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107th Issue

**Journal of
National Statistical Office**



सत्यमेव जयते

**Government of India
Ministry of Statistics and Programme Implementation
National Statistical Office
New Delhi**

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Submission of papers/articles for Sarvekshana

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Editor's Note

Bringing out Sarveshana has always been a pleasant and enlightening endeavor. First issue of Sarvekshana was released during July, 1977. Sarvekshana is 106th issues old now. The present, 107th, issue comes with three papers on the subjects of employment growth in India's manufacturing sector, determinants of health vulnerabilities of children in the age group of 0-5 years and variation in wages of the employees working in the industrial sector due to different factors. Additionally, highlights of the Annual Report of the Periodic Labour Force Survey for the period July, 2017-June, 2018 have also been given in this issue.

This issue was scheduled to be released in September, 2019. But we had to delay it a bit for allowing incorporation of suggestions from the Referee(s) as well as from the Members of the Editorial Advisory Board in papers.

Sarvekshana since its inception has been an important platform for the encouraging research and analysis among academia and officials in the Government on various socio-economic aspects using National Sample Survey data. Beginning 106th issue, Sarvekshana has started accepting papers on socio-economic issues using the data from other surveys/sources as well. This is proving to be good experience and is giving variety to the content.

Referees have been very kind in examining the papers in detail and offering their suggestions in a short span of time. So have been the Members of the Editorial Board. I offer my sincere gratitude to them and solicit continued support for the Journal. Authors of the papers too, have been cooperative in acceding to the suggestions for repetitive revisions. I congratulate them for their work which has found favour with the experts and has been included in the Journal. Officers of Survey Coordination Division have been very meticulous at various stages of publication and their hard work deserves unqualified appreciation.

The Sarvekshana is a known Journal among researchers, academicians and policy makers. I welcome students, researchers, government officials and all those working on development data to contribute unpublished papers for this Journal. Suggestions for improvement in the various aspects of the Journal are welcome.

New Delhi
October, 2019


(Awadhesh Kumar Mishra)

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PART-I

TECHNICAL PAPERS

**“Missing Middle” in Indian Manufacturing: An Analysis Using ASI and NSS Data;
2000 - 01 to 2015 - 16**

Angarika Rakshit

Abstract

This paper analyses distribution of employment growth in India’s manufacturing sector in different size class of factories in the first fifteen years of the 21st century. Employment distribution of the manufacturing sector in India was identified with a “missing middle” in the 1970s *i.e.* large proportion of employment was concentrated in very small and very large factories. This dualism with large productivity and wage gaps was recognized as a crucial factor behind stagnation of the manufacturing sector. But throughout the 1990s the share of employment in the large factories declined steadily which has now raised doubt on whether “missing middle” continues to be a key feature of the Indian manufacturing sector. Using data from the Annual Survey of Industries and unorganised sector surveys of the National Sample Survey, this paper shows that the recent employment growth phase in the organized manufacturing sector starting from the mid-2000s has been accompanied by a reinforcement of the bimodal distribution with most of the increase in employment taking place in large factories whereas the middle sized factories continued to perform poorly in terms of employment growth. The rise of big factory based capital intensive industries and the declining share of more evenly distributed labour intensive industries are partially responsible for this. However, there is an overarching trend of rising share of employment growth in the large factories across industries in the manufacturing sector.

Key words: Employment, Firm Size, Manufacturing, Industrial Policy, Economic Development.

JEL codes: J21, L11, O14, O17

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1. Introduction

1.1. In 1954 Arthur Lewis developed a model of structural transformation for developing economies with abundant supply of labour. His paper written in the classical tradition, assumed that in these labour abundant economies the subsistence sector was characterized by underemployment and disguised unemployment which drives the marginal product of labour in this sector close to zero and thus there is an unlimited supply of labour available at the subsistence wage. As development proceeds in these economies, the excess labour in the subsistence sector gets drawn into the modern capitalist sectors provided they offer a wage that is a margin above the subsistence wage. Historically, the manufacturing sector of newly industrializing economies, with its high employment elasticities and inter-sectoral linkages compared to services, has played an important role in the structural transformation and economic development of these economies by absorbing excess labour released from traditional sectors primarily consisting of agriculture (Lewis, 1954; Mazumdar & Sarkar, 2013). (Lewis, 1954; Mazumdar & Sarkar, 2013). The Indian experience, however, has been slightly different and India has not yet seen a successful Lewisian transformation of the economy (Chandrasekhar & Ghosh, 2007; Roy, 2008). Absence of a fast growing manufacturing sector and declining employment absorption capacity of agriculture has led to two outcomes. Excess labour released from agriculture has been either absorbed in low-end services like construction (Roy, 2008) or has contributed to persisting underemployment in agriculture (Venkatanarayana & Naik, 2013). India's experience of structural transformation has drawn the attention of many scholars and various reasons have been put forward for the slow growth of India's manufacturing sector. The bimodal size structure of firms from the early stages of industrialization, with the lack of middle sized firms which could deliver on both output and employment has been identified as one of the major structural factors (Dhar & Lydall, 1961; Little, Mazumdar, & Page, 1987; Mazumdar & Sarkar, 2008, 2013; Ramaswamy, 2013). This "missing middle" in Indian manufacturing was first observed in the 1970s but change in policies over time that affects firm size and employment growth has given rise to a debate on whether the problem of missing middle continues to persist in the 21st century. In this context, this paper explores how this relationship between firm size and employment growth in the manufacturing sector has changed between 2000 and 2015. The rest of this paper is organized as follows. The next section presents a review of the literature on missing middle. The third section explains the data sources and methodology. The fourth section lists the major trends at the aggregate level and the fifth section presents the industry wise variations in them. The sixth and seventh sections explore some of the distributional aspects of this distribution and the last section concludes.

2. Is the Middle Missing? – A Review of Literature

2.1. Indian manufacturing was first characterized with a "missing middle" by Dhar and Lydall in 1961 (Dhar & Lydall, 1961). In 1987 Little *et al.* (Little et al., 1987) empirically observed that employment in the manufacturing sector was distributed in such a manner that there was a large proportion of workers in the very large and very small factories while the middle sized factories employed a much smaller proportion of the manufacturing workforce.

More than half of total manufacturing employment in the organised sector was concentrated in factories employing more than 1000 people.

2.2. More recently Mazumdar and Sarkar (Mazumdar & Sarkar, 2008) argued that this dualistic nature of Indian manufacturing with concentration of firms at the two ends of the distribution having large productivity and wage gaps is the primary reason for slow down in the growth of manufacturing in India. It is also partly responsible for high inequality in the growth process. They identified three types of structures in the growth of the manufacturing sectors in Asian economies. Countries like Japan, Taiwan and Korea represent the more equitable type of distribution in manufacturing which experienced fast growth of employment in manufacturing at high wage rates and were also able to achieve growth with equity. The other type of size distribution is one in which growth and employment in manufacturing is driven by very large firms and wage rate is high. But since capital intensiveness in production is also higher, the rate of absorption of excess labour from agriculture may be low, causing wage differentials and high inequality between sectors as in the case of Thailand in the late 1980s. The third type of employment distribution is the bi-modal structure which characterizes the manufacturing sector in India. In this kind of distribution, there is concentration of employment in the very small and very large firms. Inequality is high not only between sectors but also within the manufacturing sector, accompanied by large differences in productivity at the two ends of the distribution. Although wage rates at the upper end of the distribution would be higher, elasticity of employment is likely to be less. As a result, the high wage rate would not compensate for the lack of domestic demand for manufacturing driven by the low wage – low income employment concentrated at the bottom of the distribution, which is likely to prevent the faster growth of manufacturing. Product market segmentation is one likely fallout of this kind of distribution along with a skewed development of the tertiary sector which would not only increase inequality but also pose a problem of employment generation. India has clearly experienced a lopsided development of its manufacturing and services sectors even in the heydays of growth and Mazumdar & Sarkar (Mazumdar & Sarkar, 2013) identify the underlying dualism in manufacturing as one of the most important reasons for it.

2.3. Little *et al.* (Little et al., 1987) attributed this uneven distribution of employment in India's manufacturing sector to the policy of protection of small scale industries and the emphasis on heavy industrialization in the early phases of planning. According to Mazumdar & Sarkar (Mazumdar & Sarkar, 2013) the policy for protection of small scale industries adopted in the post independence planning period has had a long term impact on the size distribution of Indian manufacturing, which has persisted even after the policy has been discontinued. However, Nagaraj (Nagaraj, 2018) argues that the empirical reality of a missing middle as observed by Little in the 1970s no longer exists in the manufacturing sector at present as the share of employment in factories employing more than 1000 workers have declined from 43.3 percent in 1974 to 26.4 percent in 2007-08 and therefore factory employment is more evenly distributed now than it was four decades back. Nevertheless it has been argued that much of this decline in share of large firms represented a shift in modes from large to very small firms in the informal sector while the middle sized firms grew

relatively slowly (Mazumdar & Sarkar, 2013). On the other hand, others (Hasan, Jandoc, & Robert, 2012; Ramaswamy, 2013) have identified size based labour regulations and fiscal incentives as factors responsible for creating thresholds in the growth path of smaller firms. Ramaswamy (2013) argues that because of this threshold effect contractualisation and sub contracting are two avenues used by firms to prevent their growth beyond a certain point. It must be noted here that unlike others Ramaswamy uses only permanent workers to define the size classes of factories. It has also been argued that labour regulations have led to gravitation towards more capital-intensiveness thereby impacting the size distribution of manufacturing industries (Panagariya, 2008). However, while rising capital intensity does have an impact on size distribution, labour regulations may not be the major factor behind it. Sen and Das (2015) argue that rising capital intensiveness is a direct outcome of falling import tariffs on capital goods which has made capital cheaper relative to labour and quickened the adoption of labour displacing technology.

2.4. Thus to sum up this section it can be said that this debate is not only about the factors responsible for the missing middle but also about whether or not the missing middle continues to exist in India's manufacturing sector. Since this uneven distribution of employment was identified as a factor responsible for the stunted growth of manufacturing employment, particularly in the organized sector, it is not implausible to assume that a faster growth of employment in organized manufacturing might be accompanied by gradual waning of the missing middle. Surprisingly, however, there is no extensive work on employment growth and firm size for the period starting from 2003-04 which marked the beginning of a significant departure in the organized manufacturing sector in terms of employment growth. Total organised manufacturing sector employment which hovered around 8 million for the past two decades, increased rapidly by more than 5.5 million between 2003-04 and 2011-12. Given this context and in the absence of a consensus on the persistence of missing middle in the 21st century, this paper traces the changes in firm size distribution of employment growth in India's manufacturing sector for a fifteen year period starting from 2000-01. The paper finds that contrary to perception, there is in fact a resurgence of large firm driven employment growth and intensification of the missing middle that coincides with the employment growth phase in the organized manufacturing sector.

3. Data & Methodology

3.1. This paper uses data from both Annual Survey of Industries (ASI) and the survey of non-agricultural enterprises in the unorganized sector conducted every five years by the National Sample Survey Office (NSSO). Data for the enterprises in the unorganized sector is available for four years – 2000-01, 2005-06, 2010-11 and 2015-16. Organized sector data available from ASI for similar time periods is used in order to understand the employment situation of the manufacturing sector as a whole. In particular ASI data for 2000-01, 2005-06, 2010-11 and 2014-15 are used. While the first three years correspond exactly to the NSSO rounds, there is a one year lag only for the last time period. The data for organized and unorganized sectors are from different sources and do not correspond to exactly overlapping survey periods. The two cannot be combined for obvious technical reasons. Nevertheless, the

characteristics of different size class of enterprises can be compared to the extent that this paper does to draw insights about the distribution of employment in the manufacturing sector. Factories in the organized sector are classified into six firm size classes based on the total number of persons they employ. This classification is similar to what was used by Mazumdar & Sarkar (2013) and is given in the table below. Only open factories engaged in manufacturing i.e. NIC 2008 codes 10 to 33 are considered. The paper looks at the pattern of change in employment in these size classes first at the all India level and then at a disaggregated level by NIC 2 digit industries. In the unorganized sector only Directory Manufacturing Enterprises (DMEs) which have more than 6 hired workers are considered. This is done to exclude the household based manufacturing units whose potential to grow into larger firms is awfully limited (Mazumdar & Sarkar, 2013).

Size Class	1	2	3	4	5	6
No. of persons employed	Less than 10	10 to 49	50 to 99	100 to 199	200 to 499	500+

4. Overall trends in Indian Manufacturing – 2000-01 to 2015-16

4.1. Total estimated employment in organized manufacturing in 2000-01 was 7.7 million which increased by 1 million in 2005-06. This was a continuation of the trend of slow employment growth in the organized manufacturing sector that prevailed in the previous decade. Organised manufacturing employment throughout the 1980s and 1990s was almost stagnant except for a slight increase in the mid 1990s. However, between 2005-06 and 2010-11 total manufacturing employment increased by almost 3.5 million from 8.7 to 12.2 million. This increasing trend in employment started from 2004-05 and continued till 2011-12 as can be seen in Figure1. Employment growth however turned negative in 2012-13 and increased slightly in the following years as a result of which, between 2010-11 and 2014-15 the increment was much less, from 12.2 to only 13.2 million.

Figure 1. Employment in Organised Manufacturing in millions

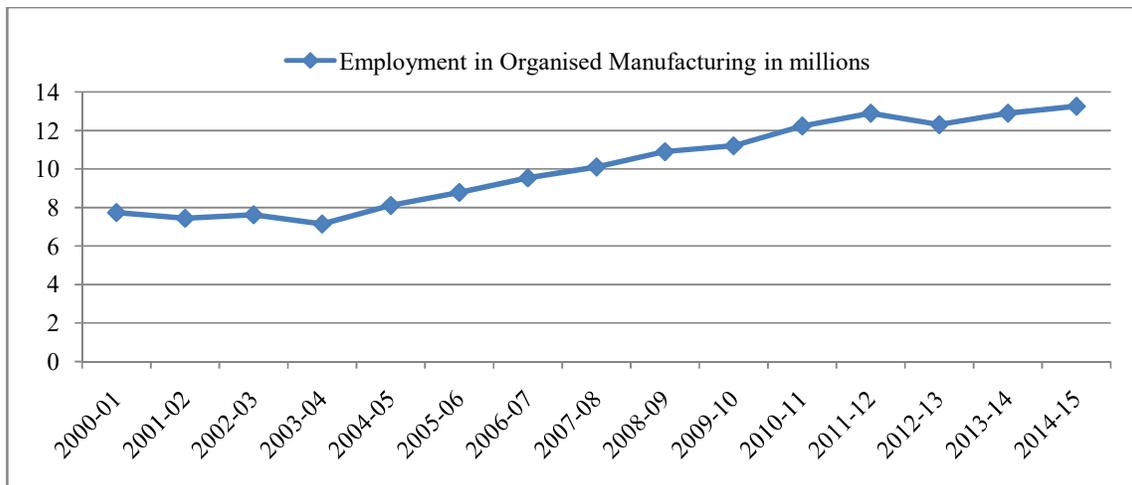
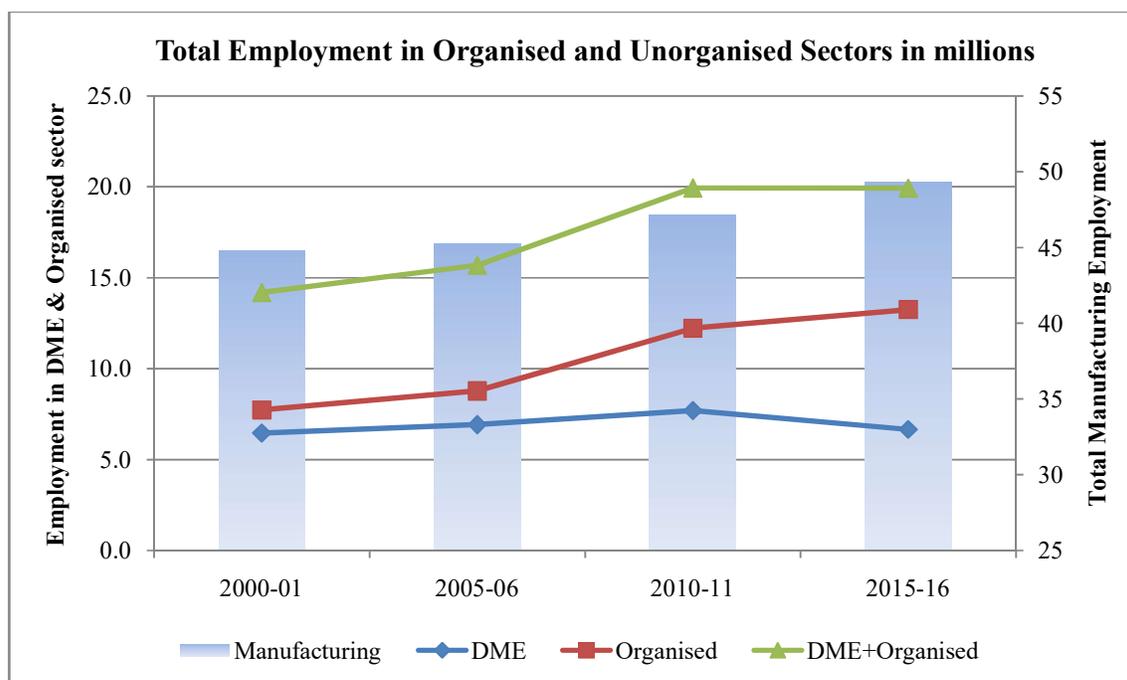


Figure 2. Total Employment in Organised and Unorganised Sectors in millions



4.2. Total employment in the DMEs in the unorganized sector on the other hand increased from 6.5 million to only 7.7 million in the 10 year period between 2000-01 and 2010-11 and declined by 1 million in the next 5 years as is evident from Figure 2. Thus total employment growth in the non-household based manufacturing sector in this period has been increasingly led by employment growth in the organized sector. In fact the growth in total manufacturing employment (household and non-household sectors taken together) of about 2.5 million in the first 10 year period was almost entirely due to the unprecedented growth in employment in the organized sector.

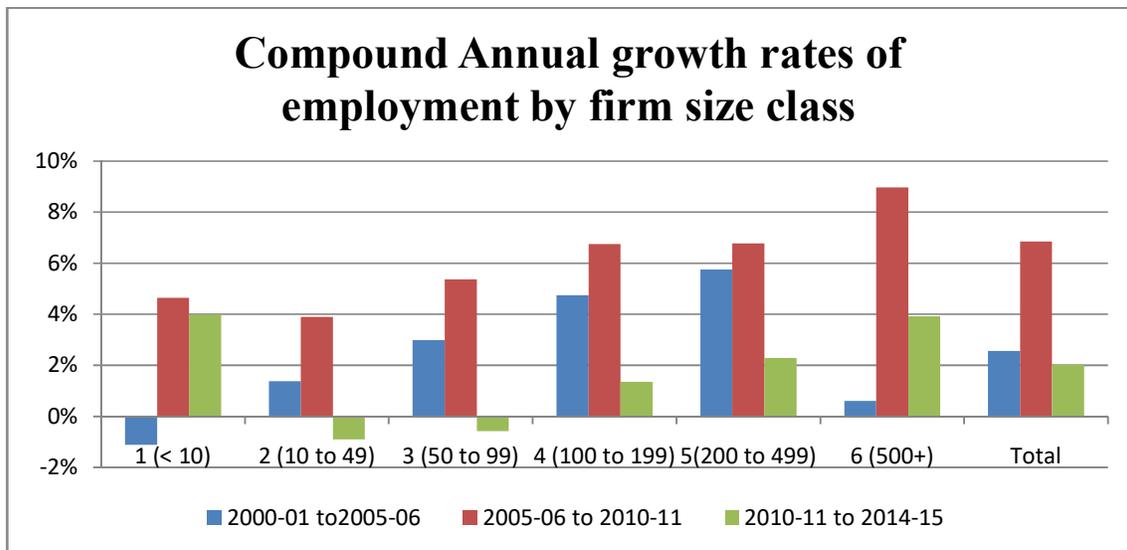
4.3. In order to examine how this employment growth in the organized sector altered the distribution of employment in various size classes of factories, the share of each size class in total employment in this period is considered. This shows that in 2000-01 about 55 percent of all organized manufacturing employment was in factories employing more than 200 persons and 36 percent were in those employing more than 500 persons alone. While this distribution is not as skewed towards large factories as it was in the 1970s, there is a clear movement of employment away from small and medium factories to large factories from 2005-06 onwards. Between 2000-01 and 2014-15 share of total employment in factories employing 10 to 100 persons has declined consistently from about 30 percent to 23 percent. This has almost entirely been compensated by an increase in employment share of factories employing more than 200 persons. Between 2000-01 and 2005-06 the fifth size class employing 200 to 499 persons recorded an increase in its share of employment by 3 percentage points, while the share in the sixth size class declined by the same extent. After 2005-06 however, the share of neither of these two size classes of factories have shown any sign of decline and by 2014-15

they together account for 61 percent of all employment in organized manufacturing with 39 percent of total employment in factories employing more than 500 persons alone. This is shown in the table given below (Table 1.).

Table 1. Share of Total Persons Engaged in Each Size Class (in percentage)

Share of Total Persons Engaged in Each Size Class in percentage				
Firm Size Class	2000-01	2005-06	2010-11	2014-15
1 (< 10)	2	2	2	2
2 (10 to 49)	18	17	15	13
3 (50 to 99)	12	12	11	10
4 (100 to 199)	13	15	15	14
5(200 to 499)	18	21	21	22
6 (500+)	36	33	36	39
Total	100	100	100	100

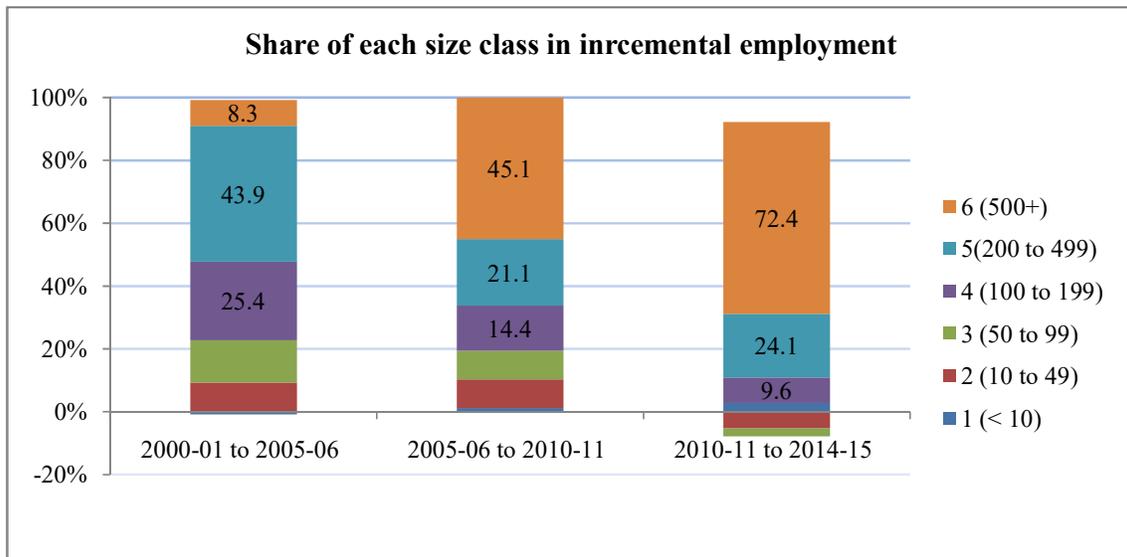
Figure 3. Compound Annual growth rates of employment by firm size class



4.4. Looking at the growth rates of employment in these size classes (Figure3.), it can be seen that in the first five year period employment in the small and medium firms (size classes 2, 3 and 4) were growing faster than that of the largest firms (size class 6). Between 2005-06 and 2010-11, however, the growth rate of employment in the sixth class increased massively to 9 percent which was in part responsible for the major leap in total employment in this period. Clearly the largest factories were growing at the fastest rate and there was a clear pattern of larger the factory size faster the growth of employment. The same trend continued

in the next five year period. However, there was a decline in the growth rate of employment in each category and overall employment growth slowed down in this period. The second and third size classes i.e. factories employing 10 to 100 persons have recorded a negative rate of growth in this period, implying an absolute decline in the number of persons employed in these categories. Absolute number of persons employed declined by almost 1 lakh in these two size classes taken together. On the other hand the fifth and sixth size classes together accounted for 96 percent of incremental employment in this period, of which factories employing more than 500 persons alone accounted for 74 percent of total incremental employment.

Figure 4. Share of each size class in incremental employment



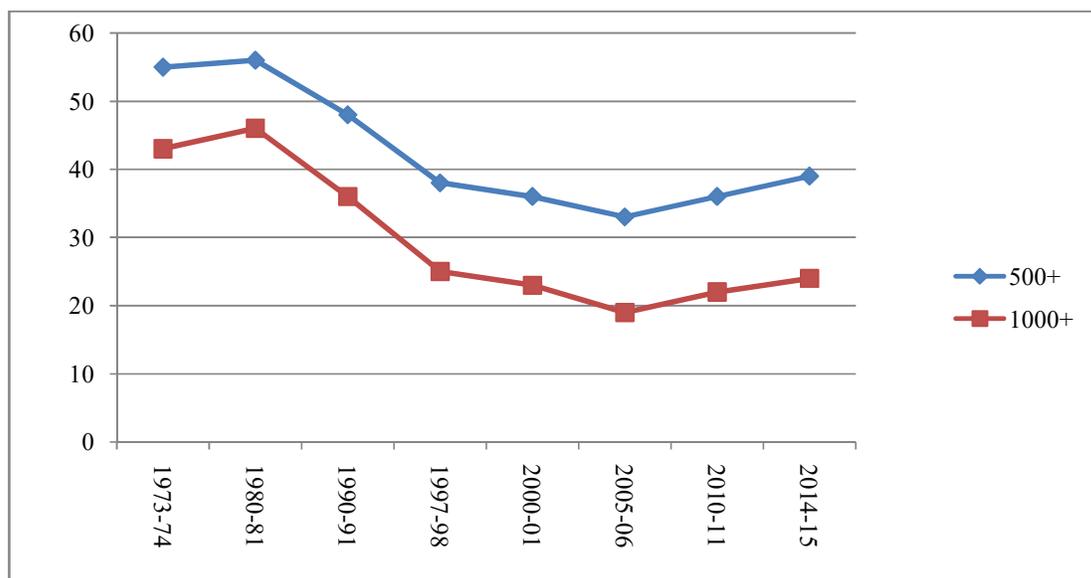
4.5. The negative employment growth in factories employing 10 to 100 persons was however, not accompanied by a decline in average employment per factory. The average employment per factory in these size classes has been almost constant since 2000-01 but the total number of factories has declined. On the other hand in the big factories (Size class 6), average employment per factory declined between 2000-01 and 2005-06, but after 2005-06 it has started increasing again. At the same time total number of factories has also increased. This implies that the employment generated in this size class of factories which accounts for much of the incremental employment in organized manufacturing maybe attributed to a combination of increase in the number of factories and increase in the average employment in each factory. In fact between 2005-06 and 2014-15 average employment per factory in factories employing more than 500 persons has increased from 1311 to 1397.

Table 2. Average Employment per Factory by Size Class of Factories

Firm Size Class	2000-01	2005-06	2010-11	2014-15
1 (< 10)	6	6	6	5
2 (10 to 49)	22	22	23	23
3 (50 to 99)	71	73	72	75
4 (100 to 199)	147	150	149	153
5 (200 to 499)	337	353	351	365
6 (500+)	1409	1311	1372	1397
Total	65	70	78	82

4.6. Thus, all these indicators discussed above point to the fact that from the mid-2000s rapid employment growth in the organized manufacturing sector has not been accompanied by a more equal distribution of employment growth in various size classes of firms. In fact there has been an intensification of the missing middle feature of Indian manufacturing sector and a resurgence of large firm driven employment growth. This change in trend becomes clearer if one looks at the share of large firms over a longer period as shown in the figure below. The share of large firms in total organized manufacturing employment was consistently declining from the early 1980s till the mid 2000s. But from 2005-06 onwards there is again a rise in their share and this trend is not altered by whether one considers large firms as those employing more than 500 persons as defined by Mazumdar or as those employing more than 1000 persons as defined by Little. However, although this is the overarching trend there are some variations across industries which are discussed in the next section.

Figure 5. Share of Large firms in Total Employment in Organised Manufacturing Sector



5. Industry wise trends in organized manufacturing

5.1. As discussed above, in the first five year period employment growth in organized manufacturing sector was very slow. Between 2000-01 and 2005-06, 20 percent of the increment in employment of 1 million was in the garments industry alone. Total employment in garments increased by 2 lakhs, of which, 1.5 lakhs was in the largest factories. Automobile and non-metallic minerals were other industries which accounted for the employment increase in this period. On the other hand employment in a number of major industries like food and beverages, textiles, chemicals, basic metals etc was growing much slowly because total employment in the factories employing more than 500 persons declined. 80 percent of the new workers' employment during this period was contractual and only 20 percent of them were direct workers. This led to increase in share of contract workers across major industries. The share of contract workers increased from 5 to 13 percent in garments, from 11.5 to 23 percent in Automobile and from 33 to 49 percent in non-metallic minerals. However, there was significant variation in the composition of incremental employment across industries. 75 percent of workers added to the garments industry in this period were direct workers. But in automobile their share was only 29 percent and in non-metallic minerals it was as low as 5 percent. On the other hand, the chemicals and chemical products industry did not contribute much to increase in employment in this period but the composition of workers changed significantly. More than 66000 new contract workers were added to the industry whereas the total number of direct workers declined by almost 48000.

Table 4. Incremental Employment by Firm Size Class and Industry Group; between 2000-01 and 2005-06

INDUSTRY (2 DIGIT CLASSIFICATION)	Firm Size Class					
	1	2	3	4	5	6
Food Products and Beverages	5170	13346	-8393	34405	97958	-83355
Textiles	-3009	6948	3163	55712	53011	-73833
Chemicals and Products	-1091	7268	5573	1081	26094	-8785
Basic Metals	-1448	-5053	9845	32079	61365	-16599
Other Non-Metallic Mineral Products	-1372	32032	56136	30623	652	16381
Wearing Apparel Dressing and Dyeing of Fur	-707	1593	1779	5610	43247	158190
Motor Vehicles, Trailers and Semi-Trailers	-492	2804	7984	10735	44117	34582
Machinery and Equipments N.E.C	-1551	4945	8407	17435	21170	-10304
Fabricated Metal Products, Except Machinery and Equipments	-1846	11194	7414	27285	14919	19908
Rubber and Plastic Products	136	5346	12507	7594	24038	13999
Electrical Machinery and Apparatus N.E.C.	45	426	5606	6957	12433	14358
Tobacco Products	1197	5904	14137	-3454	4913	-32390
Medical, Precision and Optical Instruments, Watches and Clocks, Furniture; Manufacturing N.E.	-1326	6062	8913	14300	20135	32559
Tanning , dressing and manufacture of Leather items	-739	-635	8100	6739	7604	12067
Other Transport Equipment	-360	606	-4089	3979	14529	393
Paper and Paper Products	25	-971	500	9387	-4446	-6504
Office, Accounting and Computing Machinery, Radio, Communication Equipments and Apparatus	-414	-1233	-1127	-4180	7388	9557
Publishing, Printing and Reproduction of Recorded Media	-779	3696	6183	3541	5247	-1145
Coke, Refined Petroleum Products and Nuclear Fuel	-121	2957	1812	3300	1451	7625
Wood and Products of Wood and Cork, Except Furniture	-537	1539	264	2453	2661	462

5.2. The next period from 2005-06 to 2010-11 was a period of fast employment growth. Total employment in organized manufacturing sector increased by 3.5 millions in this period. Automobile and Basic Metals were the top industries in terms of employment generation each accounting for 11 percent of total increase in employment followed by Garments and non-metallic minerals each contributing 10 percent to incremental employment. Fabricated metal products, food and beverages, chemicals etc were other industries with lower but positive shares in addition to employment. Major share of employment in these industries, however, with the exception of non-metallic minerals and to some extent food and beverages was in the larger factories. More than 60 percent of new employment in Automobile and Basic Metals was in the largest size class of factories. Since almost 50 percent of the new workers added in this period were contract workers, the share of contract workers in all workers continued to increase from 29 to 34 percent. Among the major contributors to employment in this period, only in case of Garments industry, direct workers accounted for as high as 84 percent of net addition of workers to the industry. In most of the other industries such as automobile, non-metallic minerals, basic metals, food and beverages etc more than 50 percent of the new workers were contract workers.

Table 5. Incremental Employment by Firm Size Class and Industry Group; between 2005-06 and 2010-11

INDUSTRY (2 DIGIT CLASSIFICATION)	Firm Size Class					
	1	2	3	4	5	6
Food Products and Beverages	10542	49493	11343	33775	74989	92426
Textiles	1705	-14298	-3556	-22367	21617	138922
Chemicals and Products	1952	22145	23125	47345	63902	117795
Basic Metals	2089	29008	25927	33439	53541	224501
Other Non-Metallic Mineral Products	9488	61295	71788	70215	48670	86258
Wearing Apparel Dressing and Dyeing of Fur	1169	31077	26432	71736	63452	138867
Motor Vehicles, Trailers and Semi-Trailers	729	11003	9475	30807	85336	220705
Machinery and Equipments N.E.C	-1681	946	29670	24893	55827	103742
Fabricated Metal Products, Except Machinery and Equipments	3294	39427	52629	32877	60239	105642
Rubber and Plastic Products	3325	25127	18921	47856	31981	68714
Electrical Machinery and Apparatus N.E.C.	2316	20355	25495	32613	59136	95717
Tobacco Products	-1142	-4891	-5918	2373	-16408	-34674
Medical, Precision and Optical Instruments, Watches and Clocks, Furniture; Manufacturing N.E.	315	-5857	-4345	547	14654	17747
Tanning , dressing and manufacture of Leather items	423	5936	5327	25484	24052	60722
Other Transport Equipment	18	75	1848	5088	12328	42987
Paper and Paper Products	3076	17662	6750	13105	17705	13025
Office, Accounting and Computing Machinery, Radio, Communication Equipments and Apparatu	824	8632	8031	22435	21128	30574
Publishing, Printing and Reproduction of Recorded Media	757	2961	75	11654	11289	-2370
Coke, Refined Petroleum Products and Nuclear Fuel	-92	2277	1583	-2	7199	18661
Wood and Products of Wood and Cork, Except Furniture	725	6430	5905	4004	2673	4718

5.3. In the last period i.e. 2010-11 to 2014-15 total increase in employment was only 1 million. In the smaller factories, especially in those employing 10 to 100 persons total employment in absolute numbers was either stagnant or declining. This trend is observed across industries with very few exceptions, including labour intensive industries like Food and Beverages, Textiles etc. Some industries like Basic Metals and Fabricated Metal Products which were contributing fairly well to employment growth in the previous period recorded a net loss of employment in this period. Total employment in fabricated metal products and basic metals industries declined by 39000 and 7000 respectively. Industries like Chemicals and Chemical Products, Automobiles, Garments, Food and Beverages etc managed a net increase in employment because of additions to employment in the largest factories, although employment in the smaller size classes was either stagnant or declining. It is this increase in employment in the big factories which led to a modest 1 million increase in employment in this period even when employment was declining in smaller factories. Chemical and Chemical Products emerged as a major contributor to employment growth, accounting for 22 percent of incremental employment. Automobiles, Garments, Food and Beverages, Textiles etc were other industries contributing to the modest increase in employment in this period. Contract workers continued to account for about 50 percent of the new workers added in this period. As a result the share of contract workers in all workers increased to 35 percent.

However, there was significant variation across industries in terms of the composition of the new employment created. In industries like Basic Metals, Other Non-Metallic Minerals, Fabricated Metal Products, Coke and Petroleum etc. the new employment was entirely contractual. In addition, the total number of direct workers in these industries declined and they were completely replaced by contract workers. On the other hand, in case of Garments, it was the opposite. Contract workers were replaced by direct workers as a result of which in 2014-15 direct workers accounted for 90 percent of all workers in the garments industry.

Table 6. Incremental Employment by Firm Size Class and Industry Group; Between 2010 -11 and 2014-15

INDUSTRY (2 DIGIT CLASSIFICATION)	Firm Size Class					
	1	2	3	4	5	6
Food Products and Beverages	4517	-12989	-10785	30234	16839	84527
Textiles	1647	-735	-22172	6684	9770	91906
Chemicals and Products	1683	-6688	-11679	26153	59128	154491
Basic Metals	1416	-11341	-12516	-9737	1651	23274
Other Non-Metallic Mineral Products	8312	-9382	11101	25750	-6843	42320
Wearing Apparel Dressing and Dyeing of Fur	798	-4966	15617	-9856	23353	90743
Motor Vehicles, Trailers and Semi-Trailers	809	25	7975	9918	54213	104465
Machinery and Equipments N.E.C	2444	-4894	-1622	3999	3137	30570
Fabricated Metal Products, Except Machinery and Equipments	4570	6645	-11732	5755	8176	-52414
Rubber and Plastic Products	3434	-4579	8437	9473	49124	19302
Electrical Machinery and Apparatus N.E.C.	763	-1220	694	1771	-1579	-1063
Tobacco Products	-1109	-5828	-4600	-3552	1317	39867
Medical, Precision and Optical Instruments, Watches and Clocks, Furniture; Manufacturing N.E.	783	1149	-2715	10699	6469	48035
Tanning , dressing and manufacture of Leather items	706	1513	7375	-15258	26671	13478
Other Transport Equipment	388	-1570	-2734	4727	5451	35345
Paper and Paper Products	890	-1244	-4661	-2494	6024	-6040
Office, Accounting and Computing Machinery, Radio, Communication Equipments and Apparatu	-360	-4796	1449	-7015	-8092	2143
Publishing, Printing and Reproduction of Recorded Media	92	-2090	2324	9334	-1400	4936
Coke, Refined Petroleum Products and Nuclear Fuel	1230	-351	-4361	4769	3928	3164
Wood and Products of Wood and Cork, Except Furniture	810	-1039	844	113	-1928	6111

Table 7. Share of NIC 2 Digit Factories in Incremental Employment

Industry at NIC 2 digit level	2000-01 to 2005-06	2005-06 to 2010- 11	2010-11 to 2014-15
Manufacture of Wearing Apparel Dressing and Dyeing of Fur	20	10	11
Manufacture of Other Non-Metallic Mineral Products	13	10	7
Manufacture of Motor Vehicles, Trailers and Semi-Trailers	10	11	17
Medical, Precision and Optical Instruments, Watches and Clocks, Furniture; Manufacturing N.E.	8	1	6
Manufacture of Basic Metals	8	11	-1
Manufacture of Fabricated Metal Products, Except Machinery and Equipments	8	9	-4
Manufacture of Rubber and Plastic Products	6	6	8
Manufacture of Food Products and Beverages	6	8	11
Manufacture of Textiles	4	4	8
Manufacture of Machinery and Equipments N.E.C	4	6	3
Manufacture of Electrical Machinery and Apparatus N.E.C.	4	7	0
Tanning and Dressing of Leather Manufacture of Luggage, Handbags, Saddlery, Harness and Footwear	3	4	3
Manufacture of Chemicals and Products	3	8	22
Manufacture of Coke, Refined Petroleum Products and Nuclear Fuel	2	1	1
Publishing, Printing and Reproduction of Recorded Media	2	1	1
Manufacture of Other Transport Equipment	1	2	4
Office, Accounting and Computing Machinery, Radio, Television and Communication Equipments and Apparatus	1	3	-2
Manufacture of Wood and Products of Wood and Cork, Except Furniture, Manufacture of Articles of Straw and Plating Materials	1	1	0
Manufacture of Paper and Paper Products	0	2	-1
Manufacture of Tobacco Products	-1	-2	3

5.4. Thus the above findings can be summarized as follows. Firstly, from the mid 2000s there is a sharp reversal of the trend of declining employment share in large factories observed in the past decades. Much of the employment growth in the organized manufacturing sector in this period has taken place in factories employing more than 500 persons. Secondly, significant proportion of this new employment in large factories is contractual which in some industries has increased at the cost of decline in total direct employment. Thirdly, the large factory driven growth is partly explained by the rise of big factory based capital intensive industries like Automobiles and Chemicals & Chemical Products and the declining share of more evenly distributed industries like Non-metallic Mineral Products etc. In the next sections, this paper analyses some of the implications of the rise of the bimodal distribution in India's manufacturing sector from 2005-06 onwards.

6. Labour Productivity and Wages

6.1. One of the most fundamental features of the missing middle in the 1970s was the wide gaps observed in labour productivity and wages between the large and the smaller firms. This paper now looks at these two aspects with respect to employment growth and firm size in the organized manufacturing sector.

6.2. Labour productivity in organized manufacturing has more than doubled between 2000-01 and 2014-15, rising from Rs. 2.5 lakh to Rs. 5.1 lakh. Some increase in aggregate real wages is also observed although they have increased at a much slower pace than labour productivity thereby widening the gap between productivity and wages.

6.3. In the first period labour productivity at constant prices increased for almost all industries and across size classes. Only in case of Garments there was a slight decline in labour productivity (measured in lakh rupees per unit of labour) from 1.06 to 0.93 in the smallest size class employing less than 10 persons. In all other size classes including the largest size class, where most of the new employment was created, labour productivity increased. However, overall labour productivity is much less in case of Garments compared to other industries. The maximum increase was in the Automobile industry where labour productivity increased from 3.3 to 7.3. In the largest size class of the automobile industry, the increase was even higher - from 4.5 to 12.8.

6.4. Although employment grew rapidly in the second period, overall labor productivity growth was much slower, increasing from 3.8 to only 4. Labor productivity declined in the capital intensive industries like Automobiles, Basic Metals, Chemicals and Chemical Products, Non-Metallic Minerals etc. However, in more labor intensive industries like Textiles, Garments, Food and Beverages etc labor productivity continued to increase. Even within the capital intensive industries labour productivity declined in the larger factories. In Automobiles, Chemicals and Chemical Products labour productivity declined only in the largest factories employing more than 500 persons. In case of Basic Metals it declined in the size classes of more than 200 persons and in case of Non-Metallic Minerals it decline in the size classes employing more than 100 persons.

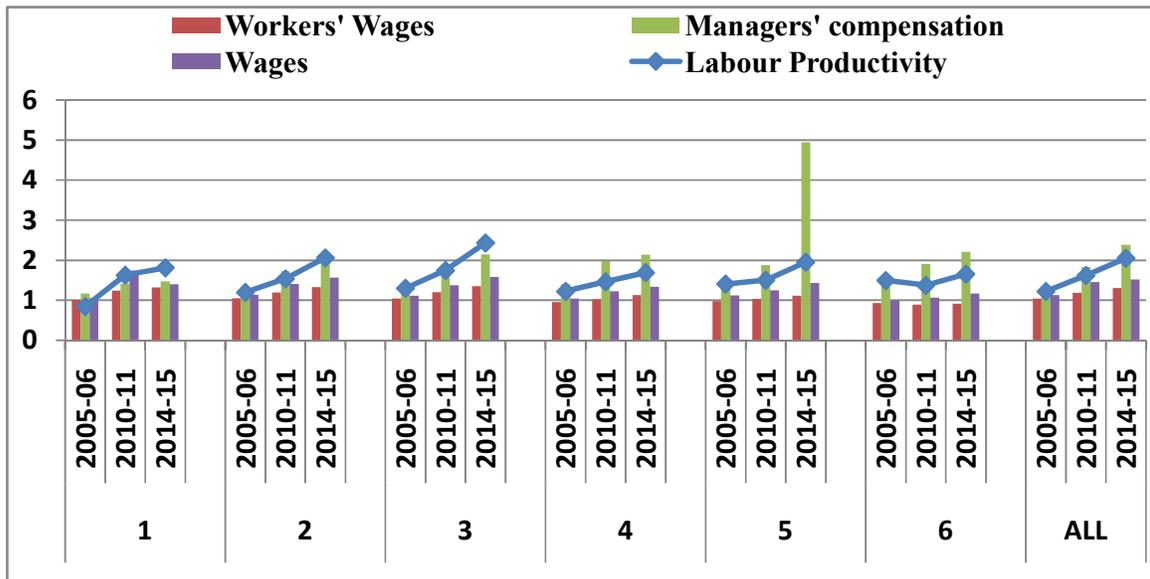
6.5. In the last period, overall labour productivity increased from 4 to 5.1. Almost all industries experienced increase in productivity with the only exceptions being rubber and plastic products and other transport equipments. Coke and refined petroleum products witnessed the maximum increase in productivity although its contribution to employment growth was negligible. Unlike in the previous period, employment growth in the largest size class of factories was accompanied by increase in labour productivity in all industries in this period. However, total output produced in the smallest size class declined in many industries including Garments, Textiles, Basic Metals, Chemicals and Chemical Products etc even though employment had increased. As a result labor productivity declined for some industries in this size class.

6.6. Now, we look at the trends in wages and compensation to employees. Nominal wages and compensations are deflated by the general Consumer Price Index for Industrial Workers with 2001 as the base year to arrive at the real figures. Average real compensation per person engaged in 2014-15 is only 1.3 times of what it was in 2000-01. However, among all persons engaged, only compensation of supervisors and managers have increased at par with labour productivity and in 2014-15 compensation of supervisors and managers were 1.9 times of what it was in 2000-01. In fact in factories with more than 200 employees managers' compensation has increased faster than the increase in labour productivity. Workers' real wages on the other hand have increasingly diverged from labour productivity in almost all size classes, reinforcing the aggregate trend, especially in the last period. But more importantly, as opposed to the aggregate trend real wages of workers in the 6th size class with largest factories employing more than 500 persons are consistently lower than their 2000-01 level. This is of utmost significance because much of the incremental employment in the most recent period is also created in this size class.

6.7. The factories with more than 500 persons accounted for 45 percent of total incremental employment between 2005-06 and 2010-11 which increased to 72 percent between 2010-11 and 2014-15. On the other hand, real wages of contract workers increased by 50 percent whereas real wages of direct workers remained almost constant except for a marginal increase in the last period. Despite a faster increase of contract workers' wages compared to that of direct workers, contract workers' wages continue to be 30 percent less than that of direct workers. This fact then raises questions about the quality of employment that is created in the organized manufacturing sector. The employment growth in organized manufacturing has not only slowed down after 2011-12 but even the little employment that is generated is of inferior quality in terms of the real wages they offer.

6.8. If we dive a little deeper into the employment story it becomes clear why the real wages of workers as a whole are lower than the 2000-01 level. Between 2000-01 and 2005-06, although employment in the organized sector did not increase much, the composition of workers changed significantly especially in the large factories. Total number of direct workers in factories with more than 500 employees declined by about 1.5 lakhs while total number of contract workers in this size class increased by about 2.7 lakhs. So not only was the net increase in workers entirely contractual but there was also a significant substitution of

existing direct workers by contract workers. This led to an increase in contract worker share by 10 percentage points in the largest factories between 2000-01 and 2005-06 and the composition has continued to move in favour of contract workers in the subsequent periods. In 2014-15 42 percent of all workers in this size class were contract workers and it is the highest among all the size classes.



6.9. Despite rise in labor productivity, average real wage per worker declined in many industries in the first period. This was a result of fall in average real wage of direct workers as well as increase in the share of contract workers employed at a much lower wage. In Chemicals and Chemical products industry, the fall in average real wages of workers was entirely due to the change in composition of workers in favor of contract workers. In other industries such as Coke and Refined Petroleum Products, Electrical machinery and equipment, Textiles, Fabricated Metal Products etc fall in the average real wage of direct workers led to the fall in average real wage of workers. On the other hand in case of Basic Metals, the fall in average real wage per worker was due to fall in real wages of contract workers.

6.10. In the second period, although overall labour productivity declined, average real compensation per person employed was higher. However, much of this was due to almost 30 percentage point increase in average compensation per supervisor/manager between 2005-06 and 2010-11 whereas real wages per worker increased by only 4 percentage points. In the largest size class of factories where labour productivity declined, real wages per worker also declined but average compensation to supervisors and managers continued to increase. Workers wages declined in the largest size class of factories for industries like Chemicals, Automobiles, Basic Metals and Other Non-Metallic Minerals where labour productivity had also declined. But even in textiles industry where labour productivity had increased across all size classes, real wages of workers declined in the factories employing more than 500 persons.

6.11. In the last period, real wage per person engaged increased for most industries except Chemicals and Chemical products and Electrical Machinery and Apparatus. In both these industries average real wages of workers declined despite an increase in real wage per direct worker and real wage per contract workers due to increase in the share of low paying contract workers. On the other hand in case of Automobiles, average real wage of both direct and contract workers declined but still overall real compensation per person engaged increased due to increase in real compensation of supervisors and managers. Apart from Tobacco, Automobiles is the only industry where real wages of direct workers declined in this period.

6.12. Thus, the trends in labour productivity and wages are paradoxical to the pattern of distribution of employment observed in this period. While distribution of employment growth has reinforced dualism, labour productivity and wages have not diverged in accordance with such dualistic employment distribution. Relative productivity and wages of all firm size classes with respect to the largest size class has increased thereby reducing their gaps with it. However, these reductions in wage and productivity gaps have not occurred because productivity and wages have increased faster in small and medium firms as compared to larger firms but is a direct consequence of fall in absolute levels of average real wages and productivity in the largest size class.

7. Wage and Profit Shares

7.1. Although gaps in workers' wages have decreased contrary to traditional perceptions about bimodal distributions, the large firm driven employment growth has resulted in a divergence of wages and profits. In 2000-01 total wages accounted for 52 percent of net income and profits accounted for 33 percent of it. The remaining 15 percent included other non-wage welfare payments such as provident fund, social security etc. By 2005-06 wage shares in net income halved to 26 percent. In addition share of non wage payments declined to 7 percent which was less than half of its share in 2000-01. This was a direct result of substitution of direct workers by contract workers who are often not entitled to any welfare benefits. Profit on the other hand more than doubled and increased by 34 percentage points in this period. In the subsequent years total wage share increased slightly but in 2014-15 it was still way less than its more than 50 percent mark in 2000-01. In addition, the divergence of wage and profit shares has been much more drastic in the larger size classes as compared to the small and medium ones.

8. Conclusion

8.1. The objective of this paper was to understand how the size structure of manufacturing firms in India has changed in the first fifteen years of the 21st century and it is quite clear from the above discussion that distribution of employment growth in this period shows signs of a shrinking middle from the mid-2000s. However, this trend becomes particularly interesting when one revisits the major factors behind the missing middle identified so far, which were discussed in the review of literature. The policy of protection of small scale industries have been completely dismantled from 1997 onwards, with progressive de-reservation of products earlier reserved for production exclusively by small scale industries.

At the same time the strategy of prioritizing heavy industries adopted in the early phases of planning in accordance with the Mahalanobis model has also been abandoned. But despite the removal of these policy biases in favour of very small and very large firms, the middle sized firms have been unable to grow at all. On the other hand, with the rise of contract workers in the organized manufacturing sector, size based labour regulation seems to be less of an impediment to growth in the size of the firm measured in terms of total employment (permanent and contract). Thus it seems that the factors responsible for the missing middle earlier are unable to explain the resurgence of a bimodal distribution of employment by firm size in recent years. The reasons behind this must be sought elsewhere. Studies have already shown that small and medium firms are disproportionately affected by infrastructural bottlenecks like power shortages (Allcott, Collard-Wexler, & O'Connell, 2016). At the same time credit data from Reserve Bank of India shows that total commercial bank credit to industry has increasingly moved in favour of large firms at the expense of small and medium ones. These could be possible factors driving the rise of large firm based capital intensive industries like Automobiles. Analyzing these factors in detail was beyond the scope of this paper, but by establishing the fact that firm size distribution of employment growth in the manufacturing sector continues to be highly unequal, it certainly opens up the possibility of further research that can dive deeper to explore the causes behind the resurgence of the missing middle and its effects on the growth of the sector.

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Health Vulnerabilities Among Children in the Age Group of 0-5: An Analysis of the data from the NSS 71st Round

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Abstract

The objective of this paper is to understand the determinants of health vulnerabilities of children in the age group of 0-5 years, using the data from the NSS 71st Round. The paper uses the logistic regression model. The analysis reveals that persons of higher socioeconomic status report higher (a) morbidity, (b) hospitalization rate as well as (c) duration of illness of their children. It raises the paradox of how children belonging to the relatively lower socioeconomic status experience higher mortality despite lower morbidity reported as compared to children belonging to the higher socioeconomic status. An analysis of the disease pattern of the children resolves the paradox. Poor people under-report their children's illness as compared to children from higher economic strata.

Key words: NSS data on Health, Children's Health, Health Vulnerability, Sanitation and Living Conditions

JEL codes: I10, I12, J 13 and C55

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1. The Context: Rights of Children and Deprivation of their Rights

1.1. A maximum number of children (27 million) are born in India than any other country in the world. This means that future India can reap the benefits of demographic dividend, as India would have more population in the working-age group that can contribute to national income and growth. Implicitly, the young population requires an enabling environment that keeps them healthy. India is one of the countries that has ratified the United Nations Convention on the Rights of the Child in 1992. In 2013, India also announced the National Policy on Children adopting a rights-based approach. As per the rights-based approach, every child has the right to life, survival, development, education, protection, and participation.

1.2. Protecting child rights in India, in terms of their survival, growth, cognitive development and protection from social, economic, cultural and environmental vulnerabilities remains a major development challenge (Chaurasia, 2016a, p 192) despite repeated commitments and policy prescriptions.

1.3. Children on their own cannot claim their right and it has to be provided and made accessible to them. Particularly, children in the age group of 0-5 years are dependent on their parents or caregivers. Children are subject to varieties of vulnerabilities and deprivation depending on the socio-economic condition of the 'adults' who provide care to the children. If due to economic and social reasons, children do not enjoy their rights, then it is termed as 'deprivation'. Thus, the literature suggests that various factors like poverty of the household, lack of literacy of the parents or caregivers, their work and living environment, access to the physical infrastructure and essential needs, shape the degree of the child deprivation and vulnerability. In terms of Sen's (1999) capability approach, these factors define the children's endowments, capacities, and opportunities. For instance, while poverty at the household level affects everyone, children get affected more disproportionately, as poverty deprives them of food, nutrition, education and subjects them to a variety of vulnerabilities. These manifest in physical, psychological and educational vulnerabilities. Physical vulnerabilities would include: death, illness, injury, malnutrition, heat stress, physical and sexual abuse. Educational vulnerabilities would include: missed school, poor academic performance, delayed progress, failure to complete education and psychological vulnerabilities would include: post-traumatic stress disorders, depression, anxiety, sleep disorder, emotional distress, somatic complaints and behavioural problems (Peek, Lori, 2008). Added to these existing concerns, there are newer elements of vulnerabilities posed by developmental changes like urbanization, industrialization and climate change. Studies done in the context of India (Dreze and Khera, 2012, Chaurasia 201a, 2016b) have used quantifiable indicators derived from physical and educational vulnerabilities. The advantage is these can precisely help in describing the status of children's right/deprivation in survival, growth and development domain.

1.4. In this paper, using the NSSO 71st Round data on health consumption, we have tried to see the health vulnerabilities of children by their living arrangements. This paper is organized as follows. Section 2, following this introduction briefly highlights the prevailing child deprivation in India. Section 3 lists the possible issues due to urbanization, industrialization and climate change. Section 4 discusses the children's health scenario based on NSS 71st Round data. In this section, morbidity, disease pattern, treatment based on medical advice, rate of hospitalization, mean hospitalization costs, income loss due to illness among children under five are discussed based on the place of residence and type of sanitation facilities. Section 5 provides the conclusion.

2. Highlights of Child Deprivation in India

2.1. Using the data from Rapid survey of Children in India 2013-14, a recent study points out that deprivation of children in the areas of survival, health, nutrition, development, education, protection from environment is present across states, social class, and type of residence like rural or urban areas (Chaurasia, 2016) . Table 1 provides the indicators chosen to define the different domains of deprivations. To elaborate, for India as a whole, Child deprivation index (CDI) (comprising of survival, health, nutrition, development, education, protection, and environment indices) according to Chaurasia 2016a, stands at 0.43 (medium CDI). But the same in the urban areas is low and medium for rural areas. Similarly, while the CDI for other social classes is low, for the ST population it is high and for SC and OBC groups it is medium. This indicates that the deprivation level varies according to the social status and the residential location, besides those induced by the economic and financial vulnerability of the household.

Table 1: Indicators for Measuring Child Deprivation

1. Survival	Full antenatal care	The proportion of women who did not receive full antenatal care during their pregnancy
	Check up of the newborn	The proportion of newborn who did not receive the first check-up within 24 hours of birth
	Birth weight	The proportion of newborn who weighed less than 2.5 kg at birth
	Immunization	The proportion of children 12-23 months of age not fully immunized
2. Growth	Initiation of breastfeeding	The proportion of children 0-23 months of age who were not initiated into breastfeeding within one hour of birth

	Linear growth	The proportion of children 0-59 months who were stunted
	Ponderal growth	The proportion of children aged 0-59 months who were wasted
3. Development	Preschool education	The proportion of children who were not attending preschool/primary school education
4. Protection	Early marriage	The proportion of girls ever married aged 10-19 years
5. Environment	Sanitation	The proportion of households practicing open defecation

Source: Chaurasia, 2016a, Table 1, p 195

3. Emerging Issues Due to Industrialization, Urbanization and Climate Change

3.1. Both industrialization and urbanization have both positive and negative impacts on both population and development. The extent and degree depends on the extent to which the said population is involved in and exposed to both industrialization and urbanization and the outcomes realized by the same. Industrialization led developmental strategies adopted by different states in India is fast reducing the rural-urban differences, but at the same time poses new challenges on the carrying capacity for the demand for basic services such as health, sanitation, transport and other civic infrastructure in the existing as well as in the newly emerging urban areas. The faster rate of urbanization means increased demand for social amenities and reduced space for children unless planned appropriately. There are several schools and residential areas with no space for children to play. Besides residential areas and schools located in busy areas children are subject to the risk of traffic accidents. The demand for housing, services, and employment comes from both the existing urban population and those that have migrated from rural areas. It is often true that the supplies of civic structure grow slowly compared to the demand for urban amenities. This leads to the expansion of the urban area where there are notified and non-notified slums.

3.2. According to NSSO (2014)³, there were 33,510 slums in urban India in 2012, of which 13,761 and 19,749 were notified and non-notified slums respectively. An estimated 8.8 million households lived in these slums. The majority of the houses had pukka structures with counting nearly 60 percent of the slums. Estimated 71percent of all slums get their drinking water from taps and 20percent get from tube wells/ boreholes. About 68 percent of slums had electricity both for household use and for streetlights. However, a high percentage of the residents did not use latrine. The percentage accounts 31percent. The underground sewerage system is also poor with having only 29 percent of all slums. An estimated 31 percent of

³, A slum may be notified or not- notified. A slum may be notified by respective municipalities, corporations, local bodies or development authorities. A non-notified slum is a compact urban area with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions.

slums had no drainage system. 27 percent of slums had no arrangement of garbage disposal. 46percentof all slums had problem of water logging of rain water.

3.3. Compared to the above civic facilities, the provision of education and health facilities were better in the slum areas. At the all-India level, about 59 percent of slums were within half a kilometer of a government primary school. As far as health facility is concerned, about 20 percent of slums were within half a kilometer of a government hospital/ health center. And 24 percent of slum residents reportedly were receiving benefits from welfare schemes like Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and Rajiv Awas Yojana (RAY).

3.4. The progress in social welfare has been disappointing for the last few years. The percentage of residents of slums who reported that there has not been any change in the condition of water supply, electricity connection, road and latrine were very high. The percentage of residents reporting no change in water supply, electricity connection, road and latrine account 48 percent, 57 percent, 46 percent and 47 percent correspondingly. Similarly, 49% and 50% of residents reported that there was no change in the condition of street lights and in sewerage facilities during the last 5 years. The percentage for garbage facilities accounts 50%. The percentages for education and health facilities were 57percent and 64percent respectively.

3.5. The gap in the amenities could be the source of potential health hazards for both children and adults such as gastrointestinal, skin issues and febrile conditions. Inefficiencies in collection combined with unsafe disposal of waste result in widespread insanitation, contaminated water and high incidence of chronic respiratory and communicable diseases in India (Sridhar and Mathur, 2009). Further, as the living spaces are quite small in such areas, the density in each of the household could be quiet high, exposing the children to health hazards that the adults suffer from.

3.6. Besides the overall safety and protection of children in the urban slum areas, living environments, which do not provide safe drinking water, sanitation facilities, and drainage, affect the children's health. Repeated attacks of diarrheal conditions lead to severe malnutrition in children leading to stunted and wasted growth. Use of biomass fuels such as crop residues, cow dung, etc. for cooking purposes inside the house, proximity to traffic and the level of crowding in their homes are the factors which lead to respiratory disease condition in children (Barnes, 2005).

3.7. A related issue with urbanization and globalization is the location of unorganized units- the micro-small enterprises often is interspersed with urban residential locations. As most micro-enterprises and home-based units occupy smaller space, work with limited labor and machinery, the location of these units is often interspersed with the living spaces of individuals. They also often do not lend themselves to be applicable for industrial zoning or provision for any pollution control measures. This feature is common in some of the most industrialized locations like Ludhiana or Rajkot in India (Sridhar and Mathur, 2009). This

exposes the children to the risks of dust, air pollution and chemical fumes that also cause asthma and other chronic obstructive lung diseases. A relatively large sample (10929 children) based study carried out in Jaipur, Ludhiana, Mathura and Ujjain notes that insufficiency of basic amenities like sanitation, garbage disposal and potable water cause acute illness. These factors along with lack of government health facilities result in vulnerability of the urban poor (Gupta and Guin, 2015).

3.8. Industrialization and urbanization are also leading to the acquisition of the (agricultural) land, which has an impact on food availability, and food and nutrition security. Climate change also induces vulnerability.

3.9. The Intergovernmental Panel on Climate Change has identified the following impacts due to climate change:

- (1) An increase in the (a) drought-affected areas;(b) frequency and intensity of rainfall, leading to increased flooding with annual river runoff increasing by 10-40 percent;(c) rising sea levels and coastal erosions with many more areas projected to be flooded every year; (d) severity of heat waves in many places; (e) range of disease vectors and (f) numbers of people consequently exposed to malaria and other vector-borne diseases. Further, a 10-30 percent decrease in precipitation over some dry regions, many of them already water-stressed areas is also a possible impact (Bartlett, 2008). A few of the direct implications of these factors on children are (1) inadequate food and nutrition security both during drought and excessive rains, (2) loss of human lives and property, leading to lasting psychological impact and (3) diseases.

3.10. Besides this, there are ‘Newly Emerging Needs’ that affect the children. Newly Emerging Need is defined as "loosely connected group of challenges, opportunities, events, problems, and threats that are relevant to the overall development of children, but that hitherto have not been encountered by these children nor by those before them in their societies or if they were present, then there is now a dramatic increase in their evidence” (Rekha Wazir, 2008, p.187).HIV-AIDS is a good example, where the children suffer due to the behavioral attitude of the adults.

3.11. With this background in the preceding paragraphs, we look at the health issues of children.

4. Analysis of NSS data: Status of Illness of Children Aged 0-5 Years and Health Care Utilization

4.1. Status of Illness of Children Aged 0-5 Years

4.1.1. Lay-reporting morbidity or the state of illness from any type of diseases during the 15 days preceding the date of survey, of children aged 0-5 years is estimated to be 9.6 percent. It is higher in the urban areas with a rate of 10 percent as compared to rural areas with a rate of 9.5 percent (Table 2).There is also gender differential in the reporting of morbidity. The rate

accounts for 10.5 and 8.6 percent for males and females respectively. As far as association with the household economic status measured by household's Monthly Per-capita Consumption Expenditure (MPCE) is concerned morbidity rate is found to be increasing as one move to higher levels of MPCE. When we look at the morbidity of the children by the type of sanitation facilities morbidity rate is observed to be increasing with a better type of latrine facility. In other words, the reported morbidity rate is higher with a better level of sanitation. For example, the morbidity rate accounts 6.9 percent among children with access to service type latrine facility against the rate of 9.4 percent of septic/flush type latrine. No latrine category remains exceptional with reporting morbidity rate of 9 percent.

Table 2: Rate of Morbidity (ref. period 15 days) and Hospitalization (ref. period 365 days) of Children aged 0-5 years.

	Morbidity	Hospitalization
Place of Residence		
Rural	9.5	2.3
Urban	10	3.4
Gender		
Male	10.5	3.1
Female	8.6	2.0
Household's MPCE quartile class		
1 st quartile-class	9.0	1.5
2 nd quartile-class	8.9	2.0
3 rd quartile-class	9.5	2.8
4 th quartile-class	10.8	4.2
Type of latrine		
Service	6.9	1.9
Pit	9.3	3.3
Septic/flush	9.4	3.3
No Latrine	9.0	2.0
All	9.6	2.6

Source: Calculated from NSS 71st Round.

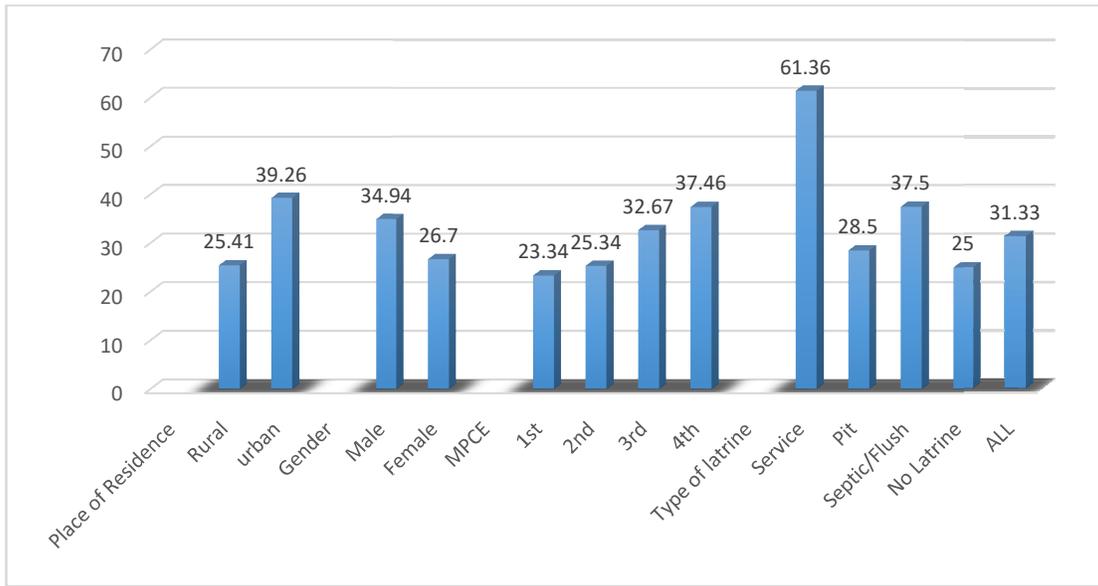
4.1.2. Like morbidity, hospitalization rate reported during the last 365 days preceding the date of survey shows a similar pattern concerning a place of residence and gender. The rate is higher in the urban area and among boys as compared to respective counterparts. It increases with the MPCE category. Again, the rate is found to be higher among households with better hygienic latrine facilities. In aggregate, the hospitalization rate records 2.6 percent. It is 2.3 percent in rural and 3.4 percent in the urban areas. It records 3.1 percent for male children as compared to 2 percent for female children. The rate increases from 1.5 percent of 1st MPCE quartile-class of households to 4.2 percent of the 4th MPCE quartile-class of households. Similarly, households with service type latrine report hospitalization rate of 1.9 percent as compared to 3.3 percent of households having septic/flush type latrine.

4.1.3. The illness episode for both lay-reported illness and hospitalization from any disease which symbolizes the severity of illness also goes with the pattern of reporting morbidity as well as hospitalization (Figure 1). In aggregate, the average days of illness episode or total duration of illness has been 31.33 days. It has been higher in the urban areas, among male children and it is found to be increasing with higher MPCE quartile-class. It is observed that households with a service type of latrine *i.e.* most unhygienic latrine facilities and those who belong to lower socioeconomic status report a higher duration of illness episode as compared to a relatively better quality of latrine facility. This result indicates the importance of hygiene to contain the illness. It seems that there is a strong positive association between lack of sanitation and chronic illness.

4.1.4. As far as health-seeking behaviour is concerned, a negative association between MPCE and the percentage of untreated illness is observed (Figure 2). The percentage of untreated illnesses varies from 14.1 percent of the 1st MPCE quartile-class to 7.1 percent of the 4th quartile-class. The rate is higher with 13.5 percent in the rural areas as compared to an urban area with a rate of 7.9 percent. The rate is also marginally higher for males (11.4 percent) as compared to females (10.6 percent). Among the type of latrine facilities, the rate for specific/flush appears distinct with the rate of 7.9 percent as compared to around 11-12 percent for another type of latrine facilities.

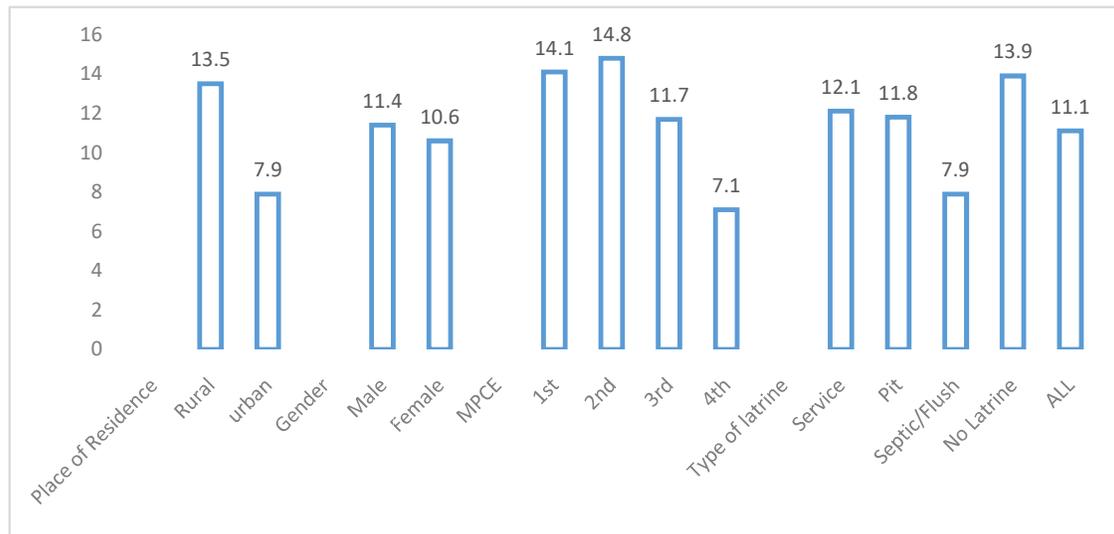
4.1.5. In sum, descriptive statistics depict that people of higher socioeconomic status are to report more about their children's illness, higher illness episodes, and they are more likely to seek medical treatment. Given the strong association between socioeconomic status and type of latrine, the type of latrine also put forth a similar picture as observed for the state of illness and health utilization pattern. The only distinct result observed for illness episodes showing longer illness episodes for children of households with service type latrine.

Figure 1: Duration of Ailment including hospitalization (Number of days)



Source: Calculated from NSS 71st Round.

Figure 2: Percent of morbid children who didn't receive treatment



Source: Calculated from NSS 71st Round.

4.2. Determinants of Health Vulnerability

4.2.1. This section presents the results of three logistic regression analyses: chances of reporting morbidity, chances of hospitalization and not seeking health care after reporting the illness. Model specification is: $\text{Logit}(W_i) = \beta_0 + \beta_1 C_i + \beta_2 X_i + e_i$. W_i refers to chances of reporting morbidity, chances of hospitalization and not seeking health care after reporting illness of child i . X_i refers to all selected independent variables. The main purpose of these

analyses is to present the determinants of morbidity, hospitalization and not seeking health care. Odds ratios are shown for a place of residence, gender, MPCE and type of latrine (Table 3). What is striking is that the picture remains almost the same for morbidity and hospitalization as appears in the descriptive statistics for all variables. While chances of reporting illness and chances hospitalization are observed to be higher in urban areas, among males and among children of higher economic strata, poor latrine service likely to lead to reporting a higher level of morbidity as well as hospitalization. For example, a person belonging to the 4th MPCE quartile-class reports a 26 percent higher level of morbidity as compared to the 1st MPCE quartile-class. Likewise, reported morbidity level has been around 60 percent lower for children of households with septic/flush type facility as compared to service type latrine.

Table 3: Logistic Regression Model of Morbidity and Hospitalization (Odds Ratio)

	Morbidity	Hospitalization
Place of Residence		
Rural	1	1
urban	1.01	1.07 _a
Gender		
Male	1	1
Female	0.79 _a	0.65 _a
Household's MPCE quartile class		
1st quartile-class	1	1
2nd quartile-class	1.23 _a	1.46 _a
3rd quartile-class	1.24 _a	1.97 _a
4th quartile-class	1.26 _a	1.94 _a
Type of latrine		
Service	1	1
Pit	0.70 _a	0.49 _a
Septic/Flush	0.41 _a	0.26 _a
No Latrine	0.48 _a	0.36 _a
Constant	3.50	5.46

Note: 'a' denotes p<0.01; Controlled for religion and social groups.

Source: Calculated from NSS 71st Round.

4.2.2. The most interesting result has been the determinants of why people do not seek treatment for their children. Surprisingly it is observed from the logistic regression analysis that the poor are more likely to seek treatment after reporting illness (Table 4). The result shows that children belonging to the 4th MPCE quartile-class are likely to remain untreated more by 55 percent as compared to children of 1st quartile-class. Similarly, untreated morbidity (Table 4) is found to be higher among urban children as compared to rural

counterparts. Sanitation has been exceptional to the earlier trend: chances of untreated morbidity are found to be higher among children of households with poor latrine facility as compared to the better type of latrine facility. For example, children of households with a service type of facility i.e. poor latrine facility are likely to remain untreated more by around 2.3 times as compared to children of households with septic/flush type latrine facility.

Table 4: Logistic Regression Model of Untreated Morbidity (Odds-Ratio).

	Odds Ratio
Place of Residence	
Rural	1
urban	1.40 ^a
Gender	
Male	1
Female	1.07
Household's MPCE quartile class	
1st quartile-class	1
2nd quartile-class	1.54 ^a
3rd quartile-class	1.65 ^a
4th quartile-class	1.55 ^a
Type of latrine	
Service	1
Pit	0.41 ^b
Septic/Flush	0.43 ^a
No Latrine	0.34
Constant	-0.363

Note: 'a' denotes p<0.01; 'b' denotes p<0.05; Controlled for religion and social groups.

Source: Calculated from NSS 71st Round.

4.2.3. In sum, results of regression analysis show that people of higher socioeconomic status are more likely to report a higher level of morbidity and get hospitalization for their children. But children exposed to poor sanitation report more illness and get more hospitalization despite expected covariance of poor sanitation and poor socio-economic status. At the same time, those children who are exposed to poor sanitation remain untreated as compared to others. This is also an exception to other socio-economic characteristics. Other variables like MPCE, place of residence show a positive association with untreated morbidity. It, therefore, appears that children who have been exposed to poor sanitation face a double burden of disadvantage. One is for poor health status and the other is for poor health-seeking behaviour. It needs to be remembered that greater morbidity and hospitalization rates are reported despite the nature of under-reporting of the sickness of poor people which expectedly co-varies with poor sanitation. Again, it seems that the severity of illness leads them to seek treatment. The severity of illnesses reflected through the duration of illness episodes.

4.3. Disease pattern

4.3.1. This section, in particular, is linked to the forgoing section which has ended up with some paradoxes. The first paradox is, how reported morbidity level of better socio-economic status appears higher as compared to poorer counterparts. Second, why the extent of untreated morbidity is found to be higher among children of the better socio-economic group as compared to poorer counterparts. Again, the morbidity of children belonging to a household having service type latrine *i.e.* unhygienic latrine facility is expected to be reporting a higher level of morbidity but less likely to seek treatment. This result appears contradictory as far as the association between socioeconomic status and reporting of morbidity and health-seeking behaviour is concerned. As presented in the forgoing section based on NSSO data, people of higher socioeconomic strata are more likely to report illness and remain untreated.

4.3.2. These paradoxes nonetheless get resolved by examining the disease pattern and causes of death. It is observed that the type of disease children suffer from is very much associated with the economic status and sanitation facility of a household. This was also discussed in the earlier sections. Among many observations, one important observation which is worth mentioning is the appearance of a higher proportion of diarrheal disease amongst children of a lower socio-economic group (Table 5) and those exposed to poor sanitation (Table 6). This seems to be the key point in resolving the paradox. Looking at the causes of death statistics it can be noted that poor people report less about their illness but they suffer more of diseases which are life-threatening like diarrhoea (Table 7). A similar picture appears for an unhygienic latrine facility. The diarrheal disease has been much higher with service type latrine facility as compared to septic/flush type facility. But the important point is the emergence of sanitation as one of the strong determinants of sickness. The reported sickness comes higher for children exposed to poorer latrine facilities despite poor people's behaviour of under-reporting.

Table 5: Percentage distribution of diseases by household's MPCE quartile-classes

Diseases	MPCE quartile-class				
	1st	2nd	3rd	4th	All
Fever with loss of consciousness	2.6	3.7	3.8	3	3.3
Fever with rash	1.6	3.6	2.9	2.1	2.6
Fever due to diphtheria, whooping cough	6.3	8.3	5.9	6.5	6.7
All other fevers	40.7	35	36.7	40.2	38.2
Diarrhoeas	10.1	8.2	7.8	5.4	7.4
Acute upper respiratory infections	19.1	22.2	22.6	22.9	22.1
Cough with sputum	6.3	4.3	4.9	4.8	5
Bronchial asthma				1.2	
Gastric and peptic ulcers	2.5	1.1	1.7	1.3	1.6
Skin infection	1.9	3.5	2.2	2.5	2.5
Illness in the new-born	1.5	1.2	1.4	1.3	1.3
others	7.4	8.9	10.1	8.8	9.3
All	100	100	100	100	100

Source: Calculated from NSS 71st Round.

Table 6: Percentage distribution of diseases by type of latrine

Diseases	Type of latrine				
	Service	Pit	Septic/Flush	No latrine	All
Fever with loss of consciousness	12.1	3.3	3.2	3.2	3.3
Fever with rash	6.1	3.2	1.9	2.9	2.6
Fever due to diphtheria, whooping cough	6.1	4.8	7.3	7	6.7
All other fevers	30.3	42	37	37.1	38.2
Diarrhoeas	15.2	6.3	6.8	8.5	7.4
Acute upper respiratory infections	15.2	18.6	24.5	21.1	22.1
Cough with sputum	3.0	5.2	4.7	5.1	5.0
Bronchial asthma	3.0	-	1	-	-
Gastric and peptic ulcers	-	1.4	1.6	1.6	1.6
Skin infection	3.0	3	2.2	2.7	2.5
Illness in the new-born	3.0	1.1	1.2	1.6	1.3
Others	3.0	11.1	8.6	9.2	9.3
All	100	100	100	100	100

Source: Calculated from NSS 71st Round.

Table 7: Percentage distribution of Children Aged 1-59 Months by causes of death in India, WHO 2016

Cause of death	% Distribution
HIV/AIDS	0.9
Diarrhoeal diseases	22.2
Measles	5.5
Meningitis/encephalitis	4.2
Malaria	1.4
Acute lower respiratory infections	28.3
Prematurity	4.9
Birth asphyxia and birth trauma	1.2
Other communicable, perinatal and nutritional conditions	10
Congenital anomalies	6
Other no communicable diseases	7.7
Injuries	7.8
All	100

Source: WHO Website.

5. Conclusions

5.1. The paper highlights a variety of health vulnerabilities of children followed by a discussion on the pattern of reported morbidity and hospitalization and health care utilization drawing data from NSSO 71st round of the survey. This paper contributes to strengthen our existing understanding of the influence of sanitation for health in general and child health in particular.

5.2. The pattern of health status led us further to resolve the apparent paradox as far as association among socioeconomic status, the status of health and health-seeking behaviour and mortality pattern are concerned. The associations have been: people of higher economic status are more likely to report a higher level of illness and seek treatment in hospitals for their children as compared to the poor. But surprisingly children of higher socioeconomic status remain untreated despite a reported higher level of morbidity. The paradox is resolved by examining the disease pattern and causes of health in India. It emerges that poor people report their illness only when it becomes very serious and then resort to treatment. Again, it is evident that poor children suffer from diseases that are more life-threatening as far as causes of death in India is concerned. For example, the prevalence of diarrheal disease, which is one of the leading causes of child health in India, is found to be remarkably high among children of poor households.

5.3. Despite the tendency of poor people in under-reporting morbidity and hospitalization, it is observed that rates appear higher for children who belong to households having a poor

quality of latrine. It is even seen that having no latrine is better than having an unhygienic latrine facility as far as the susceptibility of diseases is concerned. Also, health-seeking behaviour remained very poor. Therefore, children of households with poor sanitation face the double whammy of higher prevalence of life-threatening disease and poor health-seeking behaviour.

5.4. In conclusion, we can say that despite the doubt on lay-reported morbidity as an appropriate measure of health outcome, the extent of health vulnerabilities among children belonging to lower socio-economic groups particularly those who are also exposed to unhygienic latrine facility or poor sanitation is alarming. With the increasing urbanization, the number of notified and non-notified slums would increase in future and it would be a challenge for the civic authorities to ensure hygienic sanitation and drainage facility. Inadequate and improper functioning of these basic facilities deprives children of their fundamental right to life and health. This scenario needs serious attention in the area of preventive health care to reap benefits of the demographic dividend. It is very much essential that greater attention must be put on the younger generation to generate quality human resources.

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Estimation of Variation in Wages, Among Industrial Employees due to Various Factors: A Study Using ASI Data

S. L. Menaria & H. S. Chopra¹

Abstract

Annual Survey of Industries 2014-15 data, indicate that around 1.4 crore employees worked in 2.3 lakh registered factories with a median wage of Rs 260² per manday or Rs 8000 per month. Net Value Added (NVA) per person engaged in these industries is Rs 7 lakh (Government of India, 2017). These 1.4 crore employees represent about 7 crore population (including family members) and hence analysis of their income assumes significant importance. The purpose of this paper is to analyse the variation in wages of the employees working in the industrial sector due to different factors. Log linear regression model was run, to analyse the variation in wages due to (i) Size of the factory (ii) Type of employee (iii) various States/UTs (iv) Type of industry and (v) type of area (urban/rural). The analysis shows that the major variation in wages comes due to size of the unit. Bigger units with more than 100 workers pay almost double wages as compared to units with less than 10 workers. The study also reveals that about 10% of the total factories employ more than 100 workers while 30% factories have less than 10 workers. Female workers and contractual workers are the lowest paid as compared to the directly employed male workers. Pay-out given to male workers is about 30% more than their female counterparts. Managers and supervisors are the highest paid, about four times as compared to female workers. The wages paid by the units located in urban area is only 6% higher than the wages paid by units in rural area.

Key words: Employee, factory, Industry, Manufacturing, Wages, Wage inequality, workers, contract workers, Regression

JEL codes:C35, C81, J31, J33, J41, J77, L60-69

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²Median wage was calculated as the wages data has high variations and median gives a better representation as compared to mean. Only open units were considered for calculations.

1. Introduction:

1.1. Industrial sector occupies an important position in the Indian economy and has a pivotal role to play in the rapid and balanced economic development. The Annual Survey of Industries (ASI) is the principal source of industrial statistics in India. It provides statistical information to assess and evaluate, objectively and realistically, the changes in the growth, composition and structure of organized manufacturing sector comprising activities related to manufacturing processes, repair services, gas and water supply and cold storage. It provides data on various vital aspects of the registered factories for use in the estimation of Gross Domestic Product, studies of industrial structure and policy formulation. It provides data on number of important indicators such as number of factories, employment, wages, invested capital, capital formation, input, output, depreciation and value added etc. on an annual basis.

1.2. The ASI extends to the entire country except the States of Mizoram and Union Territory of Lakshadweep. It covers all factories registered under sections 2(m)(i) and 2(m)(ii) of the Factories Act, 1948. The survey also covers bidi and cigar manufacturing establishments registered under the Bidi and Cigar Workers (Conditions of Employment) Act 1966. Certain services and activities like cold storage, water supply, repair of motor vehicles and other consumer durables like watches etc. are also covered. Though services sector industries like motion picture production, personal services like laundry services, dyeing, etc. are covered under the Survey but data are not tabulated, as these industries do not fall under the scope of industrial sector defined by the United Nations. Defense establishments, oil storage and distribution depots, restaurants, hotels, café and computer services and the technical training institutes, etc. also excluded from the purview of the Survey.

1.3. The primary unit of enumeration in the survey is a “factory[@]” in the case of manufacturing industries, a “workshop” in the case of repair services, an “undertaking or a licensee” in the case of electricity, gas and water supply undertakings and an “establishment” in the case of bidi and cigar industries. The owner of two or more establishments located in the same State and pertaining to the same industry group and falling under the same scheme of selection (census or sample) is, however, permitted to furnish a single consolidated return, termed as ‘Joint Return’. Such consolidated returns are a common feature in the case of bidi and cigar establishments, electricity and certain public sector undertakings.

[@] Definition of Factory is given at Annexure-3.

1.4. ASI schedule is the basic tool to collect required data from the units selected for the survey. The schedule for ASI, at present, has two parts.

- i. Part-I of ASI schedule, processed at the NSO (IS Wing), Kolkata, aims to collect data on assets and liabilities, employment and labour cost, receipts, expenses, input items; indigenous and imported, products and by-products manufactured, distributive expenses, etc. The data on labour cost and employment are collected separately for different types of workers. Types of workers are discussed in some more detail in sub Section 5.3.
- ii. Part –II of ASI schedule is processed by the Labour Bureau. It aims to collect data on different aspects of labour statistics, namely, working days, man-days worked, absenteeism, labour turnover, man-hours worked etc.

2. Need of the study:

2.1. Manufacturing sector plays an important role in employment generation and development of an economy. Historically, the development process has witnessed a trend of people shifting from agriculture to non-farm activities such as manufacturing and services. In Indian context where agriculture contributes a minor share of GDP, but accounts for a disproportionately large share in employment, and manufacturing is crucial for India's development and employment objectives.

2.2. In coming years, India is expected to witness significant demographic growth and disproportionate expansion in the working age population. To absorb much of this labour force, the manufacturing sector would need to play an important role. At present, the sector accounts for 16 percent of GDP and 12 percent of the employment in the country.

2.3. A study of wage rates offered to the workforce employed in the manufacturing sector would be of interest in order to understand the labour market dynamics. An attempt has been made in this paper to analyse the wage rates across the industry groups and States. In section three, we discuss about the data used in the study. Section four describes the log linear regression methodology and also describes the dummy variables created for the analysis. Section five describes the results in detail while section six gives conclusion of the study.

3. The Data used:

3.1. Unit level data of Annual Survey of Industries 2014-15 is used for this study. Reference period for ASI 2014-15 was the accounting year of the factory, ending on any day during the financial year 2014-15 and the survey was conducted during the period January to September 2016. The ASI Frame for the year contained nearly 2.3 lakh registered factories. Out of which, census sector³ comprised of nearly 49,944 units, while 1,81,646 units were

³Census Sector: Registered factories with 100 or more workers and some smaller units categorised under Census Sector

under sample sector⁴. Total sample size surveyed during 2014-15 was 70,943 (49944 Census and 20,999 sample) units.

3.2. Block E of part I of ASI schedule collects information on employment viz manufacturing days, workers directly employed (male and female), contractual workers, details about supervisors, managerial staff, welfare expenditure by the manufacturing unit etc. This paper uses unit level data of ASI2014-15 from open units from Blocks A, B & E of ASI schedule.

4. Methodology Used:

4.1. We fit a multiple regression with Log of Wages per day as dependent variable and following covariates.

- type of employee (female worker, male worker, contract worker, supervisor, other employee),
- Factory size based on Number of workers
- State (divided States into 5 categories based on the level of industrialisation)
- NIC code (based on NIC 2 digit groups)
- Rural/Urban unit

4.2. We run a multiple regression with binary independent variables. We include dummy variables for each of the independent variables in the regression and keep one indicator variable as a base. It indicates the percentage difference in wages of the kth dummy over the base measured by $100 * [\exp(\beta_k) - 1]$ (Krzanowski, 2002).

4.3. We run the regression mentioned in the methodology section using unit level data. We create dummy variables for our five covariates as follows:

- emptytype_1, emptytype_4, emptytype_6, emptytype_7 are dummy variables representing type of employees (defined in section 5.3.1) ;
- factsize_2 , factsize_3, factsize_4 , factsize_5 are dummy variables representing factory size (defined in section 5.4.1);
- Urban_2 is a dummy variable representing location in urban area.
- Stategroup_1 , Stategroup_2 , Stategroup_4 , Stategroup_5 are dummy variables representing category of States (defined in Table 1);
- NIC2CD_1, NIC2CD_8, NIC2CD_11, NIC2CD_12, NIC2CD_13, NIC2CD_14, NIC2CD_15, NIC2CD_16, NIC2CD_17, NIC2CD_18, NIC2CD_19, NIC2CD_20, NIC2CD_21, NIC2CD_22, NIC2CD_23, NIC2CD_24, NIC2CD_25, NIC2CD_26, NIC2CD_27, NIC2CD_28, NIC2CD_29, NIC2CD_30, NIC2CD_31, NIC2CD_32,

⁴Sample Sector: Registered factories not covered under Census Sector

NIC2CD_33, NIC2CD_38, NIC2CD_58, NIC2_others are dummy variables representing categories based on NIC (details at Table 3)

5. Results

5.1. Further details for the covariates are discussed in the subsequent sections:

5.2. The detailed results are given at Annexure 1 & 2. We will discuss in detail the interpretation of the regression results in the following sections.

5.3. Variation in wages by type of employee

5.3.1. In ASI survey employee information is collected in following five categories

1. Male Workers employed directly (emptytype_1)
2. Female workers employed directly (emptytype_2)
3. Workers employed through contractors (emptytype_4)
4. Supervisor and Managerial staff (emptytype_6)
5. Other employees (emptytype_7)

5.3.2. We create five dummy variables (emptytype_1, emptytype_2, emptytype_4, emptytype_6, emptytype_7) for each of the above categories and take female workers employed directly (emptytype_2) as the base (Annex 1 & 2). The regression results shows that

- i. The wage per manday for a male worker employed directly is 29% higher than the female worker employed directly keeping other variables constant.
- ii. The wage per manday for a worker employed through contractor is 9% higher than the female worker employed directly keeping other variables constant.
- iii. This shows that the female workers and contractual workers are paid less than other workers. Although a lot of steps are being taken to remove the gender based anomaly in wages but the difference still exists. Our study shows that female workers are the lowest paid employees in the manufacturing sector.
- iv. Though, the skill set required for Manager/Supervisor is altogether different from that of worker and the two groups are not directly comparable, however our analysis shows that the wage per manday for a supervisor or manager is 280% higher than the female worker employed directly keeping other variables constant.
- v. The wage per man-day for other employees is 65% higher than the female worker employed directly keeping other variables constant.

5.3.3. Pollin (2000) argues that the threat of unemployment among the less skilled workers due to outsourcing and capital substitution also reduced the wage rates and labour share. Abraham and Sasikumar (2017) showed that the two notable trends in composition of employees are increasing contractualization of employment and increasing feminization of permanent employment. Studies done on the Indian case by Berman, Somanathan and Tan (2005), Ramaswamy (2008), Abraham (2010) and Goldar

(2013) also argue that the widening wage inequalities between skilled and unskilled workers have their roots in capital deepening and SBTC(Skill based technical change).

5.4.Variation in wages by size of factory

5.4.1. We grouped the factories surveyed into five categories by the number of workers employed, as follows

1. Factories having less than or equal to 10 workers (factsize_1)
2. Factories having workers between 11 to 30 (factsize_2)
3. Factories having workers between 31 to 100 (factsize_3)
4. Factories having workers between 101 to 1000 (factsize_4)
5. Factories having more than 1000 workers (factsize_5)

5.4.2. We want to see if the wages of employees depend on the size of the factory. In the regression, we keep small factories with less than or equal to 10 workers as the base. The regression results (Annex 1& 2) show that

- i. The wage per manday for an employee in a small factory is the lowest. The results show that the wages per manday is 31 % higher in factory having 11 to 30 workers as compared to the factory having 10 workers or less, keeping other variables constant.
- ii. The wages per manday is 66 % higher in factory having 31 to 100 workers as compared to the factory having less than 10 workers keeping other variables constant.
- iii. The wages per manday is 102 % higher or more than double in factory having 101 to 1000 workers as compared to the factory having less than 10 workers keeping other variables constant.
- iv. The wages per manday is 141 % higher or about 2.5 times the average wage in factory more than 1000 workers as compared to the factory having less than 10 workers keeping other variables constant.

These results show that the workers are paid higher wages in big factories as compared to smaller ones.

5.5. Variation in Wages by State

5.5.1. We group the States/UTs into five categories by the number of workers employed in manufacturing sector in the State as follows:

Table1: Categorisation of States/UTs

Group	States / UTs
High industrialized States (Stategroup_1) (More than 5 lakh employees in manufacturing sector)	Tamil Nadu, Maharashtra, Gujarat, Karnataka, Uttar Pradesh, Telangana, Haryana, West Bengal, Andhra Pradesh, Punjab
Medium industrialized States(Stategroup_2) (Between 2.5-5 lakh employees in manufacturing sector)	Uttarakhand, Rajasthan, Kerala, Odisha, Madhya Pradesh
Low industrialized States(Stategroup_3) (Between 0.5-2.5 lakh employees in manufacturing sector)	Jharkhand, Chhattisgarh, Himachal Pradesh, Assam, Bihar,Goa,Jammu and Kashmir
Very Low industrialized States(Stategroup_4) (less than 50,000 employees in manufacturing sector)	Tripura, Meghalaya, Sikkim, Manipur, Nagaland, Arunachal Pradesh
Union Territories (Stategroup_5)	Dadra and Nagar Haveli, Daman and Diu, Delhi, Puducherry, Chandigarh(U.T.), Andaman and Nicobar Islands

5.5.2. We want to see if the wages of employees vary across the States. In the regression, we keep Low industrialised States (Jharkhand, Chhattisgarh, Himachal Pradesh, Assam, Bihar, Goa, Jammu and Kashmir) as the base. The regression results (Annex 1& 2) show that

- i. The average wages of an employee per manday is 21% higher in high industrialised States as compared to low industrialised States keeping other variables constant.
- ii. The average wages of an employee per manday is 17% higher in medium industrialised States as compared to low industrialised States. More opportunity of work and higher wages may be the major reasons for migration of workers from low industrialised States to high and medium industrialised States keeping other variables constant.
- iii. The wages per manday for an employee in north eastern States which are categorised as very low industrialised States, is the lowest. The results show that the wages per manday is 30% lower in these States as compared to low industrialised States keeping other variables constant.
- iv. The average wages of an employee per manday is highest in the UTs being 41% higher as compared to low industrialised States keeping other variables constant.
- v. These results show that though the wages in high/medium industrialised States and UTs are higher in comparison to low industrialised and north-eastern States but the variation is not much (i.e. increase by maximum of 40% as compared to low industrial States) . The median wage per manday of a worker in India comes out to be Rs 260 during 2014-15. Table 2 shows that the wages per day of workers

vary from Rs 138 per day in Tripura to Rs 366 in Andaman & Nicobar. The median wage per month of a worker is Rs 7800.

- vi. The median wage per manday of a supervisor/manager was Rs 671 per day (Table 2) during 2014-15. However there is more variation among supervisors. The median salary per month of a supervisor ranges from Rs 6400 to Rs 38000 (Table 2) across States. While median monthly salary of a supervisory staff in Maharashtra is Rs 31000, it is only Rs 11000 in case of Bihar. This is perhaps the main reason for the educated youth from States like Bihar, Andhra and Jharkhand to other developed States in search of high paid jobs in industrial sector.

Table 2: Distribution of wages in States/UTs

State / UT	Median wage per manday of worker ⁵ (Rs.)	Median wage per month of worker (Rs.)	Median wage per manday of Supervisors/Managers (Rs.)	Median wage per month of Supervisors/Managers (Rs.)
Goa	344	10314	1275	38261
Dadra and Nagar Haveli	321	9645	1254	37605
Sikkim	266	7989	1090	32709
Daman and Diu	284	8534	1067	32023
Himachal Pradesh	264	7925	1061	31831
Maharashtra	337	10100	1033	30996
Chandigarh(U.T.)	304	9131	970	29106
Uttarakhand	250	7513	915	27449
Karnataka	286	8587	868	26035
Delhi	316	9477	828	24841
Gujarat	281	8429	801	24041
Haryana	276	8280	800	24000
Puducherry	242	7264	792	23772
A and N Islands	366	10994	743	22297
Uttar Pradesh	250	7505	728	21849
Meghalaya	215	6450	726	21784
Madhya Pradesh	234	7019	705	21164
Rajasthan	274	8213	701	21038
Jammu and Kashmir	216	6485	635	19062
Tamil Nadu	242	7264	598	17940
West Bengal	197	5921	556	16673

⁵In ASI data is collected on (i) wages/salaries paid and (ii) No of mandays paid, in block E, in respect of all the workers/Supervisors for each factory/unit under survey. Wage per manday for a particular unit is calculated by dividing (i) by (ii). Median wage per manday is derived such that 50% of the units have wage per manday below the median. The exercise is done separately for two categories i.e workers and Supervisors/Managers.

State / UT	Median wage per manday of worker ⁶ (Rs.)	Median wage per month of worker (Rs.)	Median wage per manday of Supervisors/Managers (Rs.)	Median wage per month of Supervisors/Managers (Rs.)
Telangana	260	7807	548	16438
Kerala	287	8613	518	15528
Punjab	263	7898	510	15288
Chhattisgarh	223	6683	477	14301
Arunachal Pradesh	180	5405	467	14020
Odisha	180	5401	449	13482
Assam	160	4800	427	12822
Jharkhand	210	6300	400	12008
Andhra Pradesh	226	6774	362	10849
Bihar	203	6077	350	10486
Nagaland	179	5364	274	8219
Tripura	138	4140	256	7693
Manipur	195	5850	214	6411
All India	260	7810	671	20119

5.6. Variation in wages by NIC Code

5.6.1. The National Industrial Classification (NIC) is an essential Statistical Standard for developing and maintaining comparable data base according to economic activities. This is frequently used in classifying the economically active population, industrial production and distribution, the different fields of labour statistics and other economic data such as national income. Comparability of statistics available from various sources, on different aspects of the economy, and usability of such data for economic analysis, are the main reasons for standardization of a system of classification. Central Statistical Office (CSO) has published National Industrial Classification 2008 (NIC-2008) (Central Statistical Organisation, 2008).

5.6.2. We have grouped the industries into 29 categories based on the NIC 2 digit code. This grouping is similar to the grouping done in Annual Survey of Industries, Volume I (Government of India, 2016) as follows:

⁶In ASI data is collected on (i) wages/salaries paid and (ii) No of mandays paid, in block E, in respect of all the workers/Supervisors for each factory/unit under survey. Wage per manday for a particular unit is calculated by dividing (i) by (ii). Median wage per manday is derived such that 50% of the units have wage per manday below the median. The exercise is done separately for two categories i.e workers and Supervisors/Managers.

Table 3: Grouping based on NIC

Group / Variable Name	NIC 2 Digit Code
NIC2CD_1	01(Crop and animal production, hunting and related service activities)
NIC2CD_8	08(Other mining and quarrying)
NIC2CD_10	10(Manufacture of food products)
NIC2CD_11	11(Manufacture of beverages)
NIC2CD_12	12(Manufacture of tobacco products)
NIC2CD_13	13(Manufacture of textiles)
NIC2CD_14	14(Manufacture of wearing apparel)
NIC2CD_15	15(Manufacture of leather and related products)
NIC2CD_16	16(Manufacture of wood and products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials)
NIC2CD_17	17(Manufacture of paper and paper products)
NIC2CD_18	18(Printing and reproduction of recorded media)
NIC2CD_19	19(Manufacture of coke and refined petroleum products)
NIC2CD_20	20(Manufacture of chemicals and chemical products)
NIC2CD_21	21(Manufacture of pharmaceuticals, medicinal chemical and botanical products)
NIC2CD_22	22(Manufacture of rubber and plastic products)
NIC2CD_23	23(Manufacture of other non-metallic mineral products)
NIC2CD_24	24(Manufacture of basic metals)
NIC2CD_25	25(Manufacture of fabricated metal products, except machinery and equipment)
NIC2CD_26	26(Manufacture of computer, electronic and optical products)
NIC2CD_27	27(Manufacture of electrical equipment)
NIC2CD_28	28(Manufacture of machinery and equipment n.e.c.)
NIC2CD_29	29(Manufacture of motor vehicles, trailers and semi-trailers)
NIC2CD_30	30(Manufacture of other transport equipment)
NIC2CD_31	31(Manufacturer of furniture)
NIC2CD_32	32(Other manufacturing)
NIC2CD_33	33(Repair and installation of machinery and equipment)
NIC2CD_38	38(Waste collection, treatment and disposal activities; materials recovery)
NIC2CD_58	58(Publishing activities)
NIC2_others	all others covered by ASI

5.6.3. In order to explore if the wages of employees varies by different NIC Codes in the regression, we keep NIC 2 digit code 10 i.e. Manufacture of food products as the base. The regression results (Annexure 1 & 2) show that

- i. The average wages of an employee per manday is higher by 50% and above in industries with NIC code 19 (Manufacture of coke and refined petroleum products), NIC code 58 (Publishing activities), NIC code 33(Repair and installation of machinery and equipment)as compared to employees engaged in Manufacture of food products.
- ii. Employees engaged in industries with NIC 12 (Manufacture of tobacco products) are paid lowest wages. The wages of workers employed in tobacco units is 30% lower than those engaged in Manufacture of food products. The tobacco industry has around 4 lakh workers with median wages of Rs 218 per manday.
- iii. The industries can be categorised into following five groups based on the amount of wages being paid to its workers

Table4: Grouping of industries by amount of wages to employees

Group	NIC 2 Digit Codes
very low wages(less than 30% of base)	12
low wages(within 10% of base -higher or lower)	8,23,13,15,1,14,16,17,24
medium wages(10-20% higher than the base)	38,22,31,25,11,5,6,35,36, 37,42,43,45,46,52,59,62, 68,71,72,74,82,93,95,96
High wages(20-40% higher than the base)	20,32,18,30,27,29,28
Very High wages(More than 40% higher than the base)	21,26,33,58,19

5.6.4. The increasing use of contract labour in agro-based industries, the increasing capital intensity and technical changes in production in high &medium-technology industries explains this drop in emolument (Abraham& Sasikumar, 2017)

5.7. Variation in wages between rural and urban areas

5.7.1. In order to study rural-urban variation in wages, we keep a dummy variable in the regression equation for the area in which factory is located (1 if in urban area; 0 otherwise). The regression results show that the wages per man-day for an employee in a factory located in urban area is 6 % higher than the factory located in rural area keeping other variables constant. This shows that there is not much difference in the wages of employees engaged by units in rural and urban areas.

6. Conclusions & Way Forward

6.1. The median wage per manday of a worker in India was Rs 260 in 2014-15. This means that 50% of the workers employed in organized manufacturing sector are earning less than Rs 7800 per month. Abraham and Sasikumar (2017) also found that although the GVA

grew substantially, the share of returns to labour is declining progressively decade after decade. Abraham and Sasikumar (2017) analysed that though profit share rose throughout the 1990s and 2000s, the wage shares declined.

6.2. Some economists also support trickle-down theory with an argument that overall development of the economy will benefit everybody and the benefits will trickle down from owner or top of the ladder to the bottom poor automatically. They emphasise that there is no need for special schemes or benefits for the poor and economic growth will take care of all sections of the population. But various research papers point towards failure of trickle-down theory. It is found that increase in profit is not percolated to the poor workers and is being enjoyed by the upper streams in the manufacturing sector. Kannan and Raveendran (2009) argue that the increase in labour productivity was appropriated by employers and did not percolate to the workers.

6.3. It is possible that while capital intensity or technological change has been enhancing labour productivity, the fruits of these gains are not passed on to the workers owing to their weakened bargaining position in the relationship. Goldar (2013) shows that the declining bargaining power of trade unions may also be instrumental in explaining the decline in labour share. A focused intervention to find ways to increase income of workers employed in organized manufacturing sector should be explored to ensure minimum income to lead a decent life.

6.4. Further among the workers, female workers and contract workers are paid less than the other workers/employees. Average wages of supervisor or manager is about four times as compared to female/contract worker. Proportion of workers through contractors has increased over years to avoid labour laws leading to exploitation by contractors resulting in decline in all permanent forms of employment (Abraham and Sasikumar, 2017). In effect, what we are noticing are two types of substitutions: substitution of contract workers for permanent employees, and substitution of workers with workdays. Shift in the composition of employees towards a greater share of supervisory and managerial staff signals a rising demand for skilled workers. Although a lot of steps are being taken to remove the gender based anomaly in wages but the difference still exists. Our study shows that female workers are the lowest paid employees in the manufacturing sector. Review of situation of contractual labour is need of the hour to help workers from exploitation by contractors.

6.5. There is huge variation in salaries among Managers/supervisors employed in organized manufacturing sector. The median salary per month of a supervisor ranges from Rs 6400 to Rs 38000 across States. While median monthly salary of a supervisory staff in Maharashtra is Rs 31000, it is only Rs 11000 in case of Bihar. This also explains the migration of educated youth from States like Bihar, Andhra, and Jharkhand to other developed States in search of high paid jobs in industrial sector.

6.6. The analysis shows that the major variation in wages is due to size of the units. Bigger units with more than 100 workers pay double wages as compared to units with less than 10

workers. Only 10% of the total factories are having more than 100 workers while 30% factories have less than 10 workers. The workers are offered better wages in big factories as compared to smaller ones and this suggests that bigger units may be encouraged.

6.7. Also there is not much difference in the wages of employees working in units located in rural and urban areas. The living expenditure in rural areas is much less than urban areas and so a worker in rural factory may lead a better life on same wages. Thus, entrepreneurs setting up units in rural areas need to be encouraged through incentives.

6.8. The workers engaged in Manufacture of tobacco products have the lowest wages. The wages of workers employed in tobacco units is 30% lower than employees engaged in Manufacture of food products. The tobacco industry has around 4 lakh workers with median wages of Rs 218 per manday and thus needs focus to improve the conditions of workers engaged in this industry.

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ANNEXURES

Annexure-1

STATA output of regression

```
. reg logwage emptytype_1 emptytype_4 emptytype_6 emptytype_7 factsize_2 factsize_3 factsize_4 factsize_5 urban_2 Stategroup_1 Stategroup_
> 2 Stategroup_4 Stategroup_5 NIC2CD_1 NIC2CD_8 NIC2CD_11- NIC2CD_58 NIC2_others
```

Source	SS	df	MS	Number of obs = 168298
Model	57623.0889	41	1405.44119	F(41,168256) = 3111.71
Residual	75994.9074168256		.451662392	Prob > F = 0.0000
Total	133617.996168297		.793941641	R-squared = 0.4313
				Adj R-squared = 0.4311
				Root MSE = .67206

logwage	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
emptytype_1	.2524467	.006416	39.35	0.000	.2398715 .2650219
emptytype_4	.0890744	.007597	11.72	0.000	.0741845 .1039642
emptytype_6	1.335695	.0064164	208.17	0.000	1.323119 1.348271
emptytype_7	.498293	.0064801	76.90	0.000	.4855921 .5109938
factsize_2	.2703526	.0049904	54.17	0.000	.2605716 .2801336
factsize_3	.5069383	.005081	99.77	0.000	.4969796 .516897
factsize_4	.701114	.0047426	147.83	0.000	.6918185 .7104094
factsize_5	.8806487	.0104306	84.43	0.000	.8602049 .9010925
urban_2	.05385	.0034904	15.43	0.000	.0470089 .060691
Stategroup_1	.1930521	.0057485	33.58	0.000	.1817852 .2043191
Stategroup_2	.1560714	.0068902	22.65	0.000	.1425668 .1695759
Stategroup_4	-.3506137	.0136877	-25.62	0.000	-.3774413 -.323786
Stategroup_5	-.3469232	.0102034	34.00	0.000	-.3269248 .3669215
NIC2CD_1	-.0308063	.0186423	-1.65	0.098	-.0673448 .0057321
NIC2CD_8	-.1270248	.0477369	-2.66	0.008	-.2205881 -.0334614
NIC2CD_11	.1574123	.0125532	12.54	0.000	.1328084 .1820162
NIC2CD_12	-.3554039	.0158357	-22.44	0.000	-.3864415 -.3243662
NIC2CD_13	-.0530907	.0073632	-7.21	0.000	-.0675224 -.0386539
NIC2CD_14	-.0201364	.0094168	-2.14	0.032	-.0385931 -.0016797
NIC2CD_15	-.0520933	.0127468	-4.09	0.000	-.0770767 -.0271098
NIC2CD_16	-.0088301	.0130158	-0.68	0.498	-.0343407 .0166805
NIC2CD_17	.0355792	.0108127	3.29	0.001	.0143866 .0567718
NIC2CD_18	.2247584	.0132152	17.01	0.000	.1988569 .25066
NIC2CD_19	.4885473	.0167526	29.16	0.000	.4557126 .521382
NIC2CD_20	.1882081	.0077908	24.16	0.000	.1729383 .2034779
NIC2CD_21	.3376432	.010484	32.21	0.000	.3170948 .3581917
NIC2CD_22	.1280058	.0089413	14.32	0.000	.1104811 .1455304
NIC2CD_23	-.063579	.0071204	-8.93	0.000	-.0775349 -.0496232
NIC2CD_24	.1047175	.0086698	12.08	0.000	.0877249 .1217101
NIC2CD_25	.1450081	.0081629	17.76	0.000	.129009
NIC2CD_26	.3913851	.0129016	30.34	0.000	.3660982 .4166719
NIC2CD_27	.2372239	.0090055	26.34	0.000	.2195734 .2548744
NIC2CD_28	.3229566	.0080498	40.12	0.000	.3071793 .338734
NIC2CD_29	.2991755	.0095911	31.19	0.000	.2803772 .3179737
NIC2CD_30	.2343782	.0136295	17.20	0.000	.2076647 .2610916
NIC2CD_31	.1342237	.0184612	7.27	0.000	.0980402 .1704072
NIC2CD_32	.2233428	.0119755	18.65	0.000	.1998711 .2468145
NIC2CD_33	.4189059	.0205587	20.38	0.000	.3786114 .4592005
NIC2CD_38	.122986	.0303317	4.05	0.000	.0635366 .1824355
NIC2CD_58	.4404684	.0332948	13.23	0.000	.3752113 .5057256
NIC2_others	.1705523	.0084747	20.12	0.000	.1539421 .1871626
_cons	4.747642	.0091129	520.98	0.000	4.729781 4.765504

Percent variation in wages due to different variables

Covariates	Coef.	% change= $100 * \left[\exp(\hat{\beta}_1) - 1 \right]$	Std. Err.	t	P>t
emptye_1	0.2524467	29	0.006416	39.35	0.00
emptye_4	0.0890744	9	0.007597	11.72	0.00
emptye_6	1.335695	280	0.006416	208.17	0.00
emptye_7	0.498293	65	0.00648	76.9	0.00
factsize_2	0.2703526	31	0.00499	54.17	0.00
factsize_3	0.5069383	66	0.005081	99.77	0.00
factsize_4	0.701114	102	0.004743	147.83	0.00
factsize_5	0.8806487	141	0.010431	84.43	0.00
urban_2	0.05385	6	0.00349	15.43	0.00
Stategroup_1	0.1930521	21	0.005749	33.58	0.00
Stategroup_2	0.1560714	17	0.00689	22.65	0.00
Stategroup_4	-0.3506137	-30	0.013688	-25.62	0.00
Stategroup_5	0.3469232	41	0.010203	34	0.00
NIC2CD_1	-0.0308063	-3	0.018642	-1.65	0.10
NIC2CD_8	-0.1270248	-12	0.047737	-2.66	0.01
NIC2CD_11	0.1574123	17	0.012553	12.54	0.00
NIC2CD_12	-0.3554039	-30	0.015836	-22.44	0.00
NIC2CD_13	-0.0530907	-5	0.007363	-7.21	0.00
NIC2CD_14	-0.0201364	-2	0.009417	-2.14	0.03
NIC2CD_15	-0.0520933	-5	0.012747	-4.09	0.00
NIC2CD_16	-0.0088301	-1	0.013016	-0.68	0.50
NIC2CD_17	0.0355792	4	0.010813	3.29	0.00
NIC2CD_18	0.2247584	25	0.013215	17.01	0.00
NIC2CD_19	0.4885473	63	0.016753	29.16	0.00
NIC2CD_20	0.1882081	21	0.007791	24.16	0.00
NIC2CD_21	0.3376432	40	0.010484	32.21	0.00
NIC2CD_22	0.1280058	14	0.008941	14.32	0.00
NIC2CD_23	-0.063579	-6	0.00712	-8.93	0.00
NIC2CD_24	0.1047175	11	0.00867	12.08	0.00
NIC2CD_25	0.1450081	16	0.008163	17.76	0.00
NIC2CD_26	0.3913851	48	0.012902	30.34	0.00
NIC2CD_27	0.2372239	27	0.009006	26.34	0.00
NIC2CD_28	0.3229566	38	0.00805	40.12	0.00
NIC2CD_29	0.2991755	35	0.009591	31.19	0.00
NIC2CD_30	0.2343782	26	0.01363	17.2	0.00
NIC2CD_31	0.1342237	14	0.018461	7.27	0.00
NIC2CD_32	0.2233428	25	0.011976	18.65	0.00
NIC2CD_33	0.4189059	52	0.020559	20.38	0.00
NIC2CD_38	0.122986	13	0.030332	4.05	0.00
NIC2CD_58	0.4404684	55	0.033295	13.23	0.00
NIC2_others	0.1705523	19	0.008475	20.12	0.00

Definition of "Factory"

Factory, which is the primary statistical unit of enumeration, is defined as:

‘Any premises’ including the precincts thereof: -

i. Wherein ten or more workers are working or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on with the aid of power or is ordinarily so carried on, or,

ii. Wherein twenty or more workers are working or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on without the aid of power or is ordinarily so carried on, but does not include a mine subject to the operation of the Mines Act, 1952, or a railway running shed. The ‘manufacturing process’ referred to above has been defined [vide Section 2(k)] in the Factories Act, 1948 as:

‘Any process’ for

i. making, altering, ornamenting, finishing, packing, oiling, washing, cleaning, breaking up, demolishing or otherwise treating or adapting any article or substance with a view to its use, sale, transport, delivery or disposal; or,

ii. Pumping oil, water or sewage; or,

iii. Generating, transforming or transmitting power; or,

iv. Composing types for printing by letter press, lithography, photogravure or other similar process or book binding; or,

v. constructing, reconstructing, repairing, refitting, finishing or breaking up ships or vessels; or

vi. Preserving or storing any article in cold storage.

PART-II

**Highlights of Report Released by National Statistical Office (NSO)
(The 'Highlights' are reproduced from related report prepared by Survey
Design and Research Division (SDRD) of NSO. For details, the reader may
refer to the related Main Report)**

Highlights of Recent Survey Report Released by NSO

1. In this part of the Journal, Highlights of the Annual Report during July, 2017- June, 2018 of the Periodic Labour Force Survey (PLFS) of NSS, released after publication of 106th issue of “SARVEKSHANA” are presented.
2. The highlights included in this issue are taken from the Annual Report on “Periodic Labour Force Survey (July, 2017 – June, 2018)”.

Highlights - Annual Report on Periodic Labour Force Survey (July, 2017-June, 2018)

The highlights are based on the information collected during July, 2017-June, 2018 of the Periodic Labour Force Survey (PLFS). The survey was spread over 12,773 First Stage Units (FSUs) (7,014 villages and 5,759 urban blocks) covering 1,02,113 households (56,108 in rural areas and 46,005 in urban areas) and enumerating 4,33,339 persons (2,46,809 in rural areas and 1,86,530 in urban areas).

Highlights related to the Annual Report on PLFS (July, 2017-June, 2018) are presented below:

A Household and Population

- About 70.7 per cent of the persons in India belonged to rural areas.
- The average household size in India was about 4.2. It was about 4.3 in rural India and about 3.9 in urban India.
- The sex ratio (number of females per 1000 males) in India was 956. It was 952 in rural India and 965 in urban India.
- Persons aged 15-29 years, who are considered as the youth, accounted for 27.4 per cent of rural males, 27 per cent of rural females, 28.2 per cent of urban males and 27.8 per cent of urban females.
- During 2017-18, persons of age 15 years and above, accounted for 71.5 per cent of rural male, 73.8 per cent of rural females, 76.3 per cent of urban males and 77.7 per cent of urban females.
- In India, literacy rate (among persons of age 7 years and above) during 2017-18 was 76.9 per cent.
- Literacy rate in both rural and urban areas was higher among males than females: in rural areas, literacy rate was 80.7 per cent among males compared to 64.5 per cent among females and in urban areas, literacy rate was 91.6 per cent among males compared to 81.6 per cent among females.
- During 2017-18, about 52.2 per cent of rural households had major source of income from self-employment. The share of rural households with major source of income from casual labour during 2017-18 was 25 per cent and that of regular wage/salary earning was 12.7 per cent.
- In urban areas, the share of the household type self-employment during 2017-18 was 32.4 percent, the share of households with major source of income from regular wage/salary earning was 41.4 per cent while that of casual labour was 11.8 per cent.

B Labour Force

- About 54.9 per cent of the rural males, 18.2 per cent of the rural females, 57 per cent of the urban males and 15.9 per cent of the urban females were in the labour force in usual status (ps+ss).
- Among persons of age 15-29 years, LFPR in usual status (ps+ss) in India was 38.2 per cent: it was 38.1 per cent in rural areas and 38.5 per cent in urban areas.
- Among persons of age 15 years and above, LFPR in usual status (ps+ss) in India was 49.8 per cent: it was 50.7 per cent in rural areas and 47.6 per cent in urban areas.

C Workforce

C.1 Worker Population Ratio (WPR)

- The Worker Population Ratio (WPR) in usual status (ps+ss) was about 34.7 per cent at the all-India level. It was about 35 per cent in rural areas and 33.9 per cent in urban areas.
- The WPR in usual status (ps+ss) was 51.7 per cent for rural males, 17.5 per cent for rural females, 53 per cent for urban males and 14.2 per cent for urban females.
- The WPR in current weekly status (CWS) was about 32.7 per cent at the all-India level: 32.6 per cent in rural areas and 32.9 per cent in urban areas. The WPR in CWS was 49.6 per cent for rural males, 14.8 per cent for rural females, 51.7 per cent for urban males and 13.3 per cent for urban females.
- Among persons of age 15-29 years, WPR in usual status (ps+ss) in India was 31.4 per cent: it was 31.8 per cent in rural areas and 30.6 per cent in urban areas.
- Among persons of age 15 years and above, WPR in usual status (ps+ss) in India was 46.8 per cent: it was 48.1 per cent in rural areas and 43.9 per cent in urban areas.

C.2 Status in employment among workers in usual status (ps+ss)

- Share of self-employed among workers in usual status (ps+ss) was about 57.8 per cent among rural males, 57.7 per cent among rural females, 39.2 per cent among urban males and 34.7 per cent among urban females.
- Among workers in usual status (ps+ss), about 14 per cent among rural males, 10.5 per cent among rural females, 45.7 per cent among urban males and 52.1 per cent among urban females were regular wage/ salaried employees.
- The proportion of casual labour among workers in usual status (ps+ss) was about 28.2 per cent among rural males, 31.8 per cent among rural females, 15.1 per cent among urban males and 13.1 per cent among urban females.

C.3 Industry of work of the workers in usual status (ps+ss)

- In rural areas, about 55 per cent of the male workers and 73.2 per cent of the female workers were engaged in the agricultural sector. The proportions of male and female workers in rural areas engaged in 'construction' sector were 14.5 per cent and 5.3 per cent respectively. The proportions of male and female workers in rural areas engaged in 'manufacturing' sector were 7.7 per cent and 8.1 per cent respectively.
- In urban India, during 2017-18, among male workers, the industry sector, 'trade, hotel and restaurant' sector engaged about 24.5 per cent while 'manufacturing' and 'other services' sectors accounted for about 22.4 per cent and 21.5 per cent, respectively.
- Among female workers in the urban, 'other services' sector (other than 'trade, hotel & restaurant' and 'transport, storage & communications') shared the highest proportion of workers (44.4 per cent), followed by 'manufacturing' (25.2 per cent) and 'trade, hotel and restaurant' (13 per cent).

C.4 Occupation of the workers in usual status (ps+ss)

- In rural areas, 9.1 per cent of the male workers and 8.7 per cent of the female workers were engaged in the following occupation divisions: Division 1: Legislators, senior officials and managers, Division 2: Professionals and Division 3: Technicians and associate professionals.
- In urban areas, 30.4 per cent of the male workers and 34.6 per cent of the female workers were engaged in the following occupation divisions: Division 1: Legislators, senior officials and managers, Division 2: Professionals and Division 3: Technicians and associate professionals.

C.5 Informal sector and conditions of employment of the workers in usual status (ps+ss)

- From PLFS, share of informal sector is available among the workers in the industry groups/divisions 014, 016, 017, 02 and 03 (referred to as AGE GC sector) and the industry divisions 05-99 (referred to as the non-agriculture sector). Industry groups/divisions 014, 016, 017, 02 and 03 are in the [AG]riculture sector [E]xcluding [G]rowing of [C]rops, plant propagation, combined production of crops and animals without a specialized production of crops or animals. In India, 68.4 per cent of the workers in usual status (ps+ss) in non-agriculture and AGE GC sectors were engaged in informal sector. The share of informal sector among male workers was 71.1 per cent and among female workers was nearly 54.8 per cent in non-agriculture and AGE GC sectors.
- In India, among regular wage/salaried employees in the non-agriculture sector, 71.1 per cent had no written job contract: 72.3 per cent among males and 66.8 per cent among females.

- In India, among regular wage/salaried employees in the non-agriculture sector, 54.2 per cent were not eligible for paid leave: 55.2 per cent among males and 50.4 per cent among females.
- In India, among regular wage/salaried employees in the non-agriculture sector, 49.6 per cent were not eligible for any social security benefit: 49 per cent among males and 51.8 per cent among females.

D Earnings from employment, hours worked and hours available for additional work

The estimates on earnings from employment of the workers, hours worked and hours available for additional work are derived on the basis of data collected in the first visit schedule in rural areas (since in rural areas there was no revisit) and on the basis of data collected in the first visit schedule as well as revisit schedules in urban areas for each of the survey periods July – September 2017, October- December 2017, January – March 2018 and April – June 2018.

Information on earnings from employment was collected for all the three categories of workers, viz., self-employed persons, regular wage/salaried employees and casual labour. For regular wage/salaried persons in current weekly status information on earnings was collected for preceding calendar month, for self-employed persons in current weekly status information on earnings was collected for the last 30 days and for casual labour information on earnings was collected for each day of the reference week.

D.1 Earnings from employment

- In rural areas, among regular wage/salaried employees in current weekly status, earnings during the preceding calendar month ranged from Rs 13 thousand to Rs. 14 thousand among males and it was around Rs. 8.5 thousand to Rs. 10 thousand among females during July – September 2017, October- December 2017, January – March 2018 and April – June 2018.
- In urban areas, among regular wage/salaried employees in current weekly status, earnings during the preceding calendar month ranged from Rs. 17 thousand to Rs. 18 thousand among males and from Rs. 14 thousand to 15 thousand among females during July – September 2017, October- December 2017, January – March 2018 and April – June 2018.
- In rural areas, average wage earnings per day by casual labour engaged in works other than public works ranged between Rs. 253 to Rs. 282 among males and nearly Rs. 166 to Rs. 179 among females during July – September 2017, October- December 2017, January – March 2018 and April – June 2018. In urban areas, average wage earnings per day by casual labour engaged in works other than public works ranged between Rs. 314 to Rs. 335 among males and nearly Rs. 186 to Rs. 201 among females during this period.
- In rural areas, average wage earnings per day by casual labour engaged in MGNREG public works ranged between Rs. 141 to Rs. 171 among males and nearly Rs. 131 to

Rs. 165 among females during July – September 2017, October- December 2017, January – March 2018 and April – June 2018.

- In rural areas, a male casual labour engaged in public works other than MGNREG public works earned on an average nearly Rs. 138 to Rs. 158 per day while a female casual labour engaged in public works other than MGNREG public works earned nearly Rs. 119 to Rs. 144 per day during July – September 2017, October- December 2017, January – March 2018 and April – June 2018.
- In rural areas average gross earnings during the last 30 days from self-employment work by the self-employed workers in CWS ranged between Rs. 8500 to Rs. 9700 among males which was nearly Rs. 3900 to Rs. 4300 among females during July – September 2017, October- December 2017, January – March 2018 and April – June 2018. In urban areas, average gross earnings from self-employment work during the last 30 days was around Rs. 16 thousand among males and it ranged between Rs. 6500 to Rs. 7500 among females during this period.

D.2 Hours actually worked during the reference week by the workers in current weekly status (CWS)

- In rural areas, in a week, a worker in CWS actually worked on an average nearly 48 hours during July 2017 to June 2018 and in urban areas they worked for 56 hours, in a week, during this period.

D.3 Hours available for additional work by the workers in current weekly status (CWS)

- In rural areas, during July – September 2017, nearly 10.7 per cent of the workers in CWS reported that they were available for additional work. The percentage of workers in CWS reporting that they were available for additional work showed a decreasing trend over the survey period (July 2017- June 2018) and during April – June 2018, nearly 4.6 per cent of the workers in CWS reported that they were available for additional work.
- In rural areas, during July 2017- June 2018 hours available for additional work in a week for workers in CWS who reported that they were available for additional work, ranged from 11 to 13 hours.
- In urban areas, during July – September 2017, nearly 9 per cent of the workers in CWS reported that they were available for additional work. The percentage of workers who reported that they were available for additional work decreased over the survey period (July 2017 – June 2018) and during April – June 2018, nearly 3.1 per cent of the workers in CWS reported that they were available for additional work.
- In urban areas, during July 2017- June 2018 hours available for additional work in a week for workers in CWS who reported that they were available for additional work ranged from 10 to 14 hours.

E Unemployment Rate

- In the usual status (ps+ss), unemployment rate was 5.8 per cent among males and 3.8 per cent among females in rural areas, while the rates were 7.1 per cent among males and 10.8 per cent among females in urban areas.
- In CWS, the unemployment rate was 8.8 per cent among males and was 7.7 per cent among females in rural areas while the rates were 8.8 per cent among males and 12.8 per cent among females in urban areas.
- For educated (highest level of education secondary and above) rural males and rural females of age 15 years and above, unemployment rates in usual status (ps+ss) were 10.5 per cent and 17.3 per cent respectively.
- For educated males of age 15 years and above in urban areas, the unemployment rate was 9.2 per cent and among the educated females of age 15 years and above in the urban areas, the unemployment rate was 19.8 per cent in 2017-18.
- The unemployment rate among the rural male youth (persons of age 15-29 years) was 17.4 per cent while the unemployment rate among the rural female youth was 13.6 per cent during 2017-18. The unemployment rate among the urban male youth was 18.7 per cent in 2017-18 while the unemployment rate for urban female youth was 27.2 per cent during 2017-18.

खण्ड-III हिंदी

सर्वेक्षण

राष्ट्रीय सांख्यिकी कार्यालय की पत्रिका

भाग- PDOS 57 XXXV सं०1 और 2

अंक संख्या 107वां

सितम्बर, 2019



सत्यमेव जयते

राष्ट्रीय सांख्यिकी कार्यालय
सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय
भारत सरकार
नई दिल्ली

सम्पादकीयसलाहकारबोर्ड

1. डॉ. जी. सी. मन्ना, अध्यक्ष, पूर्व-महानिदेशक, एनएसओ, नई दिल्ली
 2. डॉ. मनोज पांडा, पूर्व-निदेशक, IEG, नई दिल्ली
 3. श्री अलोक कर, पूर्व उप महानिदेशक, कोलकाता
 4. निदेशक, नेशनल काउंसिल ऑफ एप्लाइड इकोनॉमिक रिसर्च (NCAER), नई दिल्ली
 5. अपर महानिदेशक, एनएसओ (FOD), MoSPI, नई दिल्ली
 6. अपर महानिदेशक, एनएसओ (SDRD), MoSPI, कोलकाता
 7. अपर महानिदेशक, एनएसओ (DQAD), MoSPI, कोलकाता
 8. अपर महानिदेशक, एनएसओ (SCD), MoSPI, प्रबंध संपादक, नई दिल्ली
 9. अपर महानिदेशक, CSO (ESD), MoSPI, नई दिल्ली
 10. उप महानिदेशक, DQAD (IS Wing), कोलकाता
 11. निदेशक, अंतर्राष्ट्रीय जनसंख्या विज्ञान संस्थान (IIPS), मुंबई
 12. निदेशक, इंदिरा गांधी इंस्टीट्यूट ऑफ डेवलपमेंट रिसर्च (IGIDR), मुंबई
 13. प्रो. के. नारायणन, आईआईटी बॉम्बे, मुंबई
 14. ओ.आर.जी.आई., नई दिल्ली से प्रतिनिधि
 15. डॉ. फरजाना अफरीदी, आईएसआई दिल्ली, नई दिल्ली
 16. निदेशक, एनएसओ(एस.सी.डी), MoSPI, नई दिल्ली
-

सम्पादकीय सचिवालय - सर्वेक्षण समन्वय प्रभाग,राष्ट्रीय सांख्यिकी कार्यालय, सांख्यिकी एवं कार्यक्रम कार्यान्वयन मंत्रालय, संख्यिकी भवन, महर्षि वाल्मीकि मार्ग, नईदिल्ली-110032

1. श्री अवधेश कुमार मिश्र, अपर महानिदेशक, एनएसओ (एस.सी.डी)
2. सचिन कुमार, संयुक्त निदेशक, एनएसओ (एस.सी.डी)
3. श्रीमती प्रियंका कुमारी, सहायक निदेशक, एनएसओ (एस.सी.डी)
4. श्री अजय रावत, वरिष्ठ सांख्यिकी अधिकारी, एनएसओ (एस.सी.डी)

सर्वेक्षण

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एनएसओ द्वारा जारी की गई रिपोर्ट की मुख्य बातें
(मुख्य बातें एनएसओ के एस.डी.आर.डी. प्रभाग द्वारा तैयार की गई सम्बंधित रिपोर्ट से
उद्धृतकी गई हैं। विवरण के लिए पाठक सम्बंधित मुख्य रिपोर्ट देख सकते हैं)

आवधिक श्रम बल सर्वेक्षण (जुलाई, 2017 - जून, 2018) संबंधी वार्षिक रिपोर्ट के मुख्य अंश

मुख्य अंश, आवधिक श्रम बल सर्वेक्षण (पीएलएफएस) की जुलाई, 2017 - जून, 2018 के दौरान एकत्रित सूचना पर आधारित हैं। यह सर्वेक्षण 1,02,113 परिवारों (ग्रामीण क्षेत्रों में 56,108 और नगरीय क्षेत्रों में 46,005) को कवर करते हुए और 4,33,339 व्यक्तियों (ग्रामीण क्षेत्रों में 2,46,809 और नगरीय क्षेत्रों में 1,86,530) की गणना करते हुए 7,014 गांवों और 5,759 नगरीय ब्लॉकों की 12,773 प्रथम चरण की इकाइयों (एफएसयू) में परिव्याप्त रहा ।

पीएलएफएस (जुलाई, 2017 - जून, 2018) की वार्षिक रिपोर्ट से संबंधित मुख्य अंश नीचे प्रस्तुत हैं:

क. परिवार और जनसंख्या

- भारत में करीब 70.7 प्रतिशत व्यक्ति ग्रामीण क्षेत्रों के हैं ।
- भारत में औसत परिवार आकार करीब 4.2 था । यह करीब 4.3 ग्रामीण भारत में और करीब 3.9 नगरीय भारत में था।
- भारत में लिंगानुपात (प्रति 1000 पुरुषों पर महिलाओं की संख्या) 956 था । यह नगरीय भारत में 965 और ग्रामीण भारत में 952 था।
- 15-29 वर्षों के उम्र के व्यक्तियों जिन्हें युवा माना गया, ग्रामीण पुरुषों का 27.4 प्रतिशत, ग्रामीण महिलाओं का 27 प्रतिशत, नगरीय पुरुषों का 28.2 प्रतिशत और नगरीय महिलाओं का 27.8 प्रतिशत था ।
- 2017-18 के दौरान, 15 वर्षों और उससे उपर के उम्र के 71.5 प्रतिशत ग्रामीण पुरुष, 73.8 प्रतिशत ग्रामीण महिला, 76.3 प्रतिशत नगरीय पुरुष और 77.7 प्रतिशत नगरीय महिला था।
- भारत में साक्षरता दर (7 वर्ष और उससे अधिक उम्र के व्यक्तियों में) 2017-18 के दौरान 76.9 प्रतिशत था।
- ग्रामीण और नगरीय दोनों क्षेत्रों में साक्षरता दर पुरुषों में महिलाओं से अधिक था : ग्रामीण क्षेत्रों में पुरुषों में साक्षरता दर 80.7 प्रतिशत और महिलाओं में साक्षरता दर

64.5 प्रतिशत था और नगरीय क्षेत्रों में साक्षरता दर महिलाओं की 81.6 प्रतिशत की तुलना में पुरुषों में 91.6 प्रतिशत था।

- 2017-18 के दौरान करीब 52.2 प्रतिशत ग्रामीण परिवारों के आय का प्रमुख स्रोत स्व.नियोजन था। 25 प्रतिशत ग्रामीण परिवारों का आय के प्रमुख स्रोत आकस्मिक मजदूरी था, और 12.7 प्रतिशत ग्रामीण परिवारों का आय के प्रमुख स्रोत नियमित मजदूरी/वेतन था।
- 2017-18 के दौरान करीब 32.4 प्रतिशत नगरीय परिवारों के आय का प्रमुख स्रोत स्व.नियोजन था। 11.8 प्रतिशत परिवारों का आय के प्रमुख स्रोत आकस्मिक मजदूरी था और 41.4 प्रतिशत ग्रामीण परिवारों का आय के प्रमुख स्रोत नियमित मजदूरी/वेतन था।

ख. श्रमबल

- करीब 54.9 प्रतिशत ग्रामीण पुरुषों, 18.2 प्रतिशत ग्रामीण महिलाओं, 57 प्रतिशत नगरीय पुरुषों और 15.9 प्रतिशत नगरीय महिलाओं सामान्य स्थिति (पीएस + एस एस) में श्रमबल में थे ।
- भारत में 15-29 वर्ष उम्र के व्यक्तियों में सामान्य स्थिति (पीएस + एसएस) में एलएफपीआर 38.2 प्रतिशत था : यह 38.1 प्रतिशत ग्रामीण क्षेत्रों में और 38.5 प्रतिशत नगरीय क्षेत्रों में था ।
- भारत में 15 वर्ष एवं उससे अधिक उम्र के व्यक्तियों में सामान्य स्थिति (पीएस + एस) में एलएफपीआर 49.8 प्रतिशत था: यह ग्रामीण क्षेत्रों में 50.7 प्रतिशत और नगरीय क्षेत्रों में 47.6 प्रतिशत था ।

ग. कार्यबल

ग.1 कामगार जनसंख्या अनुपात (डब्ल्यूपीआर)

- कामगार जनसंख्या अनुपात (डब्ल्यूपीआर) सामान्य स्थिति (पीएस + एसएस) में अखिल भारत स्तर पर करीब 34.7 प्रतिशत था। यह करीब 35 प्रतिशत ग्रामीण क्षेत्रों में और 33.9 प्रतिशत नगरीय क्षेत्रों में था।

- सामान्य स्थिति (पीएस + एसएस) में डब्ल्यूपीआर ग्रामीण पुरुषों के लिए 51.7 प्रतिशत था, ग्रामीण महिलाओं के लिए 17.5 प्रतिशत, नगरीय पुरुषों के लिए 53 प्रतिशत और नगरीय महिलाओं के लिए 14.2 प्रतिशत था।
- अखिल भारत स्तर पर वर्तमान साप्ताहिक स्थिति (सीडब्ल्यूएस) में डब्ल्यूपीआर करीब 32.7 प्रतिशत था: ग्रामीण क्षेत्रों में 32.6 प्रतिशत और नगरीय क्षेत्रों में 32.9 प्रतिशत। सीडब्ल्यूएस में डब्ल्यूपीआर ग्रामीण पुरुषों के लिए 49.6 प्रतिशत, ग्रामीण महिलाओं के लिए 14.8 प्रतिशत, नगरीय पुरुषों के लिए 51.7 प्रतिशत और नगरीय महिलाओं के लिए 13.3 प्रतिशत था।
- 15-29 वर्ष उम्र के व्यक्तियों में भारत में डब्ल्यूपीआर 31.4 प्रतिशत था: यह ग्रामीण क्षेत्रों में 31.8 प्रतिशत और नगरीय क्षेत्रों में 30.6 प्रतिशत था।
- 15 वर्ष एवं उससे अधिक उम्र के व्यक्तियों में भारत में डब्ल्यूपीआर 46.8 प्रतिशत था: यह ग्रामीण क्षेत्रों में 48.1 प्रतिशत और नगरीय क्षेत्रों में 43.9 प्रतिशत था।

ग.2 सामान्य स्थिति में कामगारों के बीच रोजगार की स्थिति (पीएस + एसएस)

- सामान्य स्थिति (पीएस + एसएस) में कामगारों के बीच स्व-रोजगार का शेयर ग्रामीण पुरुषों में करीब 57.8 प्रतिशत, ग्रामीण महिलाओं में 57.7 प्रतिशत, नगरीय पुरुषों में 39.2 प्रतिशत और नगरीय महिलाओं में 34.7 प्रतिशत था।
- सामान्य स्थिति (पीएस + एसएस) के कामगारों के बीच ग्रामीण पुरुषों में करीब 14 प्रतिशत, ग्रामीण महिलाओं में 10.5 प्रतिशत, नगरीय पुरुषों में 45.7 प्रतिशत और नगरीय महिलाओं में 52.1 प्रतिशत नियमित मजदूरी/वेतन पाने वाले कर्मी थे।
- सामान्य स्थिति (पीएस + एस) में कामगारों के बीच आकस्मिक मजदूरों का अनुपात ग्रामीण पुरुषों में करीब 28.2 प्रतिशत, ग्रामीण महिलाओं में 31.8 प्रतिशत, नगरीय पुरुषों में 15.1 प्रतिशत और नगरीय महिलाओं में 13.1 प्रतिशत था।

ग.3 सामान्य स्थिति (पीएस + एसएस) में कामगारों का कार्य उदोग

- ग्रामीण क्षेत्रों में पुरुष कामगारों का 55 प्रतिशत और महिला कामगारों का 73.2 प्रतिशत कृषि क्षेत्र में प्रयुक्त थे। ग्रामीण क्षेत्र में निर्माण सैक्टर में पुरुष एवं महिला कामगारों का अनुपात क्रमशः 14.5 प्रतिशत और 5.3 प्रतिशत था। 'विनिर्माण' क्षेत्र में

प्रयुक्त पुरुष और महिला कामगारों का अनुपात क्रमशः 7.7 प्रतिशत और 8.1 प्रतिशत था।

- नगरीय भारत में, 2017-18 के दौरान पुरुष कामगारों के बीच 'ट्रेड, होटल और रेस्टुरेंट सैक्टर' में करीब 24.5 प्रतिशत पुरुष प्रयुक्त थे, जबकि 'विनिर्माण' और 'अन्य सेवाओं' सैक्टर में क्रमशः करीब 22.4 प्रतिशत और 21.5 प्रतिशत प्रयुक्त थे।
- नगरीय क्षेत्रों में महिला कर्मियों के बीच 'अन्य सेवाएँ' सैक्टर (ट्रेड, होटल एवं रेस्टुरेंट और ट्रांसपोर्ट एवं कम्युनिकेशन सैक्टर के अलावा) कामगारों के अधिकतम अनुपात (44.4 प्रतिशत) शेयर किया, इसके उपरांत 'विनिर्माण' (25.2 प्रतिशत) और 'ट्रेड, होटल और रेस्टुरेंट' (13 प्रतिशत) शेयर किया।

ग.4 सामान्य स्थिति (पीएस + एसएस) में कामगारों का उपजीविका

- ग्रामीण क्षेत्रों में 9.1 प्रतिशत पुरुष कामगार और 8.7 प्रतिशत महिला कामगार निम्नलिखित उपजीविका प्रभागों में प्रयुक्त थे: प्रभाग 1: विधिकारों, वरीय कर्मचारियों एवं प्रबंधको, प्रभाग 2: पेशेवरों एवं प्रभाग 3: टेकनेशियन और सहयोगी पेशेवरों ।
- नगरीय क्षेत्रों में 30.4 प्रतिशत पुरुष कामगार और 34.6 प्रतिशत महिला कामगार निम्नलिखित उपजीविका प्रभागों में प्रयुक्त थे: प्रभाग 1: विधिकारों, वरीय कर्मचारियों एवं प्रबंधको, प्रभाग 2: पेशेवरों एवं प्रभाग 3: टेकनेशियन और सहयोगी पेशेवरों ।

ग.5 अनौपचारिक सैक्टर और सामान्य स्थिति (पीएस + एसएस) में कामगारों के रोजगार की अवस्था

- पीएलएफएस से अनौपचारिक सैक्टर में कामगारों का शेयर उद्योग समूहों/प्रभागों 014, 016, 017, 02 और 03 (एजीईजीसी सैक्टर) और उद्योग समूहों 05-99 (गैर-कृषि सैक्टर) में उपलब्ध है । उद्योग समूहों/प्रभागों 014, 016, 017, 02 और 03 कृषि सैक्टर में केवल फसल उगाना, पौधा प्रवर्धन, पशुओं के विशिष्ट उत्पादन के बिना फसल एवं पशुओं के संयुक्त उत्पादन को सम्मिलित नहीं किया गया । उद्योग समूहों/प्रभागों 014, 016, 017, 02 एवं 03 (जो आगे एजीईजीसी क्षेत्र के रूप में देखा जाय) कृषि क्षेत्र में हैं। भारत में सामान्य स्थिति (पीएस + एसएस) में 68.4 प्रतिशत कामगार गैर-कृषि और एजीईजीसी सैक्टर में अनौपचारिक क्षेत्र में लगे हुए

थे। पुरुष कामगारों के बीच अनौपचारिक क्षेत्र का शेयर करीब 71.1 प्रतिशत और महिला कामगारों के बीच अनौपचारिक क्षेत्र का शेयर 54.8 प्रतिशत था गैर-कृषि और एजीईजीसी सेक्टर में ।

- भारत में, गैर-कृषि क्षेत्र में नियमित मजदूरी/वेतन भोगी कर्मचारियों के बीच 71.1 प्रतिशत के पास कोई लिखित नौकरी संविदा नहीं था : 72.3 प्रतिशत पुरुषों में और 66.8 प्रतिशत महिलाओं में ।
- भारत में, गैर-कृषि क्षेत्र में नियमित मजदूरी/वेतन भोगी कर्मचारियों के बीच 54.2 प्रतिशत वेतन युक्त अवकाश के योग्य नहीं थे: 55.2 प्रतिशत पुरुषों में और 50.4 प्रतिशत महिलाओं में ।
- भारत में, गैर-कृषि क्षेत्र में नियमित मजदूरी/वेतन भोगी कर्मचारियों के बीच 49.6 प्रतिशत किसी सामाजिक सुरक्षा हितलाभ के पात्र नहीं थे: पुरुषों में 49 प्रतिशत एवं महिलाओं में 51.8 प्रतिशत ।

(घ) कामगारों के आय, कितने घंटे काम किया एवं अतिरिक्त कार्यों के लिए उपलब्ध घंटे ।

कामगारों के आय, कितने घंटे काम किया एवं अतिरिक्त कार्यों के लिए उपलब्ध घंटे ग्रामीण क्षेत्रों में किए गए अनुसूची के पहले दौर पर इक्ठे किए गए आंकड़ों पर आधारित है । नगरीय क्षेत्रों में अनुसूची के पहले दौर पर और पुनः दौरों पर इक्ठे किए गए आंकड़ों पर आधारित है जो जुलाई - सितंबर 2017, अक्टूबर- दिसंबर 2017, जनवरी - मार्च 2018 और अप्रैल - जून 2018 की अवधियों के लिए थे।

रोजगार से आय पर सूचना सभी वर्गों के कामगारों के लिए इक्ठे की गयी, जैसे स्व-कार्यरत व्यक्ति, नियमित मजदूरी/वेतन भोगी कर्मचारी एवं आकस्मिक श्रमिक। सीडब्ल्यूएस में नियमित मजदूरी/वेतन भोगी व्यक्तियों के लिए आय पर सूचना पूर्ववर्ती केलेण्डर माह के लिए इक्ठे की गयी, सीडब्ल्यूएस में स्व-रोजगार व्यक्तियों के लिए आय पर सूचना पिछले 30 दिनों के लिए इक्ठे की गयी एवं आकस्मिक श्रमिक के लिए आय पर सूचना संदर्भ हफ्ते के प्रतिदिन के लिए इक्ठे की गयी।

घ.1 कामगारों के आय

- ग्रामीण क्षेत्रों में, सीडब्ल्यूएस में नियमित मजदूरी/वेतन भोगी कर्मचारियों के बीच, पूर्ववर्ती केलेण्डर माह के दौरान हुई आय की रेंज पुरुषों में 13 हजार से 14 हजार के बीच की रही एवं महिलाओं के बीच यह रुपये 8.5 हजार से रुपये 10 हजार के बीच की रही सर्वेक्षण अवधि के जुलाई - सितंबर 2017, अक्टूबर- दिसंबर 2017, जनवरी - मार्च 2018 और अप्रैल - जून 2018 के बीच में।
- नगरीय क्षेत्रों में, सीडब्ल्यूएस में नियमित मजदूरी/वेतन भोगी कर्मचारियों के बीच, पूर्ववर्ती केलेण्डर माह के दौरान हुई आय की रेंज पुरुषों में 17 हजार से 18 हजार की थी एवं महिलाओं के बीच रुपये 14 हजार से 15 हजार तक थी सर्वेक्षण अवधि के जुलाई - सितंबर 2017, अक्टूबर- दिसंबर 2017, जनवरी - मार्च 2018 और अप्रैल - जून 2018 के बीच में।
- ग्रामीण क्षेत्रों में, आकस्मिक श्रमिक की औसतन प्रतिदिन की आय जो कि सर्वजनिक कार्यों के अतिरिक्त अन्य कार्यों में कार्यरत थे, पुरुषों में ₹.253 से ₹.282 एवं महिलाओं के बीच करीब ₹.166 से ₹.179 थी सर्वेक्षण अवधि के जुलाई - सितंबर 2017, अक्टूबर-दिसंबर 2017, जनवरी - मार्च 2018 और अप्रैल - जून 2018 के बीच में। नगरीय क्षेत्रों में, आकस्मिक श्रमिक की औसतन प्रतिदिन की आय जो कि सर्वजनिक कार्यों के अतिरिक्त अन्य कार्यों में कार्यरत थे, पुरुषों में ₹.314 से ₹.335 थी एवं महिलाओं में करीब ₹.186 से ₹.201 की थी।
- ग्रामीण क्षेत्रों में, आकस्मिक श्रमिक की औसतन प्रतिदिन की आय जो कि एमजीएनआरईजी सर्वजनिक कार्यों में कार्यरत थे, रेंज प्रतिदिन ₹.141 से ₹.171 के बीच थी एवं महिलाओं के बीच ₹.131 से ₹.165 के बीच थी सर्वेक्षण अवधि के जुलाई - सितंबर 2017, अक्टूबर- दिसंबर 2017, जनवरी - मार्च 2018 और अप्रैल - जून 2018 के बीच में।
- ग्रामीण क्षेत्रों में, आकस्मिक श्रमिक की औसतन प्रतिदिन की आय जो कि सर्वजनिक कार्यों में एमजीएनआरईजी कार्यों के अलावा कार्यरत थे, रेंज प्रतिदिन ₹.138 से ₹.158 के बीच थी जबकि महिलाओं के बीच ₹.119 से ₹.144 के बीच थी सर्वेक्षण अवधि के जुलाई-सितंबर 2017, अक्टूबर-दिसंबर 2017, जनवरी-मार्च 2018 और अप्रैल-जून 2018 के बीच में।

- ग्रामीण क्षेत्रों में पिछले कैलेण्डर माह के दौरान औसतन सकल आय सीडब्ल्यूएस में स्व-कार्यरत कामगारों द्वारा किए गए स्व-कार्यरत कार्य से आय की रेंज, पुरुषों में रु.8500 से रु.9700 के बीच थी जो की महिलाओं में करीब रु.3900 से रु.4300 के बीच थी सर्वेक्षण अवधि के जुलाई-सितंबर 2017, अक्टूबर-दिसंबर 2017, जनवरी-मार्च 2018 और अप्रैल-जून, 2018 के बीच में। पिछले कैलेण्डर माह के दौरान नगरीय क्षेत्रों में स्व-रोजगार के कार्य की सकल औसतन आय पुरुषों में करीब 16 हजार थी एवं महिलाओं में यह रु.6500 से रु.7500 तक थी ।

घ.2 वर्तमान साप्ताहिक स्तर (सीडब्ल्यूएस) में संदर्भ हफ्ते के दौरान कामगारों द्वारा कितने घंटे कार्य किया गया

- ग्रामीण क्षेत्रों में, एक हफ्ते में सीडब्ल्यूएस में एक कामगार ने औसतन करीब सर्वेक्षण अवधि के जुलाई 2017 से जून 2018 के दौरान 48 घंटे कार्य किया एवं नगरीय क्षेत्रों में, एक हफ्ते में इस अवधि के दौरान, 56 घंटे कार्य किया ।

घ.3 वर्तमान साप्ताहिक स्थिति (सीडब्ल्यूएस) में कामगारों का अतिरिक्त कार्यों के लिए उपलब्ध समय

- ग्रामीण क्षेत्रों में, जुलाई-सितंबर 2017 के दौरान सीडब्ल्यूएस में 10.7 प्रतिशत कामगारों ने अतिरिक्त कार्य की उपलब्धता की रिपोर्ट दर्ज करवायी। सर्वेक्षण अवधि (जुलाई 2017 से जून 2018) में जिन कामगारों के प्रतिशत अतिरिक्त कार्य की उपलब्धता दर्ज करवायी थी उस में कमी नजर आयी एवं अप्रैल-जून 2018 में करीब 4.6 प्रतिशत कामगारों ने सीडब्ल्यूएस में अतिरिक्त कार्य की उपलब्धता दर्ज करवायी।
- ग्रामीण क्षेत्रों में, जुलाई 2017 - जून 2018 के दौरान सीडब्ल्यूएस में कामगारों में उपलब्ध अतिरिक्त कार्य की रेंज 11 घंटे से 13 घंटों के बीच थी जो की अतिरिक्त कार्य हेतु उपलब्ध थे ।
- नगरीय क्षेत्रों में, जुलाई-सितंबर 2017 के दौरान सीडब्ल्यूएस में करीब 9 प्रतिशत कामगारों ने अतिरिक्त कार्य की उपलब्धता की रिपोर्ट दर्ज करवायी। सर्वेक्षण अवधि (जुलाई 2017 से जून 2018) में जिन कामगारों के प्रतिशत अतिरिक्त कार्य की उपलब्धता दर्ज करवायी थी उस में कमी नजर आयी एवं अप्रैल-जून 2018 में करीब

3.1 प्रतिशत कामगारों ने सीडब्ल्यूएस में अतिरिक्त कार्य की उपलब्धता दर्ज करवायी।

- नगरीय क्षेत्रों में, जुलाई 2017-जून 2018 के दौरान सीडब्ल्यूएस में कामगारों में उपलब्ध अतिरिक्त कार्य की रेंज 10 घंटे से 14 घंटों के बीच थी जो की अतिरिक्त कार्य हेतु उपलब्ध थे ।

ड. बेरोजगार दर

- सामान्य स्थिति (पीएस+एसएस) में ग्रामीण क्षेत्रों में पुरुषों में बेरोजगार दर 5.8 प्रतिशत था एवं महिलाओं में 3.8 प्रतिशत जबकि नगरीय क्षेत्रों में यही दर पुरुषों में 7.1 प्रतिशत एवं महिलाओं में 10.8 प्रतिशत था ।
- सीडब्ल्यूएस में, ग्रामीण क्षेत्रों में बेरोजगार दर पुरुषों के बीच 8.8 प्रतिशत था एवं महिलाओं के बीच 7.7 प्रतिशत था जबकि नगरीय क्षेत्र में पुरुषों में यह दर 8.8 प्रतिशत और महिलाओं में यह 12.8 प्रतिशत था ।
- 15 वर्षों और उससे उपर के उम्र के शिक्षित ग्रामीण पुरुषों एवं ग्रामीण महिलाओं के लिए (माध्यमिक एवं उसके उच्चतर का अधिकतम शिक्षा का स्तर), सामान्य स्थिति (पीएस+एसएस) में बेरोजगार दर क्रमवार 10.5 प्रतिशत और 17.3 प्रतिशत थे ।
- 2017-18 में नगरीय क्षेत्रों में, 15 वर्षों और उससे उपर के उम्र के शिक्षित पुरुषों के लिए बेरोजगार दर 9.2 प्रतिशत था एवं शिक्षित महिलाओं के बीच बेरोजगार दर 19.8 प्रतिशत था ।
- 2017-18 के दौरान बेरोजगार दर ग्रामीण युवा पुरुष (15-29 वर्ष) में 17.4 प्रतिशत था जबकि यह बेरोजगार दर ग्रामीण युवा महिला में 13.6 प्रतिशत था । 2017-18 के दौरान बेरोजगार दर नगरीय युवा पुरुष में 18.7 प्रतिशत था एवं यही बेरोजगार दर नगरीय युवा महिला के लिए 27.2 प्रतिशत था ।

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