

Impact Assessment Study of the Labour Reforms undertaken by the States



V. V. Giri National Labour Institute
Noida

July 2023



Indian Institute of Public Administration
New Delhi

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Preface

This document is an improvised version of the interim report on 'Impact Assessment Study of the Labour Reforms undertaken by the States' published in August, 2021. It examines legal and administrative labour reforms and their impact on employment generation, formalization, growth of regular workers, growth of relatively larger manufacturing firms, etc. in select States of India. Within the pages that follow, the study seeks to explore the intricate interplay between the select laws governing labour, the administrative frameworks that shape them, and their consequences on fostering productive and inclusive societies.

The world we inhabit today stands at the precipice of rapid social, technological, and economic transformations that the world of work is witnessing unprecedentedly. As societies evolve, so too must the legal and administrative systems that underpin them. The dynamic nature of labour markets necessitates a comprehensive understanding of the intricate web of policies, regulations, and institutions that govern employment relationships and shape the future of work.

Throughout history, labour reforms have played a pivotal role in reshaping societies, safeguarding workers' rights, and fostering economic growth. From the early industrial revolutions to the present digital era, the ever-evolving nature of work necessitates reforms in the existing legal and administrative frameworks. This research report serves as a compass, guiding us through the complexities of legal and administrative labour reforms with a specific focus on their implications for employment generation and improvements in the employment quality. By examining state-specific cases, analysing statistical data, and drawing upon scholarly discourse, the study aims to shed light on the multifaceted impact of such interventions. As we delve into this research report, it is vital to acknowledge the intrinsic link between labour reforms and employment generation in the formal economy. The reforms undertaken by States governments have the potential to reshape labour markets and facilitate formalisation in the economy.

The readers are invited to explore the intricacies of legal and administrative labour reforms and their impact on employment as well as economy. With unwavering dedication and a commitment to fostering positive change, let us now delve into the details of the research and its findings.



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List of Abbreviations

ASI	: Annual Survey of Industries
ASSOCHAM	: Associated Chambers of Commerce and Industry of India
BFSI	: Banking, Financial Services and Insurance
CII	: Confederation of Indian Industry
CLRAA	: Contract Labour (Regulation and Abolition) Act, 1970
CPI-IW	: Consumer Price Index – Industrial worker
CSO	: Central Statistical Organization
DID	: Difference-in-Difference
DL	: Dispute Settlement Legislation
EC	: Economic Census
EPL	: Employment Protection Law
EUS	: Employment and Unemployment Survey
FA	: Factories Act, 1948
FICCI	: Federation of Indian Chambers of Commerce and Industry
ICLS	: International Conference of Labour Statistician
IDA	: Industrial Disputes Act, 1947
FTE	: Fixed Term Employment
MoSPI	: Ministry of Statistics and Programme Implementation
MSMEs	: Micro, Small and Medium Enterprises
NCEUS	: National Commission for Enterprises in the Unorganized Sector
NIC	: National Industrial Classification
NSSO	: National Sample Survey Organization
OECD	: Organization for Economic Co-operation and Development
OFRLR	: Online Filing of Registration, License and Annual Returns
PHDCCI	: PHD Chamber of Commerce and Industry
PLFS	: Periodic Labour Force Survey
SCS	: Self Certification Scheme
SWCS	: Single Window Clearance System
TFP	: Total Factor Productivity
TOR	: Terms of Reference
TIS	: Transparent Inspection System
UNAES	: Unincorporated Non-Agricultural Enterprises Survey
UPSS	: Usual Principal and Subsidiary Status



1.1 The Context

The debate on India's labour market reforms has acquired a new vigour and significance over the last few years as many Indian States have undertaken substantive legislative and administrative reforms in their respective labour and industrial relations laws. The objective of these reforms has been to deregulate the labour market as it is widely believed that India's labour regulatory framework has been perceived as rigid compared to international standard and has hindered the growth of output, investment and employment expansion, particularly in the formal manufacturing sector (Besley and Burgess, 2004; Dougherty, 2009; Roy et. al 2020). These reforms were also meant to improve the ease of doing business and thereby facilitate higher domestic and foreign investment inflows and enhance the productivity, competitiveness and sustainability of Indian enterprises. The reforms are also meant to improve the ease of living in India and to reap the demographic dividend as it is expected that competitive and sustainable enterprises will contribute to achieve robust economic growth and help in creation of more formal jobs with better wages, conditions of work and social security coverage for the workers, thereby addressing poverty and inequality in the labour market.

The Economic Survey (2018-19) provides latest evidence on the impact of labour reforms undertaken by the State of Rajasthan on economic performance. The survey concludes that substantive labour and product market reforms undertaken by Rajasthan has resulted in an acceleration of economic growth by providing adequate incentives to the firms. The survey also shows that in Rajasthan there is higher growth rates of number of factories with more than 100 employees, number of workers, workers per factory, output, output per factory, total wages and wages per factory in two post reform years as compared to two pre-reform years. The success of reform in Rajasthan has prompted other State governments to undertake similar legislative and administrative reforms in recent years to liberate production units from the regulatory constraints and contribute to the growth output, investment and employment.

Therefore, time has come to assess the effect of labour reforms undertaken by a wider pool of States to generate more evidence. These evidences may take various forms – to what extent the labour reforms undertaken by States to address rigidities and high compliance norms have helped in development of businesses and creation of employment. Research evidence is also required to understand how these reforms have improved labour productivity, enhanced enterprise size, reduced informality and stimulated the overall growth in the economy. Furthermore, the impact of introduction of Fixed Term Employment (FTE)¹ in select sector/s and the impact of simplification and rationalisation of administrative machinery and procedures are yet to be formally understood. The present study is an attempt to assess the impact of selected legislative and administrative reforms undertaken by a few selected States on their businesses and overall growth in the economy so that future labour policy reform measures could be strengthened appropriately.

1 On 16th March, 2018 in exercise of the powers conferred by section 15 of the Industrial Employment (Standing Orders) Act, 1946 (20 of 1946), the Central Government has introduced in the Industrial Employment (Standing Orders) Act, 1946 (20 of 1946), in Schedule, in item 1, the words “fixed term employment workmen in apparel manufacturing sector and leather industry” to promote employment in export-oriented sector. This amendment is sector specific hence it is universally applicable to all Indian states that has these industries.



1.2 Effect of Labour Regulations on Economic and Labour Market Parameters

Over the last two decades reforms relating to labour legislations especially those aimed at promoting flexibility have been a topic of great debate and discussion. The supporters of labour reform agenda argue that, the existing labour regulations are complex, causing procedural rigidities in the adjustment of workforce within firms resulting in high transaction costs, inefficiency in firm operations and restraining firms to successfully operate in a competitive business environment (Table 1.1). It is further argued that the institutional rigidities caused by labour market regulations tend to affect firm's ability to expand its output and employment, restrain their freedom to respond to product market competition and thereby, discourage investment. Hence, a slew of policy measures have been adopted by the country in the last few decades to deregulate the labour market and promote flexibility. The major impetus to this reform agenda was provided by the evidence emerged from the two pioneering studies by Fallon and Lucas (1991) and Besley and Burgess (2004), which examined effects of labour regulation on employment outcomes in India.

The Fallon and Lucas (1991) study which examined the economic effects of two Central amendments² on Chapter V-B of IDA, 1947 concluded that the weighted average drop was around 17.5 percent point for the long-run demand for regular employees, at given output levels. The second study by Besley and Burgess (2004) argued that States in India with rigid labour law regimes have witnessed significantly lowered level of output, employment, investment and productivity in the organized manufacturing sector. The study also found that pro-worker labour regulation is associated with increases in urban poverty. These findings further set the tone for policy reforms³ that led to substantial changes in *de facto* execution of labour laws in the field.

Over the years, the findings of the above two studies got reinforced by other studies which provided broadly similar evidence. Notable among them are the studies undertaken by Teitailbaum (2006), Aghion, Burgess, Redding and Zilibotti (2008) and Ahsan and Pages (2007) which have used the Besley and Burgess (2004) labour regulation index to analyse the effect of labour regulation. Teitailbaum (2006), using the dataset of Besley and Burgess (2004) reanalysed and replicated the methodological procedure to support their conclusion that economic performance in some Indian States suffered as a result of stringent labour laws during the period 1958-1992. Aghion, Burgess, Redding and Zilibotti (2008) in their study argue that labour regulation in a pro-worker direction is associated with lowered output relative to regulating in a pro-employer direction. Their study found that combined delicense-labour regulation interaction coefficient is negative and significant, indicating that, when delicensing occurred, industries in States with pro-employer regulation experienced larger increases in output relative to those located in pro-worker States corroborating with the principle arguments of Besley and Burgess (2004). Ahsan and Pages (2007) in their paper, have re-coded the IDA amendments tabulated by Besley and Burgess Index (BB index). Results of Ahsan and Pagés (2007) shows that increasing use of contract labour ameliorated the adverse impact of regulations on output, but not on employment. The study suggests that, States with inflexible labour laws and costly dispute resolution mechanisms experienced lower levels of output and employment growth, than States with flexible labour laws and less costly dispute resolution mechanisms.

2 The first amendment to the Chapter V-B of the Industrial Dispute Act (1947) in 1976 stipulated that any firm employing more than 300 protected workers needed to obtain prior statutory permission from the appropriate government before it decided to close down. The second amendment to the same act in 1982 reduced the employment threshold from 300 to 100 for the firm seeking permission before its closure.

3 The finance minister in his budget speech quoting the Economic Survey (2006) stated that – various studies indicate that Indian labour laws are highly protective of labour and labour markets are relatively inflexible. These laws which are applicable only to the organised sector have restricted labour mobility, led to capital-intensive methods of production and adversely affected organised sector's long-run demand for labour. Labour being a subject in the Concurrent List, State-level labour regulations are also an important determinant of industrial performance. Evidence suggests that States, which have enacted more pro-worker regulations, have lost out on industrial production in general.

The study by Hasan, Mishra and Ramaswamy (2007) used the un-modified BB index to analyse the effect of trade reforms on the elasticity of labour demand. The study argues that there exists a positive impact of trade liberalization on labour demand elasticity in the Indian manufacturing sector. The magnitudes of these elasticities turn out to be negatively related to protection levels that vary across industries and overtime. Furthermore, the study showed that these elasticities are not only larger in size for Indian States with more flexible labour regulations, they are also impacted there to a larger degree by trade reforms.

Table 1.1: Results of Important Studies on Effects of Labour Regulations

Authors	Period covered & nature of industry data	Key findings
Besley and Burgess (2004)	1958-92 ASI state panel; 1980-97 ASI 3-digit industry panel	Pro-worker labour regulation resulted in lower output, employment, investment, and productivity in the formal manufacturing sector
Mitra and Ural (2008)	1988-2000 ASI 2-digit industry panel	Greater flexibility increases labour productivity, TFP, employment, and investment; delicensing raises labour productivity and employment only in flexible states. Trade Liberalization raises productivity more in export-oriented industries in flexible states.
Dougherty (2009)	1998-2004 ASI industry level panel	States that have undertaken more labour regulation reforms show greater employment flexibility in the form of inter-industry job flows.
Gupta et al (2009)	1980-2004 ASI 3-digit industry panel	States with relatively inflexible labour regulations have experienced slower growth of labour-intensive industries and slower employment growth after delicensing.
Goldar (2011)	2003 and 2008 ASI 2-digit industry panel	There is evidence to indicate that state-level labour reforms were one of the factors contributing to the rapid organised manufacturing employment growth
Hasan and Jandoc (2013) in Bhagwati-Panagariya	1994-2005, ASI and NSS Survey of Unorganized Manufacturing Enterprises	In labour-intensive industries, states with more flexible (inflexible) labour regulations tend to have a greater share of employment in larger (smaller) firms.
Kapoor (2016)	1999-2011 ASI 3-digit industry panel	States with more flexible labour markets show higher growth in manufacturing value added and employment, but no difference as between labour- and capital-intensive industries. Increase in share of contract labour is higher in inflexible as compared to flexible states.
Roy et al (2020)	1998-2008 ASI plant level panel	Elasticity of employment with respect to output is lower in flexible as compared to rigid states.

Source: Bhattacharjea, 2021



Gupta et. al., (2009) analyses the importance of State level regulations and their differential impact on labour intensive industries. According to their analysis of registered manufacturing firms of India, the study found that States with relatively inflexible labour regulations have experienced slower growth of labour-intensive industries and slower growth in employment. They also highlight that promoting labour intensive industries and employment may require rationalization of labour regulations governing industrial workers. Policies need to focus on labour-intensive and resource-based manufacturing in the informal sector which are constrained in growth due to a large number of laws, inspections and rules.

Contrary to the findings of the above studies which generated evidence in support of labour reforms, there are other studies which have questioned their methodology and findings. For instance, the study by Sudipta Dutta Roy (1998) which analysed the Annual Survey of Industries (ASI) data for the period 1960-61 to 1993-94 found that job security regulations (both 1976 and 1982 amendments to the IDA of 1947) have not been responsible for slowdown in employment growth. The study also argued that the actual effect of the two amendments hardly had any positive impact on employment adjustments at the industry level, due to the process of gradual liberalization of factor market which began much before than the actual pronouncement of these amendments to the IDA. Similarly, a study by Bhattacharjea (2006) questioned the coding involved in Besley and Burgess (2004) modified index or BB index. The study argued that the BB index concentrates on only one law i.e., IDA and ignores the existence of many other labour laws. The study also found that BB index uses irrelevant control variables and inadequate tests for robustness leading to fragility of their key results when state-specific time trends were included in the regression; and their omission of other important variables influencing industrial location such as the central allocation of industrial licenses and the cross-state variation in human capital and industrial relations (ibid). Therefore, Bhattacharjea (2006) concluded that policy conclusions emerging from the BB index cannot be relied upon.

The debate in support and against labour reform has not ebbed with the above set of studies. A new generation of studies which have used an alternative index to the pioneering Besley and Burgess index (2004) also provide evidence in support of labour reforms. Notable among these studies are Dougherty (2009) and follow-up studies based on it. Dougherty (2009) using a country-specific labour regulation index constructed by the Organization for Economic Co-operation and Development (OECD) for India argues that India's labour regulations for the formal sector are more stringent than OECD countries and some developing countries as well. The study also highlights that large firms become more and more capital intensive, substituting capital for labour while the same is not seen in small firms. The results also indicate that States with flexible labour laws experienced a fourteen percent improvement in total factor productivity compared to their counterparts.

Apart from the impact of labour regulations on output and employment, a number of studies have also examined their effect on variables such as linkage between informal and formal sector, on composition of employment, on job quality, wages and apparel sector. The summary findings of these studies are provided in Table 1.2.



Table 1.2: Results of Important Studies Relating to Effects of Labour Regulations on Formalization & Improvement in Employment Quality

Authors	Period covered & nature of industry data	Key findings
Sundaram, Ahsan, Mitra (2013) in Bhagwati- Panagariya	1989-2001, ASI, NSS Survey of Unorganized Manufacturing Enterprises,	Responsiveness of informal sector to formal sector employment is slightly higher in flexible states; formal sector outsourcing has a positive effect on informal sector activity [employment and output].
Rodgers and Menon (2013)	1983-2004 EUS for 5 years	Pro-worker EPL and DL amendments improved job quality (job security, likelihood of full-time work and cash wages) for women, but last two worsened for men. Wages much higher for both. Similar results for Ch.V-B, except no impact on women's wages.
Saha et al (2013)	1998-2005 ASI 3-digit industry panel	Industries in more pro-worker states more inclined to use contract labour with greater import penetration and less inclined to use contract labour with greater export orientation.
Hasan et al (2017)	2001, 2005, 2010 ASI + NSS enterprise surveys.	States with flexible labour regulations have: 1. A larger share of employment in the formal sector. 2. A lower ratio of contract to regular workers. 3. A lower share of workers with wages below state poverty line.
Hasan et al (2021)	2009-10 to 2013-14, ASI, five repeated plant-level cross sections (apparel sector only)	In pro-worker states, apparel producers employ more capital-intensive techniques, employ fewer workers (but a higher share of contract workers), produce less output, and export less.

Source: Bhattacharjea, 2021

From the above, it can be deduced that studies undertaken to understand the effect of existing labour regulations on labour market, output and investment provide a mixed results and the ongoing debate is still inconclusive. While there are more studies which provided in support of labour reforms, there are fewer studies which argued against such reforms. Given this back drop, the present study is unique as it intends to study the effect of labour reforms undertaken by the States on economic and labour market parameters in an ex-ante situation and shall compare the performance of States which have undertaken the reforms with those which have not to map the intervention effects.

1.3 Objectives of the Study

The broad objective of the study is to assess the impact of labour reforms undertaken by the States to demonstrate their benefits and identify shortcomings, if any, that can be further improved upon. The specific objectives of the study are to examine the impact of labour reforms on following select economic and labour market output and outcome indicators:

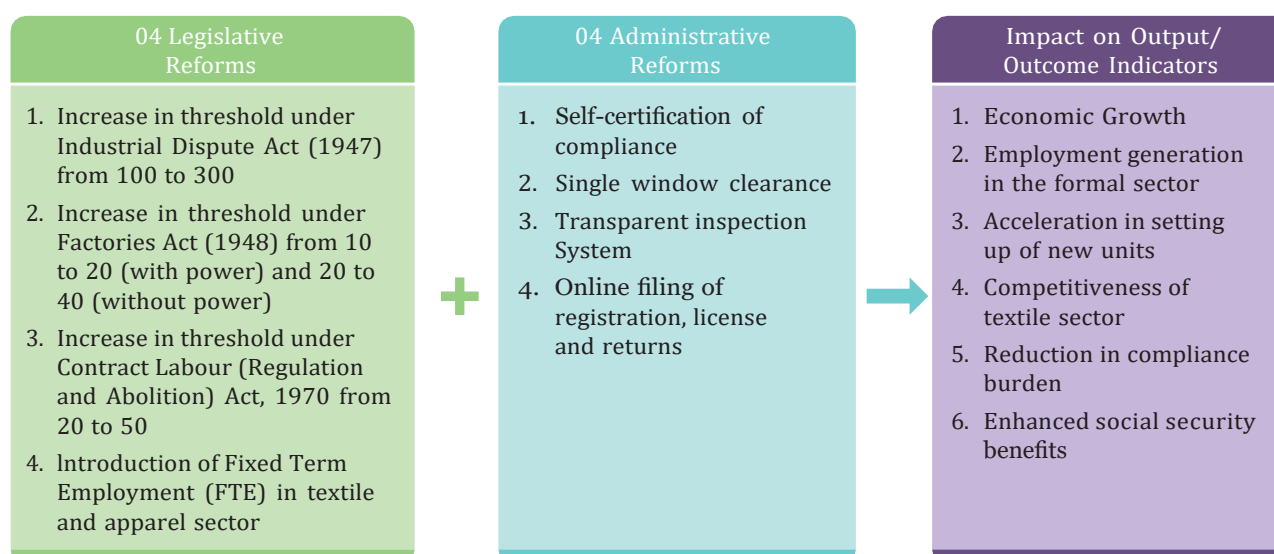


- a. Economic growth;
- b. Employment generation in the formal sector;
- c. Acceleration in setting up of new units;
- d. Increase in size of establishments;
- e. Benefits to specific sectors like textile that faced labour related disadvantages;
- f. Reduction in compliance burden; and
- g. Enhanced social security benefits.

1.4 Scope of the Impact Assessment Study

The Terms of Reference (ToR⁴) of the study mandates to assess the impact of labour reforms undertaken by the States in such a way that comparison can be made in terms of performance of States that implemented the reforms with those which did not and the outcome in a particular State before and after the reforms. This in turn requires identification of States in terms of those who have undertaken reforms and classification of such reforms by types of reforms and States who have not undertaken reform. The detailed method followed for this exercise have been elaborated in Section 2.3 of the Chapter 2. On the basis of said method, Six States namely, Rajasthan, Andhra Pradesh, Maharashtra, Uttar Pradesh, Jharkhand and Tamil Nadu have been identified for this study.

Figure 1.1: Scope of the Impact Assessment Study



The ToR further mandate to assess the impact of four legislative reform and four administrative reform measures undertaken by the States on select output and outcome indicators as outlined in the objectives of the study (Figure 1.1). The ToR has chosen to assess the impact of four legislative reforms – three of which are relating to enhancement of thresholds under three Central Acts and one relating to introduction of FTE – as they are crucial tools to unshackle the regulatory burden on various enterprises and facilitate their expansion and competitiveness. The four administrative reforms that have been chosen for the study are the ones which incentivizes industries and promotes ease of doing business by reducing their compliance burden and putting in place a transparent inspection system. A detail note on the type of legislative and administrative reforms and the intended direct benefit on enterprises and workers is given in Table 1.3.

4. The Terms of Reference (ToR) is enclosed at the Appendix I of this report.

Table 1.3: Nature of Legislative Reform and Intended Direct Benefits for Enterprises and Workers

Nature of Reforms	Intended Direct Benefits
<i>Legislative reforms</i>	
Increase in threshold under the Industrial Dispute Act (1947) from 100 to 300	Flexibility in employment and align labour regulation as per international norms; ease of exit (and thereby encouraging ease of entry); reduction in labour costs; enhancement in enterprise size in terms of employment and investment; increase in production, labour productivity and competitiveness.
Increase in threshold under Factories Act (1948) from 10 to 20 (with power) and 20 to 40 (without power)	More registration of micro and small units who earlier circumvent the law by employing/reporting below the threshold; expansion in plant size both in terms of investment and employment; creating an enabling environment for the Start-ups to proceed with their economic activities and seek registration once they grow big.
Increase in threshold under Contract Labour (Regulation and Abolition) Act, 1970 from 20 to 50	Addressing regulatory delays in granting license and swift execution of projects; uniform criteria for granting licensing across States; declaring the earlier undeclared workers with the social security authority by the manpower supplying agency thereby, aiding formalization.
Introduction of FTE in textile and apparel sector	Allow adjustment of employment with respect to business cycle; reduction in the cost of hiring labour and thereby enhance competitiveness (especially execution of time bound projects and short-term export orders); an alternative to contract labour system with provision of written contract and all statutory benefits on par with permanent employees.
<i>Administrative reforms</i>	
Self-certification scheme	More governance less government (no bureaucratic interference unless violation is reported); enabling environment for the Startups and MSMEs.
Single window clearance	One stop shop for all registration, licenses and compliances thereby promoting ease of doing business and attracting more investment.
Transparent inspection system	Stoppage of multiple inspections under different labor regulations with little coordination; reduction in corruption and bringing accountability in enforcement; prevent harassment and unexpected actions from authorities in the context of Start-ups and MSMEs.
Online filing of registration, license and annual returns	Adopting e-Governance in enforcement; Reduction in compliance cost of employer, (especially for the Startups & MSMEs) and thereby aiding establishment performance; robust database creation and facilitate future system integration between labour, social security, tax and enterprise registration authority thereby generating more government revenues and promoting labour formalization.

1.5 Structure of the Report

This Report has five chapters. The first chapter outlines the context of the study, provides review of past literature on the effect of labour regulations and states the objectives and scope of the study. The second chapter highlights the primary and secondary databases that have been used and also illustrates methods adopted for selection of study States and for undertaking impact analysis. The third chapter on the basis of secondary data analysis, highlights the effects of the labour reform on select economic and labour market parameters in the six study States. Chapter four on the basis of data collected from four big employers' associations of India studies the effect of labour reforms in the organised sector of India. Chapter five, concludes and summarizes the broad findings of the study.



2.1 Introduction

As outlined in the preceding Chapter, the objective of this study is to examine the impact of specific legislative and administrative labour reforms undertaken by State Governments in recent times on their economic and labour market parameters. To undertake the impact assessment, appropriate utilization of official sources of secondary data produced by Ministry of Statistics and Programme implementation (MoSPI) assumes importance. However, as official data sources may not provide all the required information about all aspects of the reforms and their impacts, a need was felt to supplement secondary data with appropriate collection/collation of primary data from relevant stakeholders. Therefore, this chapter outlines the secondary and primary sources of data used in this study (Section 2.2). Further, the study mandates to (a) compare performance of states that implemented reforms (i.e. treatment group) with those which did not undertake reforms (i.e. control group) and (b) compare the performance of a state before and after the introduction of the reform on select output and outcome indicators. To fulfill this mandate, the selection of states and methodology employed for undertaking analysis assumes significance. Therefore, this chapter also provides methods of state selection (Section 2.3) as well as method of undertaking the impact analysis (Section 2.4).

2.2 Sources of Data

2.2.1 Secondary Data Sources

In India, historically, employment estimates and characteristics of workers and enterprises have been generated using household and establishment surveys. While household surveys provide supply side information on employment, the enterprise surveys provide demand side information. These sources also differ in terms of type of information, in coverage and periodicity, in concepts, definitions and measurement units, in cost of operation, quality and timeliness of the results. In this study, both these data sources have been used to reinforce each other to enable us to draw relevant findings. Below, a brief description of each of the secondary data sources and justification for selecting a particular dataset for undertaking this study have been provided.

Household Surveys

To get a holistic picture of India's dualistic labour markets, household surveys are the most widely used datasets to generate employment estimates. Given their ability to capture both the organized (formal) and unorganized (informal) sector, particularly the self-employed, they provide the most comprehensive data on the employment situation in the country. The main objective of the Employment and Unemployment Surveys (EUS) conducted by National Sample Survey Organisation (NSSO) at quinquennial intervals since 1972-73 is to get estimates of key labour market indicators (such as labour force participation rate, worker population ratio, unemployment rate) at the national and State/Union Territory level. The indicators of the structural aspects of the workforce such as status in employment, industrial distribution and occupational distribution of the workers and their distribution across formal and informal sectors are also derived from these surveys.



Realising the need for regular and frequent labour statistics, the Report of the Task Force on Improving Employment Data (2017)⁵ recommended that the NSSO's EUS be discontinued and replaced by an annual Periodic Labour Force Survey (PLFS). Accordingly, the Government discontinued the quinquennial household surveys (last such EUS survey was conducted in 2011-12) and began conducting annual PLFSs. The first report of the PLFS for the period 2017-18 was released in May 2019. The second PLFS report for 2018-19 was released in June 2020.

For the purpose of this study, two rounds of quinquennial EUS corresponding to the year 2004-05 and 2011-12 and latest round of PLFS for the year 2018-19 have been used as evidence for analysis. The analysis is divided into two time period – pre-reform (2004/05 to 2011/12) and post-reform (2011/12 to 2018/19) period. The year 2011-12 is taken as the cut-off year for analysis as no Labour Force Survey (LFS) data is available corresponding to the year 2014-15 or for any nearby period.

Enterprise Surveys

In addition to the household surveys, enterprise or establishment surveys which compile data from the workplace are a crucial source of employment data. By collecting data from worksites, they provide a more detailed picture of the size of workforce employed, industry structure of employment and characteristics of enterprises. In household surveys, where the respondent is the household head or member (who may not be the worker in question) obtaining correct information of the characteristics of the enterprise in which the worker works is challenging (Papola, 2014).

The key establishment censuses/surveys in India include the Economic Census (EC), the Annual Survey of Industries (ASI) and the NSSO's 'Unincorporated Non-Agricultural Enterprises Survey' – UNAES – (excluding construction). However, there are some fundamental differences between these surveys in terms of scope, frequency and nature of data collected, having implications for this study. Firstly, the EC being a census provides the most comprehensive database on non-agricultural economic establishments in the country, whereas the latter two databases are follow-up enterprise surveys based on sample frame provided by the EC. Secondly, in terms of frequency, while the EC is usually conducted after a gap of 10 years, the ASI data is collected annually and that of NSSO-UNAES is collected in every five years. Lastly, the EC provides information's on both registered and unregistered establishment across all non- agricultural sector. In contrast, the ASI compiles information on the growth, composition and structure of "registered" or formal sector firms in the manufacturing sector, while the NSSO's Unincorporated Enterprise Survey is a quinquennial survey which provides data on "unregistered" firms in the non- agricultural sector (excluding construction).

The above comparison, especially the last point shows that NSSO's Unincorporated Enterprise Survey have less significance for this study as they cover only unregistered firms⁶, whereas the EC and ASI datasets are the most ideal sources as they provide information on registered firms in the formal sector, to whom the reforms in labour regulations are directly applicable. However, if one examines the frequency of EC data, the latest EC data is available only for the year 2013-14. This makes the EC data less useful for this study, as no pre-and post-reform comparison can be undertaken by using data at one time point. Therefore, the only enterprise dataset that qualifies to be included in the analysis is the ASI data, the detail of which is described below.

5. Refer page 13 of Report of the Task Force on Improving Employment Data

6. The latest data point is available for the year 2015-16. Hence, no pre- and post-reform comparison can be made.

As stated in the aforesaid paragraph, for the purpose of analyzing the impact of reforms by State governments, most of which were introduced after 2014 (as explained in Section 2.3), the ASI becomes the most useful enterprise dataset. ASI is the main source of industrial statistics in India and provides detailed information on “registered” or formal sector firms that are covered by Sections 2m (i) and 2m (ii) of the 1948 Factories Act i.e., those firms that use electricity and hire more than ten workers, and those that do not use electricity but nevertheless employ twenty or more workers. Further, the ASI time series dataset is available annually and the latest dataset pertains to the period 2017-18. Given that the legislative and administrative reforms which are the focus of this study apply largely to the formal manufacturing sector as explained in Chapter 1, the role of the ASI dataset, which is the most important source of industrial statistics, becomes much more significant. It is in this background that this dataset will be the focus of attention as far as enterprise databases are concerned and to undertake pre-reform (2010-11 to 2013-14) and post-reform (2014-15 to 2017-18) comparison.

Other datasets

Although ASI and NSSO (EUS and PLFS) are primarily used in this study, the study also makes use of other datasets in a meaningful way. These data sets are state income data provided by Central Statistical Organization (CSO), Consumer Price Index – Industrial workers (CPI-IW) produced by Labour Bureau and administrative data/reports generated by State Labour Departments of concerned states.

2.2.2 Primary Data Sources

In addition to the secondary data sources, the study has also collected and used primary data sets. The need for collecting primary data arose due to the fact that the secondary data sets do not provide complete information on all aspects of the labour reforms, thereby making comprehensive impact assessment challenging. For instance, the Terms of Reference (ToR) mandates to assess the impact of four administrative reforms which basically incentivizes firms by reducing their cost of compliance so that they can focus and scale up their core production and service activities. Unfortunately, both ASI and NSSO-EUS/PLFS survey does not provide any information to estimate to what extent administrative reform has benefited the firms and what further reforms are required to simplify the compliance and inspection mechanisms. This and other data gaps in the secondary data sets and for the purpose of supplementing secondary data results with qualitative information from the field, necessitated the collection of primary data.

For fulfilling the mandate of the study, primary data were collected⁷ from five different sources in the six study states. These sources are – State Labour Department, State Industry Department/Industrial Promotion Boards, Industry Associations, Manufacturing Units and Manpower Supplying Agencies. As far as manufacturing units and manpower supplying agencies are concerned, data from 20 units from each State were collected purposively to understand the effect of the reforms on these units. Analysis of data and results emerging from these units may not be totally representative but will provide plausible indications about the impact of reform measures and may provide possible directions on the requirement of future reforms, if any.

For collecting primary data five different sets of questionnaires were designed by the study team in discussion with subject matter experts and labour policy makers and implementers. The primary data questionnaire contains a mix of questions which are descriptive, normative and ‘cause and effect’ in nature and designed in a way to generate both quantitative and qualitative responses. The broad type of questions that were asked to each of the five stakeholders are provided in Appendix II.

7. Due to reasons beyond control, the primary data from the state governments as well as other stakeholders could not be obtained. Hence, this report is based on analysis of primary data obtained from the four major employers’ association only.

2.3 Methods of States Selection

In the context of this study, a clear and precise bifurcation of states into two groups, those who have undertaken reforms (treatment group) and those who have not undertaken reforms (control group) bears significance. A detailed timeline of the legislative and administrative reforms implemented by the states is presented in Appendix III and IV⁸ respectively. As far as legislative reforms are concerned as of 2020, out of 26 states, 24 states have undertaken the legislative reforms outlined in the Appendix III. In terms of the timings of initiating these reforms, it can be seen that 8 states had reformed Industrial Dispute Act (1947) prior to 2014 and remaining 16 states after 2014.⁹ Only 1 State had reformed Factories Act (1948) prior to 2014 and 23 had reformed after 2014. All 24 states have reformed Contract Labour (Regulation & Abolition) Act, 1970 and introduced FTE after 2014. In terms of administrative reforms, of the 26 states, Punjab and Kerala introduced administrative reforms prior to 2014. The remaining 24 states undertook these reforms largely after 2016 when the Business Action Plan was developed by each state corresponding to their Ease of Doing Business mandate.

Given the above timeline of the amendments across states, some challenges arise vis-à-vis the categorization of states into control group and treatment group. These challenges are briefly outlined below. To begin with, it needs to be noted that within a state, different amendments have been done at different points in time. For instance, while Gujarat increased the threshold of applicability of the Industrial Disputes Act in 2004, it increased the threshold for CLRAA only in 2020. On the other hand, administrative reforms in the state were implemented between 2015 and 2017. Given this heterogeneity in the timeline of implementation of legislative and administrative reforms within a state and the absence of a unique baseline, a strict classification of states into a treatment group and control group is difficult.

Secondly, in terms of legislative reforms, it needs to be noted that several states started the reform process early on. States such as Gujarat amended the threshold of Industrial Disputes Act and Factories Act in 2004 and 2006 respectively. The effects of these amendments on the industrial performance of these states have played out over a significantly long period of time. Comparing the growth and industrial performance of such a state with states such as Andhra Pradesh, Rajasthan and Maharashtra which have done these amendments only after 2014 will not make for an appropriate comparison. This limits the pool of states from which one can select states to be classified into treatment and control groups (vis-à-vis legislative amendments) to those which have implemented the reforms post 2014.

For the pool of states which undertook legislative reform after 2014, there is some heterogeneity in the timing of the reform. The study seeks to exploit this heterogeneity in the timeline for the purpose of analysis. One possible approach is to compare the state of Rajasthan or Andhra Pradesh, where all legislative amendments vis-à-vis increase in threshold were made at the same time i.e., 2014-15 and 2015-16 respectively (and thus offer a unique baseline) with states which did so only after 2017-18. The choice of using 2017-18 as a cut-off for classifying the control and treatment group is driven by availability of enterprise survey data on the organised manufacturing sector till 2017-18. Thus, one can compare the states of Rajasthan, Andhra Pradesh and Maharashtra with states such as Bihar, Punjab, Himachal Pradesh, or Jharkhand (all of which implemented reforms a few years after Rajasthan and Andhra Pradesh) or states which have not implemented any reform until now such as Tamil Nadu.

8. The state wise timeline of reform has been collated from public domain and the actual date of implementation of the reform may differ.

9. Uttar Pradesh is not counted as it has its own Industrial Dispute Act different from that of the Central Act. Similarly, Tamil Nadu has not undertaken any reform.

Given that much of the discussion on India's labour regulatory regime has focused on Chapter VB of IDA, the study also seeks to compare states which implemented only the IDA amendment i.e., the increase in threshold of workers from 100 to 300 workers with states which have not done so. Here, the state of Maharashtra offers an interesting case-study as it implemented only this specific reform before 2017-18. A comparison of Maharashtra with a state that has not implemented the amendment vis-à-vis IDA or any other amendment will help us specifically identify the impact of this particular reform. Tamil Nadu is an appropriate control group for this analysis, as it is the one state which has not implemented any of the legislative reforms under consideration.

Based on the above factors and in discussions with stakeholders, the following states were selected for the analysis: Maharashtra, Rajasthan, Uttar Pradesh, Jharkhand, Andhra Pradesh and Tamil Nadu. The timeline of the legislative reforms in these states is reported in Table 2.1 and that of administrative reform in Appendix IV. The inclusion of Uttar Pradesh in this selection is note-worthy as the state has its own IDA, namely *U.P. Industrial Disputes Act, 1947* and is not governed by the Industrial Disputes Act of the Central Government.

Table 2.1: Timeline of Legislative Reforms in Selected States

States	Threshold of ID Act from 100 to 300	Threshold for Factories Act from 10 to 20 to 20 to 40	Threshold of Contract Labour Act from 20 to 50	Introduction of FTE
Andhra Pradesh	07.08.2015	31.08.2015	02.12.2015	NDA
Jharkhand	04.12.2017	10.07.2019	13.09.2015	23.06.2017
Maharashtra	18.11.2015	02.12.2020	Done	NDA
Rajasthan	12.11.2014	11.11.2014	11.11.2014	03.10.2006
Uttar Pradesh	08.05.2020	29.01.2018	29.01.2018	09.01.2018
Tamil Nadu	No amendments have been undertaken			

Source: Ministry of Labour and Employment (the red highlighted are from public domain)

Note: NDA denotes no data available

Based on the timeline of legislative reforms presented in Table 2.1, selected states are classified into control and treatment groups as shown in Table 2.2.

Table 2.2: Classification of Selected States into Control and Treatment Group

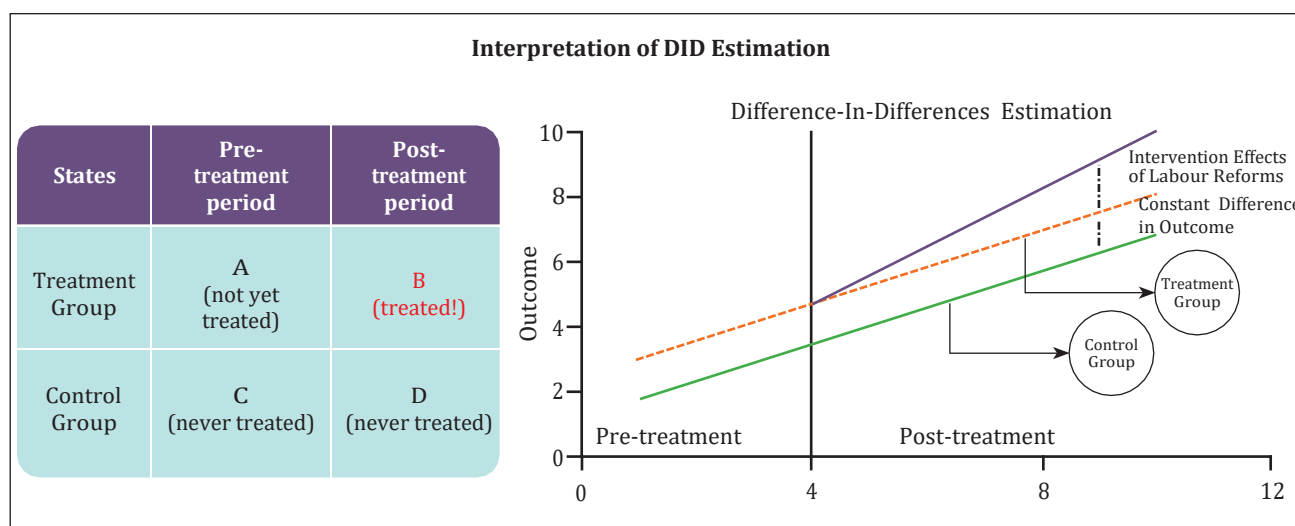
Control Group	Treatment Group
Jharkhand (2017-18)	Rajasthan (2014-15)
Tamil Nadu (no legislative reform)	Andhra Pradesh (2015-16)
	Maharashtra (2015-16)

Note: Figure in the parenthesis denotes the year of legislative reforms

2.4 Methods of Analysis

In the study, Difference-in-differences (DID) estimation, which is one of the most widely used quasi-experimental tools for measuring the impacts of development policies have been used to examine the impact of the legislative amendments. DID strategies are simple panel-data methods applied to sets of group means in cases when certain groups are exposed to the causing variable of interest and others are not. This approach, is well-suited to estimating the effect of sharp changes in the economic environment or changes in government policy. The DID method has been used widely in studies in economics, especially in the last two decades. Simply put, DID estimation enables us to compare the change in outcomes in a (non-random) treatment group before versus after treatment to the change in outcomes in a comparison group over the same time period (even though the comparison group never received treatment).

Box 1: Interpretation of Difference in Difference (DID) Estimation



Box 1: Illustrates the intuition behind DID estimation. The DID estimate of the treatment effect is: $(B - A) - (D - C)$ as given in Box.1. Intuitively, pre-treatment differences between the treatment group and the comparison group reflect selection bias, while pre-period versus post-period changes in outcomes within the comparison group reflect time trends. The DID approach removes these confounds (under certain assumptions) by differencing them out, leaving us with a credible quasi-experimental estimate of the treatment effect of interest.

While the DID approach allows to examine the intervention effects of the amendment by using the ASI datasets, the study also makes use of the data from ASI for the time-period 2010-11 to 2017-18 to undertake a detailed analysis of trends in employment in the organized manufacturing sector in the selected states at the two-digit level of NIC (National Industrial Classification) - 2008. While the analysis of the trends do not allow to make any casual inferences, it nevertheless indicates the evolution of employment patterns over a period of time in these states in the organized manufacturing sector. For examining trends, employment figures have been disaggregated by types of workers to understand which categories of workers (directly employed workers or contract workers) are driving aggregate trends at the State level. Further, the distribution of employment across firms of different sizes have been examined to understand whether there has been a shift in the employment towards large size firms over this period. Additionally, how the average size of firms has evolved over time in the pre and post reform period have also been studied.

In addition to the ASI data sets, the study has also used household surveys i.e., NSS's EUS (for 2004-05 and 2011-12) and PLFS (2018-19). From these surveys, how total employment has evolved across the reference States, their distribution across the formal and informal sector enterprises and how formal and informal employees are distributed across formal and informal sector enterprises, have been examined. These exercises allow to compute total informal and formal employment in the economy in line with the official definition by combining the enterprise-based and jobs-based definitions of informality. These analyses have been undertaken for all non-agricultural sectors of the economy. The textile, leather and apparel industries, which are amongst the most labour-intensive manufacturing sectors, merit specific attention in the analyses.

To understand, how access to social security benefits has evolved over time information from the PLFS have also been utilized to examine the shares of regular salaried workers who receive social security benefits such as PF/pension, gratuity, health care and maternity benefits. Separately, the security of tenure of employees have been examined by utilizing information on the duration of the contract.

Hence, it could be seen that the secondary data on industrial and labour market performance are available for a short period of time after the introduction of amendments in selected states. In this backdrop, the primary data outlined in Section 2.2.2 bears importance and overall conclusions of the impact of reforms can only be drawn by triangulating primary and secondary data.

The Impact of Labour Reforms on States: Empirical Evidence from Establishment and Household Survey Datasets

The previous chapter outlined the key secondary and primary data sources that have been utilized along with study methods. This chapter turns its focus to analysis based on secondary data. It presents key stylized facts and trends based on both household surveys (NSS – EUS and PLFS) and enterprise surveys (ASI). In the first section, key trends are reported from the former, while the second section reports trends and stylized facts based on the latter. Both these sections provide a situational analysis of India and selected states on multiple output and outcome indicators mentioned in the ToR. The final section undertakes an econometric analysis using difference in difference (DID) estimation to understand the intervention effect of the labour amendments in the selected states.

To understand the long-term trend in the India's labour market, the time horizon selected for the analysis based on NSS (EUS and PLFS) is for the period 2004-05, 2011-12 and 2018-19. The analysis for ASI is for the years 2010-11 to 2017-18. Given the timeline of reforms presented in Chapter 2, this time period of study provides us with data for a few years prior to the introduction of the reform and post the introduction of the reform to undertake DID estimation.

3.1 Key Trends and Stylized Facts from Household Labour Force Surveys

Total employment in India increased from 447.2 million in 2004-05 to 463.5 million in 2011-12 according to the usual status (usual principal and subsidiary status combined). In the subsequent period, for which data is available from PLFS, employment increased to 474.1 million. In addition to aggregate numbers for India, Table 3.1 also reports the total employment for each of the six selected states. All the states witnessed a steady increase in employment in absolute terms over the time period between 2004-05 and 2018-19, except Andhra Pradesh and Uttar Pradesh which saw a marginal decline during the period 2011-12 and 2018-19. While four states, namely Maharashtra, Rajasthan, Andhra Pradesh and Uttar Pradesh saw a larger increase in the first period (2004-05 to 2011-12) compared to the second (2011-12 to 2018-19), others such as Tamil Nadu, Rajasthan, Maharashtra and Jharkhand saw a bigger increase in the second period.

Table 3.1: Total Employment in India and in Selected States (in millions, UPSS)

States	2004-05	2011-12	2018-19
Andhra Pradesh	22.87	23.72	23.07
Jharkhand	11.11	11.32	11.85
Maharashtra	46.06	48.22	48.93
Rajasthan	25.51	26.87	27.79
Tamil Nadu	31.60	32.39	33.23
Uttar Pradesh	64.46	68.40	65.16
India	447.20	463.52	474.10

Source: Computed from NSS-EUS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

3.1.1 Distribution of Employment across Sectors

Table 3.2 reports the breakdown of employment across the agriculture and non-agriculture sectors. Total employment in agriculture has fallen steadily, both in absolute and percentage terms, for the Indian economy. Concomitantly, employment in the non-agricultural sector has increased considerably from 196 million in 2004-05 to 244.6 million in 2011-12. In the following period, employment in the non-agricultural sector increased further by 38.4 million. The shift in employment towards the non-agricultural sector is witnessed not only at the all-India level but across all states under consideration.

The pace of structural transformation, however, varied across states. Tamil Nadu and Jharkhand witnessed a 19-percentage point decline in the share of agricultural employment over the period between 2004-05 and 2018-19, while Andhra Pradesh saw a 15-percentage point decline over the same period. Maharashtra and Uttar Pradesh saw a decline of roughly by 10 percentage points. Rajasthan, despite witnessing an increase in employment in agricultural sector between 2011-12 and 2018-19, both in absolute and percentage points, saw a decline of 9 percentage points over the entire period between 2004-05 and 2018-19. These statistics and trends are indicative of a structural transformation entailing a shift away from the agricultural sector, as is the case with any developing and emerging economy.

It is worth noting that the pace of structural transformation has not only varied across states but also over the two distinct time periods i.e., 2004-05 to 2011-12 and 2011-12 to 2017-18. In states such as Uttar Pradesh and Jharkhand, the decline in share of agricultural employment was steeper in the first period (8.6 and 11 percentage points respectively) compared to the decline in the second period (2.6 and 7.5 percentage points respectively). On the other hand, in states such as Andhra Pradesh and Maharashtra, the reverse holds true. Tamil Nadu witnessed a roughly comparable decline of 9.2 and 8.1 percentage points respectively in the two periods. For India, as an aggregate, a 8.9 percentage point increase in the share of non-agricultural employment in the first period compared to a 7 percentage point increase in second period. (Appendix V reports the decline in the share of agricultural employment across states over the two separate time periods).

Table 3.2: Absolute Employment in the Agricultural and Non-Agricultural Sector in India and in Selected States (in millions)

	Agricultural Sector			Non- Agricultural Sector		
	2004-05	2011-12	2018-19	2004-05	2011-12	2018-19
Andhra Pradesh	13.60	12.68	10.14	9.27	11.03	12.93
Jharkhand	6.60	5.45	4.81	4.51	5.88	7.04
Maharashtra	24.35	23.39	20.23	21.71	24.82	28.70
Rajasthan	15.43	13.29	14.38	10.07	13.57	13.42
Tamil Nadu	13.53	10.87	8.44	18.07	21.52	24.79
Uttar Pradesh	39.08	35.57	32.18	25.37	32.84	32.98
India	251.20	218.95	191.10	196.00	244.58	283.00

Source: Computed from NSS-EUS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

Given the mandate of the study to focus on the impact of labour reforms, it is the non-agricultural sector which is the focus of attention. Table 3.3 reports a disaggregated breakdown of employment in the non-agricultural sector. An examination of the distribution of employment in the non-agricultural sector shows

that in the period between 2004-05 and 2011-12, the construction sector witnessed a doubling of its share in total employment. This is because most individual's exiting the agricultural sector with lower skill levels were absorbed in the construction sector as noted by several authors (Mehrotra and Parida, 2019). Significantly while all the states saw a doubling in the share of construction employment in the first period between 2004-05 and 2011-12, in the subsequent period (2011-12 and 2018-19), construction employment saw a rather steady increase in absolute terms in all the selected states except Rajasthan, while the country at large has seen a significant increase. The services sector, on the other hand, saw a steady increase in employment in absolute terms for both the time periods. In percentage terms, too, the share of services sector employment increased from 25.0 per cent in 2004-05 to 28.2 per cent in 2011-12 and then a further 6 percentage point increase in subsequent period. All the selected states have seen a steady increase in both absolute numbers and shares of employment in the services sector.

Table 3.3: Absolute Employment in the Non-Agricultural Sector in India and Selected States (in millions)

States	Industry#	Construction	All Manufacturing	Textile, Apparel and Leather Manufacturing	Services
2004-05					
Andhra Pradesh	3.34	1.02	2.11	1.20	5.72
Jharkhand	2.40	1.12	1.00	0.36	2.06
Maharashtra	8.35	2.36	5.65	1.94	13.26
Rajasthan	5.18	2.55	2.22	1.01	4.77
Tamil Nadu	8.24	1.99	6.05	3.63	9.41
Uttar Pradesh	11.64	3.83	7.58	3.45	13.42
India	84.10	25.82	54.38	18.46	111.90
2011-12					
Andhra Pradesh	4.75	2.30	2.16	0.77	6.29
Jharkhand	3.26	2.02	0.89	0.11	2.61
Maharashtra	9.27	3.04	5.93	1.49	15.55
Rajasthan	8.05	5.13	2.49	0.73	5.52
Tamil Nadu	11.01	4.00	6.61	2.93	10.51
Uttar Pradesh	18.03	8.86	8.52	3.86	14.80
India	114.02	49.21	59.72	20.13	130.56
2018-19					
Andhra Pradesh	5.21	2.53	2.46	0.87	7.72
Jharkhand	3.93	2.68	0.95	0.07	3.11
Maharashtra	9.67	3.18	5.96	1.67	19.03
Rajasthan	6.11	3.56	2.14	0.70	7.30
Tamil Nadu	11.48	4.74	6.40	2.87	13.31
Uttar Pradesh	16.20	9.03	6.81	2.34	16.77
India	121.66	57.13	59.75	19.39	161.34

Source: Computed from NSS-EUS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

Note: # denotes Mining and Quarrying; Manufacturing; Electricity, Gas and Water supply; Construction

Table 3.4: Formal and Informal Sector Manufacturing Employment in India and Selected States (in millions)

	2004-05			2011-12			2018-19		
	Textiles, Apparel & Leather	Other Manu.	Manufacturing	Textiles, Apparel & Leather	Other Manu.	Manufacturing	Textiles, Apparel & Leather	Other Manu.	Manufacturing
	Formal Sector								
Andhra Pradesh	0.17	0.33	0.51	0.06	0.38	0.44	0.12	0.53	0.65
Jharkhand	0.07	0.30	0.37	0.01	0.24	0.25	0.01	0.36	0.37
Maharashtra	0.64	1.95	2.59	0.53	2.53	3.06	0.50	2.78	3.29
Rajasthan	0.12	0.23	0.35	0.14	0.47	0.61	0.12	0.50	0.62
Tamil Nadu	1.06	1.17	2.04	1.09	1.43	2.51	1.27	1.85	3.12
Uttar Pradesh	0.46	0.94	1.40	0.52	1.67	2.19	0.31	1.43	1.74
India	4.41	11.52	15.93	4.96	15.68	20.64	4.76	17.39	22.15
	Informal Sector								
Andhra Pradesh	1.02	1.00	1.60	0.71	1.01	1.72	0.74	1.07	1.81
Jharkhand	0.28	0.44	0.63	0.09	0.55	0.64	0.06	0.51	0.58
Maharashtra	1.31	1.97	3.07	0.96	1.91	2.87	1.16	1.51	2.68
Rajasthan	0.89	1.22	1.87	0.59	1.29	1.88	0.58	0.95	1.52
Tamil Nadu	2.57	2.09	4.02	1.84	2.25	4.09	1.60	1.67	3.27
Uttar Pradesh	2.99	3.81	6.17	3.34	3.00	6.34	2.03	3.03	5.07
India	14.04	24.40	38.45	15.17	23.90	39.08	14.63	22.97	37.60

Source: Computed from NSS-EUS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

The manufacturing sector, which is the focus of this study in the context of labour law amendments, has had a relatively sluggish performance in terms of employment generation. Between 2004-05 and 2011-12, employment in the manufacturing sector increased by 5.3 million. In the following period it increased by only 0.03 million. Its share in total employment has remained flat at approximately 12.5 per cent for the entire time period under consideration. Employment statistics are also reported separately for three labour intensive industries, namely leather, apparel and textile sector. For India, as a whole, employment in these sectors increased from 18.46 million (2004-05) to 20.13 million (2011-12). Thereafter, there was a decline and total employment in the three industries stood at 19.39 million in 2018-19. Barring the state of Tamil Nadu, no other state witnessed an increase in employment in these three sectors over the entire time period under study. Within the three labour intensive industries, namely leather, apparel and textile sector, the apparel manufacturing saw a fairly steady increase in employment generation over the said period, as reported from various sources.

It is important to note at this point that the statistics reported above correspond to aggregates across the formal and informal sector. However, given that the legislative labour amendments, which are the subject of this study, apply to the formal manufacturing sector, it is important to disaggregate employment in the manufacturing sector into formal and informal sectors. The statistics in Table 3.4 indicate that employment in the formal manufacturing sector has been smaller than in the informal sector. The share of the formal sector in manufacturing activity stood at 29.3 per cent in 2004-05. It has increased steadily to 34.6 per cent in 2011-12 and thereafter to 37.1 per cent in 2018-19. Looking specifically, at the textile, apparel and leather industries, which are amongst the most labour intensive in India, it can be seen that employment is largely concentrated in the informal sector. The share of formal sector is lower in these industries compared to the average across all other manufacturing industries. Significantly, the share of the formal sector in these three industries does not change much over time, remaining flat at approximately 23 per cent to 24 per cent. This disaggregation of manufacturing activity into formal and informal needs to be borne in mind as we turn attention exclusively to the formal manufacturing sector in Section 3.2.

3.1.2 Distribution of Workforce by Employment Type

Another key variable for analyzing the labour market is the distribution of workforce by type of employment (Table 3.5). Between 2004-05 and 2018-19, the total number of self-employed declined by 8.6 million, while the total number of casual workers declined by 14.8 million. Over the same period, the total number of regular wage salaried workers increased by 50.3 million. The increase in the regular salaried worker, which is typically considered a better form of employment, as it offers a steady stable income, both in absolute and relative terms, apart from access to some of the social security benefits, is a major positive development. It needs to be noted here that this increase has largely happened in the period between 2011-12 to 2018-19, where there was an increase of nearly 32 million workers in regular salaried work, as compared to an increase of 18.3 million in the first period i.e., 2004-05 to 2011-12. Likewise, though the employment in casual work increased in the first period (between 2004-05 to 2011-12) by 9.5 million, subsequently it declined sharply by 24.3 million in the period thereafter. These trends indicate that the second period (2011-12 to 2018-19) appears to have been marked by an improvement in the quality of work indicating transitioning towards formality.

Table 3.5: Absolute Employment by Type of Employment in India and Selected States (in millions)

	2004-05				2011-12				2018-19			
	SE	RW	CW	Total	SE	RW	CW	Total	SE	RW	CW	Total
Andhra Pradesh	10.55	2.75	9.56	22.87	10.09	3.72	9.91	23.72	9.82	5.35	7.90	23.07
Jharkhand	7.36	1.13	2.62	11.11	7.15	1.26	2.91	11.32	6.74	2.11	3.00	11.85
Maharashtra	21.36	10.21	14.49	46.06	22.52	12.97	12.72	48.22	21.87	15.65	11.40	48.93
Rajasthan	18.57	2.79	4.14	25.51	16.92	3.63	6.32	26.87	18.76	5.18	3.85	27.79
Tamil Nadu	13.12	7.50	10.97	31.60	10.34	8.67	13.38	32.39	11.08	12.01	10.14	33.23
Uttar Pradesh	46.89	6.51	11.06	64.46	43.84	7.42	17.15	68.40	41.91	10.43	12.82	65.16
India	251.57	69.14	126.50	447.20	240.01	87.49	136.03	463.52	242.95	119.47	111.69	474.10

Source: Computed from NSS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

Note: SE: Self-employed; RW: Regular Wage/Salaried Workers; CW: Casual Workers

Additionally, the Appendix VI reports the breakdown of workforce by employment for the agricultural and non-agricultural sector. Self-employment remains a dominant form of employment in the agricultural sector for the entire time period. The shift towards regular salaried work is witnessed in the non-agricultural sector. This phenomenon is observed across states too. Significantly, the shift towards regular salaried work in the non-agricultural sector is observed in the second period. An increase of robust 31.5 million occurs between 2011-12 and 2018-19 in this category of employment compared to 19.22 million between 2004-05 and 2011-12.

3.1.3 Extent of Formal and Informal Employment

Given the dualistic nature of India's labour market, it is important to understand the distribution of employment across the formal and informal sector and how this distribution has evolved over time. Table 3.6 reports absolute employment in both the formal and informal sector across the three time periods under consideration. The table also reports the breakdown of workers into formal and informal workers in each of the sectors. This disaggregated exercise is important given the 17th International Conference of Labour Statistician (ICLS) definition of informal employment, which combines the enterprise based and jobs-based definition of informality. It is important to clarify here that the classification of enterprises into formal and informal enterprises, and the classification of workers into formal and informal workers is based on the definitions outlined in the NCEUS's Report on Definitional and Statistical Issues Relating to the Informal Economy (2008)¹⁰.

10. http://dcmsme.gov.in/Report_Statistical_Issues_Informal_Economy.pdf (Appendix VIII page 154-156 provide the details)

Table 3.6: Breakdown of Total Employment into Formal and Informal Employment by Sector in India and Selected States (in millions)

	2004-05			2011-12			2018-19		
	Formal Workers	Informal Workers	Total	Formal Workers	Informal Workers	Total	Formal Workers	Informal Workers	Total
Formal Sector									
Andhra Pradesh	1.11	1.29	2.40	1.36	2.16	3.52	1.98	2.05	4.04
Jharkhand	0.77	0.71	1.49	0.86	1.12	1.98	0.87	1.27	2.15
Maharashtra	4.74	3.54	8.27	5.75	4.71	10.46	8.39	3.87	12.26
Rajasthan	1.18	1.06	2.24	1.37	2.66	4.02	1.90	2.50	4.39
Tamil Nadu	3.01	2.85	5.86	3.65	5.25	8.90	6.46	5.73	12.19
Uttar Pradesh	2.56	2.26	4.82	3.09	4.55	7.64	3.37	3.53	6.90
India	31.68	25.47	57.15	39.33	44.16	83.49	54.16	42.51	96.66
Informal Sector									
Andhra Pradesh	0.07	20.40	20.47	0.05	20.15	20.20	0.07	18.96	19.03
Jharkhand	0.01	9.61	9.62	0.02	9.32	9.35	0.04	9.66	9.70
Maharashtra	0.17	37.62	37.79	0.24	37.52	37.76	0.31	36.36	36.67
Rajasthan	0.04	23.22	23.26	0.07	22.78	22.84	0.02	23.38	23.40
Tamil Nadu	0.20	25.55	25.74	0.16	23.33	23.49	0.14	20.89	21.04
Uttar Pradesh	0.18	59.45	59.63	0.08	60.68	60.76	0.42	57.84	58.26
India	1.43	388.62	390.05	1.44	378.59	380.03	2.36	375.08	377.44

Source: Computed from NSS-EUS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

As can be seen in Table 3.6, at the all-India level, employment in the informal sector declined from 390.05 million to 380.03 million in the first period. This was followed by a further decline of roughly 2.6 million in the second period (2011-12 to 2018-19). The decline in informal sector employment is accompanied by an increase in employment in the formal sector by a robust 26.3 million from 57.2 million to 83.5 million in the first period and a further increase of 13.2 million in the second period. In percentage terms, too, the share of employment in the formal sector has increased from 12.7 per cent in 2004-05 to 18.0 per cent in 2011-12 and finally to 20.4 per cent in 2018-19.

However, it is important to note here that although the period between 2004-05 and 2011-12 witnessed a larger increase in employment in the formal sector, much of the increase came from informal jobs. Of the 26.3 million employment created in the formal sector in the first period, informal jobs accounted for almost 71 per cent of the increase. Thus in 2011-12, the share of informal jobs in the formal sector stood at 52.9 per cent, up from 44.5 per cent in 2004-05. This trend of informalisation of employment in the formal sector is a matter of concern. However, in the period thereafter between 2011-12 and 2017-18, although formal sector employment increased by a smaller amount (13.2 million), this increase came entirely from formal jobs. In fact, informal employment in the formal sector declined from 44.16 million to 42.51 million during this period. Consequently, the share of informal employment in the formal sector declined from 52.9 per cent in 2011-12 to 43.9 per cent in 2018-19, marking a reversal of the trend of the informalisation of the formal sector observed in the first period.

At the state level, too, all states have witnessed a steady though slow increase in employment in the formal sector. The only exception is Uttar Pradesh, where employment in the formal sector declined between 2011-12 and 2018-19. In terms of the composition of employment in the formal sector, as seen at the all-India level, informal employment in the formal sector increased sharply in the first period across all states. In fact, as statistics in Table 3.7 below show, all states barring Maharashtra witnessed a very significant jump in the ratio of informal employment in the formal sector in the first period. In the second period, this ratio declined sharply across all states barring Jharkhand.

Table 3.7: Share of Informal Employment in the Formal Sector in India and Selected States (in %)

States	2004-05	2011-12	2018-19
Andhra Pradesh	53.82	61.41	50.88
Jharkhand	47.94	56.37	59.38
Maharashtra	42.77	45.04	31.56
Rajasthan	47.36	66.00	56.81
Tamil Nadu	48.62	58.95	47.02
Uttar Pradesh	46.94	59.54	51.17
India	44.56	52.89	43.97

Source: Computed from NSS-EUS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

Combining the enterprise and job-based definition of informality from NCEUS (2008), the share of informal employment in total employment is reported in Table 3.8 below. In 2004-05, in India the share stood at 92.6 per cent. This declined to 91.20 per cent in 2011-12 and further to 88.08 per cent in 2018-19. The share of informal employment is also found to decrease across all states. Significantly, the decline is steeper in the second period (2011-12 to 2018-19) compared to the first period (2004-05 to 2011-12). This in turn implies that for the first time that the share of informal employment has shown a downward trend and in future this downward trend may pick up momentum.

Table 3.8: Share of Informal Employment in Total Employment in India and Selected States (in %)

All Sectors				Non-Agricultural Sector		
2004-05	2011-12	2018-19		2004-05	2011-12	2018-19
94.86	94.08	91.08	Andhra Pradesh	87.72	87.93	84.33
92.94	92.16	92.27	Jharkhand	83.04	84.93	87.00
89.35	87.59	82.22	Maharashtra	77.63	76.08	69.74
95.22	94.66	93.10	Rajasthan	87.97	89.53	85.76
89.86	88.22	80.13	Tamil Nadu	82.35	82.31	73.45
95.74	95.36	94.18	Uttar Pradesh	89.21	90.40	88.50
92.60	91.20	88.08	India	83.29	83.45	80.14

Source: Computed from NSS-EUS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

3.1.4 Quality of Employment

To examine the quality of employment, three characteristics of a job reported in the NSS-EUS and PLFS schedules are examined. First, whether the worker has access to social security; second whether a worker is eligible for paid leave and third, whether the worker has a written job contract and what the duration of that contract is. To begin with, the total number of regular salaried workers in the non-agricultural sector who had access to social security increased from 29.7 million in 2004-05 to 35.4 million in 2011-12 (Table 3.9). This figure increased significantly to 48.8 million in 2018-19. Across states, too, it is noted that in absolute terms this category of workers has increased and the quantum of increase in the second period has been much higher than in the first period. However, at the same time the number of regular salaried workers having no access to social security has also increased from 35.9 million in 2004-05 to 47.2 million in 2011-12 and further to 61.1 million in 2018-19. This trend is noticed in states too.

The next job characteristic examined is the access to paid leave. The absolute number of regular salaried workers in the non-agricultural sector with access to paid leave has increased from 35.2 million to 42.7 million in the period between 2004-05 and 2011-12 (Table 3.9). Thereafter, the number of such workers increased sharply by 11.2 million from 42.7 million in 2011-12 to 53.9 million in 2018-19. The state level estimates reflect similar trends. Concomitantly, there has been an increase in the number of regular salaried workers not eligible for paid leave increased from 30.4 million in 2004-05 to 42.7 million in 2011-12 to 63.2 million in 2018-19. This trend is noticed in states too.

Finally, Table 3.9 indicates that the total number of regular salaried workers in the non-agricultural sector without a written job contract has increased sharply from 39 million (2004-05) to 55.3 million (2011-12) to 82 million (2018-19). In percentage terms, the share of those with no written contracts has also risen sharply from 58.8 per cent (in 2004-05) to 64.5 per cent (2011-12) and then to 70.1 per cent in 2018-19. Alongside, the number of regular salaried workers with one year or less contract has doubled from 1.5 million in 2004-05 to 3.2 million in 2011-12 to again a near doubling to 5.5 million in 2018-19. A similar pattern can be seen in the number of workers with one to three years job contract. The number of such workers increased from 1.5 million in 2004-05 to 2.4 million in 2011-12 to 4.6 million in 2018-19. Likewise, the number of regular salaried workers with the best kind of written contracts i.e., with more than 3 years duration has increased albeit marginally by 1.3 million over the time period under consideration. The state level estimates reflect similar trends.

The above trends show that though there is an increase in the absolute number of workers in jobs with desirable characteristics (such as access to social security, paid leave and written contract) over time, there is also an increase in the number of workers who still do not have access to these benefits.

A similar exercise to examine the quality of employment has also been undertaken for the textile, apparel and leather sector (Table 3.10). It is worth examining these trends for these three sectors separately as the Government introduced the provision of fixed term employment (FTE) in labour intensive sectors in 2018. The FTE amendment mandates engagement of fixed term workers on the basis of written contract and provision of all statutory benefits to fixed term workers on par with permanent workers. Here, in terms of access to social security, the total number of regular salaried workers saw a decline between 2004-05 and 2011-12. The subsequent period however, saw an increase of approximately 590,000. In percentage terms, a decline in share of workers having access to social security is observed between 2004-05 and 2011-12 from 25.9 per cent to 20.7 per cent. But in 2018-19, this share increased to 27.2 per cent surpassing the percentage decline. It is also important to draw attention to the fact that across the selected states, all

Table 3.9: Absolute Number of Regular Salaried Workers (UPSS) by Job Characteristics in India and Selected States (in millions)

	Access to Social Security				Eligible to Paid leave				Job Contract (duration)					
	Yes	No	missing	Total	Yes	No	missing	Total	No Written Contract	1 year or less	1 to 3 years	More than 3 years	missing	Total
2004-05														
Andhra Pradesh	1.0	1.6	0.0	2.6	1.3	1.3	0.0	2.6	1.7	0.1	0.1	0.7	0.0	2.6
Jharkhand	0.7	0.4	0.1	1.1	0.7	0.4	0.1	1.1	0.5	0.0	0.0	0.5	0.1	1.1
Maharashtra	4.5	5.3	0.1	9.9	5.3	4.5	0.1	9.9	4.8	0.2	0.3	4.5	0.1	9.9
Rajasthan	1.1	1.7	0.0	2.8	1.3	1.5	0.0	2.8	1.6	0.1	0.0	1.1	0.0	2.8
Tamil Nadu	3.0	4.3	0.0	7.3	3.5	3.8	0.0	7.3	4.8	0.2	0.1	2.1	0.0	7.3
Uttar Pradesh	2.4	3.7	0.2	6.3	3.0	3.1	0.2	6.3	4.0	0.2	0.1	1.8	0.2	6.3
India	29.7	35.9	0.8	66.4	35.2	30.4	0.8	66.4	39.0	1.5	1.5	23.7	0.8	66.4
2011-12														
Andhra Pradesh	1.2	2.3	0.1	3.6	1.6	2.0	0.0	3.6	2.8	0.1	0.1	0.6	0.0	3.6
Jharkhand	0.7	0.5	0.1	1.3	0.9	0.4	0.0	1.3	0.5	0.0	0.0	0.7	0.0	1.3
Maharashtra	5.4	7.1	0.3	12.8	6.1	6.7	0.0	12.8	7.3	0.6	0.6	4.3	0.0	12.8
Rajasthan	1.2	2.3	0.1	3.6	1.6	2.0	0.0	3.6	2.5	0.1	0.0	1.0	0.0	3.6
Tamil Nadu	3.5	4.9	0.1	8.5	4.3	4.2	0.0	8.5	6.9	0.2	0.1	1.3	0.0	8.5
Uttar Pradesh	2.5	4.5	0.3	7.3	3.2	4.1	0.0	7.3	4.7	0.3	0.2	2.1	0.0	7.3
India	35.4	47.2	3.0	85.6	42.7	42.7	0.2	85.6	55.3	3.2	2.4	24.5	0.2	85.6
2018-19														
Andhra Pradesh	1.8	3.3	0.1	5.2	2.2	3.0	0.0	5.2	3.9	0.1	0.1	1.1	0.0	5.2
Jharkhand	0.8	1.2	0.1	2.1	0.9	1.2	0.0	2.1	1.2	0.2	0.2	0.5	0.0	2.1
Maharashtra	7.7	6.7	1.2	15.5	9.0	6.5	0.0	15.5	10.4	0.7	0.6	3.8	0.0	15.5
Rajasthan	1.5	3.4	0.3	5.2	1.9	3.2	0.0	5.2	4.1	0.1	0.1	0.9	0.0	5.2
Tamil Nadu	6.0	5.4	0.4	11.8	6.3	5.5	0.0	11.8	9.0	0.6	0.7	1.5	0.0	11.8
Uttar Pradesh	3.3	6.2	0.9	10.4	3.9	6.5	0.0	10.4	6.9	0.4	0.3	2.7	0.0	10.4
India	48.8	61.1	7.2	117.1	53.9	63.2	0.0	117.1	82.0	5.5	4.6	25.0	0.0	117.1

Source: Computed from NSS-EUS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

Table 3.10: Absolute Number of Regular Salaried Workers (UPSS) by Job Characteristics in the Textile, Apparel and Leather Manufacturing in India and Selected States

	Access to Social security				Eligible to Paid leave				Job Contract (duration)				
	Yes	No	Missing	Total	Yes	No	Missing	Total	No Written Contract	1 year or less	1 to 3 years	More than 3 years	Total
2004-05													
Andhra Pradesh	7423	40986	0	48409	8753	39656	0	48409	40078	0	572	7759	48409
Jharkhand	0	35209	0	35209	0	35209	0	35209	35209	0	0	0	35209
Maharashtra	96733	543991	1447	642171	100711	540014	1447	642171	528891	1396	9353	101085	642171
Rajasthan	32714	79067	0	111781	16053	95729	0	111781	80829	16275	2379	12299	111781
Tamil Nadu	247451	778550	0	1026001	214295	811706	0	1026001	889687	14632	13488	108194	1026001
Uttar Pradesh	36687	523900	5583	566170	26234	534354	5583	566170	549226	569	1431	9361	566170
India	1329608	3793038	14270	5136915	1249182	3873463	14270	5136915	4439387	59257	85563	538439	5136915
2011-12													
Andhra Pradesh	25936	53007	2856	81799	15322	66477	0	81799	69931	7204	0	4664	81799
Jharkhand	209	309	1775	2292	0	2292	0	2292	2292	0	0	0	2292
Maharashtra	100413	603838	11730	715981	122858	593123	0	715981	550032	44485	46591	74873	715981
Rajasthan	11773	229176	7927	248876	30791	218085	0	248876	232276	7454	1423	7724	248876
Tamil Nadu	210551	990612	7616	1208778	262291	946487	0	1208778	1167752	10380	0	30645	1208778
Uttar Pradesh	75669	653449	15596	744714	99229	645485	0	744714	711010	0	0	33703	744714
India	1221161	4534837	145491	5901489	1228324	4673165	0	5901489	5266583	103347	66478	465081	5901489
2018-19													
Andhra Pradesh	90976	71761	11219	173956	77090	96866	0	173956	142104	1483	7666	22703	173956
Jharkhand	0	23715	3283	26998	1001	25997	0	26998	25997	0	0	1001	26998
Maharashtra	173364	303823	169684	646871	364177	282694	0	646871	484528	9524	33471	119348	646871
Rajasthan	36976	144257	3578	184811	24447	160364	0	184811	164999	4199	0	15613	184811
Tamil Nadu	525005	1002275	4762	1532041	542711	989331	0	1532041	1211932	33787	156441	129882	1532041
Uttar Pradesh	63722	433364	71790	568876	88039	480837	0	568876	508066	2934	15186	42689	568876
India	1810936	4332506	519996	6663437	1782958	4878544	1935	6663437	5703594	100031	317117	540760	6663437

Source: Computed from NSS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

states barring Uttar Pradesh saw a big increase in absolute numbers of regular salaried workers in terms of access to social security benefits in the textile, apparel and leather sector.

Similar trends are observed in terms of access to paid leave, where the total number of workers eligible for this benefit declined marginally in the first period (Table 3.10). In the second period, however, there is a sharp increase in this figure. As a result, the share of regular salaried workers with access to paid leave in the textile, apparel and leather sector increased from 20.8 per cent to 26.8 per cent between 2011-12 and 2018-19. Finally, in terms of the access to a written job contract and its duration, the number of regular salaried workers with one year or less contract increased from 59257 in 2004-05 to 100031 in 2018-19, an increase of nearly of 69 per cent. A similar trend could be seen in the number of regular salaried workers with one year to three years contract that increased from 85563 in 2004-05 to 317117 in 2018-19, an increase of nearly around 300 per cent. Like-wise, the number of workers with contract of three or more years increased from 538439 in 2004-05 to 540760 in 2018-19. The state level estimates also reflect similar trends, some states showing significant rise. Alongside the above, the regular workers with no written contract have increased from 4439387 in 2004-05 to 5703594 in 2018-19, which remains a cause of concern.

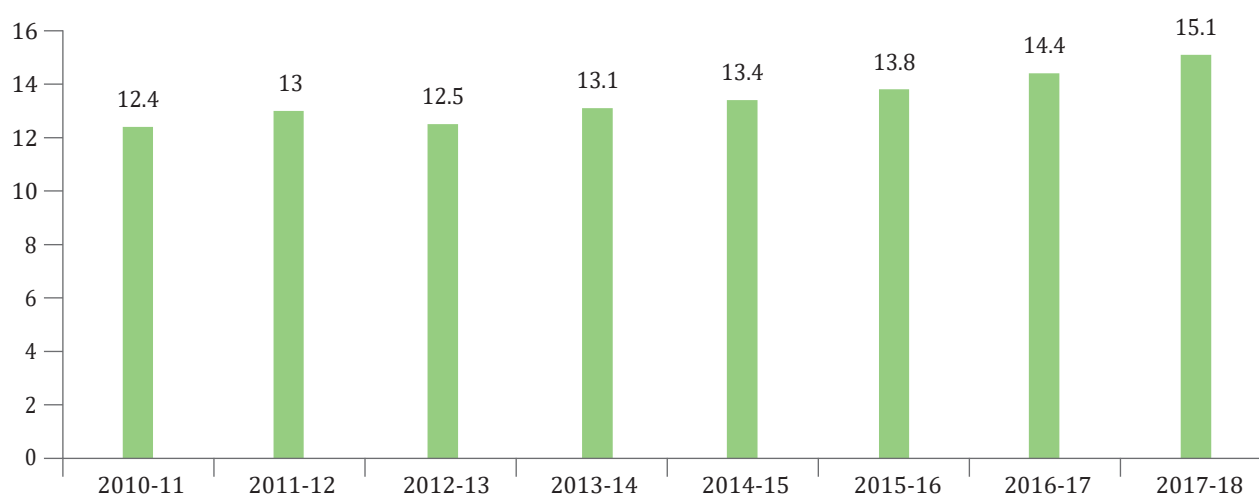
The above trends showing a positive movement toward improving the quality of employment conditions of regular workers in the textile, apparel and leather sector is worth mentioning. It is perceived that extending these benefits of access to social security, eligibility of paid leave and fixed-term contract to workers would enhance the morale and motivation of employees and in turn have a positive bearing on the productivity and the industry competitiveness.

3.2 Annual Survey of Industries

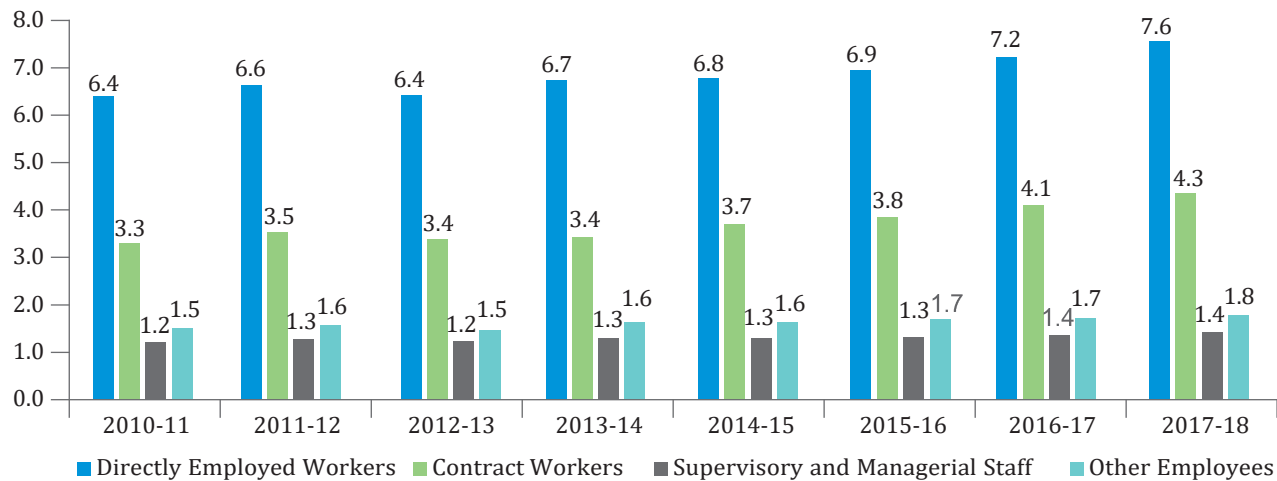
3.2.1 Employment Trends and Composition in Organised Manufacturing Sector

The focus of attention now turns to plant level data from the ASI database. To begin with, Figure 3.1 reports total employment in the organized manufacturing sector in India. In 2010-11, total employment stood at 12.4 million and increased to 15.1 million in 2017-18, the most recent year for which data is available. The rise in employment is faster between 2014-15 to 2017-18 (by 1.7 million) compared to previous period (by 1 million). Figure 3.2 reports the breakdown of employment by the different

Figure 3.1: Total Organised Manufacturing Employment in India (in millions)



Source: Computed from ASI plant level data for various years

Figure 3.2: Breakdown of Total Employment in Organised Manufacturing Sector in India (in millions)

Source: Computed from ASI plant level data for various years

categories of employees classified in the database (these have been described in Chapter 2). Workers (directly employed and contract) account for the largest share of total employment in the manufacturing sector, approximately 78 per cent for all the years under consideration. Supervisory and managerial staff and other employees account for a relatively smaller share of total employment. The increase in employment of 2.7 million witnessed over the time period is largely explained by the growth of the workers category i.e. directly employed and contract workers. While the former accounted for approximately 43 per cent of the total increase, the latter accounted for 38 per cent of the increase. The substantial contribution of contract workers to employment growth in the organized manufacturing sector is noteworthy. It also needs to be noted that in the first half of the time period under study (2010-11 to 2014-15), contract and directly employed workers accounted for a roughly comparable share (38 per cent) of the increase in total employment of 1 million. However, in the second half of the period (2014-15 to 2017-18), it is directly employed workers which account for a significantly larger share (46 per cent) of the increase in total employment of 1.7 million compared to contract workers (38.2 per cent). The increased contribution of directly employed workers to manufacturing employment in this period is a positive development and is also mirrored in the reversal of the trend of the informalisation of employment in the formal sector in the household surveys.

Next, employment trends in the organized manufacturing sector are reported at the state level (Table 3.11). Maharashtra and Tamil Nadu are amongst the most industrialized states in the country. While the former accounted for about 13 per cent of total manufacturing employment in India, the latter accounted for approximately 15 per cent of total manufacturing employment for the entire time period under study. In terms of the absolute increases in employment, too, these two states witnessed a substantial increase. While Tamil Nadu saw an increase of over 500,000 in organized manufacturing employment, Maharashtra saw an increase of about 300,000 employees. Uttar Pradesh accounted for approximately 6 to 7 per cent of total manufacturing employment in India and saw an increase of roughly 300,000 employees over the seven-year period. Both, Andhra Pradesh and Rajasthan, account for roughly 3.5 per cent of total manufacturing employment in India. However, while Andhra Pradesh saw a large increase in absolute numbers in manufacturing of over 570,000 employees (between 2012-13 and 2017-18), Rajasthan witnessed a smaller increase of only 122,000 in total employment. Jharkhand is the only state in this group which showed an undulatory trend.

Significantly, most states covered in this study, witnessed a larger increase in employment in the organized manufacturing sector in the second period (2014-15 to 2017-18) compared to the first period

(2010-11 to 2014-15). For instance, in state of Tamil Nadu, approximately 380,000 jobs were added in the second period compared to 174,000 in the first period. Similar was the case in Uttar Pradesh where 180,000 jobs were added in the second period compared to the first where a little less than 60,000 jobs were added. Maharashtra, is the only state, which saw a larger increase in the first period (185,000 jobs) compared to 114,000 in second period.

Table 3.11: Total Organized Manufacturing Employment in Selected States (in actual numbers)

2010-11	2011-12	2012-13	2013-14	States	2014-15	2015-16	2016-17	2017-18
417027	462916	428271	453431	Rajasthan	472717	491102	514102	539422
786183	831166	795598	874455	Uttar Pradesh	844759	898653	970262	1025072
1647316	1815253	1723759	1803914	Maharashtra	1831971	1912233	1882177	1946704
1906502	1877934	1919189	1997223	Tamil Nadu	2080063	2247695	2331662	2459638
180866	186586	181453	180614	Jharkhand	174250	170721	181241	179921
		486664	499677	Andhra Pradesh	506345	491719	539432	577954

Source: Computed from ASI plant level data for various years

As is the case at the all-India level, workers comprising of both directly employed and contract workers, account for the largest of manufacturing employment at the state level too. Table 3.12 below reports total workers for each of the states over the chosen time period. From these statistics, it is clear that over 70 per cent of total employment is accounted for by workers and it is this category of employees which account for a disproportionate share of increase in employment numbers. Separately, the number of contract workers across states is also reported in Table 3.13. As is the case with the organized manufacturing sector at the aggregate level in India, the number of contract workers is also rising steadily across all states. In Maharashtra, for instance, over 50 per cent of total employment increase is explained by an increase of contract workers. In Rajasthan the corresponding statistic is about 40 per cent. In states such as Uttar Pradesh and Andhra Pradesh a quarter of the increase in total employment in the organized manufacturing sector is accounted for by contract workers. In Tamil Nadu, contract workers accounted for a relatively smaller share (13 per cent) of increase in total employment. Jharkhand stands out in this analysis as it has witnessed a decline in total manufacturing employment over this time period despite seeing a substantial increase in contract employment.

Table 3.12: Total Workers in Organized Manufacturing Sector in Selected States (in actual numbers)

2010-11	2011-12	2012-13	2013-14	States	2014-15	2015-16	2016-17	2017-18
327866	350994	330944	345566	Rajasthan	367173	382273	401030	420251
613128	649887	618741	678225	Uttar Pradesh	649364	701640	754401	807585
123352	127711	122742	125008	Jharkhand	138161	135138	139066	143552
1171299	1281540	1201379	1281677	Maharashtra	1277492	1337441	1337986	1376751
1569535	1551760	1572448	1609104	Tamil Nadu	1709919	1867334	1946486	2046821
		394048	399658	Andhra Pradesh	409244	397742	440024	474020

Source: Computed from ASI plant level data for various years

Table 3.13: Total Number of Contract Workers in Organized Manufacturing Sector in Selected States (in actual numbers)

2010-11	2011-12	2012-13	2013-14	States	2014-15	2015-16	2016-17	2017-18
117915	132263	124018	136685	Rajasthan	144415	152490	170771	172053
222928	252611	224121	267172	Uttar Pradesh	233570	254976	264150	283418
26449	39091	43209	44340	Jharkhand	56619	55926	64769	64473
477307	523399	483575	553480	Maharashtra	528921	598273	604612	637137
315911	303028	308944	325714	Tamil Nadu	321643	330442	356410	389960
		101369	105177	Andhra Pradesh	104162	111510	128114	143344

Source: Computed from ASI plant level data for various years

3.2.2 Employment Trends and Composition in Organised Textiles, Apparel & Leather Sector

Employment statistics are also reported separately for three industries – the manufacture of textiles, wearing apparel and leather & related products as mandated by the ToR of the study. Before analysing employment trends in the organised manufacturing, it is important to draw attention to the fact that employment in these industries is largely concentrated in the informal and not the formal sector as reported in Section 2.

The statistics reported in Table 3.14 below focus specifically on the formal manufacturing sector of these three industries. The textile sector witnessed an increase in employment of over 233,000. In the wearing apparel sector, employment increased by 306,000, while the leather and related products industry witnessed a relatively smaller increase of 93,000. As the statistics in Table 3.14 indicate there is significant variation across states in terms of the performance of these industries with some states performing considerably better than others. Tamil Nadu accounts for a significant share of India's employment in these three sectors. For textiles, it accounts for 20-24 per cent of total employment. For the wearing apparel sector, its share is over 30 per cent and for leather & related products it is roughly 40 per cent. Uttar Pradesh, too, accounts for a significant share of employment (over one-fifth) in the leather & related products in India's organised manufacturing sector. In the apparel sector, too, Uttar Pradesh accounts for approximately 10 per cent of total employment in India. In terms of increase in employment over time, Tamil Nadu stands out. Cumulatively across all three sectors it saw an increase in employment of over 200,000. Andhra Pradesh, too, saw a significant increase in employment of 63,000 in the textile sector. Across all three sectors together, Andhra Pradesh saw an increase of almost 100,000 jobs in this period. Uttar Pradesh saw a cumulative increase in employment in these three sectors of approximately 68,000. Maharashtra, despite accounting for 10 per cent of total formal employment in the textile sector, saw a small increase in textile employment of a little over 10,000. In the apparel sector, it added employment of a similar magnitude – approximately 11,000. Rajasthan too saw a near doubling of employment in the wearing apparel sector during the period while adding in all about 18,000 jobs across the three sectors over this entire time period. Jharkhand is the one state where there is no significant employment in these three sectors.

3.2.3 Entry of New Firms into the Organised Manufacturing Sector

Another key variable of interest in the present study is the entry of new units or plants. Using data available on the age of the plant reported in the ASI schedule, the number of new entrants in the organized manufacturing sector can be computed. Table 3.15 reports these statistics for India as a whole and the

Table 3.14: Total Employment in Textile, Apparel and Leather in Organised Manufacturing Sector in India and Selected States (in actual numbers)

States	NIC-2008	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Rajasthan	Textiles	98650	95099	89739	96090	92842	96449	97174	99710
	Wearing Apparel	17801	17282	16174	15753	17218	20234	23465	31657
	Leather & Related Products	5888	6440	4513	7861	6444	5594	6930	8843
Uttar Pradesh	Textiles	39214	39096	38224	49932	44667	72171	55595	67040
	Wearing Apparel	81272	80903	81140	95587	87328	89940	103277	110226
	Leather & Related Products	66228	67467	60568	66583	69365	82471	88281	77937
Maharashtra	Textiles	141332	140171	139715	143804	154788	159554	151458	151480
	Wearing Apparel	44813	37118	43861	54855	39178	53017	38247	56527
	Leather & Related Products	4856	4622	4272	4549	3839	5901	4218	4527
Tamil Nadu	Textiles	354970	325262	298835	356603	363006	343652	363700	402198
	Wearing Apparel	284831	266763	316415	293767	314975	356708	387609	407784
	Leather & Related Products	122335	118088	114110	121500	138258	156190	150410	152442
Andhra Pradesh*	Textiles			76157	72357	71417	66693	56187	63401
	Wearing Apparel			10492	14335	19334	20215	22106	23339
	Leather & Related Products			8174	6280	8078	9480	12373	12652
Jharkhand	Textiles	698	576	566	439	1051	776	742	1405
	Wearing Apparel		114	105					
	Leather & Related Products	116	14						
India	Textiles	1445679	1451450	1412026	1499777	1544683	1564071	1554025	1679526
	Wearing Apparel	880360	920658	923688	980730	991784	1081073	1138933	1186846
	Leather & Related Products	294089	305264	286377	313409	328573	380150	391325	387037

Source: Computed from ASI plant level data for various years

selected states for the period between 2010-11 and 2017-18. On average, the number of new entrants in any given year have varied between 2600-3500 plants in India. Amongst the selected states, the more industrialized states of Tamil Nadu, Maharashtra and Andhra Pradesh have attracted a significant share of new entrants. This is followed by Uttar Pradesh and Rajasthan. Jharkhand has attracted a miniscule share of new entrants in any given year.

When the pre-reform period is compared with the post-reform period, the cumulative number of new entrants in the organized manufacturing sector in India in the period between 2010-11 and 2013-14 stood at 13013, roughly comparable to the number of new entrants in the second period at 12547. At the state level, in all states barring Rajasthan, the number of new entrants in the first period exceeded the number of new entrants in the second period. Rajasthan has shown a consistent increase in the number of new entrants throughout the period from 2010-11 to 2017-18.

Table 3.15: Total Number of New Entrants into the Organised Manufacturing Sector in Selected States and All-India Level

2010-11	2011-12	2012-13	2013-14	States	2014-15	2015-16	2016-17	2017-18
42	67	142	146	Rajasthan	144	148	128	232
271	190	323	243	Uttar Pradesh	385	267	132	194
439	437	397	460	Maharashtra	335	191	298	250
335	194	235	280	Tamil Nadu	427	253	425	371
		654	586	Andhra Pradesh	352	452	340	426
124	100	45	72	Jharkhand	56	59	56	35
3301	2654	3492	3566	All India	3432	2742	2919	3454

Source: Computed from ASI plant level data for various years

3.2.4 Employment Distribution

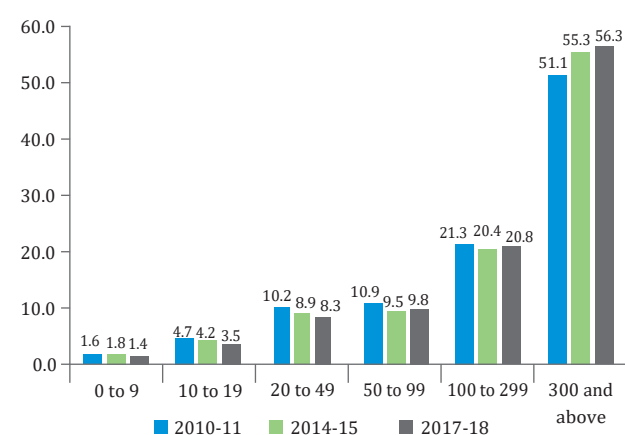
To examine whether plant size in India has increased over time and plants are indeed expanding, understanding the distribution of employment across plant size assumes importance. For undertaking such an analysis, plants are divided into six different size bins – 0 to 9 employees; 10-19 employees; 20-49 employees; 50-99 employees; 100-299 employees and 300 or more employees. Examining the evolution of the employment distribution across these different bins enables one to understand how the profile of plants vis-à-vis size is altering over time. It needs to be clarified here that even though the ASI database is supposed to comprise of firms with 10 or more workers, due to delays in updation of the ASI Frame, factories with fewer than 10 workers are not deleted in the frame and get captured in the ASI survey (Kapoor, 2019). For the sake of transparency, these factories/ plants are retained in the analysis, although they account for an extremely small share of total employment.

Figures 3.3 to 3.9 report the employment distribution for India and the selected states. For India, as a whole, the distribution of employment is reported for three time periods- 2010-11, 2014-15 and 2017-18. In the period between 2010-11 to 2014-15, the share of employment in manufacturing plants with 300 or more employees increased from 51.1 per cent to 55.3 per cent and further to 56.3 percent during the period 2014-15 to 2017-18. For the plants in the size bin of 50 to 99 employees and 100 to 299 employees, the share of employees declined between 2010-11 and 2014-15 and increased thereafter. Overall, the increase in the share of employment towards larger plants with 300 or more employees coupled with a decline in share of employment in small plants i.e. those with 10-19 and 20-49 employees can be seen as a positive development

as the firms move towards achieving economies of scale and scope. Similar trends are also observed at the state level. Across five states – Maharashtra, Tamil Nadu, Rajasthan, UP and Andhra Pradesh – there is an increase in the share of employment in the size bin comprising of 300 or more employees during 2010-11 to 2017-18. In the case of Rajasthan, the increase in the employment in the manufacturing firms has been a significant 10.3 percent from 40.9 percent in 2010-11 to 51.2 percent in 2017-18, followed by Tamil Nadu (8 percentage point increase), Andhra Pradesh (7.1 percentage point increase), Uttar Pradesh (4.8 percentage point increase) and Maharashtra (4.7 percentage point increase) during the period from 2010-11 to 2017-18. As of 2017-18, over 50 per cent of the employment in the manufacturing sector in all states was in plants with 300 or more employees. Jharkhand, one of the states in the country with abundant natural minerals, has however shown a different trend. About 68 per cent of total manufacturing employment in the state was reported in plants with 300 or more employees in 2010-11 but by 2017-18, this share had slipped to 63.8 per cent. Correspondingly, the share of employment in plants with 100 to 299 workers increased by over 4 percentage points. Two industries – manufacture of basic metal and manufacture of other non-metallic mineral products cumulatively account for approximately 60 per cent of total employment in organized manufacturing sector. Given the capital intensity and nature of activities in these two industries, plants on average are larger as compared to other industries. Hence, the high average share of large firms in Jharkhand compared to other states.

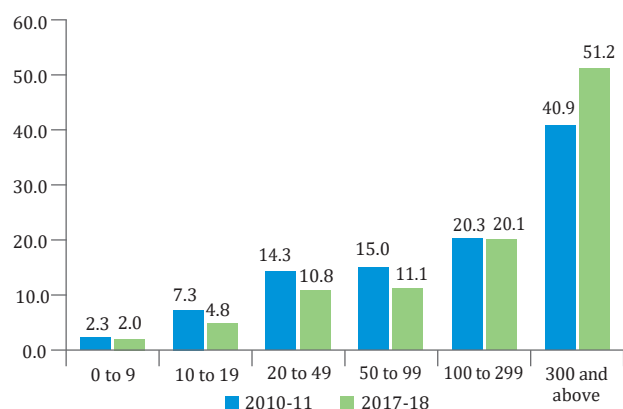
The shift in the employment distribution towards larger plants is also reflected in the increase in average size of plants. Table 3.16 reports the average plant size (i.e. average number of total persons engaged as reported in ASI schedule) over the years for India, as a whole, and each of the states under consideration. Average plant size in the organised manufacturing sector in India increased from 77.4 to 87.7 between 2010-11 and 2017-18. Significantly, in the first period (2010-11 to 2013-14), the average plant size increased only marginally. However, in the period thereafter, it increased sharply from 80.5 to 87.7. Significantly, all states barring Jharkhand, witness a sharper increase in the average plant size in the second period (2014-15 to 2017-18) compared to the first period (2010-11 to 2013-14).

Figure 3.3: Distribution of Employment by Plant Size (All India)



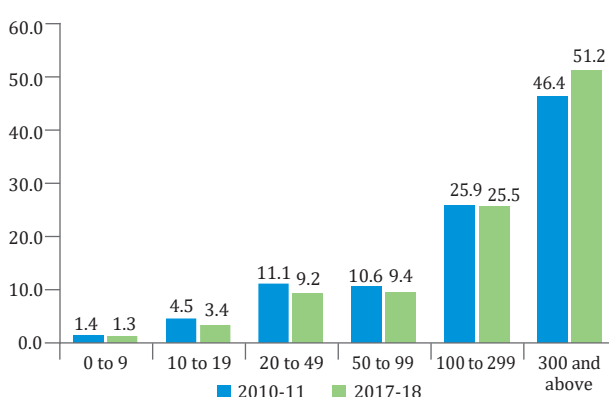
Source: Computed from ASI plant level data for various years

Figure 3.4: Distribution of Employment by Plant Size (Rajasthan)

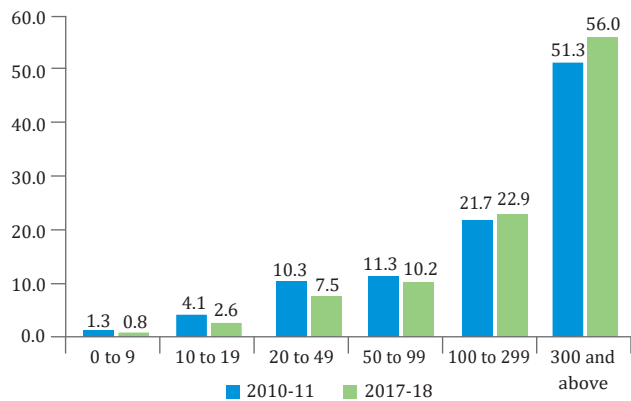


Source: Computed from ASI plant level data for various years

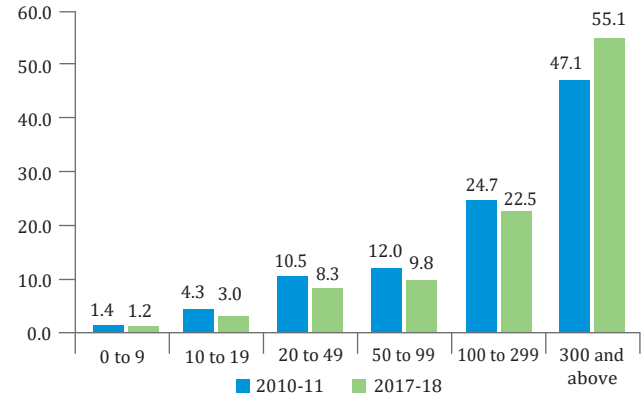
Figure 3.5: Distribution of Employment by Plant Size (Uttar Pradesh)



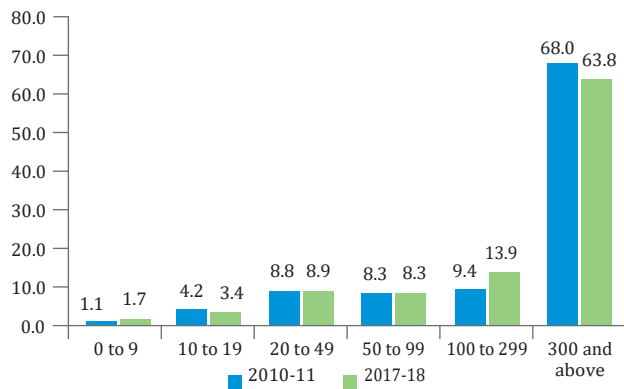
Source: Computed from ASI plant level data for various years

Figure 3.6: Distribution of Employment by Plant Size (Maharashtra)

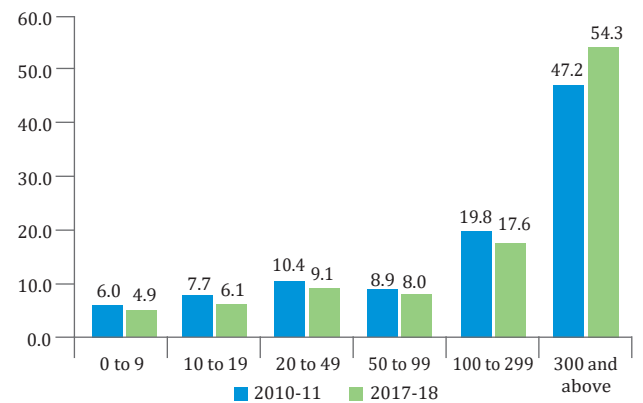
Source: Computed from ASI plant level data for various years

Figure 3.7: Distribution of Employment by Plant Size (Tamil Nadu)

Source: Computed from ASI plant level data for various years

Figure 3.8: Distribution of Employment by Plant Size (Jharkhand)

Source: Computed from ASI plant level data for various years

Figure 3.9: Distribution of Employment by Plant Size (Andhra Pradesh)

Source: Computed from ASI plant level data for various years

It is also worth drawing attention to heterogeneities in plant size across states. On average, plants in Jharkhand and Maharashtra are typically larger than the all-India average. Average plant size in Tamil Nadu and Uttar Pradesh typically approximates the national average, while Rajasthan is typically below the national average. Andhra Pradesh stands out for consistently reporting a plant size that is roughly half the national average.

Table 3.16: Average Number of Persons Engaged in Organised Manufacturing Plants in Selected States and at All-India Level

2010-11	2011-12	2012-13	2013-14	States	2014-15	2015-16	2016-17	2017-18
58.0	64.3	58.9	60.6	Rajasthan	63.0	65.1	68.6	70.4
77.4	81.0	77.1	79.6	Uttar Pradesh	77.4	81.1	84.6	90.5
82.9	87.0	84.9	84.0	Maharashtra	89.4	96.5	98.7	107.3
79.1	78.6	79.5	78.6	Tamil Nadu	80.8	88.1	86.9	90.0
91.7	91.8	101.7	85.8	Jharkhand	88.3	82.8	86.3	86.0
		42.4	41.7	Andhra Pradesh	42.7	41.7	45.3	47.9
77.4	80.3	79.1	78.6	All India	80.5	82.6	84.6	87.7

Source: Computed from ASI plant level data for various years

3.3 The Effect of Legislative Reforms: Difference in Difference Estimation

This section undertakes a difference in difference estimation using plant level data for the period between 2010-11 and 2017-18 as explained in Chapter 2 to understand the impact of the legislative amendments on plant level outcome variables. The basic econometric specification is as follows:

$$Y_{ijst} = \sum_s \text{State Fixed Effects}_s + \sum_t \text{Time Fixed Effects}_t + \sum_s (\text{State}_s * \text{Time}_t) + X_{ijt} + \kappa_i + \delta_j + \varepsilon_{ijst}$$

where i,j,s,t corresponds index for plants, industry (2-digit NIC), state and year respectively. Y_{ijst} represents plant-level outcomes like total persons engaged, total workers, total mandays worked by all employees and total mandays worked by workers. We introduce year fixed effects and state fixed effects in this specification. The interaction term between the state fixed effect and the year fixed effect is the key variable of interest that captures the casual impact of the legislative amendments on plant outcomes. X_{ijt} are plant level controls such as the age of the plant, share of output that is exported, dependence on external finance (defined as the share of outstanding loans in total invested capital) and fuel intensity of plant (defined as total fuel consumption as share of total inputs). These are widely used control variables at the plant level in line with the existing literature (Hasan, 2008; Ghose, 2015; Kapoor, 2018).

The categorization of states into control and treatment groups has been outlined in Chapter 2. It is worth reiterating that for undertaking this estimation, comparing plants in the treatment group with observationally similar control groups is important. Thus, the state of Rajasthan which had implemented all three legislative amendments (vis-à-vis increase in thresholds) in 2014-15 is compared with the state of the Jharkhand, which implemented these reforms only in 2017-18. This provides us with data for two years in the interim when Rajasthan had implemented the amendments, but Jharkhand had not. The results of this comparison are reported first. This is followed by comparison of Maharashtra and Andhra Pradesh, both of which implemented the reforms in 2015-16, with Tamil Nadu which has not implemented any of the reforms to-date. The comparison amongst these states is appropriate as these are amongst the most industrialized states in India. Comparisons of states which were highly industrialized to begin with, with states which are not, would not be appropriate.

a. Comparison of Rajasthan with Jharkhand

Table 3.17 presents results of the impact of labour reforms on employment outcomes. Rajasthan implemented the amendments in 2014-15 and for this reason the year, 2013-14, prior to the introduction of the reform is taken as the base year for the specification. The interaction terms of the state fixed effects with the year fixed effects for years after 2013-14 capture the impact of the amendment on plant outcome variables. The inclusion of year fixed effects in the specification enables us to capture the heterogenous impact of the reform separately for each year after the reform. This is important as it may well be the case that the reform does not have a significant impact in the year it was introduced, but kick in two-three years thereafter.

From the results in Table 3.17, we find that interaction terms for the state fixed effect and year fixed effect for the year 2014-15 and thereafter is statistically insignificant. This suggests that compared to Jharkhand, plants in Rajasthan did not see any significant increase in employment outcomes in the post amendment period as compared with the pre amendment period. This result remains unchanged as we use different outcome variables – total employment, total workers and man-days worked. It is important to clarify here that the absence of a significant positive impact in the regression specification does not imply that the reform has an adverse effect. The insignificant impact in the regression could be a result of two factors. One, the lack of data availability for a sufficiently long time period post the introduction of the reform. Two, that labour regulations are just one of the factors in the policy mix impacting industrial performance, in particular employment growth in the industrial sector. The growth of employment in the state is not just a function of how rigid or flexible labour laws are. Instead, there are larger issues concerning the size

of market, capital formation, credit availability, infrastructure, and government policies, which determine the pace and composition of industrial growth. The absence of the necessary pre-requisites a priori in a state may well be the reason for no significant impact of legislative amendments in the state. Therefore, the role of labour regulations may be more modest than the intensity of the debate suggests.

Table 3.17: Employment Outcomes for Plants – Comparison of Rajasthan with Jharkhand

	Log (Employees)	Log (workers)	Log (total man-days worked by all employees)	Log (total man- days worked by all workers)
	(1)	(2)	(3)	(4)
Treatment# (2010-11)	-0.049 (0.048)	-0.038 (0.052)	-0.081 (0.052)	-0.033 (0.057)
Treatment# (2011-12)	0.054 (0.045)	0.074 (0.049)	-0.006 (0.049)	0.058 (0.053)
Treatment# (2012-13)	-0.013 (0.039)	-0.004 (0.043)	-0.069 (0.042)	-0.055 (0.046)
Treatment# (2014-15)	-0.022 (0.038)	-0.014 (0.042)	-0.043 (0.041)	-0.031 (0.045)
Treatment# (2015-16)	-0.050 (0.040)	-0.030 (0.045)	-0.052 (0.044)	-0.017 (0.048)
Treatment# (2016-17)	0.032 (0.039)	0.043 (0.043)	0.016 (0.042)	0.053 (0.046)
_cons	3.614*** (0.115)	3.880*** (0.534)	9.551*** (0.262)	10.644*** (0.554)
Plant fixed effects	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes
State fixed effects	yes	yes	yes	yes
Industry Trends	yes	yes	yes	yes
Plant Controls	yes	yes	yes	yes
N	14180	13974	14176	13982

Note: Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

b. Comparison of Andhra Pradesh with Tamil Nadu

Results of a difference in difference estimation between Andhra Pradesh and Tamil Nadu are reported in Table 3.18. Andhra Pradesh, the treatment group, implemented all reforms in 2015-16, while Tamil Nadu has not implemented any reforms. It needs to be noted that this analysis starts in 2012-13 as data for Andhra Pradesh is used for the period post the bifurcation of the state into Andhra Pradesh and Telangana. The base year for reference purposes in the empirical specification pertains to 2014-15, a year before Andhra Pradesh, implemented the legislative amendments.

The interaction terms for the years after 2014-15 are the relevant variables to understand the impact of the amendment. Here, it is noted that while there is no significant impact of the amendment on plant size as defined by total persons engaged in column 1, there is a significant positive impact on the total workers employed in the plant. Significantly, this effect is seen only in 2017-18, three years after the introduction of the amendment. Column 4 and 5 report the results using total man-days worked as the outcome variable. Here, too, it is seen that the man-days worked, by all persons engaged and all workers, have increased in Andhra Pradesh when compared to Tamil Nadu, in the period post the introduction of the reform relative to the period before the reform. Once again, these significant positive effects are seen only in 2017-18. Importantly, the effect of the amendment on man-days worked is larger than what is seen when average number of workers are used as outcome variable. For instance, if we examine the co-efficient on the interaction terms of interest, we find a larger effect when the outcome variable is man-days worked (7.6 per cent in column 4) compared to when the outcome variable is number of workers (4.4% in column 3). This may be because workers are working greater number of hours or doing double shifts and thus the effect is larger on man-days worked.

Table 3.18: Employment Outcomes for Plants – Comparison of Andhra Pradesh with Tamil Nadu

	Log (Employees)	Log (workers)	Log (total man- days worked by all employees)	Log (total man- days worked by all workers)
	(1)	(2)	(3)	(4)
Treatment# (2012-13)	0.059** (0.028)	0.080*** (0.027)	0.082*** (0.031)	0.098*** (0.028)
Treatment# (2013-14)	0.063** (0.027)	0.060** (0.025)	0.090*** (0.029)	0.079*** (0.027)
Treatment# (2015-2016)	0.022 (0.028)	0.006 (0.026)	0.043 (0.030)	0.027 (0.028)
Treatment# (2016-17)	-0.004 (0.026)	0.004 (0.025)	0.023 (0.028)	0.029 (0.027)
Treatment# (2017-18)	0.033 (0.027)	0.044* (0.025)	0.075*** (0.029)	0.076*** (0.027)
_cons	4.476*** (0.088)	4.021*** (0.082)	10.160*** (0.095)	9.734*** (0.088)
Plant fixed effects	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes
State fixed effects	yes	yes	yes	yes
Industry Trends	yes	yes	yes	yes
Plant Controls	yes	yes	yes	yes
N	49799	48308	49488	48350

Note: Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

c. Comparison of Maharashtra with Tamil Nadu

The final comparison is for Maharashtra and Tamil Nadu. The former implemented the increase in threshold for Chapter VB of the Industrial Disputes Act in 2015-16, while Tamil Nadu has not done so. Here, the base year for reference in the empirical specification is taken as 2014-15. And the interaction terms of interest for understanding the impact of the amendment correspond to the years after 2014-15. The results of the analysis reported in Table 3.19 below show that in Column 1 and 3 when the outcome variables are size of plant (as defined by total persons engaged in plant) and total mandays workers by all employees, the interaction effects are positive and statistically significant for the years 2016-17 and 2017-18. This tells us that the impact of the amendment on the employment variables has set in soon after the amendment unlike the estimates reported in subsection (a) and (b) above. This could be as explained by the fact that in states which were more industrialized to begin with and had the necessary enabling environment ex-ante, the amendments had a significant positive effect sooner compared to states which did not. The significant impact of the amendments in this comparison (Maharashtra and Tamil Nadu) as compared to insignificant impacts observed in the comparison between Rajasthan and Jharkhand point to the heterogeneous effects of the amendments and the fact that relaxing labour regulations, alone, cannot accelerate the pace of job creation in the formal manufacturing sector.

Table 3.19: Employment Outcomes for Plants – Comparison of Maharashtra with Tamil Nadu

	Log (Employees)	Log (workers)	Log (total man-days worked by all employees)	Log (total man-days worked by all workers)
	(1)	(2)	(3)	(4)
Treatment# 2010-11	-0.050*** (0.018)	0.016 (0.018)	-0.033* (0.020)	0.018 (0.019)
Treatment# 2011-12	0.018 (0.018)	0.062*** (0.018)	0.031 (0.019)	0.066*** (0.019)
Treatment# 2012-13	0.018 (0.017)	0.059*** (0.017)	0.029* (0.018)	0.063*** (0.018)
Treatment# 2013-14	0.011 (0.016)	0.034** (0.016)	0.029* (0.017)	0.040** (0.017)
Treatment# 2015-16	-0.009 (0.016)	-0.006 (0.016)	0.007 (0.017)	0.004 (0.017)
Treatment# 2016-17	0.028* (0.015)	-0.010 (0.016)	0.030* (0.016)	-0.003 (0.016)
Treatment# 2017-18	0.056*** (0.016)	0.006 (0.016)	0.072*** (0.017)	0.020 (0.017)
_cons	4.319*** (0.068)	3.926*** (0.069)	9.988*** (0.072)	9.615*** (0.072)
Plant fixed effects	yes	yes	yes	yes

	Log (Employees)	Log (workers)	Log (total man-days worked by all employees)	Log (total man-days worked by all workers)
	(1)	(2)	(3)	(4)
Year fixed effects	yes	yes	yes	yes
State fixed effects	yes	yes	yes	yes
Industry Trends	yes	yes	yes	yes
Plant Controls	yes	yes	yes	yes
N	75883	7447	75717	7455

3.4 Main Findings

This chapter presented key stylized facts and trends based on household survey data for the period 2004-05 to 2018-19 and enterprise survey data for the period 2010-11 and 2017-18. Trends from household surveys indicate that overall employment in India has been increasing steadily between the first period (2004-05 to 2011-12) and the second period (2011-12 to 2018-19) as well. The structural transformation entailing a shift of employment from the agriculture to non-agricultural sector has occurred over both periods of time across all states.

Significantly, the share of regular salaried workers has increased, particularly in the period between 2011-12 and 2018-19, marking an improvement in the quality of employment. It is also noteworthy that employment in the formal sector has been rising over time. What is more, the trends of informalization in the formal sector witnessed in the period between 2004-05 to 2011-12 have reversed in the later period. Both these factors together have led to a decline in the share of informal employment in India from 92.6 per cent in 2004-05 to 88.07 per cent in 2018-19. These trends are largely mirrored at the state level, too.

Separately, a detailed examination of the quality of employment vis-à-vis access to social security, eligibility to paid leave and existence of a job contract undertaken shows that there is a steady increase in the number of employees getting access to social security and paid leave. Further, the number of employees getting access to written job contract (less than one year, one to three years and more than three years) has shown a steady increase in the non-agricultural sector during the period 2004-05 to 2011-12 to 2018-19. This trend of positive development has also been seen for the country as a whole and also for the six states under study. What more, these positive trends has also been seen in the Textiles, Apparel and Leather manufacturing sectors too which are labour intensive. Hence, it can be said that, in the manufacturing sector, as a whole, there is a steady increase in share of workers with jobs that have the characteristics of 'good or decent jobs'.

In terms of the enterprise databases, it is observed that employment in the organised manufacturing sector has increased over time. A larger increase of 1.7 million is observed in the period between 2014-15 to 2017-18 compared to the increase of 1 million in the period between 2010-11 and 2014-15. While both directly hired and contract workers have contributed to the increase in total employment in the organised manufacturing sector, the former accounted for a significantly larger share in the second period compared to the first period. The shift towards directly employed

workers is a welcome development given the increasing contractualisation of the workforce in the sector after 2000-01 (Kapoor & Krishnapriya, 2018). Another positive development is the increase in share of employment in large plants over time. This is also reflected in the increase in the average plant size across states.

In the final section of this chapter, a difference in difference estimation is undertaken to evaluate the impact of the legislative labour amendments in specific states. The results of the difference-in-difference estimation presented above offer interesting policy takeaways. The impact of the reforms appears to be heterogeneous effects both across states and over time. For instance, in the comparison of Rajasthan and Jharkhand, no significant effect of the reform amendments vis-à-vis the increase in threshold appears to have kicked in till 2016-17. In contrast, in the comparison of Andhra Pradesh with Tamil Nadu, the impact of the amendments on employment outcome in the treatment group kick in two years after the amendments. Similarly, in the Maharashtra and Tamil Nadu comparison, the impact of the amendment kicks in the year following the amendment. This heterogeneity may be a consequence of the fact that in some states, perhaps those which are more industrialized to begin with and had the necessary ecosystem that created an enabling environment for the manufacturing sector to grow, the reform effects have kicked in sooner than the others. This indicates that labour reform is just one element in the overall policy mix and if it has to act as a catalyst and shows effect quickly, then other pre-requisites need to be in place a priori. It also needs to be reiterated that the absence of any significant results cannot be interpreted as a negative impact of the amendments. Typically, in developing economies, these effects take few years to kick in and data for a sufficiently long period of time would be required after intervention to precisely estimate the effect. In the analysis undertaken here, ASI data is available for only two-three years after the intervention.

Impact of Labour Reforms on Industry: Perspectives of Employers' Associations

As discussed in Chapter 3, the labour reform measures undertaken by the States have a direct bearing on the organised sector of India. It was a long-standing demand of the industry to unshackle the organised sector, especially organised manufacturing sector from the regulatory burden and complex compliance process so that the sector can contribute effectively to the India's growth story much like the services sector. Given this background, the views and perceptions of the employers' associations on the effect of such reforms was ascertained as a part of primary data collection process (discussed in Chapter 2). Views/data from four big employers' association of the country namely the Associated Chambers of Commerce and Industry of India (ASSOCHAM), the Confederation of Indian Industry (CII), Federation of Indian Chambers of Commerce and Industry (FICCI) and PHD Chamber of Commerce and Industry (PHDCCI) was solicited. The broad type of questions asked to these employers' associations have been listed in Appendix II. This chapter provides a detail report on the effect of regulatory and administrative reforms on the organized sector from the perspective of employers' associations.

4.1 Membership Profile

The employers' associations have a large and diversified membership base which includes enterprises of all size/ classes (Table 4.1). The analysis shows that except FICCI, the other three associations have a higher share of micro enterprises in their portfolio accounting for almost 50 per cent of their total memberships. As far as FICCI is concerned almost 40 per cent of their employer members have large enterprises and 21 per cent members are owners of medium enterprises.

Table 4.1: Type and Size of Membership by Employers' Associations

	Type of Enterprises			
	Micro	Small	Medium	Large
ASSOCHAM	50%	16%	9%	25%
CII	51%	15%	22%	12%
FICCI	17%	22%	21%	40%
PHDCCI	50%	19.50%	11%	19.50%
Average	42%	18.12%	15.75%	24.12%

Further, the distribution of members by National Industrial Classification (NIC), 2008 shows that in case of FICCI and CII, 53-57 per cent of the total members operate in the manufacturing sector and approximately 40 per cent in the services sector. On the other hand, ASSOCHAM and PHDCCI have a higher share of members operating either in services or in other sectors. For these latter two association manufacturing members account for approximately one quarter of the total membership (Appendix VI).

4.2 Perspectives of the Employers' Associations on Legislative Reforms

4.2.1 Level of Awareness about Legislative Reforms

As far as level of awareness about the legislative reforms are concerned, ASSOCHAM, CII and FICCI responded that all their members are fully aware about the four legislative reforms undertaken by the



State governments while PHDCCI expressed that the level of awareness varies across the four legislative reforms. While all the members of PHDCCI are aware of the changes in the threshold under CLRAA, many are not aware of the changes related to other three reforms. More than 50 per cent are aware about big ticket reforms relating to changes in the threshold of industrial disputes and factories acts and less than 50 per cent are aware about introduction of FTE. Table 4.2 portrays the level of awareness of the reforms by all four chambers.

Table 4.2: Level of Awareness among Member Employers with respect to Legislative Reforms

Employers' Associations	Industrial Disputes Act 1947 (u/s 25 K of VB threshold increased from 100 to 300)	Factories Act of 1948 (u/s 2(m) threshold increased from 10 to 20 with power and 20 to 40 without power)	Contract Labour Act of 1970 (u/s 1(4) threshold increased from 20 to 50)	Introduction of Fixed Term Employment in select industries since 2018
ASSOCHAM	100%	100%	100%	100%
CII	100%	100%	100%	100%
FICCI	100%	100%	100%	100%
PHDCCI	>50%	>50%	100%	<50%

4.2.2 Impact of Changes in Industrial Dispute and Factories Act

The industry associations reported that manufacturing sector and within manufacturing, sectors such as garments, apparel, logistics, electronics and food and beverage sectors have largely benefitted from the changes in threshold limit under the Industrial Disputes (IDA) and Factories Act (FA). FICCI also noted that construction and plantation sector have also been benefitted from these two reforms. FICCI further reported that sectors like, machinery and equipment, metal products and MSMEs have derived maximum benefit from changes in threshold under the Factories Act.

The industry associations agreed that changes in threshold under IDA and FA encouraged entry of start-ups/new establishments and existing industries to expand their production/service capacity further. However, they were unable to provide any definitive evidence to support this and expressed the need to undertake surveys to produce data on these aspects. In this context, some of the industry association on the basis of their understanding stated the followings, which could be taken as positive impact of the reforms.

- CII and FICCI stated that many projects which were on hold earlier restarted post the above two reforms;
- FICCI stated that about 8 establishments who are their members have expanded their production/service capacity;
- FICCI, ASSOCHAM and PHDCCI reported generation of additional employment up to 1 lakh each by their respective members in the post reforms period.

On the question of whether the reform encouraged transition of establishments from micro to small and from small to medium size enterprises, only CII and ASSOCHAM responded affirmatively, while the other two association did not respond to the question. CII further reported that such reforms have encouraged establishments to move up the value chain but shared that documentation on such transition is yet to be initiated by the association from States. Further, all the association reported that these two reforms have reduced the compliance burden on the establishments.

The primary survey also asked questions to assess the impact of changes in threshold under IDA on employer-employee relationship, strikes and lockouts and exit of firms from the business. The response of the association is reported in Table 4.3. The table shows that all the employers' associations are near unanimous in their response and agreed that changes in threshold under IDA led to improved employer-employee relationship, reduction in number of strikes and lockouts; and facilitated faster and easier exit of firms/establishments from their respective business.

Table 4.3: Impact of Changes in thresholds under IDA, 1947 in the threshold in the Select Indicators

	Impact Indicators		
	Improved Employer-Employee Relationship	Less no. of strikes and lockouts in establishments	Faster & easier exit of firms/ establishments from their respective business
ASSOCHAM	Agree	Agree	Agree
CII	Strongly Agree	Agree	Agree
FICCI	Strongly Agree	Agree	Agree
PHDCCI	Agree	Agree	Agree

Lastly, the industry associations were also asked about the nature and type of challenges and hurdles they face while getting the industrial disputes and litigations arising at the workplaces resolved, post enhancement in the threshold under IDA and FA. While FICCI and PHDCCI expressed that they faced no challenges, CII and ASSOCHAM reported some challenges/hurdles which are reported as below –

- CII – challenges after changes in threshold under IDA: (a) recognition of trade unions: demands of unions do not really represent the workers and (b) delays in the official recognition process;
- CII – challenges after changes in threshold under FA: requirement of multiple approvals from multiple agencies; gap between stated policy and implementation in practice – single window clearance processes do not work as laid down; time taken to get approvals varied from one industrialist to another and that these delays are avoidable.
- ASSOCHAM – challenges after changes in threshold under FA: officers in the States need to be in sync about timelines for granting approvals and effectiveness of single window clearance system requires improvement on ground as it takes longer time to process for the approvals in various connected offices in the States.

4.2.3 Impact of Changes in the CLRAA

As discussed in Chapter 3, contract workers form an important component of the total workforce in the organised sector. Industry prefers to deploy contract workers for a variety of reasons over permanent workers. Some of notable reasons cited by the employers' association are – flexibility in maintaining efficiency and productivity, reduction in long-term labour costs and shorter hiring process and ease of separation (Table 4.4). Engagement of contract workers also entails certain demerits most notable among them is the unavailability of skilled contractual workforce on demand and need for training every time the contract workers get replaced. Given that merits of engagement of contract workers far outweigh the demerits, industry prefers contract workers for a number of reasons.

Table 4.4: Merits and Demerits of Hiring Contract Workers versus Permanent Workers

Employers' Association	Merits	Demerits
ASSOCHAM	• Flexibility in maintaining efficiency and productivity • Ease of separation and cost effectiveness	• Unavailability of skilled work force on requirement • Confidentiality gets compromised by workers. • Workers do not get employee benefits
CII	• Flexibility in maintaining efficiency and productivity	-
FICCI	• Easy to ramp up on demand • Not a permanent liability • Skilled workforce	• Contractors defaults • Cultural difference • Train the replaced employees every time hired
PHDCCI	• Reduced long-term labour costs • Shorter hiring process • Higher control of the type and amount of work completed	• Spending time in training the new hires for each project which results in loss of productivity • No job stability/security • Workers tend to leave a contract job for more remunerative jobs

On the subject of impact of enhancements in thresholds under CLRAA on employers, all the employers' association unanimously agreed that increase in threshold has positively impacted their businesses (Table 4.5). Barring PHDCCI, the remaining employers' association agreed that reform in the CLRAA has encouraged engagement of more contract labourers (Table 4.5). FICCI further supplemented that tea plantation, automobile and garments are some of the sectors which has witnessed increasing use of contract labour in the post-reform period.

Table 4.5: Employers Associations' views on the Impact of changes in CLRAA

Employers' Associations	Positive Impact of Change in the threshold of CLRA on Employers	Positive Impact of Change in the threshold of CLRA on Employees	Whether reform in CLRA encouraged more engagement of contract labours	Whether the increase in threshold under CLRA improved the employment quality
ASSOCHAM	Agree	Agree	Agree	Agree
CII	Strongly agree	Strongly agree	Agree	Agree
FICCI	Agree	Neither agree nor disagree	Agree	Agree
PHDCCI	Agree	Neither agree nor disagree	Disagree	Agree

However, in term of its impact on employees, the response of chambers was divided. While ASSOCHAM and CII agreed/strongly agreed that changes under CLRAA have had a positive impact on employees, FICCI and PHDCCI took a neutral stand by stating that they 'neither agree nor disagree' with this

view. However, FICCI and PHDCCI have agreed that the increase in threshold from 20 to 50 has led to a betterment in employment quality in terms of higher wages, better working hours, better working conditions and enhanced coverage under contributory social security among contract labourers compared to the pre-reform period.

Further, the ASSOCHAM and CII have stated that increasing use of contract labour in the post reform period should not be viewed as contractualisation of workforce but improvement in employment quality and rising formalization among contract workers. According to them, reform has promoted consolidation of contract workers with complied contractors due to significant reduction in the requirements for obtaining registration and licenses and improvement in ease of compliance. As a result, most of the contract workers are sourced from the organized contractors which has led to improvement in the employment quality as such workers are offered better working hours and working conditions and social security. Another reason which could be behind improvement in the employment quality and more formalization is the mandatory execution of a written job contract before deployment of contract workers in employers' location. All the employers' associations stated that more than 80 per cent of their member employers mandate a written job contract for establishing the employment relationship which helped in protecting the rights of the contract workers and safeguarding their interest.

Lastly, the employers' association reported that no member employers have faced any major hindrances and impediments dealing with contractors and contract workers post introduction of reforms under CLRAA.

4.2.4 Impact of Introduction of FTE

Only two employers' associations (i.e., CII and FICCI) responded that their member employers have hired FTE workers post its introduction in 2018. Both the association reported that they recruit fresh talent from the market as FTEs and do not resort to any actions of converting of existing permanent contract employees into fixed term contract employees. In this way, the industry association views that by appointing FTEs, they create additional employment opportunities. As far as the extent of additional employment creation is concerned, CII responded that approximately up to 3 percent of new recruitments comprised of FTEs, while FICCI responded that 50 per cent of all new jobs created by their members are accounted by FTEs.

Both CII and FICCI responded that they engage FTEs on the basis of written contract and the typical duration for which such contracts are issued ranges from 6 months to 1 year. As far as renewal of fixed term contract after the contract durations are over, CII and FICCI reported that their member employers renew 20 per cent of such contracts for a second term. All the four Chambers reported that most of their members treat FTE workers at par with permanent workers in terms of provision of wages, working hours, social security and other statutory benefits, thereby negating the popular narrative that introduction of FTEs will result in more informality among the employees.

Engagement of FTEs although was initially restricted to textile, apparel and leather industries but subsequently the scope of its use was allowed in other sectors. Therefore, the employers association responded that in addition to the textile, apparel and leather, FTEs are also used in other sectors such as manufacturing, logistic, IT/ITES, e-Commerce, BFSI, tourism, real estate and MSME. The association also strongly agreed that introduction of FTE has contributed to the improvement in productivity, competitiveness and sustainability of their businesses significantly. It has also enabled them to complete projects on time with strict budget, get the niche skills for the required time period and replace permanent absent employees, whose return date is unknown (Table 4.6). CII reported that FTEs give a sense of belongingness for the establishments for which they FTE's work.

Table 4.6: Merits and Demerits in Hiring Fixed Term Employees vis-à-vis Permanent Workers and Contract Workers

Employers Association	Merits	Demerits
CII	• Sense of belongingness to the workers • Social Security • Gratuity	-
FICCI	• FTEs best for Projects • Get niche skill for required time period • Good for gig workers	• Best skills may prefer full time employment • Lack of sense of belongingness • Cultural mismatch
PHDCCI	• FTE covers a job when an employer has a strict budget as they can predict labour costs more easily. • Help to cover for absent employees whose return date is unknown. • FTE contracts allow for the termination of the contract, once the fix term or specific purpose has been completed.	• FTE workers contract is time limited: they are not permanent staff members. • It can be harder to build a cohesive team with significant turn over from FTE work force.

Employers association also reported that they face problems in hiring FTEs. CII reported that trade unions object hiring through FTC contract. Similarly, FICCI reported that trade unions resist hiring of FTEs from amongst existing workers from within the establishment and demand priority to be given to contract workers while hiring FTEs. Notwithstanding this, both the association reported that there have been no instance of industrial disputes arising after engaging workers on FTE and after completion of their tenure, which is noteworthy.

4.3 Perspectives of Employers' Associations on Administrative Reforms

4.3.1 Level of Awareness about Administrative Reforms

Unlike legislative reform measures, the level of awareness about four administrative reforms is very high among the members of all the four employers association (Table 4.7). This shows the popularity of the administrative reforms undertaken by the States meant to reduce the compliance burden and promote 'easy of doing business'.

Table 4.7: Level of Awareness among Member Employers with respect to Administrative Reforms

Associations Employers'	Self-certification	Single window clearance	Transparent Inspection System	Online filing of applications for registration, license and returns
ASSOCHAM	100%	100%	100%	100%
CII	100%	100%	100%	100%
FICCI	100%	100%	100%	100%
PHDCCI	>50%	>50%	>50%	100%

While awareness level is high, proportion of members who are availing these facilities varies (Table 4.8). While between 80 to 100 per cent of the members of all the four associations are availing online filing of applications for registration, license and returns, in case of self-certification and single window scheme, percentage share of members who are availing these facilities is not encouraging, except for members who are affiliated with FICCI.

Table 4.8: Percentage of Member Employers availing Facilities under various Administrative Reforms

Employers' Associations	Self-certification scheme	Single Window Clearance Scheme	Online Filing of Annual Returns
ASSOCHAM	-	-	Over 90%
CII	Less than 20%	-	95%
FICCI	40-60%	60-80%	100%
PHDCCI	20-40%	Less than 20%	Over 80%

4.3.2 Impact of Introduction of Self Certification Scheme (SCS)

All the employers associations reported that introduction of SCS has benefited their member employers and they described the interface of administrative compliance under the SCS as satisfactory and an excellent industry friendly reform. Members reported various types of benefits they received from SCS such as reduction in administrative burden, transaction and compliance costs; reduction in time to complete procedures and formalities and increased trust in labour administration/government machinery.

Despite being considered as an industry friendly reform, the employers association were divided on their response to the extent to which introduction of SCS has increased the level of their compliances with labour regulations. While PHDCCI said it has certainly improved compliance level, FICCI and CII provided divergent opinion. FICCI stated that lack of awareness amongst its members is a constraining factor, while CII opined that lack of clear inspection guidelines and in spite of subscribing to SCS employers face inspection due to non-updation of database at regular intervals.

All the employers associations barring FICCI stated that none of their member violated self-certification of compliance scheme and therefore didn't faced any complaint based inspection. However, FICCI reported that less than 20 per cent of their members faced inspection due to violation of SCS.

4.3.3 Impact of Introduction of Single Window Clearance System (SWCS)

Data relating to impact of SWCS was provided by only two employers' association, namely FICCI and PHDCCI. FICCI states that 60-80 percent of their members regularly avail the services of SWCS; whereas it is less than 20% in case of PHDCCI.

Most commonly availed services under the single window clearance system includes clearances related to real estate, tourism, manufacturing, automobile and MSMEs. According to both FICCI and PHDCCI, their members feel comfortable in obtaining services under SWCS and praised the good quality services being provided under this scheme. In the opinion of FICCI, faster processing and non-complicated procedures under SWCS significantly facilitated ease of doing business, in attracting FDIs and in setting up of more establishment/start-ups.

4.3.4 Impact of Introduction of Transparent Inspection System (TIS)

Shram Suvidha portal is the only mode of TIS that is being practiced as per all the four employers' association. The employers association shared that their experience with the new transparent inspection model as compared to earlier method is good (PHDCCI), satisfactory (CII) or excellent (FICCI). To the question, whether the introduction of the TIS has increased the level of compliance to labour regulation associations provided contrasting opinion. While FICCI and PHDCCI completely agreed/agreed with the statement, CII and ASSOCHAM chose to remain neutral and stated that they neither agree nor disagree with this statement. CII further supplemented their stand by stating that their members face hurdles in the form of too many compliance requirements and duplicate compliance requirement by multiple authorities under various labour laws. Notwithstanding this bottleneck, all the four associations were emphatic in stating that introduction of TIS reduced human biases and ensured hassle free operation of establishments (Box: 2)

Box 2: Benefits of Transparent Inspection Scheme

PHDCCI: The TIS has enabled factories, boilers and industrial safety, labour and legal metrology, and the Pollution Control Board to carry out joint inspection of target units. Before this, each of these teams would conduct separate inspections, consuming a lot of productive hours at industries and businesses.

FICCI: It is easy to upload record in Shram Suvidha portal and no need for physical presence and carrying heavy records.

All the four Employers' Associations: introduction of TIS by the states has led to better ease of doing business, better productivity of workers and enterprises, better industrial relation and welfare of the employees, and better economic growth

Lastly, PHDCCI provided some valuable suggestions for bringing further improvements in the TIS. These suggestions are as follows:

- Simplifications of language of all legal texts, which will reduce discretionary powers, reduce litigation and allow for online implementation of schemes;
- Use of technology to improve regulatory outcomes; and
- Use of Artificial Intelligence and Industry 4.0 technologies for enhancing service delivery.

4.3.5 Impact of Introduction of Online Filing

It was discussed in the previous section that among all the four administrative reforms, level of awareness and usage of the facility is highest in case of online filing of registration, license and annual returns (OFRLR). Therefore, it is not quite surprising when all the four association rated the OFRLR interface as either satisfactory, very good or excellent and reported that 80 to 95 per cent of their members are using OFRLR for filing registration, license and returns. They stated that introduction of OFRLR have greatly benefitted their members in many ways (Box: 3)

Box 3: How has online filing benefitted the employers?

As per four employers' associations, the introduction of online filing has greatly benefitted their employers compared to previous mode through following ways:

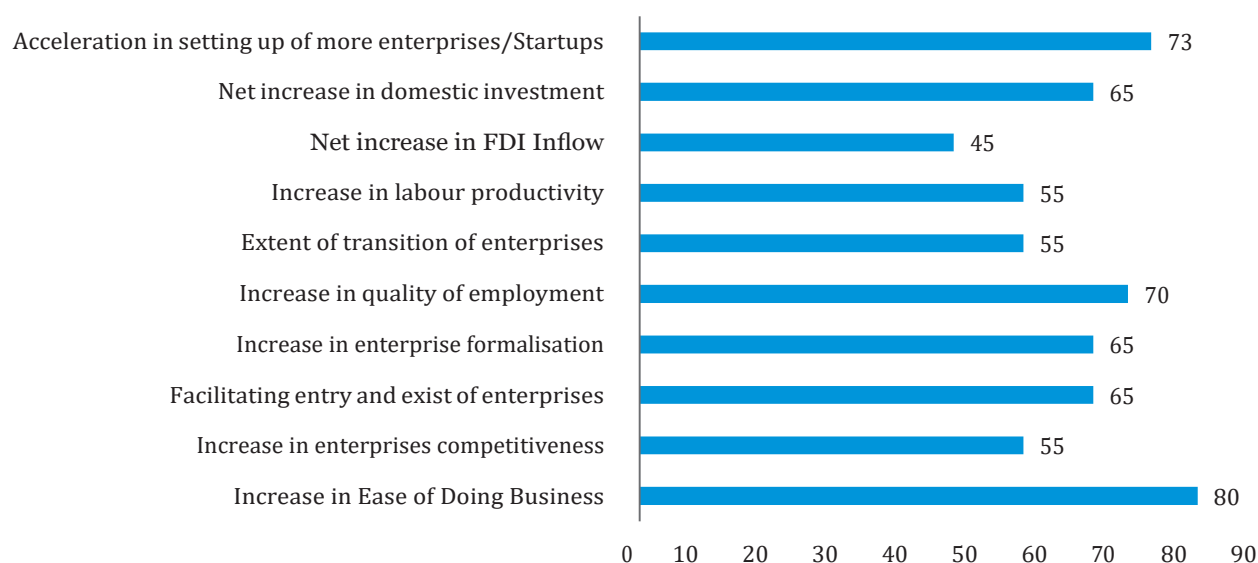
- Improved transparency and accountability
- Reduced transaction cost and physical interface with various authorities and labour inspectors
- Reduced administrative burden and compliance cost
- Reduced time to complete procedures and formalities
- Increased trust in labour administration/government machinery
- Increased the compliance level among member employers in terms of timely obtaining the registration and licenses and also in timely submission of returns

4.4 Aggregate Impact of Legislative and Administrative Reforms

To what extent labour reform measures undertaken by the States matched the expectations/demand of businesses? For FICCI the series of reform measures that have been undertaken have 'exceeded their expectations', while for the other three associations it has 'well met their expectations and demands' from the Government.

As far as the type of enterprises (micro, small, medium and large) those benefited most from these reforms, PHDCCI reported that enterprises of all size and classes benefitted from the reforms, while the other three association provided a more nuanced view. ASSOCHAM suggested that leaving aside micro units, the remaining three types of enterprises benefitted from the reform measures. CII suggested small and medium enterprises were benefited most from the legislative reforms, while small, medium and large units benefited most from the administrative reforms. FICCI on the other hand said that micro and small units benefitted from legislative reform, while medium and large units benefited most from administrative reforms.

Figure 4.1 Rating the Impact of Legislative Reforms on Economic & Labour Market Outcomes (in %)

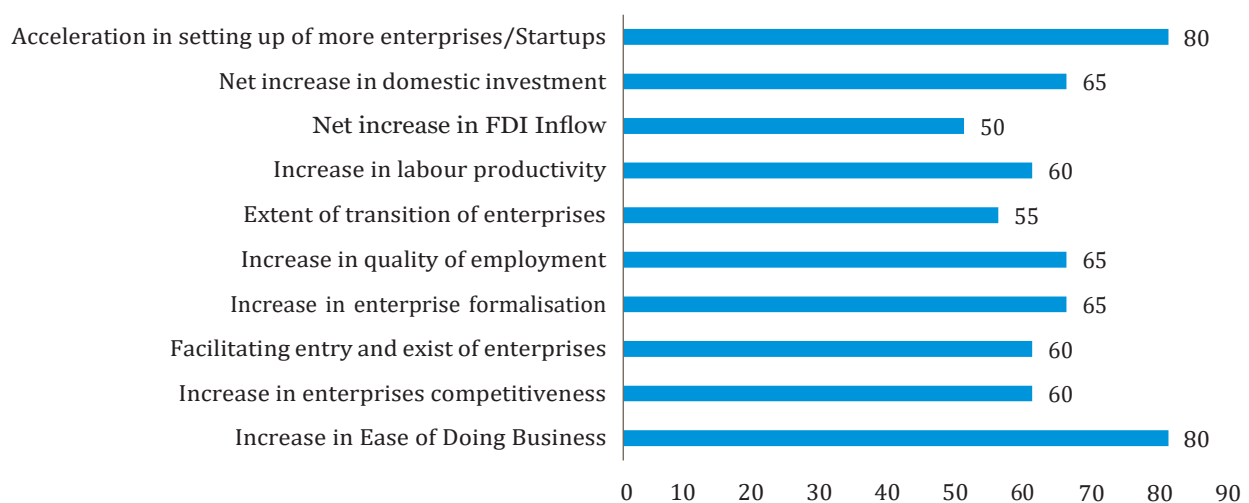


As a part of the impact assessment exercise four industry associations were asked to rate the effect of legislative and administrative separately (out of 100) on key economic and labour market parameters on the basis of their experiences. The impact of these two reform measures have been provided in Figures 4.1 and 4.2 respectively and a rating has been provided for each parameter with a score of 80 and > as 'Excellent', 60 to 79 as 'Very Good', 40 to 59 as 'Good', 20 to 39 as 'Poor' and < 20 as 'Very Poor'. The result of the impact of Legislative Reforms shows that the impact has been 'Excellent' on the parameter

of 'ease of doing business' and 'Very Good' on the parameters of 'accelerating setting up of enterprises/start-up's'; 'Net increase in domestic investment'; 'increase in the quality of employment and enterprise formalisation' and 'facilitating in the entry/exit of enterprises'. Like-wise, the impact has been 'Good' in regard to 'Net increase in FDI inflow'; 'labour productivity', 'extent of transition of enterprises' and 'increase in enterprise competitiveness'. The impact of administrative reforms on various parameters were also rated similarly, without any striking differences (Figure 4.2).

The result of the impact of Administrative Reforms shows that the impact has been 'Excellent' on the parameters of 'accelerating in setting up of enterprises/start-up's' and 'ease of doing business' while it has been 'Very Good' on the parameters of 'Net increase in domestic investment' 'increase in labour productivity', 'increase in quality of employment and enterprise formalisation' 'facilitating in the entry/exit of enterprises' and 'increase in enterprise competitiveness. The impact has been rated as 'Good' on the parameters of 'net increase in FDI inflow' and 'extent of transition of enterprises'.

Figure 4.2: Rating the Impact of Administrative Reforms on Economic & Labour Market Outcomes (in %)



According to the Industry Associations, Andhra Pradesh has benefitted most from these reforms out of six study states (Rajasthan, Andhra Pradesh, Tamil Nadu, Uttar Pradesh, Maharashtra and Jharkhand). From the perspective of Ease of Doing Business and enterprise productivity and economic growth, amendments to the IDA, 1947 has been the most crucial reform according to the association, followed by FTEs; whereas online filing for registration and returns has been the most important administrative reform. For Ease of Living of Employees, IDA, 1947 followed by Factories Act, 1948 have been the most important reforms; whereas online filings for registration and returns and self-certification have been the important administrative reforms.

4.5 Main Findings

This chapter presented the views/perceptions of the four big employers' associations of India on the effect of labour regulations undertaken by the States on economic and labour market parameters. The employers' associations and their members have high level of awareness about various legislative and administrative reform measures undertaken.

The associations reported that manufacturing and its various sub-sectors like garments, apparel, logistics, electronics, food and beverages, machinery and equipment, metal products, benefited the most from the reform measures related to increase in thresholds under IDA and FA including

the plantation and construction sectors. The industry associations agreed that changes in thresholds under these two Acts encouraged entry of new establishments/start-ups and reviving of stalled enterprises apart from enabling existing industries to achieve economies of scale and scope ultimately leading to creation of employment. With particular respect to the increase in threshold under IDA, all the employers' association unanimously agreed that it led to improved employer-employee relationship, reduction in number of strikes and lockouts; and facilitated faster and easier exit of firms/establishments from their respective business.

As far as enhancement in thresholds for license under CLRAA, the industry association reported that it has positively impacted their businesses. The industry association also further reported that reform under CLRAA has encouraged more engagement of contract labour. However, they viewed that it should not be seen as contractualisation of workforce but improvement of employment quality and rising formalisation as most of the contract workers in post-reform periods were supplied by organised manpower supplying agencies who offer better wages, working conditions and social security benefits.

The employers association responded that introduction of FTEs has led to creation of new employment opportunities, thereby contributing to the overall employment generation efforts of the Government. As FTEs are engaged through written contract and provided statutory benefits at par with permanent workers, thereby it has directly contributed to the formalisation of the workforce, thus negating the popular narrative that introduction of FTEs will result in more informality. They also strongly agreed that introduction of FTE has improved productivity, competitiveness and sustainability of enterprises by attracting the niche skills for the required time period, thus enabling them to complete even the stalled projects with strict timelines and budget. However, one concern that was also reported that only 20 per cent of the FTE contracts gets renewed, which means that 80 per cent of FTE either graduate to unemployment or inactivity situation after their contract duration gets over, though many may even graduate to greener pastures or permanent employment.

The administrative reform measures, which are more widely known and utilised by the member enterprises have also positively impacted the industry and succeeded in creating an enabling environment by promoting ease of doing business, reducing compliance burden, promoting productivity of workers and enterprises, better industrial relations and welfare of the employees and finally better economic growth, as stated by the four industry associations. Members reported that the self-certification scheme led to increased trust in labour administration/government machinery. The employers' organizations welcomed the introduction of the *Shram Suvidha* portal of transparent inspection system which considerably reduced the human biases/interference. Among the four administrative reforms, the one related to online filing of registration, license and returns was hailed by the industry and this facility is used by almost 80 to 95 per cent of the members of the associations. The industry associations also suggested further simplification of administrative procedures by reducing the compliance requirements to the minimum.

To put it in a nutshell, the industry associations reported that the series of legislative and administrative labour reform measures undertaken by the States have met or rather exceeded their expectations. As far as the aggregate impact of these reform measures are concerned, the industry association reported that the impact has been 'excellent' on parameters such as increase in ease of doing business, entry of new enterprises/start-ups and 'very good' on parameters like net increase in domestic investment, increase in quality of employment and enterprise formalisation, while the impact in attracting foreign direct investments has been relatively less.



Main Findings, Conclusion and Limitations

This chapter provides conclusions and main findings of the study. As provided in Chapter 1, the main objective of the study has been to assess the impact of major legislative and administrative labour reforms undertaken by the States on select economic and labour market output and outcome indicators related to: economic growth; employment generation in the formal sector; acceleration in setting up of new units; increase in size of establishments; benefits to specific sectors like textile; reduction in compliance burden; and enhanced social security benefits. The four major legislative reforms selected were increase in threshold under the Industrial Dispute Act (1947) from 100 to 300; increase in threshold under Factories Act (1948) from 10 to 20 (with power) and 20 to 40 (without power); increase in threshold under Contract Labour (Regulation and Abolition) Act, 1970 from 20 to 50; Introduction of FTE in textile and apparel sector. Likewise the four major administrative reforms selected were self-certification of compliance; single-window clearance; transparent inspection system and online filing of registration, returns and licences. The study also assesses in a comparative framework, performance of States that implemented the labour reforms with those which did not and the outcome in a particular State before and after the reforms.

Chapter 2 of the report provides a detailed description of the nature of secondary and primary datasets that have been used and methods of selecting the States for study and analysis. The study on the basis of reform timelines and on the basis of discussions with stakeholders have identified six States for this study. These States are Maharashtra, Rajasthan, Uttar Pradesh, Jharkhand, Andhra Pradesh and Tamil Nadu. Of these states Maharashtra, Rajasthan and Andhra Pradesh have been identified as treatment group states and Tamil Nadu and Jharkhand has been identified as control group states.

The study is based on both secondary and primary datasets. The major sources of secondary data have been the household survey data of NSSO-EUS and PLFS and enterprise survey data provided by the ASI. The NSSO-EUS and PLFS datasets pertain to three time periods i.e., 2004/05, 2011/12 and 2018/19. Similarly, the ASI annual data series from 2011/12 to 2017/18 have been used. Both the datasets have been divided into pre-reform and post-reform period taking 2014/15 as the cut-off period. Similarly, attempts were made to collect primary data from five different stakeholders viz. State Labour Department, State Industry Department/Industrial Promotion Boards, Industry Associations, Manufacturing Units and Manpower Supplying Agencies. However, for this report, only the data provided by employers' associations have been used. Data from other primary sources have either not been received or received partially.

The study has used Difference-in-differences (DID) estimation to examine the impact of the legislative amendments. In addition, the study also provides detail analysis of trends in employment in the organized manufacturing sector and computation of formal and informal employment and their trends in India and in selected study states to meet the mandates of the study.

Chapter 3 provides a detailed analysis of employment trends in India, across the organized and unorganized sector utilizing key household and enterprise surveys as well as the PLFS provided by MoSPI, Government of India. Trends from household surveys indicate that overall employment in India has been increasing steadily between the first period (2004-05 to 2011-12) and the second period (2011-12 to 2018-19), as well.

The distribution of workforce between 2004-05 and 2018-19 showed that the total number of self-employed declined by 8.6 million and the total number of casual workers declined by 14.8 million. Over the same period, the total number of regular wage salaried workers increased by 50.3 million. The increase in the regular salaried worker, which is typically considered a better form of employment, as it offers a steady

stable income, both in absolute and relative terms, apart from access to some of the social security benefits, is a major positive development. This increase seems to have largely happened in the period between 2011-12 to 2018-19, where there was an increase of nearly 32 million workers in regular salaried work, as compared to an increase of 18.3 million in the first period i.e. 2004-05 to 2011-12. Likewise, though the employment in casual work increased in the first period (between 2004-05 to 2011-12) by 9.5 million, subsequently it declined sharply by 24.3 million in the period thereafter. These trends indicate that the second period (2011-12 to 2018-19) appears to have been marked by an improvement in the quality of work indicating transitioning towards formality.

Combining the enterprise and job-based definition of informality from NCEUS (2008), the share of informal employment in total employment is reported in Table 3.8. In 2004-05, in India the share stood at 92.6 per cent. This declined to 91.20 per cent in 2011-12 and further to 88.08 per cent in 2018-19. The share of informal employment is also found to decrease across all states. Significantly, the decline is steeper in the second period (2011-12 to 2018-19) compared to the first period (2004-05 to 2011-12). This in turn implies that for the first time that the share of informal employment has shown a downward trend and in future this downward trend may pick up momentum.

Significantly, the share and total number of workers engaged in the agricultural sector have been declining with a corresponding rise in the non-agricultural sectors. These trends indicate that the structural transformation that is expected to be observed in developing and emerging economies is occurring not just at the all-India level but also at the state level. The shift towards regular salaried work in the non-agricultural sector is observed in the second period. An increase of robust 31.5 million occurs between 2011-12 and 2018-19 in this category of employment compared to 19.22 million between 2004-05 and 2011-12.

Within the non-agricultural sector, the focus of attention is the manufacturing sector, in particular the organized manufacturing sector, where the labour reforms undertaken by several state governments are expected to have an impact. To undertake a detailed analysis of the issue, data from the Annual Survey of Industries was examined. Employment in the organised manufacturing sector has increased over time. An increase of 1.7 million is observed in the post-reform period (between 2014-15 to 2017-18) compared to an increase of 1 million in the pre-reform period (between 2010-11 and 2014-15). While both directly hired and contract workers have contributed to the increasing employment numbers, the former have accounted for a significantly larger share in the second period (2014-15 to 2017-18) compared to the first period (2010-11 to 2014-15). This can be seen as a positive development.

As seen from the employment trends in the organized manufacturing sector Maharashtra and Tamil Nadu are amongst the most industrialized states in the country. While the former accounted for about 13 per cent of total manufacturing employment in India, the latter accounted for approximately 15 per cent of total manufacturing employment for the entire time period under study. In terms of the absolute increases in employment, too, these two states witnessed a substantial increase. While Tamil Nadu saw an increase of over 500,000 in organized manufacturing employment, Maharashtra saw an increase of about 300,000 employees. Uttar Pradesh accounted for approximately 6 to 7 per cent of total manufacturing employment in India and saw an increase of roughly 300,000 employees over the seven-year period. Both, Andhra Pradesh and Rajasthan, account for roughly 3.5 per cent of total manufacturing employment in India. However, while Andhra Pradesh saw a large increase in absolute numbers in manufacturing of over 570,000 employees (between 2012-13 and 2017-18), Rajasthan witnessed a smaller increase of only 122,000 in total employment. Hence it could be seen that most states covered in this study, witnessed a larger increase in employment in the organized manufacturing sector in the second period (2014-15 to 2017-18) compared to the first period (2010-11 to 2014-15) which also indicates that the legislative and the administrative reforms could have had its own positive impact.

The average plant size in the organized manufacturing sector has increased over time. Across five states – Maharashtra, Tamil Nadu, Rajasthan, UP and Andhra Pradesh – there is an increase in the share of

employment in the plant size bin comprising of 300 or more employees during 2010-11 to 2017-18. In the case of Rajasthan, the increase in the employment in the manufacturing firms has been a significant 10.3 percent from 40.9 percent in 2010-11 to 51.2 percent in 2017-18, followed by Tamil Nadu (8 percentage point increase), Andhra Pradesh (7.1 percentage point increase), Uttar Pradesh (4.8 percentage point increase) and Maharashtra (4.7 percentage point increase) during the period from 2010-11 to 2017-18. As of 2017-18, over 50 per cent of the employment in the manufacturing sector in all states was in plants with 300 or more employees. This increase in the share of employment in large plants with 300 or more workers and a decline in share of plants with workers less than 299 during the periods under study also indicate that the firms are moving towards achieving economies of scale and scope which would have a positive bearing on the competitiveness of manufacturing products and in turn on the overall economy.

On the impact of reforms in attracting new entrants/firms, it has been seen that for India as a whole has seen a steady increase in the number of new entrants during the period 2010-11 to 2014-15 to 2017-18 from 3301 to 3432 to 3454 respectively. Amongst the selected six states, Rajasthan, Tamil Nadu and Andhra Pradesh have attracted a comparatively newer entrants, while there has been a decline seen by other states.

Separately, a detailed examination of the quality of employment vis-à-vis access to social security, eligibility to paid leave and existence of a job contract undertaken showed that there is a steady increase in the number of employees getting access to social security and paid leave. Further, the number of employees getting access to written job contract (less than one year, one to three years and more than three years) has shown a steady increase in the non-agricultural sector during the period 2004-05 to 2011-12 to 2018-19. This trend of positive development has also been seen for the country as a whole and also for the six states under study. What more, these positive trends have also been seen in the Textiles, Apparel and Leather manufacturing sectors too which are labour intensive. Hence, it can be said that, in the manufacturing sector, as a whole, there is a steady increase in share of workers with jobs that have the characteristics of 'good or decent jobs'. However, a cause of concern is that there is also an increase in the absolute number of workers who still do not have access to these benefits.

This chapter has also tried to identify the impact of legislative amendments on employment at the plant level by using difference in difference methodology. The results of the difference-in-difference estimation offer an important policy message. The impact of the reforms is heterogeneous across states and over time. For instance, in the comparison of Rajasthan and Jharkhand, no significant effect of the reform vis-à-vis the increase in threshold appear to have kicked in till 2016-17. In contrast, in the comparison of Andhra Pradesh with Tamil Nadu, the impact of the reforms on employment outcome in the treatment group kicked in two years after the amendments. Similarly, in the Maharashtra and Tamil Nadu comparison, the impact of the reforms kicked in the year following its introduction. This heterogeneity appears to be a consequence of the fact that in some states, typically those which are more industrialized to begin with and have the necessary ecosystem that created an enabling environment for the manufacturing sector to grow, the reform effects have kicked in sooner than the others. It also needs to be reiterated that the absence of any significant results cannot be interpreted as a negative impact of the reforms. This suggests that labour reforms are just one element in the overall policy mix determining the investment climate in the state. It also needs to be reiterated that typically in developing economies, such reforms take few years to kick in. Data for a sufficiently long period of time would be required after intervention to precisely estimate the effect. In the analysis undertaken in this report, however, ASI data is available for only two-three years after the intervention.

Chapter 4 of the report captures the data/views/perceptions of the four big employers' associations of India on the impact of labour reforms undertaken by the States on economic and labour market parameters. The associations reported that manufacturing and its various sub-sectors such as garments, apparel, logistics, electronics, food and beverages, machinery and equipment, metal products, benefited the most from the reform measures related to increase in thresholds under IDA and FA including the plantation and

construction sectors. The industry associations agreed that changes in thresholds under these two Acts encouraged entry of new establishments/start-ups and reviving of stalled enterprises apart from enabling existing industries to achieve economies of scale and scope ultimately leading to creation of employment. With particular respect to the increase in threshold under IDA, all the employers' association unanimously agreed that it led to improved employer-employee relationship, reduction in number of strikes and lockouts; and facilitated faster and easier exit of firms/establishments from their respective businesses.

As far as enhancement in thresholds for license under CLRAA, the industry association reported that it has positively impacted their businesses. The industry association also further reported that reform under CLRAA has encouraged more engagement of contract labour. However, they viewed that it should not be seen as contractualisation of workforce but improvement of employment quality and rising formalisation as most of the contract workers in post-reform periods were supplied by organised manpower supplying agencies who offer better wages, working conditions and social security benefits.

The employers association responded that introduction of FTEs has led to creation of new employment opportunities, thereby contributing to the overall employment generation efforts of the Government. As FTEs are engaged through written contract and provided statutory benefits at par with permanent workers, thereby it has directly contributed to the formalisation of the workforce, thus negating the popular narrative that introduction of FTE's will result in more informality. They also strongly agreed that introduction of FTE has improved productivity, competitiveness and sustainability of enterprises by attracting the niche skills for the required time period thus enabling them to complete even the stalled projects, with strict timelines and budget. However, one concern that was also reported that only 20 per cent of the FTE contracts gets renewed, which means that 80 per cent of FTE either graduate to unemployment or inactivity situation after their contract duration gets over, though many may even graduate to greener pastures or permanent employment.

The administrative reform measures, which are more widely known and utilised by the member enterprises have also positively impacted the industry and succeeded in creating an enabling environment by promoting ease of doing business, reducing compliance burden, promoting productivity of workers and enterprises, better industrial relations and welfare of the employees and finally better economic growth, as stated by the four industry associations. Members reported that the self-certification scheme led to increased trust in labour administration/government machinery. The employers' organizations welcomed the introduction of the *Shram Suvidha* portal of transparent inspection system which considerably reduced the human biases/interference. Among the four administrative reforms, the one related to online filing of registration, license and returns was hailed by the industry and this facility is used by almost 80 to 95 per cent of the members of the associations. The industry associations also suggested further simplification of administrative procedures by reducing the compliance requirements to the minimum.

In a nutshell, the industry associations reported that the series of legislative and administrative labour reform measures undertaken by the States have met or rather exceeded their expectations. As far as the aggregate impact of these reform measures are concerned, the industry association reported that the impact has been 'excellent' on parameters such as increase in ease of doing business, entry of new enterprises/start-ups and 'very good' on parameters like net increase in domestic investment, increase in quality of employment and enterprise formalisation, while the impact in attracting foreign direct investments has been relatively less.

To conclude, it needs to be seen that labour reforms are just one element in the overall policy mix determining the economic growth and making jobs decent. From the study conducted in the given limited time span, it could be seen that the impact of the four major legislative reforms and the four major administrative reforms have had their own significant positive impact on different sectors of the industry and businesses ecosystems in terms of ease of doing business; employment generation, especially in the

formal sector; attracting new enterprises/start-ups; attracting investments; increase in size of establishments; according social security benefits to employees; growth of certain labour intensive sector like textile, apparel and leather and finally on the overall economy. However, a detailed follow-up study may bring out more about the actual impact in quantitative and qualitative terms. While this research study provides a comprehensive analysis of legal and administrative labour reforms on indicators such as employment, formalization, growth of regular workers, growth of relatively larger manufacturing firms etc., there are several avenues for further exploration and expansion of knowledge in this field. The study is based on review of relevant literature and analysis of secondary data from sources such as EUS/PLFS and ASI. In addition to a rigorous analysis of secondary data and literature, the study intended to collect primary data from various stakeholders such as labour and industry departments of the states, Employers' Association, manufacturing units and manpower supply agencies. However, due to reasons beyond control, the primary data from the state governments as well as other stakeholders could not be obtained. This could have enriched the study. Also, the study assesses the impact of legal and administrative labour reforms in select States. Since most of the states have witnessed reforms in one or other ways, the study could be extended further to other states as well provided that the primary data is adequately collected from key stakeholders (as described above) and validated with the help of secondary data for drawing logical conclusions. Also, longitudinal studies and further research over extended periods in future could provide deeper insights into the temporal aspects of labour reforms and their effects on employment and economy.

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Appendices

Appendix I: Terms of Reference of the Impact Assessment Study of the Labour Reforms undertaken by the States

Various States Government have taken steps to undertake the following Legislative and Administrative Reforms under the existing labour laws.

Legislative Reforms

1. Threshold of the ID Act from 100 to 300
2. Threshold for Factories Act from 10 to 20 (with power) and 20 to 40 (without power)
3. Threshold of the Contract Labour Act from 20 to 50
4. Fixed Term Employment

Administrative Reforms

1. Self-certification scheme
 2. Single Window clearance
 3. Transparent inspection system
 4. Online filing for registration and returns
1. An assessment of impact of the above Legislative and Administrative Reforms undertaken by the States is proposed to be got done through an academic institution with experience in policy analysis to objectively demonstrate the benefits of reform and identify shortcomings that can be improved upon.
 2. Accordingly, VVGNI in collaboration with IIPA may undertake this impact assessment study based on scientifically gathered data and methodology. Keeping in view the prevailing COVID-19 pandemic situation the results may be suitably normalized.
 3. The study shall cover the output and outcome parameters such as -
 1. Economic growth;
 2. Employment generation in formal sector;
 3. Acceleration in setting up of new units;
 4. Increase in size of establishments;
 5. Benefits to specific sectors like textile that faced labour related disadvantages;
 6. Reduction in compliance burden;
 7. Enhanced social security benefits; and
 8. Any other parameter that may be appropriate or relevant.
 4. The study shall compare performance of States that implemented the reforms with those which did not; and the condition in a particular State before and after the reforms.
 5. VVGNI and IIPA shall own this study.

Appendix II: Nature and Types of Primary Data Collected from various Stakeholders

Type of stakeholder	Nature and types of primary data collected
State Labour Department	Administrative data relating to number of enterprises registered/closed and total employment in enterprises; views/perception on impact of various reforms; net increase in number of factories established and contractor license granted; retrenchment/closure/lay off cases received; use of fixed term workers especially in the textile sector; number of units using various types of administrative simplification measures; and number of inspection and prosecution performed.
State Industry Department	Number of investment proposal received, proposed amount of investment and employment to be generated.
Employers Association	Mapping of reform outcomes in terms of acceleration in setting up of new enterprises; net increase in domestic investments and FDIs; increase in employment and productivity; extent of graduation of enterprises from small to medium and large units; extent of formalization of jobs; impact on competitiveness and facilitating ease of doing business in a scale of 1 to 5. To what extent reform measures are as per their expectation and identification of one most important legislative and administrative reform that have benefitted the industry the most.
Manufacturing units	Nature of establishment and persons engaged; plant level impact of reform in terms of expansion of output, employment and productivity, flexibility in hiring and reduction in cost of production, and ease of exit; extent of use of permanent, fixed- term and contract workers; impact of introduction of fixed-term employment on their business; extent of formalization and reduction in compliance burden due to administrative simplification; and suggestions for further improvements.
Manpower Supplying Agency	Extent and type of benefits accrued on account of reforms in CLRAA threshold; impact of introduction of FTE on their business; issues related to wages, working conditions and social security coverage of contract workers employed; extent of usage of administrative simplification measures and suggestions for further improvements.

Appendix III: Select Legislative Reforms undertaken by Indian states (Year wise)

States	Industrial Dispute Act 1947 (u/s 25 K of VB threshold increased from 100 to 300)	Factories Act of 1948 (u/s 2(m) threshold increased from 10 to 20 with power and 20 to 40 without power)	Contract Labour Act of 1970 (u/s 1(4) threshold increased from 20 to 50)	Fixed Term Employment
Andhra Pradesh	2015	2016	2015	2018
Assam	2018	2020	2020	2018
Karnataka	1988	2016	2020	2018
Odisha	1983	2016	2020	2018
J&K and Ladakh	2020	2020	-	2018
Jharkhand	2017	2019	2015	2017
Haryana	2016	2016	2016	2018
Madhya Pradesh	2017	2016	2020	2018
Rajasthan	2014	2014	2014	2006
Maharashtra	2015	2020	2015	2018
Kerala	2006	-	2020	2018
Gujarat	2004	2006	2020	2018
Tamil Nadu	No amendments	No amendments	No amendments	No amendments
Bihar	2020	2020	2020	2018
Chhattisgarh	2015	2019	2019	2018
Goa	2020	2020	2020	2018
Punjab	2018	2020	2020	2018
Uttar Pradesh	Own ID Act	2018	2018	2018
Himachal Pradesh	2020	2020	2020	2018
Telangana	2015	2016	2020	2018
West Bengal	2015	2020	2019	2018
Uttarakhand	2015	2020	2019	2018
Delhi	1984	2020	2017	2018
Manipur	2010	2020	2020	2018
Nagaland	2006	2020	2020	2018
Meghalaya	2020	2020	2020	2018
Summary of Legal Reforms by # of States				
Prior to 2014	8	1	0	0
2014-2017	9	8	5	0
2018 onwards	7	15	19	25
Total states	24	24	24	25

Source: Mallik (2021) Handbook of Industrial and Labour Laws; Bhattacharjea (2021) and Sapkal (2016)



Appendix IV: Select Administrative Reforms undertaken by the Indian states (Year wise)

States	Self-Certification	Single Window Clearance	Transparent Labour Inspection	Online Filing and Registration of Returns
Andhra Pradesh	2020	2018	2020	2020
Assam	2016	2020	2016	2016
Karnataka	2016	2017	2016	2016
Odisha	2016	2017	2016	2016
J&K and Ladakh	2020	2020	2020	2020
Jharkhand	2020	2018	2020	2020
Haryana	2016	2018	2016	2016
Madhya Pradesh	2020	2019	2020	2020
Rajasthan	2016	2016	2016	2016
Maharashtra	2015	2017	2015	2015
Kerala	2002	2016	2002	2016
Gujarat	2016	2017	2016	2016
Tamil Nadu	2017	2018	2017	2017
Bihar	2016	2017	2016	2016
Chhattisgarh	2016	2018	2016	2016
Goa	2020	2019	2020	2020
Punjab	2013	2016	2013	2013
Uttar Pradesh	2017	2018	2017	2017
Himachal Pradesh	2017	2018	2017	2017
Telangana	2015	2016	2015	2015
West Bengal	2016	2016	2016	2016
Uttarakhand	2016	2016	2016	2016
Delhi	2017	2017	2017	2017
Manipur	2020	2020	2020	2020
Nagaland	2016	2018	2016	2016
Meghalaya	2020	2020	2020	2020

Source: Collated from various public domain.

Appendix V: Decline in Share of Agricultural Employment in Total Employment

States	2004-05 to 2011-12	2011-12 to 2018-19
Andhra Pradesh	-5.99	-9.54
Jharkhand	-11.27	-7.54
Maharashtra	-4.35	-7.17
Rajasthan	-11.02	2.24
Tamil Nadu	-9.27	-8.17
Uttar Pradesh	-8.64	-2.60
India	-8.94	-6.93

Source: Computed from NSS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

Appendix VI: Absolute Employment by Type of Employment in Agricultural and Non-Agricultural Sector (in millions)

	2004-05				2011-12				2018-19			
	SE	RW	CW	Total	SE	RW	CW	Total	SE	RW	CW	Total
Agricultural Sector												
Andhra Pradesh	5.77	0.15	7.68	13.60	5.61	0.13	6.94	12.68	5.04	0.13	4.97	10.14
Jharkhand	5.61	0.01	0.98	6.60	4.98	0.00	0.47	5.45	4.62	0.04	0.14	4.81
Maharashtra	12.90	0.34	11.12	24.35	13.68	0.14	9.57	23.39	12.53	0.13	7.58	20.23
Rajasthan	14.07	0.04	1.32	15.43	12.30	0.04	0.95	13.29	13.84	0.03	0.51	14.38
Tamil Nadu	5.85	0.22	7.46	13.53	3.80	0.14	6.92	10.87	4.88	0.20	3.36	8.44
Uttar Pradesh	32.73	0.20	6.16	39.08	29.33	0.10	6.14	35.57	28.84	0.07	3.27	32.18
India	161.01	2.76	87.42	251.20	142.57	1.88	74.49	218.95	141.74	2.35	47.01	191.10
Non-Agricultural Sector												
Andhra Pradesh	4.78	2.60	1.89	9.27	4.48	3.59	2.97	11.03	4.78	5.22	2.93	12.93
Jharkhand	1.75	1.12	1.64	4.51	2.18	1.26	2.44	5.88	2.12	2.07	2.86	7.04
Maharashtra	8.47	9.87	3.37	21.71	8.85	12.83	3.15	24.82	9.35	15.52	3.83	28.70
Rajasthan	4.50	2.75	2.82	10.07	4.62	3.58	5.37	13.57	4.93	5.15	3.34	13.42
Tamil Nadu	7.27	7.29	3.51	18.07	6.53	8.53	6.46	21.52	6.20	11.82	6.77	24.79
Uttar Pradesh	14.16	6.32	4.90	25.37	14.51	7.32	11.01	32.84	13.07	10.36	9.55	32.98
India	90.55	66.38	39.07	196.00	97.44	85.60	61.54	244.58	101.21	117.12	64.68	283.00

Source: Computed from NSS (2004-05, 2011-12) and PLFS (2018-19) unit data; Census (2001, 2011)

Note: SE: Self-employed; RW: Regular Wage/Salaried Workers; CW: Casual Workers

Appendix VII: Sector-wise Percentage of Registered Members of Selected Employers' Associations

Sectors	Percentage of Registered Members			
	ASSOCHAM	CII	FICCI	PHDCCI
Manufacturing Sector	27 %	57%	53.7%	24.62%
Manufacture of food products, beverages & tobacco	5%	-	3.3%	2.96%
Manufacture of textiles, apparel & leather products	3.5%	-	1.7%	1.86%
Manufacture of metal & metal products	4%	-	0.1%	3.04%
Manufacture of machinery & equipment	5%	-	2.1%	1.70%
Manufacture of coke, petroleum, rubber, chemical and related products	5%	-	5.0%	3.16%
Other Manufacturing	-	-	40.3%	11.90%
Mining Sector	2%	-	1.28%	0.89%
Plantation Sector	-	-	0.34%	0.89%
Construction Sector	10%	-	2.5%	4.18%
Services Sector	22%	40%	39.0%	36.6%
Any other Sectors	39%	3%	3.26%	33.0%



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