Azim Premji University

STATE OF WORKING INDIA 2018

Centre for Sustainable Employment

About Azim Premji University's Work on Sustainable Employment

Azim Premji University was established in 2010, by the Azim Premji Foundation, with a clear social purpose of working towards a just, equitable, humane, and sustainable society. All of the University's programs, teaching, research, and practice, work towards this purpose.

To contribute to the critical matter of India creating just and sustainable employment, the University has set up the Centre for Sustainable Employment (CSE), which conducts and supports research in areas of work, labour, and employment. The University is attempting to provide empirically grounded, analytical reflections on the state of work and workers in India, as well as to evaluate and propose policies that aim to create sustainable jobs. To this end the University also gives grants to create new knowledge in the above areas. It also hosts a working paper series to which contributions are invited from researchers, policy-makers, civil society actors, and journalists. The University's CSE website is an important part of this agenda. In addition to research papers and policy briefs, it hosts government reports, as well as data and statistics on the Indian labour market.

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State of Working India 2018

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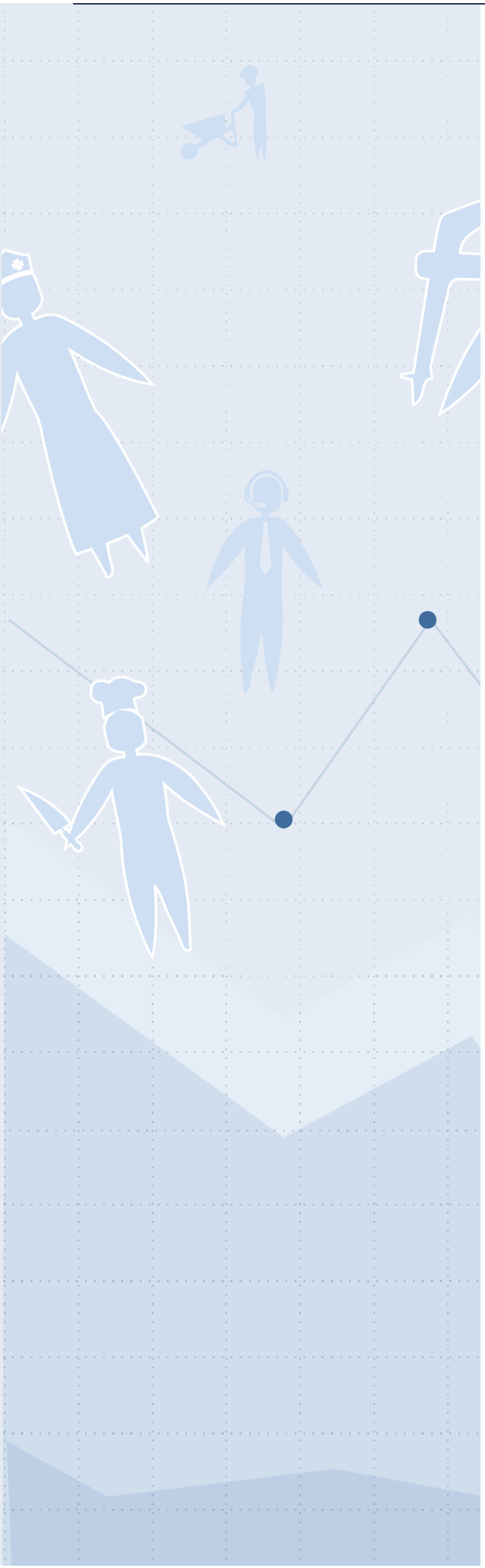


Abbreviations

ASHA - Accredited Social Health Activist
ASI - Annual Survey of Industries
BPM - Business Process Management
BSE - Bombay Stock Exchange
CAGR - Compounded annual growth rate
CMIE - Centre for Monitoring Indian Economy
CPC - Central Pay Commission
CPI - Consumer price index
EPFO - Employees' Provident Fund Organisation
EUS - Employment–Unemployment Survey
FBT - Food, beverages and tobacco
FICCI - Federation of Indian Chambers of Commerce and Industry
FIRE - Finance, insurance and real estate
GDP - Gross domestic product
GER - Gross enrolment ratio
GST - Goods and Services Tax
GVA - Gross value added
IHDS - India Human Development Survey
IIM - Indian Institute of Management
IIT - Indian Institute of Technology
ILO - International Labour Organisation
ILOSTAT - International Labour Organisation statistical database
IT - Information technology
KLEMS - Capital, Labour, Energy, Material and Services
LB - Labour Bureau
LFPR - Labour force participation rate
LIT - Learning, Industrial and Technology policies
MGNREGA - Mahatma Gandhi National Rural Employment Guarantee Act
MoU - Memorandum of Understanding
NASSCOM - National Association of Software and Service Companies
NCEUS - National Commission for Enterprises in the Unorganised Sector
NCO - National Classification of Occupations
NIC - National Industrial Classification
NRHM - National Rural Health Mission
NSS - National Sample Survey
NSSO - National Sample Survey Organisation
OAE - Own account enterprise
OAW - Own account worker
OBC - Other Backward Classes
OECD - Organisation for Economic Co-operation and Development
PDS - Public Distribution System
PF - Provident Fund
PLFS - Periodic Labour Force Survey
PMKVY - Pradhan Mantri Kaushal Vikas Yojana
QES - Quarterly Employment Survey
RBI - Reserve Bank of India
RPL - Recognition of Prior Learning
SC - Scheduled Castes

SMS - Shramjivi Mahila Samiti
ST - Scheduled Tribes
SWI - State of Working India
TGL - Textiles, garments and leather
UBI - Universal Basic Income
UBS - Universal Basic Services
UR - Unemployment rate
WPI - Wholesale Price Index
WPR - Worker population ratio

State Codes

AP	Andhra Pradesh
AR	Arunachal Pradesh
AS	Assam
BR	Bihar
CG	Chhattisgarh
CH	Chandigarh
DL	Delhi
GA	Goa
GJ	Gujarat
HP	Himachal Pradesh
HR	Haryana
JH	Jharkhand
JK	Jammu and Kashmir
KA	Karnataka
KL	Kerala
MH	Maharashtra
ML	Meghalaya
MN	Manipur
MP	Madhya Pradesh
MZ	Mizoram
NL	Nagaland
OR	Odisha
PB	Punjab
PY	Puducherry
RJ	Rajasthan
SK	Sikkim
TL	Telangana
TN	Tamil Nadu
TR	Tripura
UK	Uttarakhand
UP	Uttar Pradesh
WB	West Bengal

Foreword

For many years, I had one foot in the world of education, and the other in the world of high-precision manufacturing. I was responsible for a business with manufacturing facilities across the world, including in India, China, Western Europe, Eastern Europe, and South America. We had suppliers and clients across 25 countries. In the period that I was involved with that business, it grew manifold. That brought equivalent growth to our suppliers. But the growth in employment was a fraction of the volume growth in the entire supply chain. This was not because there was underutilized capacity. In fact, in this period there was substantial capacity addition across the entire supply chain.

It was simply because all our decisions, whether about product, process, production engineering, or machine design, were such as to minimize the labour component. This was not driven by any fear of draconian labour laws or shortage of trained labour, but simply because of the quality, productivity, and safety of such automated systems. The story was identical across other industries where I had friends and colleagues. So when the story of 'jobless growth' in India became hot news a few years ago, it was not a surprise to me. I had played a small role in that phenomenon.

Nine years ago I put both my feet in education. This gave me the privilege of travelling to the beautiful nooks and corners of our diverse country, seeing schools, meeting teachers and students, in villages and kasbas. I was quickly disabused of the notion that the problem of employment and livelihood was anything much to do with education.

Even if one is to focus only on those students who 'do well' in schools and colleges, it does not matter. Because the pie of employment and livelihood opportunities is so small and growing so slowly (if at all) that it is an intense struggle for everyone. Enough opportunities are just not there for even the best educated. Education must be improved for all in this country, but that will not solve the issue of employment and livelihoods.

Since I could not understand this, no matter how hard I tried, I wanted the experts to tell me what was going on in this vast country of ours on the matter of employment and livelihoods. The many honest experts that I came across gave fascinating insights. They also said that they did not know what needed to be done, at any level of actionable and comprehensive detail, though they did have high level ideas. They all felt that a huge amount of detailed on-the-ground research was required.

As it was dawning on me that we have frustratingly limited understanding of this absolutely crucial matter, Amit and Arjun came up with the idea of a regular report on the State of Working India, which could potentially enable many of the terrific people working on this matter to come together and explore the details. And also possibly develop a road map of a few steps forward for the country, to create just and sustainable employment for all.

With the first Azim Premji University State of Working India report, that initial idea has become a reality. It is quite clear that this is a very small step forward. Our understanding may have improved a bit with this effort, but we are far away from any real solutions. So we should now get working on the second report, and so on, till we have some real actionable solutions, even if for small regions of the country.

Anurag Behar
September 14, 2018, Bengaluru

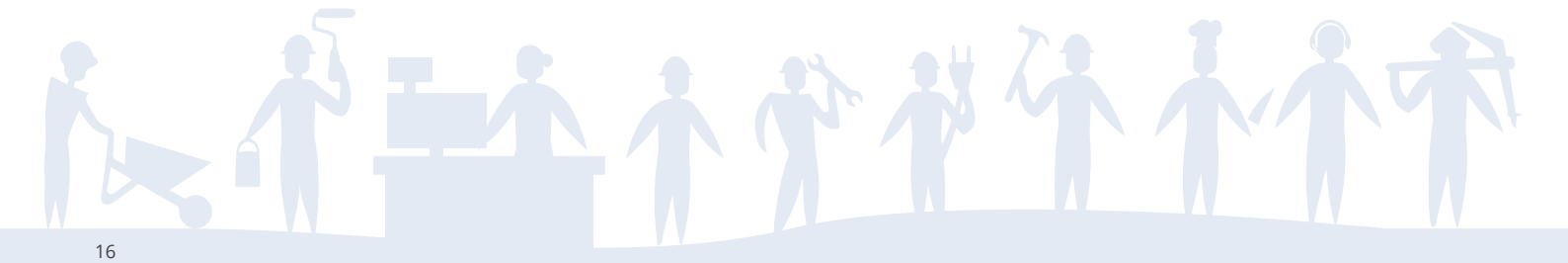
Executive summary

India is one of the world's fastest growing economies. To be a stable and prosperous democracy, this growth must be accompanied by the creation of meaningful, secure and remunerative employment. Realising this goal requires a grounded and comprehensive overview of the state of labour markets, employment generation, demographic challenges and the nature of growth.

The State of Working India (SWI) brought out by the Centre for Sustainable Employment (CSE) at Azim Premji University is envisioned as a regular publication that delivers well-researched, analytically useful information on India's labour market, by bringing together researchers, journalists, civil society activists, and policymakers interested in labour and employment issues. The report is based on the research of CSE staff, as well as on background papers which are available online.

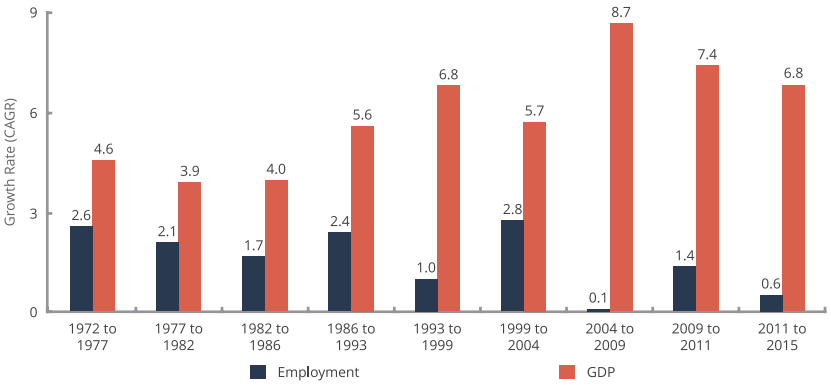
SWI conceives of India's ongoing structural transformation as composed of two processes - movement of workers from agriculture to non-farm occupations (the Kuznets process) and from informal activities to formal ones (the Lewis process). But it adds crucial considerations of social equity and ecological sustainability to this standard framework. In the 21st century, Lewis and Kuznets have to meet Ambedkar and Gandhi.

In this Executive Summary we highlight key findings and end with some reflections on employment policy.



1. Growth creates fewer jobs than it used to.

Figure 1 : ***Growth Creates Fewer Jobs than It Used To***



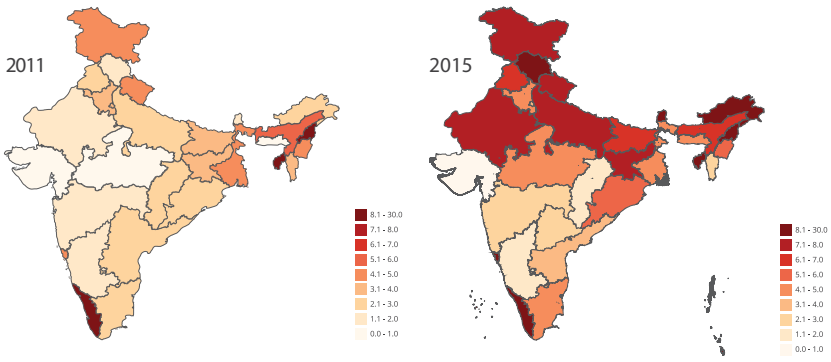
Sources and notes: ***1972-2011 from Misra and Suresh (2014); 2011-15 our calculations***

A 10 per cent increase in GDP now results in less than 1 per cent increase in employment.

Even as GDP growth rates have risen, the relationship between growth and employment generation has become weaker over time. In the 1970s and 1980s, when GDP growth was around 3-4 per cent, employment growth was around 2 per cent per annum. Since the 1990s, and particularly in the 2000s, GDP growth has accelerated to 7 per cent but employment growth has slowed to 1 per cent or even less. The ratio of employment growth to GDP growth is now less than 0.1 (Figure 1).

Between 2013 and 2015, total employment actually shrank by seven million. More recent data from private sources show that the absolute decline has continued past 2015. A recent study claims, to the contrary, that the economy generated 13 million new jobs in 2017. Unfortunately, this optimistic conclusion depends on selective use of data and unjustified assumptions (Box 2.1).

Figure 2 : ***Unemployment Has Risen in Almost All States across India***



Sources and notes: ***NSS-EUS 2011 and LB-EUS 2015. Employment is defined as per usual principal status. Scale indicates per cent values. Note that the following outlying states have been placed in the top bracket: 2011- Kerala (9), Tripura (14.5), and Nagaland (25.6). 2015 – Nagaland (8.5), Arunachal Pradesh (8.9), Goa (9.6), Himachal Pradesh (10.6), Kerala (12.5), Sikkim (18.1) and Tripura (19.7). See Appendix Table A2.1 online for data.***

As a result the rate of unemployment among the youth and higher educated has reached 16 per cent.

It used to be said that India's problem is not unemployment but underemployment and low wages. But a new feature of the economy is a high rate of open unemployment, which is now over 5 per cent overall, and a much higher 16 per cent for youth and the higher educated. The increase in unemployment is clearly visible all across India, but is particularly severe in the northern states (Figure 2).

2. Wages are rising but they continue to be well below the Seventh Central Pay Commission minimum.

Adjusted for inflation, wage rates have grown in most sectors at 3 per cent per annum or more.

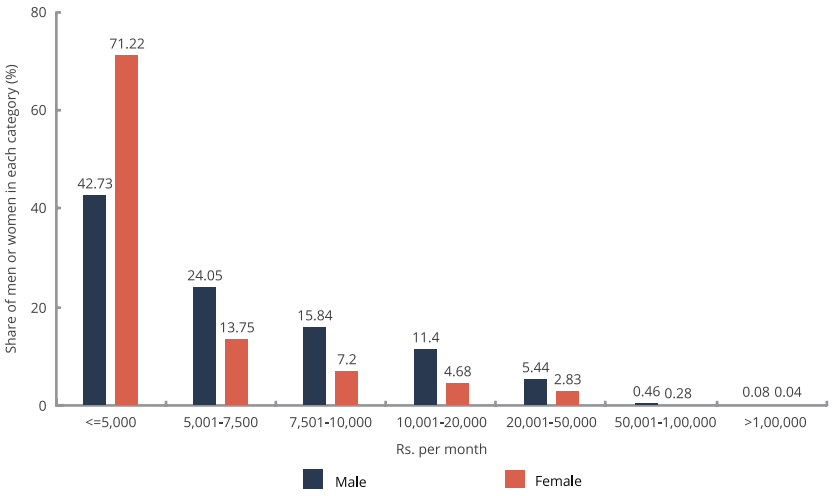
Between 2010 and 2015, wages, adjusted for inflation, grew at 2 per cent per annum for organised manufacturing, 4 per cent for unorganised manufacturing, 5 per cent for unorganised services, and 7 per cent for agriculture (for the last, growth has collapsed since 2015). Since 2000, real wages have grown at around 3-4 per cent in most sectors, with the exception of agriculture. As this rate real wages double every two decades.

But 82 per cent of male and 92 per cent of female workers earn less than ₹10,000 a month.

India's low earnings problem continues despite wage growth in the recent past. Nationally, 67 per cent of households reported monthly earnings of up to ₹10,000 in 2015. In comparison, the minimum salary recommended by the Seventh Central Pay Commission (CPC) is ₹18,000 per month. This suggests that a large majority of Indians are not being paid what may be termed a living wage, and it explains the intense hunger for government jobs (Figure 3). Even in the organised manufacturing sector 90 per cent of the industries pay wages below the CPC minimum. The situation is worse in the unorganised sector.

A field study in West Bengal shows that even multiple informal occupations do not fetch women a living wage. For example, one woman undertook tailoring, brick kiln work, daily labour, and mid-day meal cooking to earn ₹2700 a month while another performed brick kiln work, daily labour, sand mining, and agricultural work to earn ₹6800 (Box 5.1). Another study in Rajasthan shows that skilled stone cutters earn significantly less than the already low state minimum wage, for highly hazardous work in an export-oriented industry (Box 4.3).

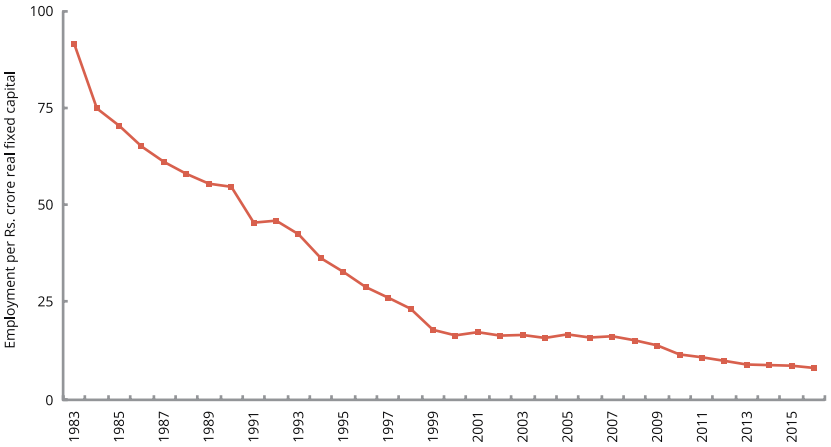
Figure 3 : ***82 per cent of Male and 92 per cent of Female Workers Earn Less than Rs. 10,000 a Month***



Sources and notes: **LB-EUS 2015.**

3. There is a slowdown in the replacement of workers by machines but work is becoming more precarious in the organised manufacturing sector.

Figure 4 : ***The Labour-Capital Ratio Has Reached a Floor in Organised Manufacturing***

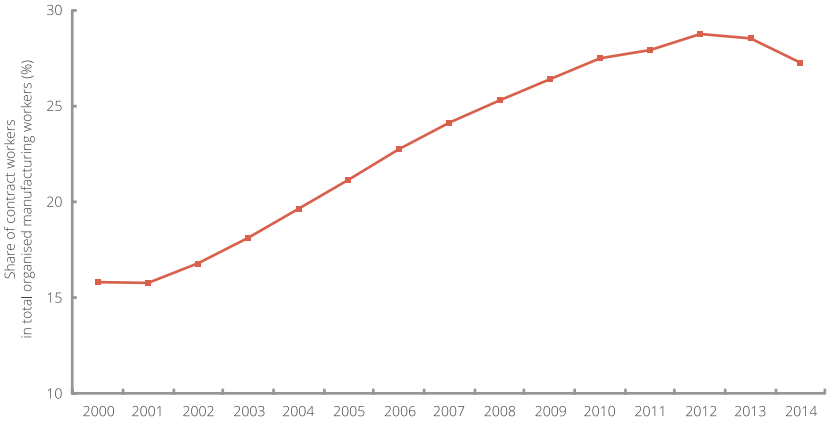


Sources and notes: ***ASI NIC 2 digit (EPWRFITS) various years. Labour-capital ratio = Number of employees / Real fixed capital.***

Number of jobs supported by one crore rupees of fixed capital in organised manufacturing has leveled at around 10.

In the early 1980s, one crore rupees of real fixed capital (in 2015 prices) supported around 90 jobs in the organised manufacturing sector. By 2010, this had fallen to 10 (Figure 4). Moreover, increasing capital intensity has been a feature of nearly every manufacturing industry, whether it is relatively more capital intensive or labour intensive. However, this ratio is no longer falling as rapidly, coinciding with the rise in employment in this sector. The last ten years have been good for the sector, and most industries have performed well on either the wage or the employment front. A few big employers, like knitwear, plastics, and footwear, have posted strong employment growth as well as strong wage growth.

Figure 5 : ***Contract Workers Have Increased Sharply in Organised Manufacturing in the Past Two Decades***



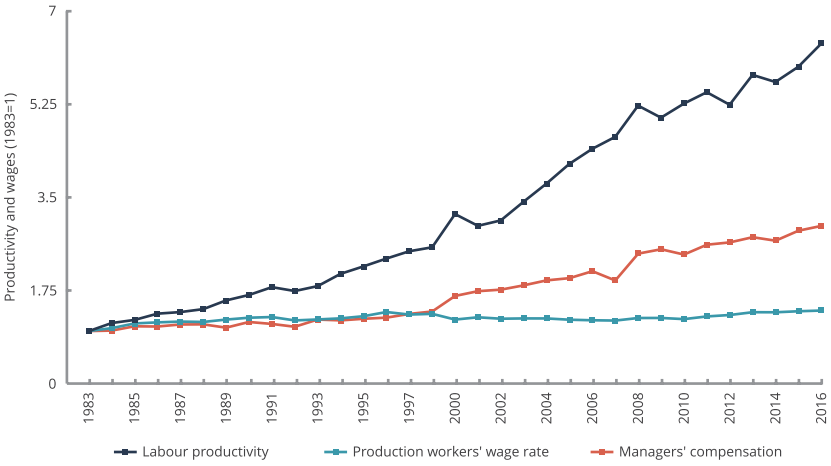
Sources and notes: ***ASI factory-level data, various years.***

But contract workers are nearly 30 per cent of all workers in organised manufacturing.

An increase in employment in organised manufacturing was an opportunity to provide decent, remunerative, and stable employment. But instead, the share of contract work and other precarious forms of labour have grown since the early 2000s (Figure 5). Field studies reveal many categories of contract, trainee, and apprentice workers who perform the work of permanent workers at a fraction of their wages (Box 4.2). This is one way in which labour laws are being circumvented by manufacturing firms. Another way is via under-reporting of workers. In 2011, an estimated 54 million workers were in manufacturing as per household surveys. The estimate based on firm surveys was much smaller at 47 million. And the discrepancy can almost entirely be attributed to the organised sector.

4. Productivity has increasingly diverged from wages.

Figure 6 : ***Productivity and Managerial Compensation Have Risen Much Faster than Workers' Wages in Organised Manufacturing***



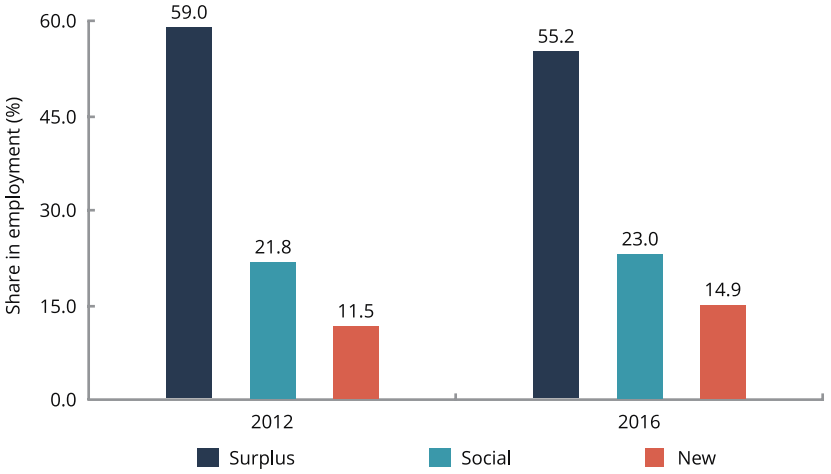
Sources and notes: ***ASI NIC 2 digit (EPWRFITS) various years. Wages and salaries deflated by CPI-IW and GVA deflated by WPI (manufactured products).***

Labour productivity in organised manufacturing increased by six times over the past three decades but wages increased by only 1.5 times.

One might expect that as labour productivity grows, wages will grow in tandem. In neither the organised nor the unorganised sector is this the case. The divergence is stark in the organised sector. Labour productivity is over six times what it was in 1982, but production workers' real wages have grown by only about 1.5 times (Figure 6). Even the growth of managerial and supervisory salaries is much slower than productivity growth. As a result of this, the labour share of income in organised manufacturing has collapsed to around 10 per cent.

5. 'Surplus Labour' industries still dominate as 'new' service economy grows slowly.

Figure 7 : ***'Surplus' Industries Account for More than 50 per cent of Service Sector Employment***

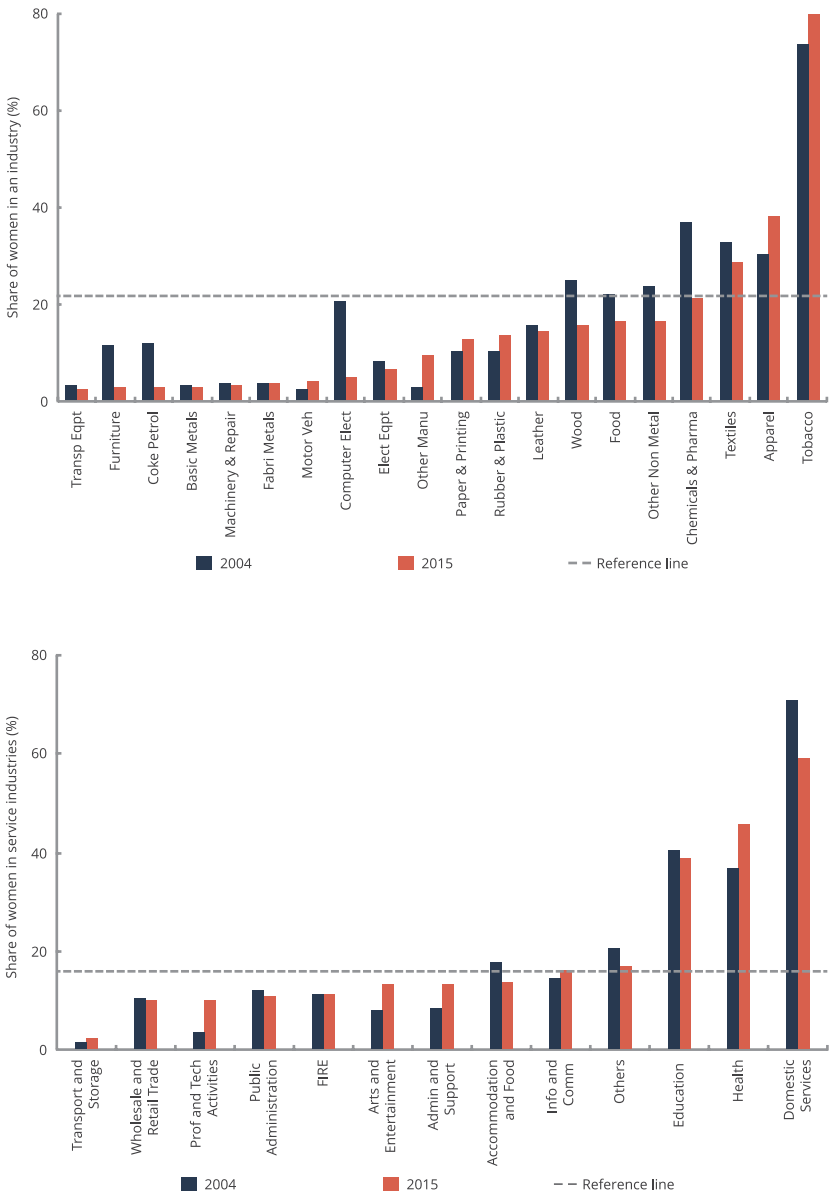


Sources and notes: **RBI-KLEMS 2016, LB-QES 2016. *'Surplus' industries refer to industries dominated by self-employment and petty production. Education, health, and public administration are considered to be 'Social' industries. Finance, IT-BPO, and organised retail are defined as 'New' service industries. Numbers do not sum to 100 due to exclusion of some industries.***

'Surplus labour' based industries account for more than 50 per cent of service sector employment.

Despite the improved performance of organised manufacturing, the sector as a whole has failed to increase its employment share substantially. It has been proposed that the service sector may be able to lead the structural change process in India. Employment in the new service sector, including IT and modern retail, increased from 11.5 per cent in 2011 to 15 per cent in 2015. However, more than 50 per cent of service sector employment is still made up of petty trade, domestic services and other types of small-scale and informal employment (Figure 7). Further, it is possible that the current downsizing in IT-BPM is not a temporary phenomenon but reflective of structural shifts, posing further challenges to the narrative of service-led structural change (Box 3.3).

Figure 8 : ***Share of Women in Manufacturing***



Sources and notes: **NSS-EUS 2004, LB-EUS 2015.** ***Reference line indicates overall share of women in the manufacturing or services workforce respectively, in 2015.***

6. Gender disparities are still high but are reducing in some cases.

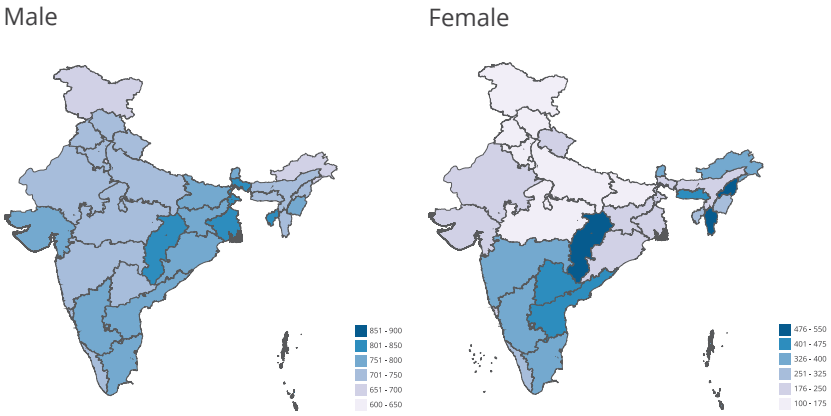
Women are 16 per cent of all service sector workers but 60 per cent of domestic workers.

The Indian economy remains heavily gender segregated. Occupationally, women are under-represented among senior officers, legislators and managers. The situation has worsened with the proportion falling from 13 per cent in 2011 to 7 per cent in 2015. On the other hand, female representation is on par with their overall presence in the workforce in relatively high-paying professional jobs. The caveat is that the paid workforce is still heavily male-dominated in general. Women constitute just 22 per cent of manufacturing, and an even lower 16 per cent of service sector workers. Female workers remain concentrated in a few industries such as textiles and garments, tobacco, education, health, and domestic services (Figure 8).

And overall women earn 65 per cent of men's earnings.

The gender wage gap varies widely. Women earn between 35 and 85 per cent of men's earnings, depending on the type of work and the level of education of the worker. But disparities have reduced over time (Box 5.2). In the organised manufacturing sector, the gap narrowed from 35 per cent in 2000 to 45 per cent in 2013. The disparity is the largest among own-account women workers and the least among the higher educated and regular workers.

Figure 9 : ***LFPR, Particularly for Women, Is Higher in the South and the North-East***



Sources and notes: ***LB-EUS 2015. LFPR values are out of 1000. Note that scales differ.***

7. Women's participation in the paid workforce is low but some states perform much better than other.

While only 20 women are in paid employment for every 100 men in UP, this number is 50 in Tamil Nadu and 70 in the north-east.

The percentage of working age women who are either employed or looking for work is low in India compared to many other developing countries. And it has been declining over time (Box 2.3). But the southern and north-eastern states show much higher rates of participation by women than the northern and western states (Figure 9). The ratio of female to male labour force participation rate varies from less than 0.2 in Uttar Pradesh and Punjab to 0.5 in TN and AP, to a more than 0.7 in Mizoram and Nagaland.

And government programmes are crucial.

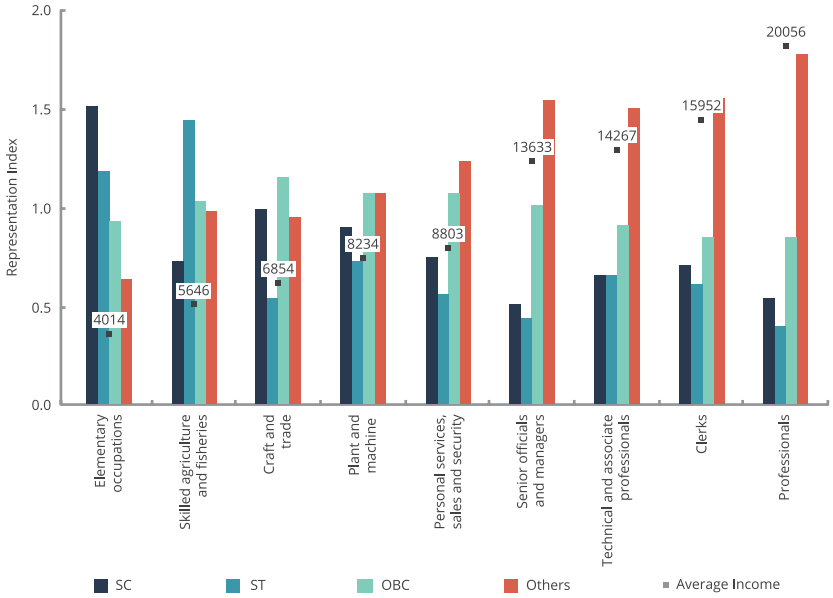
Programmes such as MGNREGA, anganwadis, ASHA, and so on have played a crucial role in increasing women's participation in the paid workforce. Field studies suggest that lack of available work, rather than social restrictions, may be preventing women from entering the labour force (Box 5.1 and Box 5.2).

8. Caste disparities remain large but public policy is effective in reducing them.

Scheduled castes are 18.5 per cent of all workers but 46 per cent of leather workers.

Caste-based segregation and disparities persist, but have reduced in some areas. SC as well as ST groups are over-represented in low paying occupations and severely under-represented in the high paying occupations, a clear indication of the enduring power of caste-based segregation in India (Figure 10). On the other hand, both SC and ST groups are much better represented in public administration indicating the success of reservation policies over the years.

Figure 10 : ***SC and ST Groups Are Over-Represented in Poorly Paid Occupations while Upper Castes are Over-Represented in Well-Paid Ones***



Sources and notes: **LB-EUS 2015. *Representation Index = (% in occupation/% in workforce). Numbers indicate average monthly earnings for a given occupation.***

The caste earnings gap is larger than the gender earnings gap.

SCs earn only 56 per cent of upper-caste earnings. The figure is 55 per cent for STs and 72 per cent for OBCs. The SC gap narrows to around 0.7 when level of education is taken into account. But there is need for much more empirical work, especially at the jati level, to reach a better understanding of caste disparities.

9. Crafts remain big employers and are central to the rural non-farm economy.

With over 500 officially listed arts and crafts, the sector represents immense cultural value, ecological positives, and millions of jobs.

Workers leaving agriculture are mainly moving to construction. The craft sector can provide much needed rural employment that is ecologically less destructive, and that enhances existing skills instead of destroying them. But for this to happen the sector must be treated on par with other industries and given infrastructural support.

10. Towards a 'National Employment Policy'

India's structural transformation has been slower than desired. There is an urgent need to think comprehensively about employment policy that can deliver this transformation. Though this year's SWI does not delve too deeply into policy matters per se, the Conclusion offers some reflections on this important issue. In particularly we wish to highlight that a focused National Employment Policy is needed and that it should take the following into account.

1. There is a growing popularity of employment guarantee across the world, including in OECD countries. With MGNREGA, India has been a leader in this trend, and it should build on its experience.

2. The last few years have seen a renewed interest in industrial policy and the emergence of policies such as wage subsidies and incentives for skilling workers.

3. There is a need to look closely at successful state-level employment policies and learn from the diversity of experiences across states.

4. There is adequate availability of fiscal space at the Central and State levels.

5. Public investment is urgently needed in agriculture to raise the income floor in the economy.

6. There are many advantages to a Universal Basic Services (UBS) programme that invests in education, health, housing, and public transport and safety to create jobs, human capital, and public goods.

7. Job creation can be fruitfully tied to investments in green energy and climate adaptation efforts.

8. The falling female labour force participation may be due to lack of available work, not just social restrictions on women, or increasing enrollment in educational institutions.

9. Government programmes are very powerful in reducing social disparities.

10. There is an urgent need to address data lacunae especially with respect to unpaid work and establishment-level data.

Chapter 1

Introduction

India's employment situation and the state of its labour statistics system are both subjects of national news. The performance of the present government on job creation is also expected to be a key issue in the upcoming general elections in 2019.

India is one of the world's fastest growing economies. To be a stable and prosperous democracy, this growth must be accompanied by the creation of meaningful, secure and remunerative employment. This imperative is widely shared across the political spectrum and by observers of the Indian economy. Realising this goal requires a grounded and comprehensive overview of the state of labour markets, employment generation, demographic challenges and the nature of growth.

The State of Working India (SWI) brought out by the Centre for Sustainable Employment at Azim Premji University is envisioned as a regular publication that delivers well-researched, analytically useful information on India's labour market by bringing together researchers, journalists, civil society activists, and policymakers interested in labour and employment issues.

The first SWI comes at a time when India's employment situation and the state of its labour statistics system are both subjects of national news. The performance of the present government on job creation is also expected to be a key issue in the upcoming general elections in 2019. SWI intervenes in this debate with a careful analysis of the available data. However, it also goes considerably beyond an analysis of the quantity of employment in the economy. We analyse evidence from many different official surveys as well as field studies to present a picture of the contemporary Indian labour market. How many are unemployed? Who are the unemployed? Where are the jobs? Which states are performing better? Is job quality improving? What is happening to the caste and gender disparities? Such questions and many more are addressed in the following pages.

1.1 / The Jobs Question

The past few years have seen a vigorous debate over both the quantity and the quality of employment generated in the economy. It has been claimed that the total volume of employment generated has been inadequate. Others have countered that the problem is not the quantity of employment but its quality. Less than the desired number of 'good jobs' have been forthcoming. The term 'jobless growth' has been used for both these problems, with little agreement over how to define or measure it.

A clear indication that all is not well on the employment front is the emergence of large social movements for the expansion of reserved quotas in government jobs for traditionally dominant castes, such as Jats, Patels, and Marathas. Another related symptom is the extent to which even the lowest paid government jobs attract large numbers of overqualified applicants.

The enormous demand for government jobs comes as no surprise once we take a look at the numbers on job quality as well as quantity. According to the Employment-Unemployment Surveys of the Labour Bureau (LB-EUS), the total volume of employment in the Indian economy shrank between 2013 and 2015. That is, more jobs were destroyed than created. On the quality front, the same data reveal that workers receiving a regular salary account were less than 20 per cent of all workers. A household earning over ₹1 lakh per month is in the top 0.2 per cent of income earners in the country. 67 per cent of households report monthly earnings of ₹10,000 or less (Ministry of Labour and Employment 2016). Meanwhile, the lowest government salary under the Seventh Central Pay Commission is much higher at ₹18,000 (Ministry of Finance 2015).

The debate on jobs, especially in the past two years, has suffered from lack of up-to-date, reliable data. As of the writing of this report, no official survey data at the national level are available after LB-EUS 2015. This is all the more unfortunate given that two policies, the demonetisation of high-value currency notes in 2016, and the introduction of the Goods and Services Tax (GST) in 2017, had a major impact on the labour market in general and the informal sector in particular.

In the absence of government data, the only source for national level employment

A clear indication that all is not well on the employment front, is the emergence of large social movements for the expansion of reserved quotas in government jobs.

numbers is the new survey series started by the Centre for Monitoring the Indian Economy in collaboration with the Bombay Stock Exchange in 2016 (BSE-CMIE 2017). The news from these surveys is not good. They also show an absolute fall in the size of the workforce, or in other words, net job destruction.[1]

On the quality front, the official response to the allegation that not enough formal jobs are being created has been to redefine formality. A task force of the top economic policymaking body – the NITI Aayog – charged with reviewing the state of employment data recommended that formal employment be redefined more 'pragmatically' to include workers covered under various provident funds, insurance, or pension schemes as well as workers subject to tax deduction at source (NITI Aayog 2017, p.16). This was suggested since written contracts are rare in India. This definition increases the size of the formal workforce to 15-25 per cent instead of the usually quoted figure of 7-10 per cent.

Subsequent to this redefinition, data on worker enrolment from the Employee Provident Fund Organisation (EPFO) have been used to argue for robust job creation in the formal economy (Ghosh and Ghosh 2018). This method too has come under criticism. We review this controversy in Chapter Four. In fact, there is no agreed upon definition of 'formal work', and as we show, the size of the formal workforce can vary enormously depending on the definition adopted.

In the absence of government data, the only source for national level employment numbers is the Centre for Monitoring the Indian Economy.

Definitions and data issues aside, however, it is clear that the jobs question has emerged into national consciousness as a salient social and political issue.

1.2 / Structural Change: Lewis-Kuznets Meet Gandhi-Ambedkar

In 1947, the newly independent India inherited an economy ravaged by decades of British colonial rule. Seventy years on, there is much success to show. The first forty years of independent India saw the foundations laid for a modern economy and solving the employment question was central to these efforts. Since the 2000s, India's growth has accelerated. However, many difficult tasks still lie ahead, principally that of achieving structural change.

In an economy with a large agricultural as well as a large informal sector, structural change has two aspects to it. The first is the movement of the workforce away from agriculture towards manufacturing and services. Since this stylised fact of the development process is often associated with the economist Simon Kuznets, we refer to it as the Kuznets Process (Kuznets and Murphy 1966; Ghose 2016). Owing to factors such as lack of formal education as well as other barriers to entry in the formal sector, the movement is most often into informal manufacturing or services.

A developing economy is thus a dual economy. It has a sector consisting of relatively larger firms that hire labour in accordance with considerations of profitability and growth. In India, this is known as the 'organised sector.' But the economy also has a second sector where the amount of available work is distributed among workers willing to work. In other words, labour demand adjusts to labour supply and the market always 'clears'. In this sector, there is no unemployment, only underemployed. This is the 'unorganised sector.'

The second aspect of structural change is thus the movement of the workforce from the unorganised to the organised sector. This is the Lewis Process, named after Arthur Lewis who first put forth the concept of 'unlimited supply of labour' (Lewis 1954; Ghose 2016). The Lewis Process involves eliminating underemployment not only in agriculture but in the unorganised sector in general by the creation of adequate work in the more productive and regulated organised sector.

The two processes of structural change are closely related to each other. But as we elaborate below, it is useful to separate them analytically.

[1] A recent study has challenged these findings (Bhalla and Das 2018), but the study suffers from critical flaws in method that render its conclusions invalid (see Box 2.1).

In the standard model of structural change from the mid-twentieth century growth needs to occur in those sectors that can create more jobs per unit increase in output (that is, sectors that have a high employment elasticity) with skill requirements that match the skill profile of the workforce. These are usually labour-intensive manufacturing industries.

But with the exception of a few economies, the Lewis-Kuznets Process has not unfolded in the expected manner. The 'benchmarks' for the process are the East Asian 'late' industrialisers such as Japan, followed by Korea and Taiwan, and finally China, who managed to create mass employment through increasing manufacturing activities. This required a judicious mix of industrial and trade policies that tied import-substitution to export-promotion, and protection from foreign competition alongside fostering of domestic competition (Wade 1988; Amsden 1992; Chang 2006). It also required a favourable international climate in the form of export markets and geo-political stability.

This path is more difficult today. Not only do firms in these countries have to compete with a much larger number of more productive competitors, but also their governments have, or think they have, fewer options with respect to trade and industrial policies. Added to this is a turn towards protectionism in the industrialised countries that further limits export prospects. As a result, in many developing countries across Asia and Africa, the manufacturing share of employment is declining instead of growing. Instead of industrialisation, we observe 'premature deindustrialisation.' That is, manufacturing reaches its peak share in output and employment at much lower levels of national income when compared to economies that underwent the transition earlier (Rodrik 2016; Amirapu and Subramanian 2015).

In India too, structural change has been slower than desired. The transition from an agrarian and subsistence-oriented informal economy of self-employed micro-entrepreneurs to a growth-oriented industrial and service economy consisting of large firms and regulated employment has been delayed.

In India, in the twenty-first century, Lewis and Kuznets have to meet Ambedkar and Gandhi.

But even this does not adequately capture the challenge. Two new dimensions need to be added to the conventional understanding of structural change. The first is the question of social equity: for whom are the new jobs and new opportunities created? The second is the question of ecology: does the transition improve our chances of surviving on the planet or make them worse? In India, in the twenty-first century, Lewis and Kuznets have to meet Ambedkar and Gandhi.

How has India fared on these tasks? This question is complex and cannot be answered in the space of this Introduction, or indeed even the entire report. We only initiate this exercise here.

1. The Kuznets Process is slowly underway: A key aspect of diversifying the economy, raising incomes and making them less volatile, is the creation of non-farm employment. This process is under way, albeit more slowly than was expected or may be desired. The result is that just under half of the workforce is still in agriculture, forced to share less than 20 per cent of the national income. Further, the failure to create adequate, decent employment in manufacturing and services for those leaving agriculture has meant an explosion of employment in the construction sector.

There is a need for employment policy to balance two objectives: rapid generation of decent non-farm employment and improvement of farm incomes. These need not be opposed to each other. Rather, they can act in concert. Rapid improvement in farm incomes will not only have immediate welfare implications for half the workforce, but it will improve working conditions in the rest of the economy as well.

2. The Lewis Process is underway but there are contradictory forces at work:
Ghose (2016) estimates that around 100 million workers are either employed in very poor quality jobs or are out of the labour force because of unavailability of work. These are 'surplus workers' available to be pulled into the economy if jobs can be created. Another estimate of the surplus workforce that can be more productively employed elsewhere is the percentage of those employed in unorganised petty services such as retail, domestic work, and so on. As of 2016, this is estimated to be 78 million.

While the organised manufacturing sector has increased its share of employment at the expense of the unorganised sector, this has taken place via an informalisation of its workforce complicating the Lewis Process. Indeed, the understanding that structural change would mean larger enterprises, and larger enterprises would mean more formal and regulated employment has been challenged on both fronts: first, because of a dispersal of production from larger to smaller units, and second, because of the creation of an informal workforce subject to fewer regulations, within the organised sector. As a result, the share of formal employment has been increasing very slowly and the majority of the wage workforce is still informal. In addition, own-account workers constitute nearly half the total workforce. Thus, over 80 per cent of the Indian workforce remains informal.

3. Building equity into the Lewis-Kuznets Process:
The maturing of democracy in India both in the parliamentary and the social movement space over the past few decades has imposed welcome constraints on the traditional understanding of the Lewis-Kuznets Process. The traditional model is in some ways a model with 'empty places.' It does not specify who occupies which position in the new economy. But it is no longer possible to speak about structural change without asking if the process creates opportunities for marginalised, excluded, or oppressed sections of society.

This is a result of strong grassroots movements that have pushed equity considerations into the centre of the development process. While progress has been made in the form of lowering educational and earnings gaps, these remain high and significant occupational and industrial segregation also persists. Two examples will illustrate: one, the vast majority of workers who are outside the labour force but are willing to work are women, and two, the Scheduled Castes are vastly over-represented in the leather industry.

4. Building ecology into the Lewis-Kuznets Process:
People's movements have also arisen all over India (and the world) questioning models of development that do not take ecological constraints seriously. Resistance to displacement and dispossession as well as contestation over the use of land, forest, water, mineral, and other resources is now the norm. These movements have also brought the Eurocentric epistemic foundations of conventional development thinking into question. As with equity, a welcome trend is that we can no longer treat these issues as an add-on to the 'core' development process. This has the potential to overturn our notions of 'industry', 'efficiency,' and 'development'.

Naturally, each of these aspects requires a fuller treatment than we can give in a report of this nature. But this year's SWI begins the process to be continued in future editions.

1.3 / Overview of This Year's Report

The State of Working India is discussed under four broad headings: who is looking for work, where is the work, how good is the work, and who does the work.

Chapter Two (Who is looking for work?) is an analysis of the supply side of the labour market. A key finding here is the increase in the level of open unemployment since 2011, and its high incidence among young educated men. The chapter also analyses the issue of a low and falling rate of labour force participation, primarily among female workers. To the extent that low labour force participation is the result of young people taking up higher education, we point out that this defers the employment problem but also makes it more challenging as higher-educated workers will eventually look for jobs that are commensurate to their education and training. Lastly, we comment on the skill question, and propose that it is time to rethink our understanding of skill and how it can be provided, when most training happens on the job.

Chapter Three (Where is the work?) documents that the period between 2011 and 2015 was very different from the period between 2004 and 2011 in terms of structural change, with far slower generation of non-farm employment. We also discuss state-level variations in the Kuznets process. On the Lewis Process, we note that the organised manufacturing sector has shown a strong turnaround in the past decade in terms of its employment generation capacity. However, job growth in this sector has come at the cost of unorganised sector employment and the overall share of manufacturing in employment has not increased. Declining labour intensity is observed in almost every manufacturing industry, but it is unlikely that labour laws are responsible for the substitution of workers by machines. Evidence suggests that firms have continued to hire workers by circumventing the laws. We also identify manufacturing industries that have performed well in both job creation and wage growth.

Chapter Four (How good is the work?) delves into the issue of quality by looking at levels of formality and informality as well as growth in wages and productivity. There is large variation in formality across states but also some evidence for state-level convergence in levels of formality. There is a narrowing of the formal-informal wage gap due to faster growth of wages in the informal sector. Real wages have risen at the rate of 2-5 per cent depending on the sector. The significant exception is agriculture where, apart from an anomalous period from 2010 to 2014, real wages are mostly stagnant. Despite growth, however, wage levels remain far below the lowest recommended salary in the Seventh Central Pay Commission. In organised manufacturing, far more rapid increases in productivity compared to wages have led to a collapse of the labour share of income.

Chapter Five (Who does the work?) addresses the issue of labour market segmentation and discrimination. We show that the raw gender and caste earnings gaps have declined over time, but are still substantial at 65 per cent and 56 per cent respectively. The gaps vary considerably across types of employment, levels of education and sectors. They are larger for self-employment, for intermediate levels of education, and in the unorganised sector. Many manufacturing industries are over 80 per cent male and segregation has actually worsened in the past 10 years. On the other hand, segregation has reduced in services and female over-representation in poorly paid industries such as domestic work has reduced. Reservation or policies in public administration and education have had the desired effect of reducing caste segregation. Large caste-based movements for job quotas currently underway all across the country need to be seen in the context of this achievement.

Chapter Six, the concluding chapter reflects on the future of work and discusses the prospects for a National Employment Policy.

1.4 / A Note on Data and Definitions

Well-formulated policies rely on good-quality data. There are significant lacunae in India's labour statistics system that need urgent attention. The need for reliable, representative, high-frequency employment data has been repeatedly expressed in policy reports, academic literature, as well as in the popular and business press. The government has also admitted the lack (NITI Aayog 2017).

Since 2017, the National Sample Survey Organisation (NSSO) has initiated a Periodic Labour Force Survey (PLFS). This is a welcome development because the PLFS will be conducted quarterly in urban areas and annually in rural areas. However, it is unclear if the PLFS is intended as a substitute for the detailed, quinquennial NSS employment-unemployment survey (NSS-EUS). Further, two significant gaps remain:

1. Annual establishment surveys for all major sectors of the economy, namely, organised manufacturing, unorganised manufacturing, organised services, and unorganised services. Currently, only the first sector is surveyed annually by the Annual Survey of Industries (ASI).

2. Time-use surveys conducted at least every 5 years. In addition to yielding valuable information on underemployment and unpaid work, these can assist greatly in a re-examination of the systems of defining and measuring work so that women's unpaid work is also included in our System of National Accounts. The NSSO is reportedly working on such a survey and plans to conduct it in 2019.

3. A skill survey to be done at least every 5 years. Such a survey is needed to arrive at an accurate understanding of kinds of skills, methods of formal and informal training, and areas of deficit.

The need for reliable, representative, high-frequency employment data has been repeatedly expressed.

Finally, in the past year there have been studies that use databases such as those of the Employee Provident Fund Organisation (EPFO) or the Employee State Insurance Corporation (ESIC) to study employment trends. The use of such administrative and other 'big' data is welcome. But it must be kept in mind that such data cannot substitute for household or establishment surveys.

We now list the data sources used in this report. Details are available in the chapter on Methods. A recent review of India's labour statistics system can be found in Papola (2014).

Unit-Level Survey Data:

1. Quinquennial Employment-Unemployment Surveys of the NSSO (NSS-EUS): 1993-94 to 2011-12. As of the writing of this report, there are no data from this source after 2011-12.

2. Annual Employment-Unemployment Surveys of the Labour Bureau (LB-EUS): We use the 2nd Round (2011-2012) and the latest 5th Round (2015-16). The Methods chapter discusses the comparability of the LB and NSS surveys.

3. Quinquennial unincorporated or unorganised enterprise surveys of the NSSO: There are several firm-level surveys of the unorganised sector with slightly differing criteria and coverage available from the 1990s. The most recent one was in 2015-16.

4. Annual Survey of Industries (ASI): Annual data on the organised manufacturing sector are available from 1982 to 2016 at the industry level, and from 2000 onwards at the factory level.

Data from Published Reports

1. Labour Bureau Quarterly Employment Surveys (LB-QES): There are no large-sample data available for organised services. To analyse employment in this sector we use the new series of the LB-QES (since 2016).

2. Reserve Bank of India data on Rural Wage Rates: These data are used to arrive at growth rates of rural wages. It is available at RBI database on Indian Economy.

3. Centre for Monitoring the Indian Economy (CMIE): The CMIE, in collaboration with the Bombay Stock Exchange, has been publishing reports called 'Unemployment in India: A Statistical Profile' since 2016. Three reports are published per year.

4. Reserve Bank of India – Capital, Labour, Energy, Material, Services (RBI-KLEMS) database: These are internationally comparable data on employment and output available at RBI KLEMS database.

5. International Labour Organisation statistical database (ILO-STAT): For international comparisons, we draw on this data.

We adopt the convention of using 'million' when discussing the labour force or the workforce and 'crores' when discussing rupee amounts. One crore is equivalent to 10 million. Surveys conducted over a fiscal year are referred to by the first of the two calendar years. For example, a survey conducted in 2011-12 is referred to by the year 2011.

Finally, it is important to note that in a country like India, where wage work accounts for only around half of the workforce and the labour force accounts for only a third of the population for women, the concepts of employment as well as work have to be different from those prevailing in developed countries. We discuss the implications of this as appropriate in the text.

1.5 / SWI Background Papers 2018

A team of scholars, journalists, activists, and policy-makers has produced a set of 18 high quality background papers for this year's SWI. The present volume draws on these studies as well as original work carried out at the CSE, in addition to bringing together relevant recent research and policy material. The background papers, listed below, will be published separately as Volume Two of this year's report.

Amit, and Nayanjyoti. 2018. "Changes in Production Regimes and Challenges to Collective Bargaining: A Study of the Gurgaon Industrial Belt." SWI Background Paper 2018–18. Azim Premji University.

Azad, Rohit, and Shouvik Chakraborty. 2018. "A Policy Proposal for Green Jobs in India." SWI Background Paper 2018–6. Azim Premji University.

Basole, Amit, and Amay Narayan. 2018. "Long-Run Performance of the Organised Manufacturing Sector in India: Aggregate Trends and Industry-Level Variation." SWI Background Paper 2018–19. Azim Premji University.

Basu, Deepankar. 2018. "An Approach to the Problem of Employment in India." SWI Background Paper 2018–1. Azim Premji University.

Bhattacharya, Rajesh, and Sarmishtha Sen. 2018. "Pride and Prejudice: The Condition of Handloom Weavers in West Bengal." SWI Background Paper 2018–16. Azim Premji University.

Jayadev, Arjun, and Amay Narayan. 2018. "The Evolution of India's Labour Share and It's Correlates." SWI Background Paper 2018–4. Azim Premji University.

Kapoor, Radhicka. 2018. "Understanding the Performance of India's Manufacturing Sector: Evidence from Firm Level Data." SWI Background Paper 2018–2. Azim Premji University.

Mehrotra, Santosh. 2018. "The Indian Labour Market: A Fallacy, Two Looming Crises and a Tragedy." SWI Background Paper 2018–9. Azim Premji University.

Mondal, Bidisha, Jayati Ghosh, Shiney Chakraborty, and Sona Mitra. 2018. "Women Workers in India: Labour Force Trends, Occupational Diversification and Wage Gaps." SWI Background Paper 2018–3. Azim Premji University.

Nagaraj, R. 2018 "Of 'Missing Middle', and Size-Based Regulation: A New Frontier in the Labour Market Flexibility Debate." SWI Background Paper 2018–7. Azim Premji University.

Narayanan, Rajendran, Sakina Dhorajiwala, and Rajesh Golani. 2018. "Analysis of Payment Delays and Delay Compensation in NREGA: Findings across Ten States for Financial Year 2016-17." SWI Background Paper 2018–5. Azim Premji University.

Natrajan, Balmurli, and Rajesh Joseph. 2018. "Domestic Workers and the Challenges of Collective Action in Informal Work." SWI Background Paper 2018–11. Azim Premji University.

Shrivastava, Aseem. 2018. "Recrafting Indian Industry: A Note." SWI Background Paper 2018–10. Azim Premji University.

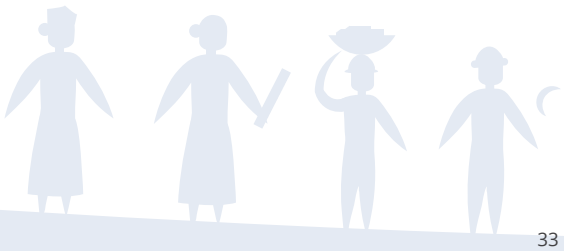
Srija, A. 2018. "Fourth Industrial Revolution: Realizing India's Demographic Dividend." SWI Background Paper 2018–8. Azim Premji University.

Talwar, Anuradha. 2018. "Hard Work, Low Pay : Work Patterns Among Rural Women in West Bengal." SWI Background Paper 2018–14. Azim Premji University.

Thomas, Jayan Jose, and Chinju Johny. 2018. "Labour Absorption in Indian Manufacturing : The Case of the Garment Industry." SWI Background Paper 2018–15. Azim Premji University.

Unni, Jeemol, and Ravikiran Naik. 2018. "Gender Differentials in Expansion of Informal Enterprises." SWI Background Paper 2018–12. Azim Premji University.

Yadav, Anumeha. 2018. "Bijolia's Harvest of Stone: Conditions of Work Among Quarrying Labour in Rajasthan." SWI Background Paper 2018–13. Azim Premji University.



Chapter 2

Who Is Looking for Work?

Labour Force Participation, Unemployment and Migration

Through sheer repetition, the belief has taken hold that one million are joining the labour force every month. However the fact is that after 2004, this number has been 2 to 2.5 million per year.

-Mehrotra (2018)

Has the Indian economy been able to create enough employment for everyone looking to work? What is the profile of the average job seeker today? In this chapter we address these questions. We find that even though unemployment has traditionally been thought of as a problem of developed societies, not of much concern in poor societies like India, this is now changing rapidly. Unemployment levels have been steadily rising, and after several years of staying around 2-3 per cent, the headline rate of unemployment reached 5 per cent in 2015, with youth unemployment being a very high 16 per cent.

We will examine how certain categories of the population, other than the youth, are more likely to be unemployed and whether or not economic growth has reduced unemployment. We will also discuss the population that is not looking for work and look at its demographic composition. Finally, we will discuss issues of education, skill and migration that are connected to understanding and addressing the issue of unemployment.

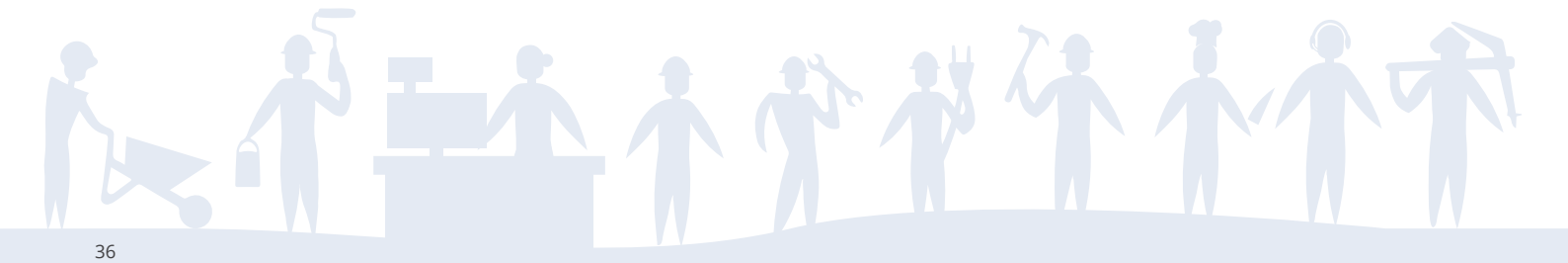
We rely primarily on the most recent official Employment-Unemployment Survey (EUS) conducted by the Labour Bureau (LB) in 2015. Hence the last year in our analysis is 2015. Most trends are analysed for the four year period between 2011 and 2015. Since no data from the National Sample Survey (NSS) rounds are available after 2011 we have to compare the 2011 NSS-EUS data with the 2015 LB-EUS data. We believe this comparison is justified and give our reasons (as well as caveats) at the end of the report in the Methods chapter. After 2015, the only nationally representative household employment data are from a private source, the Bombay Stock Exchange-Centre for Monitoring the Indian Economy (BSE-CMIE) survey. We make use of these data but it should be kept in mind that these data are not strictly comparable to the Labour Bureau or NSS surveys.

2.1 / How Many Are Looking for Work? How Many Have Work?

We begin by defining some key labour statistics. The **working age population** consists of all people aged 15 years or more. Sometimes an alternative definition of ages 15 to 59 is also used. However, we prefer the former, since in the Indian context, a large fraction of the workforce has no official retirement age and continues to work beyond 60 years of age. The total working age population in 2016 was estimated to be around 926 million. In 2011 it was around 834 million (see Methods for calculations). This corresponds to an annual growth rate of 2.7 per cent.

The labour force is defined as people of working age who are either in paid employment or are actively seeking such employment. This excludes people who are in educational institutions, are doing unpaid domestic work, or do not wish to undertake paid work for any other reason. The workforce consists of people in paid employment of any kind including self-employment, casual labour, salaried work as well as unpaid work performed in the production of goods and services sold in the market.

In the Indian economy, most of the workforce does not have regular work all year round. Hence it is conventional to measure employment in two ways. Being employed in **'principal status'** means having work for at least six months in a year. **'Subsidiary status'** refers to a person's employment status between one and six months of the year. We start with an analysis at the aggregate level using principal and subsidiary status employment. For detailed analysis we will consider the principal status definition, and in section 2.1.3 we will discuss some characteristics of the people who are employed under subsidiary status but not under principal status.



Two key parameters needed to determine the amount of employment in the economy are the **labour force participation rate** (LFPR) and the **unemployment rate** (UR). The LFPR is the percentage of working age people who work or want work. The UR is the percentage of those in the labour force who want work but do not have it. Finally, the **worker population ratio** (WPR) is the proportion of working age people who have work. Household surveys such as those conducted by the NSS and the LB give us estimates of these key ratios. The absolute number of people employed are calculated by taking the LFPR and UR reported by sample surveys and applying these to estimates of the working age population projected from the Census.

It is important to keep in mind that these are rough estimates that can vary depending on the projected population. Different surveys may give slightly different estimates of the same ratios. For example, both the NSS and the LB conducted surveys in 2011. Table 2.1 gives the key ratios as measured by both these surveys for the same year. The observed differences are small, but since the size of India's working age population is very large, small percentage differences can mean large absolute changes. Box 2.1 discusses another such instance of disagreement between surveys and the implications thereof.

Table 2.1 : ***Key Labour Market Indicators, 2011 – 15***

Year	Population > 15 years (millions)	LFPR (%)	Labour force (millions)	UR (%)	Unemployed (millions)	Workforce (millions)
2011 (NSS)	850.2	51.6	438.7	2.7	11.8	426.9
2011 (LB)	850.2	52.9	449.8	3.8	17.1	432.7
2012	883.6	50.9	449.7	4.7	21.1	438.6
2013	900.4	52.5	472.7	4.9	23.2	449.5
2014	917.2	-	-	-	-	-
2015	926.0	50.3	465.8	5	23.3	442.5

Sources and notes: ***NSS-EUS 2011, LB-EUS various years.***

Box 2.1 / **The State of Job Creation Since 2016**

As of September 2018, there are no nationally representative official survey data on employment since the Labour Bureau (LB) survey of 2015-16. Data from the new Periodic Labour Force Survey of the NSS are expected shortly. The news from private data sources such as the Centre for Monitoring the Indian Economy (CMIE) is not good. They report a decline in employment over the past two years, continuing the trend of declining employment observed since 2013 in government data (see Table).

Total Employment and Labour Force Participation Rates

Year	Bhalla and Das Estimates				CMIE Estimates			
	Employment (millions)	LFPR (all)	LFPR (M)	LFPR (F)	Employment (millions)	LFPR (all)	LFPR (M)	LFPR (F)
2011	447.9	52.6	80.4	23.2	-	-	-	-
2013	443.3	51.3	75.6	25.5	-	-	-	-
2015	442.7	50.4	76	23.4	-	-	-	-
2016	450.8*	49.8*	76.5*	21.6*	403.5	46.7	72.6	12
2017	464.3*	49.9*	76.5*	21.6*	404.9	43.9	74.6	15.5

Sources and notes: ***2011- National Sample Survey; 2013 and 2015 – Labour Bureau; 2016 and 2017 – CMIE.***
**** – Estimates based on assumed (not measured) LFPR.***

A recent study by Bhalla and Das (2018) claims that the economy generated 13 million new jobs in 2017. If true, this goes against the declining employment story from CMIE and would indicate a much better performance than we have witnessed over the past several years. Unfortunately, this optimistic conclusion depends on selective use of data and unjustified assumptions.

Bhalla and Das argue that key parameters such as the LFPR and the UR estimated by the CMIE surveys are wrong and hence so are their workforce estimates. Indeed there is a large difference between the last available government numbers in 2015 and the CMIE numbers in 2016 and 2017 (see Table). According to the LB, 23 per cent of working age women were in the labour market in 2015. This number in 2017, according to CMIE, was 12 per cent. While female LFPR has been declining in India over the past several years (see Box 2.3), such large changes are not in keeping with the general trend. But we have no independent way of verifying whether the differences are due to survey method or some genuine reason.

However, Bhalla and Das deal with this issue arbitrarily by assuming that the rate of change in LFPR from 2013 to 2014 persists into 2014 to 2016. For 2017, they use the same number as for 2016. This gives them a much higher LFPR of 49.9 per cent for 2017 rather than the CMIE's 43.9 per cent.

The justification they provide for assuming a higher LFPR than revealed by the data is that economic conditions were much improved in 2017 as indicated by a falling unemployment rate in CMIE data. This is a very selective use of the data. In fact not only did the unemployment rate fall in this data, so did the LFPR.

The treatment of the unemployment rate is even less satisfactory, being dismissed in a few sentences towards the end of the paper. Unlike the LFPR, the actual UR used for calculations is not even discussed. Based on their reported workforce for 2017 (464.3 million) and the estimated labour force of 482.6 million for the same year, the implied unemployment rate comes to 3.8 per cent. This is much lower than 4.5 per cent that the CMIE survey finds.

In other words, Bhalla and Das simply assume a higher LFPR and a lower UR. If we assume that the percentage of people looking for jobs or having jobs has increased, and the percentage of unemployed has decreased then, by definition, we arrive at a robust job creation scenario. This method assumes away precisely that which needs to be established, namely, what the LFPR and the UR are in reality. This is even more critical for the past 2 years when policy measures such as demonetisation and GST have impacted the labour market in a big way. In times like these, simple projections from 2015 are likely to be wrong because economic conditions have changed vastly.

Sources and notes: ***https://www.hindustantimes.com/india-news/did-the-indian-economy-create-nearly-13-million-jobs-in-2017/story-2UJHNBwwAkC0rpLv65xFZI.html***

In addition to the two estimates for 2011, Table 2.1 gives the numbers for the past few years till 2015. Between 2011 and 2015, the estimated labour force (as per the principal status definition) increased from 438.7 million to 465.8 million, an increase of 27 million or 6.7 million a year. If we compare only LB surveys for both years, the increase is around 16 million or 4 million a year on average. However, the number does not capture the year to year fluctuations reported in Table 2.1. The large variation also indicates that survey numbers, particularly for the recent LB estimates, should be interpreted with caution. Taking a longer period of time we see that over the past two decades the Indian labour force has grown by around 1.2 per cent per year on average (Basu 2018).

There has been a controversy in recent years over the number of new entrants to the labour force every year. A common statistic that is seen in the media is that a million people join the labour force each month. Mehrotra (2018) shows that this number is based on earlier rounds of the NSS where the labour force increased by 12 million per annum from 2000 to 2005. However, between 2005 and 2011, this number was much lower at 2 million new entrants per annum. Since 2011 this has increased, but still remains much below 12 million per year.

Since such numbers have important policy implications, often used as targets for government policies, it is important to keep the margins of error as well as fluctuations in mind. A singular focus on the overall quantity of employment is also undesirable because it limits the attention of policy makers to just the aggregate number of jobs, rather than how good these jobs are, and the sector or demographic category to which they cater. For example, Mehrotra (2018) shows that from 2011 to 2015, while the labour force in the 15-29 year age group grew by 40 million, the labour force older than 29 years shrank by 30 million. This dramatic shift in the age profile of the labour force must be taken into account while making policy.

Let us now come to the workforce, or that fraction of the labour force which is currently employed. Over the same period that the labour force grew by 1.2 per cent per annum, the workforce or quantity of employment grew by 1 per cent. If we break this down further into approximately five year periods, we see that the labour force and the workforce have roughly kept pace with each other in all but the most recent period (Basu 2018 Table 1). Of course, this sets aside the question of which sector has been driving job creation, as well as the issue of the quality of work. We will return to these questions in later chapters.

In terms of the aggregate amount of employment, the period after 2011 is striking. In this period, while the labour force, as per principal status, increased at the compounded annual growth rate (CAGR) of 0.8 to 1.5 per cent (depending on the survey chosen), the workforce grew much slower at a CAGR of 0.5 to 0.9 per cent. Between 2013 and 2015, the workforce actually shrank by 7 million driven by a decrease in the labour force and an increase in unemployment (Abraham 2017). More recent data from the BSE-CMIE surveys shows that the absolute decline has continued past 2015. But these data have been contested as we discuss in Box 2.1 (Bhalla and Das 2018).

Table 2.1 shows two trends, both worrying. First, a smaller fraction of people are choosing to participate in the labour market, as seen by the falling overall LFPR, and second, out of those people, an even smaller fraction is finding employment, as seen by the rising unemployment rate. The second trend is much more unambiguously problematic. The traditional wisdom was that India's problem was not unemployment but low wages. Low wages are still a problem. But if the 2011-2015 performance is not an exception, we may have a new challenge on our hands — that of rising unemployment.

2.2 / Who Are the Unemployed? How Many Are They?

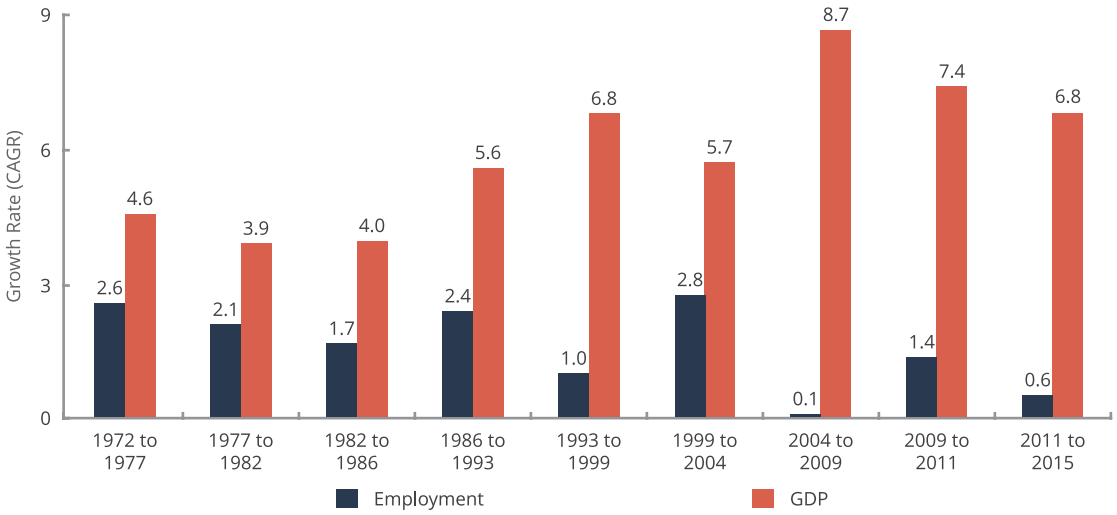
Higher growth has raised aspirations but has failed to generate the kind of jobs that will allow people to fulfill those aspirations.

The rising aspirations of India's youth, about which much has been written, of course arise from higher education, as discussed previously, and the rapid increase in national income. Unfortunately, even as GDP growth rates have risen, the relationship between GDP growth and employment growth has become weaker over time. The growth elasticity of employment, or the per cent change in employment for every per cent change in GDP, captures the effectiveness of GDP growth in delivering employment growth. It is important to keep in mind that there is no absolute standard against which to evaluate this number, unlike the relation between labour force growth and workforce growth where the two must match each other to prevent a rise in unemployment.

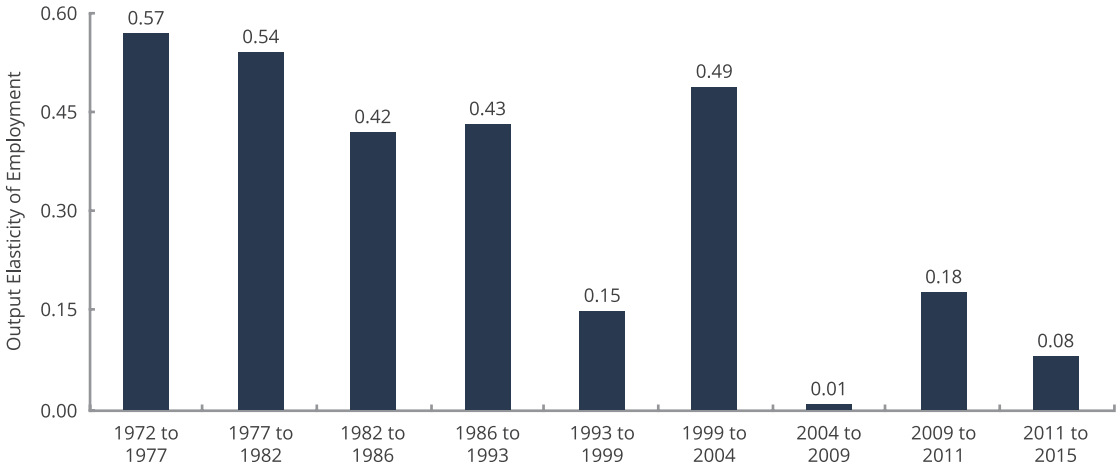
It is also worth noting that a rise in the productivity of labour, or the amount of value generated per worker, also implies a faster increase in GDP than in employment. If this is accompanied by rapid job creation as well, it means that greater output per person is shared among a larger pool of workers. However, the last ten years have been exceptionally poor at overall job creation (Table 2.1 and Figure 2.1). Simply put, higher growth has raised aspirations but has failed to generate the kind of jobs that will allow people to fulfill those aspirations.

Figure 2.1 : ***Growth Creates Fewer Jobs than It Used To***

a) ***Employment Growth vs GDP Growth***



b) ***Growth Elasticity of Employment***



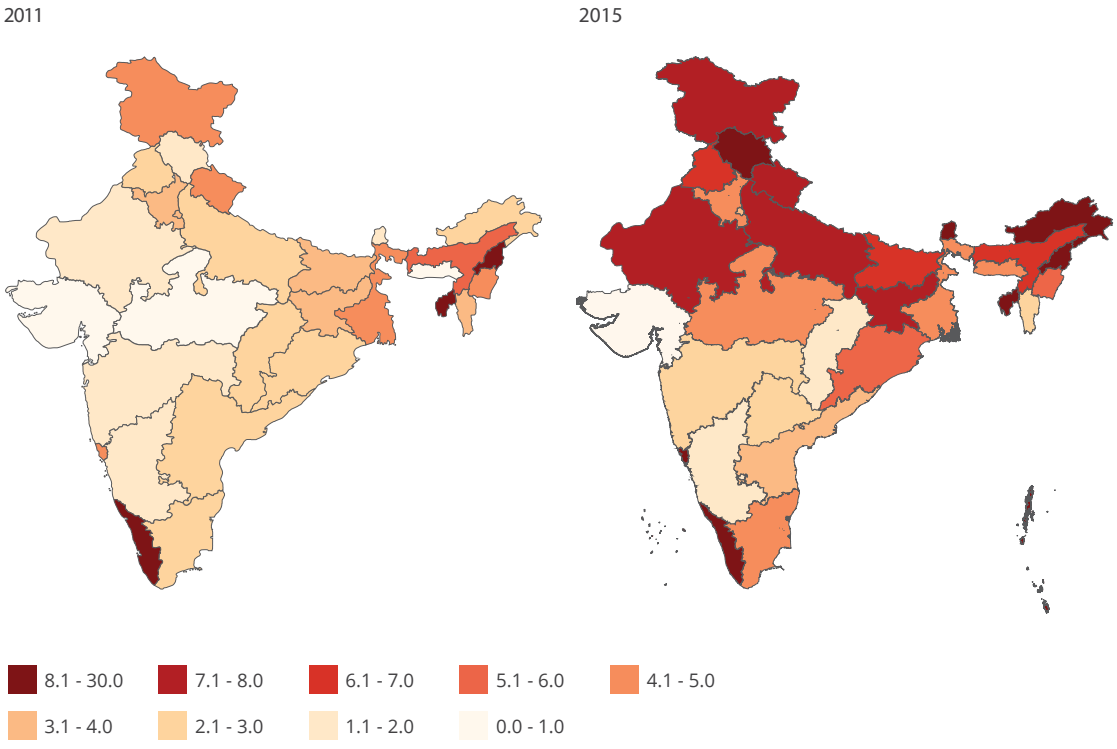
Sources and notes: ***1972–2011 from Misra and Suresh (2014); 2011–15 our calculations.***

The unemployment rate, as mentioned earlier, is the share of the labour force that is not part of the workforce. By the principal status criterion, these are persons over 15 years of age who are looking for work but do not have at least six months of employment. This proportion in 2015 was 5 per cent, up significantly from the much lower 2.7 per cent as per NSS and 3.8 per cent as per the Labour Bureau in 2011. This rate of unemployment is the highest seen in India in at least the last 20 years. If we use the more lenient subsidiary status definition of employment to include those employed at least for a month, then the unemployment rate is 3.7 per cent, which has also grown from 2.1 per cent in 2011.

What do more recent data say? High frequency data on unemployment are available from the BSE-CMIE surveys. As per these data, the employment rate in June 2018 stood at 5.7 per cent.[1] While these data cannot be directly compared to LB or NSS data, the high rate of unemployment is nonetheless worrying, especially in the face of a declining LFPR. This implies that although the proportion of the working age population that is looking to work is falling, a larger fraction of those looking are not finding work. This raises the possibility that as the labour force participation rate stabilises, the unemployment rate may shoot up even more.

Figure 2.2 shows the unemployment rates across states according to the principal status criterion in 2011 and in 2015. The increase in unemployment rate is evident. With the exception of a few states like Chhattisgarh, Gujarat and Karnataka, the situation has worsened everywhere, with the problem being particularly acute in the northern states (see online Appendix Table A2.1 for data).

Figure 2.2 : ***Unemployment Has Risen in Almost All States across India***



Sources and notes: ***NSS-EUS 2011 and LB-EUS 2015. Employment is defined as per usual principal status. Scale indicates per cent values. Note that the following outlying states have been placed in the top bracket: 2011- Kerala (9), Tripura (14.5), and Nagaland (25.6). 2015 – Nagaland (8.5), Arunachal Pradesh (8.9), Goa (9.6), Himachal Pradesh (10.6), Kerala (12.5), Sikkim (18.1) and Tripura (19.7). See Appendix Table A2.1 online for data.***

[1] From unemployment rate in India.

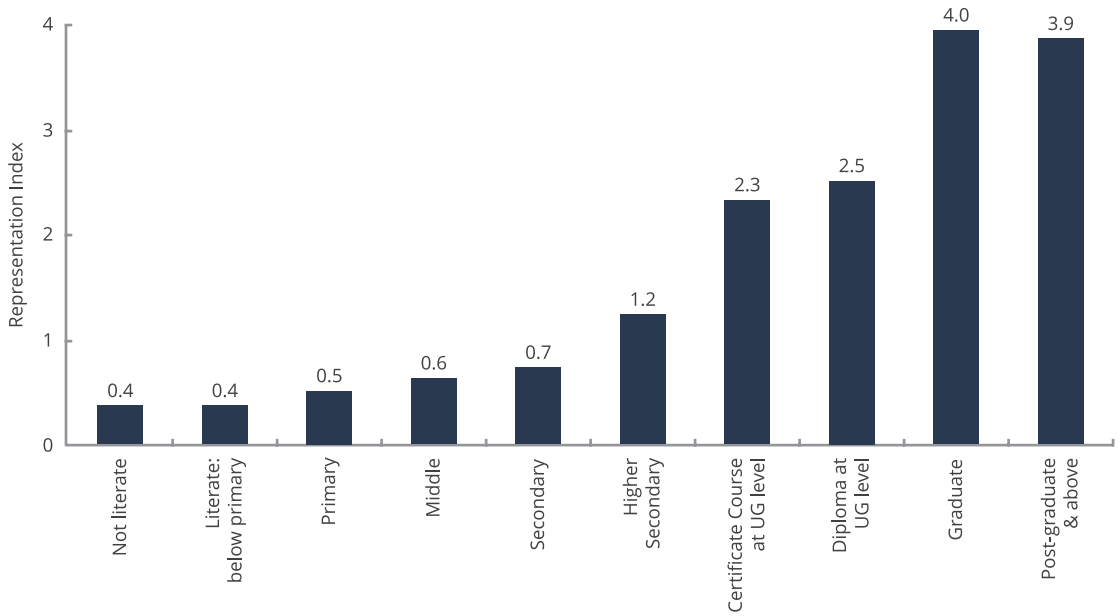
The number of people with a graduate or higher degree, who are looking for a job, is roughly equal to the entire population of the city of Bengaluru.

Who were these roughly 23 million people who said that they were actively searching for jobs but did not have even six months of employment? We provide detailed tables showing the demographic characteristics of this group in the online Appendix (Tables A2.2). 9 million, or more than one-third of the people in this group have graduate or higher levels of education. Since there are 55 million people in the labour force with graduate or higher degrees, this says that almost one in six of them is unemployed. Figure 2.3a plots a 'representation index' of each educational category. This index is a ratio of the share of each category among the unemployed to their share in the working age population. The ratio being more than one implies that that category is over-represented in the unemployed group. As is evident from the graph, this 'representation index' increases with an increase in education level. Graduates are more than a third of the unemployed but less than 10 per cent of the working age population.

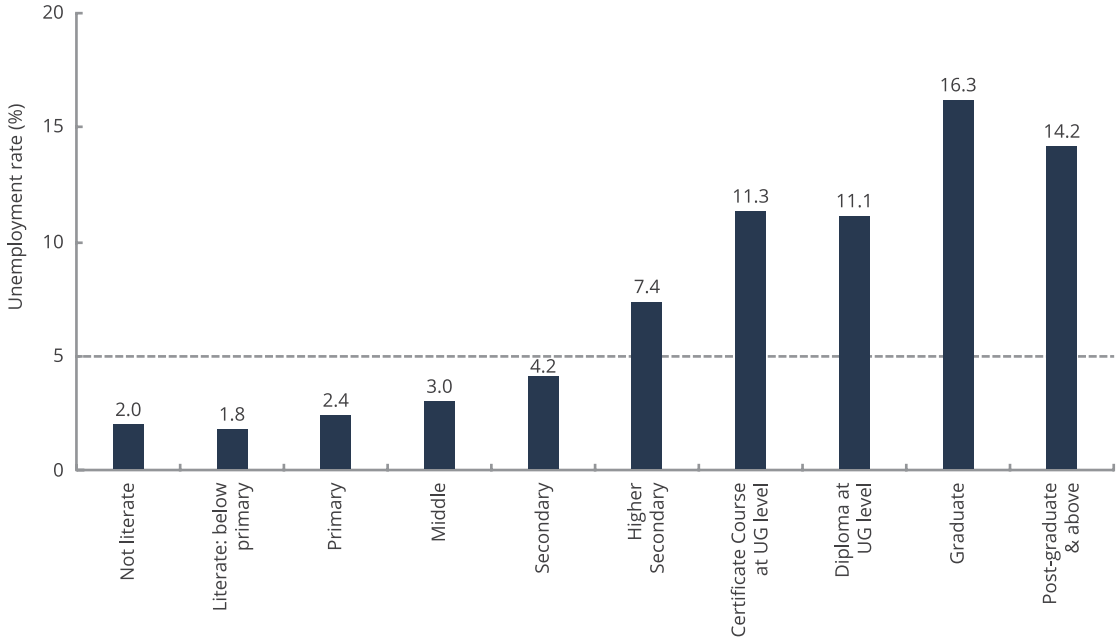
The number of people with a graduate or higher degree who are looking for a job is roughly equal

Figure 2.3 : ***The Crisis of the Educated Unemployed***

a) ***Over-Representation of the Educated among the Unemployed***



b) ***Unemployment Rate among the Educated is Three Times the National Average***



Sources and notes: **LB-EUS 2015.** ***Reference line indicates average.***

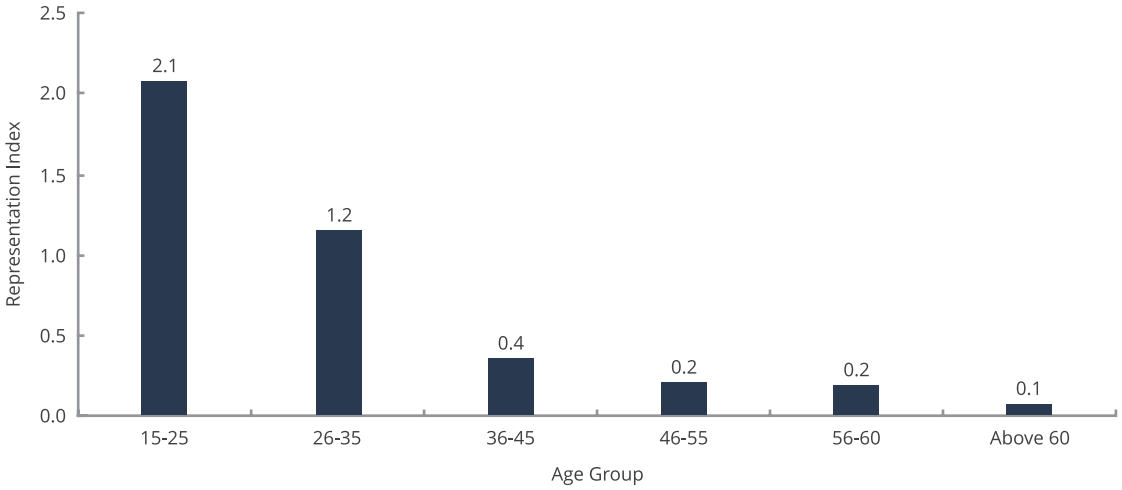
to the entire population of the city of Bengaluru (population 8.5 million according to the 2011 census). Unemployment among this population is three times the national average (Figure 2.3b).

These highly educated unemployed people also overwhelmingly report that the reason for unemployment is that they did not find a job that matched their skills. This obviously points to the issue being not only one of job creation, but of the creation of decent and desirable jobs. This aspect of the quality of jobs will be discussed in more detail in Chapter Four. There is also the other side of the issue which is to do with the quality of education and the employability of college graduates. We will deal with this issue later in this chapter.

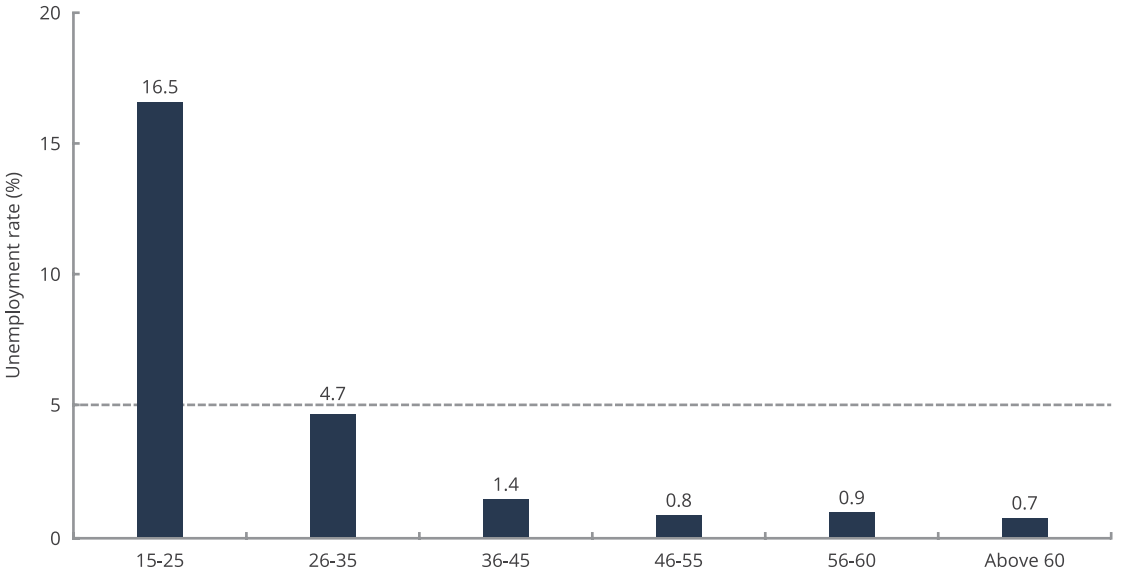
The unemployed are also disproportionately young. More than 60 per cent of them are in the 15-25 year age group. In contrast, this group constitutes only 30 per cent of the total working age population. Also, they are largely male (60 per cent of the unemployed are men). So, what we have is a larger than ever before population of educated young unemployed men, which is a cause for concern. Figure 2.4a shows the representation index along age categories and again it is evident that the young are highly overrepresented in the unemployed population.In fact, if we look at the unemployment rate in just the 15-25 year group, it is much higher at 17 per cent, similar to the rate amongst the college-educated (Figure 2.4b).

Figure 2.4 : ***Youth Unemployment***

a) ***The Youth Are Over-Represented among the Unemployed***



b) ***The Youth Unemployment Rate Is Three Times the National Average***



Sources and notes: **LB-EUS 2015.** ***Reference line indicates average.***

This phenomenon of mass unemployment among educated, young men is manifested in various ways. Consider the fact that almost every public sector recruitment drive is massively over-subscribed. For example, in early 2017, the West Bengal government held an examination for 6000 jobs in the Class IV or Group D category, the lowest category of permanent employment in government service. 2.5 million appeared for the exam, many of them holders of graduate and postgraduate degrees. In 2015, 2.3 million applied for around 400 Class IV jobs in Uttar Pradesh, of them 150,000 graduates[2]. Such examples may be multiplied.

Another way the clamour for jobs has manifested is in mass youth rallies across the country demanding reservations in government jobs. Strikingly, these have been mostly led by youth from traditionally dominant agricultural castes such as Patels, Marathas, Jats, and so on. Even a relatively better performing state such as Karnataka saw a major political campaign on the jobs issue in the lead up to its 2018 assembly elections (see Box 2.2).

Finally, with respect to the characteristics of the unemployed, the distribution along the dimensions of caste and family income is not very different from the overall working age population. The conventional wisdom has been that people with social or economic support can afford to stay unemployed. In the case of family income, the issue could be the large bin sizes in the LB-EUS (₹11,000 and ₹20,000 are in the same category) that flatten most of the variation. But this still leaves the caste issue, which is worthy of further research.

Box 2.2 / **The 'No Jobs, No Votes' Campaign by Karnataka for Employment**

Although the headline rate of unemployment in Karnataka is lower than the rest of the country, the type and quality of jobs leave a lot to be desired. The recent assembly elections of 2018 saw the emergence of a 'No Jobs, No Votes' campaign conducted by a group called Karnataka for Employment. In their Youth Manifesto, the organisers noted that, as in most of the country, 80 per cent of workers in the state were either self-employed or worked as contract and casual labour. Further, the majority of the self-employed earned less than ₹7,500 per month, as per the Labour Bureau, suggesting that this is a form of distress employment, in the face of lack of other regular/formal opportunities. The resulting demand for the security of a government job is reflected in the fact that 1.8 million applicants applied for less than 2,500 jobs in the 2015 state public service commission examinations.

The movement's aim was to hold the government responsible and demand policies that directly lead to job creation by putting public pressure on the contesting political parties. The parties were asked to adopt the key points of the Youth Manifesto. The fact that such a campaign was able to attract support in Karnataka, which is one of the few states where unemployment has not increased significantly, shows that there are increasing chances of such organised action happening in the rest of the country.

[2] Job drought: 2.5 million candidates vie for 6000 Group-D posts in West Bengal and 23 lakh apply for 368 peon posts in Uttar Pradesh.

2.3 / Who Participates in the Labour Force?

In a developing economy, the LFPR is determined by a series of complex economic, institutional and cultural factors. It registers an increase as more people enter the labour market looking for paid work, and spend less time in subsistence activities producing for their own consumption. But it registers a decrease if people, especially those of school and college going age, choose to attend educational institutions rather than work. Similarly, it is possible that with economic growth women could either enter or leave the labour force depending on cultural preferences. In India, the LFPR has been either stagnant or declining over the past few years. As per the Labour Bureau, in 2015 the LFPR was 50.3 per cent. For 2011, we have two estimates, one from the NSSO (51.6 per cent) and one from the Labour Bureau (52.9 per cent).

Among comparable large developing countries, India's female LFPR stands out as one of the lowest. In addition, it has been declining over the past few years.

Thus, as pointed out earlier, the labour force is growing at a much slower rate than the working age population. Most of the difference appears to be due to more young people taking up higher studies. Of course, while this reduces the growth of the labour force today, these people will join the labour force after finishing their studies and are going to expect jobs commensurate to their level of education. Some of this can already be seen in the 2015 data, as discussed in the previous section.

India's labour force participation rate is low by international standards, driven mainly by very low participation of women. Figure 2.5a shows the relationship between male and female LFPR using data from the International Labour Organisation (ILO). Almost all the countries in the dataset lie below the dotted line of equality indicating a universal tendency for female rates to be below male ones. Countries below the blue line of best fit are the ones where female LFPR is below average given their male LFPR. India (IND, in red) appears at the bottom right along with other South Asian countries like Pakistan and several middle eastern countries.

Among comparable large developing countries, India's female LFPR stands out as one of the lowest (Figure 2.5b). In addition, it has been declining over the past few years. This has given rise to a large literature, some of which is discussed in Box 2.3.

In summary, while men are openly unemployed, women are not even part of the labour force. These constitute distinct challenges for employment policy.

It is somewhat misleading, however, to discuss female LFPR at the national level, because this average hides large state-level variation. Labour force participation in general is higher in southern states, but the difference is even more stark for women (Figure 2.6). The female LFPR varies from a low of 11 per cent for Punjab and UP to over 50 per cent for the north-eastern states and Chattisgarh. The wide variation in gender disparity of labour force participation can be gauged from the female to male LFPR ratio which varies from less than 0.2 to greater than 0.7 (Figure 2.7).

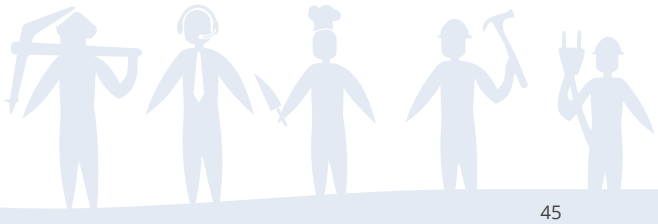
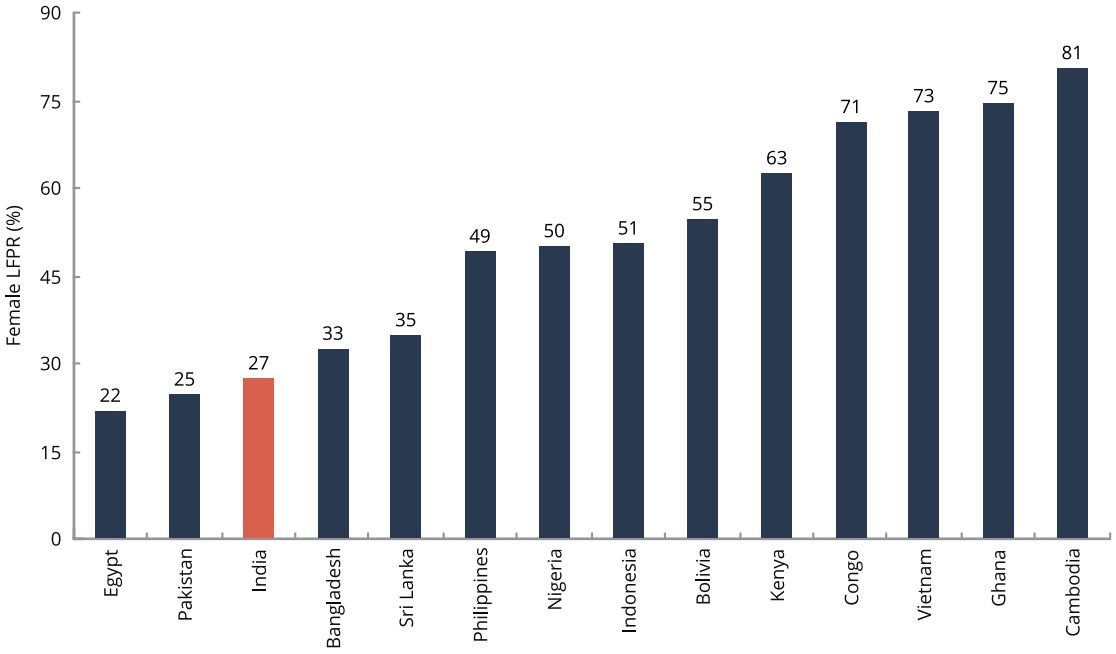


Figure 2.5 : Female Labour Force Participation Rate in India Is Much Lower than Comparable Developing Countries

a) ***...the Global Average***

b) ***...Comparable Developing Countries***



Sources and notes: **ILOSTAT (2017).** ***Female LFPR = (number of women in the labour force/number of working age women). Dashed line represents equal levels of Male and Female LFPR, Blue line is the line of best fit.***

Box 2.3 / **The State of Working Women in India**

Rahul Lahoti

India's female labour force participation has declined precipitously over the last two decades. As per the International Labour Organisation's international database, ILOSTAT, India ranks 121 out of 131 countries in this respect. This period saw an average GDP growth rate of 6 to 7 per cent per annum, a fertility rate decline from 3.9 in 1990 to 2.6 in 2011 and an increase in the years of schooling among females. In many other countries, all these factors have led to an *increase* in female labour force participation.

Various studies have pointed to a negative income effect, increase in women's education, and husband's education as the major drivers of the decline (Das et al. 2015; Klasen and Pieters 2015; Sorsa et al. 2015; Afridi, Mukhopadhyay, and Sahoo 2016; Mehrotra and Sinha 2017). Increase in husband's income has driven households to withdraw women from the labour force. Women working outside the household are seen as a negative status symbol in a patriarchal society and they are used as reserve labour force to be used only in times of distress (Himanshu 2011).

Increasing women's education, surprisingly, has worsened the decline. Several studies have observed a U-shaped relationship between own education and labour force participation (Das and Desai 2003; Afridi, Mukhopadhyay, and Sahoo 2016). LFPR is lowest for women with secondary education and increases for those who are college-educated or have a graduate degree. A large proportion of Indian women now have secondary education, but a small fraction have higher education. Educated women might be dropping out of the labour force as their productivity in household work – specifically raising children – increases. Another argument is that secondary educated women do not want to jobs requiring 'menial' physical labour but do not have the skills to do other white collar jobs in the service sector. Marriage and having children also reduces the likelihood of women participating in the labour market.

Women workers have also had a difficult time moving out of the rapidly shrinking agricultural sector and obtaining other non-agricultural jobs (Chand and Srivastava 2014; Kapsos, Silbermann, and Bourmpoula 2014; Chatterjee, Murgai, and Rama 2015). This is because female-friendly labour-intensive jobs have seen less growth in India, especially in rural areas. The lack of shift in the Indian economy towards manufacturing and the low share of women in the manufacturing sector have hurt the chances of women finding paid work outside agriculture (Lahoti and Swaminathan 2016). Displacement from agriculture and lack of opportunities in the non-farm sector have thus acted together (Mehrotra and Parida 2017). Also agricultural work provides flexibility for women to manage work, household and care responsibilities, which other jobs (if available) do not provide. In a patriarchal society with little sharing of household responsibilities between men and women, the lack of flexibility in non-agriculture jobs acts a big deterrent for women to go outside the household and work (Rani and Unni 2009).

The low level of female participation in the workforce and the decline in their participation rate can and must be reversed through policies promoting female-friendly sectors in the economy, reducing educational and occupational segregation and tackling the social stigma associated with women working outside the house.

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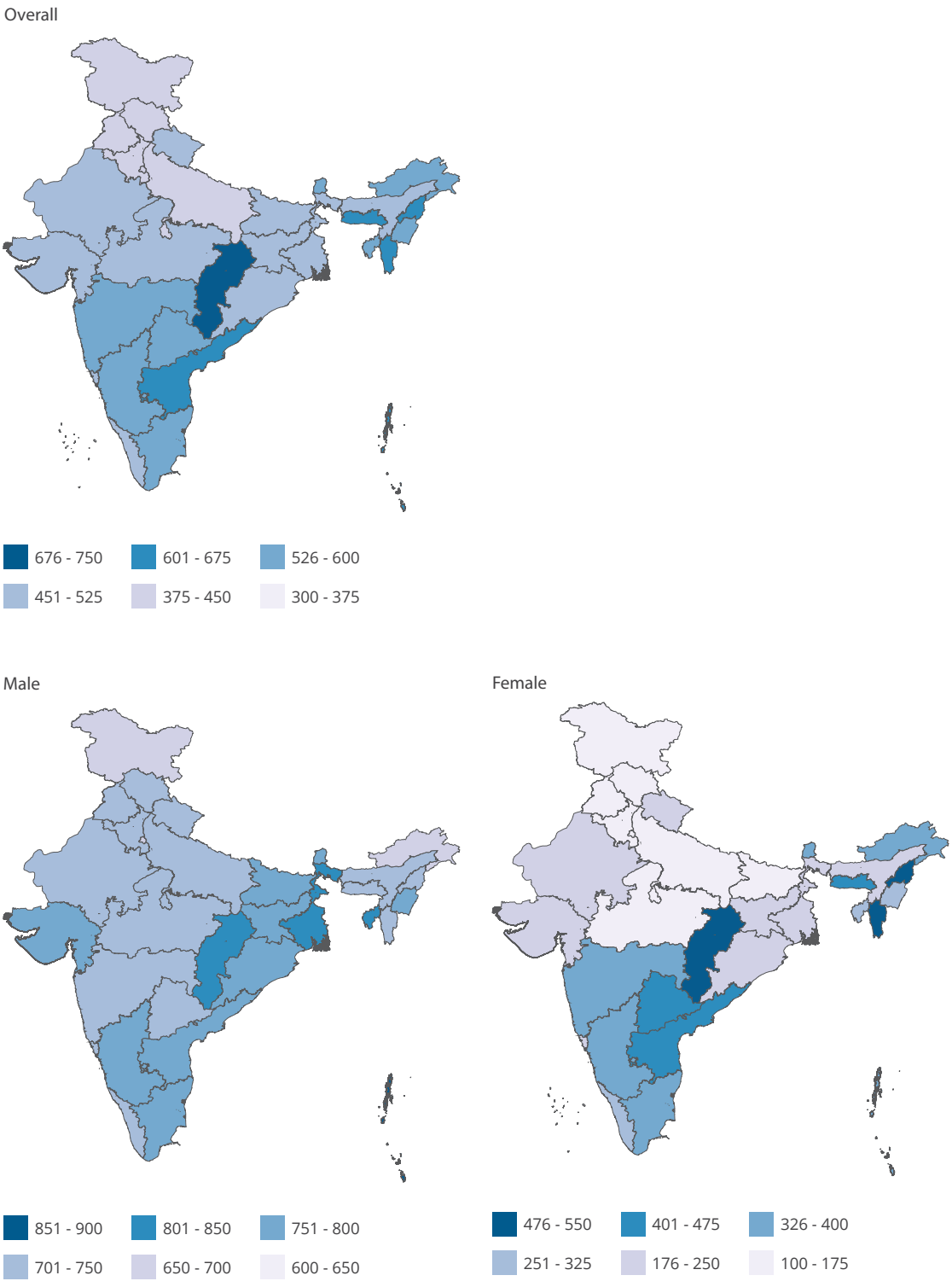
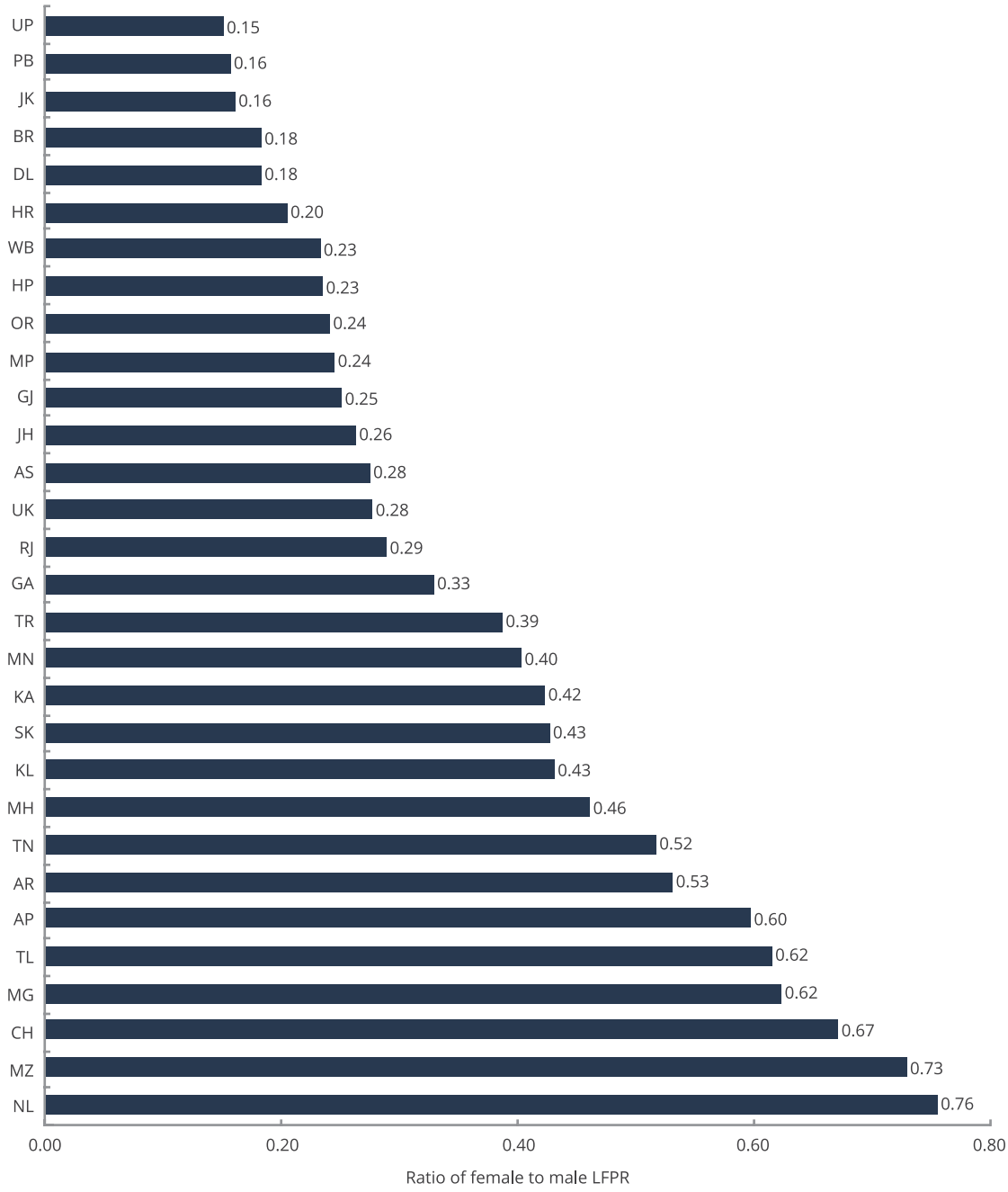
Figure 2.6 : ***LFPR, Particularly for Women, Is Higher in the South and the North-East***



Sources and notes: **LB-EUS 2015. *LFPR values are out of 1000. Note that scales differ. See Appendix Table A2.3 online for data.***

Figure 2.7 : ***Gender Disparity in Labour Force Participation Varies Significantly across States***



Sources and notes: **LB-EUS 2015. *Refer Table of Abbreviations for state codes.***

As discussed earlier, we have only considered workers who were employed for 6 months or more. But there is also information on people who were employed for at least 1 month but for less than 6. Three-fourths of these are women, more than 80 per cent of whom are engaged in domestic duties as their principal activity. Amongst the men, a little less than 60 per cent report seeking work as their principal activity, that is, they will be part of the labour force but are unemployed according to the principal status definition of employment. Another 24 per cent are in educational institutions.

The people of working age who are not in the labour force, that is, they are neither working nor actively seeking employment, could be engaged in studying or in unpaid work like care work, among other things. The age profile of the group is interesting. There is a disproportionate representation of the youngest and the oldest age groups, that is to be expected. More people older than 60 years would drop out of the labour force because of age and more people younger than 25 years would choose to stay out of the labour force to study (Table A2.4 of online Appendix).

The key thing to note is that this group is overwhelmingly female and is largely engaged in household work. When we look at men and women separately, the difference in activities becomes quite clear. More than 60 per cent of the men of working age who are not in the labour force are attending educational institutions. They are also much younger, with more than two-thirds being in the 15-25 age group. The picture is quite different for women. More than three-fourths of them are engaged in domestic duties only. And their age profile is quite similar to that of the overall working age population, indicating that there is no age-specific selection out of the labour force among women. Indeed, if we take into account unpaid work, then the picture changes dramatically. Mondal et al. (2018) contend that to account for the work women do in India, the definition of work needs to be revisited (Box 2.4).

Box 2.4 / **Defining Work from the Perspective of Women Workers**

In their SWI background paper, Mondal et al. (2018) contend that to account for the work women do in India, the definition of work needs to be revisited. Economic definitions of work invariably link it to production of goods and services. There is disagreement on whether or not to include work such as domestic work and care work in this definition. The authors argue that these do need to be included in the definition of work, and employment defined as work for pay or profit is only a subset of this larger definition.

Changing the definition of 'work' also has an impact on measurement of the participation of women in the labour force (see Box 2.3). Currently, the NSS employment-unemployment surveys categorise the following types of individuals as being outside the labour force: attended educational institutions, attended to domestic duties only, attended to domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use, rentiers, pensioners, remittance recipients, etc., not able to work owing to disability, others (including beggars, prostitutes, etc.), did not work owing to sickness (for casual workers only), children of age 0-4 years.

The study argues that workers who performed domestic work (NSS status code 92) and/or other subsistence activities (code 93) as their principal occupation, should be considered as working. On including these three codes, the authors find that not only is women's labour force participation higher than that of men, but also that there is no difference in the trends over time. In fact, an increase in the proportion of women reporting that they are engaged in activities corresponding to codes 92 and 93 compensates for the decline in the proportion in paid employment.

Sources and notes: ***Mondal et al. (2018)***

As with the unemployment data, there does not seem to be any change in the caste or family income distribution of this group, either overall or by gender, when compared to the total working age population.

The distribution of activities of this group shows no evidence of 'discouraged workers,' that is, those who are educated but have dropped out of work force because they could not find jobs. But this may be due to the fact that the surveys do not probe deep enough into reasons for being out of the labour force, and also do not elicit data on previous attempts at getting employment. It is also possible that what appears as an increase in workforce in agriculture, (details in Chapter Three) that is counter to the trend, represents disguised discouraged workers unable to find work elsewhere.

2.4 / Education and Skill

As we have seen above, one of the reasons for the slow growth of the labour force is that more youth are remaining in education. In recent years there has been a steep increase in India's higher education gross enrolment ratio (GER), that is, the percentage of youth of the age 18-23 years enrolled in a higher education institution. After increasing slowly for several decades to a level of around 12 per cent in 2005, the ratio has climbed to 21 per cent in 2011 and then to 24.5 per cent by 2015 (see reports of the All India Survey on Higher Education). Between 2011 and 2015, the GER rose by 3.7 percentage points. Evidently, this explains the slow increase in the labour force as compared to the working age population.

In recent years there has been a steep increase in India's higher education gross enrolment ratio (GER) from 12 per cent in 2005 to 24.5 per cent in 2015.

There is also a substantial state-level variation in this number (Table A2.5 of online Appendix). States like Kerala, UP and Jharkhand have seen an increase of 7 percentage points or more compared to the all-India number of 3.7 percentage points. States with already higher enrolment ratios, like Tamil Nadu, Andhra Pradesh and Telangana, need to plan ahead in terms of adequate employment generation for emerging graduates. Both caste and gender dimensions of higher education are clearly visible here. Enrolment ratios for SC and ST populations, and for women within each section, are much lower than the overall ratio.

With the proliferation of higher education institutions as well as rapidly growing enrolment, the major question in policy circles as well the popular press has been the quality of education being delivered: specifically, whether it is preparing the youth for a rapidly changing job market. There have been periodic small surveys, often carried out by 'head-hunting' or recruitment firms, that assess the employability of recent graduates. Mostly these have reached pessimistic conclusions. A recent study of 150,000 engineering graduates by a Delhi-based employment-solutions company, found that barely 7 per cent were suitable for engineering jobs. Another, by the Associated Chambers of Commerce of India, also found that around 7 per cent of the thousands of graduates emerging from the country's 5,500 business schools each year were employable.[3] Employers are increasingly finding it necessary to run training programmes of several months or longer in order to bridge the gap between college training and ability to work.

There are now no takers for nearly half of all available seats at engineering colleges nationwide. And there is a general prevailing sense of panic among policy-makers as well as the public that there is a large 'skill deficit' in the Indian labour force. Recently, large government efforts have been made to upskill the workforce through schemes such as Skill India (officially Pradhan Mantri Kaushal Vikas Yojana or PMKVY).

Unfortunately, however, there are no large-scale, representative surveys that assess either the preparedness of Indian college graduates for jobs or the effectiveness of skilling programmes in making youth employment-ready. This is a large lacuna in the data ecosystem.

Looking beyond the world of college education or other formal higher education programmes, there is also a need to rethink the concept of 'skill' itself. Field surveys indicate that substantial skill acquisition as well as updating occurs

[3] Only 7 per cent engineering graduates employable: What's wrong with India's engineers? and B and C category B-schools producing un-employable pass-outs: ASSOCHAM.

informally and 'on-the-job' (Basole 2015b). It is, therefore, a serious mistake to confuse skills with years of formal education. More creative policy approaches that draw directly on the vast store of informally acquired knowledge and skills, the 'lokavidya' of the Indian workforce are needed (Basole 2018).

In this regard, programmes such as 'Recognition of Prior Learning' (RPL) that confer official certification on existing skills are worthy of support, and much can also be learnt from other countries that have experimented with subsidies for apprenticeships in the informal sector. While RPL is indeed part of India's skill ecosystem, it does not occupy a position of much importance

Box 2.5 / **The Fourth Industrial Revolution**

In her SWI background paper, Srija (2018) discusses the potential impact of the Fourth Industrial Revolution on the Indian labour market.

In LB-EUS 2015, 58 per cent of graduates and 62 per cent of postgraduates who are actively looking for jobs cited non-availability of jobs matching with their education, skill, or experience as the reason for unemployment. This shows that the challenge is not just to create jobs but the right kind of jobs. Srija argues that the fast changing technological environment may offer an opportunity to do just that.

More than 1 lakh gram panchayats out of a total of around 2 lakh have been connected through optical cables as of March 2018. About 24 per cent of the population of the country has access to the internet through their mobile phones, with the number increasing every year. Increased connectivity has also been accompanied by collection of a huge amount of data from the users of these services. Srija argues that this presents an opportunity for creation of jobs in firms that use the connectivity as well as 'Big Data' to provide innovative services to consumers. She gives the example of Byju's learning app that has become a 'unicorn' – a term used to refer to startups that are valued at over 1 billion US dollars - within 3 years of its launch.

But to tap into these new opportunities, a workforce with the right kind of knowledge and skills would be required. Despite the improvements in the area of primary education over the last few years, there are still some major problem areas that need to be addressed. Srija identifies three main ones –

1. Problems of access: Although access to primary schools has improved substantially and is nearly universal, the same is not true for upper primary and secondary schools. In rural areas, just 36.7 per cent of the households have access to a secondary school within a distance of 1 km.

2. Problems of dropout: While enrolment in primary education is near universal, a large number of students drop out by the time they reach secondary or higher levels of education. For example, in the 5-15 age group the proportion of students dropping out is 60.3 per cent in rural areas and 43.3 per cent in urban areas. The reasons given for dropping out included employment in economic activities, financial constraints and lack of interest in education.

3. Choice of educational stream: The proportion of students in higher education who opt for professional/technical courses was 12.6 per cent and those going for vocational courses was 2.4 per cent in 2014. Srija argues that this compounds the earlier problems as out of even the few students who reach the level of higher education, 85 per cent opt for streams that do not give them the skills that would increase their employability in these areas.

A number of government schemes are attempting to solve these problems but the sheer scale of the challenge means that a lot more needs to be done. Policy measures suggested include stipend-driven courses, night classes, and on-the-job classes of re-skilling and up-skilling along with a job market oriented curriculum.

Sources and notes: ***Srija (2018)***

(Mehrotra 2014). Policy focus has been mostly dominated by short-term skilling and certification programmes whose ability to deliver marketable skills is questionable. The 2016 Sharda Prasad report on the PMKVY is particularly critical of this model (Ministry of Skill Development and Entrepreneurship 2016).

2.5 / Migration

The study of economic migration in India is afflicted with the standard problems of scarcity of reliable data. But unlike other processes, it is also tinged with a normative ambiguity about the appropriate policy response to it. One view is that migration should be encouraged to further structural change, while the other view is that it is a symptom of severe rural distress and hence needs to be addressed so as to allow people to find employment without the stress generated by migration in both sending and receiving locations.

The Economic Survey of 2016-17 (Ministry of Finance 2017) presented a comprehensive analysis of inter-state migration. Census 2011 counts the number of self-reported economic migrants as 51 million, which had increased at the rate of 4.5 per cent a year from the 2001 number of 33 million. This number is around 10 per cent of the labour force, increasing from 8 per cent in 2001. But there are two key problems with the Census numbers. First, it only captures long-term migration and does not include the substantial numbers of short-term migrants who undertake what is sometimes referred to as 'circular migration.' Second, the status of women migrants is frequently underreported because when they migrate with their family for economic reasons, they may state the reason as 'marriage' or 'moved with household.'

To correct for at least the second problem, the Economic Survey adopts a different methodology. First, it uses the difference in the population of 10-19 year olds in 2001 and that of 20-29 year olds in 2011, corrected for mortality rates, as a measure of net migration (and similarly for 1991-2001). This leads to an estimate of 55 million, which is clearly an underestimate as only net migration is accounted for. But the inter-state differences are interesting. Bihar and UP, unsurprisingly, are the major sending states. But Maharashtra and Delhi have been replaced by Tamil Nadu and Kerala as the major receiving states, signalling a geographical shift in where the net demand for workers lies.

The survey also uses rail ticketing data to estimate net migration at an annual level, thus it is more likely to capture short-term migrants. The average yearly migration between 2011-12 and 2015-16 is estimated at 9 million.

Perhaps a more important indicator of the changes in the economy is the state of rural-urban migration. While most studies agree that the rate of out-migration of men from rural areas is around 5 per cent (Munshi and Rosenzweig 2016), there is disagreement about whether this is high or low. Munshi and Rosenzweig compare this to the rural-urban migration rate in Brazil which was 13.9 per cent. Tumbe (2016) compares it to similar rates in the Age of Mass Migration in nineteenth century Europe. Munshi and Rosenzweig contend that the migration rates are low despite urban wages being substantially higher than rural wages because of caste-based insurance networks in villages that potential migrants do not want to move away from. Tumbe argues that it is not just the quantity of migration that matters. As the migrants are mostly male, it creates a situation of 'missing men' in the source regions which has important implications for the women left behind.

Large scale distress migration is not desirable and programmes like the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) have been shown to reduce such migration (Imbert and Papp 2018). This noted, a long term permanent shift of workers from surplus sectors like agriculture to either manufacturing or services is inevitable in an economy undergoing structural change. The question is: can it be achieved by creating jobs in different regions and in rural areas?

While most studies agree that the rate of out-migration of men from rural areas is around 5 per cent, there is disagreement about whether this is high or low.

Box 2.6 / The Mahatma Gandhi National Rural Employment Guarantee Act

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is the largest programme of its kind in the world and has undoubtedly had a major effect on the lives of millions of people in the country. A survey of the entire literature on the programme is beyond the scope of this report (see Sukhtankar (2016) for a survey of the economics research on the programme). Here we will try and present a broad picture of the importance of the programme.

As of 2014-15, more than 121 million households were registered under the programme and more than 2 billion person days of jobs were generated. Over the last decade of its existence, MGNREGA has led to an increase in market wages and a decrease in short-term migration. It has provided insurance against rainfall shocks and offered higher than market wages to women (Imbert and Papp 2015; Imbert and Papp 2018).

However, there are important problems in the implementation that are reducing the potential gains that could be obtained from the programme. The most important one is that despite the programme having been designed as demand-driven and to provide work to whoever demands it, it is actually supply-driven. This implies that jobs are given as and when funds are available, or when the administration is able to implement projects. This leads to rationing of jobs, that is, the provisioning of jobs to only a fraction of the people who demand it. The proportion of job applicants who did not get a job has been estimated to be as high as 40 per cent (Dutta, Murgai, and Ravallion 2012). This does not include under-provisioning where the number of days of employment provided was less than asked for.

The supply-driven nature of the programme leads to other problems. The budget for the programme has been reducing. In real terms, the budget in 2018-19 was less than that in 2009-10. Further, wages are no longer linked to the Minimum Wages Act and are now lower than the statutory minimum wage in many states in violation of the Act (Narayanan and Pothula 2018). Variability of job provision has reduced the impact it could have had on wages (Bahal and Shrivastava 2016). And as with any other government programme, this programme too has been afflicted with corrupt practices of various kinds (Niehaus and Sukhtankar 2013).

Narayanan, Dhorajiwala, and Golani (2018), in their SWI background paper, examine one particular problem that has a huge impact on the beneficiaries of the programme, namely, delay in payment of wages. The paper finds in its analysis of more than 9 million transactions over 10 states that only 21 per cent of payments were made on time. According to the Act, a compensation for delay in payment needs to be paid if the delay is beyond 15 days. Narayanan et al. show that the mechanism for the payment of this compensation is flawed at multiple levels. The compensation amount is a paltry 0.05 per cent of the wage for each day of delay and there is arbitrary power to accept or reject the compensation amount in the hands of the Programme Officer at the block level. Out of all the payments that were delayed, the compensation was calculated only partially in 47 per cent of the cases whereas it was not calculated at all in 32 per cent of the transactions.

The MGNREGA has played, and is still playing, a very important role in the lives of rural workers in the country. The direction in which the government decides to take the programme has to be keenly observed and critically analysed at every stage.

2.6 / Conclusion

The key point that surfaces in this chapter is the level of unemployment, and its high incidence among young educated men. This situation becomes more grievous as it occurs along with a low and falling rate of labour participation. Evidently the GDP growth of the country has not been able to create enough jobs, so this calls for other measures specifically targeted at creating employment. A starting point could be to have a clear employment policy for the country. We will discuss this and some other possible measures in the concluding chapter of the report.

The labour force participation rate is low in India, primarily due to the low participation of female workers. This is worrying by itself as working outside the house leads to better bargaining power for women that in turn produces better outcomes for children. Irrespective of what is causing this low participation rate, an improvement in this seems critical for the country to benefit from its demographic dividend in the form of a large working age population.

Another reason for low labour force participation is that increasing numbers of young people are taking up higher education. This defers the employment problem but makes it more challenging as these graduates would eventually look for jobs that are commensurate to their education and training. The employability of these graduates remains questionable and the government is making a number of efforts to provide 'skills' to workers to increase their employability. It may be time to rethink our understanding of skill and how it can be provided when most training happens on the job. Recognition of prior learning and stipend-driven or night classes could be some policy options to be considered.

Migration is a reality of the modern development process and a clear employment policy, that deals with it either by creating more jobs in rural areas or by providing support to urban migrants to reduce some of the negative effects on the migrants as well as those remaining behind, is required.

In the next chapter we analyse the current patterns of employment across sectors, states, and industries to assess the nature of the structural change that India is undergoing.

Chapter 3

Where Is the Work?

Employment across Sectors, Industries and States

Almost the entire increase of manufacturing employment between 1993 and 2004 was in the unorganised sector. On the other hand, between 2004 and 2011, increase in organised employment accounted for most of the net increase in manufacturing employment.

- Thomas and Johny (2018)

The question of job creation is closely connected to the question of structural change. Aggregate employment cannot be the only focus of employment policy in a country like India, which is undergoing a transformation from an agricultural economy to an industrial economy.

We can think of structural change in terms of two interrelated processes— the Kuznets process (named after Simon Kuznets) and the Lewis process (named after Arthur Lewis). The first entails the movement of workers away from agriculture and related occupations, to manufacturing and service activities. The second involves the linked movement of the workforce from micro and small-scale informal or unorganised economic activities where labour is underemployed, to larger, formal or organised ones. This leads, eventually, to a depletion of surplus labour and rising wages. These two transitions have historically been the route towards a modern economy and sustained per-capita income and wage growth. To this traditional understanding of development, we must add important considerations of equity and sustainability.

In this chapter we primarily address the Kuznets process and assess the extent of decline in the agricultural workforce and the extent of increase in the total non-agricultural workforce. We also ask which sectors are expanding in terms of employment, across different states, to what extent the agricultural labour force has transitioned into manufacturing, construction, or service sector occupations, and which industries have been relatively better at creating opportunities for non-agricultural employment.

3.1 / Taking Stock of the Kuznets Process

3.1.1 / 2004-2011 versus 2011-2015

Agriculture and allied activities still support 47 per cent of the labour force even though their share in GDP has fallen to 18.5 per cent. On the other hand, services account for more than 50 per cent of GDP but only 30 per cent of employment . The mismatch between share of employment and share of output across the three main sectors is a long-standing feature of the Indian economy. It points to big differences in labour productivity or the amount of value added per worker, and hence also to differences in wages and living standards across sectors. A long standing goal of economic policy has been to increase labour productivity in agriculture and ensure movement of workers away from this sector to eliminate this mismatch. However, the mismatch has persisted because the economy has not performed up to expectations on either front.

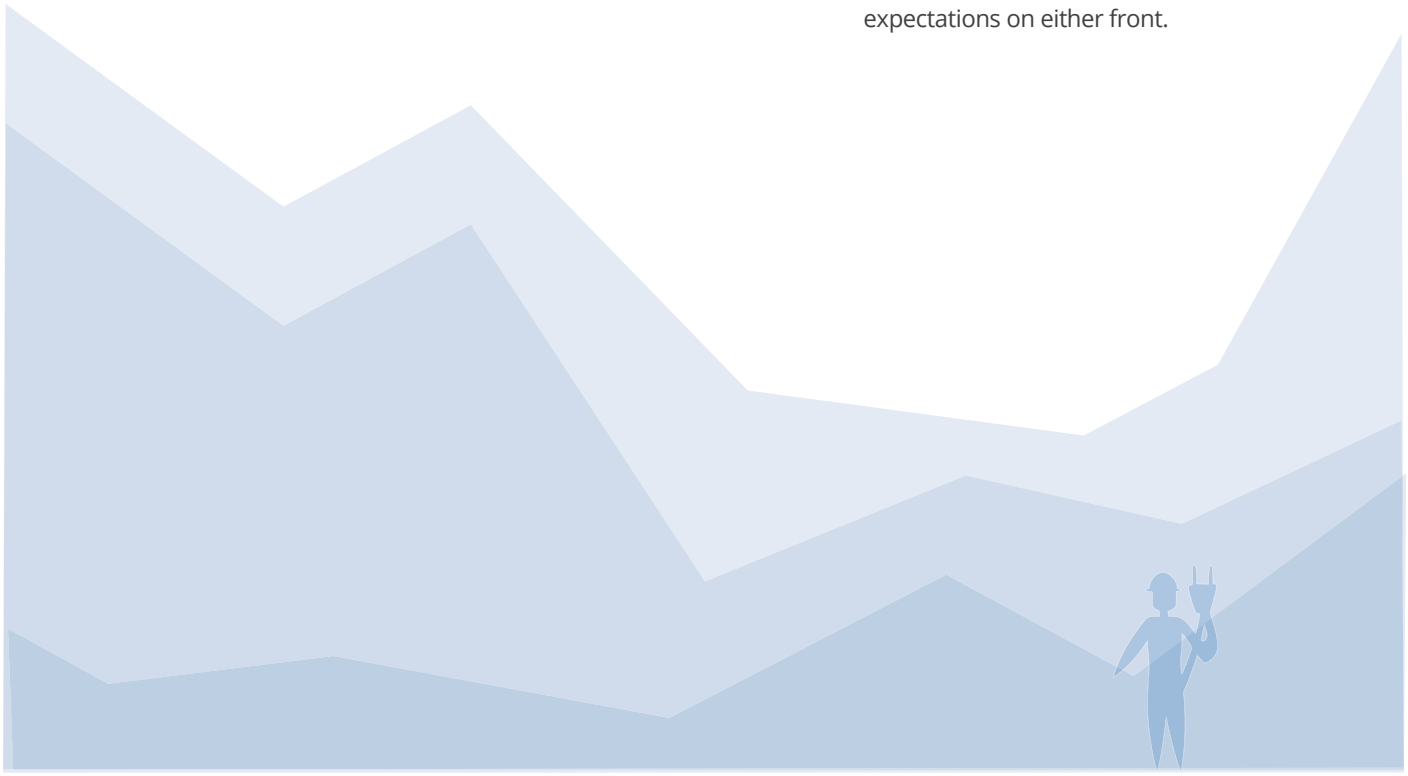
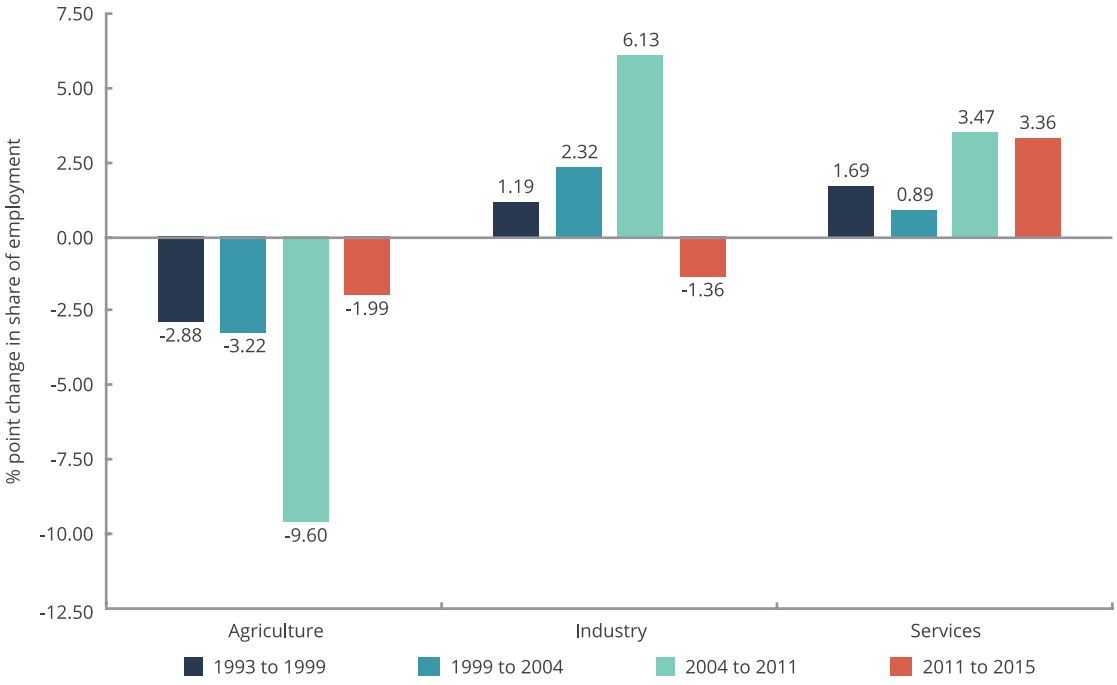
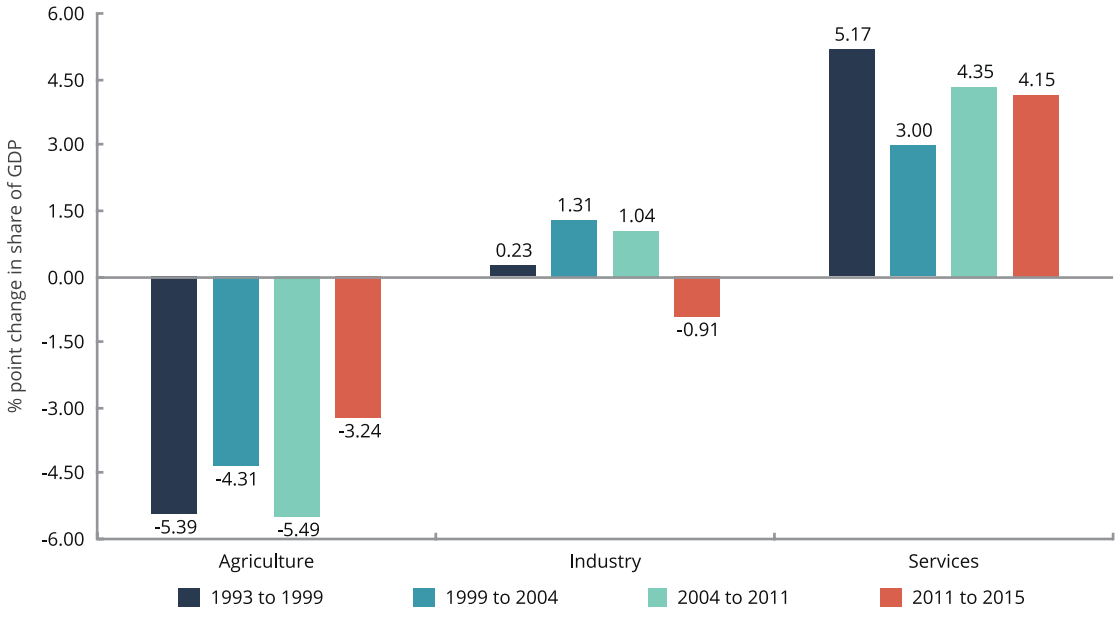


Figure 3.1 : ***Structural Transformation over Two Decades***

a) ***Employment***



b) ***Gross Domestic Product***



Sources and notes: ***Employment- NSS-EUS various rounds and LB-EUS 2015. GDP- Table 1.3A (for 1993-1999, 1999-2004, 2004-2011) and Table 1.3B (for 2011-2015) of Economic Survey 2016-17 Statistical Appendix.***

Since 2005 the Indian economy has embarked on a new phase. Between 2005 and 2011 the absolute number. of workers in agriculture fell by 37 million.

Even though the share of the workforce engaged in agriculture and allied activities is still relatively high, it is also true that it has been steadily falling since Independence. Until 2005, the rate of decline was small enough that the absolute numbers engaged in this sector did not fall, rather there was an increase. Since 2005, the Indian economy has embarked on a new phase. Between 2005 and 2011 the absolute number of workers in agriculture fell by 37 million. This corresponds to a large fall in the share of agriculture in total employment in this period (Figure 3.1).

While this was generally welcomed as a sign of structural change picking up pace, it should be noted that the Census of India and the National Sample Survey (NSS) give differing accounts in

this matter. The number quoted above is from the NSS. According to the Census, the number of workers in agriculture actually increased during this period. It is possible that this discrepancy arises from classification errors due to extensive overlap between agricultural workers and construction workers (see Box 3.1).

As per the Labour Bureau's Employment-Unemployment Survey (LB-EUS), which follows the NSS approach, the number of workers in agriculture has continued to fall and it fell by 10 million between 2011 and 2015, the most recent year for which data are available. But this is a much smaller drop than in the previous period. In general the degree of structural change is smaller in this period than in the preceding one. Part of the explanation may lie in the unprecedented high rate of agricultural wage growth between 2010 and 2014 (see Chapter Four).

Box 3.1 / **Did India's Agricultural Workforce Really Decline between 2005 and 2012?**

A discrepancy has been observed between the Census of India and the NSS as regards the change in the number of workers in the agricultural sector between 2000-2001 and 2011-2012. While the NSS data registered a decline, the Census data showed that the population engaged in agriculture increased. For example in Bihar, NSS data show a decline of 2.4 million workers while the census data show an increase of 5.4 million.

This may be because the Census and the NSS have slightly differing definitions of who is a worker. The Census categories of 'main' and 'marginal' worker are similar, but not identical, to the NSS categories of 'principal status' and 'subsidiary status.' A main worker is someone who works for at least six months of the year, while a person is considered to work in principal status if he or she worked for a 'relatively large' part of the year.

Due to this ambiguity and due to an increase in the incidence of multiple occupations, particularly farming and construction, among the rural poor, it is possible that the same workers could have been classified as agricultural workers in the Census and construction workers in the NSS. Relatedly, the authors note that the states with the largest discrepancies are states such as Bihar and Jharkhand, who also have a high rate of migration. Male migrants from Uttar Pradesh, Bihar, Rajasthan, and Odisha who migrated in search of employment numbered 8.2 million, 4.5 million, 2.5 million, and 1.8 million respectively in 2008. Many such migrants are construction workers for a few months of the year and are engaged in agriculture during the peak seasons. Thus, it is possible that the discrepancies between the Census and the NSS were a result of this fluidity in occupations. Of course, this is only a hypothesis in need of further investigation.

Sources and notes: ***Thomas and Jayesh (2016)***

Another well-known aspect of India's experience is clear in Figure 3.1b. The falling share of agriculture in output has largely been compensated by a rise in the share of services. The secondary sector (Industry) has failed to increase its share substantially.

Workers looking for jobs in the non-agricultural economy come from three distinct sources. First, those who are leaving agriculture to look for work elsewhere; second, those who are entering the labour force for the first time; and third, those who are outside the labour force, but are not in education, and would be willing to work if work was available. The third group consists primarily of women engaged in unpaid care and subsistence activities.

Assuming that the entire working age population apart from those in educational institutions may be available for work, Thomas (2014) has calculated that India's 'potential workforce' in industry and services grew by 14.7 million a year between 2004 and 2011. This consists of 10.3 million new workers (additions to the working age population annually minus those in schools and colleges) and 4.4 million who left agriculture.

Between 2011 and 2015 while the number of those leaving agriculture was 12.6 million, and the labour force increased by 14 million, total employment in the economy increased only by 12 million.

Was the economy able to create enough non-agricultural jobs to accommodate these workers? The answer is no. During that same period, employment was created in the non-agricultural sector at the rate of 6.5 million a year. Thomas argues that this mismatch between the supply of potential workers and demand for them is the reason women, in particular, have been discouraged from entering the labour market.

As discussed in the previous chapter, the labour force participation rate for women is comparatively low in India and has been falling. Secondary data alone do not allow us to address the reasons for this because it does not distinguish sufficiently between women who are not in paid employment because of social restrictions or disproportionate burden of unpaid work, or because paid work is not available in sufficient quantity. Field studies are needed to address this question. The SWI background study by Talwar et al (2018) points to insufficient work as an important reason (see Chapter Five).

However, if we leave the third group of potential workers aside, and only consider new additions to the labour force and workers leaving agriculture, then we find that there was a close match between this number on the supply side and increase in the non-agricultural employment on the demand side. Agricultural employment decreased by 37 million, and 14 million new workers were added to the labour force between 2004 and 2011. The workforce in the non-agricultural sector increased by 52 million in the same period. Of course, a large part of this is accounted for by the construction sector: a point we return to later in the chapter.

The situation looks very different in the past few years. Between 2011 and 2015, while the number of those leaving agriculture was 12.6 million and the labour force increased by 14 million, total employment in the economy (all sectors) increased only by 12 million (all numbers as per principal and subsidiary status). This clearly indicates an inability to create non-farm employment in the required numbers. An indicator of this crisis of employment in the non-farm sector is that the number of youth in agriculture, that had fallen between 2004 and 2011 — from 87 to 61 million — has increased again to 85 million after 2011 (Mehrotra 2018). The fact that total employment in agriculture fell while the number of youth increased, means that it is mostly older workers who left agriculture to take up other work. It is possible that this has occurred because youth are reluctant to take up menial work. Taken together with rising levels of formal education and rising aspirations for non-agricultural work, this points to a serious problem in the immediate future.

3.1.2 / From Agriculture to Construction

The second major concern as regards the transition from agriculture to the non-agricultural economy is that the sector that has proved most effective in creating employment is neither manufacturing, nor services, but rather construction. Between 2004 and 2011, while the share of manufacturing in total employment increased marginally from 11.7 to 12.6 per cent, and that of services from 23.4 to 26.8 per cent, the 'non-manufacturing' section which consists of construction and utilities increased its share from 6.4 per cent to 11.7 per cent. Today, construction employs almost as many workers as the entire manufacturing sector — around 50 million. But unlike manufacturing, it affords seasonal and non-steady employment.

In fact, both in employment as well as output terms, the rise of construction has been spectacular. Growth rate of output in this sector was around 4 per cent in the 1970s and 1990s. Between 1993 and 2004 it shot up to 8 per cent and reached 11.5 per cent between 2004 and 2011. As a result of this increased growth, as well as a high employment elasticity of output (that is, and large proportionate increase in employment with an increase in output), employment in construction sector increased 13 times during the past four decades. Its share in rural employment has gone from 1.4 per cent in 1972 to 10.7 per cent in 2011 (Mehrotra 2018). It is the largest rural employer after agriculture.

However, there was a considerable slowdown in employment growth in this sector after 2011. This is an important reason behind the general slow growth of employment in the non-agricultural sector during this period, that we have commented on previously.

Construction employs almost as many workers as the entire manufacturing sector – around 50 million.

The most recent data from the Central Statistical Organisation for the first quarter of 2018 indicate a revival of growth in this sector as well as in manufacturing. The employment effects are expected to be positive but job data are not yet available at the time of writing this report.

3.1.3 / The Continued Importance of Agriculture

It cannot be emphasised enough that in the short to medium-run, the single largest employer in India will continue to be agriculture. With this in mind, the current government had made a promise to double farm incomes by 2022. This calls for increased public support in the form of infrastructure and extension services as well as implementation of other recommendations of the National Commission on Farmers (Swaminathan 2006). The large-scale protests by farmers in 2017-2018 as well as the continued electoral potency of farm-loan waivers, and the Minimum Support Price issue point to importance as well as the urgency of raising farm incomes.

The crisis in agriculture manifesting ultimately in the tragic phenomenon of farm suicides, is very well-documented. Its principal causes are also well-known and have been known for years: ever decreasing size of holdings, predictably rising costs of production, unpredictable output prices, political economy of the value chain, and a woeful lack of public investment. Further, it appears that Indian agriculture has now entered an era of surpluses, which has brought its own share of problems including periodic glut and collapsing incomes.

In the early 1990s public investment in agriculture was around 3.8 per cent of GDP. Since then it has steadily fallen. The 2005-06 budget noted that it had fallen from 2.2 per cent in the late 1990s to 1.7 per cent in 2004-05. While the share in GDP has gone up from its 2005 low, it is still well below the level reached in the early 1990s.

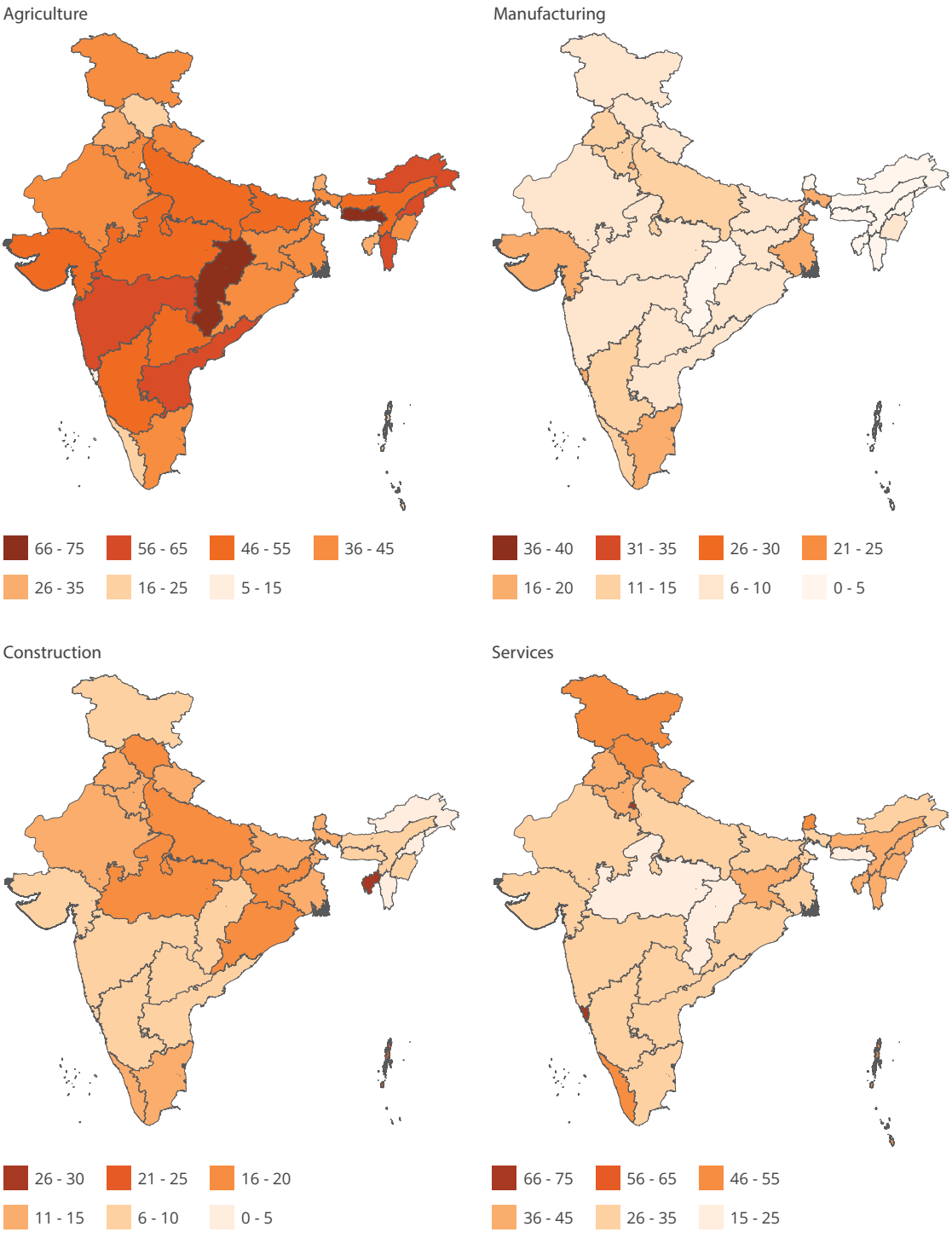
Given the extensive Swaminathan Commission report as well as many other studies, our problem is not lack of knowledge on what needs to be done to revive the rural economy. The really important issue is reimagining agriculture as a sector that can create remunerative, environmental-friendly jobs. This has two parts to it. One is the movement of part of the agricultural workforce to other sectors. The other equally important leg of the two-legged approach is better public support to this sector. We return to this issue in the concluding chapter of the report.

3.2 / State-Level Structural Change

Indian states differ vastly in their experiences of structural change. Figure 3.2 shows the share of a state's workforce (by principal status) in four major sectors: agriculture, manufacturing, construction, and services. Note that the scale on each map is different since shares differ widely across sectors.

While the general picture is perhaps an expected one, there are some surprises also. For example, Punjab, often thought of as a primarily agricultural state has a smaller proportion of its workforce in agriculture than any other state in north and central India. With respect to manufacturing, the presence of West Bengal in the same category as Gujarat and Tamil Nadu may come as a surprise. The explanation is that West Bengal has a large

Figure 3.2 : ***Share of the Workforce in Various Sectors across States***



Sources and notes: **LB-EUS 2015. *Scale indicates per cent share. See Appendix Table A3.1 online for data.***

unorganised manufacturing sector. Kerala, Jammu and Kashmir, Himachal Pradesh, and Goa are leaders in service sector employment. Finally, major states like Maharashtra, Madhya Pradesh, Andhra Pradesh, and Bihar as well as several of the smaller north-eastern states still report the majority of the workforce in agriculture, bringing to fore the urgency in policy interventions that raise incomes in this sector.

Interestingly, there is large variation in the construction share of the workforce also, indicating that the rise of construction is not a national story. In Maharashtra, only around 5 per cent of the workforce reports construction as the principal activity while the figure is closer to 20 per cent in Odisha, Bihar, UP, MP, Kerala and Rajasthan.

The maps communicate the sense that different states are likely to be very different in terms of the level of diversification of the workforce across the four sectors. In order to understand how effective the process of structural change has been across states, we need to examine the changes in the pattern of employment over the past decade. Recall that at the national level, the period between 2011 and 2015 was one of much weaker employment generation in the non-agricultural sector compared to the previous period. Hence, we break the period from 2004 to 2015 into two periods, determined by survey availability, 2004 to 2011 and 2011 to 2015.

We calculate the compounded annual growth rate (CAGR) of employment in agriculture and in non-agriculture for the two periods, across all states. Figure 3.3 shows this data as a scatter plot with the CAGR for agricultural employment on the x-axis and the CAGR for non-agricultural employment on the y-axis. Data for the 2004-2011 period are in red and those for the 2011-2015 period are in blue. Only the large states are shown since small states post very large growth rates due to small base effects.

Figure 3.3 : ***Expected Movement of Workers Away from Agriculture Was Seen across All States between 2004 and 2011 (Red) but Not between 2011 and 2015 (Black)***

Sources and notes: **NSS-EUS 2004, 2011, LB-EUS 2015. 2004 to 2011 in red and 2011 to 2015 in black. Growth rate is calculated as the compounded annual rate of growth. Refer the list of state codes. Union Territories have been excluded.**

Notice that in the first period all the states are in the top left quadrant, that is, they experienced a decline in agricultural employment and an increase in non-agricultural employment. In the second period there is much greater variation. Some states such as Madhya Pradesh, Gujarat, Haryana and Kerala have seen large decreases in both agricultural and non-agricultural workforces. At the other extreme Bihar and Assam saw an increase in both. But the most worrying states are ones that saw large declines in non-agricultural workforce and small increases in agriculture, such as Punjab, Maharashtra, and Andhra Pradesh.

Thus it appears that the period from 2004 to 2011 was much better from the point of view of aggregate employment as well as structural change than the period from 2011 to 2015. As mentioned earlier, the latter period also saw higher than average growth of agricultural wages. This, together with a slow-down in the construction sector may have been responsible for a reduced movement of workers away from agriculture.

3.3 / Employment Performance of the Manufacturing Sector

The period from 2004 to 2011 was much better from the point of view of aggregate employment as well as structural change than the period from 2011 to 2015.

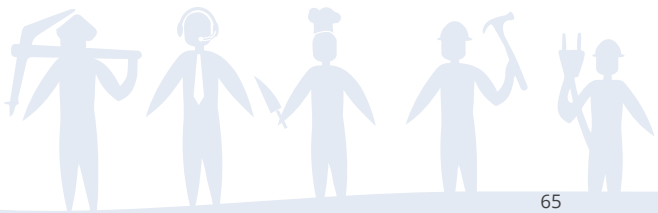
We now turn to a more detailed analysis of the manufacturing sector, with special attention to its employment creation capacity.

Two questions are important with respect to the industry-profile of employment in India. First, which are the industries that account for most of the employment. And second, which industries have been the loci of rapid job creation in the recent past. This data needs to be interpreted in the context of productivity in the different industries. Ideally, one should see productivity gains alongside employment gains, combined with the sharing of productivity gains in the form of rising wages. This will lead to rapid increases in employment as well as wages and output.

Industries which generate high and inclusive growth patterns in most countries tend to be those that achieve high levels of productivity and which expand the use of inputs in tandem. In historical examples of successful industrialisation led by export growth, these inputs have also reflected the comparative advantage of the country. When this has not been the case, employment expansion has instead been in sectors with low productivity, while rapid GDP growth has occurred in industries with a low employment elasticity.

Based on several recent studies, cited below in context, the following stylised facts can be highlighted in the Indian manufacturing sector: rising capital intensity of production across all industries, low output elasticity of employment (around 0.5 or less), growing divergence between real wages and labour productivity, falling labour share of income, and rising proportion of contract workers. Strikingly, the first four features are to be found in the organised as well as the unorganised sectors. The first two have implications for the quantity of employment and we discuss them here. The other issues are discussed in Chapter Four.

The most salient point to note, from an employment perspective, is that this sector has failed to expand its employment share significantly over the past twenty-five years, remaining in the range of 10-13 per cent of the workforce. This is low compared to other developing countries with similar levels of per capita income (Ghose 2016). This poor performance has been attributed to distortions in labour, capital and land markets, poor infrastructure, and inappropriate specialization away toward skill intensive activities that do not generate jobs commensurate with the nature of the labour force (Amirapu and Subramanian 2015).



3.3.1 / A New Trend: Rapid Rise in Share of Organised Employment

As with the rest of the economy, the manufacturing sector is also typically divided into organised and unorganised components. Organised manufacturing consists of those establishments that are large enough to be registered under the Factories Act (1947). These are typically establishments that employ 10 or more workers with electricity, or 20 or more workers without electricity, as per the official definition. The unorganised subsector is simply the residual sector consisting of establishments that are not registered under the Factories Act.

The related distinction between 'formal' and 'informal' employment (as opposed to enterprises) is used to distinguish between workers whose jobs are subject to labour regulation alongside access to job security versus those who have no such access. We discuss these distinctions in greater detail in Chapter Four.

Traditionally, it is the organised or factory sector that has been considered the engine of structural change, driving both the Kuznets and the Lewis processes by creating mass employment in large firms. The conventional wisdom in India, until around a decade ago was that this sector was mostly stagnant in terms of employment. Whatever manufacturing jobs were being created, were in the unorganised sector. Thomas and Johny (2018) note that total manufacturing employment in India (according to NSS household surveys) increased by 23 million (from 32.2 million to 55.2 million) between 1983 and 2004. But organised sector employment was mostly stagnant in this period.

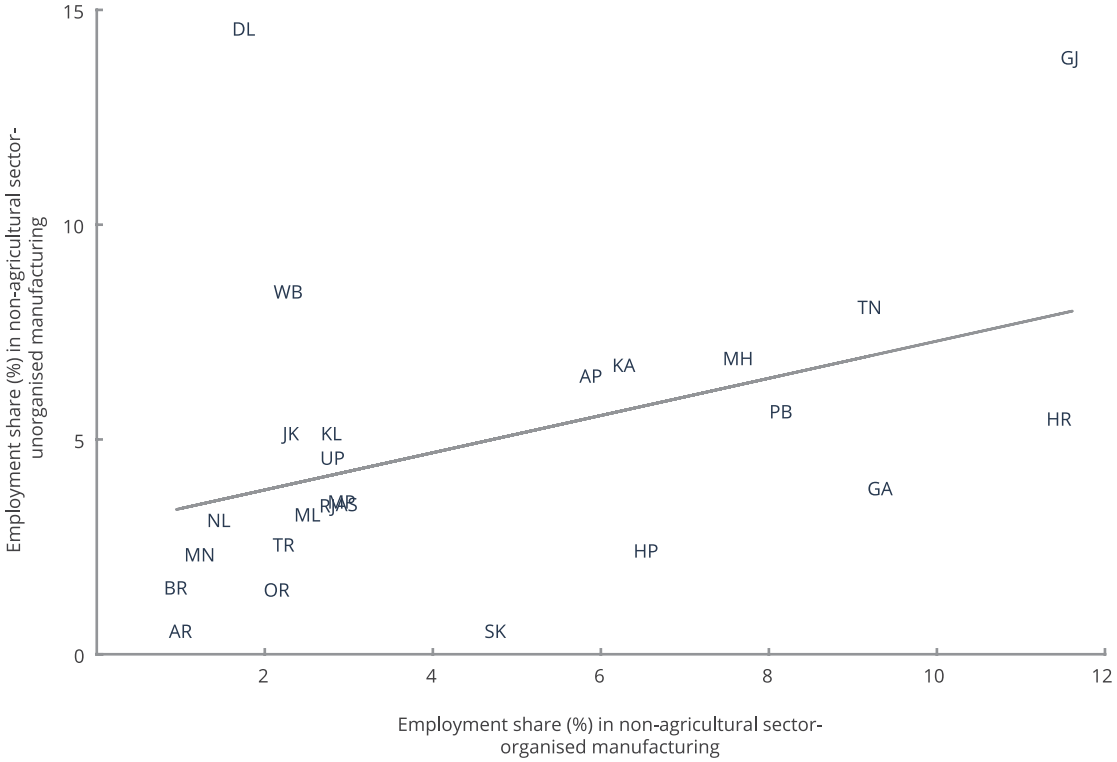
The pattern of employment growth in manufacturing from the mid-2000s onwards has been very different from the pattern observed during the 1980s and 1990s.

The pattern of employment growth from the mid-2000s onwards has been very different from the pattern observed during the 1980s and 1990s. It is the organised component that has been increasing sharply even as share of the unorganised sector employment has shrunk. Enterprise level surveys from NSS and factory level data from ASI reveal that between 2011 and 2015, both unorganised and organised manufacturing employment has grown by around 1 to 1.5 million each (from 35 to 36 million and from 12.2 to 13.7 million respectively). As a result, the share of the organised sector in total manufacturing employment, which was stagnant at around 18 per cent had shot up to 27.5 per cent by 2015.

Household surveys also show similar trends albeit with differences in the absolute numbers, a phenomenon that we comment on later (see Table 2 and Figure 1 of Thomas and Johny (2018)). Before we take this as a measure of success for the Lewis process, note that the new jobs were not necessarily formal jobs. This was a period of rising contract work in manufacturing (see Chapter Four).

Increasing employment in the organised sector does have implications for employment in the unorganised sector as well because the two are connected to each other via subcontracting relationships. Typically, larger factories outsource jobs to smaller workshops. Across states, the aggregate data show a positive relationship between factory employment as recorded in ASI and unorganised manufacturing employment as recorded in the NSS enterprise surveys. Figure 3.4 shows a scatter plot of the relationship between share of the organised sector and the share of the unorganised sector in total non-agricultural employment in 2015. The positive relation, which is statistically significant, shows that states with a larger organised sector also tend to have a larger unorganised sector. This relationship can be beneficial to the unorganised sector if it creates jobs and upgrades technology. However, it may also result in 'sweatshop' conditions and pressure on smaller units to compete for jobs by depressing wages (Basole, Basu, and Bhattacharya 2015).

Figure 3.4: **States with a Large Organised Manufacturing Sector Tend to Have a Larger Unorganised Manufacturing Sector**

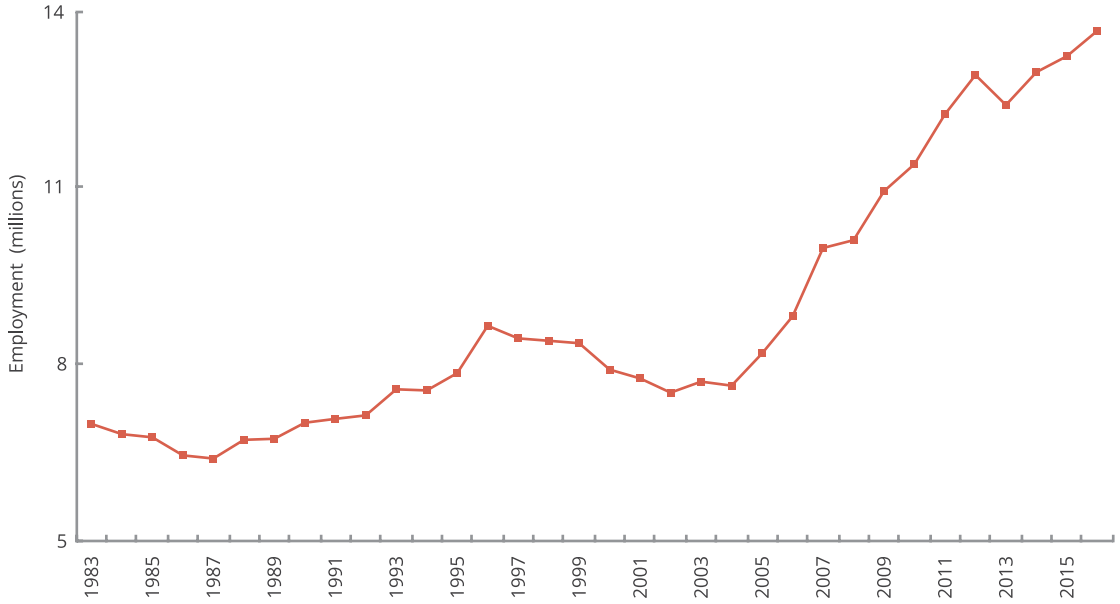


Sources and notes: ***NSS Unincorporated Non-Agricultural Enterprises Survey 2015, ASI Principal Characteristics 2015. Refer list of state codes. Union Territories have been excluded.***

The departures from the average trend in Figure 3.4 are also of interest. For example, Odisha and Delhi have the same share of factory employment (2 per cent) but Delhi has a much higher share of unorganised employment in manufacturing. Similarly, Gujarat is also an outlier in having a larger than expected share of unorganised manufacturing. Sikkim and Himachal Pradesh, on the other hand have a larger organised share than unorganised. This is perhaps expected, given the substantial presence of large pharmaceutical, food and beverage processing units in those states.

We now analyse the trends in organised manufacturing more closely. Figure 3.5 shows the trend in total factory employment, including production workers, supervisors, managers, administrative workers, and working proprietors, over a 33-year period between 1982 and 2016.

Figure 3.5 : ***Employment in Organised Manufacturing Has Increased Rapidly in the Last Decade***



Sources and notes: ***ASI NIC-2 digit (EPWRFITS) various years. All employees including supervisory, managerial and administrative staff as well as working proprietors have been counted.***

It is clear that the experience or performance of the organised manufacturing sector over the last three decades is not homogeneous. Neither can it be cleanly divided into pre-reform and post-reform experience (if 1991 is taken as the reference year for reforms). Rather the analysis of aggregate trends reveals three distinct sub-periods in the entire period from 1983 to 2016. The first period till 1996 is characterised by positive employment growth (albeit weak), the second period (1996 to 2006) displays negative growth and the third period (2006 to 2016) shows strong employment generation.

What factors may be relevant in explaining these differences? Here we can only offer some initial speculative remarks that need to be investigated further (see Basole and Narayan (2018) for a more detailed discussion). It is true that the early 1980s was a period of declining employment and the subsequent increase in jobs was weak, leading to the earliest discussion on 'jobless growth' (Nagaraj 2000). However, the transition that took place in the mid-1990s is much larger. This decline in employment is not an artefact of the coverage changes in ASI around this time. Our analysis excludes the industries that were dropped from coverage and even industries such as apparel, that show strong employment growth over the entire period, stagnated during this period. So far as we know, there is no satisfactory explanation for this decline in the literature.

Rani and Unni (2004) analysed output and employment trends in three sub-periods from 1984-85 to 1999-2000, namely 1984-85 to 1989-90, 1989-90 to 1994-95 and 1994-95 to 1999-2000. They find employment growth to be small but positive in the final period. The authors attribute weak employment growth in this period to labour law reforms that allowed firms with more than 100 workers to retrench more easily and to public sector downsizing. They also note that by the mid-1990s import tariffs had been reduced in most industries including consumer goods. Vashisht (2016) also discusses the gradually increasing nature of trade liberalization in the 1990s, and notes that the manufacturing sector downturn became more pronounced when quotas on imported consumer goods were removed.

The increase in job creation that started in 2005-06 has also been widely noted in the literature. It is possible that relaxation of labour laws over the 1990s and early 2000s resulted in a shift away from subcontracting work to small firms in the unorganised sector to production in-house with contract workers. It should also be noted that the growth in employment pales in significance when compared to the rise in output in the same period, indicating a large increase in labour productivity. Basole and Narayan (2018) show that while employment roughly doubled in this period, output went up nearly 15 times. Thus the growth elasticity of employment, or per cent increase in employment for every per cent increase in output, has been low in this sector. The average annual elasticity over the entire period from 1983 to 2016, excluding two years of exceptionally low elasticity (2001, elasticity -5 and 2013, elasticity -10) was 0.1.

The average annual elasticity of employment for the period from 1983 to 2016, excluding two years of exceptionally low elasticity was 0.1.

Finally, it is possible that incentives to hide workers have reduced and more factories are reporting accurate data on number of workers. This explanation would suggest that it is not more employment but only more visible employment that lies behind the trends.

3.3.2 / Analysing an Old Trend: Falling Labour Intensity

As is well-known, labour intensity, or the number of workers employed per rupee of capital invested in production, has been falling steadily in Indian manufacturing over the past few decades. Moreover, this trend is observed in the unorganised sector as well, even in very small firms, such as those operated by a single worker or a family. Table 3.1 shows the number of jobs created per one crore rupees of fixed capital invested in the unorganised sector and in the factory or organised sector. Family-based enterprises tend to be the most labour intensive, followed by own-account enterprises (OAEs). This is consistent with the view that employment in such businesses is a form of income sharing, and that hiring decisions are not based on considerations of profitability. Establishments, that is, small firms that hire a few wage workers each, tend to be the least labour intensive in the unorganised sector. Once again, this is expected. However, it is worth noting that the factory sector differs substantially from the unorganised sector as a whole and is around 20 times more capital-intensive than the establishment sector.

Of course, the biggest takeaway from these data is the sharp decline in labour intensity regardless of firm type. In fact, the largest percentage decline is observed in the family enterprise sector, where labour capital ratio for 2016 is a mere 15 per cent of the ratio in 1995. This is followed by the factory sector (24 per cent), the establishment sector (28 per cent) and finally the OAE sector (42 per cent).

Table 3.1 : ***Workers per One Crore Invested Capital in Unorganised and Organised Manufacturing***

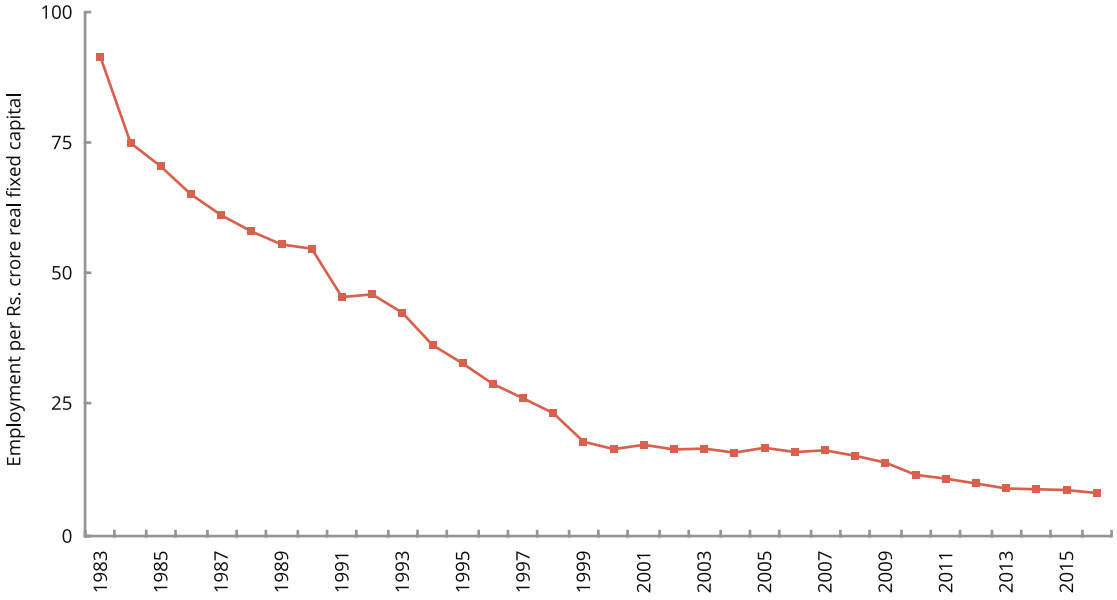
Year	OAE	Family Enterprises	Establishments	Factory
1994	1559	4615	877	33
1999	1525	2157	679	16
2005	1784	2320	544	16
2010	968	1073	382	11
2015	656	702	248	8

Sources and notes: ***NSS informal and unincorporated enterprise surveys, various rounds (see Methods for details), ASI various years. OAE – own-account enterprise. Fixed capital has been deflated by WPI for machines and machinery (base 2015).***

In case of the factory sector, the ASI data offer a high frequency annual series to examine the trends in labour intensity. We see that this sector has experienced a secular fall in the labour capital ratio from around 90 workers per one crore of investment (2015 rupees) in 1983 to 8 workers in 2016 (Figure 3.6). A rapid decline in the 1980s and 1990s is followed by a slower decline in the 2000s. It is possible that a 'floor' of sorts has been reached in the substitution of capital for labour at the aggregate level.

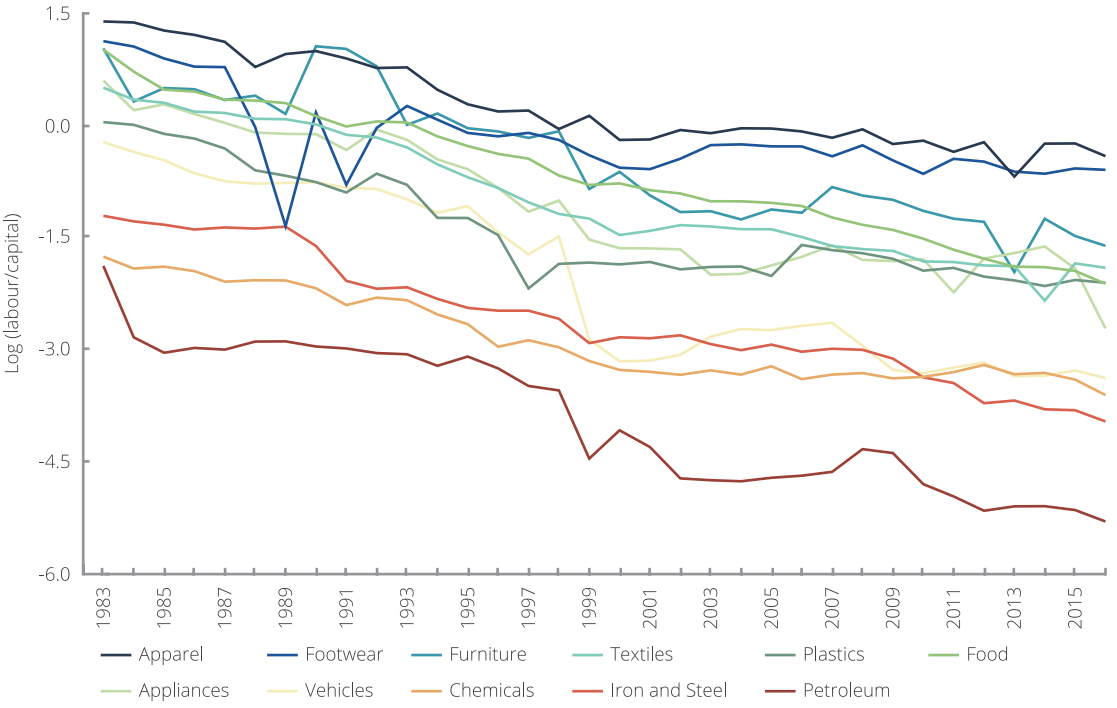
Figure 3.6 : ***The Labour-Capital Ratio Has Fallen Continuously in Organised Manufacturing***

a) ***All Industries***



Sources and notes: **ASI NIC 2 *digit (EPWRFITS) various years. Labour-capital ratio = Number of employees / Real fixed capital.***

b) ***Selected Industries***



Sources and notes: **ASI NIC 2-*digit (EPWRFITS), various years. Labour-capital ratio has been log transformed to display trends across industries with different inital values.***

The decline in labour intensity at the aggregate level can be due to a decline within each industry. But it can also be a result of relatively more rapid output growth in more capital intensive industries. The latter mechanism is suggested by both Kannan and Raveendran (2009) and ILO (2009) as a mechanism for jobless growth. The argument is that rising inequality results in greater demand for manufactured commodities that are products of relatively more capital-intensive as well as more import-intensive industries. These include metal and chemicals-based products, electronics, or vehicles. The resulting growth of such industries causes a shift in the aggregate capital-labour ratio. Of course, the two mechanisms are not mutually exclusive and both may occur at the same time.

Several studies indicate that the first mechanism is the dominant one. For one, the capital labour ratio has increased in capital intensive as well as labour intensive industries (Kapoor 2015; Sen and Das 2015). Figure 3.7b shows the decline in the labour-capital ratio for a range of labour and capital intensive industries. Basole and Narayan (2018) perform a shift-share decomposition analysis that separates the falling labour capital ratio into two components: fall in the ratio within an industry (at 3-digit level of the National Industrial Classification or NIC) and relatively faster growth of less labour intensive industries. They find that the within-industry component dominates for almost every year in the sample. This means that the decline in labour intensity at the aggregate level is due to its falling within each industry rather than due to faster growth of more capital intensive industries.

As with the analysis of falling labour intensity across the unorganised and organised sectors, this global fall points to macroeconomic changes that have created incentives to mechanise across industries and sectors.

3.3.3 / Labour Law Debate: Missing Firms or Missing Workers?

The question of employment in the manufacturing sector has been dominated by the long-standing debate over whether India has an overly restrictive labour law regime that incentivises firms to substitute workers with machines and thereby impedes job creation. The argument is that costs of compliance with labour laws create incentives for firms to adopt machines instead of workers, or to refrain from expanding and hiring workers in order to stay below the relevant threshold where a particular set of legislation starts applying. Thus rising capital intensity as well as the preponderance of small firms is often attributed to inflexibility in labour laws that raise the costs of hiring and firing labour. The result is a large number of very small firms at one end, followed by large firms at the other end with the least density of firms in the middle, where labour laws start to apply. This 'missing middle' has become a widely accepted stylised fact of Indian manufacturing.

Just over 50 per cent of firms in the organised manufacturing sector have 20 workers or less as per ASI data. Since large firms (>300 workers) pay 76 per cent higher wages than small firms (10-19 workers) the size distribution has welfare implications. On the other hand, small firms are commonly considered to be engines of job creation. But contrary to the view that small firms create more jobs per rupee invested than large firms, Kapoor (2018) finds that it is relatively new firms that create jobs. To the extent that new firms tend to be small, an age effect appears as a size effect. Older small firms do not create more jobs than older large firms. This finding forms a case for setting up larger firms rather than banking on firm growth.

Labour laws may be strict on paper but the reality is widespread avoidance or evasion of factory registration as well as under-reporting of number of workers employed.

Indeed, the dominance of small firms in the ASI data indicates that the transition from a small to a medium to a large enterprise is difficult. Or that firms choose to remain small due to inbuilt incentive to remain undersized. Thus, understanding what holds back Indian enterprises of different size groups from expanding is critical insofar as the goal of generating better paying jobs is concerned.

But are Indian firms really that small and is this because of labour legislation? A counter-point comes from internationally comparable firm surveys such as the World Bank Enterprise Survey. The survey shows that while the average Indian firm is indeed much smaller than an average firm in Bangladesh, India is not an outlier when compared to other developing countries. This is true for both the number of workers per firm and the proportion of employers that cite labour legislation as a problem (Table 3.2).

Table 3.2 : ***Average Firm Size and Percentage of Firms Citing Labour Regulations As a Problem across Developing Countries***

Economy	Workers per firm	Firms citing labour regulations as problem (%)
Bangladesh (2013)	184.9	3.4
Brazil (2009)	37.4	63.2
China (2012)	62.7	1.2
India (2014)	52.4	11.2
Indonesia (2015)	21.6	9.9
Kenya (2013)	48.7	20.8
Nigeria (2014)	16.3	3.4
Pakistan (2013)	85.8	12.9
South Africa (2007)	51	5.9
Sri Lanka (2011)	36.6	12.7

Sources and notes: ***World Bank Enterprise Surveys, various years.***

Further, as Sen and Das (2015) point out, the level of labour intensity can be accounted for by labour regulations but they cannot account for falling labour intensity. For this, laws would have to become more pro-labour over time, which has not happened.

Nagaraj (2018) raises the issue of compliance and implementation. He notes that laws may be strict on paper but the reality is widespread avoidance or evasion of factory registration as well as under-reporting of number of workers employed. For example, in 1981, as per Economic Census, 52 per cent of factories employing 10 or more workers that legally came under the purview of the Factories Act were not registered under the act (Nagaraj 1999). The ratio went up to 57 per cent in 1991, and to 66 per cent in 2013. Thus the proportion of firms that avoid getting registered under the Factories Act has increased over time and smaller firms tend to be more prevalent among these (Nagaraj 2018).

There are two related issues here with implications for the quality of data on firm size and inferences drawn from there. First, firms with more than 10 workers who should register do not do so. So they do not appear in the ASI database since appearance in the sample frame is contingent on registration. Second, those firms that have more workers than a particular threshold number (such as 10, 20 or 100) understate their size or hire workers off the books. So real size may be substantially higher than reported size and actual employment higher than employment observed in the data. Field studies as well as anecdotal evidence support this hypothesis. In other words, it is not firms that may be missing so much as workers.

One important distinction should be made here, that between plant or factory size and firm size. The ASI data reports the former and not the latter. This distinction is important because it is possible that a firm will choose to grow 'horizontally' by setting up a number of small factories rather than a large factory, to avoid legislative compliance. This is because

laws are based mostly on factory size and not firm size. The issue is more important in the case of industries where the production technology does not display large increasing returns to scale, for example, garments and textiles.

If it is indeed the case that there are missing workers in manufacturing, then a comparison of household-based employment surveys with establishment surveys should reveal a higher number of workers in the former than the latter. The assumption is that unlike employers, workers would have no incentive to lie about being employed. Table 3.3 shows total employment in the manufacturing sector (in millions) as well as employment disaggregated by organised and unorganised sectors from household (NSS-EUS) as well as enterprise (NSS and ASI) data. As can be seen, estimates of employment derived from the household survey are much higher than from the enterprise survey. Further, this difference arises mainly from the organised segment. The organised sector accounted for 75 per cent of the undercounting in 2006 and 67 per cent in 2012 suggesting that 'missing workers' may be more of an organised sector problem.

It is possible that the phenomenon of 'missing workers' can partly be explained by the fact that a given position in an enterprise may be occupied by more than one worker over a period of time, resulting in more workers than jobs. However, it is more likely due to the underreporting of workers on part of firms.

Another well-known way in which firms have adapted to the labour law regime has been to expand employment in categories other than that of permanent workers, that is, categories to whom labour laws do not apply (see Box 3.2). For example, the share of contract workers has increased sharply during the same period that factory employment expanded rapidly. It now stands at close to 30 per cent. Contract workers accounted for 44 per cent of the additional employment between 2000 and 2014. Firms use non-permanent workers to stay below the threshold size and thereby avoid costs attributed to larger firm size. The intensity in the use of contract workers is highest for firms in the 50-99 size group (Ramaswamy 2013). We take up the implications of this for quality of work in Chapter Four.

Two SWI background papers take a close look at labour regimes in Indian manufacturing. Thomas and Johny (2018) examine the garment industry in Bangalore, while Amit and Nayanjyoti (2018) undertake extensive fieldwork on labour relations in the Gurgaon-Manesar industrial belt.

Karnataka has the highest number of factory employees in the garment industry among all Indian states. Within Karnataka, the largest concentration of garment factories is in Bangalore Urban District, with an employment of almost 400,000 workers employed in the formal sector. There were 750 garment factories in Bangalore's urban and rural districts combined in 2015-16. The number of workers per factory ranges from 10 (the smallest as per the requirements to register a factory) to 9500. Garment factories in Karnataka are larger compared to the rest of India with respect to the size of employment. In 2014-15, the average number of workers per garment factory was 471 in Karnataka compared to national average of only 112.

Table 3.3 : ***Comparison of Employment in Manufacturing Estimated from Household and Firm Surveys***

	Household			Enterprise		
Year	Total	Organised	Unorganised	Total	Organised	Unorganised
2004/2005	47.7	14.9	32.7	45.2	8.8	36.4
2010/2011	54.3	19.1	35.2	47.1	12.2	34.9

Sources and notes: **NSS EUS, *Enterprise Surveys, various years, and* ASI, *various years. All numbers in millions.***

The new categories of workers like Diploma Trainee or Apprentice are not even recognised as 'workers' and thus have minimal connection with the union process.

The authors find that employers have different ways of circumventing labour regulations, the enforcement of which is also weak. None of the employers in the study found inspections from labour officers as a major cause of concern. For example, as per contract, workers have to be paid Provident Fund (PF) and gratuity. They are eligible for gratuity if they complete five continuous years with a single employer. However, workers reported that the employers encouraged them to terminate their current contract and claim PF benefits just before completing five years. The workers rejoin the same factory within a week or so on a new contract. This significantly reduces the labour bill for employers. The authors also found that the law mandating public holidays is being flouted. Workers are required to work on Sundays to compensate for a public holiday.

Informalisation of work in the formal sector like automobiles has shifted the burden of production from permanent to various categories of temporary workers. Permanent workers have been a small minority of workforce. Their union, thus, has less control over production. The new categories of workers like Diploma trainee, Student trainee, Diploma Apprentices are not even recognised as 'workers' and thus have minimal connection with the union process.

Contrary to popular perception, it appears that capital intensive industries are more reliant on contract workers than labour intensive industries. Contract workers constituted 37 per cent of total workers in Chemicals and 47 per cent of total workers in Motor Vehicles while in Textiles and Apparel the corresponding figures were 20 per cent and 15 per cent respectively (Kapoor 2018).

Nagaraj (2018) argues that the current labour law regime does not serve the purpose of either workers or entrepreneurs. A multitude of laws with overlapping jurisdiction give the impression of high bargaining strength of organised labour. But this in principle situation meets the reality of a large pool of surplus labour willing to work at subsistence wages. This gives power to employers, whose interests lie in circumventing the seemingly strict labour laws resulting in numerous loopholes. The author suggests that a way out of the dysfunctional regulatory regime is to simplify the laws, along with their strict enforcement. But there is very little support for such pragmatic reforms because workers and employers favour the status quo, as a time-tested low-level equilibrium.

Box 3.2 / The Challenge of Job Quantity and Quality- The Case of Bangalore Garments

The Bangalore garment industry offers a microcosm within which the diverse issues involved in improving job quality and quantity can be appreciated. The industry is a large employer, employing around 400,000 workers in Bangalore alone. But it is also well-known for poor pay and working conditions. The average monthly salary after provident fund deduction is ₹ 7000 to 9000. Abuse from supervisors and other forms of harsh labour control are also common. As a result, turnover is high. The owner of a large firm employing more than 5000 workers, reported an attrition rate of 8-10 per cent a month. That is, almost their entire workforce is replaced in a year.

Some pressure on improving job quality comes from Karnataka's state laws on minimum wages as well as from multinational garment brands (including fast fashion brands like Zara and H&M) who are keen to avoid negative publicity. This has meant, for example, that migration has not been a major source of labour supply because the housing conditions for migrant workers come under scrutiny.

Manufacturers are considering relocation, which is relatively easy in the industry, given its low levels of capital per worker, as a strategy to overcome the problems of labour supply, increasing wages and unions. Some of Bangalore's manufacturers have begun to relocate their factories to rural areas of Karnataka and also to Andhra Pradesh (Hindupur) and Jharkhand. One of the manufacturers mentioned that they have begun relocating to African countries as well, where the labour costs are much lower. This firm has already set up 'sheds' in Ethiopia.

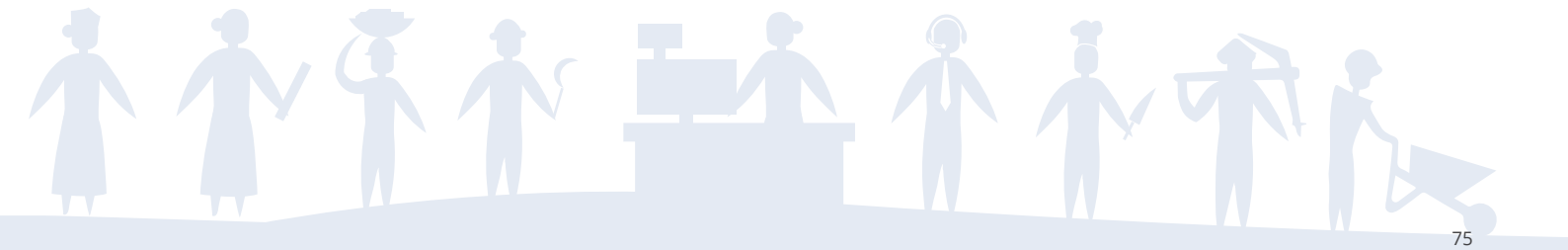
At the level of trade policy, there has been a sharp reduction in the amount of import duty that the government waives for export-oriented industries. For the apparel industry, this was reduced from 7.3 per cent to 2 per cent in 2017. Exporters in Bangalore complain that the reduction in duty rates has come as a shock when they are already facing severe competition from the global market.

A second, expected headwind to job creation is of course, automation. One of the manufacturers interviewed mentioned that machines could downsize the workforce needed to stitch a garment by more than half.

Another possible strategy for the garment manufacturers is to produce for the domestic market and develop and market their own brands – rather than being suppliers to global brands in export markets. By entering into marketing of their products, firms get to keep a larger share of the value added. However, gaining entry into the markets by selling their own brands requires huge marketing expenditure, which is difficult for small firms.

Not surprisingly, the study concludes that government support is crucial for the future growth and survival of the industry. One of the ways in which the government can attract investments while ensuring labour welfare is by providing wage subsidies. Arvind Limited has recently signed an MoU with the Gujarat government to set up a mega apparel facility in that State, which will create employment for women workers with the help of wage subsidies from the government.

Sources and notes: ***Thomas and Johny (2018) and*** Headwinds hit readymade garment exports in April-September.



3.3.4 / Better and Worse Performing Manufacturing Industries

We now go beyond the aggregate trends to identify which industries did better at job creation. Figure 3.7 shows employment trends in the same set of selected industries as Figure 3.6. The data have been indexed to the first year (1983) in order to show the growth rate. The apparel, plastics, and footwear industries have grown the fastest in terms of employment. Focusing on the below-average performers in this set, we see that there is substantial diversity in their performances. Some, such as furniture, have more than doubled their employment over the period while others such as textiles registered an absolute decline in employment (Figure 3.7b).

The next question is how does employment growth relate to change in output, and is it accompanied by increases in productivity and wages? We approach this question in two ways. First we take a look at the RBI Capital-Labour-Energy-Materials-Services (RBI-KLEMS) data on the relationship between growth in the value added and growth in employment. This data has an important limitation that many industries that have performed quite differently from one another are grouped together. Hence it should be interpreted carefully and in combination with other more disaggregated sources. To address this issue we use ASI data at a finer level (3 digit NIC) to ask which industries delivered both job growth and wage growth.

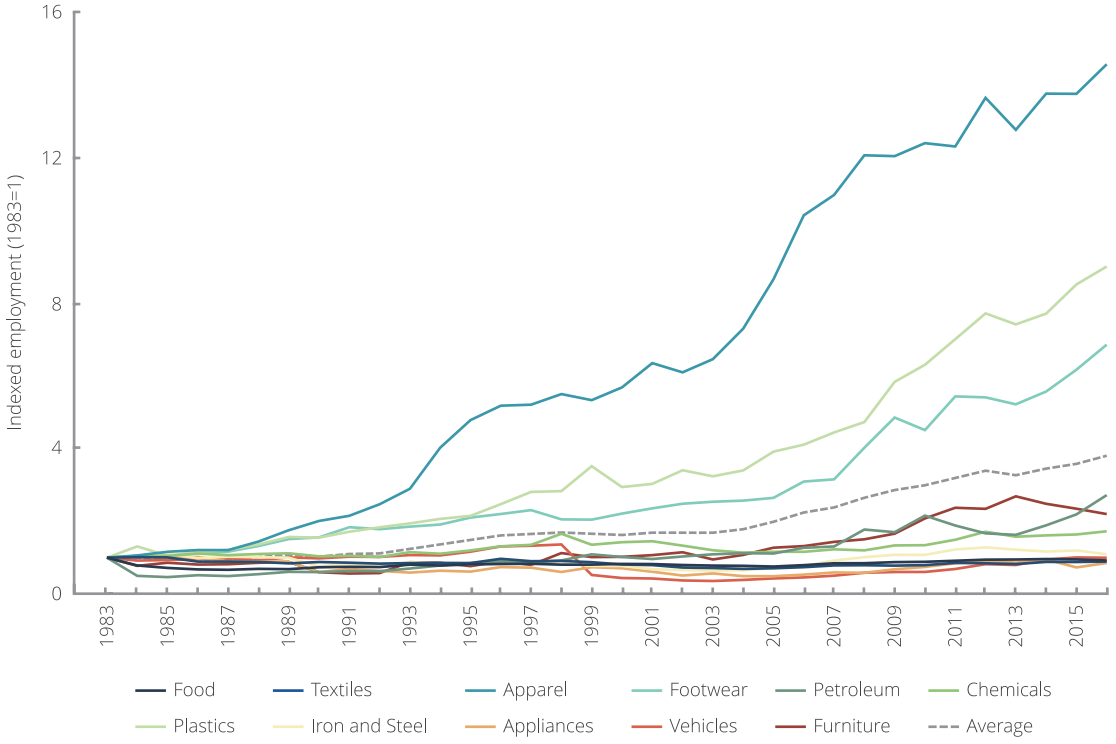
Figure 3.8a shows a scatter plot of growth in value-added versus growth in employment between 2011 and 2015 for various manufacturing industries plus construction. Each bubble represents an industry and the size of the bubble signifies the share of that industry in total employment. The horizontal and vertical lines represent median values of employment and value-added growth respectively. Overall we find weak correlation between growth of value-added and employment growth over this period.

For example, the construction industry accounted for a large share of employment in 2011 and subsequently grew fast in terms of jobs but much more slowly in terms of value added, placing it at the top left of the scatter diagram. Other large manufacturing employers such as Textiles, Garments and Leather (TGL) as well as Food, Beverages, and Tobacco (FBT) have registered strong output growth but weak or even negative employment growth. The presence of only two industries in the top right quadrant indicates that hardly any industries have registered rapid growth along both dimensions. The exceptions are rubber and plastic products, and machinery, both of which posted above median growth on both dimensions. Otherwise, industries that have shown rapid growth in share of value added have not shown high employment growth even when they are relatively more employment intensive. And those that have shown rapid employment growth have shown low growth in value added.

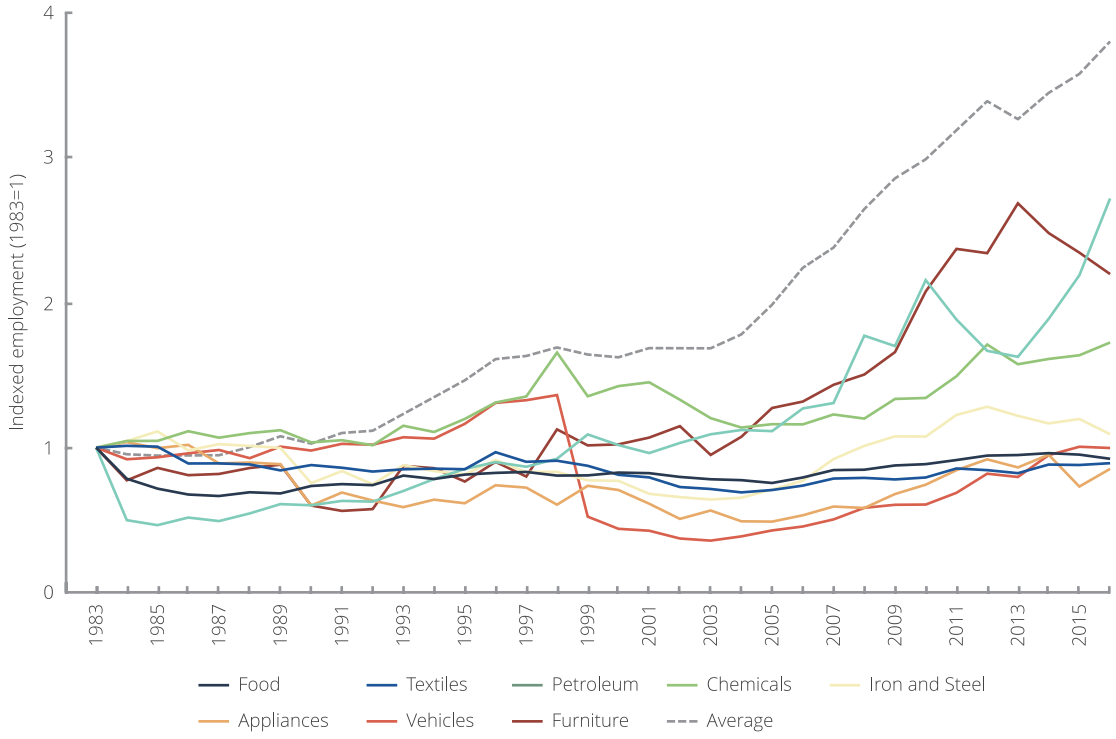
As mentioned earlier, the RBI-KLEMS data is at a level of aggregation that hides important variation. Basole and Narayan (2018) use ASI data over a longer period (1982 to 2015) and at more disaggregated NIC 3-digit level to classify manufacturing industries into better or worse performers along two dimensions, employment elasticity and wage growth. As noted earlier, the period after 2006 stands out as one during which organised manufacturing posted much faster employment growth than seen in any preceding period going back to 1982.

Figure 3.7 : ***Employment Growth in the Organised Manufacturing Sector***

a) ***Selected Industries***



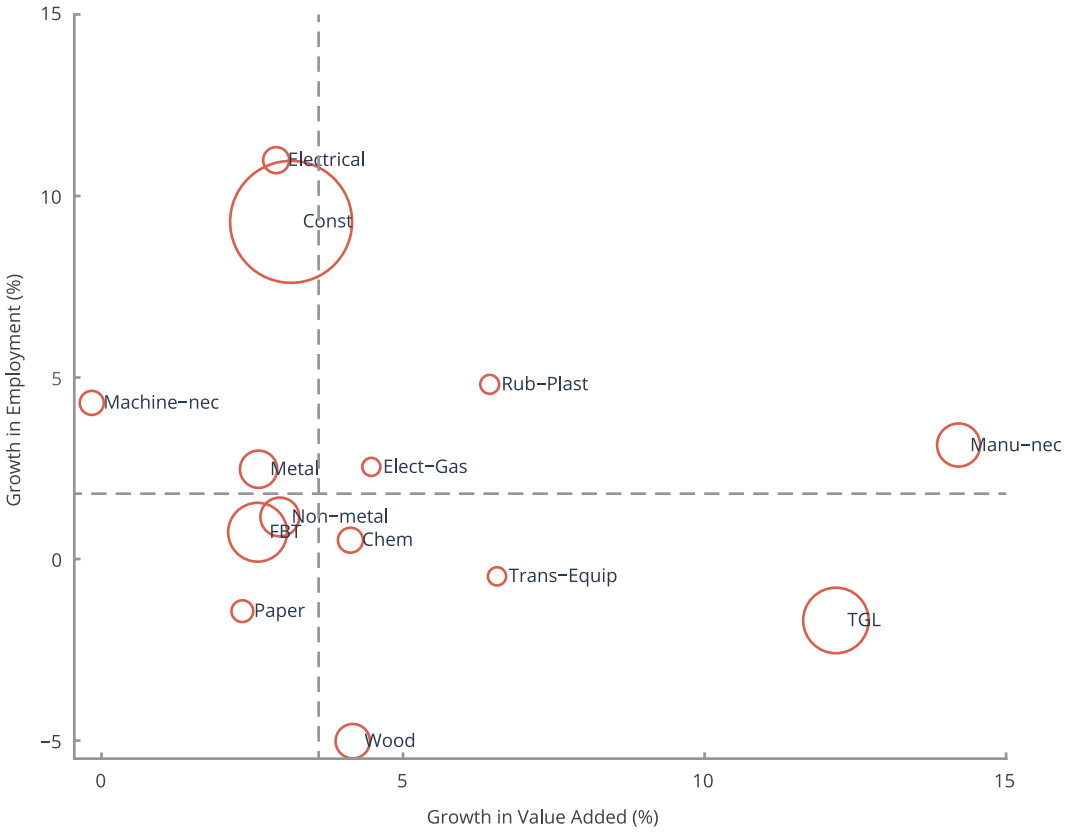
b) ***Below-Average Performers among Selected Industries***



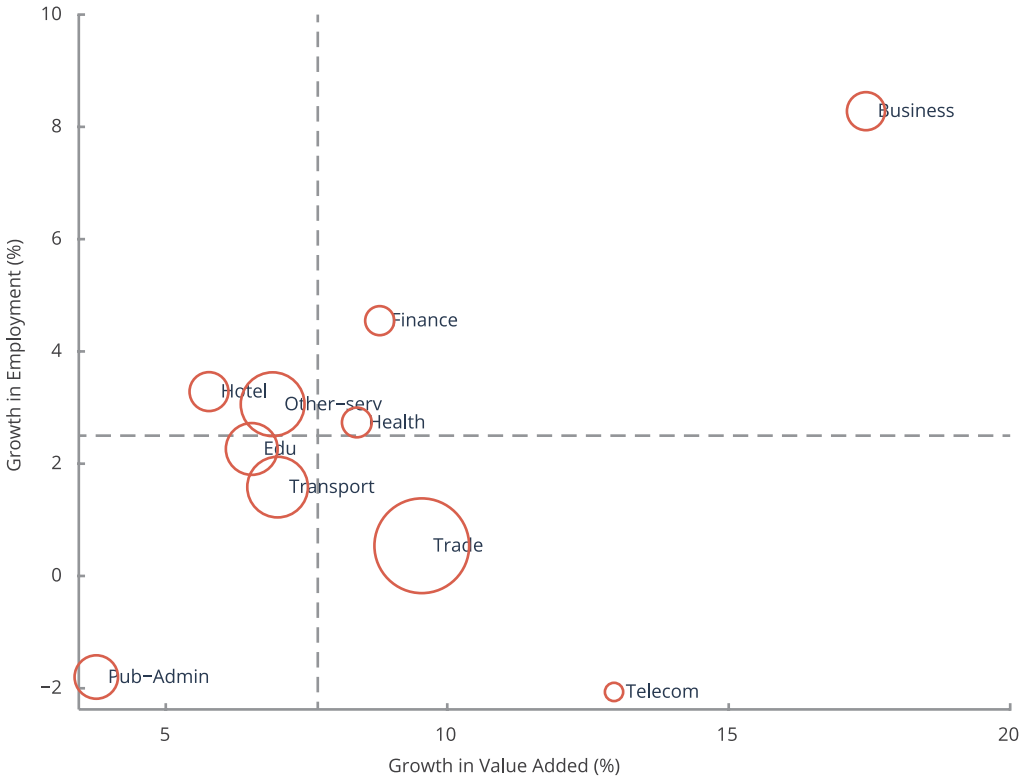
Sources and notes: ***ASI NIC 2-digit (EPWRFITS), various years.***

Figure 3.8 : ***Output Has Not Been Correlated with Employment Growth***

a) ***Industry***



b) ***Services***



Sources and notes: ***RBI-KLEMS 2011 and 2015. Compounded annual growth rates are shown. Size of the bubble represents employment share in 2011. Lines represent median values. TGL refers to Textiles, Garments and Leather, and FBT refers to Food, Beverages and Tobacco.***

Focusing on this most recent ten-year period (2006 to 2016) we can categorise industries as follows:

• Type A: Above median wage growth and elasticity
• Type B: Above median wage growth and below median elasticity
• Type C: Below median wage growth and above median elasticity
• Type D: Below median wage growth and below median elasticity

These types can be identified in Figure 3.9 which plots the employment elasticity against wage growth. Only industries with an employment share greater than the median value are shown for clarity. Larger bubbles indicate higher employment shares (in 2015).

Figure 3.9 : ***Most Industries in Organised Manufacturing Have Experienced Wage Growth or Job Growth over the Last Decade. A Few Have Seen Both.***

Sources and notes: **ASI NIC 2 digit (EPWRFITS) 2006 and 2016. *Growth rate is calculated by regressing log real wage rate on time. Elasticity is calculated by regressing log employment on log output. Size of the bubble represents employment share in 2006. Only industries with weight greater than 1% are displayed. Lines represent median values.***

Table 3.4 : ***Typology of Manufacturing Industries***

Type A	Type B	Type C	Type D
Footwear	Processing of meat, fish, fruits and vegetables	General purpose machinery	Tobacco
Plastics	Grain, mill products	Special purpose machinery	Dairy
Knitwear	Other food products	Basic chemicals	
Metal products	Apparel	Electrical appliances	
	Textiles	Motor vehicle parts and accessories	
	Paper	Beverages	
	Casting of metals		

Clearly, several more industries have posted a mixed performance than an all-round positive or negative one. However, it is worth emphasizing that in the 10 year period, large employers such as footwear, knitwear, and plastics have displayed above median wage growth as well as employment growth in the organised manufacturing sector. Of course, it is possible that this has come at the expense of employment in the unorganised sector. The ASI data does not allow us to comment on this aspect.

On a more mixed note, employment-intensive industries such as food processing, textiles, and apparel have shown weak capacity for employment generation while posting higher than median rates of wage growth. The opposite is the case for machinery, electrical appliances, vehicle parts, basic chemicals, and beverages where job creation has been strong but wage growth has been low or even negative.

Note that it is the relatively more capital intensive industries that have posted stronger employment growth, and the more labour intensive industries that have shown stronger wage growth. This is a counter-intuitive finding that needs further investigation.

Another related and counter-intuitive finding is that apparel and knitwear and footwear were also the industries that performed better than average in translating productivity growth into wage growth. This result is surprising given the reputation of these industries for sweat shop conditions. We discuss this further in Chapter Four.

Large employers such as footwear, knitwear, and plastics have displayed above median wage growth as well as employment growth.

3.3.5 / The Performance of the Unorganised Manufacturing Sector

As noted earlier, until 2005, most manufacturing employment growth occurred in the unorganised sector. Despite the organised sector picking up pace since 2006, the majority of the manufacturing workforce remains in the unorganised sector. The Lewis process is thus far from finished.

Here it is important to distinguish between the relatively more modern and profit-oriented and the relatively more subsistence-oriented parts of the unorganised sector. But empirically the distinction between subsistence and profit oriented enterprises is not easy to make. One way to operationalise the difference using NSS data on unorganised enterprises is to define necessity-driven or subsistence entrepreneurship as own-account enterprises operated by a single worker or with the help of family labour only. On the other hand, enterprises operating with at least one hired worker can be considered as opportunity-based entrepreneurship (Daymard 2015). We analyse the performance of the unorganised manufacturing sector using this framework.

NSS data reveal an 'infantilisation' of the sector over time, that is, a process wherein smaller firms increase their share in the sector. The share of own-account enterprises (OAEs) or single-worker firms in total firms went up from 32 per cent in 1994 to 59 per cent in 2015 (Table 3.5). This increase has come almost entirely at the cost of family-based enterprises while the proportion of establishments (enterprises that hire at least one wage worker) has not changed over the entire period. While a decline in family-run enterprises may be desirable in so far as they may employ unpaid workers and child labour, job creation in this sector has mostly been in the form of subsistence-oriented rather than profit-oriented firms.

Coming to the share of these enterprises in total workers in this sector, once again we see a large gain in the share of own-account workers. However, establishments have also increased their share of workers over the entire period, barring the most recent five-year period. Both these types of enterprises have gained workers at the expense of family enterprises. The fact the establishments have increased their share of workers without substantially increasing their share in firms indicates that there has been an increase in the size of the average establishment.

Lastly, single-worker firms are much less productive than establishments. In 2015, they accounted for 35 per cent of workers but only 29 per cent of value added in this sector. Establishments on the other hand accounted for 35 per cent of workers but 54 per cent

of value added. Single worker firms are three times more likely to be home-based and have one-tenth the asset base of establishments. Establishments are nearly two times more productive in terms of value added per worker (Table 3.6). This points to a factor misallocation similar to that observed between agriculture and the rest of the economy, and is an indicator of the presence of surplus labour in the OAE and family-firm sector.

There is some heterogeneity in the different periods as to which type of enterprises created more jobs. In the most recent five-year period for which data are available (2010 to 2015), the output elasticity of employment for OAE or single-worker firms was 0.1 while that for establishments was -0.63. This period, as noted before, has been one where the unorganised sector employment has not grown. Thus the low numbers are not surprising. But it is certainly a matter of concern that the establishment sector lost jobs in the period. Unni and Naik (2018) find that more than half of the unorganised enterprises were contracting for the three years prior to 2016.

Given the continued dominance of micro enterprises in the unorganised sector, whose size lies far below the threshold where labour laws apply, an important area of study is what constrains the growth of firms in this sector.

Table 3.5 : ***Distribution of Firm Types in the Unorganised Manufacturing Sector***

Year	Distribution of firms across firm types (%)			Distribution of total workers across firm types (%)			Distribution of GVA across firm types (%)		
	OAE	Family	Est.	OAE	Family	Est.	OAE	Family	Est.
1994	32	54	14	12	62	26	18	32	50
1999	44	43	13	24	47	28	23	32	45
2005	40	46	14	21	43	36	15	25	60
2010	53	31	16	29	32	40	23	19	58
2015	59	26	15	35	29	35	29	18	54

Sources and notes: ***NSS Enterprises Survey, various years. Est. refers to Establishment. See Methods chapter for details.***

Table 3.6 : ***Employment Elasticities by Firm Type***

Year	OAE	Family Enterprises	Establishments
1994-1999	0.75	-1.25	-0.79
1999-2005	-0.92	1.13	0.63
2005-2010	0.24	-1.20	0.14
2010-2015	0.12	-0.52	-0.64

Sources and notes: ***NSS Enterprises Survey, various years. See Methods chapter for details.***

3.4 / A Preliminary Analysis of the Service Sector

Rapid diffusion of technology as well as constraints placed on the manufacturing sector by trade (such as having to compete on low unit costs) have meant a rapid mechanization or increasing capital intensity across industries, as we saw earlier. The resulting rise in productivity means that fewer and fewer workers are needed to produce the same value of goods. As a result, India and many other developing countries are showing a tendency towards a declining importance of manufacturing in employment.

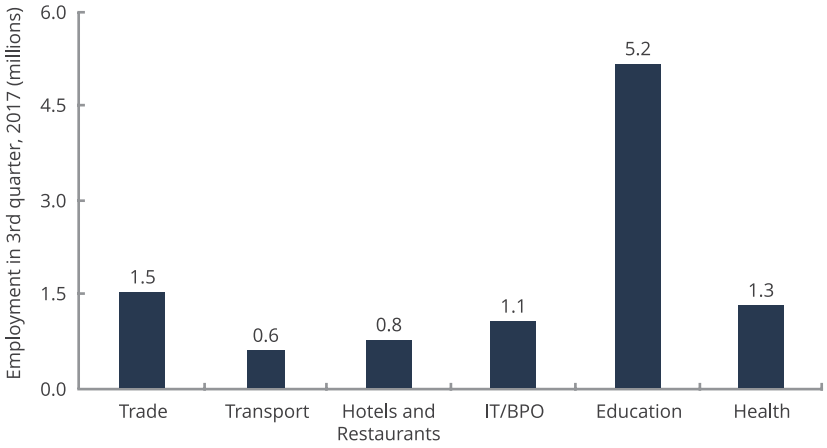
In the past few years there has emerged a considerable body of work that argues for services as the new engine of structural transformation, with India being a leading example of this phenomenon. Since 2004 the share of service sector employment has increased from 23.4 per cent to 30.2 per cent. Just between 2011 and 2015, absolute employment in services jumped from 36 million to nearly 52 million for youth, and for all labour from 127 to 141 million (Mehrotra 2018). Employment elasticities for both agriculture and industry were negative in this period but that of services was positive at 0.3.

However, before we welcome this development, it is necessary to know how much of this employment was created in the subsistence or informal part of the service sector and how much in the organised part. In this respect a major problem is a lack of data. The government plans to introduce an Annual Survey of Services along the lines of the ASI, but this decision is yet to be implemented at a national level. Hence, the data for this section comes primarily from the NSS unorganised sector surveys (conducted every five years) and the Labour Bureau's Quarterly Employment Surveys (QES) that include a few key service industries.

The RBI-KLEMS data can be used, as in the case of manufacturing, to identify service industries that have experienced above median value-added and employment growth (Figure 3.18b). The median rate of growth of value added is nearly three times that of employment in services, as opposed to twice in manufacturing. Most service industries have seen robust value-added growth, but employment growth has been much more variable. There are some large service sector employers that have performed poorly in terms of employment growth, for example, public administration and trade. Almost all others, with the exception of finance and business services (both relatively small employers), have shown weak job growth.

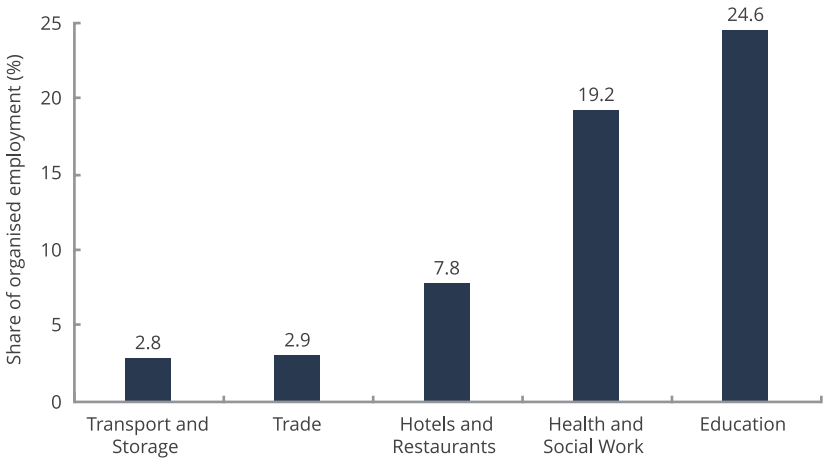
As per the most recent available estimates from the QES, the major organised service industries namely, trade, transport, hotels and restaurants, IT/BPO, Education, and Health together employed an estimated 10.5 million workers. This is a small increase since the first quarter of 2016 (the first instalment of the new QES series with an enlarged sample), when the employment in these industries was at 10.04 million (Figure 3.10).

Figure 3.10 : ***Employment in Selected Organised Service Industries***



Sources and notes: **LB-QES, 2017 *3rd quarter report*.**

Figure 3.11 : ***Share of Organised Employment is Less than a Quarter in All Major Service Industries***



Sources and notes: **RBI-KLEMS 2016, LB-QES 2016.**

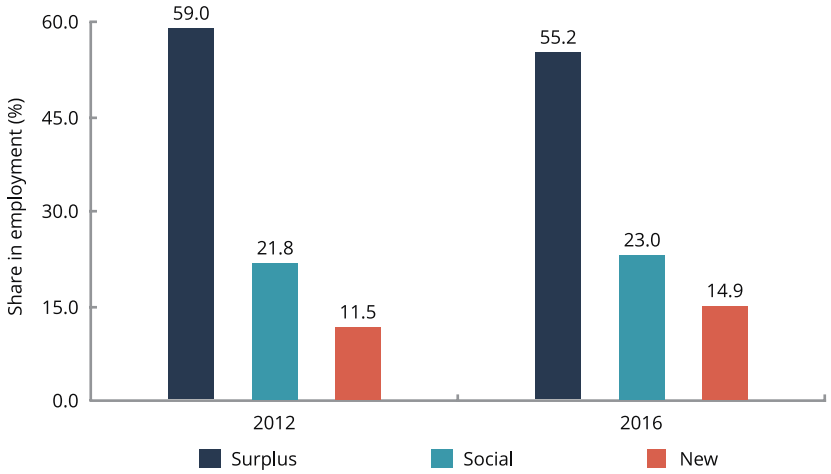
As of 2016, the total employment in the services sector stood at 140-150 million. Of these approximately 26 million were organised sector workers. We arrive at this estimate based on employment as of the last quarter of 2016 in the LB-QES, which covers the organised segment of the following service industries: trade, transport, accommodation and restaurants, IT/BPO, education, and health. To this we add the entire employment reported in 2015 for public administration, financial service, and post and telecommunications (from RBI-KLEMS since these are not covered in the QES). Thus we estimate that around 20 per cent of the service sector labour force was in the organised sector in 2015. Figure 3.11 shows per cent organised versus unorganised employment in some key service industries for which data is available for 2015 from both sources. Trade, hotel, transport are the major unorganised industries (with over 90 per cent of the workforce in the unorganised sector).

The service sector is large and diverse. It is very important to distinguish between service sector occupations that are only disguised forms of unemployment, and those that offer a pathway to a more prosperous future, for the country as well as the individual.

From the perspective of structural change, a useful way to categorise the diverse service sector activities is into three large types: the surplus sector, the social sector, and the new service economy. We treat the unorganised segments of trade (mostly petty retail), hotel, and transport along with all domestic workers as constituting the surplus sector. All of health and social work, arts, education, and public administration make up the social sector. The new service economy, largely organised, consists of big retail, hospitality, finance, information technology and IT enabled services, business process outsourcing, and security services. This is not an exhaustive classification but together these accounted for 93 per cent of service sector employment in 2016. An important omission is the burgeoning security services industry. Nevertheless, it enables us to get a sense of the relative importance of each sector in services as well as in the total workforce.

Figure 3.12 shows the shares of each sector in 2011 and 2016. For example, the surplus sector accounts for 55 per cent of service sector employment and 17 per cent of total employment in the country. With manufacturing (organised and unorganised) at 11 per cent and construction at 10 per cent, the surplus service sector is the single largest sector of the economy in terms of employment, after agriculture. The social services sector accounts for around 23 per cent of service sector employment and 7 per cent of total workforce, while the new service economy is around 15 per cent of the service sector and 4.5 per cent of the workforce. The share of the new service economy has increased between 2012 and 2016, from 11.5 to 15 per cent and the share of the social sector has increased from 22 to 23 per cent, at the cost of the surplus sector (59 per cent to 55 per cent).

Figure 3.12 : ***'Surplus' Industries Account for More than 50 per cent of Service Sector Employment***



Sources and notes: **RBI-KLEMS 2016, LB-QES 2016. *'Surplus' industries refer to industries dominated by self-employment and petty production. Education, health, and public administration are considered to be 'Social' industries. Finance, IT-BPO, and organised retail are defined as 'New' service industries. Numbers do not sum to 100 due to exclusion of some industries.***

Mehrotra (2018) uses a broader category of 'modern services' which includes sale/maintenance of motor vehicles, hotels and restaurants, air transport, posts and telecommunications, financial intermediation, insurance and pension funding, computers and related activities and research and development to find a 'silver lining' in the jobs story, namely, the rapid growth of these industries between 2004 and 2015.

The IT-BPO industry deserves special mention. As per the LB-QES, this sector had nearly 4 per cent of firms reporting more than 5000 employees in 2016. This is far greater than any other sector covered (manufacturing is a distant second with 0.26 per cent). Thus, despite the much smaller size of the sector vis-a-vis manufacturing, Information Technology and Business Process Management (IT-BPM) accounts for 48 per cent of establishments above 5000 workers, while manufacturing accounts for 52 per cent. To the extent that the quality of work improves with firm size, either via more regulated labour practices, availability of benefits, or through higher productivity and wages, IT remains a key service sector industry for India's structural transformation. However, from a macroeconomic perspective, its share in employment is too small to matter by itself. It may also be undergoing a structural shift that prevents it from being an engine of job creation in the near future (see Box 3.4).

Despite its much smaller size IT-BPM accounts for 48 per cent of establishments with more than 5000 workers, while manufacturing accounts for 52 per cent.

Since reliable, public data on services are scarce, we must make use of industry studies, primary field studies, and other reports that appear periodically. Thus the National Association of Software and Services Companies (NASSCOM) estimates that as of 2012 there were around 2.77 million workers employed in IT and BPM. Of these 1.3 million, were in IT service exports, 0.87 million in BPO exports, and 0.6 million in domestic IT-BPO.[1] The sector has seen 9 per cent employee growth and 16 per cent revenue growth. Disturbingly, net new hiring in the IT services industry fell from 230,000 in FY 2012 to 100,000 in FY 2018. As a result, there has been 'increased decoupling of revenue and headcount lead (sic.) by productivity gains, automation solutions, efficiency and onshoring.' (NASSCOM 2017)

Of particular interest from an employment perspective are rapidly growing service industries such as security services. Here too, adequate data is not forthcoming. As per the 2015 joint report by Grant Thornton and the Federation of Indian Chambers Commerce and Industry (FICCI) on Private Security Services in India, the security industry employed 7 million workers, making it larger than healthcare and almost as large as public administration. There is an urgent need to collect reliable official statistics on such industries. This also brings up the issue of social usefulness of newly created employment.

[1] Indian IT-BPO Industry – Strategic Review 2012.

With inequality on the rise, forms of 'guard labour' (Jayadev and Bowles 2006) are becoming more important. This is clearly not a desirable development from a social perspective.

A second cautionary note is regarding the social service sector. Both health and education, large employers, have seen a rapid rise in contract work even in the public sector. Mondal et al. (2018) comment on the fact that wages of anganwadi workers and village healthcare workers, mostly women, are much lower than those received by regular government employees.

Box 3.3 / **The State of the IT Industry**

Devika Narayan

In January 2015, Tata Consultancy Services, India's largest software services firm fired approximately 25,000 software engineers (Narayanan 2015). This event inaugurated a new trend in India's globally connected IT industry. In 2017, growing layoffs finally sparked national debate (Sridhar 2017). News reports and interviews with IT employees confirm that leading companies, that only a few years ago were aggressively recruiting new employees, are not only hiring in relatively small numbers but are actively pushing employees out (Narayan 2017; Subramanian 2017).

A drop in the hiring rates will affect the tens of thousands of engineering graduates who aspire to enter the IT workforce as they encounter firms that are reluctant to hire in the volumes of the preceding two decades.

The claims and findings presented below are based on ongoing research that commenced in 2014 and relies on over 100 in-depth interviews with middle managers, senior executives and employees and founders of technology startups. Apart from this, technology journalists, trade analysts, head hunters and emerging IT union representatives were routinely interviewed.

1. **Downsizing is not a temporary phenomenon but reflective of permanent, structural shifts.**

   The era of labour-intensive growth in IT is over and job creation will occur at a decelerated pace. The expansion of India's IT sector has depended on the IT investments that large American and European companies make into their own IT systems. Quantitative and qualitative shifts in the "IT spend' of client corporations instantly affect the firms to which IT development and maintenance tasks are subcontracted. Simplifications in the way enterprises organise, develop and maintain their IT infrastructure implies an erosion of back-office IT work that typically has been off-shored.

   Cloud computing centralises IT infrastructure and enables companies to share computing resources (Mosco 2015; Kushida, Murray, and Zysman 2015). Secondly, new software programmes automate certain labour-intensive tasks such as software testing and IT helpdesk functions. Given the gradual but undeniably steady shifts in the way enterprises across the global economy access and consume technology, these effects are best understood as structural rather than cyclical.

2. **Restructuring of firms is also contributing to job losses.**

   New employees (1-5 years of experience) do not receive the quick promotions and salary hikes that have defined the IT industry. However, their jobs are (relatively) protected by the fact that to the firm they represent cheap labour at the bottom of the pyramid. Mid-career professionals who joined

the industry roughly in the 2000-2010 period bear the brunt of the cost-cutting drive that grips today's firms.

Despite the industry's attempt to cast the irrelevance of the middle managers as an issue of skill deficiency, the fact is that middle managers are expensive in the eyes of the company. These are individuals who have moved up the corporate ladder rapidly and now earn between 15-20 lakhs per year. As it turns out they also constitute a large segment of the much celebrated IT workforce (Alawadhi and Mendonca 2017). In-depth qualitative interviews reveal that after losing their jobs, these employees find it very difficult to find re-employment. They either turn to expensive certifications in 'new technologies', attempt small-scale entrepreneurial initiatives, rely on broader familial networks or sometimes find lower paying jobs. Many continue to spend long stretches of time without incomes.

3. **The erosion is not just of the number of jobs but also the quality of jobs and working conditions.**

IT employees at the large firms are under new kinds of pressure. The workplace is a high-stress environment and working hours often extend to 13-15 hours per day. 'Fresher' salaries have been stagnant for a very long time. New management practices such as 'agile strategies' render employees accountable on a daily and weekly basis while making project requirements ever-changing. Many interviewees discussed the dual pressure they face from their clients as well as their own managers (who themselves are at risk of losing jobs). The pressure, they say, to produce 'more from less' has never been greater.

4. **There are new areas of work that are emerging. However these are not labour-intensive and will not compensate for the number of jobs reduced.**

The boom in technology-intensive start-ups (both consumer and business facing) has opened up a new area of employment for an educated, upwardly mobile, young workforce, particularly for highly skilled software engineers – but also recruits for sales, marketing and product management divisions. Large IT companies are also looking to make specialised, targeted hires, particularly in areas like cloud security and data analytics.

With the erosion of labour-intensive tasks of software testing, integration and maintenance, hiring will always be modest compared to the 'golden years' of expansion. Start-ups are of course much smaller (in terms of employees) and aim for high labour productivity (revenue per employee). Moreover, it is widely acknowledged that this is a volatile sector, fueled by venture capital and business models that privilege sales and user growth over profitability and therefore we can presume that many fledgling companies will fail, merge or be acquired.

Given the high demand for niche skills and a lack of demand for the 'generic' skills of the previous era, we see an increasing polarisation of the labour market. This polarisation occurs not simply along the axis of skill and salaries but other social markers. Hires on the top-end tend to come from elite institutions (such as the IITs) rather than the numerous tier two and three institutions that the previous era produced. Further the startups are much more homogenous and exclusive from the perspective of caste and gender than the traditional IT workforce.

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Box 3.4 / **Creating Green Jobs**

Traditionally, environmental regulation has been perceived to restrict economic growth and job opportunities. However, more recent studies indicate positive relationships between investments in clean energy and job growth, including in India. There are three ways to reduce carbon emissions per unit of output: using those sources which have lower carbon emissions among fossil fuels, increasing use of green energy sources, and raising the efficiency of energy use.

Using Input-Output data and the employment-unemployment surveys for India, Azad and Chakraborty (2018) project employment generating capacities for fossil-fuel based and renewable energy sectors as well as the energy efficiency sector. They also study the distribution of employment generated by region, gender, caste, and educational status.

The study finds that investments in a green energy program would generate on average almost 2.5 times the jobs created through the fossil fuels sector. The most labour-intensive sector, bio-energy, can generate 60 jobs per crore rupees of investment compared to 5 jobs for the same amount in the coal industry. Weatherisation is estimated to generate around 20 jobs and public transport around 10 jobs per crore of investment.

The study also finds that the composition of the jobs generated in the clean energy sector is more favourable to women, Scheduled Castes and Tribes, unskilled labourers and rural areas compared to that generated by investment in the fossil fuels industry. Hence investments in clean energy are more inclusive. However, the distribution of green jobs is also more skewed in favour of the unorganised sector. The authors identify this as a challenge to the clean energy programme if it is to result in secure livelihoods.

Sources and notes: ***Azad and Chakraborty* (2018)**

Box 3.5 / **Change and Adaptation in the West Bengal Handloom Industry**

The handloom industry continues to be a major employer in India. Though recent data are not available, as per the 2009-2010 Handloom Census this industry employed 4.3 million workers. West Bengal, the focus of a three-district study by Bhattacharya and Sen (2018) stands out among Indian states with the highest number of looms and highest number of weaver households engaged in commercial production. The study focuses on Hooghly, Nadia and Purba Bardhaman districts and draws on interviews conducted with a wide variety of industry actors such as weavers, master weavers, panchayat officials, cooperative societies, traders, and state officials.

The authors note that the simple story of decline in handloom employment and rise of powerlooms is not uniform across regions or over time. The total volume of cloth production in the powerloom sector as well as its share has fallen since 2012-13, while it has risen in the handloom sector. West Bengal and North-Eastern states of India showed an increase in the number of weaver households between the second and third Handloom Censuses, conducted in 1995-96 and 2009-10 respectively. There has been very little growth of powerlooms in handloom-major states like West Bengal. Thus, it is not surprising that only 16.2 per cent of handloom worker households in West Bengal perceived powerlooms to be a major threat, as compared to 84.6 per cent in Andhra Pradesh and 46.5 per cent in Tamil Nadu.

But this does not mean handloom weavers want their children to continue in the same occupation. Nearly 85 per cent of those interviewed explained this reluctance as being due to the time-consuming, hard and un-remunerative nature of work. The Handloom Census revealed that the average annual income of handloom worker households in West Bengal was only around Rs. 27,000 in 2010. Bhattacharya and Sen (2018) find that average earnings are less than or only somewhat higher than the MNGREGA wages for unskilled labourers, and often lower than the daily wages of construction workers or auto rickshaw drivers. In the sample, the average weekly earnings of a weaver household range from Rs. 500 to Rs. 1000.

Interestingly, however, the recent history of this industry is not only of exit, but also of entry along with acquisition of skills by new entrants. Weaver households have tried to compete by moving on to the production of finer cloth that machines cannot not imitate easily. This has been a common competitive strategy in other places also. In all study areas, there is a common complaint of skill deficit due to a decline in availability of highly skilled weavers, whose products can beat powerloom products. This is because older workers find it more difficult to adapt to new designs, while younger workers have not been taking up the trade.

Sources and notes: ***Bhattacharya and Sen (2018)***

3.5 / Conclusion

The Kuznets process remains slow in India with just under half of the workforce still in agriculture and allied activities. To the extent that there has been a transition from agriculture, it has largely been to construction and not manufacturing. It is possible that the period between 2011 and 2015 was the worst in recent years in terms of structural change. But lack of comparable data makes it hard to be definitive on this matter. There is considerable state-level variation in the Kuznets process. Some large states such as Tamil Nadu, Kerala, Punjab and West Bengal have diversified economies; others such as Bihar, Maharashtra, and Andhra Pradesh, much less so.

The organised manufacturing sector has shown a strong turnaround in the past decade in terms of its employment generation capacity. Several large industries such as footwear, knitwear, and plastics have shown good employment elasticities as well as wage growth. Many others have shown employment growth. But job growth in this sector has come at the cost of unorganised sector employment and the overall share of manufacturing in total employment has not increased. Declining labour intensity is observed in almost every manufacturing industry. But it is unlikely that labour laws are responsible for the substitution of workers by machines. Indeed, there is strong evidence that firms have continued to hire workers circumventing the laws.

Lack of data on the service sector makes detailed analysis difficult. However, available data suggest a small decrease in the share of employment accounted for by the surplus sector and a small increase in the new service economy.

The question, thrown up by the foregoing analysis on the quantity of employment created in various sectors, is about consequences on the quality of jobs. We take up this question in the next chapter.

Chapter 4

How Good Is the Work?

Formality, Wages, and Productivity

Many labour laws have overlapping jurisdiction, giving the impression of fortifying the bargaining strength of the organised labour. But surplus labour willing to work at subsistence wages gives enormous power to employers, whose interests lie in circumventing the laws. A way out of the dysfunctional regulatory regime is to simplify the laws, along with their strict enforcement.

-Nagaraj (2018)

The demographic dividend that is often touted as India's competitive advantage is critically dependent on meeting the growing aspirations of those entering or wishing to enter the labour force. To satisfy these aspirations, India's economy needs to create more jobs than are currently being created, and critically, more 'good' jobs.

There is no clear definition as to what a 'good' job is. Broadly, it could be defined to mean a job that pays well, is safe, secure, and meaningful, helps to improve the skills and productivity of the worker, and allows for adequate leisure. Given that, for the majority of the population, wages and salaries are the most important source of income, having a remunerative and meaningful job becomes very important.

Defining and measuring the quality of work is difficult. What is considered a good job depends on the level of economic development. In a very poor economy, it may be any job that pays above subsistence wage. On the other hand, a job that can buy amenities, but is not secure, could be considered a poor job in richer economies. Similarly, the perceived quality of jobs is dependent partly on the characteristics of the labour force; given the same profile of jobs, a less educated labour force may perceive a larger number of good jobs than a more educated labour force.

In line with ILO guidelines, we can categorise a job as 'good' if it:

a. generates earnings that are sufficient to maintain a decent quality of life and which are distributed in a way that broadly benefits a large body of the working population.

b. provides security and social protection such that the risks of unemployment are limited and, in instances where the labourer is unable to obtain employment, s/he is able to fulfil basic needs through elements of social protection such as unemployment or pension benefits.

c. ensures a safe and healthy work environment in which other non-wage aspects of employment, such as working relationships, are suitably desirable.

d. enables labour to develop its capacities on the job, and partake of the fruits of technological advancement and more efficient production techniques.

Work that adheres to the above conditions need not come from any one sector, nor even necessarily in the form of wage work.

Importantly, none of the above are 'automatic' results of economic growth. Rather, to realise them we must invest in a robust set of labour market institutions that are sensitive to changing economic conditions while reflecting core values of social justice and democracy.

This chapter examines the quality of jobs in the Indian economy mainly through two lenses: that of formality or informality, and that of the level of remuneration and its growth.

There are significant data challenges in measuring the quality of work in the Indian economy. The only nationally representative data sources going back far enough in time are the Employment-Unemployment Surveys of the NSS (NSS-EUS). However, this survey has not been conducted since 2011–12. For more recent statistics, the only available source is the Labour Bureau's EUS (LB-EUS), the most recent of which is from 2015–16. In this chapter, we rely on both these surveys, supplementing with field studies as appropriate. The issue of comparability of the LB-EUS with the NSS-EUS is discussed in the chapter on Methods. Here, we only note that the basic statistics on quality of work are very similar in the two surveys, strengthening our case for comparability.

In 2015, non-regular workers constituted 80 per cent of all employment. This is higher than the world average of 75 per cent as per ILO estimates.

4.1 / Formal Employment: Definitions, Degrees and Trends

The Lewis Process requires a movement of workers from the subsistence sector to the more productive modern sector. Despite maintaining a higher growth rate since the mid-1980s than ever before in its independent history, India's record in this regard has been poor. In particular, growth has failed to generate adequate high-quality employment, even as the population and the labour force have grown rapidly. Therefore, bringing more of the population into the modern, productive economy, and improving economic outcomes, is critical.

As we saw in Chapter Two, in 2015, India's workforce, by principal and subsidiary status, was estimated to be 467 million. Of this, 47 per cent were self-employed, 36.5 per cent were casual wage workers, while 17 per cent were regular wage workers (Figure 4.1). The NSS and the Labour Bureau adopt comparable definitions of these categories. The 'self-employed' are those workers who operate a farm or non-farm business on their own, either by themselves or with paid or unpaid workers. The distinction between 'regular' and 'casual' workers is blurry. As per the NSS, regular workers are those who work for wages in someone else's farm or non-farm enterprise, for a salary or wage on a regular basis. The key criterion for being considered a regular worker is that the work contract should not be one that is renewed daily. Casual workers are workers employed on a daily or other periodic basis, based on the demand for labour. These workers do not have long-term arrangements with any employer (Ministry of Statistics and Programme Implementation 2014, p.17). To these NSS categories, the Labour Bureau has added the category of contract worker defined as any worker hired, supervised and remunerated through a contractor, who in turn, is compensated by the establishment.

In 1987, 55.5 per cent of workers were self-employed. By 2015, this had fallen to 46.6 per cent. Correspondingly, the proportion of regular wage workers rose from 15.6 per cent to 20.6 per cent (Table A4.1 in online Appendix). While this constitutes progress, the rate could perhaps be much higher. In 2015, non-regular workers constituted 80 per cent of all employment. This is higher than the world average of 75 per cent as per ILO estimates.[1] If only wage workers are considered and the self-employed are excluded, then 68 per cent were in informal wage employment in 2015.

However, the regular versus casual distinction underestimates the extent of informal employment. Since 2000, the NSS-EUS has been collecting information on the provision of social security benefits and availability of written contracts. The recent Labour Bureau surveys continued to collect this information. As we discuss below, if either of these are taken as indicators of informality of employment, then the share of informality increases considerably.

In the following section, we focus primarily on wage workers. Note that enabling the transition from own-account work to wage work that comes under the purview of labour legislation, is part of the Lewis Process.

Figure 4.1 : ***Regular Salaried Workers Account for 17 per cent of the Workforce***

Sources and notes: **LB-EUS 2015.**

[1] Temporary, casual and self-employed account for 75% of workers.

4.1.1 / Organised-Unorganised and Formal-Informal

At the outset, it is useful to clarify the distinction between two dichotomies in the labour market. The first is the division between the organised and unorganised parts of the economy, defined largely by the size of the workplace and accompanying government regulations regarding working hours, hiring and firing norms, rights of association, minimum wages, and other aspects of employment.

The second is the distinction between formal and informal work, defined by the nature of the labour contract. The 17th International Conference of Labour Statisticians defines informal employment as those jobs where '...employment relation is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits (advance notice of dismissal, severance pay, paid annual or sick leave, etc.)' (ILO 2003).

Table 4.1 displays the two dichotomies. The type of enterprise (organised-unorganised) is overlaid alongside the type of work (formal-informal). This provides a conceptual framework for identifying informal employment which includes work in unorganised sector, as well as in the organised sector that is not subject to regulation (Hussmanns 2004). Further, the vast self-employed sector, consisting of those who work for themselves, is also outside the scope of most laws pertaining to wages and working conditions.

In India, this framework has been broadly adopted in the definition provided by the National Commission on Enterprises in the Unorganised Sector (Sengupta et al. 2007), which identified informal workers as those 'working in the unorganised enterprises or households, excluding regular workers with social security benefits, and the workers in the formal sector without any employment/ social security benefits provided by the employers'. By this definition, which includes the self-employed, over 80 per cent of the workforce would fall into the informal category.

Table 4.1 : ***Organised-Unorganised and Formal-Informal Employment***

		Enterprise Type	
		Organised	Unorganised
Employment Type	Formal	Regular salaried work with some job security and benefits, in enterprises employing 10 or more workers.	Regular salaried employment with some benefits, in enterprises employing less than 10 workers.
	Informal	Various types of contract work and employment of short duration, without job security, in enterprises employing 10 or more workers	All types of casual work, work for daily, weekly, or monthly wages, and self-employment with no benefits or security, in enterprises employing less than 10 workers.

4.1.2 / Degrees of Formality and Informality

The actually existing diversity of labour contracts makes any clean division between 'formal' and 'informal' difficult. We find, instead, degrees of formality and informality. For example, the availability of social security benefits alongside employment seems to be the overriding identifier of formality of employment. However, there have been multiple interpretations of what constitutes social security benefits and consequently, multiple operational definitions of formal employment. For instance, studies have taken the availability of paid leave (Rani and Unni 2004), the provision of provident fund (Sastry 2004), the availability of a written contract (Kolli and Sinharay 2014), or a combination of indicators (Unni and Naik 2018), to gauge formality of employment.

Since information on social security benefits has only recently begun to be collected, studies have typically used a regular versus casual distinction to distinguish formal wage workers from informal ones. 'Regular work' is an expansive definition of formality. For example, a worker in a microenterprise who has no written contract or benefits, but is being paid a monthly salary on a long-term basis, would count as a regular worker.

The year 2017-18 has witnessed a controversy over the definition of a formal job. There is no problem per se in adopting any reasonable and consistent definition, but in this instance, the controversy over the definition is really a debate over job creation. We review this debate in Box 4.1. Ultimately, however, the exact definition is less important than the trend in job creation. The question is, is the economy able to create formal jobs (however defined) in desired numbers?

Box 4.1 / **The Debate over 'Formal' Jobs**

The first half of 2018 has seen a controversy about the quantity of formal jobs created as well as the definition of a 'formal job'. New analysis of the Employee Provident Fund Organisation (EPFO) database suggests that household surveys may have underestimated the pace of formal job creation (Ghosh and Ghosh 2018). In 2017, 4 million new employees were added to the EPFO database. With an annual increment to the labour force of between 6 and 12 million (depending on assumptions about what fraction of those entering the working-age population is entering the labour force), this constitutes between one-third or two-thirds of new jobs. This, in turn, suggests that the production of jobs of reasonable quality has increased, albeit not at the pace required to absorb available labour.

One needs to be cautious, however, in interpreting such administrative data. First, the findings run counter to the information coming from labour surveys and other evidence about falling aggregate employment. Moreover, it is unclear whether these are new jobs or simply increased numbers arising out of compliance with laws for existing jobs, given the incentives advanced to firms for enrolling their employees. While such enrolment is to be welcomed from the point of view of employee welfare, such conversion of informal employment to formal employment should not be confused with net new job creation. Second, representative household surveys cover the entire population and therefore give a net picture that takes into account job creation and destruction in the entire economy. Analyses based on EPFO numbers or other similar sources, on the other hand, only give a partial picture of job creation. It is worth remembering that the EPFO share of total employment is still only around 12.5 per cent.

Also see:
Ninan: EPFO's employment data is very cheery, but needs a reality check
Arun Kumar: Job growth or number jugglery

We develop three increasingly strict definitions of formal employment for non-agricultural wage workers. The broadest definition is simply 'regular worker' (we call this Formal 1). The second definition (Formal 2) is regular work with availability of one of the following social security benefits: provident fund or pension, gratuity, healthcare/maternity benefits, or paid leave. The third, and strictest, definition (Formal 3) is the above plus a written contract. This is the strictest because data reveal that workers who have a written contract are much more likely to satisfy the other two criteria than the other way around.

If we include benefits and a written contract, then a mere 17 per cent of wage workers in the Indian economy had access to formal employment in 2015.

We exclude wage workers in agriculture from the analysis because, irrespective of the definition used, with the exception of some plantation workers, almost the entirety of the agricultural workforce is in informal employment, working as casual workers, without written contracts and social security entitlements.

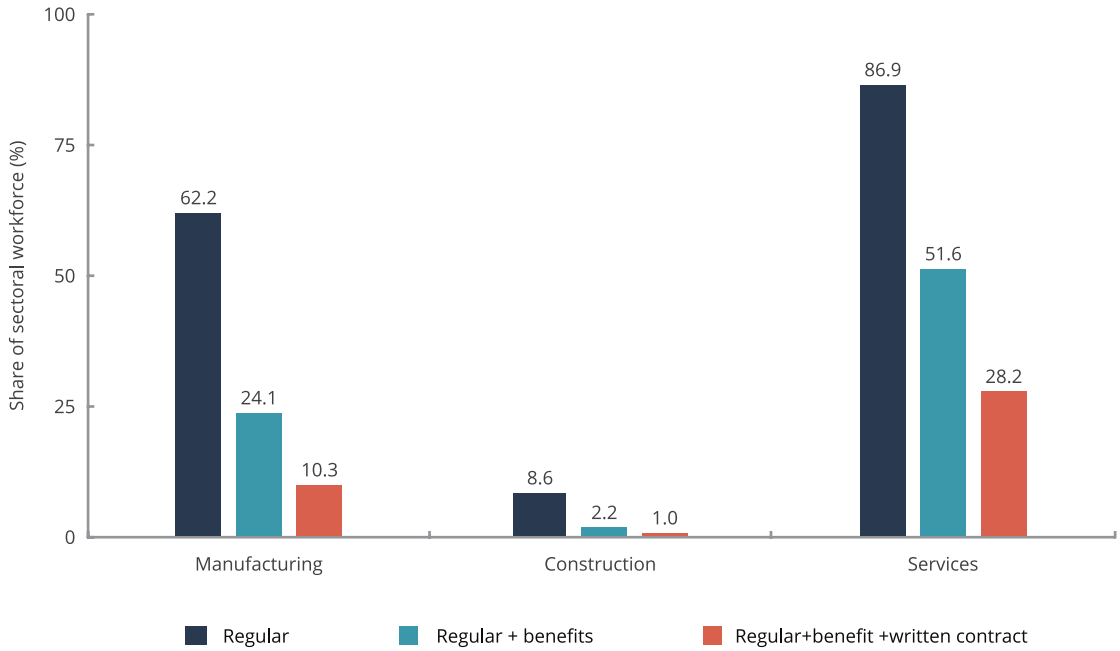
Successive NSS-EUS rounds reveal that the proportion of regular workers among non-agricultural wage workers has been slowly inching upwards, and is now just under 60 per cent. However, this number falls to 30 per cent if we include access to some kind of benefit as a condition of formal employment. If we include benefits and a written contract, then a mere 17 per cent of wage workers in the Indian economy had access to formal employment in 2015.

When one recalls that just under half of the workforce is self-employed, and therefore not in this system of classification, the full extent of precarity in the economy becomes clear.

Delving further into the non-agricultural sector, we see major differences between manufacturing and services (Figure 4.2). The service sector shows a much greater degree of formalisation than manufacturing, presumably a result of the dominance of the public sector. In manufacturing, although the share of regular workers increased between 1999 and 2011, it has subsequently declined from 68 per cent to 62 per cent. In services, the share is higher, but stagnant at around 87 per cent.

We see a precipitous drop in the share of formal workers if we tighten the definition of formality to include some benefits and a written contract. In 2015, the share of the workforce with a written contract and some social security benefits, was 10 per cent in manufacturing and 28 per cent in services.

Figure 4.2 : ***Levels of Formality in Manufacturing, Construction and Services***



Sources and notes: **LB-EUS 2015. *Only wage workers are considered. See text for details on worker categories.***

The construction sector is overwhelmingly informal. Even by the broadest definition of formality, less than 10 per cent of the construction workforce can be termed formal. This is of concern because, as discussed in Chapter Two, construction is now as large an employer in absolute terms as the entire manufacturing sector.

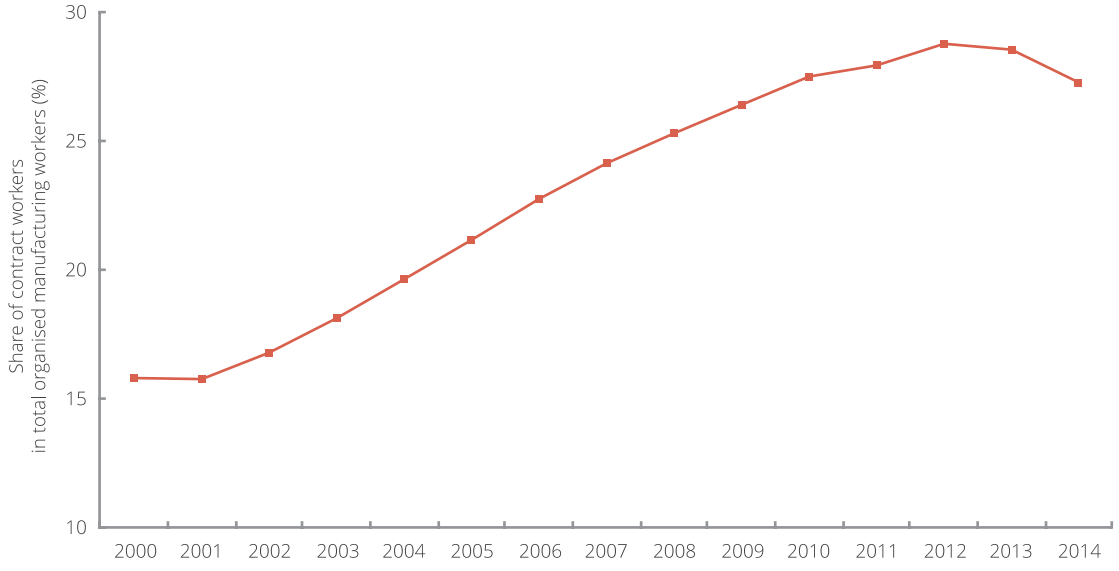
One important channel of informalisation of work since the early 2000s, particularly in the manufacturing sector, has been the gradual replacement of workers directly employed by organised sector firms, with workers hired via third-party contractors (known as 'contract workers'). These workers are generally not eligible for the range of benefits that direct workers receive. They are also more easily retrenched than direct workers. This phenomenon has been widely commented on in the policy and academic literature. See Das, Choudhury, and Singh (2015) for a recent review.

Factory-level data from the Annual Survey of Industries (ASI) show that, between 2000 and 2012, such informal work within the organised sector grew at 13.8 per cent per annum, while overall non-agricultural employment, as measured by the NSS-EUS, grew at approximately 5 per cent per annum in the same period. Figure 4.3 shows the informalisation in the organised manufacturing sector in terms of the share of contract workers in total workers.

There is very little data available on contract workers in the service sector before 2011. As mentioned earlier, since 2011−12, the Labour Bureau has included contract workers as an employment status in its EUS, after modifying the NSS-EUS system of classifying such workers. While these surveys have now been discontinued, we hope that the new PLFS being conducted by the NSSO will continue this practice. In the absence of such data, it is difficult to estimate the extent of informality in the organised service sector.

Interestingly, the increase in contract workers in manufacturing has slowed since 2011. However, case studies reveal that, at least in some industries, contract workers are being replaced by newer types of precarious workers such as trainees and apprentices. Amit and Nayanjyoti (2018) present evidence of this from the automobile industry in the Gurgaon-Manesar belt (see Box 4.2). The conclusion that contract workers may be being replaced by other forms of precarious labour is also supported by the fact that there is no increase in the proportion of formal employment commensurate with a decline in the proportion of contract workers in organised manufacturing as a whole over this period.

Figure 4.3 : ***Contract Workers Have Increased Sharply in Organised Manufacturing in the Past Two Decades***



Sources and notes: **ASI *factory-level data, various years.***

Box 4.2 / **Organising for Better Work in the Gurgaon-Manesar Industrial Belt**

The Gurgaon−Neemrana industrial belt has been a prominent centre of most of the militant labour unrests in our country during the last two decades. For example, the Maruti Manesar plant workers struggle in 2011−12 was effectively the first one that seriously challenged the contract system and pushed for the permanency of contract workers to limit the internal segmentation of the workforce. Permanent workers struck work and occupied the plant in October 2011 as 1200 contract workers, who earlier had joined the permanent workers in their strike in June and September, were not reinstated by the management.

Ultimately, as a result of the protest, the contract workers were re-employed. Subsequently, when a union was formed in February 2012, the first demand that they put forward before the management in the Charter of Demands was the permanency of all contract workers. When the management refused to negotiate on this demand, the bargaining process suffered, tension escalated and, finally, on 18 July 2012, a clash ensued between workers and management and their bouncers, leading to the death of one HR manager and the subsequent crackdown on workers. A micro study suggests that the factors listed below best explain poor employment conditions despite rapid growth and the genesis of industrial conflicts.

1. Increased mobility of capital and setting up multiple units of the same company in the industrial belt and the easy shifting of production from older to newer units (with more flexible labour regimes), and even closure of old units, have reduced workers control over production, effectiveness of strikes, and bargaining capacity of unions in the older units. It has reduced associational bargaining power of workers.

2. New technology has made workers more disposable and has given management more control over production. Mechanisation and automation has made skill and experience increasingly redundant and has threatened workers' job security. Intensification of work demands a young docile workforce instead of older experienced people. Continuous industrial restructuring has reduced the structural bargaining power of workers.

3. Crisis of agriculture, jobless growth and India's demographic dividend has created a large pool of unemployed youth waiting outside factory gates, ready to work even under worsening working conditions.

4. Informalisation of work in formal sectors like automobile has shifted the burden of production from permanent to various categories of temporary workers. Permanent workers have become an even smaller minority of the workforce. Their union thus has less control over production. The new categories of workers like diploma trainee, student trainee, diploma apprentices are not even recognised as 'workers', and thus have minimal connection with the union process.

5. The increasing connectivity inside the production process under 'just-in-time' and 'lean' production modes and the competitiveness of the auto sector cannot contain any form of workers' subjectivity that influences the production process and creates uncertainty. It has resulted in projecting the union process and 'collective bargaining' of workers as an 'act of indiscipline'. Thus labour 'dispute' is now seen as a 'law and order' problem. It has led to the criminalisation of labour struggles, and to repression in place of mechanisms of reconciliation and mediation.

6. The gradual dismantling of labour protections, pro-corporate changes in labour law and weakening of institutions (such as the labour department, labour courts and tribunals) has led to the weakening of the process of collective bargaining.

Sources and notes: ***Amit and Nayanjyoti (2018)***

In general, field studies are far more informative regarding conditions of work and new forms of precarious labour as compared to secondary surveys. In addition to the study of the automobile industry, another SWI background study by Anumeha Yadav (2018) investigates labour relations in Rajasthan's small-scale sandstone mining industry. This is a large export industry operating almost entirely on casual labour. The author finds that workers with several years of experience earn around ₹250 per day for strenuous and skilled work. This is not only below a decent living wage, but also below even the state minimum wage (Box 4.3). Another field study by Natarajan and Joseph (2018), on domestic workers in Bangalore, also yields rich insights into the process of collectivisation among this informal workforce (Box 4.4).

Box 4.3 / **Precarity among Mining Workers in Rajasthan**

Mehr is 27, and has worked in sandstone quarries in Bijolia for the past 11 years—ever since he was a teenager. He joked that when he dropped out of school after class six, instead of a regular honours degree, he earned a 'bhataa ki degree'— an honours in studying stone!

As per the Rajasthan government notification of January 2018 on minimum wages in various schedules of employment, a 'stone dresser' is considered a semi-skilled worker, and after three years of work qualifies for a skilled work wage. Someone like Mehr, who has done skilled work for five years, is considered fit for minimum wages in the 'highly skilled' category. On the day we interviewed him, Mehr had negotiated ₹3 for each foot of sandstone he cut. By evening, he had cut 80 feet stone, earning ₹240—much less than the government minimum wage of ₹283 a day for 'highly skilled' work.

The negotiation over wage rates varied with the age and skill of the workers, and other factors. But several workers who had migrated to Bijolia in distress saw little choice in the work and how the wages were fixed.

In Nayanagar, Mukesh Chand Jatav, a Dalit, in his mid-30s, who had migrated to Bijolia earlier that month from Karoli, 300 kilometers away, had managed to negotiate a higher than average rate for himself, at ₹5 per foot. He had done so by offering to work in 'wastage' sandstone that had been discarded by mine owners as it was harder to process. Though he had managed to chisel and cut 100 feet sandstone by the end of the day, and negotiated a higher wage, he made only ₹500, half of which he would split with a co-worker, thereby still not making even a minimum wage for the strenuous work.

Jatav said that he had little choice when it came to doing the sandstone work as he had no savings, even though he had started the annual migration to the quarries in Bijolia with his father 21 years ago when he was 15. Now, at 36, he had returned to work in the quarries after a gap of five years. Ill-health had prevented him from taking up quarry work in the gap years.

He recounted that back home, in Hindon, the family had witnessed three of their neighbours, who also worked in the quarries, die of tuberculosis. 'Khoon daal daal ke mar gaye (They coughed up blood, and died).' Two of them were his age, and one had been younger than him, he said.

'My father, who has worked as a stone carver and knows the conditions of work, warned me "Don't go back to the khadaan (quarry) even if we starve", but I had to come back to earn two rupees...to eat,' said Jatav. Jatav's family owns no land. The previous year they had sharecropped with another Dalit family in Karoli in exchange for one-fourth share of the wheat and barley crop but the produce was already exhausted.

In another part of Bijolia, under a sky laden with monsoon clouds, in a field converted into a sandstone 'stock' in Sukhpura, Madan Lal Bhil, a frail Adivasi farm worker who looked older than his 52 years, said that, in the last farming season, he had spent ₹13,000 growing wheat as a sharecropper with a Gujjar farmer. But the yield had been only half of the usual produce, he said, leaving the family with just five sacks of grains at the end of the season. Bhil had a farm loan of ₹7000 and had sown paddy this time, but he, too, felt compelled to work as a quarry labourer till the crop was ready for harvesting.

Sources and notes: ***Excerpted from Yadav (2018)***

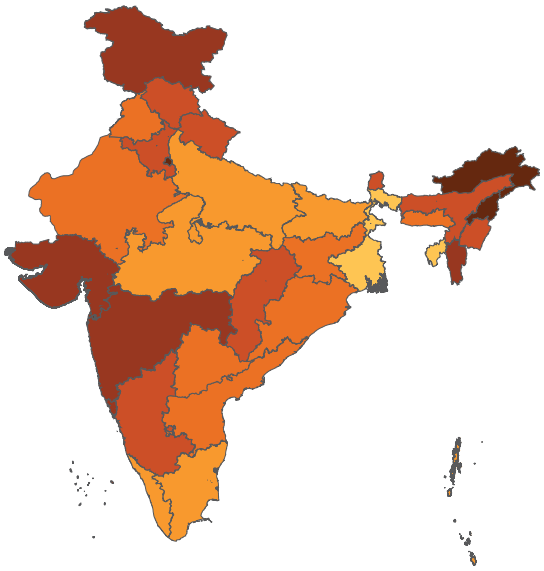
4.1.3 / Variation in Formality across States

Indian states also display large variations in the degree to which their workers are protected or unprotected by labour legislation. The north-eastern states show above average levels of formalisation (using the definition of a regular worker), while states such as Bihar and Jharkhand show very low levels. Figure 4.4 shows the proportion of formal workers based on all three definitions across India in 2015.

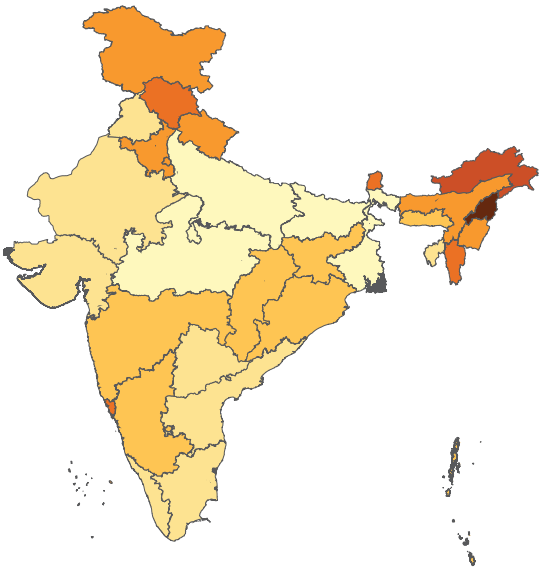
There are some noteworthy patterns here. Surprisingly, the southern states (with the exception of Kerala) are seen to be lagging behind states such as Maharashtra and Gujarat in degree of formality, especially under the stricter definitions. This is possibly due to the presence of large public-sector units or other large organised sector manufacturing plants in the western states. It should also be borne in mind that large commercial cities such as Mumbai or Surat may bias state-level statistics. That said, however, given the general impression of the southern states as being relatively more progressive, this is a pattern worth investigating further.

Figure 4.4 : ***Levels of Formality across States***

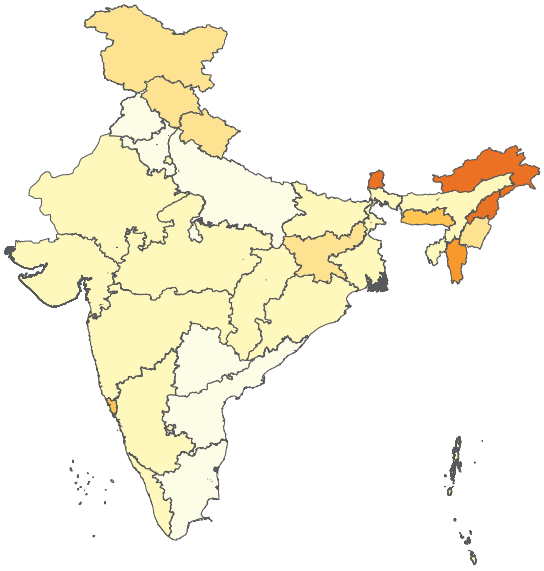
Regular workers

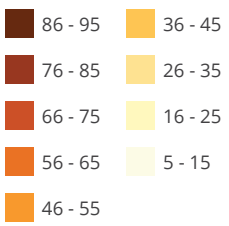


Regular workers + Benefits



Regular workers + Benefits + Written contract





Sources and notes: **LB-EUS 2015. *Scale indicates per cent workers in a category. See Appendix Table A4.2 online for data.***

Box 4.4 / 'Apartment as Factory Gate': Challenges to Collective Action among Domestic Workers in Bangalore

Domestic workers (DWs) have emerged as the second largest urban informal workforce next only to 'home based workers'. As per NSS-EUS 2011, it is estimated that 4.1 million workers work in the households of others. Of these 2.8 million are women.

This large and vulnerable workforce presents a unique challenge to collective action. DWs are not independent producers (like peasants or artisans), but neither are they wage-workers in the conventional sense. The workplace of DWs is the private home and typically one worker has multiple employers. This raises fundamental questions over who the union faces as the employer of the DWs and whether the private home ought to be considered a workplace where appropriate laws will apply.

It also has implications for their subjective identities. Organizers frequently exhort DWs to think of themselves as significant actors in the economy telling them, 'You are playing an important role in the economy because the middle class have to go to work. If you don't go [to work] then their productivity and income suffers'. Organizers also confront the fact that worker consciousness is only one among class, caste, gender, ethnicity, and other identities.

Three kinds of organizations working with DWs can be identified – the conventional NGOs, who work exclusively for welfare rights for DWs, and focus on demands from the state, the older-style trade unions, who are less likely to work within the residential areas of DWs, preferring instead to facilitate state schemes and welfare, and the labour-NGOs. The third variety is the focus of this study. Authors find them to be creative at organising, combining the nimbleness of an NGO with a clarity of the need to foreground the DW as a worker with rights.

An interesting finding is that an increasing number of DWs prefer apartments and gated communities to individual houses. This is partly due to the perception that employers in apartments are more affluent and willing to pay more. But it is also about respect and dignity. 'We come and go like officers,' says one worker. This has led to a segmentation of the workforce with the consequence that it is difficult to standardise wages across the sector. Since the prevailing wages in apartment complexes are above the Karnataka government minimum wages, unions have left wage negotiations to the workers.

An interesting aspect of this changing work pattern is that apartment entry and exit logs have become important as evidence of employment in case of disputes. Since almost all apartment and gated communities maintain such registers for visitors, the apartment gates have now been transformed into 'factory gates' for DWs. Further, as some apartments have provided ID cards for all workers working on their premises, DWs and their unions have begun to use this as collective bargaining tools wherein a local Resident Welfare Association (RWA) can be asked to form norms of work that apply to all registered DWs in an apartment complex.

Sources and notes: ***Natrajan and Joseph (2018)***

The regional dimension also brings to attention how closely or distantly the three definitions vary with each other (see Table A4.2 of Appendix online for details). Specifically, while the three indices generally move together, there are instances of very wide differences. Thus, in Chandigarh, for example, there is a sharp difference between formalisation by definition 1 (about 72 per cent of workers) and definition 3 (around 20 per cent), while for Arunachal Pradesh, the corresponding numbers are 86 per cent and 56 per cent respectively.

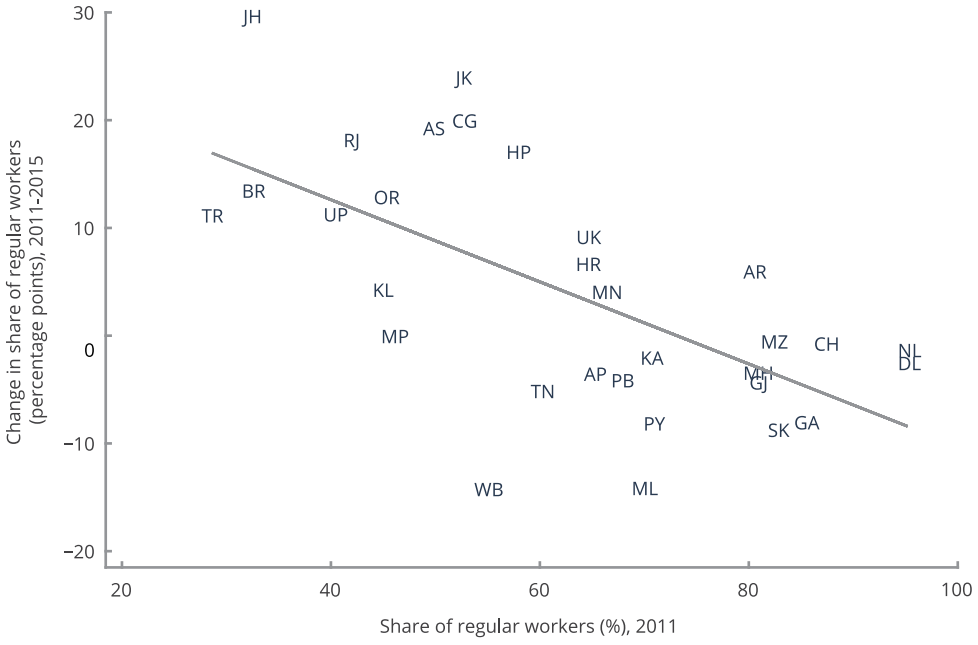
Tamil Nadu and Kerala perform comparably on the first two indices, but Kerala has twice the frequency of workers with written contracts. Maharashtra vastly outperforms West Bengal on the first two indices, but the two are much more closely matched on the third criterion. Once again, these patterns do not always conform to our preconceived notions of the status of labour in different states. Valuable lessons may lie in such diversity when it comes to learning what works and what does not in protecting labour rights.

The state-level variation in informality also reveals another intriguing relationship. Figure 4.5 shows the change in proportion of formal workers between 2011 and 2015 against the initial level of formality (Formal 1). The negative relationship provides some indication that we may be observing formality 'convergence' between states. Those states with below-average formalisation rates initially are seeing greater formalisation and vice versa. Note that this does not necessarily imply an overall increase in formality of the workforce at the all-India level, which, as we saw earlier, is mostly stagnant. Rather, it implies a redistribution of the formal workforce between states. This question, too, needs further investigation.

4.2 / An Overview of Wage Trends

The key measure of the quality of jobs is, perhaps, how remunerative they are. Broadly speaking, wage levels have remained low and have grown slowly over the last three decades, especially compared to the rates of GDP growth. In this chapter, we are concerned mainly with trends seen since the last NSS-EUS in 2011–12. For a comprehensive review of wage trends until 2011, as well as an overview of the literature on wage rate, see Papola and Kannan (2017) and the related report by ILO (2018).

Figure 4.5 : ***Formality Convergence? Level of Formalisation across States in 2011 versus Change between 2011 and 2015***



Sources and notes: **NSS-EUS 2011, LB-EUS 2015. *Refer list of state codes.***

Several formidable challenges confront an analysis of wages in India. First, Indian labour statistics, especially in recent years, do not provide comparably collected wage data for every sub-sector of the economy. Departing from the NSS practice of collecting rupee amounts for wages, the LB-EUS categorised earnings instead. In any case, it is likely that household surveys under-sample the rich, leading to underestimates of average wage levels as well as wage growth. On the other hand, administrative sources, such as income tax data, leave out a large number of wage earners who earn too little to be in the tax net.

When it comes to firms, while there are enterprise or factory surveys for the manufacturing sector as well as for unorganised services, we have no standard source of wage data for the organised services sector. This is a key lacuna that needs urgent attention. It is reported that the Ministry of Statistics and Programme Implementation is working on an Annual Survey of Services[2].

In addition to the LB-EUS, we use data from the ASI, the NSS unorganised enterprise surveys, and the RBI's rural wage rates series to summarise features of wage distribution in the organised manufacturing, unorganised manufacturing and services, and agriculture sectors respectively.

Nationally, 67 per cent of households reported monthly earnings of ₹10,000 or less in 2015. 98 per cent earned less than ₹50,000 per month.

The headline statistic from the LB-EUS is that, nationally, 67 per cent of households reported monthly earnings of up to ₹10,000 in 2015. In total, 98 per cent earned less than ₹50,000 per month (Table 4.2). In the age of corporate compensation packages exceeding ₹20 lakh a year, it is sobering to learn that earning over ₹1 lakh per month puts a household in the top 0.2 per cent of income earners in the country.

Even among regular wage workers, more than half (57 per cent) have monthly average earnings of ₹10,000 or less, well under the Seventh Central Pay Commission (CPC) minimum stipulated salary of ₹18,000 per month. As for casual workers, 59 per cent have monthly earnings of up to ₹5,000. If we assign the mid-point of a category as the approximate rupee amount earned, we find that regular workers report monthly earnings of ₹13,562, while non-regular workers earn ₹5,853 per month.

To take the analysis forward, we use the current lowest wage recommended by the Seventh CPC, namely, ₹18,000 per month, as the standard for a 'decent wage'. Our justification for this is that this wage is carefully calculated by the basic needs approach (Annexure Table on page 65 of Ministry of Finance 2015). It has also figured prominently in the Swaminathan Commission recommendations for agriculture, as well as among the demands of several national trade unions.

Table 4.2 : ***Average Monthly Earnings by Employment Status, 2015–16***

	Self Employed (%)	Regular Wage/ Salaried (%)	Contract Workers (%)	Casual Labour (%)
Up to ₹5000	41.3	18.7	38.5	59.3
₹5001 to ₹7500	26.2	19.5	27.9	25
₹7501 to ₹10,000	17.4	19	20.3	12
₹10,001 to ₹20,000	11.1	23.6	11	3.5
₹20,001 to ₹50,000	3.5	17.7	2.1	0.3
₹50,001 to ₹1,00,000	0.4	1.4	0.1	0
Above ₹1,00,000	0.1	0.2	0	0

Sources and notes: **LB-EUS 2015.**

[2] Government mulls launching annual survey of services in July.

4.2.1 / Recent Wage Trends across Sectors

Table 4.3 gives real annual wage rates (in 2015 rupee values) by sector over a 15-year period for the years that data are available. A key caveat is that, for agriculture, we report annualised daily wage rates assuming employment is available for 25 days of the month, and 12 months of the year, at that rate. However, this is mostly not the case in practice. Hence, these numbers should be treated as an upper bound. The most one can say is that, if work was available all year round, then earnings in agriculture would be comparable to earnings in the rest of the unorganised sector.

Between 2000 and 2015, real wages grew in every sector. In agriculture and in unorganised manufacturing and services, the compounded annual growth rate (CAGR) was roughly 3 per cent. For comparison, Papola and Kannan (2017) find that between 1994 and 2011, real wages for regular workers grew at 3 per cent per annum, and for casual workers at 3.85 per cent (see Table 4.18 in their study).

From 2010 to 2015, real wages grew at a CAGR of 2 per cent for organised manufacturing, 4 per cent for unorganised manufacturing, 5 per cent for unorganised services, and 7 per cent for agriculture.

In the most recent period, from 2010 to 2015, real wages grew faster, at a CAGR of 2 per cent for organised manufacturing, 4 per cent for unorganised manufacturing, 5 per cent for unorganised services, and 7 per cent for agriculture. However, the high figure for agriculture is anomalous and not the general trend, as we discuss later. Papola and Kannan report that wages (across all sectors) grew at an annual rate of 6.15 per cent for casual workers and 4 per cent for regular workers between 2004 and 2011.

Thus, overall, it appears that real wages have been growing at around 4–6 per cent per annum over the past decade.

Note that these data exclude the organised services sector, where anecdotal evidence suggests that industries such as Information Technology, Telecommunications, and Finance have experienced much higher rates of wage growth.

Interestingly, wage growth in organised manufacturing has been slower than that in the unorganised sector — at 0.8 per cent over the whole period since 1999, and 1.7 per cent in the most recent period. As a result, the wage gap between the organised and unorganised manufacturing sectors has narrowed. Unorganised sector wages were 37 per cent of organised sector wages in 2000, but 50 per cent in 2015.

It is worth investigating the performance of the organised manufacturing sector a little further. Data on wages for this sector are also available at a higher frequency. Since this sector consists of relatively larger factories, it is also important to distinguish between wages of production workers (the majority) and the wages of supervisors, managers, and other administrative staff. In the early 2000s, when the real wage rate for production workers entered a period of stagnation, compensation continued to rise steadily. The gap between the two has grown since then, even after the wage rate started rising post 2006 (Figure 4.6). To the extent that managerial staff, especially at the top levels, received non-wage

Table 4.3 : ***Annual Real Wage Rates per Annum across Sectors (2015 Prices)***

Year	Agriculture (₹)	Organised Manufacturing (₹)	Unorganised Manufacturing (₹)	Unorganised Services (₹)
1999	49,014	1,22,118	45,227	46,027
2005	47,781	1,20,760	50,488	-
2010	55,491	1,28,173	57,928	56,150
2015	77,571	1,39,576	70,848	71,776

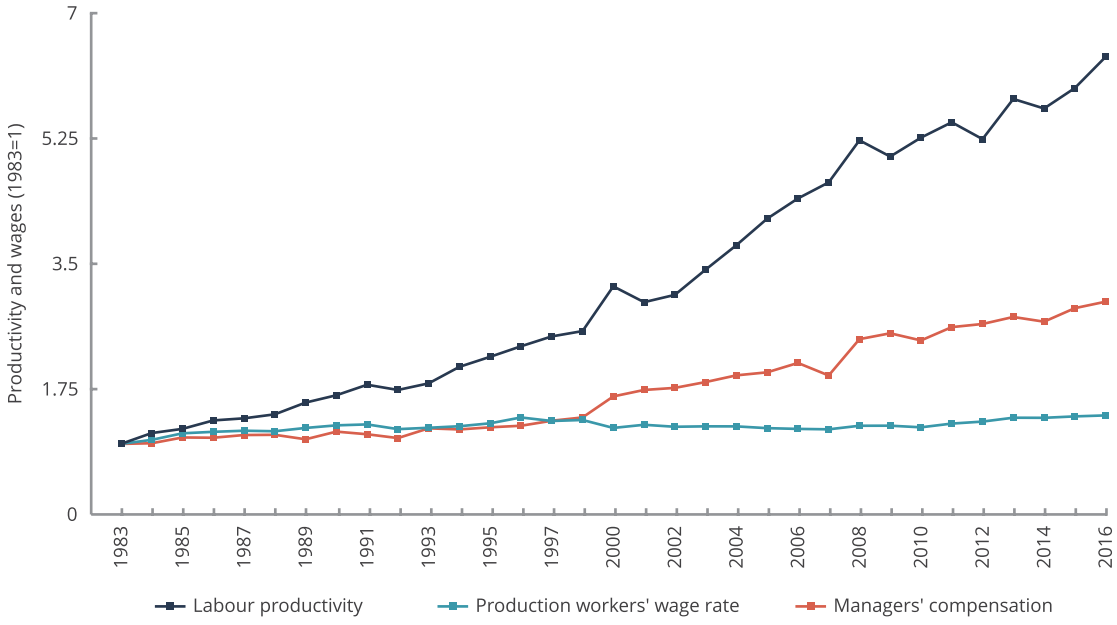
Sources and notes: ***Agriculture – Rural Wage Rates for Men (daily) from RBI Database on Indian Economy, Organised Manufacturing – ASI various years, Unorganised Manufacturing and Unorganised Services – NSS enterprise surveys, various years.***

compensation, such as stock options, this gap may be an underestimate. This divergence has not received much attention in the literature. We discuss the divergence between wages and productivity in the next section.

A possible factor contributing to keeping wages down in this sector is the rise in the proportion of contract workers. Field studies reveal that contract workers are paid a fraction of permanent worker wages, often for similar work (see Box 4.2) (Amit and Nayanjyoti 2018). Comparing wage earnings of contract versus direct workers in secondary data, such as ASI, also shows that contract workers earn considerably less (Kapoor and Krishnapriya 2017). In fact, comparison of ASI data with NSS unorganised manufacturing data shows that contract worker wages lie somewhere between the wages of direct workers and their unorganised sector counterparts (Table 4.4).

The rise in the proportion of workers employed via third-party contractors, reported earlier, together with the lower wage rates for these workers, has important implications for both quality of work as well as the share of labour in value added. We address this issue later in this chapter.

Figure 4.6 : ***Productivity and Managerial Compensation Have Risen Much Faster than Workers' Wages in Organised Manufacturing***



Sources and notes: ***ASI NIC 2 digit (EPWRFITS) various years. Wages and salaries deflated by CPI-IW and GVA deflated by WPI (manufactured products). Managers' compensation is calculated as the difference between "emoluments" and "wages to workers". Labour productivity is ratio of real GVA to all employees.***

Table 4.4 : ***Annual Real Wages for Different Types of Workers in the Manufacturing Sector***

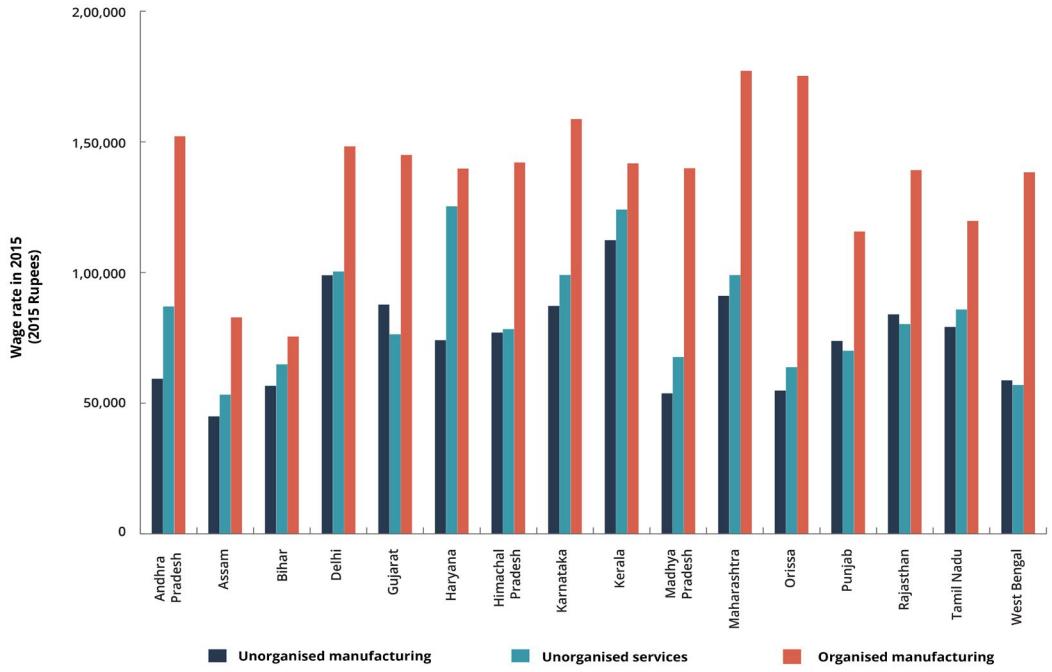
Year	Organised Manufacturing, Non-Contract (₹)	Organised Manufacturing, Contract (₹)	Unorganised Manufacturing (₹)
1999	3,53,724	65,129	45,226.71
2006	3,40,652	72,894	50,488.10
2011	3,42,425	77,355	57,927.59
2015	3,91,013*	1,06,621*	70,848.24

Sources and notes: ***Organised Manufacturing – ASI various years; Unorganised Manufacturing – NSS Enterprise Surveys various year. Nominal wages have been deflated by CPI-IW (base 2015). * Due to data availability, organised manufacturing wages reported are for 2014.***

4.2.2 / Recent Wage Trends across States

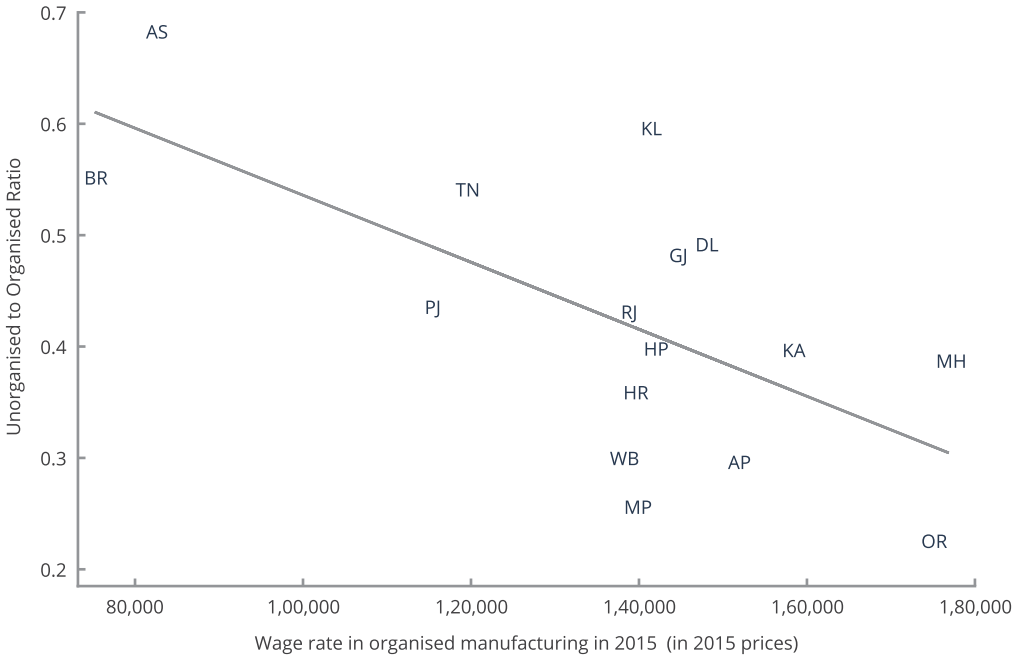
There are large variations between states in wage rates. Figure 4.7 shows annual wage rates in three sectors for selected major states. Several points are worth emphasising. First, in every state shown, wage rates in unorganised services are higher than in unorganised manufacturing. Second, the organised–unorganised wage gap in manufacturing varies widely across states. Unorganised manufacturing wage rates are 68 per cent of organised rates in Assam, but only 22 per cent in Odisha. Note that this way of defining the gap means that the gap is larger when the number is smaller. In general, the wage gap appears to be higher for states in which

Figure 4.7 : ***Annual Wage Rates in Various Sectors across States***



Sources and notes: **ASI *Principal Characteristics 2015*, NSS *Unincorporated Enterprises Survey 73rd Round*, 2015**

Figure 4.8 : ***The Gap between Organised and Unorganised Wages Grows with Organised Sector Wages***



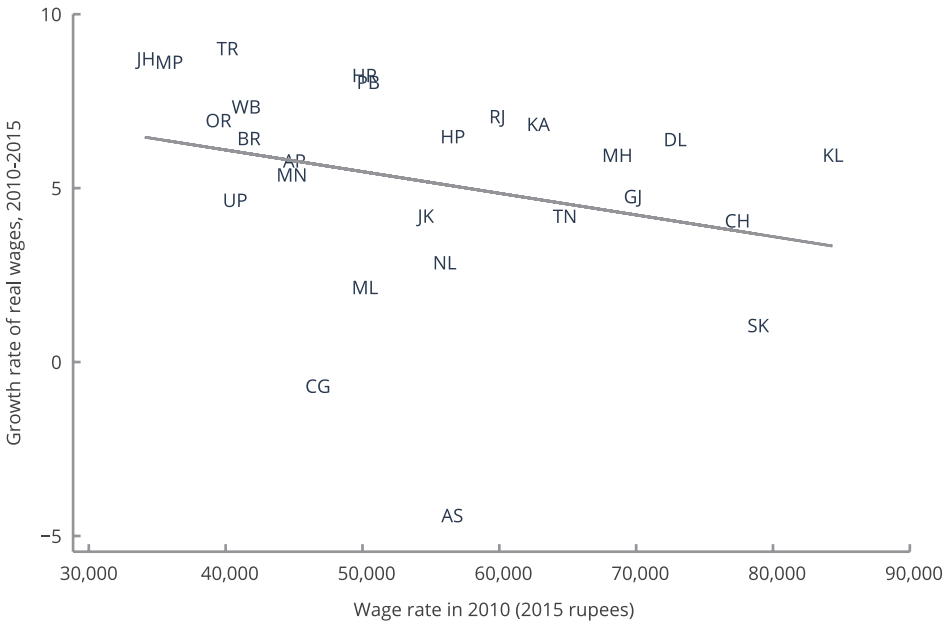
Sources and notes: **ASI *Principal Characteristics 2015*, NSS *Unincorporated Enterprises Survey 73 Round 2015*. *Refer list of state codes.***

organised sector wages are high (Figure 4.8). Another way to understand this relationship is by hypothesising that unorganised sector wages are uncorrelated with organised sector wages. It is worth investigating the role played by differences in labour productivity as well as labour market institutions across states in driving this difference.

A third interesting aspect is the differences across states in the nature of the unorganised sector labour market. This is manifested in the variation across the trend line in Figure 4.8. For example, Madhya Pradesh and Kerala are very similar in terms of the level of organised manufacturing wage rate, but the wage gap is much worse in MP compared to Kerala.

Figure 4.9 : ***Weak Evidence of Wage Convergence across States***

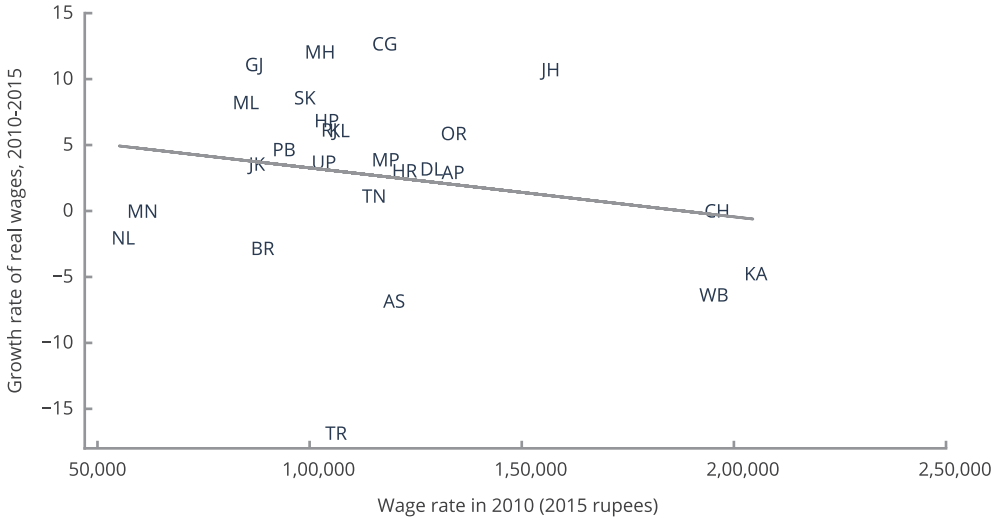
a) ***Unorganised Manufacturing***



b) ***Unorganised Services***

Sources and notes: ***NSS Unincorporated Enterprises Survey, 67 th Round (2010) and 73 rd Round (2015). All wages are deflated using state-level CPI (rural and urban combined), base year 2015. Refer list of state codes. Union Territories have been excluded. The relationship is statistically significant only for unorganized services.***

c) ***Organised Manufacturing***



Sources and notes: ***ASI Principal Characteristics 2010 and 2015. All wages are deflated using state-level CPI (rural and urban combined), base year 2015. Refer list of state codes. Union Territories have been excluded. The relationship is not statistically significant.***

Given such variation in the level of wages (in all three sectors), a question of interest is whether states with lower wage rates in 2011 experienced faster rates of growth in the subsequent years, resulting in wage convergence between states. Once again, this can be tested by plotting the initial level of the wage rate against the subsequent rate of growth. Figure 4.9 shows three different graphs for the three sectors. There is some evidence that states with lower initial levels of wage rate displayed a higher rate of growth in subsequent years. But the relationship is statistically significant only for unorganised services (see Table A4.3 of online Appendix for data).

Of course, this analysis does not tell us whether this is due to faster growth of wages in existing industries or changes in the industrial composition of a state as wages vary significantly across industries. But regardless, this issue is worth investigating further.

The 2016−17 Economic Survey reported divergence between states on the basis of per capita GDP for the period 2004 to 2014. While the two analyses are not comparable due to different variables and time periods, it is worth asking if the story of divergence would change if we examine the period after 2011 separately.

4.3 / Sectoral Analysis of Wage Rates

In this section, we delve deeper into each sector. We report industry-level wages for 2011 and 2015 together with the share of workers accounted for by that industry, for three sectors: organised manufacturing, unorganised manufacturing, and unorganised services. As mentioned earlier, there is no national-level official data on the organised services sector. Here we present highlights from the data. The complete data are available in Table A4.4 to A4.6 of the online data Appendix.

4.3.1 / Manufacturing

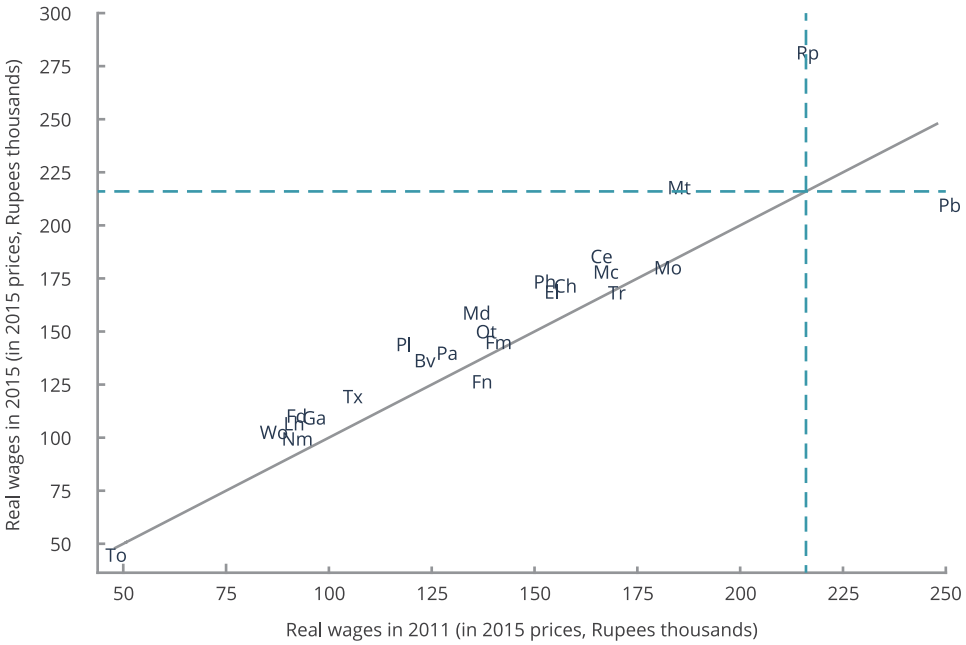
As we saw earlier, at the all-India level the annual real wages for all workers in organised manufacturing have risen at a CAGR of around 2 per cent. To place this in a historical context, it should be noted that, since 2007, a long period of stagnation in wage rates of production workers has been reversed. However, there is significant variability across industries, in terms of the quality as well as quantity of employment they support.

Figure 4.10 compares real wages in major manufacturing industries in 2011 and 2015.[3] Most of the points lie above the diagonal showing that most industries have posted real wage increases in this period. However, despite sustained growth, especially since 2008, wages are significantly below what the government stipulates as the lowest acceptable wage, namely the seventh CPC Group D salary of ₹18,000 per month (Ministry of Finance 2015). This is so for almost all industries with the exception of metals, repair, and publishing. Overall, even in 2016, 90 per cent of the industries did not provide wages sufficient to cover the need-based minimum for all its workers. On the other hand, wage rates for supervisors uniformly exceed the CPC threshold (data not shown).

The situation is worse for the unorganised sector. Around two-thirds of the workers in unorganised manufacturing are concentrated in five industries: food products, textiles, wearing apparel, non-metallic minerals, and fabricated metal products. In most of these industries, wages are lower than the overall average. Wage rates differ extensively across industries from a low of ₹53,415 per year in tobacco (a heavily female-dominated industry, see Chapter Five) to a high of ₹1,07,511 per year in other transport equipment (both rates are in 2015 prices).

Wages have grown at faster rates in almost all unorganised industries, compared to organised industries. In aggregate, overall wages in unorganised industries grew by 4 per cent annually from ₹57,928 to ₹70,848. Despite this, in almost all industries, mean yearly wage rates are less than half the CPC minimum. In fact 99.97 per cent of workers earn less than the stipulated wage (data not shown).

Figure 4.10 : ***Real Wages Have Grown in Most Organised Industries but Are Still Well Below Minimum Salary Recommendation of the Central Pay Commission***



Sources and notes: ***ASI NIC 2 digit (EPWRFITS) various years. Nominal values are deflated by CPI-IW (base 2015). Dashed lines represent the minimum annual salary recommended by the 7th Central Pay Commission (Rs. 18000 per month x 12). Solid line represent equal wages between 2011 and 2015. Fd-Food, Bv-Beverages, To-Tobacco, Tx-Textiles, Ga- Garments, Lh-Leather, Wo-Wood, Pa-Paper, Md-Media, Ch-Chem, Ph-Pharma, Pl-Plastics, Nm-Non-Metal, Mt-Metal, Fm-Fab. Metal, Ce-Comp-Electronics, El-Electrical, Mc-Machinery nec, Mo-Motor vehicles, Tr-Transport, Fn-Furniture, Ot-Other Manu, Rp-Repair, Pb-Publishing.***

[3] Note that our definition of the wage rate is wages per worker. The ASI data also allow the calculation of wages per person per day worked. A comparison of the two can give insights into prevalence of overtime in this sector, but this is not examined here.

Figure 4.11 : ***Wage Convergence across Industries in the Manufacturing Sector***

Sources and notes: ***ASI NIC 2 digit (EPWRFITS) various years, NSS Unincorporated Enterprises Survey 67th Round (2010) and 73rd Round (2015). NIC (2008) 2-digit Industries. Nominal wages are deflated using CPI-IW (base 2015).***

Here the question arises whether relatively lower paying industries have experienced faster rates of wage growth, resulting in convergence in manufacturing wages. Figure 4.11 shows initial wages in 2011 plotted against the CAGR between 2011 and 2015 for various industries in the organised (red) and unorganised (blue) sectors. As expected, unorganised wages are lower. But two points are worth noting. First, the spread in organised sector wages is much greater than unorganised sector wages. Second, and even more interestingly, there is evidence for convergence in both sectors, albeit stronger in the unorganised than the organised.

We can therefore conclude that, overall, there is both a narrowing of the wage gap between the organised and unorganised sectors (as reported in the previous section), as well as a convergence across industries within each sector.

4.3.2 / Services

Based on the data supplied by the NSS enterprise surveys, we are able to offer our analysis of only the unorganised part of the service sector. We find that wage rates have grown in most industries, but are still far below what is considered desirable. In this sector, employment is dominated by retail and wholesale trade, food and beverage services, and education, which together account for over 60 per cent of employment. Given that the sector often acts as a sink for employment and is the largest source of employment after agriculture, the rate of wage growth is of special interest from a welfare perspective.

Overall the sector experienced a 5 per cent CAGR for wages between 2011 and 2015, higher than unorganised manufacturing. Despite sustained growth, however, once again, what is striking is the extent to which these wages fall below the CPC Group D salary. In almost all industries, mean yearly wage rates are less than half or even quarter the suggested minimal wage, with around 99.5 per cent of the workers earning below the mandatory wage (see Table A4.6 in online Appendix for details).

Taken together, we see that wage rates lie far below the CPC minimum in all the three sectors studied here. This can probably account for the extremely high demand for government employment seen all over the country.

Finally, we reiterate that there is no recent nationally representative data on wage rates in the organised services sector. This is a matter of concern since industries such as finance, insurance, IT, and others, have experienced very rapid growth in value-added in the past few years. The employment and wage effects of this growth are, however, much less known.

For corporate India, in general, analysis of the CMIE data suggests that wage growth has been declining since 2006 (Vyas 2017), which, in turn, suggests a general weakness in employment generation.

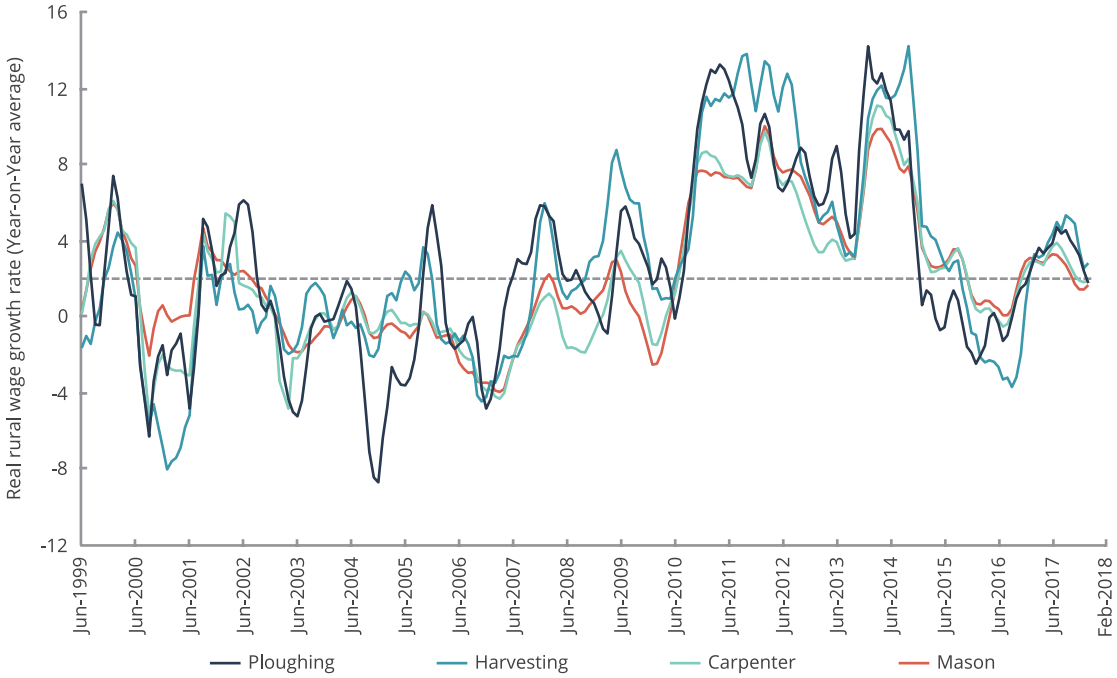
4.3.3 / Agriculture

Despite the prevalence of self-employment in agriculture, wages have increasingly become an important source of income for farm households also. The NSS Situation Assessment of Farmers Survey (Ministry of Statistics and Programme Implementation 2014) showed that for households with 2.5 acres of land or less (75 per cent of all households), 20 per cent report wages as their primary income source. This number goes up to 35 per cent for households owning an acre or less. Wages also constitute an important secondary income source for those farm households whose primary income comes from own cultivation.

The rate of rural wage growth collapsed in 2014.

In the past few years, the lack of wage growth is seen most acutely in rural areas, where the period since 2014 has seen dramatically lower growth than the preceding period. From 2010 to 2014, rural wage growth was 8 per cent per annum in real terms, very close to the growth rate of GDP during the period. But this was, it seems, an exceptional period since growth was far slower both before and since. The rate of rural wage growth (in agriculture and non-agricultural occupations) collapsed in 2014 and is still far below the desired rate as per the most recent data (February 2018) (Figure 4.12).

Figure 4.12 : ***Growth Rate of Real Wages for Selected Occupations for Men in Rural India***



Sources and notes: ***RBI Database on the Indian Economy. Year-on-year growth rates are shown. Nominal values are deflated using CPI-AL (base 2005).***

What is a 'desired' rate? Recall that rural wages, like wages in many urban informal activities, are very low. For an income of around ₹7,000 a month to reach the CPC minimum, it would have to more than double. Indeed, doubling of farm incomes by 2022 has been one of the key promises of the current NDA government. Even at the rate of 10 per cent growth per year, incomes double only every seven years. Thus, either doubling of incomes, or fulfilling the recommendations of the Swaminathan Commission that the net take home income of farmers should be comparable to those of government servants, would require sustained growth of wages for several years at very high rates.

But there is another issue to consider when discussing agricultural wages, which applies to an extent to the unorganised sector in general. Employers generally cope with higher labour costs by raising prices. But the structure of agricultural markets is such that producers have almost no price setting power. All available data indicate that farmers are increasingly buying more expensive inputs while having to sell their output for low prices, often at less than the cost of production. This is because markets are monopsonistic, the product is perishable, and transaction costs of transportation and storage are high. So selling at the price being offered by a trader at the local market is the only option for the farmer. This has resulted in country-wide agitations by farmers for higher minimum support prices.

It appears that small and marginal farmers (the majority of farmers) are caught in a double bind. As wage-earners, their wage growth has collapsed. As employers, when wages are growing strongly, they do not get a high enough price to recover the costs of production.

Finally, because food prices are linked directly to urban wages, an increase in the agricultural wage rate is viewed with concern in policy circles as an indicator of inflationary pressures to come. It is worth pointing out here that reforming the political economy of the agricultural supply chain and ensuring adequate storage and transportation facilities can both reduce the pressure on wages and also bring down food prices.

Between 1982 and 2015, the real wage rate grew at 1.4 per cent per year while productivity grew at 5.5 per cent per year in real terms. This points to a large shift in favour of capital.

4.4 / Wage-Productivity Divergence and Labour Share

The Indian economy has experienced significant changes in production techniques in every sector over the past few decades. As discussed in Chapter Two, production has become more capital intensive or less labour intensive in nearly every manufacturing industry in the organised and unorganised sectors. This is true, if to a lesser extent, for agriculture and services as well. Technical change and increased use of machinery in production generally raises the productivity of labour, a development to be welcomed in the process of structural change.

However, increases in the productivity of labour do not translate automatically into higher wages and improved standards of living for the majority of workers. Particularly for labour surplus economies like India, wages tend to remain depressed even as productivity rises. This tends to increase inequality in the economy, at least for a period of time until surplus labour supplies are exhausted. But simply waiting for growth to eventually deliver higher wages is not a feasible option in a democracy. Further, if growth is relatively 'jobless', then absorption of surplus labour and increase in wage rates is further delayed.

A second key variable in determining the link between productivity and wages is the quality of labour market institutions. These include the regulatory framework of labour laws and collective bargaining institutions. In this respect, the Indian scenario leaves much to be desired. While, on paper, India possesses strong laws to protect the interests of labour, in practice, these are rarely binding (Nagaraj 2018). The vast majority of the unorganised sector workforce is already outside the scope of these institutions. But unfortunately, even in the organised sector, labour market institutions have eroded in strength over the years.

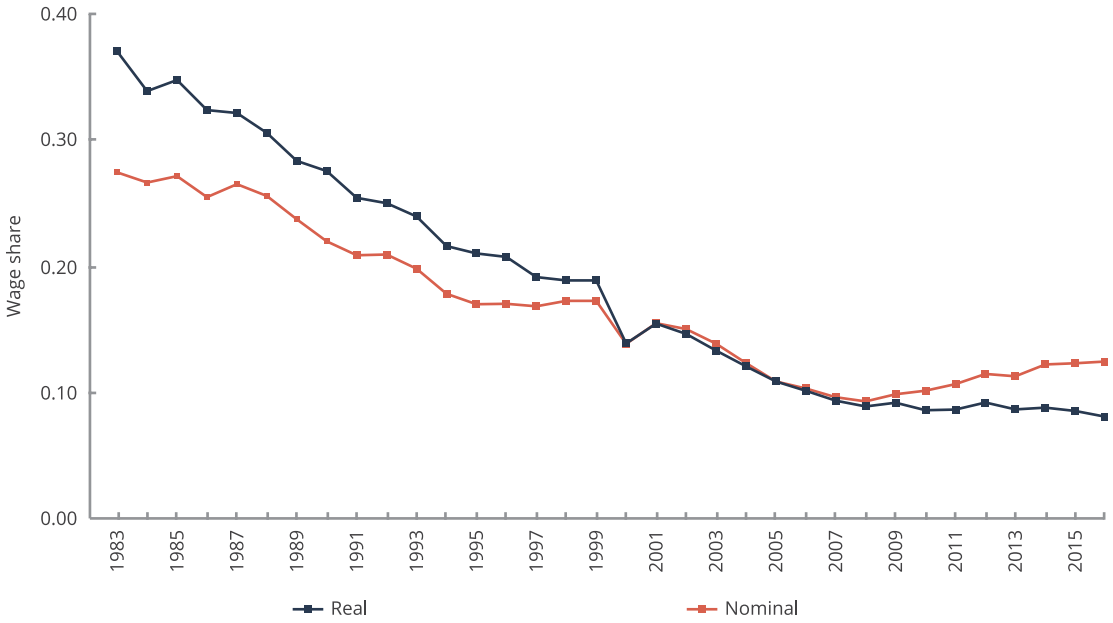
As a consequence, we see a large divergence between wages and productivity. In organised manufacturing, between 1982 and 2015, labour productivity, as measured by real gross value added per employee went up by six times. But how were the productivity gains shared

between labour and capital? On average, the real wage rate grew at 1.4 per cent per year over the entire period, while productivity grew at 5.5 per cent per year in real terms. This points to a large shift in distribution in favour of capital (Figure 4.6).

Taken together, these trends, namely, rising capital intensity and growing divergence between productivity and wages, are expected to cause a fall in the share of value-added going to workers in the form of wages and emoluments, with the bulk going to owners of capital.

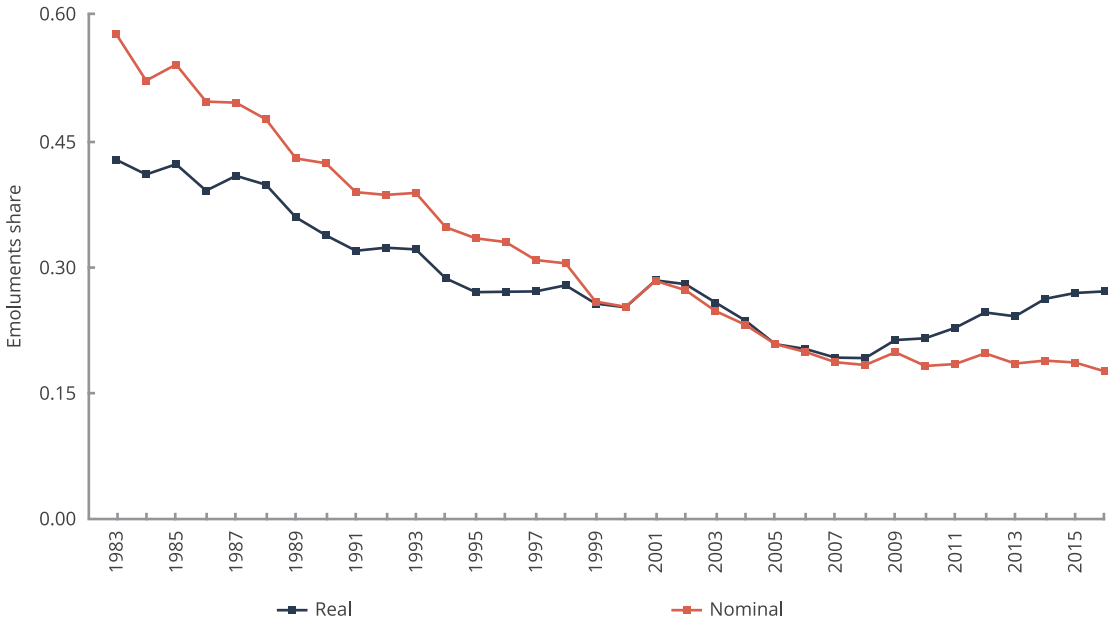
Figure 4.13 : ***Falling Labour Share in Organised Manufacturing***

a) ***Wages***



Sources and notes: **ASI NIC 2 *digit (EPWRFITS) various years. Wage share = wages paid to production workers / GVA . Nominal wages have been deflated by CPI(IW), base = 2015.***

b) ***Emoluments***



Sources and notes: **ASI NIC 2 *digit (EPWRFITS). Emolument share = wages and salaries paid to all employees / GVA. Nominal emoluments have been deflated by CPI(IW), base = 2015.***

Indeed, in nominal terms, from the early 1980s until 2007, the share of wages in organised manufacturing fell steadily from a high of just over 35 per cent to a low of just under 10 per cent, a very large drop (Figure 4.13a). Since then, in nominal terms, there has been a small improvement in the wage share, driven largely by more rapidly rising wages as well as falling capital productivity, possibly resulting from excess capacity following the investment boom of the mid-2000s (Basole and Narayan 2018). In real terms, due to the divergence between price indices for consumers (CPI) and producers (WPI), the wage share does not rise post-2007, but plateaus and stops falling. The trends are the same for emoluments (which include managerial compensation) but the levels are higher as expected (Fgure 4.13b).

Trends aside, however, the salient fact is that the share of labour in Indian manufacturing is very low today. Three recent studies have taken a closer look at the falling wage share and tried to identify its determinants (Kapoor 2016; Abraham and Sasikumar 2017; Jayadev and Narayan 2018). The first study shows that contractualisation, increasing number of female (and hence relatively lower paid) permanent workers, and intensification of work (more days of work in place of more workers) have contributed to the falling wage share. In this respect, it is worth pointing out that the average annual work hours in India are among the highest in our cohort of comparison countries, exceeded only by Pakistan.[4]

Analyses by Jayadev and Narayan (2018) and Kapoor (2016) suggest that capital intensive technology, a shift in industrial organisation towards more output being produced by low labour cost firms, and the reduction in the bargaining strength of labour are all robust correlates of this decline. In addition, Ahsan and Mitra (2014) use CMIE data to suggest that trade liberalisation has been another cause of the general decline.

The decline in India's labour share runs counter to the typical trajectory with development first noted by Kravis (1962) and Kuznets and Murphy (1966), who suggested that the process of development and the attendant structural change, as labour moved out of agriculture into organised wage labour, urbanisation and demographic changes, would serve to increase the labour share. Indeed, Rodriguez and Ortega (2001) find that, in general, manufacturing labour shares increase with the level of income of a country, while Jayadev (2007) finds that labour shares economy-wide do so as well. India's decreasing labour share during a period of very rapid growth is then a serious anomaly.

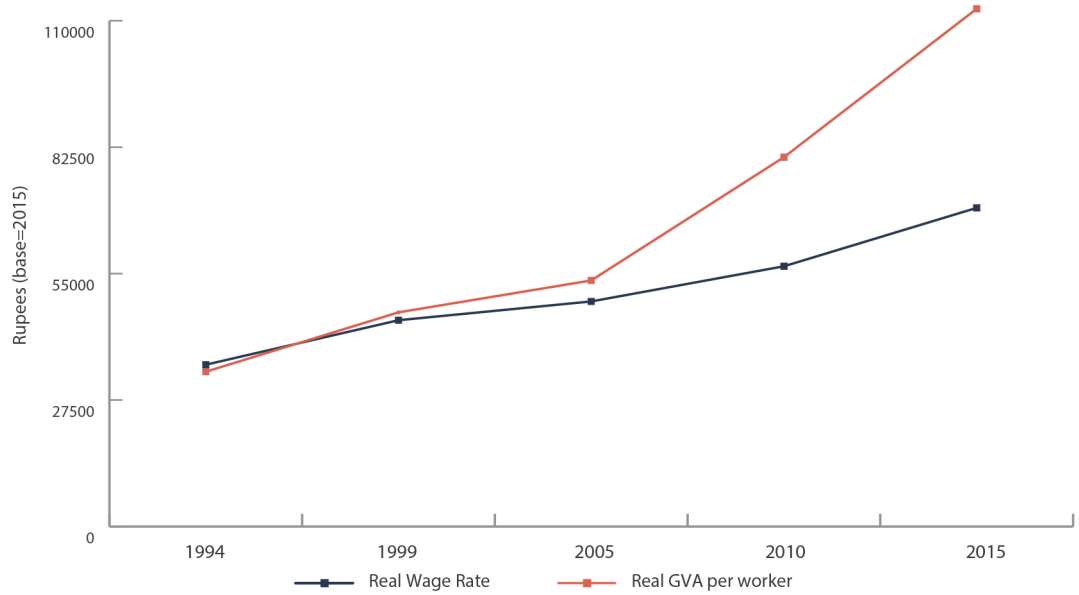
It should be remembered that here we are talking about a small part of India's labour force, and, indeed, a small part of India's industrial labour force. The clear majority of workers, even in industry, are not captured by these surveys. However, given that these data are from the organised sector, they are likely to reflect that part of the industry where the conditions of work and labour-capital bargain are most favourable for workers. In this respect, a steadily falling labour share goes contrary to the narrative of strong labour laws.

Das, Choudhury, and Singh (2015) note that the strict provisions of the Industrial Disputes Act regarding the hiring and firing of labour have, over the years, been increasingly circumvented by employers via the use of various forms of temporary and contract workers. Nagaraj (2018) similarly notes that proponents of the labour market rigidity hypothesis have mostly relied on the textual reading of the regulatory process, and not its outcome. He asks instead: if the laws are so stringent, why is there such a large divergence between wages and productivity? The answer: ineffectiveness of the laws.

While the divergence between wages and productivity in the organised sector has been noted earlier, we also report here, for the first time, an equivalent divergence as well as declining wage share in the unorganised manufacturing sector. Strikingly, wages per worker and value-added per worker are almost the same until 2005, indicating very little surplus or capital share in this sector (Figure 4.14). Subsequently, productivity has doubled in the next ten years, while wages have grown by around 50 per cent creating a substantial

[4] Average annual hours worked by persons engaged for India.

Figure 4.14 : ***Wage-Productivity Divergence in the Unorganised Manufacturing Sector***



Sources and notes: ***NSS informal and Unincorporated Enterprise Surveys, various rounds (see Methods for details). Nominal values deflated by CPI-IW (base 2015).***

surplus. Correspondingly, however, the wage share has declined from 65 per cent in 2005 to 45 per cent in 2016.

The level of wages, in every sector studied, is still far below a 'decent wage' where the latter is defined as the minimum salary of ₹18,000 per month recommended by the seventh CPC.

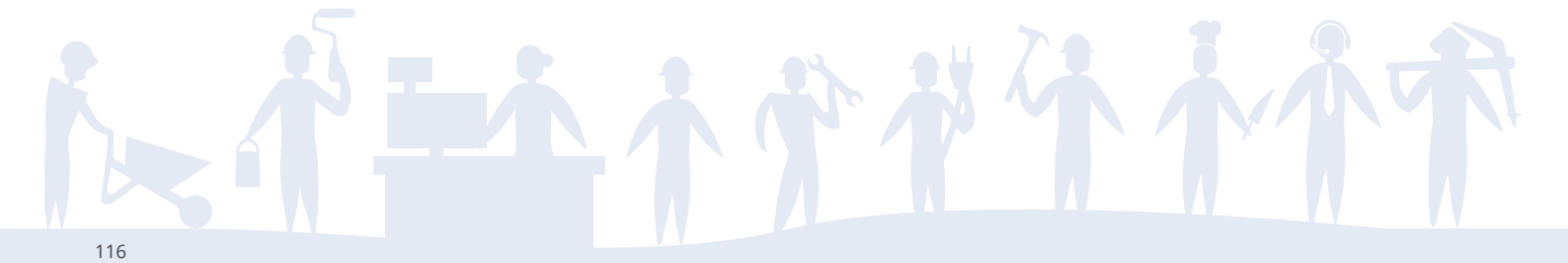
4.5 / Conclusion

The Indian economy remains largely an informal economy. The tendency towards formalisation exists, but is weak. Even today, less than 20 per cent of the total workforce consists of regular wage workers. And, within the universe of wage workers, less than 20 per cent have access to some social security benefits and a written contract.

State-level analysis reveals some unexpected findings in need of further investigation. For example, Gujarat and Maharashtra display greater levels of formalisation than the southern states. There is also evidence for a 'convergence' in formality across states.

Wages rates have grown consistently across different sectors with the exception of agriculture. In the non-farm sector, unorganised sector wages have grown faster, closing the gap with the organised sector. But the level of wages in every sector studied, is still far below a 'decent wage', where the latter is defined as the minimum group D salary of ₹18,000 per month recommended by the seventh CPC. This can account for both the vastly over-subscribed nature of public sector employment and the social movements in favour of expansion of job quotas.

Finally, wage growth, particularly in the organised manufacturing sector, is dwarfed by a much larger increase in labour productivity, with a resulting collapse in the labour share of income in this sector. Moreover, wage-productivity divergence and falling wage share are also seen in unorganised manufacturing, albeit to a lesser extent.



Chapter 5

Who Does the Work?

Gender and Caste in the Indian Workforce

In a field survey in rural West Bengal, the most commonly cited reason by women not engaged in paid work was that there was no work available in the area. Resistance from the family was not such an important reason. Nor was the fact that women did not feel the need to work because their needs were being provided for already.

- Talwar (2018)

Social identities such as caste, gender, and religion continue to play an important role in the Indian labour market. This chapter investigates the extent to which occupational and industrial segregation as well as identity-based income gaps have declined with economic growth. Several recent studies have addressed this question (Das and Dutta 2007; Deininger, Jin, and Nagarajan 2013; Agrawal 2016; Deshpande, Goel, and Khanna 2018). A recent survey of the literature examining both caste and gender dimensions of the Indian labour market is found in Papola and Kannan (2017).

5.1 / Measuring Caste and Gender Disparities

There are significant data constraints in addressing this question. Firstly, wage and income data are sparse. The quinquennial ('thick round') employment–unemployment surveys (EUS) conducted by the National Sample Survey Organisation (NSSO) provide wage information for those employed in casual and regular wage work. These surveys do not provide data on earnings from self-employment, which is a major omission given that nearly 50 per cent of the workforce is self-employed. Further, no data is available from this survey after 2011. Two rounds of the India Human Development Survey (IHDS) do provide wage and income data for all workers in the sample, including the self-employed. However, this data is also not available after 2011. The only recent nationally representative large sample survey of incomes is the employment–unemployment survey conducted by the Labour Bureau in 2015–16. But this survey did not collect data on exact rupee amounts and instead asked respondents to choose an income category. Usefully, it provides such information for self-employed workers as well as wage workers.

Secondly, in most surveys, 'caste' is categorised into large sub-groups such as scheduled tribes (ST), scheduled castes (SC), other backward classes (OBC), and 'Others', the last one usually taken as a proxy for upper castes. Recent research confirms that such categories can hide important variation between jatis that constitute the broad official categories (Joshi et al 2018).

Thirdly, the LB-EUS does not include information on religious identity. This is a very important omission that does not allow us to examine the state of religious discrimination and segregation in the past few years. Absence of data compels us to focus only on caste and gender in this chapter. We emphasise, however, the need to study religious dimensions of the Indian labour market, which have, generally, been less well explored than caste and gender.

Household surveys can be supplemented with enterprise surveys at least for gender analyses. As we saw in Chapter Four, wage and income data are also available in enterprise surveys such as the ASI and the NSS establishment surveys for the unorganised sector. These surveys usually do not report on the caste of workers, but the ASI reports the gender of the worker, and NSS surveys report the gender of the working owner or entrepreneur in the unorganised sector.

We use all the above sources to construct a picture of occupational and industrial segregation as well as earnings gaps. The data for our analysis comes from LB-EUS (2015), NSS-EUS (2004 and 2011), ASI (2000 to 2014) and NSS enterprise surveys (1994, 2000, 2005, 2010, 2015).

We adopt two different methods to measure segregation. First, we look at the level of occupations or industries. There are two simple ways to measure the degree of gender segregation here: the share of men versus women within an industry or occupation as compared to the gender's share in the workforce, or the percentage of men or women in each industry/occupation as compared to the share of the total workforce in that industry or occupation.

By the first measure, women are over-represented in those occupations or industries where their share is higher than their share in the overall workforce. And vice-versa for under-representation. Note, of course, that this measure does not take into account the low participation of women in the workforce as such. By the second measure women are over-represented if the proportion of women in a particular occupation or industry is larger than the proportion of the entire workforce found in that occupation or industry. The situation is conceptually identical for caste or religion, with the difference that more than two groups are involved. For example, as per the second measure SC groups are over-represented in a particular industry if their proportion in that industry exceeds the percentage of the overall workforce in that industry.

A second approach we take is to calculate a summary index of segregation called the Duncan Index of Dissimilarity (Duncan and Duncan 1955). Duncan Index is a measure of nominal segregation that provides estimates of the extent to which the distribution of men and women differ across industries (or other units of choice such as sectors, occupations and so on). The index does not depend on the ranking of the units. It measures the extent to which there is a larger or smaller than expected proportion of one group over another in a given occupation or industry. Thus the index will take the value zero when the share of a given group in an industry is equal to the group's share of employment as a whole; and it will take the value one for the case of complete segregation. The index can be interpreted as the percentage of either men or women who would have to move from their current industry so that the two groups have an identical distribution across industries. For example, a dissimilarity index of 0.2 for the distribution of women against the distribution of men would indicate that 20 per cent of the women would need to be redistributed across industries to equalise the distribution of men and women in all industries.

5.2 / Gender Disparities in the Indian Economy

Before we discuss patterns of segregation as well as earnings gaps, it is important to flag one key issue. Women's work in the economy is generally rendered invisible through male-biased concepts and definitions. Housework, care-work, and unpaid subsistence activities, such as collecting fuelwood and water, and growing produce for home consumption, are generally performed by women. If these activities are included in the definition of work on par with paid work, women put in far more hours of work per day than men. This also changes our perceptions of labour force participation and related concepts (Mondal et al. 2018).

Another caveat is that our analysis here is based mostly on secondary datasets. These have the advantage of being nationally representative. But detailed field studies can reveal important insights not always available from the secondary data. In the case of women's work, this becomes especially critical since much of their work is invisible to standard surveys. Field studies such as the one by Talwar (2018) in rural West Bengal reveal changes in women's work and women's time-use as well as connections that can be hard to spot in secondary data. For example, among the women in this survey who reported not doing paid work, opposition by the family was a distant fourth reason behind lack of work nearby (36 per cent), illness or disability (21 per cent), and other reasons (18 per cent). The author noted that, at least in this case, the lack of suitable employment opportunities compatible with responsibilities of unpaid work lies behind lack of labour force participation rather than improved rural incomes or social restrictions and honour of the family (see Box 5.1).

Box 5.1 / **Women's Work in Rural West Bengal**

While in many states female labour force participation rates have been falling (see Chapter Two), in West Bengal, they have been rising. The Shramjivi Mahila Samiti (SMS) is a mass organisation of rural working women that has been actively involved in issues facing rural working women since its inception in 1990. SMS collected data on women's work and time-use in a survey covering about 692 respondents in four villages in four districts, Nadia, North 24 Parganas, South 24 Parganas and Paschim Midnapore. Purposive and snowball sampling techniques were used. The cohort was split evenly between women who undertook paid work (387) and those who did not (305).

Focus group discussions and interviews with employers and political leaders in rural communities revealed that more and more women were coming into paid work as men migrated out of the region. Among those who did not do paid work, lack of opportunities was the most common reason (36 per cent), while family opposition was a distant fourth (11 per cent) behind illness or disability (21 per cent), and other reasons (18 per cent).

Such micro studies help in a more nuanced interpretation of analyses of female labour participation rates based on NSS data. Recall that improved rural incomes and the resulting desire of men that their women withdraw from the workforce for the honour of the family has been cited as an important reason behind falling LFPRs (see Chapter Two).

The SMS study finds that the most common demand women have from the government after a better public distribution system (PDS) and closing of liquor shops, is creation of work opportunities, fixing minimum wages, and increasing MGNREGA work.

Time-use analysis shows that of the 387 women who reported that they were involved in paid work, the maximum (161) reported working for 8 to 10 hours a day. Of the women who do paid work, 64 per cent spend somewhere between 4 to 8 hours on unpaid housework. Case studies and focus groups reveal that men help with the housework only in a few instances. And, even in these cases, the women reported that they extended help as and when it pleased them. So, the women could not count on their help.

Earnings were very low. 92 per cent of women earned less than ₹3000 per month. Low earnings are as much a function of non-availability of work as of low wages. Wages ranged from ₹70 per day for vegetable picking to ₹360 per day for working in a brick field. Even government programmes like mid-day meals only pay ₹300 to ₹450 per day to the cooks, and that too not for the whole year. Other occupations such as domestic work and Accredited Social Health Activist (ASHA) work offer more regular employment throughout the year, but pay only ₹1000−1500 per month.

Since no one occupation provides women with either full-time employment or a living wage, it is not uncommon for them to be working at multiple jobs. The survey revealed that 40 per cent of the women had two paid occupations and 22.5 per cent had three. The most frequently found occupations were daily labour and MGNREGA work, followed by animal husbandry, agricultural labour, and domestic work. Other occupations included work such as zari work, weaving, mid-day meal cooking, fishing, petty retailing, running tea shops, and so forth. A few examples of the actual mix of occupations that the survey discovered are as follows:

a. Selling second-hand clothes and agricultural work (₹3000)
b. Fritters shop, MGNREGA, and selling rice (₹2000)
c. MGNREGA and daily labour (₹800)
d. MGNREGA and handloom (₹1500)
e. Brick kiln work, daily labour, sand mining, agricultural work (₹6800)
f. Tailoring, brick kiln work, daily labour, cooking mid-day meal (₹2700)

'Daily labour' is really a set of occupations that vary depending on availability. This involves taking up whatever work is available on a given day: agricultural labour, paddy processing or making puffed rice, carrying bricks during construction work, clearing the jungle in someone's garden, collecting firewood for another household, or road work for a contractor.

In the study, the worker in the second to last category (e) was an eight standard pass Adivasi woman from Paschim Midnapore district, who was a single mother with three daughters.

When asked about social restrictions she noted:

> I don't care about social restrictions. I have to earn at any rate, because now the whole family's responsibility is on my shoulders. Now my family is female headed, and completely controlled by me alone. There is no one left from whom I have to take permission. Adivasi women are generally free from these kind of restrictions.

Sources and notes: ***Talwar (2018)***

5.2.1 / Occupational and Industrial Segregation

Broadly speaking, economic growth in India has still not generated a process of employment diversification, especially for women. Women workers remain highly over-represented in the low value-added industries as well as occupations, such as agriculture, textiles, and domestic service.

Here we present data on the gender distribution within and across occupations as well as industries over the past ten years using the NSS-EUS and the LB-EUS. As we have noted before, these two surveys are sufficiently similar in the sampling method to warrant a comparison. We refer the interested reader to the chapter on Methods for details.

The online Data Appendix gives detailed tables for both occupations as well as for all manufacturing and service industries. Here we discuss the highlights.

Women continue to be heavily under-represented among senior officers, legislators and managers, and over-represented in elementary occupations.

We start with an analysis of occupational segregation at the one-digit level of the National Classification of Occupations (2004). The occupations are legislators and general and corporate managers, professionals in various services, associate-level professionals, clerks, service and sales workers, skilled agricultural workers, craft and tradespeople, plant and machinery workers, and elementary occupations, which consist of daily labour in various service, agriculture, and mining operations. The full distribution of male and female workers across different occupations is given in online Appendix Table A5.1.

The Duncan Index of Dissimilarity does not indicate a high level of occupational segregation of gender in India. The value of the index in 2015 was 0.17. This means that around 17 per cent of the workers would need to change occupations to gain gender parity. Compared to industrial segregation (discussed later), this is a low number. However, two caveats are important. First, the occupational categories are very broad, and two, the index does not take into account the overall low level of women's participation in the economy. While women comprise 50 per cent of the population, they are only 22 per cent of the workforce. In other words, the segregation measures are premised on most occupations being heavily male-dominated.

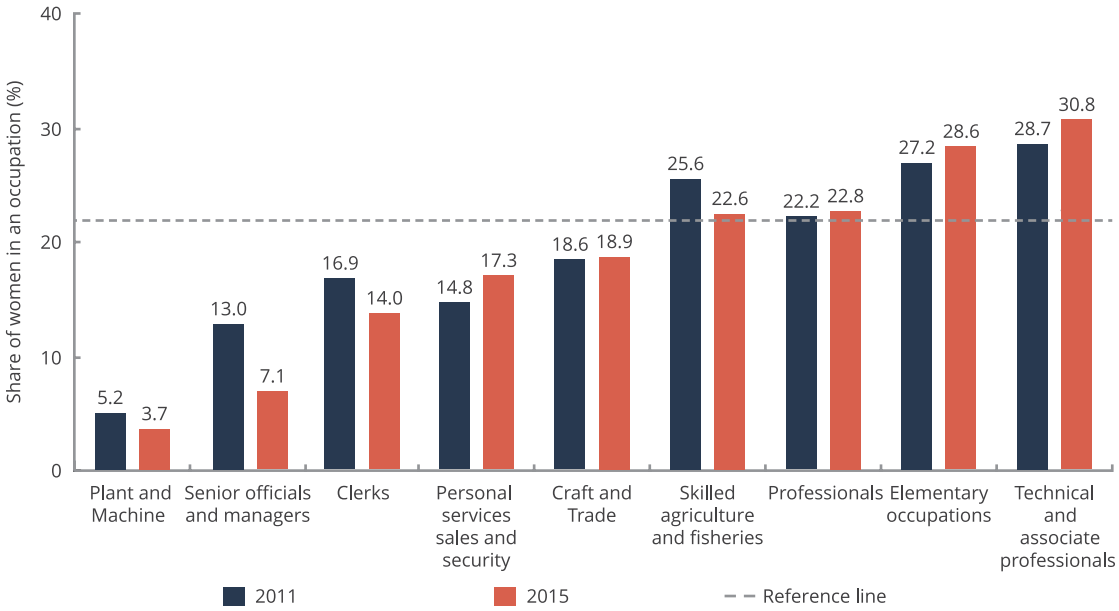
Figure 5.1 shows the range of female representation across occupations and how it has changed from 2011 to 2015. The occupations are ordered from low to high representation in 2015. The reference line shows the overall share of women in the workforce (22 per cent).

The picture is a mixed one. Women continue to be heavily under-represented among senior officers, legislators and managers. That is, the female share of such occupations is lower than even the low overall female share in employment. The situation worsened during the time period shown, with the proportion falling from 13 per cent in 2011 to 7 per cent in 2015. Also, on a negative note, women continue to be

over-represented in elementary occupations, which are among the least well-paid. That is, their share in these occupations (29 per cent) exceeds their share in the overall workforce (22 per cent). There is also a shift in women's representation away from skilled agricultural work towards elementary occupations, which are generally less skilled. These shifts have obvious implications for the gender earnings gap, which we will explore in the next section.

On the other hand, female representation is on par with their overall presence in the workforce in relatively high-paying professional jobs. Women are even over-represented among associate-level professionals. Further, the share of women working in these well-paying occupations has increased steadily since 1994 (data not shown). The caveat is that this has mostly been a result of increases in their participation in activities related to health and education (Mondal et al. 2018). The other observation is that women tend to occupy lower levels and hence less paid sub-occupations within a broad occupational category, for example, primary school instead of secondary school teachers, college instead of university lecturers, and so on (see Box 5.2).

Figure 5.1 : ***Share of Women in Various Occupations***



Sources and notes: **NSS-EUS 2011, LB-EUS 2015.** ***Reference line indicates overall share of women in the workforce in 2015.***

Box 5.2 / **Changing Patterns of Women's Employment**

A closer look at the changing occupational and industrial profile of women workers reveals some interesting trends. Traditionally, secondary education has had a higher absolute number of male teachers, while women have dominated primary level teaching. This is still the case, but recent increases in female teaching professionals have been led by secondary and higher secondary teachers. This has led to an increase in the female-male ratio for secondary teachers over the period. However, this period also saw the rapid rise of private education facilities and contract work, offering much lower pay than public sector teaching jobs.

A second transformation of the labour market has been an increase in the absolute number of women, female shares, and female-male ratios of accountants, auditors, market research analysts, public relations officers,

personnel specialists, and financial analysts. Expectedly, though, these gains were confined to a small section of educated workers.

Among less skilled and unskilled women workers in urban areas, most were wage workers employed in sales, services, manufacturing, mining and construction sectors. Women working as salespersons dominated this category. Within personal services, the dominant occupations were of hairdressers, personal care, housekeeping and restaurant service workers and travel and tourism related work. The big increase (more than fivefold) was in the number of hairdressers and beauticians, of whom there were nearly a quarter of a million women workers in 2011, with the female-male ratio in this occupation increasing from 10.6 in 1993 to 47.3 in 2011.

Similar trends were evident for women in semi-skilled housekeeping and personal care, especially for janitors, cooks, home stewards, babysitters and governesses, tutoring services and other educational services, restaurant and cafeteria workers, catering services, and women working in hostels, boarding houses, and correctional homes. Such employment does not break the stereotypes associated with women's work as most of these services are extensions of care work, which women have been performing historically, and, in fact, reinforces the gender stereotypes in occupations in altered, more commercialised contexts.

In the rural areas, women's employment in teaching in both primary and secondary levels more than doubled over this period to reach nearly two million women workers in 2011. As in urban areas, women are, relatively, more frequently found among primary rather than secondary teachers. The female-male ratio in primary teaching rose from 23.5 per cent to 51.3 per cent and from 13.6 per cent to 33.3 per cent between 1993 and 2011. From the job creation point of view, it is worth pointing out that this coincided with the implementation of government flagship schemes for improving school enrolment and education outcomes. While this greatly increased the demand for teachers, a large number were on contract and not regular employees of the government.

Sources and notes: ***Mondal et al. (2018)***

As with teaching, there were large increases in the number of women professionals in health, with a doubling in the number to 2.88 lakh workers in 2011. Once again, it had important implications for job quantity and quality. A large number of jobs were created as a result of public programmes in health, such as the National Rural Health Mission (NRHM) that relied on ASHA health workers. But these were volunteers who were again paid stipends well below minimum wages.

Thus government expansion in public services in health and education without an increase in public spending to fund regular salaried jobs has created a vast rural workforce of women possessing a basic level of skills. In the concluding chapter we have offered some thoughts on how future policy can build on this workforce.

As we have noted before in this report, the largest non-farm employer in rural areas for both men and women is the construction sector. This has again partly been a consequence of public policy (in this case MGNREGA). Almost 5.8 million women workers were added to the rural construction sector over the period 2004 to 2011, out of which more than 50 per cent were in public construction work. There were also increases in women workers as head-loaders in brick kilns and wholesale markets. Note that many of these activities are an extension of what are seen as women's traditional household chores, which include teaching children, taking care of the sick, cooking, fetching water and fuel, and so forth.

Thus, whatever occupational dynamism did occur for women workers in rural areas was primarily created by the government, both directly and indirectly. MGNREGA resulted in women workers in rural areas venturing into construction, albeit in unskilled activities, while the use of low-paid women workers in public health and education services meant an increase in supposedly high-skilled activities that were nevertheless poorly remunerated. However, a large middle segment of occupations requiring medium skills, that engaged a substantial share of non-farm women workers, continued to reflect segregated occupational patterns, with negligible changes over almost two decades.

Important changes, with respect to gender, have also been occuring across the three major sectors of the economy. As of 2015, 60 per cent of women workers are in agriculture as opposed to only 42 per cent of male workers. The sector-wise share of women shows an over-representation in agriculture, representation proportional to their share in the workforce for manufacturing, and under-representation in construction and services (Figure 5.2). Recall that the overall share of women in the workforce is 22 per cent.

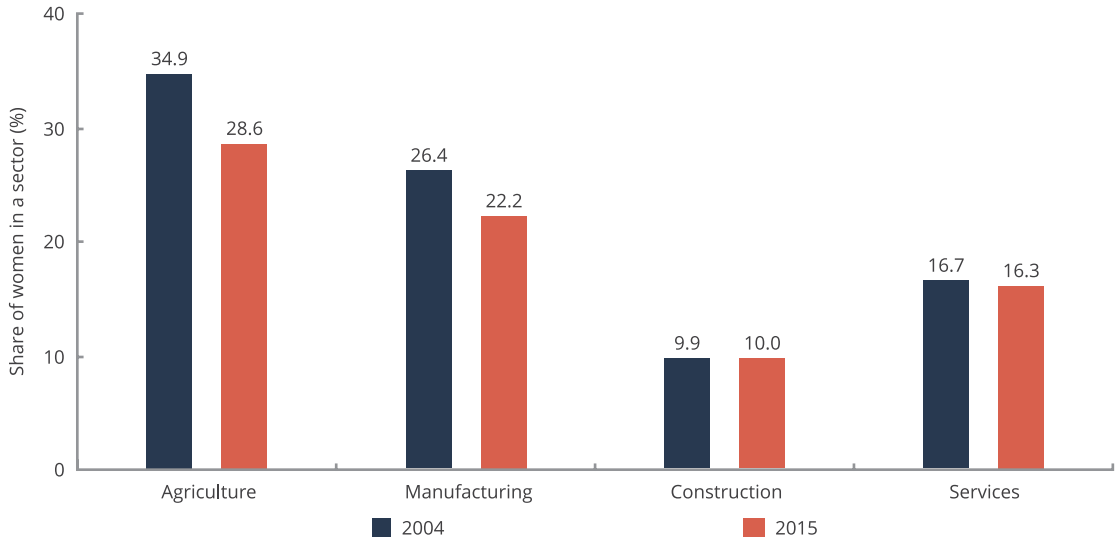
Interestingly, in the decade between 2004 and 2015, the declining participation of women in the labour force (discussed in Chapter Two) has resulted in a lower representation of women in both agriculture and manufacturing, while the share of women in construction and services has remained the same (though, of course, it is much lower than their share in the other two sectors). This means that the experience of structural change has been markedly different for women as compared to men. While they have shifted away from agriculture (slower than men), they have not moved into construction; rather, they have withdrawn from paid employment.

While women have shifted away from agriculture, they have not moved into construction; rather, they have withdrawn from paid employment.

When we delve further into the manufacturing and service sectors at the NIC two-digit level, we find that both sectors remain heavily gender segregated. For example, while only 5.4 per cent of the overall manufacturing workforce is in the tobacco industry, nearly 20 per cent of women are employed there. Similarly, the overall share of apparel in manufacturing employment is 18.2 per cent, but it accounts for 31.5 per cent of women workers. In 2015, only tobacco, textiles, and apparel had a higher female share of employment than the overall manufacturing average (22.2 per cent). There is also evidence that the segregation may be increasing.

Figure 5.3 reports the share of women workers within each manufacturing industry over a ten-year period. Most industries are very heavily male-dominated (>80 per cent male workers), while in those industries that have a sizeable share of women workers, this share tends to be not more than 50 per cent (with the exception of tobacco). Additionally, industries with a high initial share of female workers are the ones in which the share has increased even further. On the other hand, in generally male-dominated industries such as chemicals and pharmaceuticals, non-metallic minerals, and computers and electronics, the share of women in the workforce has declined. Once again, the online Appendix provides detailed data on share of male and female workers (Table A5.2).

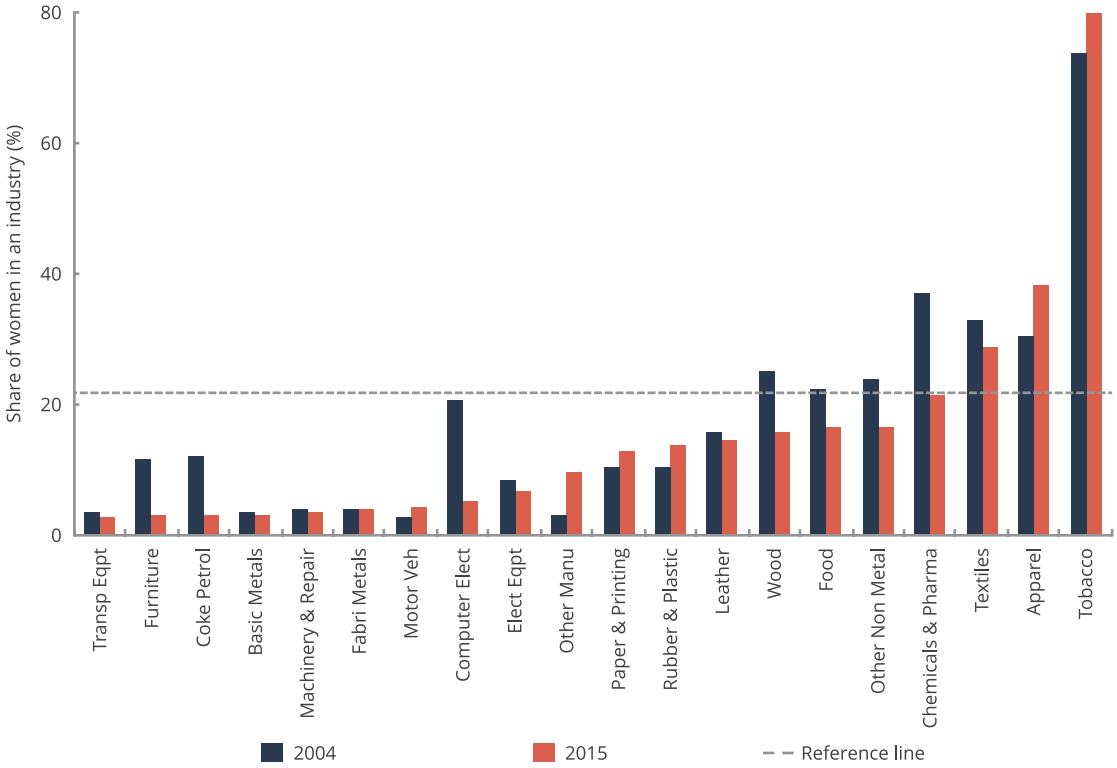
Figure 5.2 : ***Share of Women in Various Sectors***



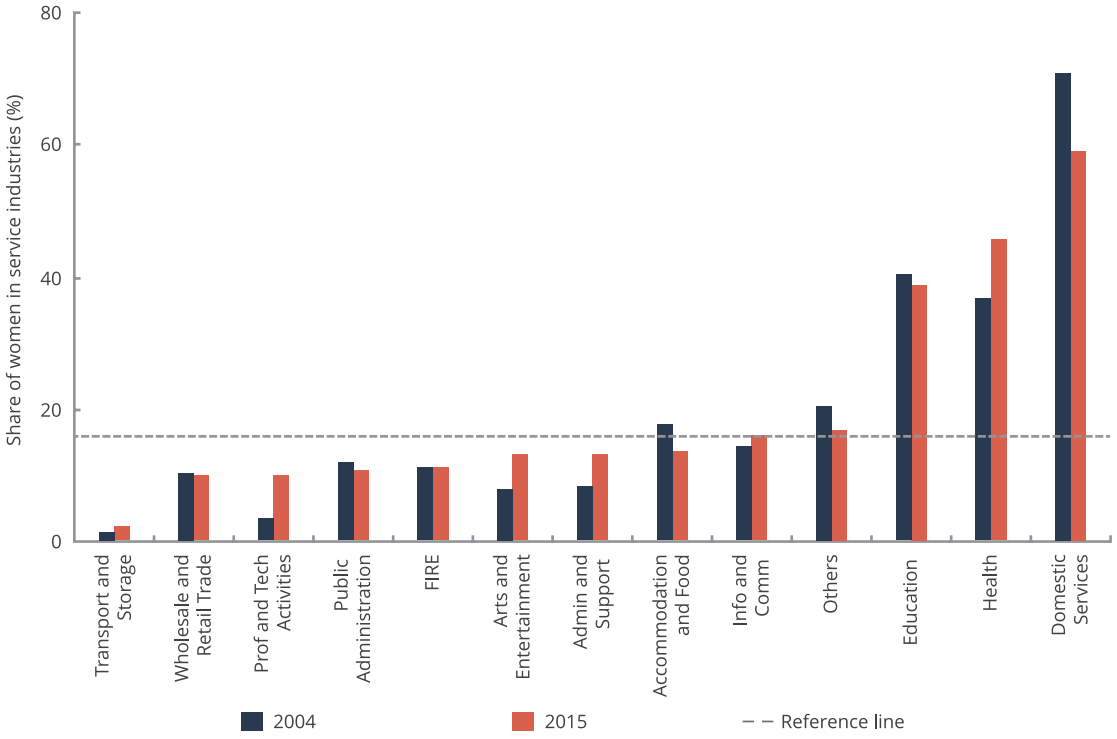
Sources and notes: **NSS-EUS 2004, LB-EUS 2015.**

Figure 5.3 : ***Share of Women in Various Industries***

a) ***Manufacturing***



b) ***Services***



Sources and notes: **NSS-EUS 2004, LB-EUS 2015.** ***Reference line indicates overall share of women in the manufacturing or services workforce respectively, in 2015.***

While women constituted just over 22 per cent of the manufacturing workforce in 2015, they made up only 16 per cent of the service sector workers. Women's share in a service industry substantially exceeds this number in only three industries: education (39 per cent), health (46 per cent), and domestic service (59 per cent). However, it must be noted that the degree of over-representation of women in domestic services has steadily fallen. While in 2004 around 70 per cent of the domestic workers were women, this had fallen to 59 per cent by 2015.

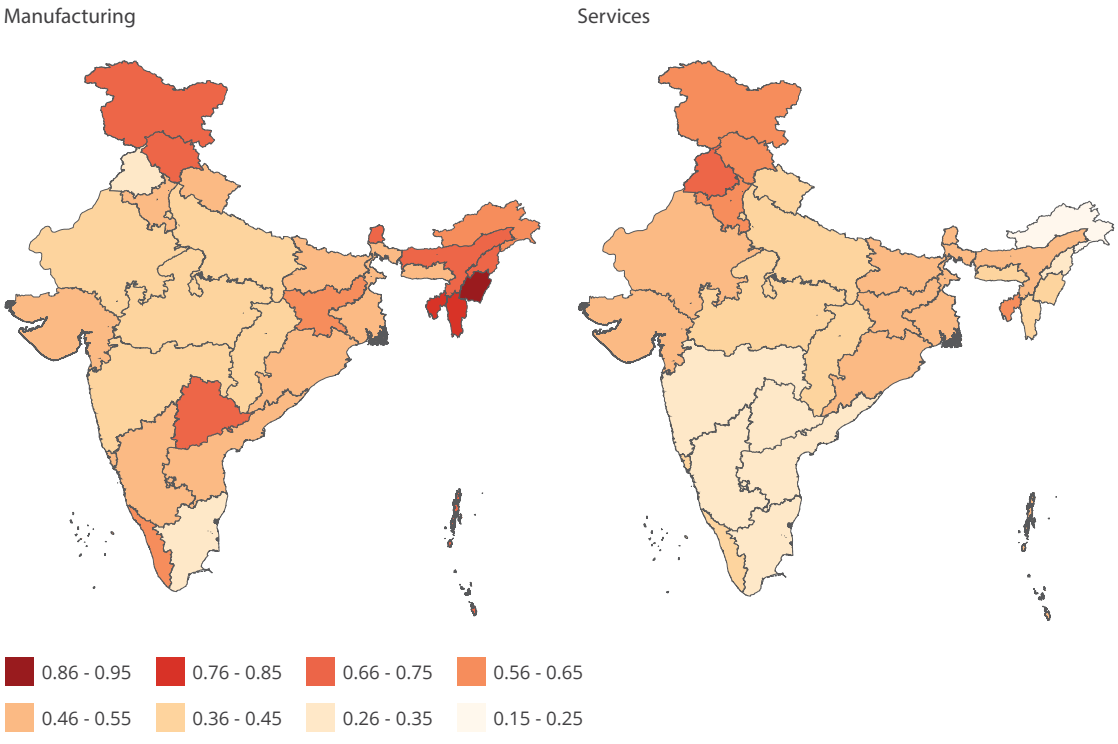
Further, women are very poorly represented in well-paying industries such as finance, insurance, and real estate (FIRE), professional and technical services, and public administration, and one must keep in mind that their participation in services is already low. Thus, while the overall share of women in the service sector in 2015 was 16 per cent, their share in the above three industries was just 10 per cent. The years between 2005 and 2011 saw some improvement but, since then, the trend has reversed. Once again, the online Appendix gives a comprehensive picture of the distribution of men and women across all service industries (Table A5.3).

The data suggest that overall gender segregation in the Indian economy may have worsened over the past few years. This can be measured directly with the Duncan Segregation Index, which represents the overall level of group segregation across any relevant unit (occupations, industries, neighbourhoods and so on).

In 2015, the index was 0.4 in manufacturing and 0.38 in services. That is, around 40 per cent of women would have to change their industries so that gender parity could be achieved. As noted earlier, compared to segregation in services or manufacturing, the level of occupational gender segregation is relatively low at 0.17. Segregation has increased substantially over time in manufacturing from 0.3 in 2005 to 0.4 in 2015 and declined marginally in the service sector from 0.4 to 0.38.

The summary measure is also useful for direct comparisons of the degree of gender segregation across Indian states. Figure 5.4 shows maps of the Duncan Index in 2015. As noted before, the overall level of segregation is higher in manufacturing than in services. However, there are large variations across

Figure 5.4 : ***Gender-Based Segregation across States***



Sources and notes: **LB-EUS 2015. *Scale indicates the Duncan index of segregation. See text for description. See Appendix Table A5.4 online for data.***

states, from values as high as 0.7 for services in Punjab, Haryana, and some north-eastern states, and even 0.8 for manufacturing in Himachal Pradesh, to as low as 0.2 in Tamil Nadu (for both manufacturing and services). Recall that a value of 0.8 means that 80 per cent of women would have to change the industry they work in to achieve gender parity.

Interestingly, it is not necessary that states with high female labour force participation rates (LFPRs) also show low levels of segregation. For example, the southern and north-eastern states generally have higher female LFPRs than the northern and western states (see Chapter Two). But they also have higher levels of segregation in their manufacturing industries, indicating that women participate to a greater extent in the workforce, but in a gender-segregated way. The exception is Tamil Nadu which shows a high LFPR for women alongside a low segregation index.

For the service industries though, the pattern is somewhat different. Here, the southern states are generally less segregated than the northern states.

The foregoing analysis suggests that it may be worthwhile to think of a composite measure of the status of women in the workforce that takes into account both the overall LFPR and the level of gender segregation across industries.

5.2.2 / Earnings Gaps

It is not necessary that states with high female labour force participation rates (LFPRs) also show low levels of segregation.

It is well known that women earn a fraction of what men earn almost everywhere in the world. The extent to which female earnings fall short of male earnings is conventionally referred to as an 'earnings gap'. That is, the lower the female to male earning ratio, the higher the 'gap'. In a detailed analysis of the gender wage gap in their SWI background paper, Mondal et al. (2018) use NSS-EUS data to show an increase in real wages for both regular and casual workers, with the rate of increase being faster among women. As a result, the aggregate gender wage gap has declined in both rural and urban areas for casual as well as regular workers.

It is, however, still large in size. As of 2011, the gap stood at 80 per cent for urban regular workers and at 61 per cent, for urban casual workers. That is, women in the urban regular wage market earned 80 per cent of what men earned, while in the casual wage market they earned 61 per cent of male wages. The corresponding gaps in rural areas were 62.5 and 61 respectively. Deshpande, Goel, and Khanna (2018) report similar values for 2010.

Delving further into various occupations and industries, Mondal et al. (2018) show that women were paid 60 to 70 per cent of male wages across most agricultural occupations. This is the case even for tasks conventionally carried out by women such as transplanting, weeding, and harvesting. Though these gaps have declined for several tasks, there are important exceptions such as ploughing, a traditionally male occupation.

The gender wage gap has also declined across all occupations in general, but remained high among service and domestic workers as of 2011. There was a significant reduction in the gap when it came to factory and home-based workers in female-dominated industries like food, tobacco, textiles, and wearing apparel, and for construction labourers.

Labour economists usually think of earnings gaps as being composed of two distinct components. Part of the gap is accounted for by differences in endowments or characteristics of workers. These include skills, education, and experience. The rest of the gap that is not explained by these observable characteristics is often thought of as resulting from discrimination. Mondal et al. (2018) show that gender wage gaps were explained primarily by the discrimination component, which steadily increased over 1993 to 2011. The unexplained part of the gap was larger than the endowment component in both rural and urban areas. In fact, there has been a sharp decline in endowment effect because of increasing educational attainment among women. While this has led to a decline in the gap, a significant proportion of the wage gap still remains unexplained. This suggests that gender wage discrimination is high and persistent.

Deshpande, Goel, and Khanna (2018) similarly find that an overwhelming part of the wage gap for regular wage or salaried workers cannot be explained by worker characteristics. Further, consistent with the findings of Mondal et al. (2018), they also find that the discriminatory part of the average wage gap has increased between 2000 and 2010. The authors conclude that, given the improvement in endowments (especially education levels) over the decade, if women's endowments had been valued at the same rate as men, they would have earned a higher average wage than men.

In the previous section, we have described trends in the Indian economy towards greater segregation, particularly in the manufacturing sector. However, this is balanced by decreasing segregation in services. There is also an increase in the representation of women in some relatively highly paid occupations and a decrease in over-representation of women in poorly paid occupations such as domestic service. What is the impact of these trends on the gender earnings gap?

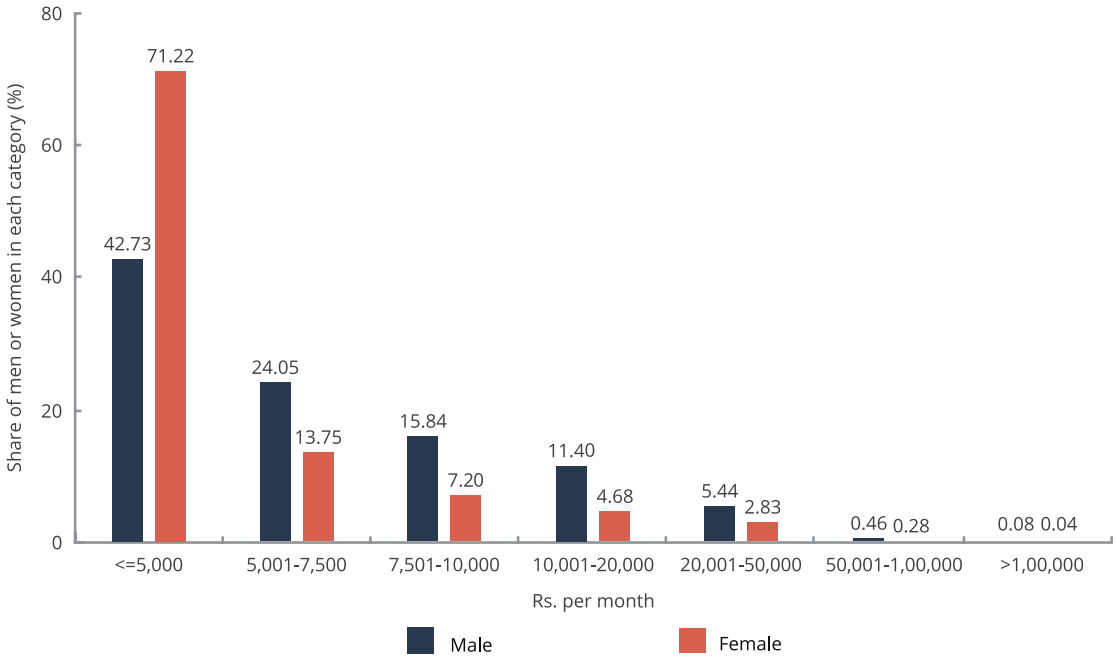
The percentage of men reporting earnings up to ₹5000 or less was 43 per cent, far less than the 71 per cent of women whose earnings fell in the same bracket.

Since NSS-EUS data are only available until 2011, we cannot use it for more recent estimates. The more recent LB-EUS only gives monthly earnings of workers (self-employed as well as wage workers) by broad categories, and so, is not comparable with NSS wage data. However, the gender penalty clearly shows up as a leftward shift in the distribution of women's earnings. In 2015, the percentage of men reporting earnings up to ₹5000 or less was 43 per cent, far less than the 71 per cent of women whose earnings fell in the same bracket. 82 per cent of male and 92 per cent of female workers earned less than ₹10,000 a month (Figure 5.5).

It is possible to provide some rough estimates of the gender gap if we approximate monthly earnings by assigning the mid-point value of an income range to every worker in that category. While it is not comparable to earlier estimates using NSS data, it nevertheless allows us to see that, at the aggregate, all-India level, monthly earnings for women workers were 65 per cent of male earnings (₹5212 versus ₹8000 per month) in 2015.

The aggregate gender gap varies across types of work, level of education, occupation, as well as industry. Figure 5.6 shows the female-to-male earnings ratio across type of employment. While the gap was the largest among employers (that is, self-employed workers hiring other workers), it was almost absent for agricultural workers. The high gender penalty among self-employed workers is consistent with data from the unorganised enterprise sector discussed

Figure 5.5 : ***82 per cent of Male and 92 per cent of Female Workers Earn Less than Rs. 10,000 a Month***



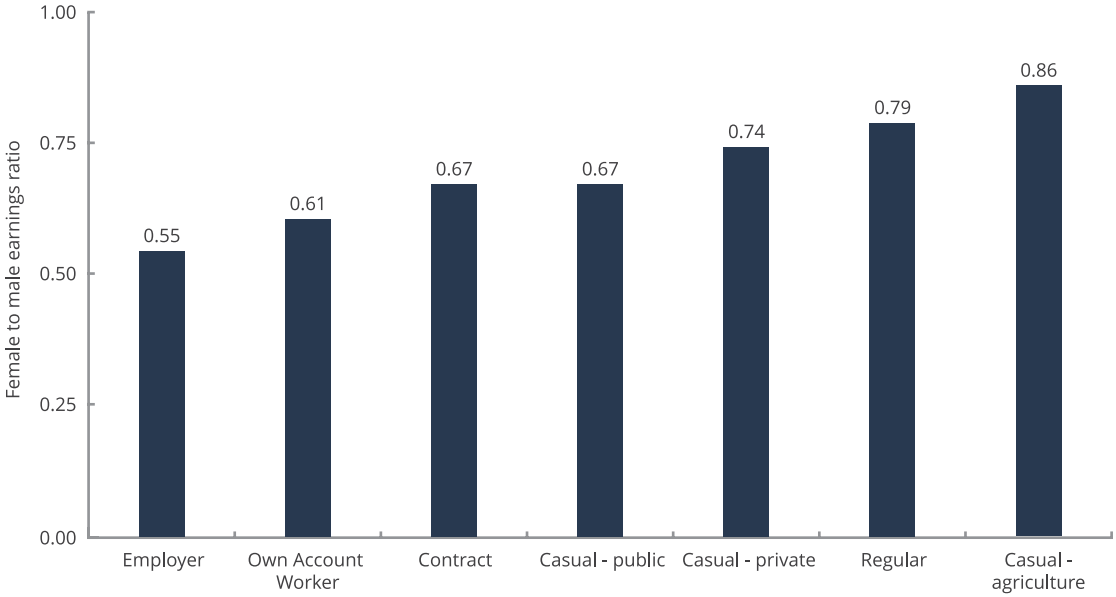
Sources and notes: **LB-EUS 2015.**

later in the chapter. One possible explanation for this is that, unlike wage-workers who face discrimination only in the labour market, self-employed women may be disadvantaged in the markets for capital and land, and in product markets as well.

The low level of gender penalty for casual agricultural workers is likely to be a 'floor effect' in that monthly earnings for casual agricultural workers were ₹3535 for men and ₹3030 for women, and perhaps cannot fall much lower. The gap for regular workers (0.8) is comparable to that found by Mondal et al. (2018) as well as Deshpande, Goel, and Khanna (2018).

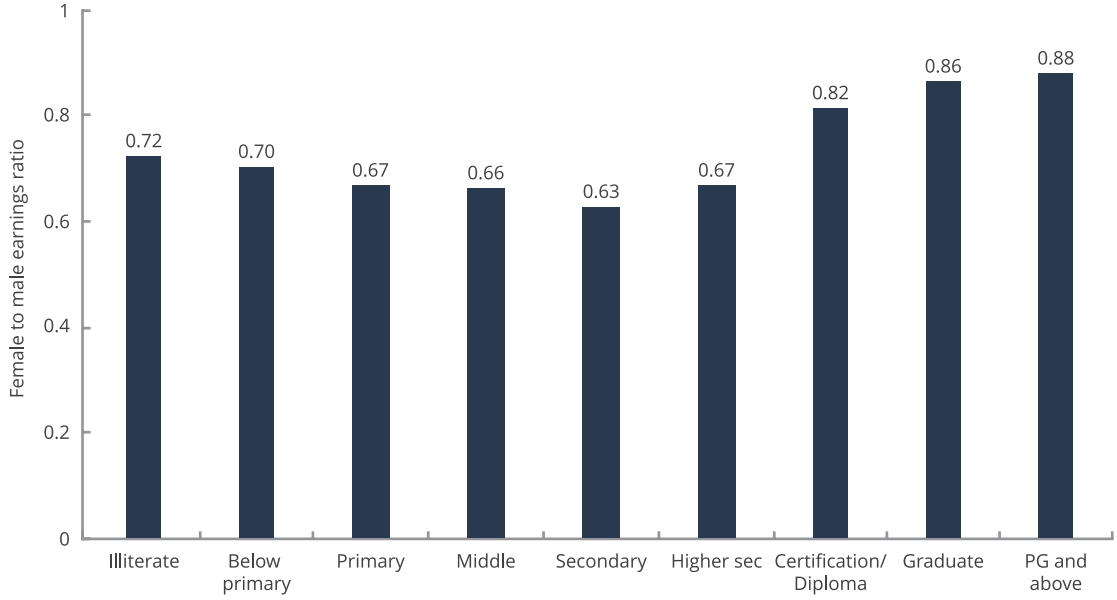
Figure 5.7 shows the same ratio by educational qualification. Interestingly, a U-shaped pattern is observed, wherein the gender penalty is most severe for intermediate levels of education. If we consider the relatively lower levels of the gap in the case of poorly educated workers as a floor effect, as in the case of casual agricultural workers, then it seems that the gap reduces with level of education from secondary schooling onwards.

Figure 5.6 : ***Women Earn 50 to 80 per cent of Men's Earnings across Employment Types***



Sources and notes: **LB-EUS 2015. *The earnings gap is defined as the ratio of female to male earnings. A higher ratio indicates a smaller gap.***

Figure 5.7 : ***The Gender Earnings Gap Narrows Significantly with Education beyond the Higher Secondary Level***



Sources and notes: **LB-EUS 2015. *The earnings gap is defined as the ratio of female to male earnings. A higher ratio indicates a smaller gap.***

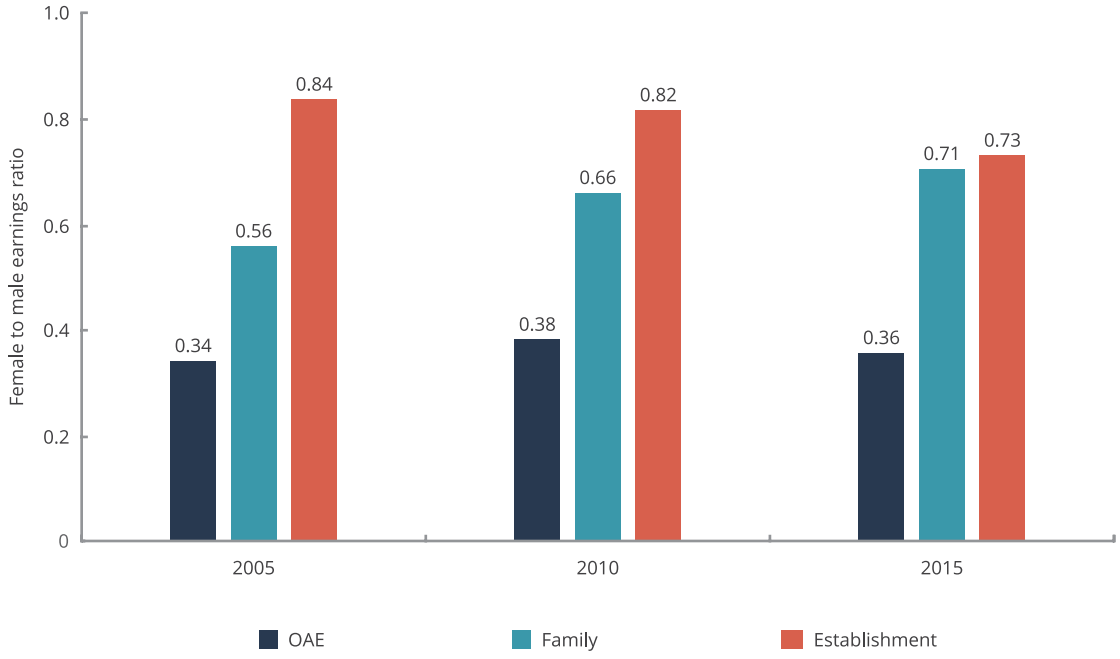
Corroborative evidence on gender earnings gaps can be obtained from enterprise or firm-level and factory-level data from the NSS and ASI respectively. While the ASI collects data on the gender of the wage worker in its factory surveys, the NSS does not do so in its enterprise surveys. However, it does report the gender of the entrepreneur or working owner. Since the vast majority of the 'firms' in this data are tiny (with zero or at most one to two wage workers) it is a good source of data on earnings from self-employment.

We can use gross value added (GVA) per worker, which is revenues minus non-wage costs divided by number of workers in the firm, as a measure of earnings in the unorganised sector. Comparing the performance of male versus female owned businesses then gives us an estimate of the gender penalty. For own-account enterprises (OAEs) which are operated only by a single working owner, the GVA per worker is equivalent to the mixed income of the working owner (that is, income from labour as well as returns to enterprise). For a business run with only unpaid family labour, the GVA is equivalent to the family's mixed income. For establishments that hire at least one wage worker, the GVA per worker is no longer a proxy for earnings, but can still provide information on the gender penalty of entrepreneurship if we compare male versus female entrepreneurs.

In the unorganised manufacturing sector, we find that the earnings gap is very large for own-account enterprises and has not narrowed much over the last decade (Figure 5.8). In 2005, female-operated OAEs earned 34 per cent of what male-operated ones earned. In 2015, this number was 36 per cent. This clearly indicates that self-employed women who work for their own enterprises are at a large disadvantage in the unorganised sector.

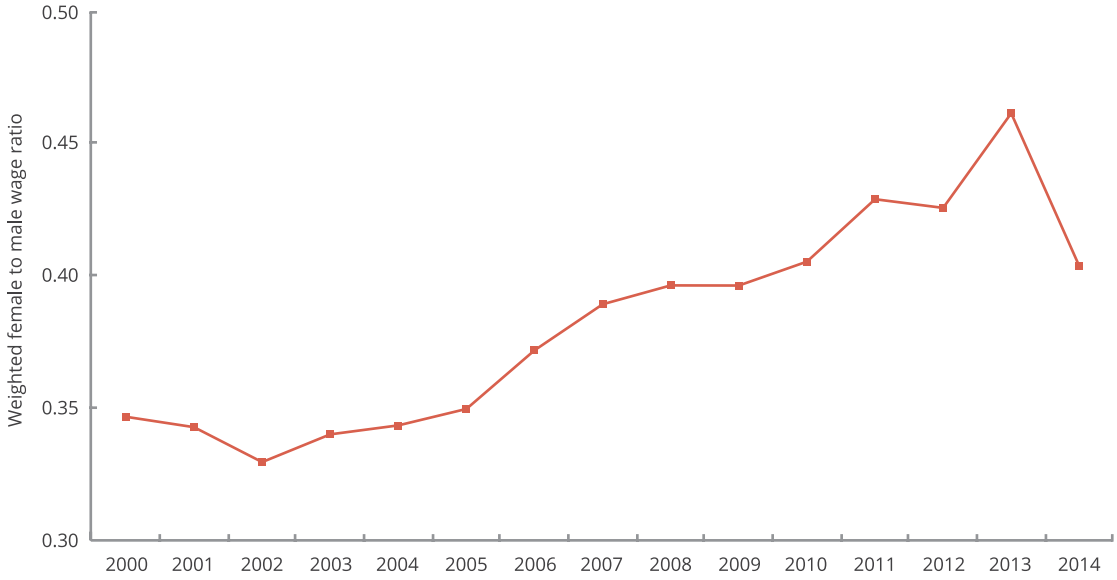
The gap was narrower for family enterprises at 56 per cent in 2005 and has narrowed further over time to 71 per cent in 2015. For establishments (that is, unorganised sector firms that hire at least one wage worker), in 2005 and 2010, it was comparable to the salary gap for regular workers at around 82–84 per cent. But it has widened in recent years and, in 2015, the GVA per worker in female-owned establishments was 73 per cent of that in male-owned ones.

Figure 5.8 : ***Own Account Women Workers Earn 30 per cent of Their Male Counterparts but the Gap Narrows Significantly to 80 per cent for Employers***



Sources and notes: ***NSS informal and unincorporated enterprise surveys, various rounds (see Methods for details). Nominal values deflated by CPI-IW (base 2015). OAE - own account enterprise or single person firm. Family - enterprises operating only with unpaid labour. Establishment - enterprises hiring at least one wage worker. The earnings gap is defined as the ratio of female to male earnings. Earnings are defined as GVA/worker for male and female owned firms.***

Figure 5.9 : ***Gender Wage Gap in Organised Manufacturing is High but Has Been Declining***



Sources and notes: ***ASI factory level data, various years. Wage gap is defined as the ratio of female to male wage rates weighted by size of the factory. See text for weighting details.***

Note that there is a discrepancy between these data and the LB-EUS results reported earlier in Figure 5.6, where the gap was larger for employers than for own-account workers. The size of the gap measured in the two surveys is also very different, 0.6 in LB-EUS and 0.36 in NSS. But since the LB-EUS data allows only an approximation of earnings from large categories, the NSS estimates may be taken to be more reliable.

Evidence on the manufacturing wage gap in the organised sector comes from ASI. This data gives factory-level information on the number of male and female workers as well as total wages paid to both. Thus we can calculate the total male and female wage bill as well as total male and female workers across all factories, and then calculate the wage rates as well as the male to female ratio of the wage rates. Note that this method assigns greater weights to factories with a greater number of workers.

Figure 5.9 shows the trends in the female to male wage ratio for size weighted estimates from 2000 to 2014 (the most recent year that factory-level data was available). The wage gap reduced from around 34 per cent in 2000 to 46 per cent in 2013. In 2014, the gap was 40 per cent.

The foregoing analyses from diverse secondary data sources as well as field studies clearly show that gender equity in the structural change process remains unachieved. Some of the findings regarding increased segregation are even more worrying. Deliberate policy measures are required to ensure that equity becomes possible in the near future.

5.3 / Caste Disparities in the Indian Economy

Alongside gender, caste continues to be an important factor in determining labour market outcome in India. Papola and Kannan (2017) have reviewed the recent literature on caste discrimination in the labour market. Caste effects manifest in type of employment (regular, casual, and so on), industrial segregation, as well as earnings.

NSS data have been used to show that upper caste Hindus have a higher chance of securing regular employment than SC and ST groups (Das and Dutta 2007). Thorat and Attewell (2007) conducted a study of call-backs to job applications analogous to the one by Bertrand and Mullainathan (2004) that showed racial discrimination in the US labour market. The US study used identical resumes randomly assigned to African-American and white sounding names. In the Indian case, otherwise identical resumes had names assigned to them that were easily identifiable as Hindu upper-caste, Hindu Dalit, or Muslim. These were sent in response to job advertisements by domestic and multi-national companies in New Delhi (2005–06). The authors found higher call-back rates for the first category compared to the other two.

The percentage of SC individuals among professionals and managers is half their representation in the population. The situation is even worse for ST groups.

Chakravarty and Somanathan (2008) find that SC and ST MBA graduates from the Indian Institute of Management (IIM), Ahmedabad, get significantly lower wages than those in the general category. But the difference disappears after taking Grade Point Averages into account. Recent work by Joshi and Malghan (2017) shows that faculty at IIMs are themselves drawn largely from upper-castes. There is almost no representation of SC and ST groups. Thus caste discrimination in the Indian labour market cannot be viewed separately from that in the educational system.

We now undertake an exploration of caste-based occupational and industrial segregation as well as earnings gaps since 2011. As indicated earlier, caste data is usually available only at a high level of aggregation with categories such as SC, OBC, and Others. These categories average together very different communities with diverse socio-economic opportunities as well as outcomes. For example, traditionally dominant landed castes such as Jats or Marathas are clubbed together with more underprivileged castes such as Mauryas or Kunbis under an omnibus OBC category. Similarly, even within the SC category, there is diversity of opportunities and outcomes as well as social status. Further, different states of India follow different schedules such that the same community found in two states may be classified as SC in one and ST in another. This means that results are likely to be underestimated in some cases and overestimated in others.

5.3.1 / Occupational and Industrial Segregation

We follow the same pattern as with gender in looking at segregation across occupations and industries over time using the one-digit NCO 2004 system and the NIC two-digit manufacturing and services classification harmonised across three rounds (1998, 2004, and 2008). We have comparable data on occupations for 2011 and 2015, and on industries for 2005, 2012, and 2016. However, the same caveats as before apply for conclusions based on a comparison of NSS-EUS and LB-EUS data.

Since there are four major caste groups as opposed to two gender groups, instead of showing the share of each caste in an occupation or industry, we instead show the degree of over- or under-representation of a particular caste group. Another reason for

focusing on representation in a particular occupation or industry compared to the overall share in the workforce in the case of caste is that no caste category is under-represented in the workforce as a whole, as was the case with women.

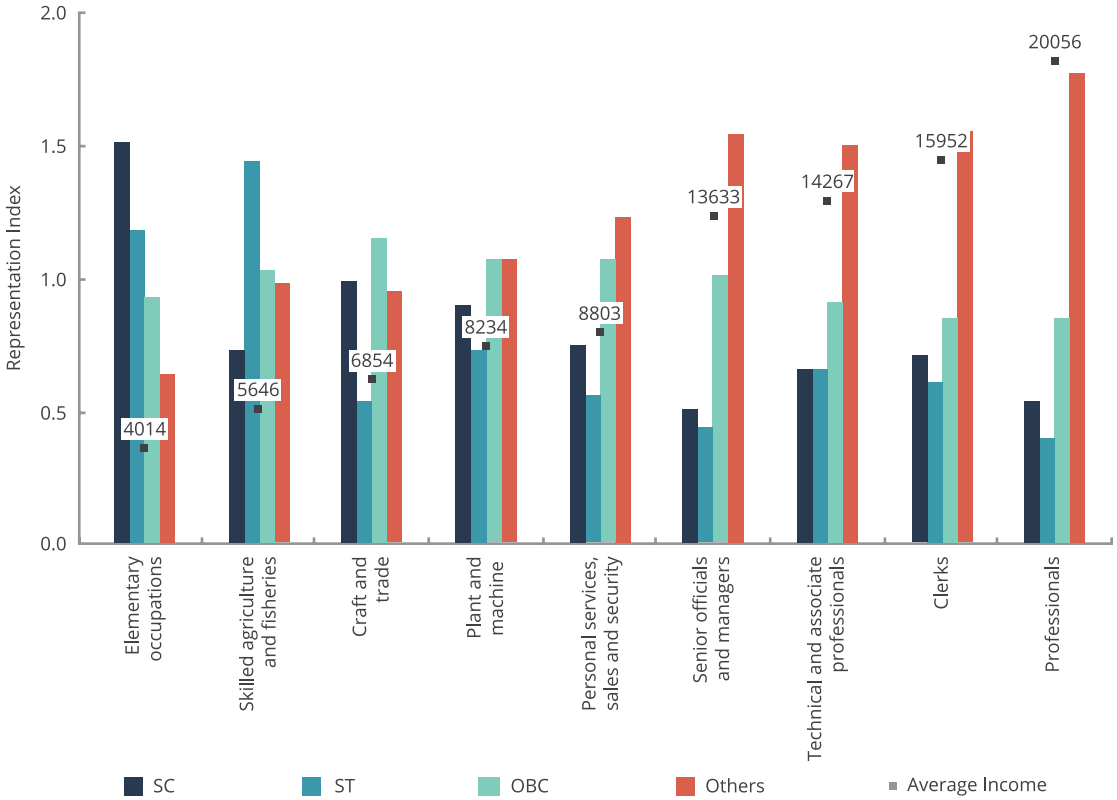
A representation index can be calculated as the ratio of the share of that caste group in an occupation divided by the share of that caste in the entire workforce. Thus a value of one indicates proportional representation, a value less than one indicates under-representation, and a value greater than one indicates over-representation. For example, if SC groups comprise 20 per cent of the workforce but only 10 per cent of professionals, the under-representation index will be 0.5.

Figure 5.10 shows these values for all caste groups and occupations for 2015. Note that occupations are arranged from left to right in order of increasing average remuneration or earnings. The detailed distribution tables are given in the online Appendix (Tables A5.1, A5.2 and A5.3).

The pattern is very clear. In 2015, SC as well as ST groups were over-represented in low paying occupations and severely under-represented in the high paying occupations. Especially among professionals and managers, a value of 0.5 indicates that the percentage of SC individuals is half their representation in the general population. The situation is even worse among ST groups (0.4).

Conversely, as expected, representation of upper caste groups steadily increases with earnings, and they are generally over-represented among professionals, managers, and clerks, that is, occupations requiring higher levels of formal education. Their over-representation is as high as 1.8 in these occupations. OBC groups are generally represented in proportion to their population share across all occupations. The above situation has not substantially altered since 2011 (data not shown).

Figure 5.10 : ***SC and ST Groups Are Over-Represented in Poorly Paid Occupations while Upper Castes are Over-Represented in Well-Paid Ones***



Sources and notes: **LB-EUS 2015.** ***Representation Index = (% in occupation/% in workforce). Numbers indicate average monthly earnings for a given occupation.***

Table 5.1 : ***Caste Composition of the Principal Sectors of the Economy***

	SC (%)	ST (%)	OBC (%)	Others (%)
For the year 2004:				
Agriculture	20.7	14.4	42.5	22.4
Mining	26.1	16.5	38.0	19.5
Manufacturing	17.7	3.9	45.9	32.5
Construction	31.4	10.1	38.7	19.8
Services	15.9	3.9	37.7	42.5
Total	**19.9**	**10.3**	**41.5**	**28.4**
For the year 2011:				
Agriculture	18.8	15.2	45.0	21.0
Mining	26.8	11.1	41.6	20.6
Manufacturing	16.2	4.0	46.0	33.8
Construction	32.0	10.9	39.5	17.6
Services	15.3	4.4	41.6	38.6
Total	**19.0**	**10.2**	**43.5**	**27.3**
For the year 2015:				
Agriculture	22.5	14.9	39.4	23.3
Mining	23.9	15.3	36.5	24.4
Manufacturing	18.6	5.0	46.3	30.1
Construction	31.1	11.3	39.0	18.6
Services	15.8	6.1	39.9	38.2
Total	**20.9**	**10.6**	**40.2**	**28.2**

Sources and notes: ***NSS-EUS 2004 and 2011, and LB-EUS 2015***

Before delving into the industrial segregation data, let us examine the broad sector-level shares of the four groups. Table 5.1 shows the caste composition of each major sector of the economy over the past decade. Agriculture is the only sector that displays shares close to the overall workforce shares. ST groups are over-represented in mining, SC groups in construction as well as mining, and upper-castes in the service sector. We do not see a tendency for these disparities to reduce over this period.

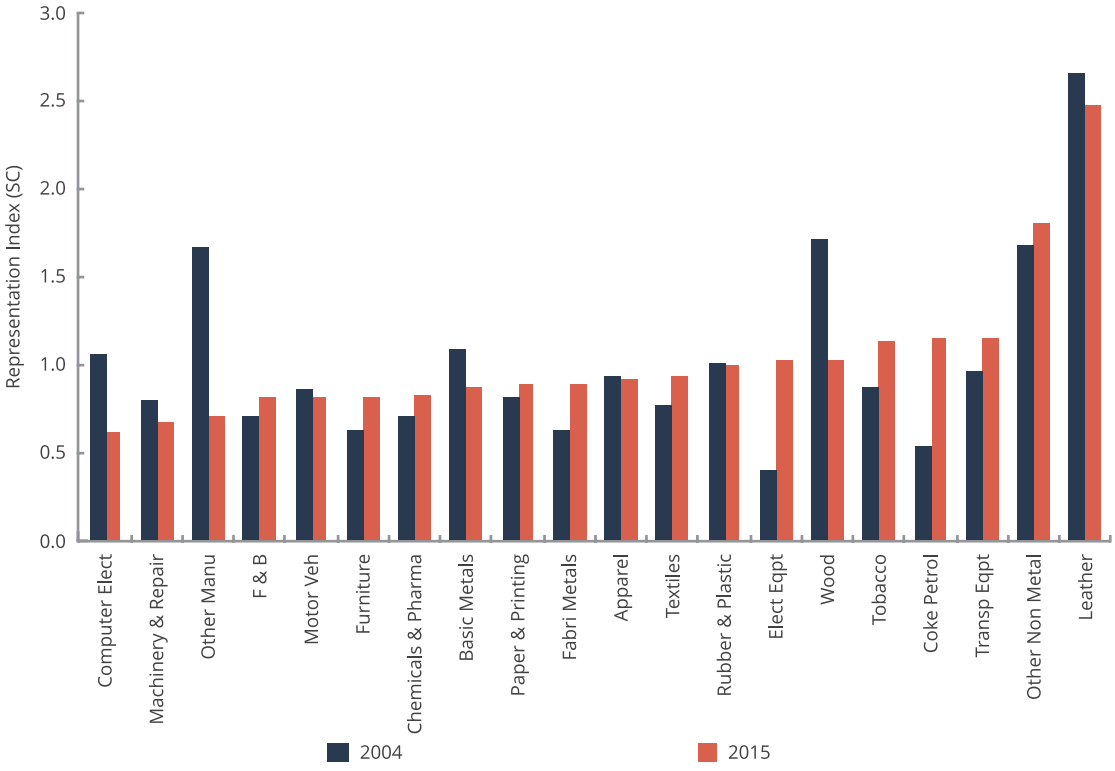
Next, we look at industrial segregation within the manufacturing and service sectors. We focus on SC and ST groups since segregation is low or absent for OBC and upper castes. The caveat is that coarse categories may hide actually existing segregation. Figures 5.11a and 5.11b show the representation index (share in a given industry divided by the share in the total workforce) for both groups. Recall that an index of one means representation proportionate to that in the workforce. The wide range of the index going from 0.5 (or even lower in the case of ST groups) to 2.5 or 3 indicates a high level of caste-based segregation in the manufacturing sector.

A few things stand out. First, SC workers are vastly over-represented in the leather industry. 46 per cent of leather industry workers belong to this category, while their proportion in the overall workforce is only 18.5 per cent, a clear indication of the enduring power of caste-based segregation in India. Second, between 2004 and 2011, there was a reduction in SC representation in industries such as computers, wood, and other manufacturing. The reasons behind this cannot be determined from these

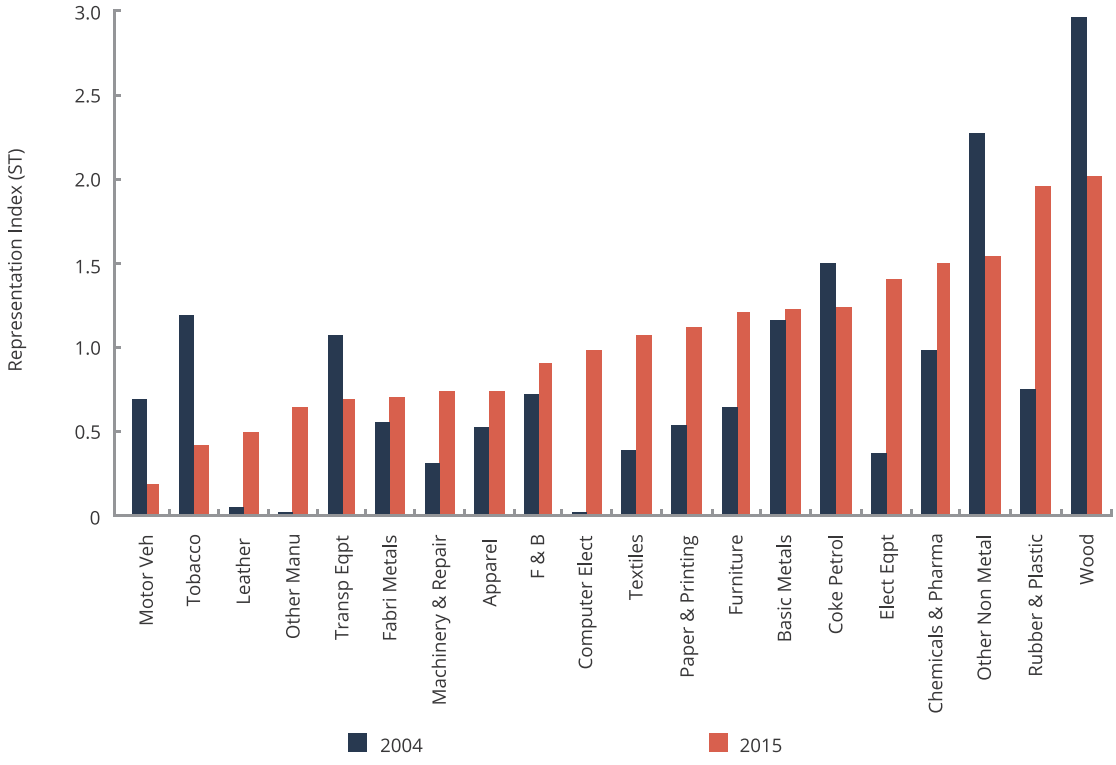
data, but the question needs to be pursued. The ST manufacturing profile, though even more segregated than the SC case, has shown greater dynamism over this period. Several industries such as textiles, furniture, rubber and plastics, and paper, saw greater ST representation. On the other hand, some traditionally ST-heavy industries, such as wood, registered a decrease.

Figure 5.11 : ***Caste Representation across Manufacturing Industries***

a) **SC**



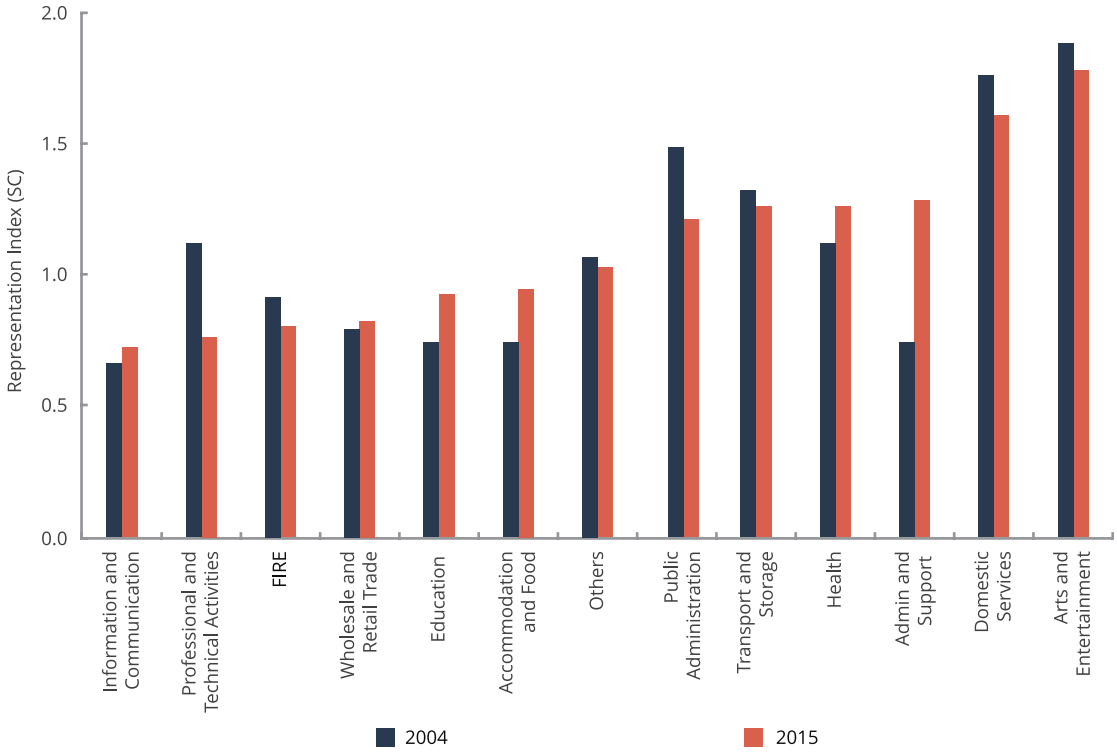
b) **ST**



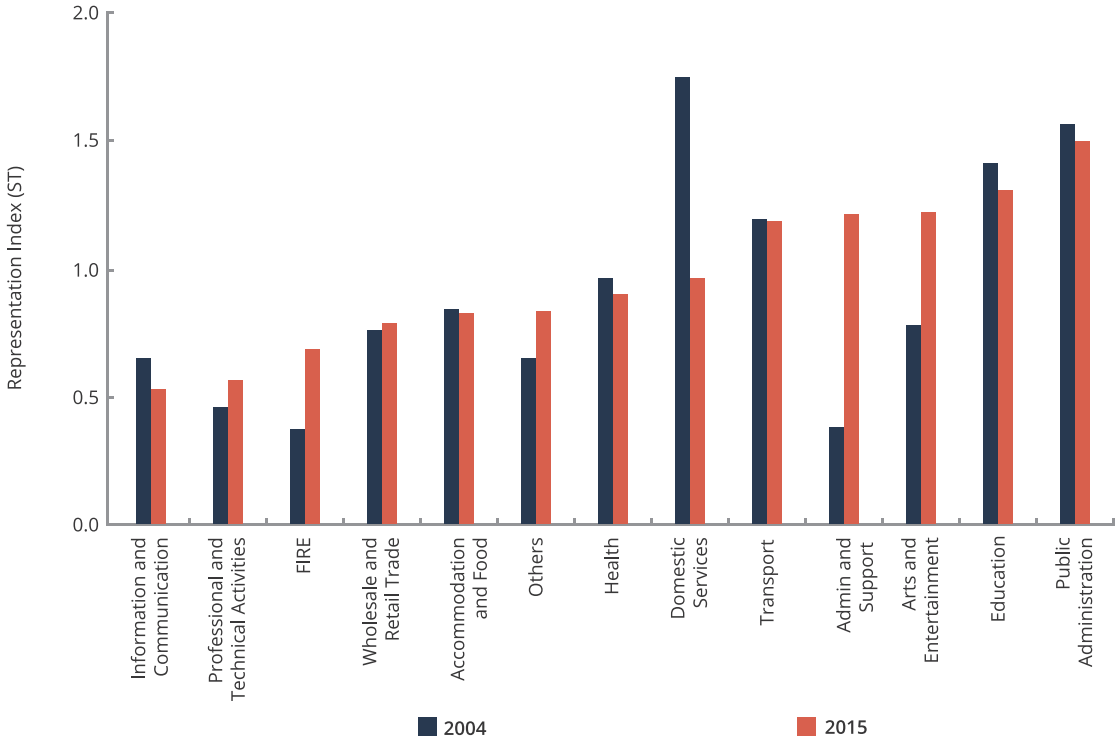
Sources and notes: **NSS-EUS 2004, LB-EUS 2015.** ***Representation Index = (% in industry/% in workforce). Bars are ordered by increasing SC/ST representation in 2015.***

Figure 5.12 : ***Caste Representation across Service Industries***

a) **SC**



b) **ST**



Sources and notes: **NSS-EUS 2004, LB-EUS 2015.** ***Representation Index = (% in industry/% in workforce). Bars are ordered in increasing order of SC/ST representation in 2015.***

In the service sector, the range of over and under-representation is narrower than in manufacturing, as seen in the smaller range of the representation index. Figure 5.12 shows the data organised in increasing order of representation in 2015. There are some expected findings such as the under-representation of both groups (albeit more severe in the case of STs) in information and communication services and FIRE (index of 0.5 or 0.6).

On the other hand, both SC and ST groups are much better represented (in some cases even over-represented) in public administration. This may indicate the success of reservation policies over the years. In this respect, Borooah, Dubey, and Iyer (2007) have found that reservation policies increase the representation of SC and ST groups in regular salaried employment by around 5 percentage points. One can thus speculate that lack of reservation policies in the private sector is the reason why well-paying industries such as information and communication, FIRE, and professional and technical activities continue to be relative preserves of the upper-castes. Indeed, Madheswaran and Singhari (2016) argue that unequal access to high paying occupations is more important than wage discrimination within occupations in explaining the raw caste earnings gap in NSS data. On the basis of this, they advocate reservations in the private sector.

Higher representation of SC and ST groups in public administration and education could indicate the success of reservation policies over the years.

The final change to take note of is the reduction in ST representation in domestic services between 2004 and 2015, and an increase in both SC and ST shares in administration and support activities.

The secondary data cannot reveal much more than these overall trends. More fine-grained field studies and surveys are needed to identify the exact nature of these changes as well as their economic and social significance.

5.3.2 / Caste Earnings Gaps

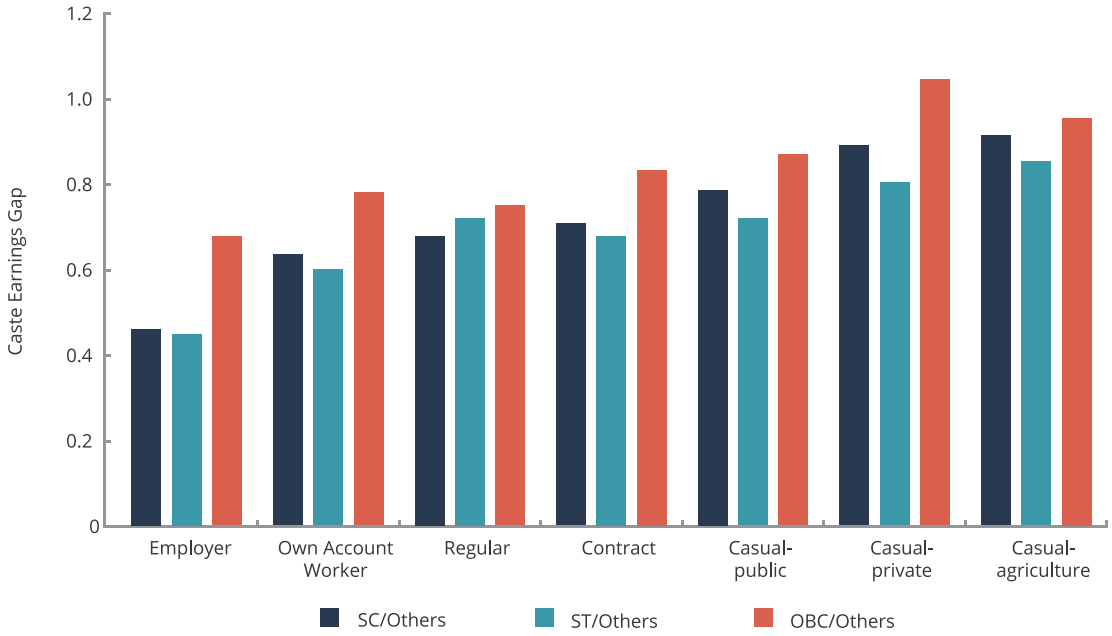
As in the case of gender-based segregation, we expect the caste-based segregation described above to have a strong effect on the caste earnings gap.

Using the same approximation method on LB-EUS income data, described earlier in the section on gender, we find that the aggregate raw earnings gap between scheduled castes and upper castes in 2015 was 0.56. That is, average SC earnings were 56 per cent of upper caste earnings. The figure is 55 per cent for ST groups and 72 per cent for OBC.

There is a large variation in the raw gap averages across types of employment (Figure 5.13). As reported for gender, the gap is widest for own-account workers and employers, possibly indicating the combined deleterious effects of caste discrimination in multiple markets (labour, land, capital, and product). SC and ST employers report earnings that are only 46 per cent of the earnings of upper-caste workers. OBC employers fare better but are still far behind upper castes, at 69 per cent.

The gap narrows to 0.7 – 0.8 for regular workers from all caste groups. It is very low for casual agricultural workers, which may represent a floor effect due to very low wages. A surprising result is the relatively larger gap observed among casual workers in public works such as MGNREGA, compared to private casual labour. Further investigation is required to see if caste discrimination is somehow playing a role in payments made to casual workers in public works.

Figure 5.13 : ***Caste Earnings Gaps across Employment Status***



Sources and notes: **LB-EUS 2015. *Earnings gap = Ratio of SC, ST or OBC earnings to Others earnings. A larger ratio indicates a smaller gap. Bars are ordered by increasing SC to Others ratio.***

Once we control for level of education, the raw caste gap narrows considerably and varies much less across education categories than it does across types of employment (Figure 5.14). For SCs, the largest gap is 0.69 for certificate and diploma holders, and the smallest is 0.84 for those with less than primary level schooling. For graduates and post-graduates, the gap is 0.77 and 0.74 respectively. Since 50 per cent of graduates and post-graduates are upper-caste, and only 11 per cent are from SC groups, it seems reasonable to suppose that the reason for high raw caste disparity is due to the relative preponderance of upper castes among the higher educated. Thus, the data offer a clear indication of the benefits of increasing the representation of lower caste groups in higher education.

In the unorganised sector, SC and ST entrepreneurs earn only around 50 to 60 percent of what upper-caste ones do.

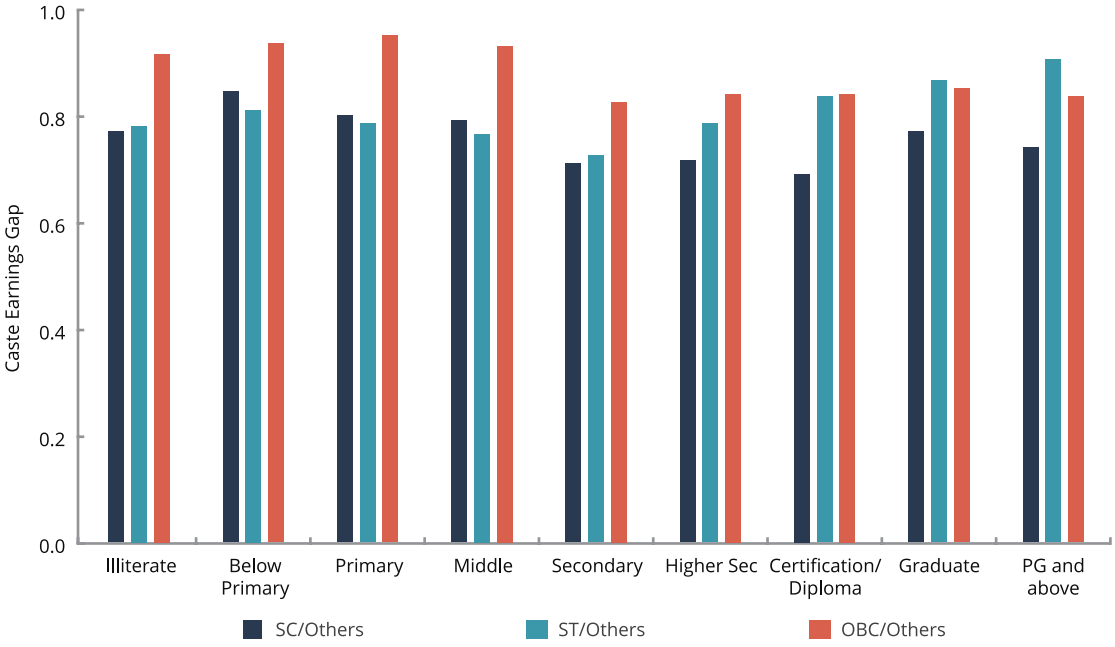
In this regard, it is worth stating that the aforementioned study by Madheswaran and Singhari (2016) also finds that endowment differences matter more than discrimination for regular salaried workers.

In general, across all three groups, there is a U-shaped pattern, with gaps being low at the two ends of the educational spectrum and highest in the middle. It is possible that this is due to floor effects at the lower end and regulated or formal employment at the upper end. But this hypothesis needs further investigation. Finally, note that the earnings gap is lower for ST workers with higher educational qualification than SC workers with the same qualification.

Our final piece of data on caste gaps is the 2015 NSS unorganised sector enterprise survey. We used this source earlier to estimate the penalty paid by women entrepreneurs in the unorganised manufacturing sector. Figure 5.15 shows the same for caste groups. As before, 'earnings gaps' here are approximated by the gross value added per worker by a firm operated by SC, ST, or OBC entrepreneurs, compared to firms operated by upper-caste ones.

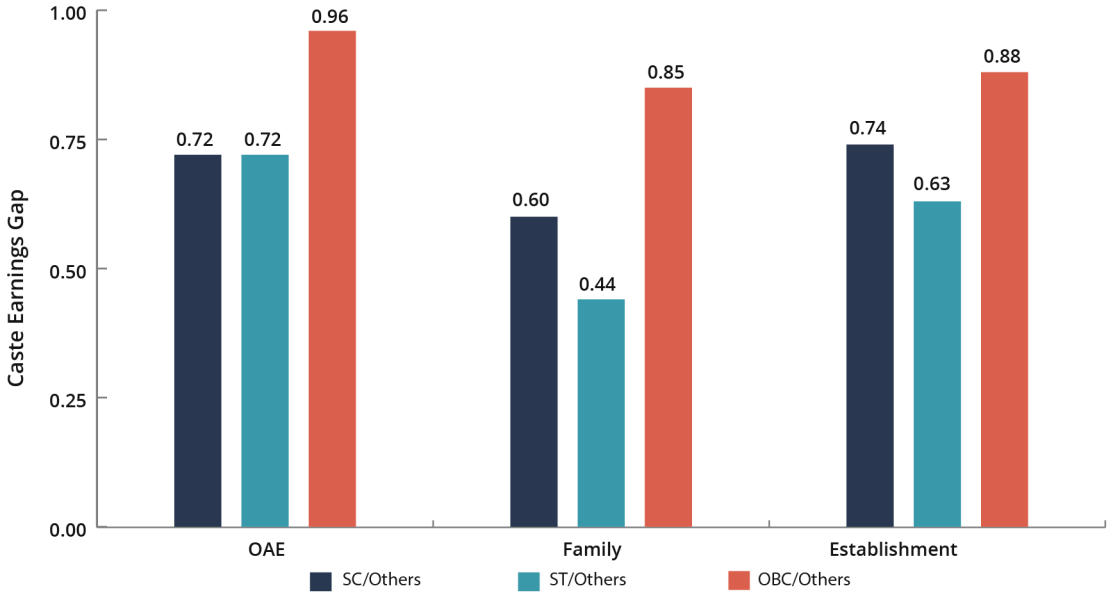
OBC entrepreneurs, whether they are operating own-account enterprises, family firms, or establishments with hired workers, perform better than SC or ST entrepreneurs, as seen in the lower earnings gap. SC and ST firms earn 40 to 70 per cent of what upper-caste firms do, depending on firm type. The gap is the largest for firms that run with only family labour. Another indicator of caste-based disparity in the data is the proportion of own-account

Figure 5.14 : ***Taking Education Level into Account Reduces the Caste Earnings Gap***



Sources and notes: **LB-EUS 2015. *Earnings gap = Ratio of SC, ST or OBC earnings to Other earnings. A larger ratio indicates a smaller gap. Bars are ordered by increasing SC to Other ratio.***

Figure 5.15 : ***Caste Earnings Gap across Firm Types in the Unorganised Manufacturing Sector***



Sources and notes: ***NSS informal and unincorporated enterprise surveys, various rounds (see Methods for details). OAE – own account enterprise or single person firm. Family – enterprises operating only with unpaid labour. Establishment – enterprises hiring at least one wage worker. The earnings gap is defined as the ratio of lower caste to 'other' earnings. Earnings are defined as GVA/worker.***

enterprises owned by members of various caste groups. While 22 per cent of upper-caste-owned enterprises were establishments with hired workers, only 7 per cent of SC and ST-owned enterprises fall under this category. OBC-owned firms fall in between, with 13 per cent. In other words, lower-caste entrepreneurs seem to find it much more difficult than upper-caste entrepreneurs to hire workers in the unorganised sector.

5.4 / Conclusion

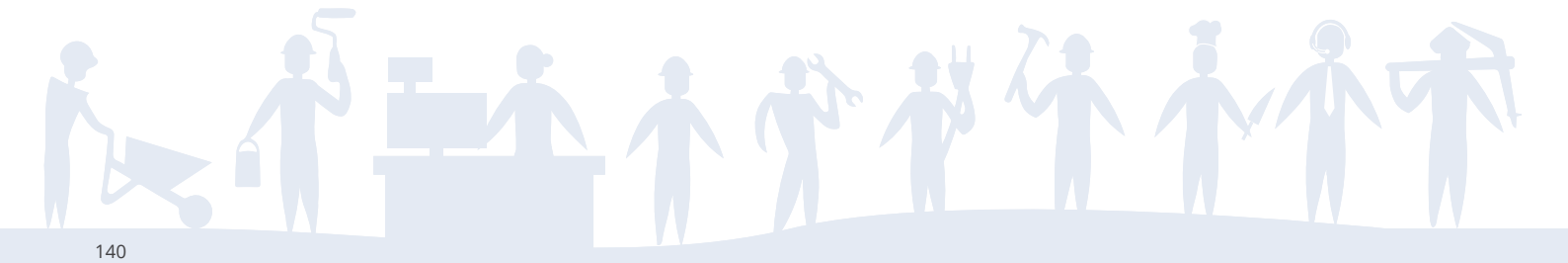
Despite very high rates of economic growth and ongoing structural change in the economy, it is clear that the Indian labour market suffers from large and persistent gender and caste disparities. The raw gender and caste earnings gaps have declined over time, but are still large at 65 per cent and 56 per cent respectively. The gaps vary considerably across types of employment, levels of education, and sectors. In general, they are larger in the self-employed category, for intermediate levels of education, and in the unorganised sector. But even where women or scheduled caste workers earn close to male or upper-caste workers, they rarely exceed 80 per cent of the dominant groups' earnings.

Gender and caste discrimination as measured by industrial and occupational segregation shows a more complex pattern. When it comes to gender segregation, some industries such as finance and professional services are over 90 per cent male. Many manufacturing industries are also over 80 per cent male, and segregation has actually worsened in the past ten years in this sector. However, overall segregation has reduced in services, and female over-representation in poorly paid industries such as domestic work has reduced somewhat. Of course, it is possible that this reduction in over-representation is a result of women dropping out of the labour force altogether rather than shifting to other industries.

At this point, we would also like to reiterate that segregation measured by indices such as the Duncan Index of Dissimilarity is contingent on a given overall level of participation in the workforce. India thus has two distinct problems, both severe: first, the overall low participation of women in the paid workforce, and second, a segregated industrial and services workforce.

On the caste dimension, reservation or affirmative action policies in public administration and education seem to have had the desired effect of reducing caste segregation. The large caste-based movements for job quotas currently underway all across the country need to be seen in the context of this achievement.

With regard to gender, both the principal lessons from the literature as well as the analyses presented here—lack of decline in occupational and industrial segregation and of reduction in gender earnings gaps—are consistent with international findings (ILO 2016). Much remains to be done in building equity more effectively into the Lewis-Kuznets process.



Chapter 6

Conclusion

India's challenge is completing a dual structural transformation, from an agrarian to an industrial, and from an informal to a formal economy, under significant constraints of equity and ecology. Employment policy can contribute to all dimensions of this process.

The creation of adequate, high quality employment is one of the most formidable challenges for economic policy in India today. This requires imaginative thinking based on reliable data and thorough analyses.

This report on the State of Working India has been prepared with the aim of sharing such information and analyses. In this concluding chapter, we first summarise some of the key findings. We then discuss each of the three major sectors in the context of employment policy. We end with reflections on the place of work in the twenty-first century.

6.1 / Key Findings

Nature of the Labour Force and the New Challenge of Open Unemployment

The analysis presented in Chapter Two underlines a significant new development in the Indian labour market: an increase in the rate of open unemployment. The principal status unemployment rate touched 5 per cent in 2015, which is high by historical standards. Further, the headline national rate hides large variations across states as well as age groups, reaching as high as 8 per cent in some northern states and up to 15 per cent for the youth and the higher educated. This is partly to be expected with an increase in the level of education, but is also worrying since it indicates an inability of the economy to create jobs commensurate with the expectations of educated youth. New employment data to be released later this year should be watched keenly to see if this is the 'new normal' for the labour market.

In the Indian context, skill without formal education and formal education without skill are both realities to be dealt with.

There has been a controversy over the number of new entrants into the labour force each year. Mehrotra (2018) points out that the actual number after 2004 has been much lower than 12 million a year, the latter frequently cited in the popular press. Notwithstanding this, as per the estimates of Ghose (2016), the economy still needs to generate 16 million new jobs annually to accommodate surplus workers and reach the 'Lewis Turning Point' in 15 years. This consists of around eight million new entrants every year (though this changes depending on the LFPR and may be less), seven million workers out of the pool of surplus labour, and part of the unemployed (0.9 million). Our analysis shows that, far from generating the required employment, the economy may have experienced a net destruction of jobs between 2013 and 2017.

Finally, we point to the need to rethink skill policy. The Indian labour force is becoming increasingly more educated. However, this does not mean an increase in skill. In the Indian context, skill without formal education and formal education without skill are both realities to be dealt with. The government has correctly identified skilling of the labour force as a priority area. However, not enough attention has been paid to upgrading existing skills acquired informally on the job. Such skills exist in abundance and should be the central focus of any skill policy.

The Kuznets Process: Sectoral Performance

The absolute reduction in the size of the agricultural workforce, which started in 2004, continues to be a reality. These workers, together with the new entrants into the labour force, need to be accommodated in the non-farm economy. Thus far, the destination of workers leaving agriculture seems to be largely construction and not manufacturing. Nationally, construction now employs 50 million workers—as much as manufacturing. Its share in rural employment has gone from 1.4 per cent in 1972 to 10.7 per cent in 2011, and it is the largest rural employer after agriculture.

With respect to manufacturing, the most salient point to note, from an employment perspective, is that this sector has failed to expand its employment share significantly over the past 25 years, remaining in the range of 10–13 per cent of the workforce. The last few years have seen rapid growth in employment in the organised manufacturing sector, but this has come at the expense of employment in the unorganised sector.

Increasing capital intensity in both labour and capital intensive industries has meant low elasticity of employment in general. That said,

some success stories do exist in the form of industries such as knitwear, plastics, footwear, and metal products, which have delivered stronger than average job growth as well as wage growth.

The labour law regime does not seem to be a constraint on job creation as such, but rather on good job creation, having the perverse effect of incentivising firms to hire off-the-book and contract workers to escape regulation. The current strong *de jure* and weak *de facto* regime seems to be a lose–lose situation, in need of reform. However, a simple elimination or relaxing of laws without an increase in regulatory capacity will be counter-productive, making job quality even worse.

The Nature of the Lewis Transition

The long-run transition from informal to formal work has been slower than desired or expected in India. In 1987, 55.5 per cent of workers were self-employed. By 2015, this had fallen to 46.6 per cent. Correspondingly, the proportion of regular wage workers rose from 15.6 per cent to 20.6 per cent.

The proportion of formal workers among non-agricultural wage workers has been inching up slowly and is now just under 60 per cent as per the broadest definition of formality ('regular workers'). However, if access to at least one social security benefit (such as paid leave, provident fund, or pension) is included in the criterion, this number falls by half to 30 per cent. A mere 17 per cent of non-agricultural wage workers in the Indian economy have access to regular employment with some benefits and a written contract. It must also be borne in mind that the most rapidly growing sector, construction, is also the most informal.

Wage growth has been occurring consistently, except for the agricultural sector, even if at only half the rate of GDP growth.

Wage growth has been occurring consistently, except for the agricultural sector, even if at only half the rate of GDP growth. The recent India Wage Report finds that, between 1994 and 2011, real wages for regular workers grew at 3 per cent per annum and those for casual workers at 3.85 per cent (Papola and Kannan 2017; ILO 2018). Interestingly, we find that wage growth in the unorganised manufacturing sector has been faster than in the organised sector at least since 2000. The weak growth of wages in organised manufacturing, combined with large increases in labour productivity occurring on the back of rising capital intensity, has meant a striking divergence between wages of production workers and labour productivity in this sector, and a collapse of the labour share. At its lowest point, around 2008, the share of wages in value-added was less than 10 per cent. It has since increased to around 14 per cent. Further, despite growth, wage levels have remained low, with the vast majority of the workforce earning half the lowest recommended salary by the seventh CPC. The Lewisian surplus thus seems to be manifested via continued low wage levels and wage-productivity divergence rather than stagnant wage growth.

Labour Market Segregation and Its Effects

With respect to gender and the labour market, India has two distinct problems: first, the overall low participation of women in the paid workforce and second, a segregated industrial and services workforce. Manufacturing remains overwhelmingly male, and segregation has actually worsened in the past ten years in this sector. On the other hand, agriculture is increasingly feminised. Segregation has reduced in services, but, even here, in some industries such as finance and professional services, males continue to dominate at over 90 per cent.

When it comes to caste segregation, it continues to be persistent in both manufacturing and services. However, in services, reservation policies in public administration and education seem to have had the desired effect of reducing segregation. The large caste-based movements for job quotas currently underway all across the country need to be seen in the context of this achievement.

Finally, raw gender and caste gaps have declined over time, but are still large at 65 per cent and 56 per cent respectively.

6.2 / Towards a National Employment Policy

In the Introduction, we formulated India's challenge as one of completing a dual structural transformation, from an agrarian to an industrial economy, and from a largely informal to a formal economy, under significant constraints of equity and ecology. Employment policy can contribute to all dimensions of this process. Where, for whom, and how good the jobs are, together determine the nature of the transformation that the economy undergoes.

A National Employment Policy can take the necessary broad and comprehensive approach needed. Here we discuss what each of the principal sectors needs and can offer. It should be emphasised that our focus is on the question of employment and structural change, not on sectoral policies or reform in general. We also discuss the attendant question of fiscal policy.

6.2.1 / Sectoral Considerations

Agriculture

The problems of the agricultural sector are manifold and complex. This year's SWI does not address the issues facing this sector. But the centrality of this sector cannot be over-emphasised. What happens in agriculture directly impacts job creation as well as the quality of work in the rest of the economy. The experience of late industrialisers in East Asia shows that comprehensive agricultural reforms lies behind the subsequent success of industrial policy. Conversely, to 'get agriculture wrong' is to reduce the likelihood of good job creation in other sectors.

Raising incomes and productivity in agriculture has three important effects: first, a direct impact on the welfare of nearly half the country's workforce and an increase in domestic demand; second, to the extent that the rural-urban earnings gap reduces, a decline in migration, informality and unemployment, and therefore better working conditions in the cities; and third, a fall in commodity prices and hence reduced inflationary pressures and more room for industrial growth.

A failure of public investment to complement private efforts means a failure to convert the latter into higher incomes and output.

Raising productivity has long been a central focus of agricultural policy, but more emphasis has been placed on private investment by farmers in the form of seeds, fertilizers, pesticides, tubewells and machinery. Public investment in irrigation and electricity, local storage and value-addition capacity as well as better transport are all crucial to convert private investment into higher returns. Conversely, a failure of public investment to complement private efforts means a failure to convert the latter into higher incomes and output.

Hence the problem of low productivity of Indian agriculture compared to other large Asian economies like China, Indonesia, and Vietnam persists. But the situation is different for different major crops. For example, India lags behind all three countries in output per hectare of rice but only behind China in wheat. Wheat output per hectare in India is comparable to that in the United States (NITI Aayog 2015). Indeed, some have argued that Indian agriculture seems to have entered an era of 'permanent surpluses'.[1]

But rather than enhancing farm income, this has given rise to the phenomenon of frequent gluts and resulting collapse of incomes. Further increases in productivity have come with rising costs of cultivation, and there is continuing market power of intermediaries in the agricultural supply chain. The result is a perennial situation of farm distress.

The solutions are as well-known as the problems. Increased public investment in the form of irrigation, extension services, local storage and value-addition capacity, and better transport; increased outlays for MGNREGA, making it a truly demand-led programme; direct income subsidies and more social infrastructural investment in rural areas, to name a few. The recommendations of the National Commission on Farmers ('Swaminathan Commission') constitute a comprehensive basis for redesigning policy (Swaminathan 2006).

[1] The age of surplus.

Manufacturing

A recent, thorough analysis of the need for manufacturing-led growth is available in Ghose (2016). The author responds to the 'manufacturing pessimism' in the literature. This pessimism has drawn on the empirical fact of 'premature deindustrialisation' (Rodrik 2016). The decline in the capacity of this sector to create jobs is seen in the fact that the same share in output is associated with far smaller shares in employment for industrialisers today.

Ghose makes three points. First, among a cohort of Asian countries, India has the lowest manufacturing share of employment. Thus, it is possible that peak levels have not been reached. Second, in the past, a substantial part of employment in services such as design, marketing, finance, transport, health, and so on would have registered as 'manufacturing' employment because these services were supplied in-house by firms. They are now increasingly outsourced. This simply means that such allied employment will appear as service sector jobs today. Lastly, the author shows that setting aside social and personal services, the organised service sector is actually less employment intensive than organised manufacturing.

The policy conclusion is that India should not give up on manufacturing-led employment growth quite yet. Rather, as Santosh Mehrotra has argued, there is a need to bring back coordinated industrial and trade policies.[2]

The question is not whether industrial policy should exist, but rather what form it should take to enable growth in employment, labour productivity, and wages.

'Industrial policy' has a bad reputation in some circles in India, calling to mind the 'permit raj'. The policies of the pre-liberalisation period have been criticised for disregarding India's comparative advantage in labour intensive manufacturing. The result is that a labour-abundant economy has diversified into skill-intensive and capital-intensive sectors. But another way of looking at the same problem is that even the relatively small manufacturing sector is more diversified and sophisticated than comparable countries (Felipe et al 2013). The question is, can this diversified manufacturing base be leveraged as India tries to expand into relatively more labour absorbing industries? For example, by ensuring domestic supply of capital equipment at competitive prices thereby helping the trade deficit. Secondly, note that industrial policy never went away. It merely morphed into more acceptable forms such as tax incentives, FDI, special economic zones, and change in labour regulation regimes. The question thus, is not whether industrial policy should exist, but rather what particular form it should take to enable growth in employment, labour productivity, and wages.

One interesting policy receiving attention currently is a wage subsidy. For example, the Odisha Apparel Policy promises ₹1000 per worker per month for 36 months, for units employing a minimum of 200 workers (Government of Odisha 2016). Similarly, the Gujarat Apparel Policy has a provision whereby the state government will provide 50 per cent of the wages, ₹4000 for female employees and ₹3200 for male employees per month for a period of five years. The subsidy is for new enterprises with minimum scale (150 machines) and generating at least 300 domicile jobs (Government of Gujarat 2017). At the national level, the Government of India has already implemented policies wherein it bears the entire 12 per cent of the employers' contribution to the Employee Provident Fund Scheme for new employees of the garment industry. This is for the first three years on the job for those who earn less than ₹15,000 per month. Such policies are also being implemented in other countries.[3]

Industrial craft clusters are major employers in their own right, with over 500 officially listed arts and crafts and millions of jobs at stake.[4] In addition, they are incubators for skill development and manufacturers of products with cultural value. They deserve much more attention in the employment

[2] Why alarmists must not derail policy direction if they want a better India.
[3] Government to bring employees of apparel, garment and textile sectors under EPFO scheme by bearing 12% of employers' contribution, Wage subsidies in Australia.

policy (Shrivastava 2018). The crafts sector has suffered from a schizophrenic attitude, extolled on the one hand for cultural and heritage value, and neglected on the other for being a 'sunset' industry. This sector must be viewed as a dynamic industrial sector rather than a dying one in need of preservation (Bhattacharya and Sen 2018). Case studies indicate that intellectual property rights such as Geographical Indications can, to an extent, if they are designed sensitively taking into account technical change in craft industries, enhance incomes by reducing imitation and counterfeiting. But they cannot substitute for adequate infrastructure, credit, and market access that can only be delivered by an industrial policy (Basole 2015a).

Connected to the question of crafts is the link in the policy imagination that equates manufacturing with cities. Several craft clusters are rural. Structural change must not be equated with a movement of the workforce from the rural to the urban areas. Only then can the crucial role of the rural non-farm sector be appreciated. This sector is vital for many reasons. First, a healthy and expanding rural non-farm sector contributes to job creation and increased productivity. Second, by employment creation in the rural areas, it alleviates the pressure on cities. Third, it can provide a more sustainable model of development.

Services

Tradable services such as IT/BPM have received a lot of attention in India's growth story. However, the non-tradable service sector, in particular the social segment consisting of education, health, transportation and other public services, and hospitality, has significant potential for job creation as well as the capacity to deliver equitable and green growth. A 'universal basic services' (UBS) approach can be imagined that delivers human capital advances alongside job growth.

A 'universal basic services' (UBS) approach can be imagined that delivers human capital advances alongside job growth.

The UBS can be seen as an alternative to the Universal Basic Income (UBI), which has recently gained a significant amount of attention and support from academic as well as policy circles. UBI, a cash transfer to everyone in the population, is a response to the concern that rising automation will lead to increasing productivity with fewer jobs. A redistribution of these productivity gains will offset the otherwise increasing inequality that may result from such technological changes. The UBI, being a cash transfer is also thought to be free of leakages and hence a more efficient way of providing social welfare, while allowing households the freedom to choose what they want to spend the money on. Some trials of UBI schemes are happening in developed countries, and, increasingly, it is also being proposed for developing countries (Ministry of Finance 2017).

But if the objective is to ensure that the poorest families can maintain a decent standard of living, then the amount transferred has to be enough to cover costs of basic needs that are either not publicly provided or are provided but not at an acceptable level of quality. This necessitates some sort of indexing that accounts for the changes in market prices of these requirements, leaving open the possibility that if the government comes under some fiscal pressure, it can run down the real value of the transfer. We can already see this happening in the case of MGNREGA, where the increase in nominal wage rates has been lower than the inflation in some states. Additionally, in a patriarchal society, household power dynamics will dictate what the cash is used for, and it may not be used in the interest of all members of the household. Finally, there are formidable technical and infrastructural problems in timely delivery of cash transfers.

Keeping these problems in mind, we believe it is worth investing in UBS instead of UBI. A key condition for this is an investment in improved and increased public provision of healthcare, education, housing, security, transport, and utilities. This will have multiple positive effects. Some of these services like healthcare and education have large potential for creating good jobs, which would be the immediate effect of an expansion in these sectors. Additionally, providing these services publicly and universally and ensuring that they are of good quality is likely to improve social cohesion as

[4] List of handicrafts and craft maps of States-Uts.

affluent sections of the society would also start using them. Many of these services also have clear economies of scale or network effects, which would lead to efficiency gains that come with scaling up. Most importantly, the services would ensure a basic minimum quality of life for everybody regardless of their social or economic location. A well-executed UBS would go a long way in restoring public goods to their rightful place in society.

Many problems can, of course, be anticipated in implementing such an ambitious scheme in a country with low state-capacity and high social stratification. But the UBI is also equally ambitious, with none of the accompanying direct effects on social infrastructure and human capital. If a big policy is being imagined, it is worth exploring UBS since it would be far better on multiple dimensions, including creation of jobs and reduction of inequality, than UBI.

6.2.2 / Macroeconomic Considerations

Currently, there is a wide consensus in policy-making circles that the government must create 'enabling conditions' for private industry to be the key generator of employment (hence, for example, the Make in India programme). In this regard, creating supply-side reforms may improve conditions for private industry-led employment generation. But this is insufficient and one needs to pay far more attention to the demand side.

There is very little evidence that fiscal deficits have been inflationary or that they have seriously crowded out private borrowing.

The patterns of demand that exist are worrying. Apart from the reduction in external demand in terms of exports. India's long-standing investment slowdown remains a major cause of concern. Given the peak of 35 per cent of GDP over a decade ago to less than 30 per cent today, it suggests that the working out of the balance sheet issues requires more time (despite very recent modest increases in capital expenditure from the sector). The main increases in demand have come from increases in private (household) and government consumption, which do not necessarily add to the productive stock of capital in the country.

At the same time, there is clear evidence of underinvestment in social and physical assets like health, education and infrastructure, which are essential for growth, employment and welfare A recent estimate suggests that the country faces a 1.5 trillion dollar infrastructural gap, which is unlikely to be covered by private investment.[5]

Concerted efforts are necessary to envision alternative macroeconomic and fiscal priorities that deliver the needed employment in a reasonable time frame.

Most importantly, the concerns of debt management and stabilisation appear to be overemphasised. There is very little evidence that fiscal deficits have been inflationary or that they have seriously crowded out private borrowing. Nor is there any merit to the concern that current levels of debt (60−80 per cent of GDP) will have deleterious effects on growth. As the then Chief Economic Advisor, Arvind Subramanian, pointed out in his note on the N.K Singh committee report, debt levels were highest precisely during India's dream run.[6]

The case for additional government spending, particularly in areas where it adds to the productive stock of assets, is very strong. The government could identify a slightly higher debt ratio for a period of 10 years and, with favourable debt dynamics (the real growth rate exceeds the real interest rate, which has the effect of reducing the debt ratio), could provide a useful stimulus that would crowd in private players.

At the same time, industrial policies that target employment-intensive sectors should not be off the table. The historical experience of now more advanced industrial countries suggest that these policies, perhaps more accurately labelled as learning, industrial and technology (LIT) policies, have been a central part of such transformation. At the current juncture, the fruitful question to be asked is not whether but which combination of fiscal and industrial policies are most likely to succeed in achieving the aims of growth and quality employment.

[5] India needs $1.5 trillion for infrastructure: Arun Jaitley
[6] https://dea.gov.in/sites/default/files/Volume%201%20FRBM%20Review%20Committee%20Report.pdf

Finally, there is a need to consider whether governments in countries like India have willingly constrained themselves from adopting strategic trade and industrial policies for fear of being labelled protectionist or anti-globalisation. In fact, a large economy like India should have significant leeway in policy-making to suit its own priorities. After all, the true test of a well-functioning economy is whether it makes life better for all its citizens, not merely whether it is open to trade.

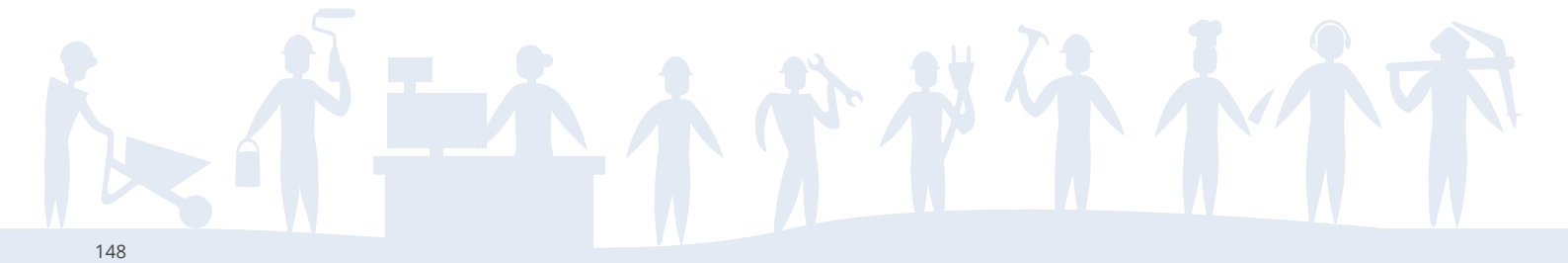
6.3 / The Future of Work

Since the nineteenth century, thinkers have speculated on the future of work under capitalism, from utopian as well as dystopian perspectives. One example of the former is John Maynard Keynes' thesis that since technological progress makes output grow rapidly per hour of work, people's needs will be satisfied with ever lesser amounts of work, and the human question of survival would eventually be abolished (Keynes 1963). This would free up more time for creative pursuits and enjoyment of life. Before Keynes, Karl Marx had advanced similar views albeit with a crucial caveat. Driven by the profit motive and supported by alienated labour, capitalism could not deliver such a society. But socialism or communism could. The experience of the twentieth century would seem to vindicate at least half of Marx's thesis. Several decades of growth and large increases in productivity have not reduced toil.

On the dystopian front, the spectre of machines making people redundant, causing mass unemployment has also been repeatedly raised since the nineteenth century. Its latest incarnation is the current debate over Artificial Intelligence and automation. In reality, however, rather than the disappearance of work, we seem to have a proliferation of work that people find meaningless and unfulfilling (Graeber 2018). This is over and above the trend in industrialised countries, especially in the Anglo-American economies, of work becoming less stable and remuneration more tenuous. While in countries such as India, structural transformation proceeds haltingly and employment is often unstable and certainly not adequately remunerative.

Finally, in addition to the usual considerations of security, safety, and remuneration, any discussion of employment must ask what work is for and how to make it meaningful for those who do it. Work should not simply be seen as a disutility to bear in order to have access to income. The need to be doing productive work that provides utility and meaning for both oneself as well as others is one of the most fundamental human drives. If we consider work the basis of human civilization and of human creativity, employment policy cannot simply valorise the labour intensity of any form of production. We must also ask about the quality of a work life as well as the ways in which work disrupts as well as enables life.

If we consider work the basis of human creativity, employment policy cannot simply valorise the labour intensity of production.



The challenge is to imagine a path in which the fruits of technological progress are more widely enjoyed and in which the economy provides remunerative, stable and meaningful work that allows human capacities to flourish. This requires both destroying 'bad jobs' and creating 'good jobs.' In turn this process demands large transformations in the way our society and economy are organised.

The first five decades of India's independent existence saw some concerted effort to push such an imaginative transformation. The purpose of several of India's major economic initiatives (small scale industry protection, credit policies, and public sector expansion) was at least in part to aid in the Lewis-Kuznets transformation in such a way as to minimize the wholesale uprooting and social dislocations that come from industrialization and structural change. These policies, however, ran aground and had some limited success at best in generating large scale and meaningful growth and employment. Unfortunately, India's move to a more market oriented economy, while tremendously successful at generating more sustained growth has not done any better in terms of widespread employment generation. At the same time, with the demographic changes that are underway and with the aspirational sentiments of an emergent middle class, the need for such solutions has become more pronounced.

Mahatma Gandhi and Dr. B.R. Ambedkar, both thought deeply on the social, ethical, and economic significance of work.

Fortunately, there is a rich intellectual and practical heritage to draw on for charting a path. In India, two influential figures of the early twentieth century, Mahatma Gandhi and Dr. B.R. Ambedkar thought deeply on the social, ethical, and economic significance of work. They challenged three hierarchies that have plagued the world of work, namely, head versus hand, caste, and colonial versus indigenous. The feminist and ecological movements of the latter half of the century add to this formidable heritage. Taken together, these constitute a large social archive of ideas and practices that is available to us to reimagine work in the twenty-first century.

Gandhi's work on labour was central to his economic thought. It elevated the status of craft as well as indigenous knowledge traditions to be on par with that accorded to intellectual labour and modern knowledge. Ambedkar's challenge to caste was also centered on work. Ending degrading forms of labour and embracing modern knowledge as well as modern forms of work were central to his programme. The modern Indian feminist movement also made work, specifically unpaid work, a central aspect of its analysis of patriarchy. Finally, the new ecological movements, in the spirit of 'environmentalism of the poor' have foregrounded the relationship between livelihoods and ecological consciousness.

Contemporary Indian reality demands a contribution from each of these streams. None of them are complete in themselves. Borrowing from them creatively and selectively constitutes the task of our times.

Methods

In the Introduction, we formulated India's challenge as one of completing a dual structural transformation, from agrarian to an industrial economy, and from a largely informal to a formal economy, under significant constraints of equity and ecology. Employment policy can contribute to all dimensions of this process. Where, for whom, and how good the jobs are, together determine the nature of the transformation that the economy undergoes.

A National Employment Policy can take the necessary broad and comprehensive approach needed. Here we discuss what each of the principal sectors needs and can offer. It should be emphasised that our focus is on the question of employment and structural change, not on sectoral policies or reform in general. We also discuss the attendant question of fiscal policy.

Data

Table 1 gives details of all surveys from which unit-level data have been used. In the report text, we refer to surveys conducted over a fiscal year by the first of the two calendar years for ease of reading. For example, a survey conducted in 2011-12 is referred to by the year 2011.

In addition to unit-level data, we have also drawn upon several published reports from different sources.

- The partial, high frequency, establishment surveys conducted by the Labour Bureau, known as the Quarterly Employment Surveys (QES) cover establishments with more than 10 workers. Thus these are mainly used for estimates of organised employment. We use these surveys to supplement our estimates for the most recent two years, particularly for the organised service sector industries, for which other data sources at the establishment level are not available. The most recent series of the QES which starts in 2016 covers 10,600 units and 8 sectors covering all the States/UTs in the country. The eight selected sectors constitute around 81 per cent of the total employment of units with 10 or more workers. The sampling frame is from the 2013 Economic Census. The reports are available at http://labourbureaunew.gov.in.
- The Reserve Bank of India publishes monthly data on rural wage rates for men. These are collated from reports submitted by various state-level Ministries of Labour. They are available at http://dbie.rbi.org.in/.
- The Centre for Monitoring the Indian Economy (CMIE) along with the Bombay Stock Exchange (BSE) have been conducting large sample employment surveys since 2016. The results of these surveys are available as a set of reports titled 'Unemployment in India: A Statistical Profile' at https://unemploymentinindia.cmie.com/.
- Internationally comparable industry level data for India on employment, output, and productivity are available via the RBI-KLEMS database at https://rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=43504.

Table 1 : ***Details of Surveys Used in the Analysis***

	Employment Surveys	NSS Unorganised Enterprises Surveys	ASI Organised Enterprises Surveys
Unit of analysis	Household	Enterprise	Factory (manufacturing industries) , workshop (repair services), undertaking or a licensee (electricity, gas and water supply), establishment in the case of bidi and cigar industries
Survey Rounds & Years	NSS-EUS 61st Round (2004-05), 68th Round (2011-12) and LB-EUS 5th Round (2015-16)	NSS 51st Round (1994-95) 55th Round (1999-2000), 62nd Round (2005-06) 67th Round (2010-2011) and 73rd Round (2015-16)	1983 to 2016 for NIC-3 digit data, 2000-2014 for factory data
Sectoral Coverage	All sectors	NSS 51st Round – unorganised manufacturing enterprises NSS 55th Round – non-agricultural informal sector NSS 62nd Round – unorganised manufacturing enterprises NSS 67nd Round and 73rd Round surveys – unincorporated manufacturing and services	Factories registered under Factories Act, 1948, Bidi and cigar manufacturing establishments registered under the Bidi and Cigar Workers (Conditions of Employment) Act 1966, Electricity undertakings not registered with the Central Electricity Authority (CEA)
Geographic coverage	National	National	National
Exclusions	N.A.	Organised enterprises in manufacturing and services, Construction (included only in 55th Round), agricultural enterprises.	Defence establishments, oil storage and distribution depots, departmental units such as railway workshops, Road Transport Corporation workshops, sanitary, water supply, gas storage etc

Comparability of Recent Labour Bureau Surveys with NSS

The National Sample Survey (NSS), under the auspices of the Ministry of Statistics and Program Implementation, has conducted nine comprehensive quinquennial household-level surveys from 1972-73 to 2011-12 with the objective of generating national and state-level estimates of aspects relating to employment and unemployment. The most recent one was conducted in 2011-12.

From 2009-10, the Labour Bureau, under the Ministry of Labour and Employment, has been conducting similar surveys, although some of the earlier surveys have been limited in their coverage. There have been five such surveys (2009-10, 2011-12, 2012-13, 2013-14 and 2015-16). Of these, unit-level data is available only for the fourth (2013-14) and fifth (2015-16) rounds. Therefore, LB-EUS fifth round provides the most recent, nationally representative employment-related information.

Since the LB-EUS and the NSS-EUS are conducted by different organisations and based on different questionnaires, the issue of comparability naturally arises. Here we describe some differences in the two surveys and provide a justification for comparability.

The fieldwork for NSS surveys typically runs over a one-year duration. For example, during the 68th (2011-12) Round, fieldwork started on 1st July, 2011 and ended on 30th June 2012. The LB-EUS fieldwork is shorter in duration. For example, LB EUS 2011-12 started in August 2011 and was completed by January 2012. This change in time period has implications for the collection of employment data, particularly for casual and seasonal workers.

The schedules of the two surveys also have some notable differences. Firstly, the Labour Bureau EUS collects activity status information only for individuals aged 15 years and above, while the NSS EUS collects this information for all individuals in the household. Therefore, data on children's activity statuses, particularly child labour cannot be gleaned from the LB-EUS.

Secondly, the Labour Bureau schedule has a few changes specifically in the economic activity statuses. The category of "contract worker" has been introduced. The Labour Bureau schedule also distinguishes casual workers by their enterprise/industry – public/private/agriculture. Finally, the LB has only one category for domestic duties, whereas NSS-EUS differentiates between domestic duties and subsistence activities.

Thirdly, with respect to earnings information, the NSS-EUS collects monthly per capita expenditure data via an abridged version of the consumption expenditure schedule. The Labour Bureau schedule however, assigns households to a broad income category with categories ranging from 'Upto ₹ 5000' to 'above ₹ 1,00,000. Wage earnings have also been reduced to a similar discrete categorization in the LB. However, unlike in the NSS-EUS, earnings information (although categorical) is available for the self-employed workers as well.

In terms of sample design, both the surveys adopted a stratified multi-stage design. The selection process of FSUs are based on the 2011 census villages for the rural areas and the urban frame survey (UFS) for urban areas in both surveys. The only other minor difference in methodology between both the surveys is in terms of sub-stratification. At the broader level, both the surveys categorize their sample as urban or rural. The LB-EUS report does not explain the further stratifications that

they have conducted. In terms of sample size, allocation of sample to states/UTs, selection and formation of hamlet groups and second stage strata and so on, both the surveys have followed the same procedure.

We can directly check the comparability issue for the year 2011-12 since both surveys were conducted in this year. Table 2 shows that the distribution of activity statuses are broadly similar across the two surveys.

The NSS-EUS 2011 estimates female LFPR (principal status) at 23.4 and male at 79. The comparable numbers for LB EUS are female LFPR of 25.3, and male, 77.2.

The distribution of employment type is also broadly similar across surveys with NSS reporting 38.9 per cent men as self-employed, 15.5 per cent as regular workers, 22.8 per cent as casual workers, and the LB reporting 37.3, 15.4 (including contract workers) and 22 respectively.

Lastly, in classifying workers in formal versus informal activity also both surveys are within one or two percentage points of each other.

Since the LB-EUS method has not changed in its subsequent iterations, we feel that comparing the estimates of the 2011-12 NSS-EUS with those of the 2015-16 LB-EUS is justified.

Table 2 : ***Detailed Activity Status, NSS EUS 2011-12 and LB EUS 2011-12***

	NSS 2011-12		LB 2011-12		
	Men	Women		Men	Women
Own Account Worker	29.55	3.98	Home-based worker	30.1	4.5
			OAW other than home-based	1	0.9
Employer	1.41	0.11	Employer	0.5	0.1
Unpaid Worker	7.97	7.09	Unpaid Worker	5.7	5
Regular Salaried	15.45	3.78	Regular Salaried	11.6	2.9
			Contract	3.8	1
Casual – public	0.59	0.3	Casual - public	1.5	0.5
Casual – other	22.21	7.23	Casual - other	20.8	8.7
Seeking Work	1.9	0.86	Seeking Work	2.2	1.7
Attending educational institution	13.94	9.81	Education, Domestic , all other non-economic activities	22.6	74.6
Domestic Duties	0.23	32.74			
Domestic Duties & free collection	0.24	28.18			
Rentier, pensioners etc	2.68	1.52			
Not able to work	1.63	1.59			
Others	2.21	2.81			

Estimating Absolute Size of the Labour Force and Workforce

Absolute numbers are generated by applying the shares estimated from the surveys on absolute population totals based on census projections.

For example, for 2015 all-India and state-level estimates of total working age population are derived from population projections based on Census 2011 available in available in LB-EUS 2015 Report (Volume 1, Annexure III) . The labour force participation rate derived from unit-level data is then applied on the total working age population numbers to arrive at the absolute size of the labour force. Other statistics such as unemployment and workforce at the all-India level are computed similarly.

At the state-level, state-level absolute numbers of labour force are generated by first estimating the states' share in all-India labour force from the unit-level data. This share is then applied on the all-India labour force number to derive the state-wise absolute labour force numbers. This ensures that all absolute estimates of labour force are internally consistent. Other state-level absolute numbers such as unemployed workers and workforce are derived similarly.

For 2011-12, the total all-India working age population is derived by extrapolating from the Census working age population for 2011, assuming a constant rate of growth. The numbers thus estimated are similar to the estimates of Ghose (2016). The labour force participation rate, estimated from the NSS EUS 2011-12, is applied on the absolute working-age population to arrive at the absolute labour force. The other absolute numbers and state-level estimates are derived using the same methods as for the 2015 data.

Deflators

All rupee amounts are quoted in lakhs and crores. Real values are reported in 2015 rupees, unless otherwise specified. Deflators used at the all-India level are CPI-Agricultural Labourers and CPI-Industrial Workers for wages, WPI-Manufactured Products for value-added and WPI-Machines and Machinery for capital. The indices are sourced from the RBI Handbook of Statistics on the Indian Economy and are rebased to 2015 prices using a linking factor.

State-level wages are deflated using the combined CPI (Rural and Urban combined) index, available from the RBI Database on Indian Economy. CPI (base-2010) extends from 2011 to 2014. CPI (base – 2012) extends from 2013 to 2016. The two series are linked using a common year (2013) and subsequently, a continuous CPI series going from 2011 to 2016 with the base year 2013 is created. This series is then rebased to 2015.

Industry and Occupation Codes

For occupations, the 2004 National Classification of Occupations (NCO) is used at the most aggregated one-digit level. We only analyse occupational distributions for 2011-12 and 2015-16.

The National Industrial Classification (NIC) 2008 is used for analysis of the post 2008 period. For analyses that require a longer, comparable time series, the Economic and Political Weekly Research Foundation's harmonised 3-digit NICs are used.

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