

Emerging Employment Patterns of 21st Century India

Laveesh Bhandari and Amaresh Dubey*

Version: November 11, 2019

1. Introduction

There has been a high decibel debate on the claims of stagnating employment in India and the undesirable directions in which the structure of employment is changing. Data from different sources, of different vintages, derived using different definitions has been shared in the public domain. While this has led to increased public attention to the employment challenge that India faces, it has unfortunately not adequately contributed as much to the understanding of how employment is changing and why.

One factor behind the confusion in the public debate has been the focus on short-term employment growth, another has been the judgements associated with falling employment among women and the rising unemployment among the youth, and yet another has been the issue of jobless growth. In each of these cases, value judgements are sometimes imposed on the data. While that may be the objective of any public debate, these judgements also sometimes blur the underlying picture.

This study has a single objective: to understand how employment patterns have been changing in India since the beginning of the millennium. In doing so, our objective is to look for a long enough time period, using a consistent definition and comparable data. Clearing the underlying picture of how employment patterns are changing requires us to study the same from different angles.

The study, therefore, looks at three data sources across time which are comparable with each other, namely, the large sample employment surveys of the NSSO (National Sample Survey Organisation) conducted in 2004-05 and 2011-12 and the PLFS (Periodic Labour Force Survey) conducted by the same organisation in 2017-18. The latter, i.e., PLFS, was designed to be comparable to the large sample employment surveys conducted earlier, though it has other objectives – namely of estimating quarterly short-term trends as well. We take advantage of this comparability in a consistent and well-sampled data source, that covers the whole economy and all forms of employment, across all parts of the country to study how employment patterns are changing. There are two components of employment as captured in

* Indicus Foundation and Jawaharlal Nehru University respectively. This is an abridged version of the paper that we submitted to the Prime Minister Economic Advisory Council. The authors are grateful to Bibek Debroy and the EAC-PM for asking us to conduct this study. This study was conducted with the brave and highly insightful efforts of Kriti Arora and Gopal Krishna Roy. Aishwarya Chordiya's timely research assistance is also highly valued. All errors are ours. For any queries please connect with the authors at laveesh@indicus.org and amaresh.dubey@gmail.com.

Indicus Foundation White Paper

these surveys. Usual Principal Status (UPS) which is the key to the employment story, the other component of employment considered in the past was subsidiary status (SS), which is primarily unpaid family labour and reflects more on the underemployment and disguised employment. Aggregating the two provides (UPS+SS) a flawed picture and therefore we focus on the principal status.

Summary

THE DATA

- NSS Large Sample Employment and Unemployment Surveys 2004-05 and 2011-12 and Periodic Labour Force Survey 2017-18. Using Principal Status employment, the data are comparable due to sampling and coverage similarity.
- Estimates as per NSS provided multiplier do not add up to total population, we adjust the multipliers to ensure population estimates in their data sets also match with total population of India for the concerned years, by adjusting at rural, urban and state-level.
- Use employment criteria as reported by household respondents, 'Status' in block 5.1 in schedule 10.
- Match NIC and NOC codes to ensure comparability of estimates.

KEY RESULTS

- **Employment rises by 4.5 crores over 13 years:** Employment has been rising consistently in the period of 2004 to 2011 and 2011 to 2017, the total employed in India rose from 41.2 crores to 43.3 crores from 2004 to 2011 and then to 45.7 crores in 2017. *[Table 1]*
- **Employment as captured by principal status shows some increase,** whereas that reflected by subsidiary status has fallen.
- **Urban employment rises by 4.2 crores while rural employment stagnates:** Rural employment rose from 30.2 crores in 2004-05 to 30.5 cores in 2017-18 an increase of barely 30 lakh, whereas urban employed rose from 11.0 to 15.2 crores over that period, an increase of 4.2 crores. *[Table 1]*
- **Population grows at 1.7 percent annually but employment only at 0.8 percent:** Employment growth has been less than half of population growth over the period. *[Table 2]*
- **Male employment rises by almost 6 crores, female employment falls by 1.5 crores:** Male employment grew from 30.0 to 33.8 to 36.0 cores whereas female employment fell from 11.15 to 9.5 and then rose marginally to 9.7 crores from 2004 to 2011 to 2017 respectively. *[Table 3]*

Indicus Foundation White Paper

- **Youth (15-24 years) employment fell by 2.8 crores but employment of older (24+ years) rose by 7.8 crores:** The bulk of the employment increasing between 2004 and 2017 has been in the segment 25-59 years with a total increase of 6.9 crores. [Table 4]
- **Children stop working en-masse and employment drops by 50 lakhs to 11 lakhs:** Those aged up to 14 years are expected to be in school and should not be working, indeed, employment has fallen from 61 to 27 to 11 lakh from 2004 to 2011 to 2017. [Table 4]
- **5.9 crores fall in employment of illiterates and those with primary incomplete, 10.4 crore aggregate rise for all others:** Even a small amount of education attainment helps, and non-attainment harms in terms of job loss. In 2004 illiterates and primary incomplete accounted for 48.9 percent or half of those employed, by 2017-18 this set was less than a third (31.1 percent) of the total employed. [Table 5]
- **The youth, males and females, prefer education to all other lifestyle options:** 49.3 percent of all youth are attending an educational institution, followed by domestic duties in 2017. [Table 6]
- **Unorganized sector employment grows by 6.5 crores but organized sector only by 2.7 cores:** The thirteen-year period under consideration saw a continued rise in unorganized sector, though the organized sector employment increase is faster and accelerating. [Table 7]
- **Non-contractual employment grows by 6.8 crores to 14.5 cores in 2017-18:** The non-contractual employment has been the hero of employment generation growing by about 5 percent annually over the period. [Table 7]
- **Self-employed and unpaid work in family enterprise account for over half (50.8 percent) of the total employment with a fairly stable share of total employment over the time.** [Table 7]
- **Sectors with primary activities show falling employment,** sectors with manufacturing tend to be stagnant or grow slowly in the aggregate, and services and construction rising dramatically. Among services only public sector, post and telecom see a fall in employment. [Table 9]
- **Fall in employment by 4.75 crores in non-perennial crop growing, most in sugarcane, cotton, wheat and rice.** Of this *the fall has been by about 3 crores for the period of 2004 to 2011 and by 1.75 crores after 2011 and till 2018* [Tables 9a and 9B]
- **Administrators and professionals most rapidly growing occupations, doubling from 3.73 to 7.54 crores.** However, the bulk of this growth has been on a non-contractual basis. [Table 10]

Indicus Foundation White Paper

KEY INDICATIONS

- **Employment growth for the better educated and skilled:** Employment growth is concentrated on those who have education of some type and those who are older (and presumably better skilled due to experience).
- **Fall of Low Productivity Employment:** Jobs associated with unskilled work have fallen dramatically, and women and men with lesser experience and education face the biggest losses.
- **Women less likely to be employed on two counts,** lower education levels in the aggregate, and lower demand due to changing technology of agriculture production.
- **Younger Women Preferring Other Options:** Women of all age segments have seen a fall in employment, while younger women are now more likely to be pursuing education, older women are more likely to be involved in household activities.
- **Education is a Preferred Option:** Both women and men are more likely to be in an educational institution- this strongly indicates a rising expectation of better opportunities for the well-educated.
- **Education is the only available satisfactory option** for many youth. For females though, data reveal household work to be another option.
- **Rural Employment Stagnates:** At an aggregate level, almost all the rise in employment is accounted for by the urban sector and rural employment has been stagnant during the thirteen-year period.
- **Destruction of Agricultural Jobs Expected to Continue:** At a sectoral level, the agricultural sector has seen a fall of about 3.4 crores and more so among India's key crops – sugarcane, cotton, wheat and rice. Greater use of new agri technologies including mechanization appear to be highly labour saving.
- **Agricultural Employment Falls Dramatically in High Subsidy Sectors:** Within the agricultural sector, the biggest fall has been in the cropping sector (NIC code 011), which now employs about 4.75 crores less in 2017-18 than it did in 2004-05.
- **Value Added Agriculture Rising:** Though numbers for 2004 are not perfectly comparable due to change in industry coding, there is a strong indication that many agricultural segments have seen a significant increase in employment. Animal husbandry and agriculture support activities are only two examples. This is in line with a structural change towards a higher value-added production regime.
- **Unorganised and Non-Contractual Employment Overwhelms the Rest:** There is a marked rise in both unorganised sector employment and non-contractual employment. This shows how

businesses are finding it more convenient to sustain themselves when they are below the radar of the government.

- **The Youth Prefer Jobs over Entrepreneurship:** Self-employment and employment in family enterprises continue to be the largest employer for the older segments, though the youth increasingly stay away from it.

2. Background

As mentioned, this paper delves into the availability of gainful employment to all the workers in the economy. For understanding the changing dynamics of employment creation and availability, we need to reflect on the historical evolution of the vocations. While in the pre-industrial period, the main economic activity has been working for the production of food-agriculture and allied activities like animal rearing etc. referred to as primary economic activities, in the post-industrial revolution era, the nature and scope of economic activities changed and gradually more and more workers are engaged in non-primary vocations, at least that is the employment structure of the industrialised countries. Indeed, this level of structural change happened over an extended period in those countries with share of employment in the primary sector activities dropping well below 10 percent.

India has been no exception to this transformation. However, this change in the structure of economic activity has been somewhat slower to start with. During pre-independence years since the industrial revolution, industrial development in India, though scanty, destroyed many traditional non-primary activities. However, industrialisation was not fast enough to absorb the displaced workers from the traditional vocations. In the post-independence period, expansion of non-primary activities did speed up, but at a slow to moderate pace, the workers who moved to take-up work in the non-primary sector were those from the under and/or unemployed in the primary sector activities (Lewis, 1954).

After the expansion of non-primary activities picked up momentum in 1980s and accelerated further since 1991, it was expected that employment in the non-primary sectors will increase faster than it has been during 1950s to 1980s. However, contrary to expectations, the employment situation did not improve dramatically and even deteriorated for some components, despite the sustained acceleration in long term GDP growth.

This divergence between GDP and employment growth had been recognised for some time, and to examine the issue of creation of additional employment, a Task Force on Employment Opportunities was constituted by the Government of India in 1999 (GOI, 2001). Though it did point out that growth of labour force was outweighing the growth of employment, the task force was unable to adequately catch the underlying changes in the Indian economy and perhaps as a consequence was unable to predict the dramatic shift in the structure of

employment that lay ahead. The long delays in the availability of employment data from the NSSO's Employment Unemployment Surveys (EUS) further worsened the problem and economic policy for more than a decade operated in a partial vacuum. It tended to be centred around enabling adequate consumption to the underprivileged through welfare. The creation of employment was left to the market forces and arguably insignificant action occurred in enabling the same.

To put it another way, trickle down did not occur at a pace fast enough to ensure adequate consumption and governments tended to concentrate on that with many welfare measures. However, policymakers missed the parallel trend, that trickle down is also not occurring at a fast-enough pace on the employment side. Arguments of jobless growth and rising unemployment dissipated in the lack of robust employment data. That, we believe, is about to change with the regular and timely availability of the PLFS data.

In addition to the partial recognition by the Government of India about the employment situation, a large number of studies on labour markets in India have been carried out for some time now. The focus of most of the early work on employment has been on regulations on employment and arguments have been advanced to provide "secure" employment in the emerging formal sector. The focus shifted somewhat in recent decades from providing secured employment to availability of employment, as expansion of non-primary sector appears to have been creating "less employment." The researchers looking at the total employment have invariably concluded that the acceleration in the growth has not been accompanied by growth in the employment, thereby advancing the term "jobless growth" in recent decades (see for example Unni and Raveendran, 2007; Kannan and Raveendran, 2009; Thomas, 2012; Shaw, 2013; Abraham, 2017). Most of these studies use EUS data collected by the NSSO and conclusions are not too different except in case of Abraham (2017) who uses Employment data collected by the Labour Bureau on Employment.

In addition to the overall trend in employment in India concluding "jobless" growth, there are a few studies that look at different sectors or population groups. For example, there are a large number of studies that examine the decline in female employment which has been falling for a long time. These studies include (but not exhaustive) papers by Dubey et al (2017), Mehrotra and Sinha (2017), Naidu (2016), Neetha (2014), Unni (1989) and others. Most of these studies raise definitional issue of defining work in India that is carried out by women and often not accounted as economic activity by the official definition of work, hence women and "economic activities" performed by women excluded from the employment statistics.

There are a few studies that look at employment changes in the formal or manufacturing sector, e.g. Nagaraj (1994, 2004) who argues that there have been job losses in the organised manufacturing sector during 1995-96 and 2000-01. Contradicting Nagaraj's findings Goldar (2000, 2011) argues that there has been substantial increase in the employment in the organised manufacturing in the last two decades which is corroborated by Kapoor (2015).

The brief review suggests while there is evidence of deceleration or decline in overall employment and more so in female employment, the organised manufacturing has been doing relatively better where employment appears to have been increasing. It is apparent that the existing literature has not examined the employment in greater details like demographics of the employment- by place of residence (rural-urban), by age and education, across industry and occupation groups and by formal and informal sectors. In this paper, we examine the status of employment in India at various levels of disaggregation by using the NSS employment and unemployment datasets at three points of time, 2004-05, 2011-12 and 2017-18. In that sense, by not excluding any population group or industry segment, or type of employment, we are better able to look at the 'big picture' of employment and how it is changing.

3. This Study

3.1. Data Sources and their Comparability

The main source of data used in this paper is the Employment and Unemployment Surveys (EUS) by the National Sample Survey Organisation (NSSO) fielded during 61st and 68th wave of EUS surveys. Corresponding years (Agricultural Year, July to June) are 2004/05 and 2011/12. In addition, we also use the Periodic Labour Force Survey (PLFS) data also collected by the NSSO. The PLFS data is available for the agriculture year and the reference year is July 2017 to June 2018. The PLFS data collected during the first visit of the households during the survey is comparable to the EUS data that we use in this paper (more on EUS-PLFS comparability below.)

The EUS data has been collected by the NSSO using a two-stage stratified random sampling design from over 1,00,000 households covering almost the entire geographical area of the country. From these survey data, we could get reliable macro estimates at the level of India as whole, rural and urban sectors of India as well as for most of the states as well as rural and urban sectors within each one of these states. In addition, EUS data is also suitable for analysis of the employment at the level of industry of work as well as occupation types. However, there are some issues of comparability of the industry (NIC) and occupation (NCO) codes discussed later.

The data for the terminal year in this paper, i.e. 2017-18 has also been collected by the NSSO and called Periodic Labour Force Survey (PLFS). The new name, PLFS instead of EUS in earlier years, is because of substantial change in the strategy of data collection on employment and unemployment. The most important change in the NSSO strategy on employment and unemployment for the 2017-18 is to produce employment statistics for India in every quarter for better informed policymaking.

The data collection during PLFS 2017-18 survey has been divided into four rounds (called quarters which is identical to the four sub-rounds in EUS surveys). For each quarter in PLFS (as in each sub-round in EUS), samples were drawn for two independent samples called sub-

samples. Selection of households for survey in both the EUS and PLFS were in each of the sub-rounds and quarter for both sub-samples were identical. The difference between the EUS and PLFS is the survey of the households in the urban area where households surveyed in one round as the first visit households were to be revisited in subsequent rounds. The upshot of this elaboration and comparison between EUS and PLFS survey design is that the survey of households in the PLFS survey in the first visit during four quarters in 2017-18 is identical to EUS surveys in earlier rounds used in this paper (see GOI, 2011, 2018.)

The PLFS surveys also use NIC and NCO codes for the employed persons. Therefore, PLFS data is suitable for carrying out analysis of employment at the same level of disaggregation as EUS data of 61st and 68th waves held in 2004-05 and 2011-12 respectively. There is also issue of changes in the NIC and NCO codes for using the three waves of employment surveys. That has been taken care of by creating suitable concordance between NIC 2004 and NIC 2008 codes and NCO 1968 and NCO 2004 codes.

3.2. Sample, Estimated Population and Estimated Number of Employed as per Principal Status

Table 1A reports number of persons surveyed estimated population using multiplier (weights, provided by NSS) and NSS multipliers (weights) adjusted by the estimated population from census for the country as a whole (overall) and also for the rural and urban sectors separately. For adjusting the NSS multiplier, we first estimated census population for the mid-point of the survey year (01 January, e.g. estimated population as on 01 January 2005 for 2004-05 NSS EUS data) for the rural and urban sectors in each one of the states and union territories. The estimated population then was used to adjust the multipliers given in the dataset. The adjusted NSS weights have been used to yield the various estimates of employment in numbers. This has been done to have an estimate of number employed, that is not feasible when we use NSS weights for estimation which invariably underestimates the population (see GOI, 2011 for details on the calculation of NSS weights.)

In the absence of official estimates, our overall estimated population figures for 2017-18 stand at 136.4 crores, compared to those reported to be 134.5 crores by Mehrotra and Parida (2019).¹

The estimated number of persons employed (calculated using census population adjusted weights) for the country as whole stands at 45.67 crores in 2017-18 which increased from 41.18 crore in 2004-05, net increase in total employment by 4.49 crores over the thirteen-year

¹ <https://indianexpress.com/article/opinion/columns/unemployment-jobs-india-plfs-survey-6106758/>

Also see Santosh Mehrotra and Jajati K. Parida, India's Employment Crisis: Rising Education Levels and Falling Non-agricultural Job Growth, CSE Working Paper 2019-04, October 2019. Both these were released after the release of the first version of this paper.

Indicus Foundation White Paper

period. The corresponding estimates using NSS weights is also reported in the table which clearly shows that estimates obtained using NSS estimates underestimates the population.

Table 1A: Sample Size and Population Estimates (numbers)

Year of Survey and Emp & Pop		NSS Sample (persons)	Pop Estimate (NSS)	Census Pop Adjusted Pop Estimate
Overall				
2017-18	Pop	4,33,339	1,07,41,02,884	1,36,43,64,405
	Empl	1,45,513	36,14,49,695	45,67,15,251
2011-12	Pop	4,56,999	1,08,82,70,119	1,22,81,72,205
	Empl	1,58,335	38,56,46,743	43,31,28,338
2004-05	Pop	6,02,833	97,19,20,211	1,09,31,46,783
	Empl	2,21,309	36,88,82,420	41,18,17,877
Rural				
2017-18	Pop	2,46,809	75,92,77,100	90,66,78,685
	Empl	84,621	25,63,95,277	30,48,03,614
2011-12	Pop	2,80,763	77,44,30,941	84,21,65,065
	Empl	99,736	27,83,40,451	30,15,16,218
2004-05	Pop	3,98,025	72,43,48,178	77,53,91,296
	Empl	1,52,089	28,31,39,746	30,16,94,582
Urban				
2017-18	Pop	1,86,530	31,48,25,784	45,76,85,720
	Empl	60,892	10,50,54,418	15,19,11,637
2011-12	Pop	1,76,236	31,38,39,178	38,60,07,140
	Empl	58,599	10,73,06,292	13,16,12,120
2004-05	Pop	2,04,808	24,75,72,033	31,77,55,487
	Empl	69,220	8,57,42,674	11,01,23,295

Note: Pop: Population and Empl is Persons Employed as per Principal Status

Source: Special Tabulation by the authors using unit level NSS EUS and PLFS data sets for the corresponding years.

The increase in employment reported in 2011-12 over 2004-05 is by 2.13 crores and a marginally higher increase in 2017-18 over 2011-12 by 2.35 crores. However, the picture changes somewhat when we look at the change in the number of people employed in rural and urban sectors. Over the thirteen-year period, 2004-2017, net increase in employment in the rural areas has been to the tune of only 0.31 crores. In fact, our tabulation shows that between 2004-05 and 2011-12, there is fall in the total employment by 0.018 crores, and then increase by over 0.33 crores between 2011-12 and 2017-18. Therefore, most of the increase in employment over the 2004-2017 period occurred in the urban areas where total employment

Indicus Foundation White Paper

increased by 4.18 crore. Between 2004-05 and 2011-12, net increase has been 2.15 crores and between 2011-12 and 2017-18, it is by 2.03 crores.

Principal and subsidiary status

Note that we focus on usual principal status (UPS) only and do not include subsidiary status (SS) employment this study. The following paragraphs delve into this matter.

SS is reported when a person worked in subsidiary capacity *in addition* being in another principal activity where they could be (a) working, or (b) in other non-work related principal activity such as education, home related work, unemployed etc. Many of these, latter are not even in the labour force, as is apparent from Table 1B below.

Table 1B has the details of estimated number of person working in UPS and SS. We find that in 2004-05, besides 41.2 cores working as per UPS definition and this had increased to 45.7 crores by 2017-18. Now consider the row 2 of Table 1B, those who reported any subsidiary status employment reduced in numbers from 14.2 to 4.8 crores. This was no doubt a large fall but many of these are also reporting to be working in principal status (row3). That leaves those involved in subsidiary status only and these are reported in row 4. Their numbers have fallen from 4.3 crores to 1.4 crores. Within these however many report being unemployed in principal status and should not be included in total employment anyway – row 5. That leaves row 6 – those who report neither being employed or unemployed (and therefore are not in labour force) but do some subsidiary work nevertheless. Their numbers have fallen from 4.1 crores to 1.3 crores.

Table 1B: Employed as per Usual Principal Status and Subsidiary Status (Crores)

Estimated Persons in crores	2017-18	2011-12	2004-05
1. Working as per UPS	45.7	43.3	41.2
2. Working as per SS	4.8	11.0	14.2
3. Working in UPS and SS	3.4	7.1	9.9
4. Working in SS only (2-3)	1.4	3.9	4.3
5. Unemployed but working in SS	0.1	0.2	0.3
6. Not in Labour Forces but working in SS (4-5)	1.3	3.7	4.1
7. Unemployed	3.2	1.2	1.4

In other words, subsidiary status work has fallen, but subsidiary status work is not the key part of the employment story as is revealed in Table 1C. Most of this work consists of unpaid work and should not be included in employment anyhow and cannot be considered to be a policy objective. Including them in employment numbers overstates employment, and therefore policy needs to focus on primary status work as becomes further clear from Table 1C below.

[Indicus Foundation White Paper](#)

Table 1C below shows figures for 2004-05 and 2017-18 surveys for those who have some subsidiary status work. Column 2 and 5 show the distribution of the type of all who report any subsidiary status work, Columns 3 and 6 that of those who report subsidiary status, but no primary status; and Columns 4 and 7 that of those who report subsidiary status only and are not reporting being unemployed. Whichever way we see it, the numbers reveal the same underlying story. The large majority of such workers, whether in 2004 or 2017, were unpaid family workers, such work is largely in household enterprises and should not be included as a key employment parameter. The second large component are own account workers as a subsidiary status (primary status being something else), and therefore these cannot be considered to be a critical employment parameter. The fact that own account work is falling is better captured on the primary status.

Table 1C: Components of Subsidiary Status Employment (Crores)

Status Code	Description	2017-18			2004-05		
		All SS workers	SS but not UPS	SS w/out UPS and Unempl.	All SS workers	SS but not UPS	SS w/out UPS and Unempl.
		<i>SS</i>	<i>SS if UPS>51</i>	<i>SS if UPS>81</i>	<i>SS all</i>	<i>SS if UPS>51</i>	<i>SS if UPS>81</i>
11	worked in h.h. enterp (self-empl): own account worker	1.4	0.4	0.4	4.7	0.9	0.9
12	employer	0.1	0.0	0.0	0.2	0.0	0.0
21	worked as helper in h.h. enterprise (unpaid family worker)	1.2	0.7	0.6	5.7	2.6	2.5
31	worked as regular salaried/ wage employee	0.1	0.1	0.0	0.2	0.1	0.1
41	worked as casual wage labour: in public works	0.6	0.1	0.1	0.1	0.0	0.0
51	in other types of work	1.3	0.2	0.1	3.4	0.6	0.6
	Total working in SS	4.8	1.4	1.3	14.2	4.3	4.1

To conclude this discussion, we believe that the employment is a policy objective and the best measure of employment is UPS. Not only will the practice of aggregating UPS and SS lead to cluttered insights, overstate employment, it is also a flawed variable for policy to focus on. The rest of this paper focuses on UPS employment.

4. Employment Patterns and Demography

4.1. Population and Employment

In Table 2, we report compound annual growth of estimated population and estimated number of persons working or employed during 2004-05 to 2017-18. This exercise is reported for the country as a whole and also for the rural and urban sectors. Moreover, we include all age segments for the purposes of this discussion.

It is apparent from the table that there has been a mismatch in the growth of population and growth of employment during 2004-05 and 2017-18. While population grew by 1.72% annually, employment grew at less than one percent at 0.80%. When we split the duration into two sub-periods, 2004-05 to 2011-12 and 2011-12 to 2017-18, the population and employment growth mismatch is clear. What is interesting is that during 2004-11, growth of employment at 0.72% per annum was 0.15 percentage points lower than 2011-17. Nearly one percentage point difference between growth of employment and population throughout the period of the analysis has been adding substantial number to those not employed every year. This of course has long term unemployment implications, while in the short run other possibilities such as education and home related work, may make up the difference.

Table 2: CAGR of Population and Employment (percentage)

Pop & Empl	2011-17	2004-11	2004-17
Overall			
Population	1.77	1.68	1.72
Employment	0.89	0.72	0.80
Rural			
Population	1.24	1.19	1.21
Employment	0.18	-0.01	0.08
Urban			
Population	2.88	2.82	2.85
Employment	2.42	2.58	2.51

Note: Across all age segments

Source: As in Table 1.

Table 2 also has the break-up of the CAGR of the population and employment in the rural and urban sectors calculated from the estimated number reported in Table 1. While for the entire duration, 2004-2017, rural population growth has been 1.21% per annum, overall employment growth stands at 0.08%. Between 2004-2011, population growth in rural areas has been 1.19% per annum but the employment declined at (-)0.01 percent. Compared to the 2004-2011 period, there has been nominal growth in employment at 0.18% per annum while population growth has been 1.24. For each of these periods, it is quite apparent that the growth in

population far outweighs that of employed, and the remainder would therefore need to be covered by those studying, working at home, or remaining unemployed.

The situation in the urban sector, however, is quite different. During 2004-05 – 2017-18, population growth has been at the rate of 2.85% per annum and employment growth 2.51%. After splitting the period into two, we find that between 2004-2011, population growth is 2.82% compared to employment growth of 2.58% annually. In the second period (2011-2017), population growth is at the rate of 2.88% per annum and employment growth at marginally lower rate of 2.42% as compared to first period. This indicates the strong divergence between urban and rural employment patterns and will be discussed in later sections.

4.2. The Demographic Transition

In this section we study the patterns of all those who report being employed. Recall that we are using the definition of employed or working as used by the NSSO in its EUS (2004-05 and 2011-2012) and PLFS (2017-18) which is identical in these surveys (see GOI 2004, 2011 and 2017).

In Table 3, in addition to total employed persons estimated after adjusting the NSS multipliers with the census population along with place of residence as reported in Table 1, we provide the distribution of the employed by sector and gender. It is apparent from the table that the Indian labour market is predominantly male dominated and this becomes more pronounced in 2017-18 compared to 2004-05. While in 2004-05, share of male workers out of total has been about 73%, it increased to about 79% in 2017-18.

Table 3: Employment Demographics

	Employed (in Crores)			CARG		Share of Total Employment (pc)			As a share of Pop (pc)		
	2017-18	2011-12	2004-05	2011-2017	2004-2011	2017	2011	2004	2017	2011	2004
Total	45.67	43.31	41.18	0.89	0.72	100.00	100.00	100.00	33.47	35.27	37.67
Rural	30.48	30.15	30.17	0.18	-0.01	66.74	69.61	73.26	33.62	35.80	38.91
Urban	15.19	13.16	11.01	2.42	2.58	33.26	30.39	26.74	33.19	34.10	34.66
Male	36.00	33.84	30.03	1.04	1.72	78.82	78.13	72.92	51.61	53.57	53.53
Female	9.67	9.47	11.15	0.34	-2.30	21.17	21.87	27.08	14.50	15.88	20.96

Source: As in Table 1.

Note that in Table 3 above the number of employed males increased by about 6 crores during 2004-2017, whereas the number of working women declined by close to 1.5 crores. In absolute numbers, the change in the male and female employment has been slightly different. For the

Indicus Foundation White Paper

males, the number of employed increased to 33.84 crores in 2011-12 from 30.03 crores in 2004-05 (net increase by 3.81 crores) but between 2011-12 and 2017-18, number of employed males rose by 2.16 crores only. For the women, there has been net decline in the employment by 1.68 crores between 2004-05 and 2011-12 but there has been a slight increase in their employment by 0.20 crores between 2011-12 and 2017-18.

Table 4 reports the break-up by four age categories, 0-14 years, 15-24 years, 25-59 years and all those who are 60 years or above. The age-wise break up of those employed presents a very important pattern. There is a net increase in the employment for those 25 years and above. We have two age categories defined for the persons aged 25 years and above, 25 to 59 years and those who are 60 years or above. For the persons in the age group, 25-59 years, net increase in employment has been by 3.32 crores between 2004-2011 and by 3.56 crores between 2011-2017. Similarly, for those who are 60 years or above, the net addition to employment is 0.60 crores and 0.30 crores respectively, in the two periods. There is exactly the opposite trend in the number of working or employed for those 24 years or below, showing a decline by 3.3 crores. For the 0-14 age group, decline is significant in that by 2017 barely 11 lakhs are reporting being employed, an insignificant number which is likely to have fallen further with the sustained rise in schooling.

Table 4: Age distribution of those Employed

	Employed (in Crores)			CARG		Share of Total Employment (pc)		
	2017-18	2011-12	2004-05	2011-2017	2004-2011	2017	2011	2004
0-14	0.11	0.27	0.61	-14.32	-10.88	0.24	0.63	1.49
15-24	5.34	6.69	8.14	-3.69	-2.77	11.69	15.45	19.77
25-59	36.51	32.95	29.63	1.72	1.53	79.94	76.08	71.95
Above60	3.72	3.40	2.80	1.51	2.82	8.14	7.84	6.79

Source; As in Table 1.

A further disaggregation in the in the age categories presented in Appendix Tables 4A to 4D reinforces the observations in Table 3. In case of rural males, the decline in employment is observed up to the ages 24 years or lower. However, in case of rural women, the decline in employment is observed across all age categories.

In case of the urban sector, for men, the picture is similar to that observed in case of rural men, i.e. decline in employment up to the ages of. However, it is among the urban women that the pattern is somewhat different. That is, there is decline in net employment since 2004 up to the age of 24 years but for the women aged 25 and above, there has been an increase in employment.

4.3. Educational Patterns

Another dimension of employment could be seen by looking at the educational level of those employed. Tables 5 reports number of persons employed by their attained education level. As we do not have comparable years of schooling in the dataset being used for the analysis in this paper, we have used “completed level of education” of the employed persons. Tables 5 show that almost half (48.77 percent) of those employed in 2004 were either illiterate or had not attained any level of primary education. It is these groups, illiterate and those who did not complete primary level of education, that experienced a massive drop in employment, by a whopping 5.88 crores between 2004-2017. On the other hand, there has been an increase in the employment of those who are educated starting from the level of primary education by 10.4 crores in the period 2004 to 2017.

Note that the two levels of education recording the highest increase in about thirteen years (2004-2017) is among those who have an education level up to middle school and those with graduation.

Table 5: Employment by Educational Attainment, All India

Edu Level	Employed (in Crores)			CARG (in %)		Share in the total employed (%)		
	2017	2011	2004	2011-2017	2004-2011	2017	2011	2004
Bel. Prim. & Illit.	14.20	17.26	20.08	-2.75	-2.14	31.09	39.86	48.77
Primary	5.99	5.75	5.75	0.68	-0.02	13.11	13.27	13.97
Middle	9.75	7.23	6.42	5.10	1.72	21.34	16.70	15.58
Secondary	5.66	5.26	3.64	1.22	5.39	12.38	12.14	8.84
Higher Secondary	3.80	2.94	1.94	4.34	6.10	8.31	6.79	4.72
Diploma	0.65	0.64	0.63	0.26	0.14	1.43	1.48	1.54
Graduate	4.11	3.07	2.05	5.02	5.89	9.01	7.08	4.99
Postgrad & above	1.52	1.16	0.65	4.66	8.59	3.34	2.68	1.58
Total	45.67	43.31	41.17	0.89	0.73	100	100	100

Source: As in Table 1.

In Tables 5A and 5B, we report rural-urban cuts of Table 5, i.e. the cross-tabulation of employment is reported for rural and urban sectors by the education level of those reporting being employed. These tables suggest that the huge decline in the employment of illiterates and literates below primary is primarily in the rural sector; that is of the 5.88 crores aggregate decline between 2004 and 2017, almost all, 5.69 crores, is in the rural sector. For all others who attained some education level of primary or above, there has been moderate to significant

Indicus Foundation White Paper

increase in the employment between 2004-05 and 2017-18. This raises questions of trickle-down and changing economic structure, Why, is it that while employment growth is occurring and indeed fairly strongly, it is concentrated among those who have higher levels of school education, leaving behind the uneducated.

To summarise this sub-section, this analysis suggests that there has been an increase in net employment by about 4.5 crores over 2004-05 to 2017-18 period, while those who are employed are growing at a much slower rate than the population every year.

The significant feature of employment that emerges from the foregoing analysis is that there is a stagnation in the number of employed in the rural areas, implying that almost all the increase in the employment is happening in the urban areas or in the non-primary sectors. Further, the decline in employment is for those who are uneducated or barely educated, for all others, there has been a significant increase in employment.

Note that we do not analyse labour force figures, this is for two reasons. Given the rise in expected lifespan and given a population that is increasingly studying beyond middle school, and therefore traditional notions of working age group starting from 15 no longer hold. The concept of labour force therefore has become far more fluid and takes away from the larger issue of employment patterns and growth. Be that as it may, it is clear that employment growth is not as high as it needs to be.

4.4. Who is Working and Who is Not?

Table 6 below analyses activities being undertaken by various age segments.

Table 6: Status of those in Working Age Groups (% Distribution)

Status Code	15-24-Year-Old			25-59-Year-Old			60+ year Old		
	2011-18	2011-12	2004-05	2017-18	2011-12	2004-05	2017-18	2011-12	2004-05
Worked in h.h. enterprise (self-employed):									
Own account worker -11	2.9	3.5	5.3	22.2	22.3	23.8	17.1	19.5	21.1
Employer-12	0.1	0.1	0.1	1.2	0.9	1.0	1.1	1.4	1.6
Worked as helper in h.h. enterprise (unpaid family worker) -21	5.3	8.8	13.7	6.3	7.7	10.8	1.7	2.9	4.7
Worked as regular salaried/wage employee -31	6.1	5.9	6.3	15.2	13.3	12.1	2.3	1.8	1.6
Worked as casual wage labour:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
In public works- 41	0.1	0.3	0.1	0.4	0.5	0.1	0.3	0.3	0.1
In other types of work -51	5.9	10.6	14.5	14.0	17.3	18.9	5.2	8.1	6.7

Indicus Foundation White Paper

Status Code	15-24-Year-Old			25-59-Year-Old			60+ year Old		
	2011-18	2011-12	2004-05	2017-18	2011-12	2004-05	2017-18	2011-12	2004-05
Did not work but was seeking and/or available for work -81	7.2	3.3	4.1	2.1	0.8	1.1	0.2	0.1	0.1
Attended educational institution -91	49.3	43.9	29.7	0.7	0.5	0.3	0.1	0.1	0.1
Attended domestic duties only -92	16.6	12.4	14.8	27.1	18.1	17.0	20.6	16.5	15.0
Attended domestic duties & household work -93	5.1	9.9	9.7	8.2	16.8	12.9	5.0	8.3	6.8
Rentiers, pensioners, remittance recipients, etc.94,	0.2	0.1	0.1	1.5	0.6	0.6	30.0	15.2	11.0
Not able to work due to disability -95	0.5	0.5	0.5	0.7	0.7	0.7	6.0	8.7	5.6
Others (including begging, prostitution, etc.) -97.	0.6	0.9	1.2	0.4	0.4	0.6	10.5	17.2	25.5
Total	100	100	100	100	100	100	100	100	100
Total Population in Crores	26.1	23.0	20.4	61.43	53.09	44.37	13.41	9.99	7.81

Note: This table reports status of all household members and therefore population in the relevant age segments.

First, consider those in the 15-24 age group. There has been a significant fall in the likelihood of the youth in these age segments to be employed in either unpaid work in household enterprises, or undertake their own economic activity. Moreover, other types of work that are not for income also sees a significant fall. Note that there has been a large literature on the persistence of disguised employment in India, while the NSSOs survey queries do not directly capture disguised unemployment, it is well known that own account work or unpaid work in the family enterprise account for much of the disguised unemployment. The likelihood is that those primarily being devoted to this type of work are reducing rapidly. Note that even attending domestic duties such as helping in collecting goods, water, or other unpaid home related work is falling in among the lower age segment. The table suggests that such activities are being substituted largely by education, being fully employed in household duties, and by unemployment (looking for work).

Understandably, there is a significant difference between male and female employment patterns and some difference between rural and urban and these are reported in the Appendix in Tables 6A, 6B, 6C, 6D and 6E. The key difference is that for females, attending domestic duties (code 92 and 93) is a viable alternative to education. For males, it appears to be significantly less so. However, education has become the most important activity for this age group across gender and rural-urban sectors and appears to be only growing in importance.

Moreover, there is a significant fall in the activities related to domestic duties and household work (the latter describing activities like collection, venturing out of home, sewing etc.)

Unfortunately, more details are not available, but it is conceivable that with the increased

spread of piped water, electricity, gas, readymade clothes and processed foods, a lot of the household activities are now not required. In other words, not only there might be a shift in the technologies affecting employment, but also in the type of consumption affecting intra-household labour choices. This, of course, needs to be investigated in greater detail as these trends are only expected to strengthen in coming years.

5. Activity and Terms of Employment

The previous sections delved into the demographic aspects of changing employment patterns. We avoid getting into the debates on unemployment trends as well as those that attempt to distinguish between demand versus supply side factors. The focus of this study is simply on identifying employment patterns and how they are changing in this millennium. In line with that this section focuses on the type of employment.

Specifically, we look at type of enterprise, defined broadly as organised and unorganised but also including 'self-employed, employer and unpaid family working in household enterprise' as a separate category. This is because of the manner in which NSSO collects data where the latter categories are not queried on the nature of the enterprise.

We also analyse employment by type of contract, and here as well, apart from the two key categories of employment with and without contracts (of any duration) we also include data on those involved in agricultural cropping. The latter of these segments were not queried on the contractual nature of employment. (This includes those reporting being employed in activities related to NIC 3-digit codes including 011, 012, 013, and 015 – segments that comprise non-perennial crops, perennial crops, plant propagation and mixed farming.)

Table 7: Employment across Enterprise and Contract Types

Enterprise Type	Employment			CARG		Share of Total Employed		
	2017-18	2011-12	2004-05	2011-17	2004-11	2017-18	2011-12	2004-05
Unorganised Sector	21.8	19.2	15.3	1.8	3.9	47.7	44.3	37.1
Organised Sector	6.4	5.1	3.7	3.3	5.7	14.0	11.8	8.9
Agri-Cropping	17.4	18.9	21.9	-1.2	-2.4	38.1	43.7	53.2
Missing	0.0	0.1	0.4	-10.5	-21.2	0.1	0.2	0.9
Total	45.7	43.3	41.2	0.8	0.8	100.0	100.0	100.0
Contract Type								
Non-Contractual	14.5	11.4	7.7	3.5	6.6	31.8	26.2	18.8
Contractual	3.3	3.1	2.7	0.7	2.4	7.2	7.2	6.6
Self-empl or family*	23.2	21.8	22.2	0.9	-0.3	50.8	50.3	53.9
Missing	4.7	7.0	8.6	-5.6	-3.2	10.3	16.3	20.8
Total	45.7	43.3	41.2	0.8	0.8	100.0	100.0	100.0

Indicus Foundation White Paper

Employment				CARG		Share of Total Employed		
Enterprise Type	2017-18	2011-12	2004-05	2011-17	2004-11	2017-18	2011-12	2004-05

*Self-employed, Employers and Unpaid Family Members

In absolute terms the unorganised sector has grown the most rapidly over the 13-year period, however the organised sector has been growing at a more rapid pace, but what has fallen significantly is the agri-cropping sector. This only reflects the low human capital story discussed in the previous sections, where those who are less educated, lower in age and therefore presumably less skilled everything else being the same are more likely to have withdrawn from the ranks of the employed. Typically, the agriculture sector is the most likely employer for those less skilled and educated and these results only underscore the same pattern.

While organised sector employment has grown rapidly the same cannot be said of contractual employment. This variable incorporates employment with a contract of any duration, be it less than a year or greater than four years or in between these two. Not only is contractual employment fairly low (barely 2.7 crores in 2004-05), it has also grown slower than non-contractual employment both in absolute and percentage terms. However, it should be noted that the biggest employer remains self-employed or family business and a very different class of job security issues and apply to this largest segment of the workforce.

Taken together, these two facts, that while organised sector is growing rapidly contractual employment is not, and while non-contractual employment is growing rapidly, the unorganised sector is growing at a slower pace, point in a single direction. That is, entrepreneurs and employers have found ways of circumventing the labour laws which appear to be constraining the organised sector growth, despite the sidestepping of labour laws through non-contractual employment.

Tables 7A-7D in the Appendix provide greater break-ups of the same aggregate tables above. We find that female employment in both rural and urban areas, is being generated in both the organised and unorganized sectors, but is falling dramatically in the agri-cropping sector. Employment for females in the agriculture-cropping segment has fallen from more than four fifths of the total in 2004-05 to about two third in 2017-18 in rural India.

To repeat, all of the fall in the employment of females is accounted for by the agriculture cropping sector. This suggests that it is not so much that women are choosing not to work and study, but that agricultural employment is not an attractive or viable option anymore.

With rural males' employment both in organised and unorganised sector increasing, but employment falling in agri-cropping segments. However, unlike with female employment, unorganised and non-contractual employment are not only larger segments, they have been consistently growing more rapidly.

These results show strongly that that while the agriculture cropping sector and self-employed sector is vacating some space, that space is being taken up more by the unorganised and non-contractual segments than the more formal economic segments of organised sector and contracted employment.

Indicus Foundation White Paper

To delve into this further, consider Table 8 below that cross-tabulates employment over time and across type of organisation and contract.

Table 8: Cross-tabulation of Employment across Contract and Organisation Type (crores)

PLFS- 2017	2017-18				
Organisation/Contract	Non-Contractual	Contractual	Self-emp & Fam.	Missing	Total
Unorganised Sector	10.90	0.48	10.42	0.00	21.81
Organised Sector	3.61	2.80	0.01	0.00	6.41
Agriculture-crop	0.00	0.00	12.77	4.65	17.41
Missing	0.00	0.00	0.00	0.04	0.04
Total	14.51	3.27	23.20	4.69	45.67
NSS-2011	2011-12				
Organisation/Contract	Non-Contractual	Contractual	Self-emp & Fam.	Missing	Total
Unorganised Sector	8.90	0.46	9.82	0.02	19.20
Organised Sector	2.44	2.65	0.01	0.01	5.11
Agriculture-crop	0.00	0.00	11.96	6.96	18.92
Missing	0.02	0.01	0.00	0.06	0.09
Total	11.37	3.11	21.79	7.04	43.31
NSS-2004	2004-05				
Organisation/Contract	Non-Contractual	Contractual	Self-emp & Fam.	Missing	Total
Unorganised Sector	6.33	0.40	8.45	0.08	15.26
Organised Sector	1.31	2.28	0.06	0.01	3.66
Agriculture-crop	0.06	0.00	13.47	8.36	21.90
Missing	0.04	0.02	0.21	0.10	0.36
Total	7.74	2.71	22.18	8.55	41.18

Across the period considered, non-contractual employment is increasing rapidly in both the organised and unorganised sectors. What is most surprising is that even within the organised sector, non-contractual employment is increasing significantly. That there is a serious issue of form of employment, which needs to be addressed cannot be more obvious. Second, the self-employed and family enterprise segment continues to be the most important form of employment, not only in the agri-cropping sector but also the unorganised sector; the latter accounting for an addition of almost 2 crores between 2004 and 2017 from 8.45 to 10.42 crores.

We would however point two other important components in the labour law debate. First, the bulk of the employment in India is that of self-employed, employer and family enterprise worker. Second, the largest employer remains the agriculture-cropping segment. For both of these largest employers, it is difficult to envision how various protective laws can be put up. Indeed, a social security net may achieve more for labour welfare than laws and rules governing work security and welfare; these are not only circumvented, but this is done at a cost that harms both the potential employee, and the potential employer.

Indicus Foundation White Paper

Consider Table 9 below on the classification of economic activity as per the economic activity codes. The classification system used is as per that available from the RBI (KLEMS database), which was developed to ensure comparability as best feasible.² However, estimates of finer cuts do get compromised. That said, we find some strong patterns.

Table 9: Employment in various Economic Activities

Gp.	Classification (KLEMS)	Employment in Crores			CARG %		Share in Total Empl. %		
		2017	2011	2004	2011-2017	2004-2011	2017	2011	2004
1	Agriculture Forestry and Fishing	18.84	19.64	22.26	-0.69	-1.78	41.62	45.74	54.27
1	Electricity Gas and Water Supply	0.21	0.22	0.13	-0.44	7.78	0.47	0.51	0.31
1	Mining and Quarrying	0.20	0.28	0.26	-5.36	0.83	0.44	0.64	0.63
1	Group 1	19.28	20.16	22.66	-0.75	-1.66	42.53	46.89	55.21
2	Coke, Refined Petroleum and Nuclear Fuel	0.03	0.02	0.01	2.28	10.16	0.06	0.06	0.03
2	Food and Beverages and Tobacco	0.91	0.81	0.90	1.90	-1.53	2.01	1.89	2.21
2	Manufacturing n.e.c., Recycling	0.50	0.61	0.43	-3.36	5.07	1.11	1.43	1.06
2	Basic Metals and Fabricated Metal Products	0.50	0.48	0.37	0.65	3.92	1.10	1.12	0.89
2	Other Non-Metallic Mineral	0.41	0.51	0.42	-3.52	2.88	0.91	1.19	1.02
2	Electrical and Optical Equipment	0.34	0.20	0.11	8.93	8.49	0.74	0.47	0.28
2	Wood and Of Wood and Cork	0.31	0.38	0.48	-3.10	-3.24	0.69	0.88	1.16
2	Machinery, n.e.c.	0.29	0.20	0.14	6.55	5.49	0.64	0.46	0.33
2	Chemicals and Chemical Products	0.22	0.19	0.20	2.67	-1.18	0.49	0.44	0.50

² While the Periodic Labor Force Survey (PLFS) of 2017-18 and the Employment Unemployment Survey (EUS) of 2011-12 i.e. the 68th round of National Sample Survey Organization both use National Industrial Classification of 2008 (NIC-2008), the Employment Unemployment Survey (EUS) of 2004-05 i.e. the 61st round of National Sample Survey Organization, on the other hand, uses the NIC-1998. The data for these rounds for NIC is made broadly comparable by using the method of NIC concordance table used in KLEMS data set² which is constructed by using data from National Accounts Statistics (NAS), Annual Survey of Industries (ASI), NSSO rounds and input-output tables (IO). As this approach only facilitates minimal concordance at four-digit, most of the left-out categories are accommodated in the most relevant broad category possible. For more information see: <https://m.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=855>

Indicus Foundation White Paper

Gp.	Classification (KLEMS)	Employment in Crores			CARG %		Share in Total Empl. %		
		2017	2011	2004	2011-2017	2004-2011	2017	2011	2004
2	Pulp, Paper and Paper Products and Printing and Publishing	0.18	0.14	0.15	3.63	-1.08	0.39	0.33	0.38
2	Transport Equipment	0.18	0.17	0.11	0.84	6.45	0.39	0.39	0.27
2	Rubber and Plastics	0.11	0.10	0.08	1.77	4.11	0.25	0.24	0.19
2	Group 2	3.95	3.79	3.39	0.69	1.61	8.72	8.84	8.29
3	Group 3-Construction	5.41	4.87	2.53	1.77	9.82	11.95	11.33	6.16
4	Trade	5.04	4.61	4.20	1.47	1.37	11.13	10.75	10.23
4	Transport and Storage	2.34	2.25	1.62	0.65	4.81	5.17	5.24	3.94
4	Textiles, Textile Products and Leather and Footwear	1.94	1.56	1.36	3.68	2.00	4.30	3.64	3.32
4	Education	1.78	1.19	1.07	6.99	1.54	3.93	2.76	2.60
4	Other Services	1.58	1.19	1.61	4.80	-4.20	3.49	2.78	3.92
4	Business Services	1.34	0.76	0.40	9.89	9.41	2.95	1.77	0.99
4	Hotels and Restaurants	0.90	0.79	0.59	2.09	4.48	1.99	1.85	1.43
4	Public Admin and Defence; Compulsory Social Security	0.80	1.02	0.89	-3.95	1.98	1.78	2.39	2.18
4	Health and Social Work	0.62	0.40	0.36	7.47	1.42	1.36	0.93	0.88
4	Financial Intermediation	0.52	0.43	0.30	3.15	5.21	1.15	1.01	0.74
4	Post and Telecommunications	0.18	0.17	0.19	0.88	-1.60	0.40	0.40	0.47
4	Group 4	17.04	14.37	12.59	2.88	1.91	37.65	33.52	30.70
.	Total	45.66	43.21	41.18	0.92	0.69	100.00	100.00	100.00

Note: Groups are indicative of but not the same as primary sector (group 1), secondary (group2), construction sector (group 3) and tertiary (group 4)

In the interest of traction, we allocate the industry segments into groups. Where group 1 represents key components of the primary sector, group 2 that of manufacturing and group 4 that of tertiary. Construction is dealt with separately as group 3.

Overall, the primary sector activity groups tend to be falling consistently, those in manufacturing tend to be stagnant and the rise is primarily in the service sectors as well as in construction. While this is not surprising and is well known, what is interesting is that most of the service-related sectors show a distinct and consistent rise barring public administration where high salaries relative to rest of the economy appear to be slowing down the inclination or ability of the public sector to employ more.

More specifically, the agricultural employment is down by approximately 3.4 crores between 2004 and 2017, of this the bulk of the fall was in the period of 2004 to 2011 accounting for about 2.4 crores and

Indicus Foundation White Paper

another crore between 2011 and 2017. Analysis conducted separately (Tables 9A-9C in the Appendix) reveals that within agriculture the largest fall since 2004 has been in the NIC code 011 that captures food crops. Greater cuts within that segment are more susceptible to errors due to change in NIC codes and also sampling issues and therefore should be seen as indicative. With that qualification, the total fall in employment for NIC 011 between 2004 and 2017 has been an aggregate of 4.75 crores. Of this 1.75 crores have been between 2011 and 2017 and about 3 crores between 2004 and 2011. Within food-crops the largest fall has been in sugarcane, cotton, wheat, rice (not including basmati), millets etc. While there has been a rise in basmati rice, pulses and vegetables.

This indicates that some of the highest fall in employment is in areas where government input subsidies such as those on fertilisers, seeds, water and electricity have been fairly substantial and have also increased significantly in the period under consideration. While detailed studies are required into this phenomenon our conjecture is that greater subsidies for inputs enable the use of newer technologies that are labour substituting. Moreover, other agriculture related activities such as support activities, plant propagation (seeds) etc. are likely making up for some of the fall in crop-related employment. However much more detailed analysis is required before finer insights can be ascertained.

Table 10: Occupation codes across Organized and Unorganized sectors.

NCO	2017				
	Unorg	Org	Agri-crop	Miss	Total
Administrators and Managers	2.86	0.48	0.22	0.00	3.56
Professionals, Associate Professionals	1.70	2.28	0.01	0.00	3.98
Clerks	0.27	0.71	0.00	0.00	0.98
Sales and Service worker	3.75	0.70	0.02	0.00	4.47
Agriculture and Fishery workers	0.90	0.04	12.24	0.01	13.19
Craftsmen and Machine Operators	7.00	1.28	0.06	0.00	8.35
Labourers and Unskilled Workers	5.32	0.93	4.86	0.03	11.15
Total	21.81	6.41	17.41	0.04	45.67
NCO	2011				
	Unorg	Org	Agri-crop	Miss	Total
Administrators and Managers	2.91	0.29	0.02	0.00	3.21
Professionals, Associate Professionals	1.46	1.66	0.02	0.01	3.15
Clerks	0.27	0.64	0.00	0.00	0.92
Sales and Service worker	2.91	0.56	0.01	0.00	3.47
Agriculture and Fishery workers	0.71	0.02	11.88	0.00	12.61
Craftsmen and Machine Operators	6.61	1.11	0.03	0.01	7.76
Labourers and Unskilled Workers	4.29	0.82	6.94	0.06	12.10
Total	19.14	5.10	18.89	0.08	43.22
NCO	2004				
	Unorg	Org	Agri-crop	Miss	Total
Administrators and Managers	1.33	0.19	0.02	0.01	1.55

Indicus Foundation White Paper

Professionals, Associate Professionals	0.89	1.24	0.01	0.04	2.18
Clerks	0.27	0.72	0.00	0.01	1.01
Sales and Service worker	4.13	0.23	0.01	0.12	4.49
Agriculture and Fishery workers	0.23	0.03	13.75	0.01	14.02
NCO	Unorg	Org	Agri-crop	Miss	Total
Craftsmen and Machine Operators	6.42	0.87	0.03	0.09	7.40
Labourers and Unskilled Workers	1.95	0.38	8.02	0.07	10.42
Total	15.23	3.66	21.84	0.35	41.07

Table 10 above looks at basic National Occupation Codes.³ The patterns are similar, agriculture cropping sectors have fallen and the bulk of the fall is accounted by Labourers and unskilled workers. These are the landless labourers whose employment levels have fallen by about 3.16 crores (from 8.02 cores in 2004 to 4.86 crores in 2017). On the other hand, employment comprising of Administrators and Managers as well as Professionals have both doubled. Taken together their employment levels have risen from 3.73 (1.55+2.18) crores to 7.54 (3.56+3.98) crores in 2017-18, which shows a doubling over the 13-year period. However, it should be noted that Table 10A in the Appendix shows that even for this high growth segment, the increase has been far more in non-contractual employment. So much so that by 2017-18 for the Professional and Administration segments non-contractual employment was higher than the contractual employment.

To sum up this section, while clearly there is an issue that is pushing employment for all towards the non-contractual nature, there is also a strong secular movement towards a higher productivity workforce. Jobless growth therefore is not the correct description of the Indian economy undergoing a deep structural change, readying itself for a much more productive future. That of course, does not, indeed should not take away from appreciation of a serious problem in the immediate future, how will economic policy deal with the issue of the new-economy-unemployables of illiterates and presumably unskilled component of the labour force.

³ While the Periodic Labor Force Survey (PLFS) of 2017-18 and the Employment Unemployment Survey (EUS) of 2011-12 (i.e. the 68th round of National Sample Survey Organization) both use National Classification of Occupations of 2004 (NCO-2004), the Employment Unemployment Survey (EUS) of 2004-05 (i.e. the 61st round of National Sample Survey Organization), on the other hand, uses the NCO-1968. In order to facilitate comparison between these rounds, it is important to concord the NCO variable (for the Usual Principal Activity). A broad one-digit concordance is done in this paper by using the concordance document³ made by Dr. Deepti Goel of Delhi School of Economics. In order to avoid the drop of certain categories from the data, those categories have been retained in the most relevant group possible. This document (an excel file) can be found at the link: <http://econdse.org/deepti-miscellaneous/>

6. Concluding Note

This study looks at the broad patterns of employment as they are emerging in India. It uses a series of datasets available from the NSSO which provide comparable data and cover the entire economic spectrum both in terms of demographics and geography. It therefore is able to find insights that represent the whole gamut of economic activities in the country and is able to track changes over the first two decades of the 21st century, but more specifically for the period 2004-05 to 2017-18.

The results are quite straightforward, though admittedly our insights are only suggestive as the data and methodologies used are meant simply to measure employment and capture how it is changing over time, and not identify causality. While the results are summarised earlier there are three key learnings that we believe need to be looked at in greater detail.

First, the tremendous fall in agricultural employment needs to be studied in greater detail. It is evident that the fall is concentrated highly in the cropping sector and among those with low levels of education. Women, who typically have lower educational qualifications, and more so among rural agricultural workers are dis-proportionately badly hit. But in absolute figures, male employment is down too, for those who are younger and barely schooled or illiterate.

But simply looking at where the fall is concentrated, and not studying the other side - where it is growing would yield flawed insights. We find that (1) those who are better educated have seen a tremendous rise in employment over the period and (2) areas where government intervention is least, namely unorganized and non-contractual work growth is relatively higher.

Given that educational attainments are increasing, this augurs well for the longer term, though of course the immediate problem of those less educated not having employment avenues or preferring other household work or education options needs to be much better understood before policy implications can be deciphered.

Second, the major rise of employment has been in services, stagnant in manufacturing and falling in agriculture in an era of rapid technology change. We can infer that while technology change may be leading to a massive labour substitution and need for low skilled labour reduces in agriculture, the same pattern and to the same extent is not observed in manufacturing where employment is stagnant. Again, this requires further research with other data sources and methods, but the lack of fall in manufacturing suggests that newer technologies are creating greater employment avenues while destroying the traditional ones. To put it in other words, while agricultural growth destroyed employment, manufacturing growth is largely replacing older forms of employment, and services growth (including construction) is therefore the one sector where employment growth is most significant. Since economic growth is also ordered similarly among these sectors, there appears to be a continued secular link between sectoral output growth and sectoral employment generation.

Indicus Foundation White Paper

In other words, there is no jobless growth, but growth is creating avenues for employment only for those who are better educated. Trickle down is working but only for the better educated.

Third, the unorganised sector is alive and growing in a robust manner. Despite digitisation, ease of business, universal ID and other changes aimed at easing organised sector business activity, large number of businesses continue to prefer remaining in the unorganised mould. Remaining in the unorganised sector is a short-term necessity for businesses, but it has long-term growth and employment implications, not to mention those for tax revenues and a more orderly economic climate. A related aspect is the massive rise in non-contractual employment in both organised and unorganised sectors. Why would the organised sector prefer to hire in the non-contractual space? Note that it does harm businesses in the long run as it affects work and output quality. Here as well, the preference of being below the government's radar needs to be understood and incorporated in policy.

Many studies have been conducted on this phenomenon and need not be repeated here, simply that a simplification of business climate including labour laws, taxation, inspections, and regulations, as also the availability of legally sanctioned locations for small time vendors, are important components of the way forward.

Finally, this is a study that shows the way forward for more detailed analyses of the questions raised. But that does not take away from its identification of stark challenges that face India as technology changes and the resultant structural changes accelerate. Availability of the PLFS data on a close to real time basis would help frame much quicker policy responses in times to come.

References:

Abraham, V. (2017). Stagnant employment growth: last three years may have been the worst. *Economic and Political Weekly*, 52(38), 13-17.

Bairagya, I. (2018). Why Is Unemployment Higher among the Educated? *Economic & Political Weekly*, 53(7), 43.

Dubey, A., Olsen, W., & Sen, K. (2017). The decline in the labour force participation of rural women in India: Taking a long-run view. *The Indian Journal of Labour Economics*, 60(4), 589-612.

Government of India (2001), Report of the Task Force on Employment Opportunities, Planning Commission, New Delhi.

Government of India (2016), Note on Sample Design and Estimation Procedure of PLFS,

Indicus Foundation White Paper

National Sample Survey Office, NSSO, Ministry of Statistics and Programme Implementation, New Delhi.

Government of India (2016), Instructions to Field Staff: Design, Concepts, Definitions and Procedures, National Sample Survey Office, NSSO, Ministry of Statistics and Programme Implementation, New Delhi.

Government of India (2011), Note on Sample Design and Estimation Procedure of NSS 68th Round, National Sample Survey Office, NSSO, Ministry of Statistics and Programme Implementation, New Delhi.

Government of India (2011), Instructions to Field Staff: Design, Concepts, Definitions and Procedures, National Sample Survey Office, NSSO, Ministry of Statistics and Programme Implementation, New Delhi.

Government of India (2004), Note on Sample Design and Estimation Procedure of NSS 61st Round, National Sample Survey Office, NSSO, Ministry of Statistics and Programme Implementation, New Delhi.

Government of India (2004), Instructions to Field Staff: Design, Concepts, Definitions and Procedures, National Sample Survey Office, NSSO, Ministry of Statistics and Programme Implementation, New Delhi.

Goldar, B. (2011). Growth in organised manufacturing employment in recent years. *Economic and political weekly*, 46 (7), 20-23.

Goldar, B. (2000). Employment growth in organised manufacturing in India. *Economic and Political weekly*, 35 (14), 1191-1195.

Kannan, K. P., & Raveendran, G. (2009). Growth sans employment: A quarter century of jobless growth in India's organised manufacturing. *Economic and Political weekly*, 44 (10), 80-91.

Kapoor, R. (2015). Creating jobs in India's organised manufacturing sector. *The Indian Journal of Labour Economics*, 58(3), 349-375.

Mehrotra, S., & Sinha, S. (2017). Explaining falling female employment during a high growth period. *Economic & Political Weekly*, 52(39), 54-62.

Nagaraj, R. (2004). Fall in organised manufacturing employment: A brief note. *Economic and political weekly*, 39 (30), 3387-3390.

Nagaraj, R. (1994). Employment and wages in manufacturing industries: Trends, hypothesis and evidence. *Economic and Political Weekly*, 29 (4), 177-186.

Naidu, S. C. (2016). Domestic labour and female labour force participation: Adding a Piece to the puzzle. *Economic and Political Weekly*, 51 (44-45), 101-108.

Neetha, N. (2014). Crisis in Female Employment. *Economic and Political Weekly*, 49 (47), 50-59.

Shaw, A. (2013). Employment trends in India: An overview of NSSO's 68th Round. *Economic and Political Weekly*, 48 (42), 23-25.

Thomas, J. J. (2012). India's labour market during the 2000s: Surveying the changes. *Economic and Political Weekly*, 47 (51), 39-51.

Unni, J., & Raveendran, G. (2007). Growth of employment (1993-94 to 2004-05): Illusion of inclusiveness? *Economic and Political Weekly*, 42 (3), 196-199.

Unni, J. (1989). Changes in women's employment in rural areas, 1961-83. *Economic and Political Weekly*, 24 (17), WS23-WS31.

Appendix 1: Construction of NSS adjusted weights

In order to construct the “Census Weights” or the “NSS adjusted weights”, we first obtained the census data on rural and urban population for all the 35 states and Union Territories (UTs)⁴ for the years 2001 and 2011. Using this data, we estimated the monthly Compound Annual Growth Rates (CAGRs) for the rural and urban population for each of the states and UTs.

Using the estimated CAGRs of the population, we then estimated population of all the states and UTs (separately for rural and urban areas) as on 1st January 2005, 1st January 2012 and 1st January 2018 (i.e. the mid-year dates of the NSS EUS rounds of 2004-05, 2011-12 and NSS PLFS round 2017-18, respectively).

Next, we estimated the population for the states and UTs (separately for rural and urban areas) using NSS EUS data for the years 2004-05, 2011-12 and 2017-18. For this estimation, the NSS weights were first rounded off to get integer NSS weights and then used to generate the population estimates for these years.

After this, we estimated a “Census Inflator” by dividing the census estimates of population on the dates of 1st January 2005, 1st January 2012 and 1st January 2018 by the NSS estimates of the population estimated using the data for these three years. This exercise was done separately for rural and urban areas of each of the states and UTs.

After this, we generated “NSS adjusted weights” by multiplying the original NSS weights with the “Census Inflator”. These new NSS adjusted weights were rounded off to generate integer “NSS adjusted weights”. These integer weights, thus obtained, have been used for tabulation throughout the paper that corresponds to the estimated population of the states and UTs.

⁴ Telangana has been merged with Andhra Pradesh in order to facilitate comparison across the NSS rounds.

Indicus Foundation White Paper

Appendix 2: Tables

Table 4A: Changes in Employment in Different Age Categories, Rural Male

Age Categories	Employment in Crores			CARG %		Gr (Cr)
	2017	2011	2004	2011-2017	2004-2011	2004-2017
0-14	0.07	0.12	0.28	-7.18	-11.80	-0.21
15-19	0.87	1.28	1.80	-6.12	-4.77	-0.92
20-24	2.15	2.48	2.59	-2.38	-0.59	-0.44
25-29	3.04	2.90	2.71	0.82	0.98	0.34
30-39	6.14	5.83	5.20	0.86	1.63	0.93
40-59	9.18	8.19	6.74	1.93	2.81	2.44
59 Plus	2.32	2.20	1.77	0.86	3.19	0.55
Total	23.77	22.99	21.08	0.56	1.24	2.69

Table 4B: Changes in Employment in Different Age Categories, Rural Female

Age Categories	Employment in Crores			CARG %		Gr (Cr)
	2017	2011	2004	2011-2017	2004-2011	2004-2017
0-14	0.01	0.08	0.22	-27.54	-12.76	-0.20
15-19	0.17	0.40	0.76	-13.48	-8.60	-0.59
20-24	0.46	0.63	0.95	-5.08	-5.65	-0.49
25-29	0.76	0.76	1.09	-0.02	-5.00	-0.33
30-39	2.00	2.10	2.58	-0.84	-2.89	-0.58
40-59	2.87	2.65	2.95	1.31	-1.50	-0.08
59 Plus	0.44	0.54	0.55	-3.25	-0.43	-0.11
Total	6.70	7.16	9.09	-1.10	-3.34	-2.38

Table 4C: Changes in Employment in Different Age Categories, Urban Male

Age Categories	Employment in Crores			CARG %		Gr (Cr)
	2017	2011	2004	2011-2017	2004-2011	2004-2017
0-14	0.02	0.06	0.08	-18.11	-2.60	-0.04
15-19	0.35	0.43	0.56	-3.09	-3.76	-0.07
20-24	1.03	1.12	1.12	-1.41	-0.06	-0.09
25-29	1.67	1.61	1.30	0.65	3.03	0.06
30-39	3.49	3.13	2.47	1.84	3.44	0.36
40-59	4.86	3.95	3.03	3.53	3.85	0.92
59 Plus	0.80	0.55	0.38	6.24	5.62	0.24
Total	12.23	10.85	8.95	2.01	2.80	1.37

Indicus Foundation White Paper

Table 4D: Changes in Employment in Different Age Categories, Urban Female

Age Categories	Employment in Crores			CARG %		Gr (Cr)
	2017	2011	2004	2011-2017	2004-2011	2004-2017
0-14	0.00	0.01	0.04	-19.91	-16.93	-0.01
15-19	0.06	0.10	0.14	-7.66	-4.47	-0.04
20-24	0.24	0.25	0.23	-0.68	1.03	-0.01
25-29	0.41	0.34	0.25	3.20	4.79	0.07
30-39	0.92	0.71	0.62	4.43	1.94	0.21
40-59	1.16	0.79	0.68	6.66	1.98	0.37
59 Plus	0.16	0.11	0.10	7.33	1.06	0.06
Total	2.96	2.31	2.07	4.24	1.60	0.65

Table 5A: Employment by Educational Attainment in the Rural Sector

Edu Level	Employed (in Crores)			CARG (in %)		Share in the total (%)		
	2017	2011	2004	2011-2017	2004-2011	2017	2011	2004
Bel. Prim. & illit.	11.46	14.40	17.15	-3.21	-2.47	37.63	47.76	56.88
Primary	4.26	4.26	4.23	-0.01	0.09	13.97	14.13	14.04
Middle	6.70	5.03	4.47	4.88	1.73	21.98	16.70	14.80
Secondary	3.57	3.29	2.17	1.39	6.12	11.72	10.91	7.20
Higher Secondary	2.27	1.62	1.03	5.78	6.63	7.44	5.37	3.42
Diploma	0.24	0.27	0.24	-1.93	1.70	0.78	0.89	0.79
Graduate	1.54	0.99	0.68	7.66	5.44	5.05	3.28	2.26
Postgrad & above	0.44	0.29	0.18	7.23	6.63	1.43	0.95	0.61
Total	30.48	30.15	30.16	0.18	-0.01	100	100	100

Table 5B: Employment by Educational Attainment in the Urban Sector

Edu Level	Employed (in Crores)			CARG (in %)		Share in the total (%)		
	2017	2011	2004	2011-2017	2004-2011	2017	2011	2004
Bel. Prim. & illit.	2.73	2.86	2.92	-0.66	-0.30	17.98	21.76	26.54
Primary	1.73	1.48	1.52	2.55	-0.33	11.37	11.28	13.80
Middle	3.05	2.20	1.95	5.61	1.71	20.06	16.69	17.72
Secondary	2.08	1.97	1.47	0.93	4.26	13.70	14.96	13.35
Higher Secondary	1.53	1.32	0.91	2.43	5.48	10.06	10.06	8.27
Diploma	0.41	0.37	0.40	1.70	-0.87	2.71	2.83	3.60
Graduate	2.57	2.08	1.37	3.64	6.10	16.95	15.78	12.46
Postgrad & above	1.09	0.87	0.47	3.74	9.30	7.16	6.63	4.26
Total	15.19	13.16	11.01	2.42	2.58	100	100	100

Indicus Foundation White Paper

Table 6A: Percentage Employment by overall age groups

Status Code	15-24 year old			25-59 year old			60 year & above		
	2017-18	2011-12	2004-05	2017-18	2011-12	2004-05	2017-18	2011-12	2004-05
Worked in h.h. enterprise (self-employed):									
Own account worker -11	2.9	3.5	5.3	22.2	22.3	23.8	17.1	19.5	21.1
employer-12	0.1	0.1	0.1	1.2	0.9	1.0	1.1	1.4	1.6
Worked as helper in h.h. enterprise (unpaid family worker) -21	5.3	8.8	13.7	6.3	7.7	10.8	1.7	2.9	4.7
Worked as regular salaried/ wage employee -31	6.1	5.9	6.3	15.2	13.3	12.1	2.3	1.8	1.6
Worked as casual wage labour:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
In public works- 41	0.1	0.3	0.1	0.4	0.5	0.1	0.3	0.3	0.1
In other types of work -51	5.9	10.6	14.5	14.0	17.3	18.9	5.2	8.1	6.7
Did not work but was seeking and/or available for work -81	7.2	3.3	4.1	2.1	0.8	1.1	0.2	0.1	0.1
Attended educational institution -91	49.3	43.9	29.7	0.7	0.5	0.3	0.1	0.1	0.1
Attended domestic duties only -92	16.6	12.4	14.8	27.1	18.1	17.0	20.6	16.5	15.0
Attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use -93	5.1	9.9	9.7	8.2	16.8	12.9	5.0	8.3	6.8
Rentiers, pensioners, remittance recipients, etc. -94,	0.2	0.1	0.1	1.5	0.6	0.6	30.0	15.2	11.0
Not able to work due to disability -95	0.5	0.5	0.5	0.7	0.7	0.7	6.0	8.7	5.6
Others (including begging, prostitution, etc.) -97.	0.6	0.9	1.2	0.4	0.4	0.6	10.5	17.2	25.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total (in crores)	26.1	23.0	20.4	61.43	53.09	44.37	13.41	9.99	7.81

Indicus Foundation White Paper

Table 6B: Age group wise percentage employment for rural males

Status Code by age-group for Rural Male						
	15-24 year old			25-59 year old		
Status Code	2017-18	2011-12	2004-05	2017-18	2011-12	2004-05
Worked in h.h. enterprise (self-employed):						
Own account worker -11	4.9	5.4	8.4	45.8	43.0	45.1
Employer-12	0.1	0.0	0.1	1.8	1.2	1.1
Worked as helper in h.h. enterprise (unpaid family worker) -21	9.7	15.2	22.5	6.5	8.3	9.5
Worked as regular salaried/ wage employee -31	6.1	4.7	5.3	13.7	10.6	9.7
Worked as casual wage labour:	0.0	0.0	0.0	0.0	0.0	0.0
In public works- 41	0.2	0.5	0.1	0.5	0.9	0.2
In other types of work -51	11.7	20.2	25.1	25.9	32.8	31.3
Did not work but was seeking and/or available for work -81	11.3	4.2	4.5	2.5	0.7	0.8
Attended educational institution -91	52.7	46.8	31.2	0.7	0.5	0.2
Attended domestic duties only -92	0.9	0.4	0.4	0.3	0.1	0.1
Attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use -93	0.6	0.4	0.4	0.1	0.2	0.1
Rentiers, pensioners , remittance recipients, etc. -94,	0.2	0.0	0.0	0.8	0.4	0.3
Not able to work due to disability -95	0.7	0.7	0.8	0.9	0.8	0.9
Others (including begging, prostitution, etc.) -97.	0.8	1.2	1.4	0.5	0.4	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total (in crores)	9.2	8.1	7.1	19.50	17.45	15.11

[Indicus Foundation White Paper](#)

Table 6C: Age group wise percentage employment for rural females

Status Code	15-24 year old			25-59 year old		
	2017-18	2011-12	2004-05	2017-18	2011-12	2004-05
Worked in h.h. enterprise (self-employed):						
Own account worker -11	1.2	1.4	2.2	4.8	5.2	6.4
Employer-12	0.0	0.0	0.0	0.1	0.1	0.2
Worked as helper in h.h. enterprise (unpaid family worker) -21	3.3	5.9	11.2	10.3	11.4	17.8
Worked as regular salaried/ wage employee -31	1.0	1.3	1.2	3.4	2.3	2.1
Worked as casual wage labour:	0.0	0.0	0.0	0.0	0.0	0.0
In public works- 41	0.1	0.1	0.0	0.5	0.5	0.1
In other types of work -51	2.1	5.3	10.4	9.0	11.6	16.7
Did not work but was seeking and/or available for work -81	2.2	1.4	2.1	0.6	0.5	0.8
Attended educational institution -91	40.2	33.6	18.7	0.3	0.1	0.1
Attended domestic duties only -92	35.3	24.1	28.3	46.6	26.5	24.8
Attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use -93	13.8	25.8	24.4	21.7	40.3	29.5
Rentiers, pensioners , remittance recipients, etc. -94,	0.2	0.1	0.1	1.8	0.5	0.5
Not able to work due to disability -95	0.4	0.4	0.4	0.4	0.6	0.5
Others (including begging, prostitution, etc.) -97.	0.4	0.7	0.9	0.3	0.4	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total (in crores)	8.3	7.4	6.8	19.94	17.74	15.28

Indicus Foundation White Paper

Table 6D: Age group wise percentage employment for urban males

Status Code	15-24 year old			25-59 year old		
	2017-18	2011-12	2004-05	2017-18	2011-12	2004-05
Worked in h.h. enterprise (self-employed):						
Own account worker -11	3.8	4.7	8.0	29.6	32.8	34.1
Employer-12	0.3	0.2	0.2	3.4	2.8	3.1
Worked as helper in h.h. enterprise (unpaid family worker) -21						
Worked as helper in h.h. enterprise (unpaid family worker) -21	3.9	7.2	9.7	2.9	4.3	4.7
Worked as regular salaried/ wage employee -31						
Worked as regular salaried/ wage employee -31	16.8	17.2	18.8	42.1	42.3	40.3
Worked as casual wage labour:						
In public works- 41	0.0	0.0	0.0	0.0	0.0	0.0
In other types of work -51	0.1	0.3	0.0	0.2	0.3	0.1
Did not work but was seeking and/or available for work - 81						
Did not work but was seeking and/or available for work - 81	5.9	8.9	11.3	13.3	12.5	11.8
Attended educational institution -91						
Attended educational institution -91	10.7	5.5	7.3	4.0	1.5	2.0
Attended domestic duties only -92						
Attended domestic duties only -92	55.7	53.9	42.1	1.1	0.8	0.7
Attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use -93						
Attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use -93	0.7	0.3	0.3	0.4	0.2	0.2
Rentiers, pensioners , remittance recipients, etc. -94,						
Rentiers, pensioners , remittance recipients, etc. -94,	0.1	0.1	0.1	0.1	0.1	0.1
Not able to work due to disability -95						
Not able to work due to disability -95	0.3	0.1	0.0	1.4	0.9	1.2
Others (including begging, prostitution, etc.) -97.						
Others (including begging, prostitution, etc.) -97.	0.6	0.4	0.6	1.1	1.0	0.9
Total						
Total	1.1	1.1	1.4	0.6	0.5	0.8
Total (in crores)						
Total (in crores)	100.0	100.0	100.0	100.0	100.0	100.0
	4.5	4.0	3.5	10.98	9.14	7.24

Indicus Foundation White Paper

Table 6E: Age group wise percentage employment for urban females

Status Code	15-24 year old			25-59 year old		
	2017-18	2011-12	2004-05	2017-18	2011-12	2004-05
Worked in h.h. enterprise (self-employed):						
Own account worker -11	1.0	1.8	1.9	4.8	4.7	4.5
Employer-12	0.0	0.0	0.0	0.2	0.1	0.2
Worked as helper in h.h. enterprise (unpaid family worker) -21						
Worked as helper in h.h. enterprise (unpaid family worker) -21	0.9	1.6	3.0	2.1	2.8	4.2
Worked as regular salaried/ wage employee -31						
Worked as regular salaried/ wage employee -31	4.7	5.6	5.4	12.6	10.4	10.1
Worked as casual wage labour:						
Worked as casual wage labour:	0.0	0.0	0.0	0.0	0.0	0.0
In public works- 41						
In public works- 41	0.1	0.0	0.0	0.1	0.0	0.0
In other types of work -51						
In other types of work -51	0.6	1.1	2.1	2.8	3.0	4.1
Did not work but was seeking and/or available for work - 81						
Did not work but was seeking and/or available for work - 81	4.4	2.7	3.7	2.0	0.9	1.5
Attended educational institution -91						
Attended educational institution -91	52.8	47.1	36.8	0.8	0.7	0.3
Attended domestic duties only -92						
Attended domestic duties only -92	31.7	29.5	35.7	65.9	55.7	55.3
Attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use -93						
Attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use -93	3.1	9.8	10.1	5.9	19.7	17.9
Rentiers, pensioners , remittance recipients, etc. -94,						
Rentiers, pensioners , remittance recipients, etc. -94,	0.1	0.1	0.0	2.1	0.9	0.9
Not able to work due to disability -95						
Not able to work due to disability -95	0.3	0.4	0.4	0.4	0.6	0.4
Others (including begging, prostitution, etc.) -97.						
Others (including begging, prostitution, etc.) -97.	0.3	0.5	0.8	0.3	0.5	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
Total (in crores)	4.1	3.5	3.0	11.01	8.77	6.74

Table 7A: Employment by Organisation Type and Contract Type for Rural Males

Organisation Type	Employed (in Crores)			CARG (in %)		Share in the total (%)		
	2017	2011	2004	2011-2017	2004-2011	2017	2011	2004
Rural Male								
Unorganised Sector	9.64	8.22	6.04	2.70	4.50	40.55	35.74	28.64
Organised Sector	1.80	1.48	1.05	3.32	4.99	7.57	6.43	4.99
Agriculture	12.30	13.23	13.78	-1.20	-0.58	51.75	57.55	65.36
Missing	0.03	0.06	0.21	-12.00	-15.72	0.13	0.28	1.01
Total	23.77	22.99	21.08	0.56	1.24	100	100	100
Contract Status								
Non-Contractual	6.37	5.07	3.10	3.88	7.31	26.81	22.06	14.68
Contractual	0.94	0.81	0.70	2.56	1.93	3.94	3.50	3.34
Self Empl& Fam	13.75	12.55	12.23	1.53	0.37	57.83	54.58	58.00
Missing	2.71	4.56	5.06	-8.30	-1.45	11.42	19.85	23.98
Total	23.77	22.99	21.08	0.56	1.24	100	100	100

Indicus Foundation White Paper

Table 7B: Employment by Organisation Type and Contract Type for Urban Males

Organisation Type	Employed (in Crores)			CARG (in %)		Share in the total (%)		
	2017	2011	2004	2011-2017	2004-2011	2017	2011	2004
Urban Male								
Unorganised Sector	8.66	7.78	6.45	1.80	2.72	70.87	71.74	72.09
Organised Sector	3.06	2.58	1.91	2.89	4.39	25.06	23.79	21.36
Agriculture	0.50	0.48	0.50	0.78	-0.61	4.07	4.38	5.54
Missing	0.00	0.01	0.09	-34.83	-26.89	0.01	0.09	1.00
Total	12.23	10.85	8.95	2.01	2.80	100	100	100
Contract Status								
Non-Contractual	5.75	4.48	3.29	4.25	4.53	47.06	41.31	36.75
Contractual	1.53	1.69	1.50	-1.67	1.74	12.48	15.55	16.72
Self Empl& fam	4.82	4.52	3.97	1.05	1.87	39.39	41.68	44.42
Missing	0.13	0.16	0.19	-3.13	-2.46	1.07	1.46	2.11
Total	12.23	10.85	8.95	2.01	2.80	100	100	100

Table 7C: Employment by Organisation Type and Contract Type for Rural Females

Organisation Type	Employed (in Crores)			CARG (in %)		Share in the total (%)		
	2017	2011	2004	2011-2017	2004-2011	2017	2011	2004
Rural Female								
Unorganised Sector	1.66	1.65	1.45	0.14	1.82	24.76	22.98	15.97
Organised Sector	0.61	0.45	0.27	5.30	7.41	9.13	6.27	3.00
Agriculture	4.42	5.06	7.32	-2.20	-5.16	66.00	70.58	80.62
Missing	0.01	0.01	0.04	-7.11	-15.31	0.11	0.17	0.42
Total	6.70	7.16	9.09	-1.10	-3.34	100	100	100
Contract Status								
Non-Contractual	0.94	0.84	0.61	1.81	4.84	14.00	11.77	6.67
Contractual	0.34	0.22	0.17	7.77	3.86	5.12	3.06	1.85
Self Empl& fam	3.69	3.88	5.15	-0.83	-3.98	55.01	54.13	56.71
Missing	1.73	2.22	3.16	-4.05	-4.90	25.87	31.04	34.78
Total	6.70	7.16	9.09	-1.10	-3.34	100	100	100

Indicus Foundation White Paper

Table 7D: Employment by Organisation Type and Contract Type for Urban Females

Organisation Type	Employed (in Crores)			CARG (in %)		Share in the total (%)		
	2017	2011	2004	2011-2017	2004-2011	2017	2011	2004
Urban Female								
Unorganised Sector	1.84	1.55	1.32	2.87	2.33	62.07	67.18	63.89
Organised Sector	0.93	0.60	0.43	7.72	4.90	31.53	25.89	20.70
Agriculture	0.19	0.16	0.30	2.80	-8.47	6.33	6.88	14.29
Missing	0.00	0.00	0.02	9.98	-35.36	0.06	0.05	1.11
Total	2.96	2.31	2.07	4.24	1.60	100	100	100
Contract Status								
Non-Contractual	1.44	0.97	0.75	6.81	3.71	48.60	41.99	36.36
Contractual	0.47	0.40	0.34	2.62	2.49	15.82	17.38	16.35
Self Empl& fam	0.95	0.84	0.83	1.93	0.26	31.92	36.52	40.08
Missing	0.11	0.10	0.15	2.23	-6.21	3.66	4.12	7.20
Total	2.96	2.31	2.07	4.24	1.60	100	100	100

Note: "Self Empl& fam stands" for "Self-employed, Employers and Unpaid family Members"

Table 9A: Older NIC (011 code) by Organized Sector in lakhs

Older NIC Codes	2004-05
01111 Growing of food grain crops (cereals and pulses)	1,754.46
01112 Growing of oilseeds including peanuts or soya beans	62.38
01113 Growing of cotton and other vegetable textile fibre plants (Includes growing of plant materials for plaiting, padding or stuffing or brushes or brooms)	99.40
01114 Growing of tobacco, including its preliminary processing	6.87
01115 Growing of sugarcane or sugar beet	40.19
01116 Growing of rubber trees; harvesting of latex and treatment on the plantation of the liquid latex for the purpose of transport or preservation	6.57
01117 Growing of plants used chiefly in pharmacy or for insecticide, fungicidal or similar purposes (Includes growing of opium and ganja)	0.12
01119 Growing of other crops, n.e.c.	5.89
01121 Growing, in the open or under cover, of vegetables	27.09
01122 Growing of horticultural specialties	6.87
01131 Growing of coffee or cocoa beans	2.44
01132 Growing of tea or mate leaves including the activities of tea factories associated with tea plantations	18.56

Indicus Foundation White Paper

Older NIC Codes	2004-05
01133 Growing of edible nuts including coconuts	18.21
01134 Growing of fruit: citrus, tropical pome or stone fruit; small fruit such as berries; other fruit such as avocados, grapes, dates or bread fruit etc.	17.66
01135 Growing of spice crops	11.43
Total	2,078.15

Table 9B: NIC (011 code) by Organized Sector in lakhs

NIC	2017-18	2011-12
01111 Growing of wheat	395.34	473.44
01112 Growing of jowar, bajra and millets	86.98	96.65
01113 Growing of other cereals	171.42	148.40
01114 Growing of pulses (dal) and other leguminous crops such as peas and beans, not used as oilseeds	34.07	22.86
01115 Growing of mustard oil seed	8.67	8.55
01116 Growing of groundnut oil seed	22.21	25.59
01117 Growing of sunflower oil seed	1.44	3.07
01118 Growing of soya bean oil seed	45.24	41.70
01119 Growing of other oil seeds	6.64	9.06
01121 Organic farming of basmati rice	10.83	3.87
01122 Organic farming of non-basmati rice	88.97	121.99
01123 Inorganic farming of basmati rice	5.41	3.95
01124 Inorganic farming of non-basmati rice	437.74	509.05
01131 Growing of asparagus, cabbages, cauliflower, broccoli, lettuce, chicory, spinach and other leafy or stem vegetables	17.57	4.35
01132 Growing of cucumbers, gherkins, aubergines, tomatoes, watermelons, cantaloupes, melons and other fruit-bearing vegetables	14.39	3.69
01133 Growing of onion	7.54	7.54
01134 Growing of carrots, beets, turnips, garlic, leeks and other root, bulb vegetables (onion excluded)	2.78	1.90
01135 Growing of potatoes and other tubers such as sweet potatoes, cassava, yams	4.42	7.15

Indicus Foundation White Paper

NIC	2017-18	2011-12
01136 Growing of mushrooms and truffles	-	0.17
01137 Growing of vegetable seeds (except beet seed)	0.27	0.50
01139 Growing of vegetables, n.e.c.	98.56	25.95
01140 Growing of sugar cane	-	93.91
01150 Growing of tobacco	4.06	7.84
01161 Growing of cotton	128.66	145.49
01162 Growing of jute	1.38	4.38
01169 Growing of other fibre crops	0.15	0.26
01191 Growing of rose	0.35	0.27
01193 Growing of other flowers, including production of cut flowers, flower buds and flower seeds	2.53	2.91
01199 Growing of other non-perennial crops including beet seed and padding materials, n.e.c.	5.48	4.51
Total	1,603.10	1,779.0 1

Indicus Foundation White Paper

Table 10A: Occupation codes by Type of Employment

2017					
NCO	Non-Con	Con	Self-Emp	Miss	Total
Administrators and Managers	0.36	0.28	2.90	0.01	3.56
Professionals, Associate Professionals	1.69	1.36	0.93	0.00	3.98
Clerks	0.52	0.43	0.02	0.00	0.98
Sales and Service worker	1.76	0.38	2.33	0.00	4.47
Agriculture and Fishery workers	0.14	0.02	12.72	0.31	13.19
Craftsmen and Machine Operators	4.84	0.48	3.01	0.02	8.35
Labourers and Unskilled Workers	5.20	0.33	1.28	4.34	11.15
Total	14.51	3.27	23.20	4.69	45.67

2011					
NCO	Non-Con	Con	Self-Emp	Miss	Total
Administrators and Managers	0.18	0.21	2.81	0.01	3.21
Professionals, Associate Professionals	0.98	1.23	0.93	0.01	3.15
Clerks	0.43	0.46	0.03	0.00	0.92
Sales and Service worker	1.17	0.37	1.92	0.00	3.47
Agriculture and Fishery workers	0.11	0.02	12.33	0.16	12.61
Craftsmen and Machine Operators	4.48	0.51	2.74	0.03	7.76
Labourers and Unskilled Workers	3.98	0.30	1.00	6.81	12.10
Total	11.33	3.11	21.76	7.02	43.22

2004					
NCO	Non-Con	Con	Self-Emp	Miss	Total
Administrators and Managers	0.08	0.14	1.32	0.01	1.55
Professionals, Associate Professionals	0.56	1.02	0.57	0.03	2.18
Clerks	0.38	0.58	0.04	0.01	1.01
Sales and Service worker	0.95	0.20	3.31	0.02	4.49
Agriculture and Fishery workers	0.14	0.02	13.48	0.38	14.02
Craftsmen and Machine Operators	3.83	0.55	2.95	0.07	7.40
Labourers and Unskilled Workers	1.78	0.19	0.44	8.01	10.42
Total	7.72	2.70	22.11	8.53	41.07

Indicus Foundation White Paper

Table 11A: State-wise Population, Labour & Employment (numbers in lakhs) across 2004, 2011 & 2017.

State/UT	Pop (in lakhs)			Labour Force (15-59) (in lakhs)			Employment (15-59) (in lakhs)		
	2017	2011	2004	2017	2011	2004	2017	2011	2004
India									
Jammu & Kashmir	145.27	127.67	109.98	43.30	36.55	31.64	39.31	34.53	30.47
Himachal Pradesh	74.60	69.34	63.68	31.72	30.60	26.80	29.33	29.93	25.41
Punjab	304.21	280.52	255.87	101.02	86.27	79.40	92.49	83.66	74.69
Chandigarh	12.21	10.73	9.45	4.54	3.92	3.26	4.10	3.67	3.13
Uttaranchal	114.17	102.37	90.58	35.54	31.32	31.21	32.63	29.92	30.22
Haryana	289.79	257.56	226.23	92.35	76.81	70.16	84.31	74.13	67.38
Delhi	194.96	170.88	148.28	67.78	56.50	49.98	61.08	54.29	47.30
Rajasthan	782.77	696.64	608.41	240.04	225.82	208.37	224.92	222.04	204.15
Uttar Pradesh	2267.88	2029.14	1783.27	598.48	533.89	489.89	553.88	520.05	481.27
Bihar	1215.79	1060.87	905.19	283.85	262.46	239.04	262.08	252.41	233.64
Sikkim	7.34	6.21	5.57	3.43	3.03	2.29	3.29	2.99	2.22
Arunachal Pradesh	16.23	14.11	11.99	5.09	5.02	4.85	4.77	4.90	4.80
Nagaland	20.73	19.85	19.67	6.38	7.57	7.72	4.93	5.53	7.28
Manipur	34.56	29.22	24.06	11.59	9.07	8.25	10.15	8.58	7.99
Mizoram	12.69	11.17	9.62	4.73	4.57	4.11	4.19	4.39	4.06
Tripura	41.69	37.25	33.53	14.28	14.16	11.92	13.21	11.77	9.82
Meghalaya	35.12	30.28	25.48	13.91	12.42	11.78	13.66	12.31	11.67
Assam	347.79	316.19	283.11	116.58	102.80	94.06	106.83	97.35	89.96
West Bengal	1001.62	922.98	841.88	345.73	311.21	279.80	326.54	296.89	265.40
Jharkhand	379.20	335.51	291.12	104.53	97.34	101.80	95.23	94.09	98.72
Orissa	459.77	424.40	386.96	147.28	143.87	146.72	135.31	139.34	135.11
Chhattisgarh	294.67	259.90	225.12	127.01	107.38	95.77	121.82	105.00	94.36
Madhya Pradesh	824.59	737.58	647.81	316.27	246.49	243.40	299.65	243.77	240.35
Gujarat	686.34	613.65	541.39	237.11	228.83	216.09	224.79	227.32	212.48
Daman & Diu	4.46	2.59	1.72	2.36	0.88	0.68	2.29	0.88	0.67
D & N Haveli	5.47	3.61	2.54	2.20	1.21	1.03	2.17	1.21	0.99
Maharashtra	1245.95	1137.87	1025.06	466.21	428.29	419.89	439.51	421.48	407.73
Andhra Pradesh	917.76	853.86	791.52	378.35	360.82	358.76	353.85	351.61	351.30
Karnataka	678.35	618.64	558.07	251.50	243.81	248.15	238.27	239.12	243.86
Goa	15.94	14.72	13.79	5.80	5.30	5.04	4.92	5.04	4.49
Lakshadweep	0.85	0.66	0.58	0.27	0.23	0.20	0.20	0.20	0.15
Kerala	391.89	338.70	316.47	124.50	114.43	119.02	106.67	103.81	97.11
Tamil Nadu	800.16	730.49	659.12	309.70	285.64	292.80	282.52	276.40	284.15
Pondicherry	14.79	12.74	10.71	4.87	4.28	3.95	4.35	4.15	3.58
A & N Islands	4.01	3.83	3.65	1.74	1.59	1.44	1.44	1.44	1.29
Total	13643	12281	10931	4500	4084	3909	4184	3964	3777

Indicus Foundation White Paper

Table 11B: State-wise Employment (numbers in lakhs) by Region across 2004, 2011 & 2017.

State/UT	Employment (Rural) (in Lakhs)			Employment (Urban) (in Lakhs)		
	2017	2011	2004	2017	2011	2004
India						
Jammu & Kashmir	29.60	26.79	25.58	13.62	11.13	8.79
Himachal Pradesh	30.25	30.93	26.00	2.81	2.81	2.74
Punjab	58.90	54.95	50.22	42.86	36.84	31.12
Chandigarh	0.04	0.09	0.23	4.31	3.68	3.03
Uttaranchal	23.47	23.00	26.25	11.34	9.20	7.77
Haryana	52.23	51.38	50.22	36.29	28.37	21.82
Delhi	0.67	1.34	2.09	63.36	55.81	46.43
Rajasthan	188.34	191.25	179.88	60.82	52.69	46.06
Uttar Pradesh	466.43	449.69	427.09	150.77	136.25	116.08
Bihar	252.39	246.95	232.11	34.87	29.08	25.28
Sikkim	2.11	2.42	2.08	1.32	0.75	0.32
Arunachal Pradesh	3.85	4.12	4.28	1.07	0.98	0.82
Nagaland	3.34	4.43	6.59	2.00	1.53	1.34
Manipur	7.64	6.82	6.69	3.35	2.63	2.04
Mizoram	2.29	2.49	2.41	2.22	2.14	1.84
Tripura	9.32	9.37	8.50	4.73	3.18	1.98
Meghalaya	11.82	10.80	10.51	2.41	2.07	1.83
Assam	96.67	87.38	83.44	17.96	14.54	11.92
West Bengal	234.53	214.13	199.56	122.48	109.66	87.67
Jharkhand	78.10	79.58	86.92	25.29	22.30	19.81
Orissa	123.32	127.05	128.09	25.65	26.47	19.40
Chhattisgarh	101.13	90.30	85.06	27.94	21.88	16.58
Madhya Pradesh	242.48	201.96	203.53	78.92	64.40	57.71
Gujarat	129.55	144.73	147.77	110.06	98.96	76.66
Daman & Diu	0.16	0.25	0.32	2.14	0.70	0.36
D & N Haveli	0.66	0.59	0.72	1.54	0.65	0.31
Maharashtra	276.68	275.09	283.59	202.04	182.80	162.79
Andhra Pradesh	257.53	282.23	291.25	127.09	103.54	89.63
Karnataka	156.65	167.00	185.79	100.76	89.95	75.38
Goa	1.77	2.05	2.01	3.60	3.12	2.68
Lakshadweep	0.02	0.04	0.09	0.18	0.17	0.08
Kerala	44.66	57.82	72.03	75.78	57.39	34.94
Tamil Nadu	159.42	165.77	183.67	155.58	136.96	123.16
Pondicherry	1.15	1.42	1.51	3.33	2.93	2.40
A & N Islands	0.85	0.95	0.88	0.63	0.56	0.45
Total	3048.04	3015.16	3016.95	1519.12	1316.12	1101.23

Indicus Foundation White Paper

Table 11C: State-wise Employment (numbers in lakhs) by gender across 2004, 2011 & 2017.

State/UT	Employment (Male) (in Lakhs)			Employment (Female) (in lakhs)		
	2017	2011	2004	2017	2011	2004
India						
Jammu & Kashmir	38.57	34.69	30.56	4.65	3.23	3.81
Himachal Pradesh	19.87	18.53	16.80	13.19	15.22	11.93
Punjab	87.10	83.05	74.01	14.63	8.74	7.33
Chandigarh	3.42	3.22	2.68	0.93	0.54	0.58
Uttaranchal	28.14	23.87	22.56	6.68	8.33	11.46
Haryana	75.56	71.37	61.14	12.96	8.37	10.91
Delhi	55.09	49.34	43.31	8.87	7.81	5.21
Rajasthan	193.07	176.83	156.11	56.06	67.11	69.83
Uttar Pradesh	546.60	503.30	445.81	70.57	82.64	97.36
Bihar	271.94	260.20	221.47	15.32	15.83	35.91
Sikkim	2.32	1.87	1.62	1.10	1.30	0.77
Arunachal Pradesh	4.25	3.47	3.12	0.67	1.63	1.98
Nagaland	4.47	4.53	4.80	0.87	1.43	3.13
Manipur	8.55	7.28	6.05	2.44	2.18	2.69
Mizoram	3.22	3.01	2.64	1.30	1.62	1.62
Tripura	12.18	10.45	9.19	1.88	2.10	1.29
Meghalaya	8.43	7.64	6.87	5.80	5.23	5.48
Assam	100.52	89.77	80.74	14.11	12.16	14.61
West Bengal	291.86	273.17	245.08	64.94	50.63	42.15
Jharkhand	88.26	88.09	77.13	15.12	13.79	29.60
Orissa	122.73	124.46	108.58	26.24	29.06	38.92
Chhattisgarh	82.60	70.96	61.80	46.46	41.22	39.84
Madhya Pradesh	235.48	208.51	180.30	85.92	57.85	80.94
Gujarat	199.90	194.40	164.08	39.55	49.28	60.35
Daman & Diu	2.00	0.79	0.52	0.30	0.15	0.15
D & N Haveli	1.92	1.01	0.81	0.27	0.23	0.21
Maharashtra	345.92	331.47	292.81	132.80	126.42	153.57
Andhra Pradesh	253.39	245.61	231.12	131.23	140.15	149.77
Karnataka	191.87	186.58	170.96	65.53	70.37	90.20
Goa	3.96	3.90	3.51	1.42	1.28	1.18
Lakshadweep	0.17	0.19	0.15	0.03	0.02	0.02
Kerala	90.77	86.43	79.31	29.64	28.78	27.66
Tamil Nadu	220.89	211.56	193.45	94.11	91.18	113.38
Pondicherry	3.64	3.35	2.83	0.84	1.00	1.08
A & N Islands	1.19	1.14	1.09	0.28	0.36	0.24
Total	3599.86	3384.04	3003.00	966.71	947.24	1115.18

Indicus Foundation White Paper

Table 11D: State-wise employment (numbers in lakhs) by age-groups across 2004, 2011 & 2017.

State/UT	Employment (Age: 15-24) (in Lakhs)			Employment (Age: 25-59) (in Lakhs)		
	2017	2011	2004	2017	2011	2004
India	2017	2011	2004	2017	2011	2004
Jammu & Kashmir	4.18	4.93	7.18	35.13	29.60	23.29
Himachal Pradesh	2.38	4.15	4.49	26.96	25.79	20.92
Punjab	11.34	16.10	17.70	81.15	67.56	56.99
Chandigarh	0.63	0.51	0.46	3.47	3.16	2.67
Uttaranchal	2.83	3.47	6.04	29.80	26.45	24.18
Haryana	13.22	12.78	15.05	71.10	61.35	52.33
Delhi	7.44	7.89	9.92	53.64	46.40	37.39
Rajasthan	34.32	46.22	50.56	190.60	175.81	153.58
Uttar Pradesh	96.38	111.05	109.04	457.49	409.00	372.22
Bihar	30.49	38.58	43.98	231.59	213.83	189.66
Sikkim	0.32	0.44	0.47	2.97	2.55	1.76
Arunachal Pradesh	0.35	0.61	0.77	4.41	4.28	4.03
Nagaland	0.32	0.41	0.90	4.61	5.12	6.38
Manipur	0.66	0.92	1.11	9.49	7.66	6.88
Mizoram	0.32	0.73	0.88	3.88	3.66	3.18
Tripura	1.24	1.64	1.64	11.96	10.13	8.18
Meghalaya	1.77	1.64	2.71	11.89	10.67	8.96
Assam	10.81	12.87	16.72	96.01	84.49	73.23
West Bengal	41.57	48.83	55.14	284.98	248.06	210.26
Jharkhand	14.03	14.97	19.42	81.19	79.13	79.30
Orissa	14.37	24.32	29.91	120.94	115.02	105.20
Chhattisgarh	17.31	16.07	21.01	104.51	88.94	73.34
Madhya Pradesh	48.52	44.48	54.86	251.13	199.29	185.49
Gujarat	34.69	45.55	52.34	190.10	181.78	160.14
Daman & Diu	0.79	0.10	0.11	1.50	0.78	0.56
D & N Haveli	0.45	0.13	0.24	1.72	1.09	0.75
Maharashtra	46.56	68.26	84.20	392.94	353.22	323.53
Andhra Pradesh	35.47	52.65	81.80	318.38	298.96	269.50
Karnataka	27.14	39.77	57.48	211.13	199.35	186.38
Goa	0.50	0.58	0.81	4.42	4.46	3.68
Lakshadweep	0.01	0.02	0.02	0.19	0.17	0.13
Kerala	6.25	10.45	14.49	100.42	93.36	82.61
Tamil Nadu	26.71	37.30	52.02	255.81	239.09	232.13
Pondicherry	0.33	0.40	0.59	4.03	3.75	2.99
A & N Islands	0.17	0.23	0.22	1.27	1.21	1.06
Total	533.86	669.03	814.31	3650.80	3295.16	2962.91

Indicus Foundation White Paper

Table 11E: State-wise employment (numbers in lakhs) by sector across 2004, 2011 & 2017.

State/UT	Unorganised (in Lakhs)			Organised (in Lakhs)		
India	2017	2011	2004	2017	2011	2004
Jammu & Kashmir	25.01	20.66	14.27	10.59	8.52	5.89
Himachal Pradesh	11.50	10.56	7.73	5.83	5.66	3.98
Punjab	63.35	57.12	43.98	15.83	12.95	9.59
Chandigarh	2.79	2.30	1.85	1.55	1.45	1.38
Uttaranchal	15.05	15.26	9.79	7.11	4.35	3.65
Haryana	49.26	37.55	32.91	20.37	15.57	10.70
Delhi	44.73	39.97	34.05	19.07	17.14	14.36
Rajasthan	115.05	112.72	82.67	24.49	23.74	13.87
Uttar Pradesh	308.77	278.77	201.82	41.99	43.41	31.15
Bihar	140.08	91.32	65.64	23.98	14.69	6.35
Sikkim	1.34	0.78	0.64	0.94	0.64	0.50
Arunachal Pradesh	1.47	0.82	0.29	1.25	0.86	0.73
Nagaland	1.56	1.06	1.24	2.28	1.53	1.19
Manipur	5.55	3.94	2.06	2.35	1.66	1.08
Mizoram	1.47	1.08	0.63	1.27	1.04	0.62
Tripura	8.24	6.74	3.91	2.78	2.47	1.28
Meghalaya	4.18	3.80	2.02	2.18	1.77	1.19
Assam	51.02	38.83	26.17	17.90	9.77	7.74
West Bengal	215.67	175.32	133.95	38.97	33.29	25.01
Jharkhand	48.17	46.17	35.62	12.84	12.53	9.83
Orissa	69.92	63.69	49.13	16.48	14.13	11.29
Chhattisgarh	37.81	24.66	19.92	11.61	8.22	6.85
Madhya Pradesh	104.71	88.81	65.64	32.63	27.56	22.67
Gujarat	118.91	110.46	87.91	40.03	32.31	25.92
Daman & Diu	0.65	0.49	0.40	1.62	0.44	0.21
D & N Haveli	0.68	0.31	0.33	1.44	0.70	0.39
Maharashtra	177.80	171.36	156.46	93.11	74.68	54.30
Andhra Pradesh	181.71	159.16	141.98	40.67	34.96	25.26
Karnataka	105.74	102.76	83.83	44.61	37.76	20.96
Goa	2.65	2.38	2.68	2.39	2.63	1.34
Lakshadweep	0.09	0.10	0.06	0.10	0.09	0.07
Kerala	83.20	81.55	65.91	26.30	19.04	12.92
Tamil Nadu	179.06	165.88	147.54	74.44	43.56	32.88
Pondicherry	2.82	2.81	2.32	1.49	1.14	0.64
A & N Islands	0.74	0.66	0.56	0.58	0.58	0.48
Total	2180.78	1919.86	1525.91	641.06	510.82	366.28

Indicus Foundation White Paper

Table 11F: State-wise employment (numbers in lakhs) by contractual status across 2004, 2011 & 2017.

State/UT	Non-Contractual (in Lakhs)			Contractual (in lakhs)		
	2017	2011	2004	2017	2011	2004
India						
Jammu & Kashmir	14.79	14.96	8.23	7.62	3.79	2.27
Himachal Pradesh	8.18	6.89	6.10	2.87	4.14	2.35
Punjab	40.72	36.32	25.74	8.50	7.30	7.43
Chandigarh	1.67	1.58	2.24	1.29	0.80	0.04
Uttaranchal	9.22	6.83	4.69	4.61	3.45	2.65
Haryana	31.39	25.11	19.83	13.75	8.47	5.93
Delhi	29.37	23.52	24.33	13.75	13.83	8.02
Rajasthan	75.86	73.64	42.94	8.65	11.97	12.05
Uttar Pradesh	170.39	152.26	83.04	34.19	27.92	21.39
Bihar	84.78	39.58	16.08	12.45	8.40	5.47
Sikkim	0.50	0.37	0.36	0.85	0.58	0.43
Arunachal Pradesh	0.48	0.69	0.51	1.20	0.47	0.37
Nagaland	2.47	0.78	0.76	0.04	0.95	0.67
Manipur	3.12	1.38	0.95	0.70	1.00	0.64
Mizoram	0.88	0.73	0.38	0.86	0.59	0.49
Tripura	4.58	4.81	2.95	2.01	1.25	1.20
Meghalaya	2.64	2.16	1.75	1.71	0.93	0.57
Assam	24.60	16.83	12.34	14.61	6.21	5.33
West Bengal	122.01	81.57	58.02	30.30	28.53	19.20
Jharkhand	35.20	30.27	21.23	6.20	7.56	5.96
Orissa	46.12	31.58	20.46	9.33	9.15	7.73
Chhattisgarh	28.22	16.00	12.01	6.44	6.32	4.97
Madhya Pradesh	67.74	51.66	33.74	25.06	16.85	14.25
Gujarat	85.83	69.50	54.47	9.34	16.21	16.42
Daman & Diu	1.92	0.45	0.27	0.13	0.23	0.08
D & N Haveli	1.60	0.73	0.59	0.21	0.16	0.00
Maharashtra	144.59	102.95	81.01	34.73	56.44	50.74
Andhra Pradesh	107.18	93.75	67.24	23.87	15.64	18.11
Karnataka	92.48	65.77	42.44	3.91	20.24	18.59
Goa	1.54	2.69	2.17	2.20	0.94	0.76
Lakshadweep	0.11	0.06	0.05	0.06	0.07	0.06
Kerala	55.54	55.34	40.71	17.37	12.37	10.84
Tamil Nadu	152.09	122.96	84.43	27.65	17.57	24.74
Pondicherry	2.55	2.47	1.60	0.63	0.52	0.41
A & N Islands	0.65	0.49	0.28	0.40	0.48	0.47
Total	1451.00	1136.71	773.94	327.48	311.34	270.63

Indicus Foundation White Paper

Table 11G: State-wise employment (numbers in lakhs) by education across 2004, 2011 & 2017.

State/UT	Primary and Below (Emp in Lakhs)			Middle to High Sec (Emp in Lakhs)			Diploma and Above (Emp in Lakhs)		
	2017	2011	2004	2017	2011	2004	2017	2011	2004
India	2017	2011	2004	2017	2011	2004	2017	2011	2004
Jammu & Kashmir	13.32	16.20	19.33	23.38	17.23	12.86	6.52	4.49	2.18
Himachal Pradesh	11.22	15.31	17.17	17.95	15.16	9.22	3.90	3.28	2.35
Punjab	37.38	40.93	41.47	48.51	41.13	30.56	15.87	9.73	9.30
Chandigarh	0.87	1.25	0.85	1.99	1.45	1.12	1.48	1.07	1.29
Uttaranchal	7.77	14.32	18.92	20.96	13.65	11.61	6.08	4.23	3.49
Haryana	31.50	32.30	38.49	41.05	32.69	25.80	15.97	14.75	7.76
Delhi	19.46	13.96	14.88	28.41	23.91	19.80	16.15	19.28	13.84
Rajasthan	133.54	156.72	166.33	87.02	64.80	47.65	28.60	22.41	11.96
Uttar Pradesh	274.20	336.02	349.51	259.58	194.21	155.78	83.42	55.71	37.58
Bihar	142.16	168.12	174.59	116.21	88.33	68.68	28.89	19.51	13.92
Sikkim	1.22	1.97	1.68	1.70	0.99	0.58	0.50	0.21	0.13
Arunachal Pradesh	2.16	2.82	3.64	2.24	1.80	1.13	0.52	0.48	0.32
Nagaland	1.34	2.13	3.96	3.12	2.95	3.21	0.87	0.89	0.75
Manipur	2.60	2.61	4.22	6.26	5.33	3.51	2.12	1.48	0.97
Mizoram	1.08	1.61	1.71	2.73	2.55	2.24	0.70	0.47	0.30
Tripura	5.58	7.18	6.54	6.82	4.49	3.24	1.65	0.88	0.70
Meghalaya	6.94	6.32	8.80	6.21	5.58	2.80	1.09	0.97	0.72
Assam	47.30	50.98	58.08	56.42	44.26	32.53	10.91	6.57	4.58
West Bengal	197.12	195.26	185.63	126.36	94.79	77.97	33.53	33.74	23.59
Jharkhand	49.65	59.14	72.09	42.74	33.23	27.44	11.00	9.49	7.15
Orissa	70.70	84.77	102.93	65.12	57.82	36.60	13.15	10.92	7.81
Chhattisgarh	67.05	72.36	76.38	51.98	32.72	19.77	10.03	7.10	5.50
Madhya Pradesh	172.86	164.51	191.30	116.97	78.72	51.69	31.57	23.00	18.19
Gujarat	84.81	124.05	123.82	119.16	93.96	80.78	35.64	25.68	19.83
Daman & Diu	0.70	0.28	0.25	1.27	0.42	0.30	0.33	0.25	0.13
D & N Haveli	0.68	0.48	0.58	0.88	0.50	0.27	0.63	0.26	0.18
Maharashtra	155.13	185.83	226.43	236.13	207.18	169.79	87.46	64.89	50.15
Andhra Pradesh	211.90	242.10	279.63	125.62	106.31	78.03	47.10	37.35	23.17
Karnataka	115.99	124.21	164.55	102.16	94.98	78.07	39.26	37.76	18.54
Goa	0.87	1.05	1.69	2.84	2.50	1.75	1.66	1.63	1.25
Lakshadweep	0.05	0.07	0.08	0.10	0.10	0.06	0.05	0.04	0.02
Kerala	21.22	26.70	38.73	69.78	65.77	51.95	29.44	22.74	16.29
Tamil Nadu	128.84	147.57	186.17	125.31	111.19	91.29	60.86	43.98	29.37
Pondicherry	0.83	1.40	1.97	2.12	1.83	1.37	1.53	1.13	0.57
A & N Islands	0.47	0.59	0.63	0.59	0.62	0.54	0.42	0.30	0.17
Total	2018.52	2301.10	2583.02	1919.72	1543.14	1200.02	628.90	486.68	334.06

Indicus Foundation White Paper

Table 11H: State-wise employment (numbers in lakhs) by employment status across 2004, 2011 & 2017.

State/UT	Regular Employed (in Lakhs)			Casual Employed (in Lakhs)			Not Working (in Lakhs)		
	2017	2011	2004	2017	2011	2004	2017	2011	2004
India									
Jammu & Kashmir	34.96	28.72	30.02	8.26	9.20	4.35	102.05	89.74	75.61
Himachal Pradesh	28.61	28.89	24.56	4.46	4.86	4.18	41.54	35.60	34.94
Punjab	81.13	70.77	61.91	20.64	21.02	19.43	202.45	188.73	174.53
Chandigarh	4.22	3.49	3.17	0.12	0.28	0.09	7.87	6.97	6.19
Uttaranchal	30.53	27.67	29.77	4.28	4.52	4.25	79.36	70.17	56.56
Haryana	70.88	63.44	59.96	17.64	16.30	12.09	201.27	177.82	154.19
Delhi	60.49	55.25	46.34	3.54	1.91	2.18	130.94	113.72	99.76
Rajasthan	209.11	186.86	188.64	40.04	57.07	37.30	533.61	452.71	382.47
Uttar Pradesh	482.42	428.54	441.96	134.78	157.40	101.21	1650.68	1443.20	1240.10
Bihar	195.81	161.51	167.04	91.45	114.52	90.34	928.52	784.84	647.80
Sikkim	3.28	3.03	2.24	0.14	0.14	0.15	3.91	3.04	3.18
Arunachal Pradesh	4.70	4.75	4.78	0.22	0.35	0.32	11.31	9.01	6.88
Nagaland	5.24	5.87	7.84	0.10	0.09	0.09	15.40	13.89	11.74
Manipur	9.85	8.56	8.31	1.14	0.89	0.43	23.57	19.76	15.32
Mizoram	4.14	4.39	4.10	0.38	0.24	0.15	8.17	6.54	5.37
Tripura	10.71	7.97	7.05	3.34	4.58	3.43	27.64	24.70	23.05
Meghalaya	12.52	10.70	10.69	1.71	2.18	1.66	20.88	17.41	13.13
Assam	94.09	83.56	75.47	20.54	18.37	19.88	233.16	214.27	187.75
West Bengal	244.97	203.14	193.67	112.04	120.66	93.55	644.61	599.18	554.65
Jharkhand	78.53	73.39	79.87	24.86	28.50	26.86	275.80	233.63	184.39
Orissa	109.85	108.71	94.20	39.12	44.81	53.30	310.80	270.88	239.46
Chhattisgarh	103.58	70.35	61.14	25.49	41.83	40.50	165.61	147.72	123.47
Madhya Pradesh	231.77	185.75	182.65	89.63	80.62	78.58	503.19	471.21	386.58
Gujarat	200.11	185.98	152.74	39.49	57.71	71.69	446.74	369.97	316.96
Daman & Diu	2.29	0.86	0.48	0.02	0.08	0.20	2.16	1.65	1.05
D & N Haveli	2.12	1.14	0.78	0.07	0.09	0.24	3.28	2.37	1.51
Maharashtra	367.89	335.54	302.55	110.83	122.35	143.83	767.22	679.98	578.69
Andhra Pradesh	263.32	244.78	230.26	121.30	140.98	150.62	533.14	468.10	410.63
Karnataka	189.40	181.62	158.26	68.01	75.33	102.90	420.94	361.69	296.90
Goa	4.89	4.63	3.74	0.49	0.54	0.95	10.57	9.55	9.09
Lakshadweep	0.13	0.16	0.11	0.07	0.06	0.06	0.64	0.45	0.42
Kerala	86.52	73.16	66.33	33.92	42.05	40.64	271.44	223.49	209.50
Tamil Nadu	215.62	183.72	199.68	99.38	119.02	107.15	485.17	427.75	352.29
Pondicherry	3.14	3.15	2.50	1.34	1.21	1.41	10.31	8.38	6.80
A & N Islands	1.25	1.24	1.01	0.22	0.27	0.33	2.54	2.32	2.31
Total	3448.09	3041.26	2903.80	1119.06	1290.02	1214.38	9076.49	7950.44	6813.29