

Methods



In the Introduction, we formulated India's challenge as one of completing a dual structural transformation, from agrarian to an industrial economy, and from a largely informal to a formal economy, under significant constraints of equity and ecology. Employment policy can contribute to all dimensions of this process. Where, for whom, and how good the jobs are, together determine the nature of the transformation that the economy undergoes.

A National Employment Policy can take the necessary broad and comprehensive approach needed. Here we discuss what each of the principal sectors needs and can offer. It should be emphasised that our focus is on the question of employment and structural change, not on sectoral policies or reform in general. We also discuss the attendant question of fiscal policy.

Data

Table 1 gives details of all surveys from which unit-level data have been used. In the report text, we refer to surveys conducted over a fiscal year by the first of the two calendar years for ease of reading. For example, a survey conducted in 2011-12 is referred to by the year 2011.

In addition to unit-level data, we have also drawn upon several published reports from different sources.

- The partial, high frequency, establishment surveys conducted by the Labour Bureau,

known as the Quarterly Employment Surveys (QES) cover establishments with more than 10 workers. Thus these are mainly used for estimates of organised employment. We use these surveys to supplement our estimates for the most recent two years, particularly for the organised service sector industries, for which other data sources at the establishment level are not available. The most recent series of the QES which starts in 2016 covers 10,600 units and 8 sectors covering all the States/UTs in the country. The eight selected sectors constitute around 81 per cent of the total employment of units with 10 or more workers. The sampling frame is from the 2013 Economic Census. The reports are available at <http://labourbureaunew.gov.in>.

- The Reserve Bank of India publishes monthly data on rural wage rates for men. These are collated from reports submitted by various state-level Ministries of Labour. They are available at <http://dbie.rbi.org.in/>.
- The Centre for Monitoring the Indian Economy (CMIE) along with the Bombay Stock Exchange (BSE) have been conducting large sample employment surveys since 2016. The results of these surveys are available as a set of reports titled 'Unemployment in India: A Statistical Profile' at <https://unemploymentinindia.cmie.com/>.
- Internationally comparable industry level data for India on employment, output, and productivity are available via the RBI-KLEMS database at https://rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=43504.



Table 1 : Details of Surveys Used in the Analysis

	Employment Surveys	NSS Unorganised Enterprises Surveys	ASI Organised Enterprises Surveys
Unit of analysis	Household	Enterprise	Factory (manufacturing industries) , workshop (repair services), undertaking or a licensee (electricity, gas and water supply), establishment in the case of bidi and cigar industries
Survey Rounds & Years	NSS-EUS 61st Round (2004-05), 68th Round (2011-12) and LB-EUS 5th Round (2015-16)	NSS 51st Round (1994-95) 55th Round (1999-2000), 62nd Round (2005-06) 67th Round (2010-2011) and 73rd Round (2015-16)	1983 to 2016 for NIC-3 digit data, 2000-2014 for factory data
Sectoral Coverage	All sectors	NSS 51st Round – unorganised manufacturing enterprises NSS 55th Round – non-agricultural informal sector NSS 62nd Round – unorganised manufacturing enterprises NSS 67nd Round and 73rd Round surveys – unincorporated manufacturing and services	Factories registered under Factories Act, 1948, Bidi and cigar manufacturing establishments registered under the Bidi and Cigar Workers (Conditions of Employment) Act 1966, Electricity undertakings not registered with the Central Electricity Authority (CEA)
Geographic coverage	National	National	National
Exclusions	N.A.	Organised enterprises in manufacturing and services, Construction (included only in 55th Round), agricultural enterprises.	Defence establishments, oil storage and distribution depots, departmental units such as railway workshops, Road Transport Corporation workshops, sanitary, water supply, gas storage etc



Comparability of Recent Labour Bureau Surveys with NSS

The National Sample Survey (NSS), under the auspices of the Ministry of Statistics and Program Implementation, has conducted nine comprehensive quinquennial household-level surveys from 1972-73 to 2011-12 with the objective of generating national and state-level estimates of aspects relating to employment and unemployment. The most recent one was conducted in 2011-12.

From 2009-10, the Labour Bureau, under the Ministry of Labour and Employment, has been conducting similar surveys, although some of the earlier surveys have been limited in their coverage. There have been five such surveys (2009-10, 2011-12, 2012-13, 2013-14 and 2015-16). Of these, unit-level data is available only for the fourth (2013-14) and fifth (2015-16) rounds. Therefore, LB-EUS fifth round provides the most recent, nationally representative employment-related information.

Since the LB-EUS and the NSS-EUS are conducted by different organisations and based on different questionnaires, the issue of comparability naturally arises. Here we describe some differences in the two surveys and provide a justification for comparability.

The fieldwork for NSS surveys typically runs over a one-year duration. For example, during the 68th (2011-12) Round, fieldwork started on 1st July, 2011 and ended on 30th June 2012. The LB-EUS fieldwork is shorter in duration. For example, LB EUS 2011-12 started in August 2011 and was completed by January 2012. This change in time period has implications for the collection of employment data, particularly for casual and seasonal workers.

The schedules of the two surveys also have some notable differences. Firstly, the Labour Bureau EUS collects activity status information only for individuals aged 15 years and above, while the NSS EUS collects this information for all individuals in the household. Therefore, data on children's activity statuses, particularly child labour cannot be gleaned from the LB-EUS.

Secondly, the Labour Bureau schedule has a few changes specifically in the economic activity statuses. The category of "contract worker" has been introduced. The Labour Bureau schedule also distinguishes casual workers by their enterprise/industry – public/private/agriculture. Finally, the LB has only one category for domestic duties, whereas NSS-EUS differentiates between domestic duties and subsistence activities.

Thirdly, with respect to earnings information, the NSS-EUS collects monthly per capita expenditure data via an abridged version of the consumption expenditure schedule. The Labour Bureau schedule however, assigns households to a broad income category with categories ranging from 'Upto ₹ 5000' to 'above ₹ 1,00,000'. Wage earnings have also been reduced to a similar discrete categorization in the LB. However, unlike in the NSS-EUS, earnings information (although categorical) is available for the self-employed workers as well.

In terms of sample design, both the surveys adopted a stratified multi-stage design. The selection process of FSUs are based on the 2011 census villages for the rural areas and the urban frame survey (UFS) for urban areas in both surveys. The only other minor difference in methodology between both the surveys is in terms of sub-stratification. At the broader level, both the surveys categorize their sample as urban or rural. The LB-EUS report does not explain the further stratifications that



they have conducted. In terms of sample size, allocation of sample to states/UTs, selection and formation of hamlet groups and second stage strata and so on, both the surveys have followed the same procedure.

We can directly check the comparability issue for the year 2011-12 since both surveys were conducted in this year. Table 2 shows that the distribution of activity statuses are broadly similar across the two surveys.

The NSS-EUS 2011 estimates female LFPR (principal status) at 23.4 and male at 79. The comparable numbers for LB EUS are female LFPR of 25.3, and male, 77.2.

The distribution of employment type is also broadly similar across surveys with NSS reporting 38.9 per cent men as self-employed, 15.5 per cent as regular workers, 22.8 per cent as casual workers, and the LB reporting 37.3, 15.4 (including contract workers) and 22 respectively.

Lastly, in classifying workers in formal versus informal activity also both surveys are within one or two percentage points of each other.

Since the LB-EUS method has not changed in its subsequent iterations, we feel that comparing the estimates of the 2011-12 NSS-EUS with those of the 2015-16 LB-EUS is justified.

Table 2 : **Detailed Activity Status, NSS EUS 2011-12 and LB EUS 2011-12**

	NSS 2011-12		LB 2011-12		
	Men	Women		Men	Women
Own Account Worker	29.55	3.98	Home-based worker	30.1	4.5
			OAW other than home-based	1	0.9
Employer	1.41	0.11	Employer	0.5	0.1
Unpaid Worker	7.97	7.09	Unpaid Worker	5.7	5
Regular Salaried	15.45	3.78	Regular Salaried	11.6	2.9
			Contract	3.8	1
Casual - public	0.59	0.3	Casual - public	1.5	0.5
Casual - other	22.21	7.23	Casual - other	20.8	8.7
Seeking Work	1.9	0.86	Seeking Work	2.2	1.7
Attending educational institution	13.94	9.81	Education, Domestic , all other non-economic activities	22.6	74.6
Domestic Duties	0.23	32.74			
Domestic Duties & free collection	0.24	28.18			
Rentier, pensioners etc	2.68	1.52			
Not able to work	1.63	1.59			
Others	2.21	2.81			



Estimating Absolute Size of the Labour Force and Workforce

Absolute numbers are generated by applying the shares estimated from the surveys on absolute population totals based on census projections.

For example, for 2015 all-India and state-level estimates of total working age population are derived from population projections based on Census 2011 available in available in LB-EUS 2015 Report (Volume 1, Annexure III) . The labour force participation rate derived from unit-level data is then applied on the total working age population numbers to arrive at the absolute size of the labour force. Other statistics such as unemployment and workforce at the all-India level are computed similarly.

At the state-level, state-level absolute numbers of labour force are generated by first estimating the states' share in all-India labour force from the unit-level data. This share is then applied on the all-India labour force number to derive the state-wise absolute labour force numbers. This ensures that all absolute estimates of labour force are internally consistent. Other state-level absolute numbers such as unemployed workers and workforce are derived similarly.

For 2011-12, the total all-India working age population is derived by extrapolating from the Census working age population for 2011, assuming a constant rate of growth. The numbers thus estimated are similar to the estimates of Ghose (2016). The labour force participation rate, estimated from the NSS EUS 2011-12, is applied on the absolute working-age population to arrive at the absolute labour force. The other absolute numbers and state-level estimates are derived using the same methods as for the 2015 data.

Deflators

All rupee amounts are quoted in lakhs and crores. Real values are reported in 2015 rupees, unless otherwise specified. Deflators used at the all-India level are CPI-Agricultural Labourers and CPI-Industrial Workers for wages, WPI-Manufactured Products for value-added and WPI-Machines and Machinery for capital. The indices are sourced from the RBI Handbook of Statistics on the Indian Economy and are rebased to 2015 prices using a linking factor.

State-level wages are deflated using the combined CPI (Rural and Urban combined) index, available from the RBI Database on Indian Economy. CPI (base-2010) extends from 2011 to 2014. CPI (base - 2012) extends from 2013 to 2016. The two series are linked using a common year (2013) and subsequently, a continuous CPI series going from 2011 to 2016 with the base year 2013 is created. This series is then rebased to 2015.

Industry and Occupation Codes

For occupations, the 2004 National Classification of Occupations (NCO) is used at the most aggregated one-digit level. We only analyse occupational distributions for 2011-12 and 2015-16.

The National Industrial Classification (NIC) 2008 is used for analysis of the post 2008 period. For analyses that require a longer, comparable time series, the Economic and Political Weekly Research Foundation's harmonised 3-digit NICs are used.

