes of other nature also.

The most surprising element in our empirical results is that of the negative coefficients on real daily wage or emolument per worker even as the effect of EPL on share of wages or emoluments in output is positive. Given the positive effect of EPL on wage or emolument shares, the coefficients on daily wage per worker must ideally be positive. Otherwise, it is difficult to justify the positive effect of EPL on wage shares or emolument shares. It may be noted that the empirical results pertaining to real wage or emolument per worker consistent with the descriptive analysis performed in the previous chapter, where we saw a relatively lower trajectories for states with greater number of pro-worker court judgments. On the other hand, the empirical results pertaining to wage or emolument shares do not match with our observations in the graphical analysis. This leaves a research gap for future research. However, overall, our results suggest that the judicial outcomes of the labour disputes do influence the dynamics of labour market parameters significantly. Interestingly, the results from our robustness analysis using previous Indices of EPL along with share of real wages or emoluments in real output as dependent variables in alternative regressions show that results are theoretically consistent and similar to the findings from our own index. Therefore, we would like to focus on the same set of results to derive the policy implications.

Chapter 6: Conclusion and Policy Implications

6.1 Discussion and Conclusion

India's employment protection legislation (EPL) regime is believed to be one of the stricter regimes in the world (OECD, 2009). It is widely argued that the EPL regime makes it difficult for producers to do business in India. Labour laws can be implemented by both the central and the state governments. Over the last few decades, although the central government has been little reluctant to implement major labour law reforms, many states have amended their labour laws to facilitate economic growth and stimulate job creation. The effect of India's labour law reforms have been studied substantially both by Indian and foreign researchers. Much of the previous empirical research focuses on employment and productivity effects of labour law reforms. In the previous research, there is significant evidence showing negative employment and productivity effects of EPL. Based on the research findings, previous studies suggest rationalization of labour laws and greater flexibility for businesses. It is argued that extra labour flexibility would stimulate growth and increase employment opportunities, thereby benefiting workers as well as the producers.

India's industrial sector has not generated as many jobs as policy makers and economists had expected when the new industrial policy was launched in 1991. Much of the labour force is still engaged in agricultural sector, where they earn less because of low productivity, among other factors. As far as India's services sector is concerned, there is no doubt that it is a high paying job sector, but policy makers and economists are of the opinion that the growing services sector alone cannot solve India's employment wows. They believe that expansion of the manufacturing sector is a key solution to India's unemployment problem in the long-run.

A serious issue in the manufacturing sector is the decoupling of output growth and employment generation. The annual survey of Industries (ASI) data reveal that the net value added or gross output has grown substantially in the post-reform period. However, such time-period marked lower levels of employment elasticity measuring percentage change in employment due to one per cent increase in output, though it is reported to have again picked up slightly in the recent years. The decoupling of employment and output since the post-reform period has been

accompanied by two emerging issues: segmentation of the labour market in the formal manufacturing sector and declining wage share and slow growth of real wages. The segmentation has transpired broadly in terms of formal and informal sectors within the registered manufacturing sector. The labour force in the formal sector has better working conditions, social security, employment protection, and higher wages, relative to that of the informal sector. The informal workers are excluded from job security regulations, as they are hired through a third party contractor not through direct recruitment. They usually face job insecurity, because the employer can terminate them easily without having to obtain government permission or pay the severance compensation. As per the ASI data, the share of the contract workers has risen steadily since 1991, though its pace seems to be slowed down slightly in the recent years of the sample period of this study.

The neo-liberal school of economic thought attributes this segmentation to India's labour laws, which the former believes is too costly for the producer to work under. It is argued that strict EPL regime in India hampers employment adjustments in the face of market fluctuations, and thus creates inefficiency in business. As a result, employers are forced to hire contractual employment, which brings flexibility in hiring and firing policy of the producers. However, when we look at the data on wages or wage shares of workers in general and that of the contract workers in particular, it shows a different picture, which is in contrast to the neo-liberal line of thought discussed above. The data reveals that the share wages in output is falling incessantly. There is a marked wage discrimination between contract and regular workers, though the gap seems to be narrowing gradually.

Within this backdrop, our study aims to investigate the role of the employment protection legislation in wage determination under the segmented labour market in India's formal manufacturing sector. The broader objectives of this study were to analyse the state-wise dynamics of wages in the formal manufacturing sector, and assess the role of EPL in the wage determination.

To achieve our research objectives, we first attempted to theoretically conceptualize the key aspects of this study, such as the labour market segmentation and wage determination under dualistic labour markets with different levels of EPL. We employed the famous labour market segmentation theory, which has appealed increasing number of researchers especially at the

international level since 1970s to study the causes, potential consequences, and possible remedial measures of labour market segmentation. The labour market segmentation theory questions the neo-classical justification for segmentation. The neo-classical theory blames labour supply side factors, such as differences in individual characteristics and human capital, to explain the labour market segmentation. On the other hand, the segmentation theory, argues that labour market segmentation is caused by the demand side. It aims to explain the wage discrimination that is not explained by individual differences. Through the segmentation theory, we reach to the conclusion that two workers with equal attributes or human capital endowment may get different rates of wages in two different segments, because all workers do not have access to higher wage employment. There are barriers to mobility between sectors; hence wage differentials can persist over a longer time period.

As far as the role of labour laws, the segmentation theory suggests that a well-planned labour law regime can mitigate the effects of labour market segmentation. For example, strict regulation of contractual employment including equal pay for equal work principle, combined with flexible wage setting models could dissuade contractualisation and encourage formalisation of employment. However, we also reach to the conclusion that labour regulations particularly those that have a bearing with hiring and firing costs can create rigidity and give rise to segmentation. Thus, labour law can act as a bane or boon, depending upon the way it is implemented.

Within this backdrop, our study empirically investigates the effect of EPL various concepts of wages, including real daily wages per worker, real emoluments per workers, share of real wages in real output, and share of real emoluments in real output. The study is based on state-wise panel datasets covering different time-periods for descriptive and econometric analysis. Our descriptive analysis mostly covers time-period 1990-91 to 2013-14. However, descriptive analysis regarding wage discrimination is restricted to period 2002-03 to 2013-14. We select 15 major states of India, considering their base of manufacturing production and data availability.

A novel approach is employed to construct a quantitative measure of EPL. We construct our index using high court judgments regarding labour disputes. Only those court cases that were resolved under Chapter 5A and 5B (selected sections as discussed in chapter 3 of this study) of the Industrial Disputes Act, 1947 were considered for creating the Index. After detailed review of each of the court judgments, we categorize them and label with as pro-worker, pro-worker and

neutral judgments and then assign numerical scores 1, -1, and 0 respectively. The numerical scores are then cumulated overtime to get to the cumulative scores for all the states and over time.

Our approach to the measurement of employment protection is novel and of particular importance in the labour law research. This index brings several new features as compared to that of the previous index. As discussed above, the main index used in the previous empirical research is the Besley and Burges Index (BBI), which is based on legislation existing on paper. The BBI does not take into account the implementation aspect of the labour laws. The critics of the Besley and Burgess Index have often cited this limitation to invalidate its findings along with other studies using the same approach. To capture the implementation directly, instead of relying on laws existing on paper, we relied on their actual implementation through the court of law. Our index is a time variant index enabling us to include fixed effects in the econometric model. The previous classification of states by Gupta et al. (2007) is time invariant indicator, which forces the research to estimate random effects model, since the software package STATA do not accept the same in presence of a time in-variant independent variable. Last but not least, we develop two separate Indices of EPL: broader measure and specific measure. The broader measure of EPl is based on all the eight sections under Chapter 5A and 5B of the IDA, 1947 such as Section 25-B, 25-F, 25-C, 25-FF, 25-O, 25-FFF, 25-M, and 25-N. On the other hand, the specific measure of EPL takes into account wage-related court judgments only. We show examples of the court judgments reviewed and categorized by us for our study.

The cumulative scores are first used to draw a state level classification, categorising the states into pro-worker, pro-employer, and neutral. The state classification is used to perform descriptive analyses of our variables of interest.

Next, we use the time-variant state-wise cumulative scores as an independent variable in econometric regressions to find the effect of EPL on wages or emoluments. Due to very limited number of court judgments for the recent two years of our sample, i.e. 2014 and 2015, we drop these time-periods and restrict our econometric analysis to the time-period 1999-00 to 2013-14. As far as our econometric analysis is concerned, we run both fixed effects model and random effects model. We perform Hausman test and report its p-values to help reader make the right choice between the two sets of the results.

We use a set of control variables including number of strikes, fixed capital per worker and net value added, alternatively in different regressions depending upon the dependent variable given in the particular regression. We use all these three variables as controls when our dependent variables is wage or emoluments per worker, while we exclude the net value added in case the dependent variable is wage share or emolument share. The fixed capital per worker controls for technology. We expect a positive association between fixed capital and wages or emoluments per worker, as it increases labour productivity. However, its effect is expected to have a negative effect on wage or emolument shares in output. A higher fixed capital per worker reflects capital intensity or relatively more use of capital than worker as compared to cases where fixed capital per worker is lower. The higher the capital intensity, the higher would be the total contribution of capital to the production. Thus, high fixed capital per worker is likely to bring down share of wages or emoluments in real output. The net value added accounts for overall health of the economy. It also captures the market demand in the economy. Finally, the number of strikes is expected to have a positive association with daily wages per worker or share of wages in output. Higher number of strikes shows larger activism on the part of labour unions. The labour union activism should theoretically strengthen the position of labour and boots its bargaining power. If that is true, then higher number of strikes can lead to increase in wages.

We collect our economic variables from ASI, Labour Bureau, Government of India, EPWRF, Indiastat, and CMIE States of India. To convert nominal figures into real figures, we use WPI and CPI, as discussed in the methodology section. The data on court judgments was collected from Ligitquest.com and Legalcrystal.com. The missing values in the economic data were filled by interpolation method using arithmetic mean of the preceding and the succeeding numbers.

From our descriptive analysis, we find that the share of real wages in total real output has declined continuously since 1990-91 to 2013-14. The decline is witnessed both in pro-worker and pro-employer states, irrespective of whichever index we use for state classification. We raised the question of what explains the declining share of real wages in total real output and investigated it by examining the trends in relevant variables that are theoretically lined to it. We attribute the problem to four main factors including rise of capital intensity, falling trend in number of strikes by labour unions, sluggish growth of real wages and rising contractualisation. We find that monetary value of fixed capital has risen much faster than the total wage bill. The

data shows that real wages have grown very slowly both in pro-worker and pro-employer states. The sluggish growth of real wages can be explained by declining bargaining power of workers, which is reflected by falling trend on number of strikes by labour unions. The current condition of workers can be attributed to growing use of contract workers.

The comparative analysis of pro-worker and pro-employer states using court judgment index reveals that real wages and emoluments were relatively higher in the latter category of states. Moreover, these variables grew relatively faster in pro-employer states in the recent years.

However, our descriptive analysis reveals that the number of strikes by labour unions (used as a proxy for labour bargaining power) is higher in states that have witnessed more pro-worker court judgments as compared to pro-employer court judgments. This indicates that the implementation of EPL has positive effect on labour activism and thereby on the labour bargaining power.

Similarly, we find that contractual employment grew faster in pro-worker states as compared to pro-employer states. This is a surprising finding which is in contrary to our expectation. We had expected real wages to be higher in states that have registered more pro-worker court judgments. However, this paradoxical finding suggests that the pro-worker court judgments do not actually translate into a better quality of employment, rather it they are the outcome of unfair exploitation. From such explanation, we can conclude that states registering higher pro-worker judgments are actually pro-employer states and vice versa.

We also look into wage discrimination between contract and regular workers. The data reveals glaring wage discrimination. However, it suggests that the wage differentials between regular and contract workers have narrowed down over time, especially in the recent years. We find that the wages of regular workers grew relatively faster in pro-employer states. However, the trajectories on wages of contract workers are same across pro-employer and pro-worker states. We attribute the overlapping trajectories on wages of contract workers across pro-worker and pro-employer states to the fact that these workers fall outside the purview of labour laws, and the distribution of their wages is not influenced by differences in employment protection.

The results from various sets of our regression analyses are slightly surprising. As far as the effect of EPL on real daily wages per worker and real emoluments per worker are concerned, we find a negative effect. However, on the other hand, we find a positive effect of EPL on share of

real wages or real emoluments in real output. We observe more or less theoretically consistent coefficients on control variables including real fixed capital per worker (proxy for technology), number of strikes (proxy for labour union activism), and real net value added (a proxy for market demand for goods and services). Further, we find positive association between EPL and number of strikes by labour unions, with the later serving as a proxy for labour bargaining power. We observe relatively more consistent results using the specific measure of EPL, which is based on wage disputes alone. Overall, the results drawn using the overall measure of EPL are relatively weaker and inconsistent. The difference in the results from the two measures of EPL was well expected in advance. As this study focuses particularly on wage aspects of the labour market, the specific measure of EPL constructed solely based on wage disputes ought to be more applicable than the overall measure of EPL taking into account disputes of other nature also.

The most surprising element in our empirical results is that of the negative coefficients on real daily wage or emolument per worker even as the effect of EPL on share of wages or emoluments in output is positive. Given the positive effect of EPL on wage or emolument shares, the coefficients on daily wage per worker must ideally be positive. Otherwise, it is difficult to justify the positive effect of EPL on wage shares or emolument shares. It may be noted that the empirical results pertaining to real wage or emolument per worker consistent with the descriptive analysis performed in the previous chapter, where we saw a relatively lower trajectories for states with greater number of pro-worker court judgments. On the other hand, the empirical results pertaining to wage or emolument shares do not match with our observations in the graphical analysis. This leaves a research gap for future research. However, overall, our results suggest that the judicial outcomes of the labour disputes do influence the dynamics of labour market parameters significantly. Interestingly, the results from our robustness analysis using previous Indices of EPL along with share of real wages or emoluments in real output as dependent variables in alternative regressions show that results are theoretically consistent and similar to the findings from our own index. Therefore, we would like to focus on the same set of results to derive the policy implications.

6.2 Policy Implications

We analyse the results of our study in the backdrop of the labour market segmentation theory, which we widely discussed in the first chapter, to derive policy implications. India’s EPL regime

is dual in nature in that it provides for separate set of rules for regular and contract workers. Although, on paper, the use of contract workers is allowed only in non-core and seasonal business activities, its share grew sharply, indicating that it is being used even in core activities. While the neo-liberal line of thought would attribute the contractualisation of employment to lack of numerical flexibility due to the alleged rigidity of the labour laws, the application of segmented labour market theory leads us to a slightly different conclusion. By keeping contract workers out of the ambit of most of the pro-worker labour laws, India's EPL regime creates cost differentials associated with contractual and regular labour. Employers can use the cost differential for profit maximisation by minimizing the use of regular workers and maximising that of the contract labour, which seems to be actually happening in the formal manufacturing sector, as reflected in the growing trend of contract workers. Why contract workers face wage discrimination despite their growing demand in the market? The answer to this question lies in our conceptual framework regarding the role of EPL in wage determination, combined with the segmented labour market theory. As we demonstrated, the EPL influences the bargaining relation between labour and employer through insider and outsider mechanism. The turnover costs associated with EPL creates extra bargaining power for workers, which translates to some extent into better working conditions including relatively higher wages and decent social security. The lack of regulation over contract labour enables the employer to have disproportionate control over wage determination, which it leverages for profit maximization. In this context, as the labour market segmentation suggests, even if the marginal productivity of contract labour is similar to that of the regular worker, still they can face discrimination in terms of wages and working conditions. Can market forces eliminate the dualistic labour market segmentation in absence of labour regulation? The end to the segmentation would mean either full contractualisation or absolute regularisation. In the long-run, market forces can induce full contractualisation, marking the end of the segmentation. However, that would lead us towards the absolute deregulation of labour, which can have negative welfare consequences backfiring the economy through fall in consumption expenditure in the long-run. Is it possible to mitigate the effects of the labour market segmentation using active labour market policies in Indian context? One of the approaches under active labour market policy would be to boost labour productivity in the lower labour market segment by investing in human capital. Using insights from the labour market segmentation theory, we arrive at the conclusion that the success of the

active labour market policy in mitigating the effects of segmentation depends on the nature and level of divergence of regulation between contractual employment and regular employment. Too much strictness in numerical flexibility in case of formal employment, and cost free hiring and firing model in case of contract labour would undermine the success of active labour market policies in curbing segmentation. On the other hand, extra bit of flexibility in hiring and firing of regular workers and more regulation of contract labour would encourage formalisation and avoid over-dependence of contract labour, besides reducing wage and other forms of discrimination between the two types of labour inputs.

6.3 Limitations of the Study

We identify the following limitations of our study and advise the readers to take them into account while making any inferences based on our findings. First, our data regarding court judgments must be treated as a sample from a large number of labour disputes, as we restrict our data collection to state high court judgments only. There should be other court judgments from lower courts, which could not be retrieved from the available sources. Similarly, we are not certain whether the online search engines we employed for retrieval of court judgments account for 100 per cent of the total number of the actual number of court judgments. However, we tried our best to not miss to retrieve any available relevant court judgments on legal search databases. More importantly, while due caution was taken in the interpretation of the nature of the court judgments, still there are chances of error in it, though it is likely to be randomly distributed across the states or over time. Last but not least, robustness checks with high degree of data granularity must be considered before drawing final policy implications.

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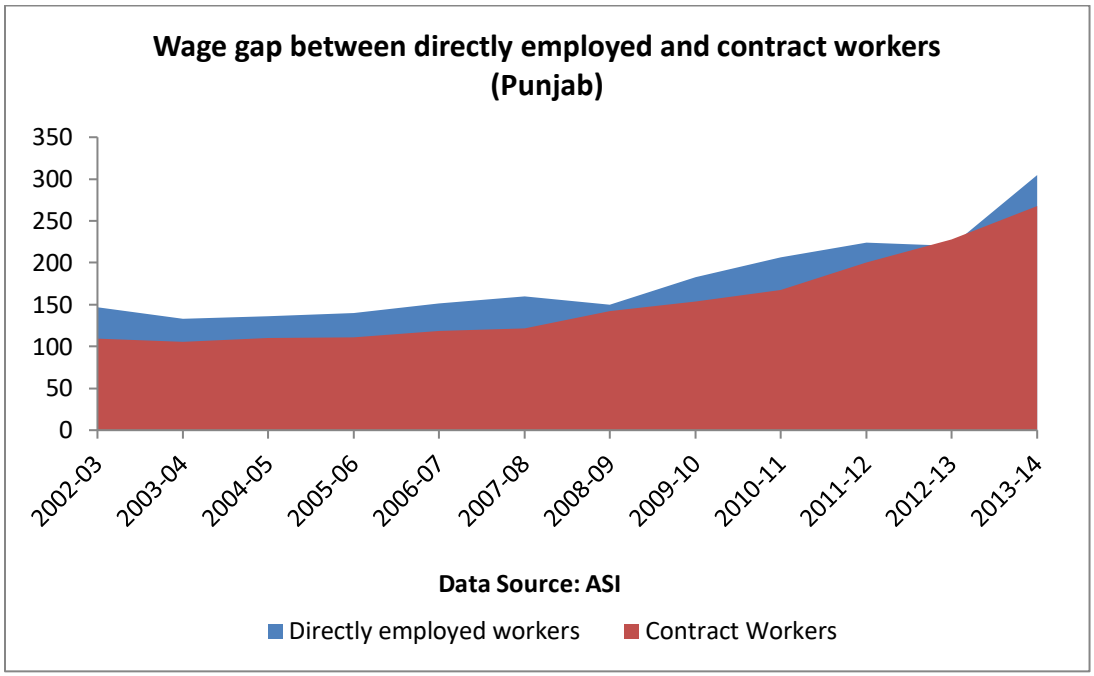
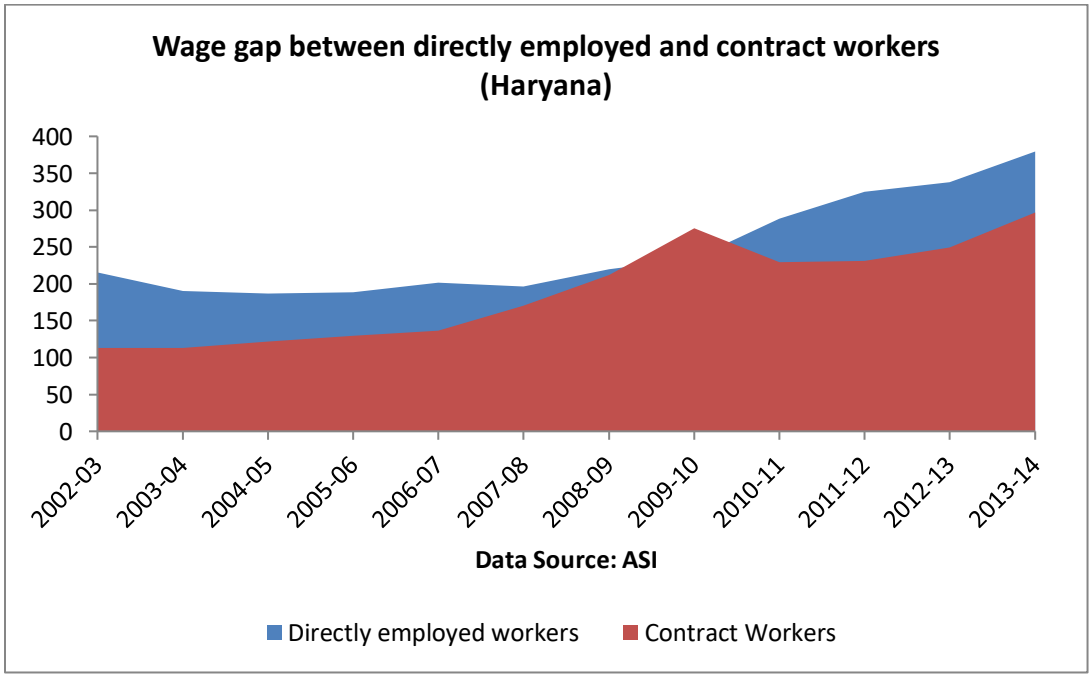
Appendices and Annexures

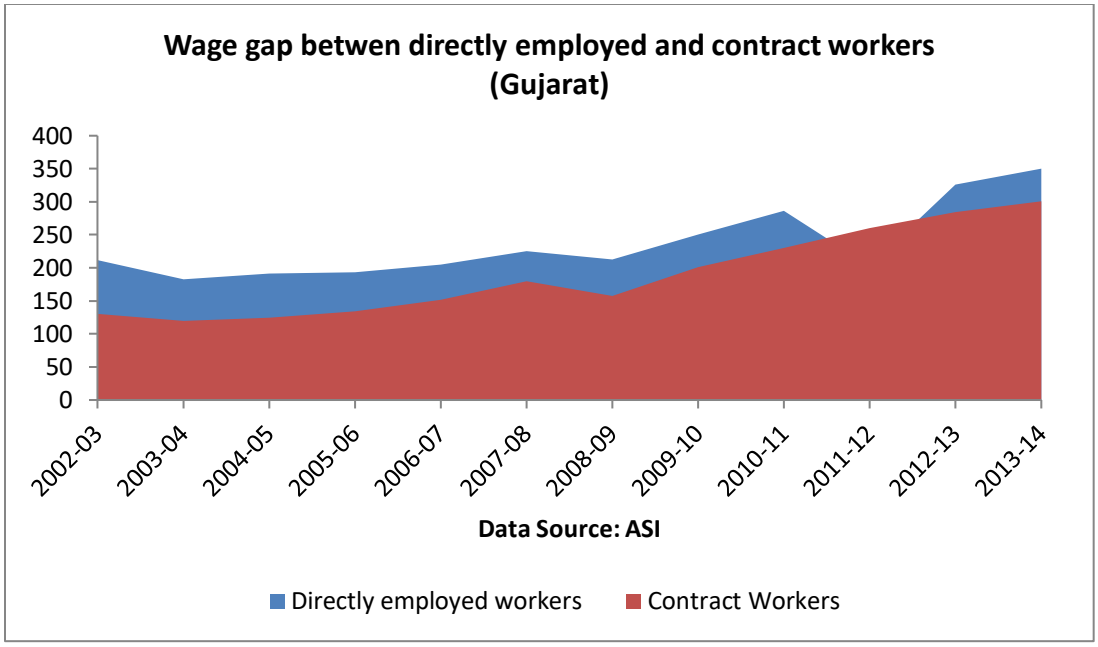
Appendix A1: Wage gap between directly employed workers and contract workers in Punjab.



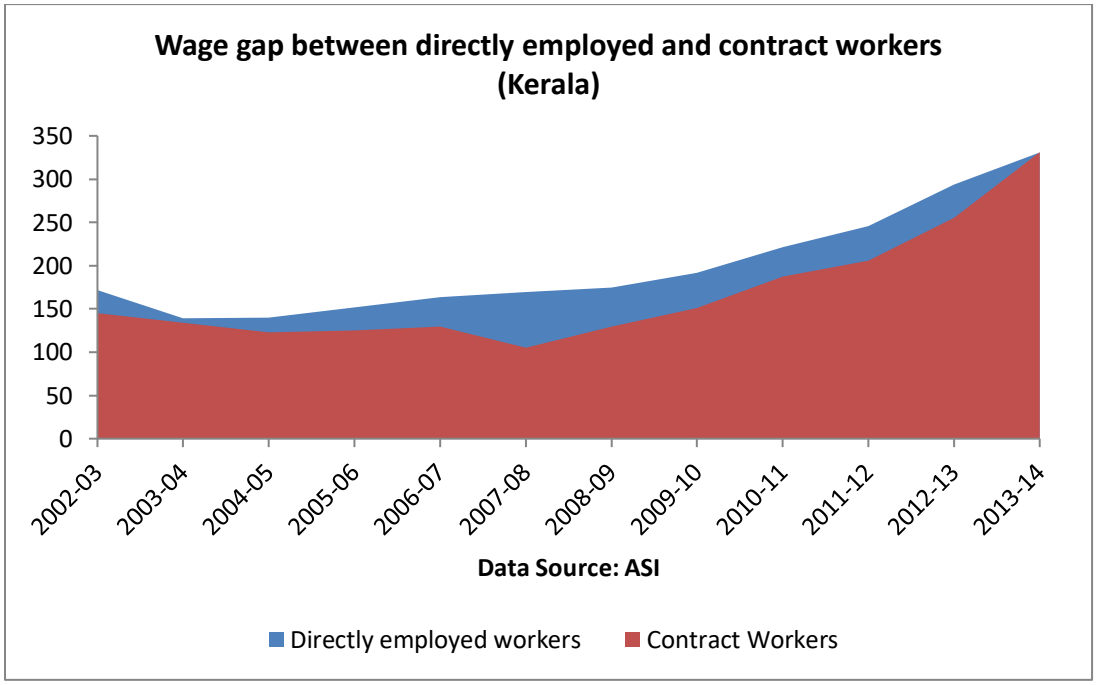
Appendix A2: Wage gap between directly employed workers and contract workers in Haryana.



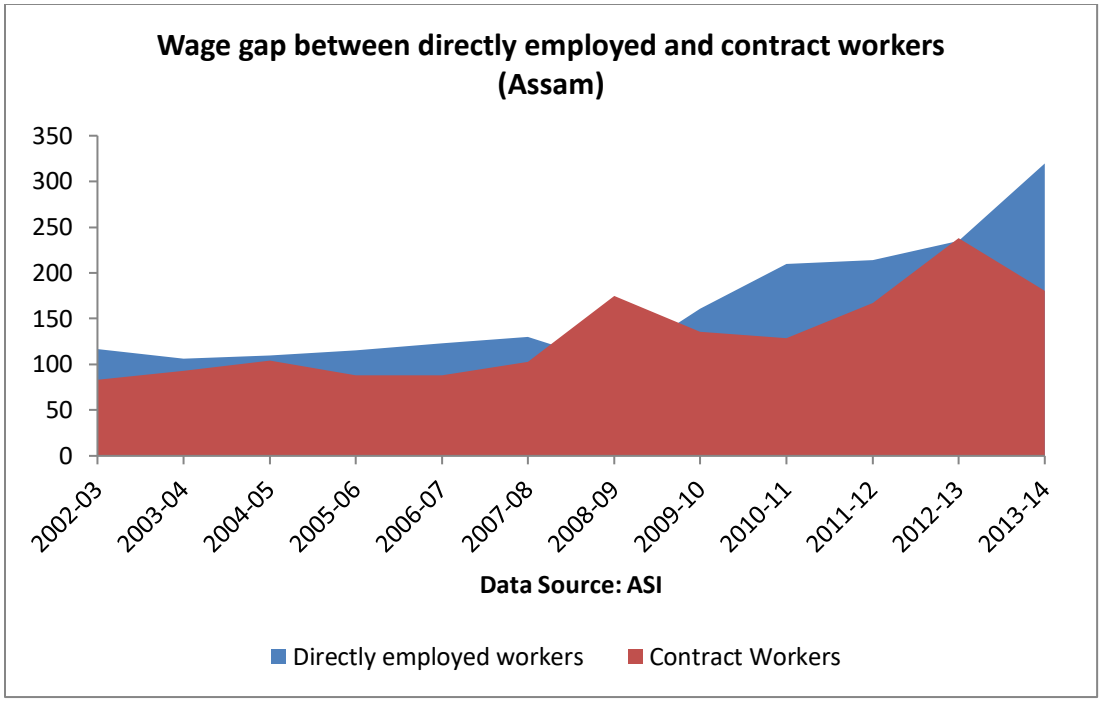
Appendix A3: Wage gap between directly employed workers and contract workers in Gujarat.



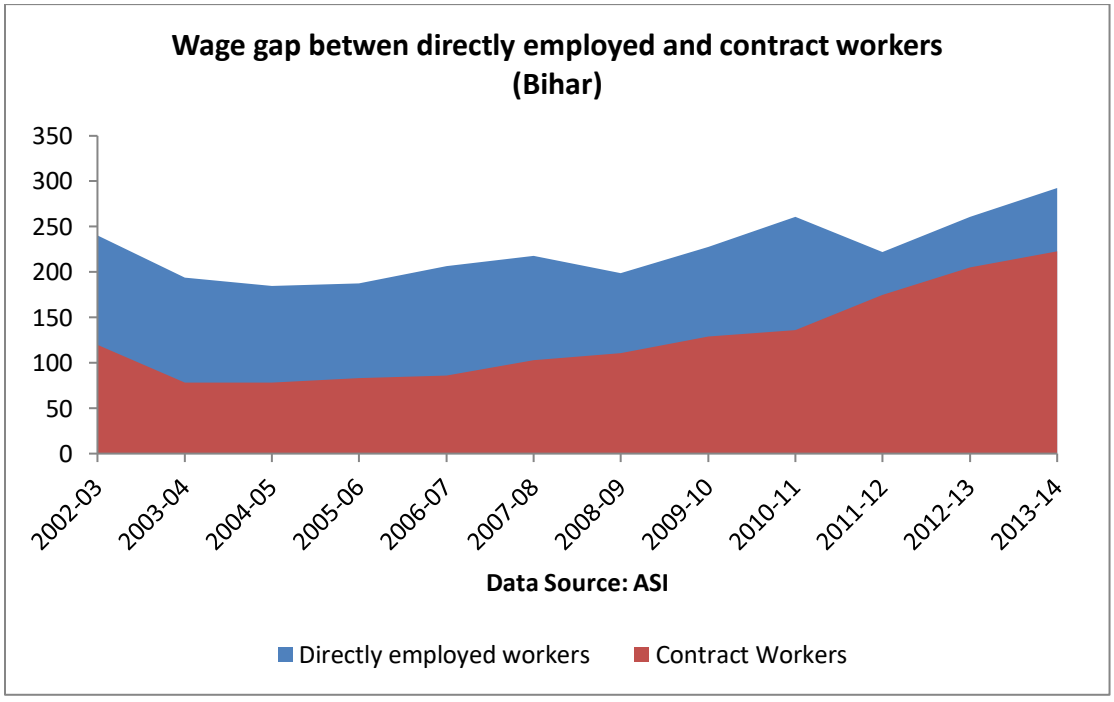
Appendix A4: Wage gap between directly employed workers and contract workers in Kerala.



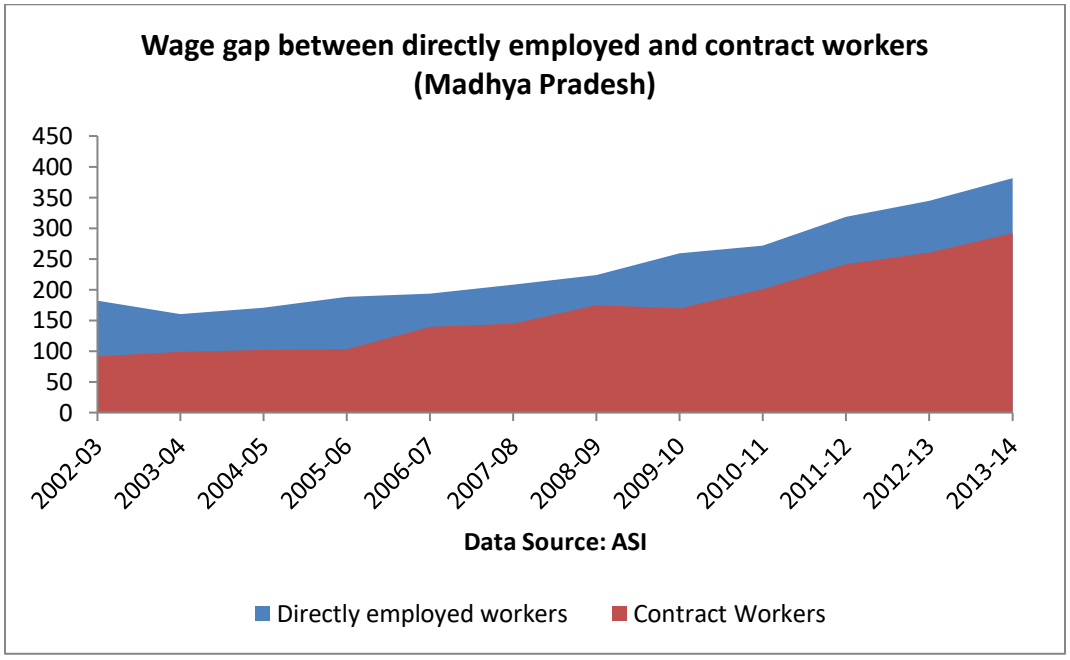
Appendix A5: Wage gap between directly employed workers and contract workers in Assam.



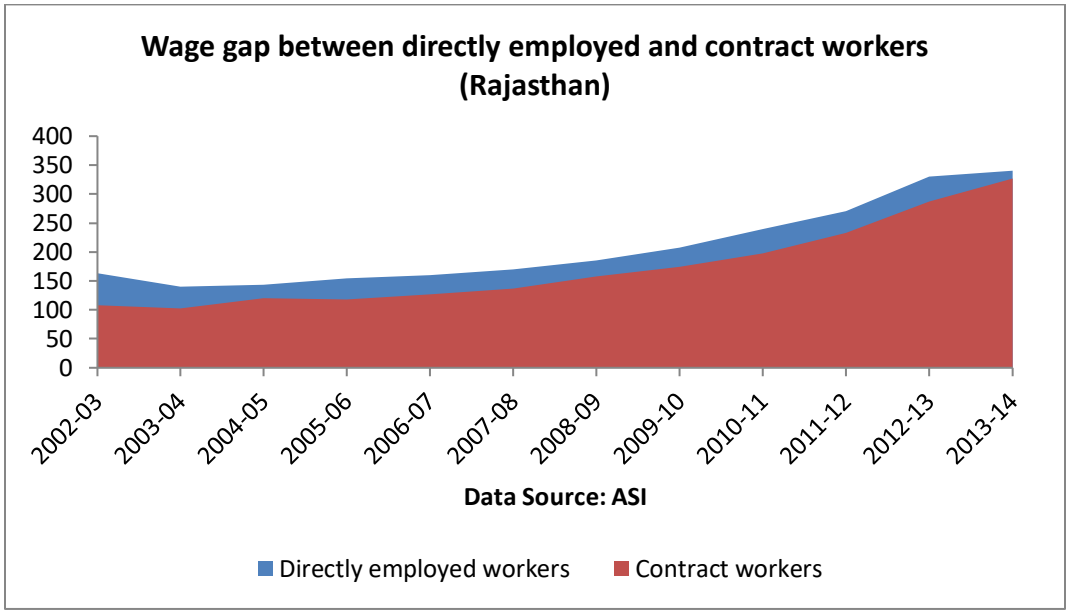
Appendix A6: Wage gap between directly employed workers and contract workers in Bihar.



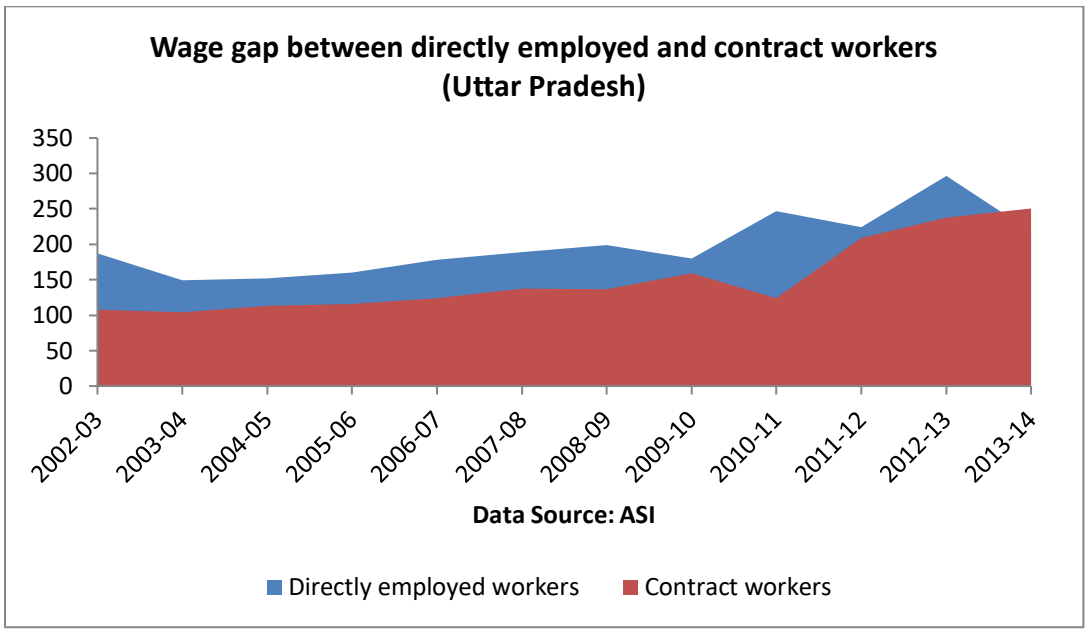
Appendix A7: Wage gap between directly employed workers and contract workers in Madhya Pradesh.



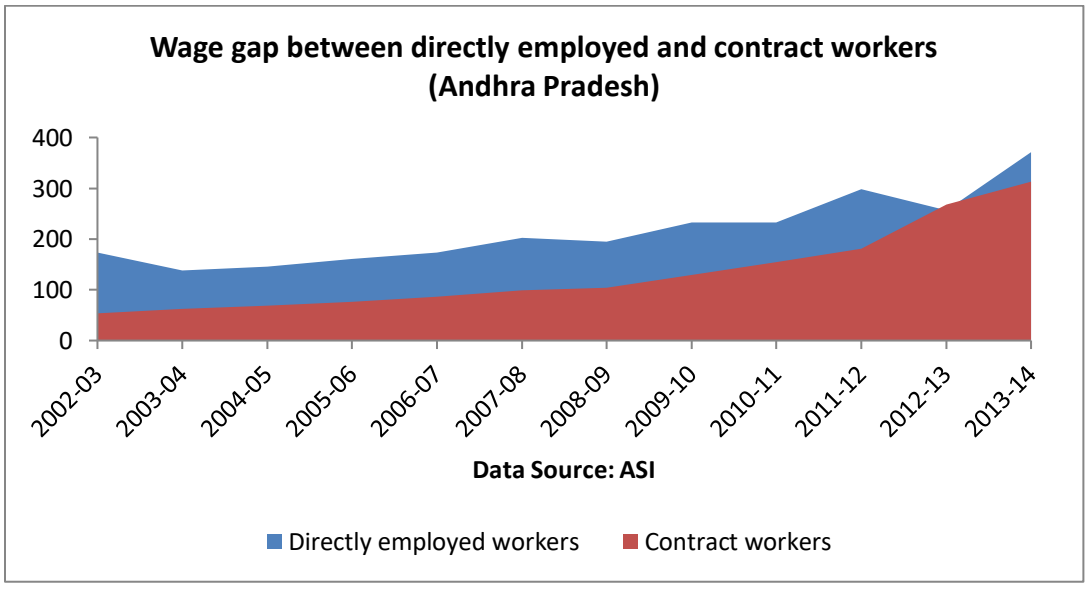
Appendix A8: Wage gap between directly employed workers and contract workers in Rajasthan.



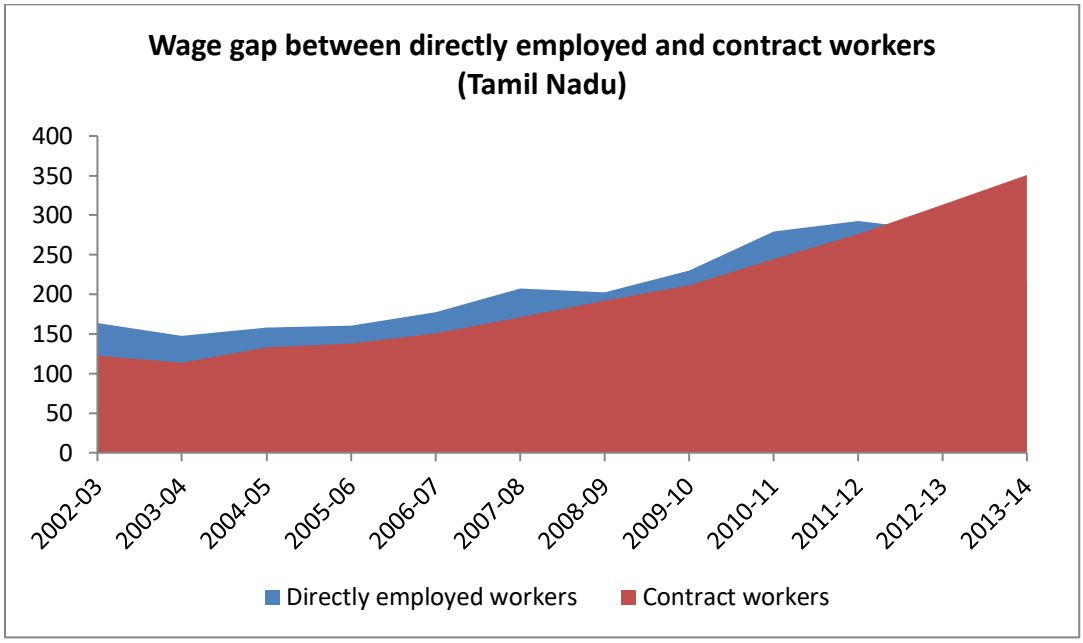
Appendix A9: Wage gap between directly employed workers and contract workers in Uttar Pradesh.



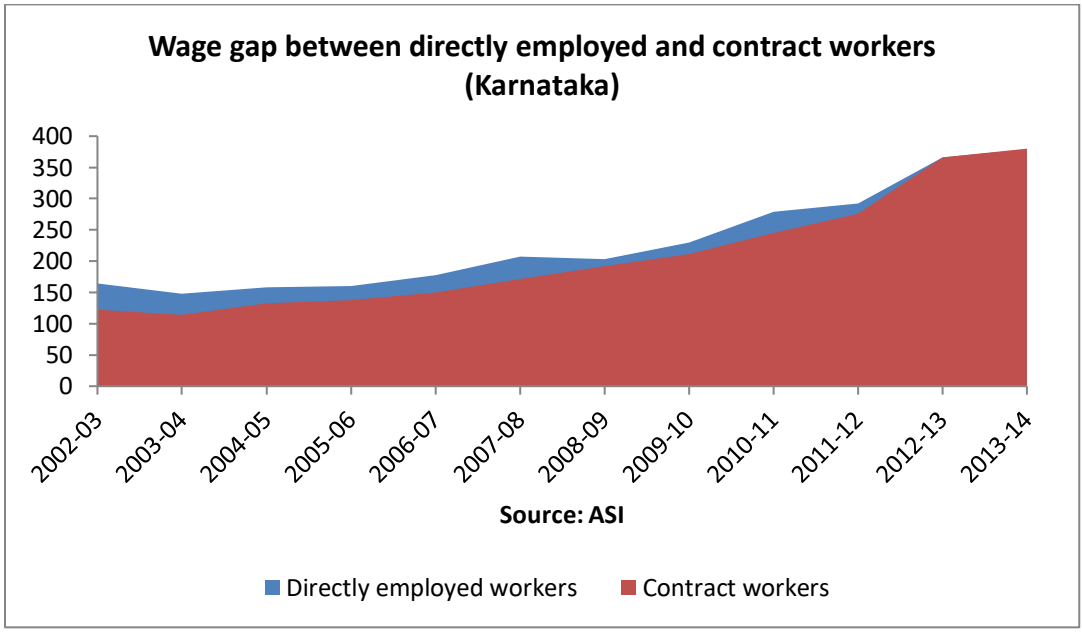
Appendix A10: Wage gap between directly employed workers and contract workers in Andhra Pradesh.



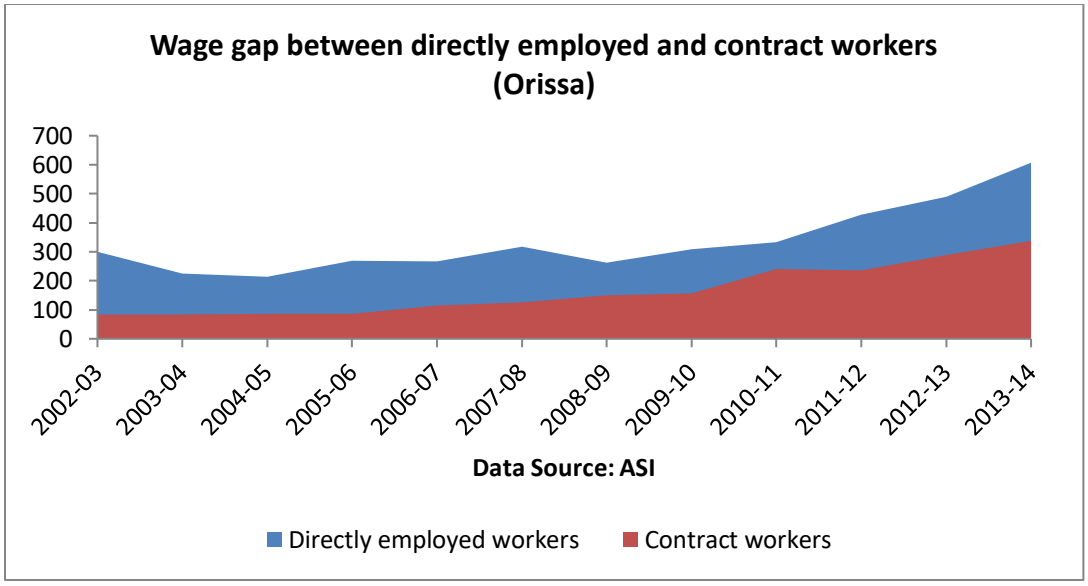
Appendix A11: Wage gap between directly employed workers and contract workers in Tamil Nadu.



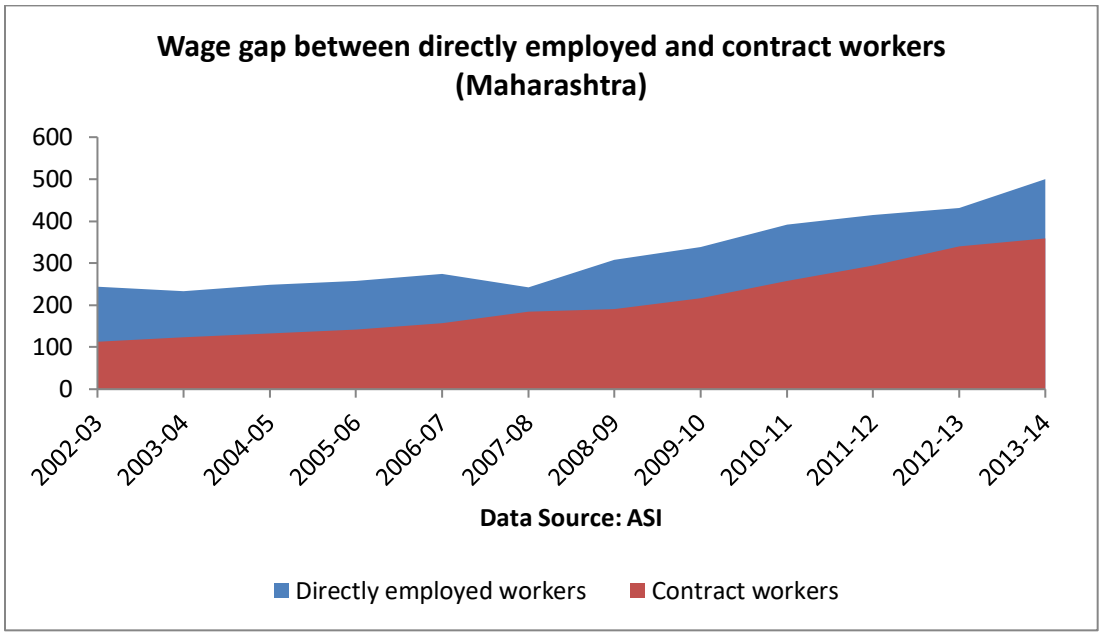
Appendix A12: Wage gap between directly employed workers and contract workers in Punjab.



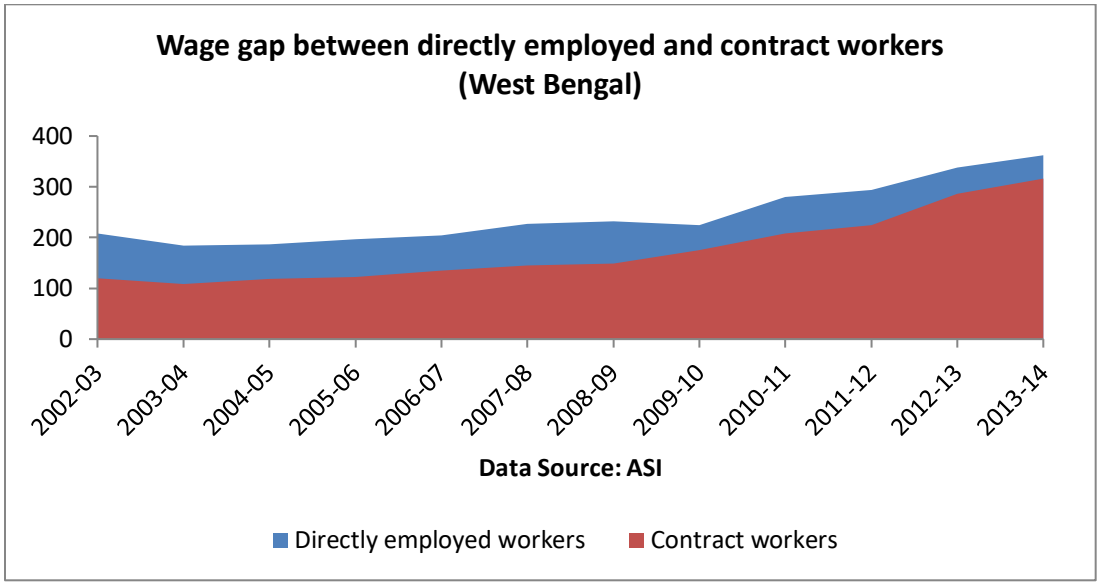
Appendix A13: Wage gap between directly employed workers and contract workers in Orissa.



Appendix A14: Wage gap between directly employed workers and contract workers in Maharashtra.



Appendix A15: Wage gap between directly employed workers and contract workers in West Bengal.



Appendix B1: State-wise court judgments resolved under various sections of the Chapter VA and Chapter VB of the Industrial Disputes Act, 1947.

ST	Year	25B	25F	25C	25FF	25O	25FFF	25M	25N	Pro-worker	Pro-employer	Neutral	CS(OCJ)	CS(WJ)
AP	1999		3						1	2	1	1	1	-1
AP	2000		4				1			3	2		2	0
AP	2001		6		1					0	6		-4	-1
AP	2002		8		1					4	5		-5	-4
AP	2003		5			1			1	4	2		-3	-4
AP	2004	2	3							2	2		-3	-4
AP	2005	1	3			1		1	1	1	3		-5	-5
AP	2006	1	4							3	1		-3	-7
AP	2007	1	5							2	3		-4	-6
AP	2008		2							0	2		-6	-7
AP	2009												-6	-7
AP	2010		3		1					1	2		-7	-7
AP	2011												-7	-7
AP	2012		2							1	1		-7	-7
AP	2013												-7	-7
AP	2014												-7	-7
AP	2015												-7	-7
WB	1999		1					1		0	1	1	-1	0
WB	2000		4						1	2	2		-1	1
WB	2001		2							1	1		-1	-1
WB	2002		2							2	0		1	-1
WB	2003		3			2		1		3	1	1	3	-1
WB	2004	1	1						1	2	0		5	0
WB	2005	1	4							1	3		3	-1
WB	2006	2	1							1	0	1	4	-1
WB	2007												4	-1
WB	2008	1	0							1	0		5	-1
WB	2009												5	-1
WB	2010												5	-1
WB	2011												5	-1
WB	2012		2							1	1	0	5	-1
WB	2013												5	-1
WB	2014		1							1	0	0	6	0
WB	2015												6	0

GUJ	1999	1	7		1					3	5		-2	-2
GUJ	2000	4	16	1						9	7		0	1
GUJ	2001	1	5			1			1	3	3		0	-2
GUJ	2002	1	7							6	1		5	1
GUJ	2003		6						1	4	3		6	3
GUJ	2004		5		1					4	0	1	10	5
GUJ	2005	5	12						1	9	3		16	8
GUJ	2006	1	7						1	5	2	0	19	6
GUJ	2007	5	9	1					1	6	3	1	22	8
GUJ	2008	1	3		1	1				3	1		24	5
GUJ	2009		2							0	2		22	4
GUJ	2010												22	4
GUJ	2011		7							3	3		22	1
GUJ	2012		5							3	2		23	0
GUJ	2013	1	1							1	0		24	-1
GUJ	2014		1							1	0		25	0
GUJ	2015		3							2	1		26	1
MAH	1999	1	5						2	2	5		-3	-5
MAH	2000		15		2		1		5	4	12		-11	-8
MAH	2001		10		1	2		1	4	7	8		-12	-11
MAH	2002		10				1		1	5	5		-11	-13
MAH	2003	2	7		1				0	2	6		-15	-17
MAH	2004	1	9		2				3	6	4		-13	-18
MAH	2005	3	11		1		1		2	6	7	1	14	-16
MAH	2006	1	7		1	1	1	1	1	5	4		-13	-16
MAH	2007	4	13		2	2	3		1	7	7		-13	-19
MAH	2008	6	11	1	1	1		1	2	7	6	1	-12	-18
MAH	2009	2	9			1			1	1	9		-20	-23

MAH	2010		4						3	5	1		-16	-27
MAH	2011		2		1	1	2		1	2	1		-15	-25
MAH	2012		1			1			1	0	2		-17	-26
MAH	2013	1	5						0	7	2		-12	-23
MAH	2014		5						1	4	1		-9	-22
MAH	2015	3	8						1	2	6		-13	-26
RAJ	1999		5							2	3		-1	2
RAJ	2000	4	17							10	8		1	0
RAJ	2001	1	14						1	11	3		9	4
RAJ	2002	1	13	1						6	7		8	5
RAJ	2003		7							1	6		3	-2
RAJ	2004	1	6							4	2		5	-6
RAJ	2005		14							10	4		11	-5
RAJ	2006	3	10							2	8		5	-11
RAJ	2007		10							5	5		5	-17
RAJ	2008												5	-17
RAJ	2009		6							4	2		7	-18
RAJ	2010												7	-18
RAJ	2011												7	-18
RAJ	2012												7	-18
RAJ	2013												7	-18
RAJ	2014												7	-18
RAJ	2015		6	1			3		3	2	5		4	-17
MP	1999		1						1	2	0	0	2	1
MP	2000	1	5			1				3	3	1	2	-2
MP	2001	1	3		1			1	1	2	4	0	0	-1
MP	2002	2	4							3	1	0	2	-3
MP	2003		4			1				4	1	0	5	-1
MP	2004												5	-1
MP	2005		2			1		1	1	3	1	0	7	0

MP	2006	1	2							1	1	0	7	-2
MP	2007												7	-2
MP	2008		3		1	5	1		1	5	4		8	-4
MP	2009	1	3						1	2	0	1	10	-5
MP	2010												10	-5
MP	2011												10	-5
MP	2012	2	1		1				1	0	3	0	7	-5
MP	2013		2							2	0	0	9	-4
MP	2014	1	2							1	1	0	9	-4
MP	2015		4						2	3	1	0	11	-4
TN	1999		5		1	1	1		1	5	1	0	4	0
TN	2000		6						1	2	4	0	2	-3
TN	2001	1	5					2	1	4	4	0	2	-3
TN	2002	2	6	1	1			1		2	5	0	-1	-5
TN	2003	1	5		2	1	1			6	2	0	3	-4
TN	2004	1	3	1		2		1		3	2	0	4	-7
TN	2005		4		1		1		2	2	3	0	3	-8
TN	2006	2	1	1		1			2	2	2	0	3	-8
TN	2007	2	7							5	2	0	6	-7
TN	2008	3	4			1			2	3	3	0	6	-8
TN	2009		6		1	1	1			3	4	0	5	-9
TN	2010		2	1	1		1			1	1	0	5	-10
TN	2011		1					1	1	2	0	0	7	-9
TN	2012	1	6							6	0	0	13	-4
TN	2013		4							2	2	0	13	-5
TN	2014												13	-5
TN	2015												13	-5
KNT	1999	1	3	1	2	1			1	4	2	0	2	1
KNT	2000	2	3							0	4	0	-2	-3
KNT	2001		3	1		1				2	3	0	-3	-4
KNT	2002	1	3		1		1			3	1	0	-1	-5
KNT	2003	1	5							1	4	0	-4	-7
KNT	2004		1	1		2		1		1	3	0	-6	-7
KNT	2005	1	1						1	0	2	0	-8	-8
KNT	2006	1	3			4	1			3	3	0	-8	-9

KNT	2007	3	8	2	3	4	4		4	4	9	0	-13	-9
KNT	2008	2	4				1			0	4	0	-17	-12
KNT	2009	3	2			1		1	1	2	2	0	-17	-13
KNT	2010		1			1		1	1	2	0	0	-15	-13
KNT	2011		4		1					1	4	0	-18	-17
KNT	2012		2							0	2	0	-20	-18
KNT	2013												-20	-18
KNT	2014	1	3							1	2	0	-21	-20
KNT	2015		1							0	1	0	-22	-21
UP	1999	1	3		1		2			2	3	0	-1	0
UP	2000		3				1			2	1	0	0	1
UP	2001		3				1			1	2	0	-1	0
UP	2002	1	8			1	1		1	3	5	0	-3	1
UP	2003	1	8			1	1		1	4	6	0	-5	1
UP	2004		13		1	1	2		1	7	7	0	-5	-3
UP	2005	3	7							5	3	0	-3	-4
UP	2006		1			1	1		1	1	2	0	-4	-5
UP	2007		2							0	2	0	-6	-6
UP	2008		1							1	0	0	-5	-7
UP	2009		1							0	1	0	-4	-8
UP	2010												-4	-8
UP	2011												-4	-8
UP	2012		2							0	2	0	-7	-9
UP	2013												-7	-9
UP	2014												-7	-9
UP	2015												-7	-9
ORS	1999													0
ORS	2000	1	3						1	1	3	0	-2	-1
ORS	2001	2	2							1	2	0	-3	1
ORS	2002		1			1		1	1	1	2	0	-4	1
ORS	2003		2							1	1		-4	2
ORS	2004	1	2			1				0	3	0	-7	0

ORS	2005	1	4						1	1	3	0	-9	-1
ORS	2006		1							0	1	0	-10	-2
ORS	2007												-10	-2
ORS	2008		1							0	1	0	-11	-3
ORS	2009		5							2	3	0	-12	-2
ORS	2010	2	7			1			2	7	1	0	-6	0
ORS	2011												-6	0
ORS	2012												-6	0
ORS	2013		3	1					1	2	1	0	-5	0
ORS	2014		1							0	1	0	-6	-1
ORS	2015												-6	-1
PNB	1999		1							0	1	0	-1	0
PNB	2000		2							2	0	0	1	2
PNB	2001	1	2							1	1	0	1	3
PNB	2002		1							1	0	0	4	2
PNB	2003		7							6	1	0	9	5
PNB	2004	1	4							1	3	0	7	4
PNB	2005	1	4							2	1	1	8	6
PNB	2006		8						1	7	1	0	14	10
PNB	2007												14	10
PNB	2008		1							0	1	0	13	9
PNB	2009		3							1	2	0	12	8
PNB	2010		3							0	3	0	9	8
PNB	2011		2							1	1	0	9	9
PNB	2012		4							3	1	0	7	11
PNB	2013	1	24							16	8	0	15	20
PNB	2014		19						1	11	8	0	18	17
PNB	2015		3							2	1	0	19	18

HAR	1999	1	7							4	2	0	2	1
HAR	2000		10							9	1	0	10	6
HAR	2001	2	1							2	0	0	12	7
HAR	2002		3				1			2	1	0	13	7
HAR	2003	2	6		1					3	3	0	13	4
HAR	2004	1	4		1					3	1	0	15	4
HAR	2005		3							1	2	0	14	1
HAR	2006	1	9		1	1			2	4	5	0	13	0
HAR	2007												13	0
HAR	2008		3							0	3	0	10	-3
HAR	2009		2		1					1	1	0	10	-3
HAR	2010		4							3	1	0	12	-3
HAR	2011												12	-3
HAR	2012		5							4	1	0	15	-1
HAR	2013	3	31		1				1	24	7	0	32	2
HAR	2014	5	50						1	31	20	0	43	10
HAR	2015	3	11						1	10	1	0	52	13
ASM	1999	1	1							1	0		1	1
ASM	2000		1					1		1	0		2	1
ASM	2001												2	1
ASM	2002												2	1
ASM	2003		5						1	4	2		4	2
ASM	2004		3							1	2		3	2
ASM	2005		2							1	1		3	2
ASM	2006												3	2
ASM	2007	1	2							0	2		1	1
ASM	2008	1	2							0	2		-1	1
ASM	2009												-1	1

ASM	2010												-1	1
ASM	2011												-1	1
ASM	2012		3							3	0		2	4
ASM	2013												2	4
ASM	2014												2	4
ASM	2015												2	4
BR	1999		3							2	1		1	0
BR	2000	1	2						1	1	1		1	0
BR	2001		4							3	1		3	-2
BR	2002	1	4		2					2	2		3	0
BR	2003	1	2							1	1		3	-1
BR	2004		1				1			1	1		3	-1
BR	2005												3	-1
BR	2006												3	-1
BR	2007												3	-1
BR	2008		3							1	2		2	-2
BR	2009		1							0	1		1	-3
BR	2010												1	-3
BR	2011				1							1	1	-3
BR	2012	1	1							1	1		1	-3
BR	2013												1	-3
BR	2014												1	-3
BR	2015		1							1	0		2	-2
KRL	1999		1		1					1	1	0	0	0
KRL	2000		1							0	1		-1	-1
KRL	2001		1							1	0		0	-2
KRL	2002		3			1			1	2	2		0	-3
KRL	2003												0	-3

KRL	2004		2							2	0		2	-1
KRL	2005		2							1	1		2	0
KRL	2006		1							0	1		1	-1
KRL	2007												1	-1
KRL	2008		1							1	0		2	-1
KRL	2009												2	-1
KRL	2010												2	-1
KRL	2011		1							0	1		1	-1
KRL	2012				1	1				1	0		2	-1
KRL	2013		6		1		1			4	2	1	4	2
KRL	2014		2							1	1		4	4
KRL	2015		4				1			1	3		2	4

Source: These are the author's calculations. The PDF files of each court judgments were downloaded from Ligitquest.com and Legalcrystal.com.

Note1: The first column represents the state codes. The state codes must be read as follows: AP (Andhra Pradesh), WB (West Bengal), GUJ (Gujarat), MAH (Maharashtra), RAJ (Rajasthan), MP (Madhya Pradesh), TN (Tamil Nadu), KNT (Karnataka), U.P (Uttar Pradesh), ORS (Orissa), PNB (Punjab), HAR (Haryana), ASM (Assam), BR (Bihar), KRL (Kerala).

Note2: CS (OCJ), CS (WJ) represent cumulative sum (overall court judgments), and cumulative sum (wage-related judgments) respectively.

Note 3: The rows highlighted in yellow indicate that no court judgment was found for the given year and state.