

# Work and Welfare

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## Work and Welfare

Nitin Desai<sup>1</sup>

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### Abstract

Labour is one of the two primary factors determining the level and growth of output. Historically, every episode of growth acceleration has been associated with labour force growth and, even more importantly, with improvements in the quality of the labour force in terms of skills and also in terms of health and living conditions. Employment is the principal means through which individuals acquire a right to an income and the fruits of growth. The extent to which the growth process delivers employment on the scale needed to absorb the increase in the labour force and the manner in which the operations of the labour market and the capital market distribute the fruits of growth between workers, employers and owners of capital is a crucial factor in the state of welfare of the population. Hence, what follows explores the links between employment and two key objectives of development—growth and equity.

**Keywords** Employment · Productivity · Wage share · Inequality · India–China comparison · Demographic dividend

### 1 The Employment Challenge

Jobless growth is considered by many to be one of the principal development challenges facing India. It is a major bone of contention in the political space and in vigorous disputes between data warriors. In recent months, we have seen an argument

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Shri V V Giri, the fourth president of the Republic of India, was a freedom fighter not just in India but also in Ireland where he went as a student. He was a great labour leader who headed the All India Railwaymen's Federation and the All India Trade Union Congress. It is an honour and a privilege to dedicate this address on work and welfare to his memory.

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in the press between these data warriors about the impact of demonetisation on employment. The reality is that the quality of the employment data and the timing of its availability make it difficult to make such short-term judgements about what is happening to employment now and in the recent past, leave alone being able to attribute it to specific causes. One reason for this is that short-term fluctuations in employment take place largely in the informal sector for which data availability is particularly poor. In the case of demonetisation, we have had press reports of severe setbacks in informal sector employment and it is very likely that this impact is not adequately captured in the labour market data systems.

The principal source of information on employment conditions in India is the NSSO Surveys of Employment and Unemployment which came out roughly every 5 years and has been replaced by similar Labour Bureau Surveys that have been coming out on an annual basis for the last few years. However, the published reports convey information in a form that makes it difficult to identify the finer changes in employment condition. A task force has recently been set up to revamp the labour statistics system so as to produce information more useful for policy making.

It is widely believed that job growth is not keeping pace with labour force growth. Yet the reported unemployment figures show virtually no trend over long periods of time as is clear from Fig. 1.

If one looks at the last 15 years, it would appear that unemployment amongst new entrants to the work force (age group 15–24) has remained near constant around 9–10% and amongst older workers (aged 25 and over) around 2–3%.<sup>1</sup>

A comparison between the Census figures of persons seeking work and the NSS Survey figures of unemployment in the census years given in Table 1 shows a very large difference. The percentages if applied to the population figures of the 2011 Census yield a difference of about 40 million (Figs. 2, 3, 4, 5).

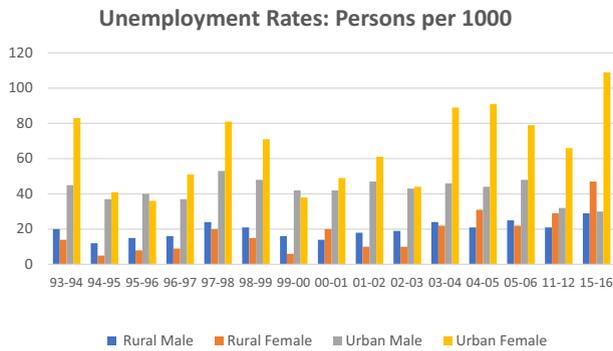
Recent trends in employment growth can be assessed from the Labour Bureau's Surveys of the Employment and Unemployment Situation (EUS) and the Quarterly Employment Surveys (QES). The picture that emerges is of stagnant employment growth and some indications that the situation has worsened in recent years. Estimates indicate an employment loss in the range of 37–53 lakhs. The unemployment rates reported in the EUS also show a rise from 3.8% in 2011–2012 to 5% in 2015–2016.<sup>2</sup>

The unchanging unemployment numbers cannot be treated as evidence to argue that India does not have an unemployment problem. In a country where there is no unemployment insurance, open unemployment is not an option and people do some sort of work in order to survive. As has been argued,<sup>3</sup> India does not have jobs problem but wages problem. Hence, when we speak of jobless growth, we are really talking about the lack of growth in jobs that provide a wage that allows a good standard of living and rises in line with economic growth, that includes the rights to some

<sup>1</sup> These numbers are from the ILO database whose estimates are anchored in available survey data with interpolations for the years for which such survey data are not available.

<sup>2</sup> Vinoj Abraham, *Stagnant Employment Growth*, Economic & Political Weekly SEPTEMBER 23, 2017 vol III no 38.

<sup>3</sup> Manish Sabharwal, *Jobs Facts and Fiction*, Indian Express, July 18, 2017.



**Fig. 1** Unemployment Rates 93-94 to 15-16. *Source:* Employment & Unemployment Situation in India 2005-06 NSS 62nd Round, NSSO, Govt. of India, 2008; Employment & Unemployment Situation in India, 2011-12 NSS 68th Round, NSSO, Govt. of India, 2014; Report on the Fifth Annual Employment-Unemployment Survey 2015-16, Labour Bureau, Govt. of India, Sept 2016

**Table 1** Non-workers seeking work in every 1000 persons aged 15 and above

	Rural male	Urban male	Rural female	Urban female
Census 2001	44	84	54	106
NSS (1999–2000)	15	35	5	12
Census 2011	48	61	79	94
NSS (2011–2012)	14	23	6	11

Census number refer to non-workers seeking or available for work

NSS numbers are for those termed unemployed

*Source:* Kannan Kasturi, Comparing Census and NSS Data on Employment and Unemployment, Economic & Political Weekly, Vol. 50, Issue No. 22, 30 May, 2015

social security benefits and that offers safe and healthy working conditions, which, in ILO terminology, would be called decent work.

A recent exercise, the India Employment Report 2016,<sup>4</sup> which uses unit level data from the NSSO Surveys provides a nuanced and richer analysis. Some of the key results from this analysis are summarised below:

1. The annual growth of the labour force has fallen from 1.8% during 1983/1984–1999/2000 to 1.4% during 1999/2000–2011/2012. This is attributable partly to the decline in child labour and the falling labour participation rate of working age women both of which may be due to rising household incomes.
2. Though there was a youth bulge in the population, there was no corresponding youth bulge in the workforce and therefore no demographic dividend. Between 1983 and 2011, the dependency ratio increased from 2.6 to 2.8

<sup>4</sup> Ajit K Ghose, *India Employment Report, 2016*, Institute for Human Development and Oxford University Press, Delhi, 2016.

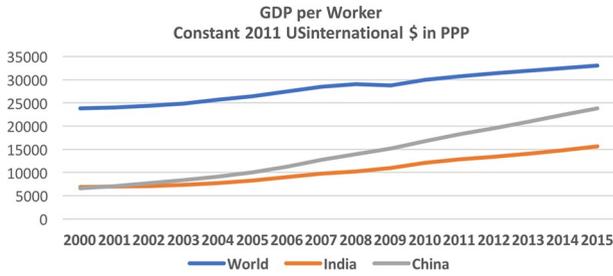


Fig. 2 GDP per Worker: World, India and China

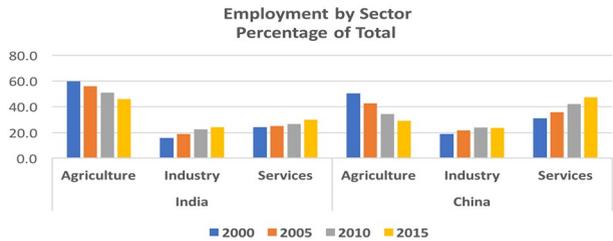


Fig. 3 Unemployment by Sector

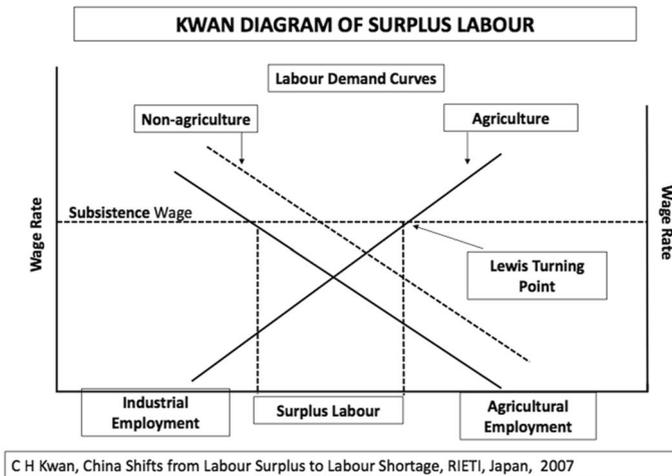
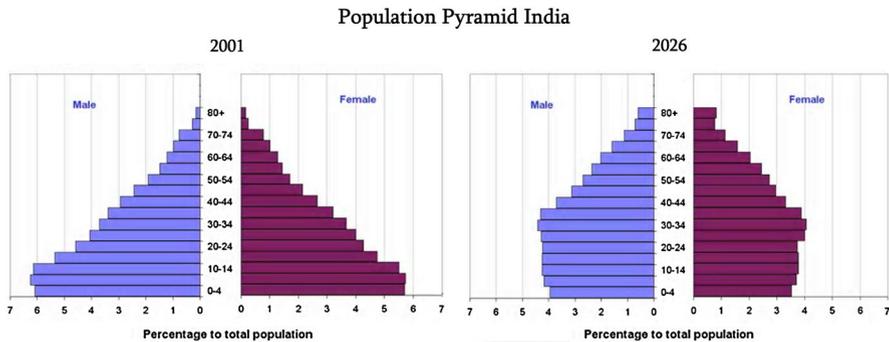


Fig. 4 Kwan Diagram of Surplus Labour

3. The average level of education of the workforce is very low and distributed in a distorted way with a disproportionately large number of poorly educated workers (26.6% illiterate or near illiterate in 2011/12) and, relative to this, a disproportionately large number with tertiary education (12.2% in 2011/12).
4. There was some improvement in employment conditions with an increase in the share of the organised sector (from 17% in 1999/2002 to 25.7% in 2011/2012) and



**Fig. 5** Population Projections for India for 2026. *Source:* Population Projections for India and States, Registrar-General of India, New Delhi, May 2006

an increase in regular (as opposed to casual) employment (from 17% in 1999/2000 to 21.4% in 2011/2012).

5. Earnings per worker increased by 2.3% per year in the organised sector and 4.2% per year in the unorganised sector between 1999/2000 and 2011/2012.
6. Gender inequality in work declined between 1999/2000 and 2011/2012 as the improvement in employment conditions for women was larger than for men.
7. The limited evidence available suggests that the improvement in employment conditions continued to 2014/2015 but not necessarily beyond that.

China is a country which in terms of size and employment challenge is broadly comparable to India. A comparison between the two countries on employment performance based on data from ILO Stat over the past 15 years or so illuminates some key areas of policy concern.

1. In 2000, India and China had a comparable level of labour productivity at about \$6850 and \$6600, respectively, as GDP per worker in PPP dollars, which was about one-fourth of the global average. Fifteen years later China has raced ahead to reach \$23,850, which is 72% of the world average, while India has reached \$15,650, 47% of the world average.
2. The sectoral composition of employment has changed substantially in China with a decline in employment in agriculture from 50 to 29%, while the corresponding figure for India is from 60 to 46%. One surprise in the ILO data is that the two countries are more or less comparable in terms of the proportion employed in industry (defined as manufacturing plus electricity, gas and water and construction), but China has a much higher proportion employed in the service sector. A more detailed comparison of the distribution of employment by economic activity shows that that India has a larger proportion of its work force in manufacturing than China and China has a much higher proportion in wholesale and retail trade.
3. Some of the other striking differences in the employment situation in the two countries are presented in Table 2.

**Table 2** Employment Situation: India, China & the World

Category	India	China	World
	Employment status 2015		
Employees	18.9	65.2	54.5
Own-account workers	65.8	27.7	33.2
Family workers	14.1	5.6	9.8
Year	Percentage of high-skill workers		
2000	15.2	7.9	7.7
2005	16.2	8.6	8.7
2010	17.6	12.5	10.3
2015	18.9	14.9	11.9
Year	Female labour participation rate		
2000	33.8	71.2	52.0
2005	36.8	66.9	51.9
2010	28.6	63.7	50.0
2015	26.8	63.6	49.6

Source ILOStat

The proportion of workers who are employees is much higher in China, while in India nearly two-third of the labour force are own-account workers. The other big difference is in the female labour participation rate which is much higher in China than in India. India has an exceptionally high proportion of its workers in the high-skill category relative not only to China but to the world average.

Both China and India have labour markets that operate in a dual economy with surplus rural labour that moves into non-agricultural occupations over time. It is a process described by Arthur Lewis more than 60 years ago. A compact way of describing this process is given in the diagram designed by C H Kwan. In this diagram, the *X* axis is the labour force with agricultural employment being measured from right to left and non-agricultural employment from left to right. The two downward sloping demand curves intersect with the “subsistence” wage to give the equilibrium employment level in non-agriculture and agriculture. The “subsistence” wage may change because of policy-induced impacts, but will be exogenously set as long as the surplus labour situation prevails. At the same time, wages for some categories of labour which are not in surplus could be market-determined.

The difference between labour supply measured by the horizontal axis and the equilibrium employment in agriculture and non-agriculture is the surplus labour. This surplus may well be hidden as underemployment in low or even zero productivity absorption in family enterprises or make-work type employment. As non-agricultural sector expands and generates employment, its demand curve for labour shifts to the right reducing the quantum of surplus labour. When this curve shifts to the point where full employment prevails at the subsistence wage, the economy has reached what is called the Lewis turning point. Beyond this point, wages both in the non-agricultural sector and agriculture become market-determined and start

rising. Some analysts have argued that China has already reached this point. But the broader consensus is that it will reach this point between 2020 and 2025.

A rough calculation of surplus labour in India, based on an assessment of make-work type employees in the non-agricultural informal sector and the numbers who could be employed in agriculture at a decent wage, came up with an estimate of 85 million as of 2005.<sup>5</sup> A recent, more careful estimate<sup>6</sup> has placed the backlog of surplus labour at 117 million as of 2014–2015. This consists of three components:

- Fifty-two million currently employed in make-work type activities who can be withdrawn from their existing activity without any loss of output as their productivity is close to zero. This happens as open unemployment is hardly possible, and those who cannot find suitable work are absorbed into family farms or businesses or eke out a living with marginal activities.
- Fifty-two million who are not in the labour force at present but who have the capacity and willingness to work if suitable opportunities are made available. A large proportion of this consists of women who have useful skills but are not in the labour force mostly for lack of opportunities. This is likely to change with industrialisation and urbanisation.
- Thirteen million who are explicitly unemployed.
- Seventy-eight percentage of the surplus consists of female workers.

Looking ahead the employment challenge that India faces for ensuring equitable growth involves the following elements:

- The backlog of surplus labour whose numbers have been put at 117 million.
- An average annual increase in the labour force/working age population of 6–8 million.
- Large numbers with low skills who cannot be absorbed in the new jobs that may be created in industry and services.
- A wage determination process tilted in favour of employers except perhaps in the public sector and to a limited extent in the private corporate sector.

## 2 Employment and Growth

From the perspective of the link between employment and growth, what matters is the contribution of labour to economic growth and the sectoral pattern of absorption of the growth in the labour force. This has commonly been done within a production function-based growth accounting framework (Tables 3 and 4).

<sup>5</sup> Nitin Desai *Demographic Dividend or Debt*, Eleventh JRD Tata Memorial Oration, March 26, 2010 at the Population Foundation of India, reproduced in *Building from the bottom: Infrastructure and Poverty Alleviation*, ed. Sameer Kochar & M. Ramachandran, Academic Foundation, New Delhi, 2010. pgs.143-167.

<sup>6</sup> Ajit K Ghose, *India Employment Report, 2016*, Institute for Human Development and Oxford University Press, Delhi, 2016 pg 41-42.

**Table 3** Sources of growth India 1980–1981 to 2014–2015

	1980–1981 to 1993–1994	1994–1995 to 2002–2003	2003–2004 to 2014–2015	1980–1981 to 2014–2015
Growth rate in aggregate real GVA	5.21	5.49	7.7	6.16
Contribution of labour input				
Persons employed	1.10	0.78	0.55	0.82
Labour quality (composition)	0.75	0.63	0.80	0.73
Contribution of capital input				
Capital stock	2.29	2.84	4.22	3.12
Capital quality (composition)	0.41	0.27	0.28	0.33
TFP growth	0.66	0.97	1.84	1.16
Share of TFP growth	12.60	17.74	23.96	18.82

All growth rates are averages of annual log differences

*Sources:* Goldar B et al., Productivity growth in India since the 1980s: the KLEMS approach, Indian Economic Review, 2017-2, Delhi School of Economics and Springer, Authors' computations from India KLEMS dataset, 2016

**Table 4** States grouped by female labour force participation rate

	More than 10% below all India average	All India average $\pm$ 10%	More than 10% above all India average
Rural	Jammu & Kashmir, Punjab, Uttar Pradesh, Himachal Pradesh, Delhi, West Bengal, Goa, Gujarat, Uttarakhand, Odisha, Assam	Kerala, Haryana	Karnataka, Rajasthan, Maharashtra, Telengana, Meghalaya, Tamil Nadu, Manipur, Arunachal Pradesh, Andhra Pradesh, Tripura, Jharkhand, Sikkim, Chhattisgarh, Nagaland, Mizoram
	Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan, Gujarat, Uttarakhand, Punjab, Jammu & Kashmir, Delhi, Haryana, Maharashtra, Odisha	Jharkhand, West Bengal, Himachal Pradesh	Arunachal Pradesh, Assam, Andhra Pradesh, Chhattisgarh, Tamil Nadu, Goa, Karnataka, Telengana, Kerala, Manipur, Tripura, Sikkim, Nagaland, Meghalaya, Mizoram

*Source:* Fifth annual employment & unemployment survey, 2015–2016, Vol 1, Labour Bureau, Chandigarh, 2016 Table 16

The attribution of economic growth to capital and labour through the production function approach is questionable in a neo-Ricardian framework. Nearly 200 years ago, political economists, most notably Karl Marx, argued that labour is the source of all value. It is an approach that has never completely disappeared from economic thinking. It was the basis for the approach of the Cambridge (UK) school of economics to capital theory. Piero Sraffa<sup>7</sup> argued that the role of capital in production should be seen as the use of commodities to produce other commodities

<sup>7</sup> Piero Sraffa, *Production of Commodities by Means of Commodities*, Cambridge University Press, 1960.

with each commodity being valued in terms of the direct and indirect labour that went into its manufacture. Hence, the contribution of capital to value should also be seen as a contribution of past labour, and the production process should be conceptualised as output being produced by the current labour input and a sequence of dated labour inputs reflecting the labour that had gone into the manufacture of the capital equipment used in production. This school of thought is today referred to as neo-Ricardian.

Neoclassical theory, on the other hand, rests on the idea that the quantity of capital can be defined independently of its market reward, for, if that cannot be done, there would be a circularity in defining the productivity of some assumed quantity of capital in terms of the profits earned.

Given that practical realities of data availability one will continue to use the capital labour separation in production functions in trying to understand the mainsprings of economic growth. In any case, the primary focus of these growth accounting studies is often determining total factor productivity growth. The important point, however, is not to read any normative conclusions into the attribution of growth to different factors, a point which will become clearer when we try and understand the links between employment and income distribution.

Many studies of the sources of growth in India at aggregate and disaggregated level have been made over the years. For the present purpose of connecting work opportunities and outcomes with the growth process, it is perhaps sufficient to rely on the latest available study which covers a wide period from 1980–1981 to 2014–2015, broken up into three sub-periods, 1980–1993, 1994–2002 and 2003–2014.<sup>8</sup> Apart from this wide coverage, the study is outstanding in the care which has gone into the computation of the data<sup>9</sup> and substantial methodological improvements over past studies, some of which are listed below.

- The use of the KLEMS framework which attributes output growth separately to inputs of capital (K), labour (L), energy (E), materials (M) and services (S).
- Disaggregated estimates of sources of output growth for 27 sectors.
- Aggregation for total factor productivity growth estimates by using a Production Possibilities Frontier Framework rather than an aggregate production function.

At the aggregate level, value-added growth at the economy level accelerated significantly during 2003–2014 by about 1.7 percentage points per annum to 7.2%, which was accompanied by accelerated total factor productivity (TFP) growth, acceleration by about 0.9 percentage points to 1.8% per year. The contribution of TFP growth to aggregate value-added growth was much higher during 2003–2014

<sup>8</sup> Goldar B et al., *Productivity growth in India since the 1980s: the KLEMS approach*, Indian Economic Review, 2017-2, Delhi School of Economics and Springer.

<sup>9</sup> The data file has been released by the RBI, which supported the preparation of this database, initially at the Indian Council of Research on International Economic Relations and later at the Centre for Development Economics, Delhi School of Economics. The data file is available at [http://rbiidocs.rbi.org.in/rdocs/content/docs/IKLEMS2016\\_22112017.xlsx](http://rbiidocs.rbi.org.in/rdocs/content/docs/IKLEMS2016_22112017.xlsx) and the data manual at <https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=881>.

than that during 1980–2002. An interesting result reported in the study is the difference in the sectoral share of manufacturing between the single deflator measure reported in our national accounts and the share which emerges when double deflation is used to calculate value added.<sup>10</sup> With single deflation, the share of manufacturing in GVA goes up from 14% of GVA in 1980–1981 to 15% of GVA in 2014–2015, while with double deflation, it goes up from 10% of GVA in 1980–1981 to 22% of GVA in 2014–2015.

From the perspective of designing a growth policy that is conducive for employment generation, the sources of growth exercise suggest the following conclusions:

- The contribution of the rising employment to the growth process has declined over time possibly because of a slow move from low-productivity to high-productivity jobs. However, the impact of improvements in labour quality has accelerated.
- The bulk of the acceleration in the recent high-growth phase can be attributed to a substantial increase in the growth rate of capital stock, but with little improvement in capital quality.
- The growth in total factor productivity also accelerated and contributed substantially, particularly in the high-growth phase.

Looking ahead at the future, the contribution of the employment expansion to economic growth can increase because of the so called demographic dividend and substantial improvements in the female labour participation rate.

The increase in the proportion of persons in the working age group can affect growth prospects in several ways<sup>11</sup>:

- Working people typically are net savers unlike retired people who are typically net dissavers, and this raises the rate of savings in the economy.
- The lower dependency ratio can reduce the burden of education expenditures, though this may well be counterbalanced by rising demands for vocational and higher education of the larger working population.
- The lower birth rates and dependency ratio may ease the burden of maternal and child health expenditures.
- The rising numbers of young workers may be more willing to take on new occupations and to move where work is available.
- But all this assumes that the economy is able to generate productive work for the rising numbers in the working age group.

<sup>10</sup> In the double deflation method, real value added is measured as the difference between real gross output and real intermediate inputs.

<sup>11</sup> This discussion draws extensively from Nitin Desai, Demographic Dividend or Debt, Eleventh JRD Tata Memorial Oration, March 26, 2010 at the Population Foundation of India, reproduced in *Building from the bottom: Infrastructure and Poverty Alleviation*, ed. Sameer Kochar & M. Ramachandran, Academic Foundation, New Delhi, 2010. pgs.143–167.

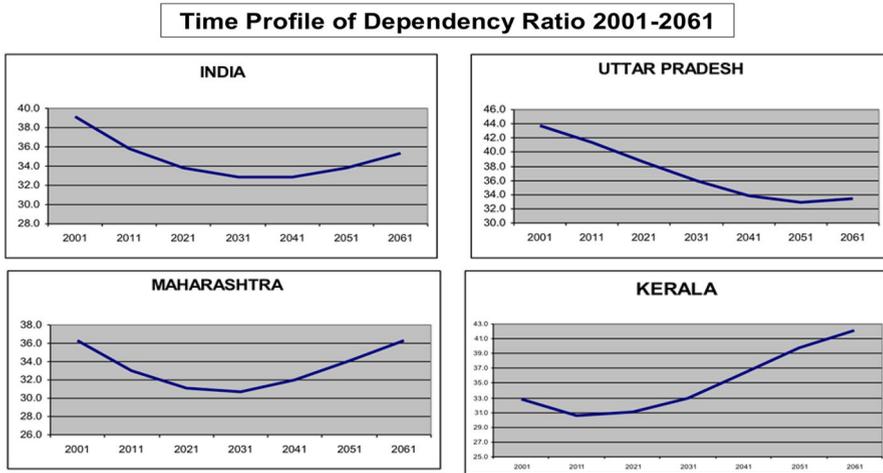


Fig. 6 Time Profile of Dependency Ratio in India and Selected States

This demographic dividend is not evenly distributed across the country. One way of looking at this regional difference is to assess the magnitude of the dividend, as measured by the growth in working age population that will arise in the different States. Focusing attention on the five northern states, Uttar Pradesh, Bihar, Jharkhand, Rajasthan and Madhya Pradesh, their share in the growth in working age population would be as follows on the basis of the statewide projections of the Population Foundation in its Scenario B.<sup>12</sup>

- Share in growth in 15–64 Age Population:

2011–2031 56.7%  
 2031–2051 91.6%

Another way of seeing this is to chart the change in the dependency ratio over time. As the demographic dividend is realised, the dependency ratio falls. But once the dividend is over, the ratio starts rising, and Fig. 6 of the time profile of the dependency ratio in India and three States shows that a state like Kerala is probably already in or very nearly past the demographic dividend stage, the western Indian states of Maharashtra will be past in other decade or so; but in the northern state of Uttar Pradesh the dividend continues almost to the mid of the century.

An increase in the female labour participation rate has an even greater potential for supply increase than the age distribution change. Moreover, the regional pattern

<sup>12</sup> Population Foundation of India, *The Future Population of India: A Long-range Demographic View*, New Delhi, August 2007, Scenario B.

is a little different in that some of the states where the current female labour participation rate is more than 10% below the national average include several states from the west and east. Hence, measures to improve the female labour participation rate can deliver supply side results even in states where the demographic dividend is nearing its end.

Two things are required for realising the demographic dividend and greater female labour participation—substantial investments in education to improve skills and a more rapid increase in higher productivity jobs in industry and services. The challenge is particularly demanding in the northern states, where the skill levels are below the national average.

The importance of education, particularly secondary and college education, and changing gender roles so that women play a greater role in the economy have been emphasised in a recent book by Surjit Bhalla.<sup>13</sup> The book estimates that globally education wealth in 2016 at US\$ 330 trillion, is well ahead of financial wealth at US\$250 trillion. Bhalla argues convincingly that the growth performance of the East and South-east Asian economies is due to these factors more than anything else.

The challenge that India faces in this area is not of higher enrolment but of quality. The official enrolment figures show that the enrolment of the relevant age group was 78.5% for secondary education, 54.2% for a higher secondary education and 24.3% for higher education, with only a small difference between male and female enrolment rates. Yet the reality is that a significant part of the workforce is illiterate or near illiterate, unable to read a training manual. Even the products of the vocationally oriented higher education, like engineering colleges, are said to be sub-standard in their skill set. Extending the reach and improving quality of education at all levels from the primary school upwards has to have the highest priority if we are to strengthen the link between employment and growth from the supply of labour side.

The demographic dividend is a supply side potential in that working people can be an asset for growth and development. But to realise this potential, the economy must grow in a manner that generates productive work opportunities at the scale required to absorb the growth in the work force, and the education and vocational training system must provide them with the skills required to use these opportunities. The demographic dividend also generally involves large changes in the sectoral structure of the economy and the rural–urban mix. It almost certainly will involve large-scale migration from rural to urban areas and, possibly inter-regional migration within the country.

At this point, one can ask the scale of the job generation required to absorb surplus labour and to provide decent work to the increase in the workforce because of the demographic dividend and higher female participation rates. To put it differently, when can India hope to reach the Lewis turning point when there is no open or disguised unemployment attributable to a lack of demand for labour? A recent

<sup>13</sup> Surjit S. Bhalla, *The New Wealth of Nations*, Simon & Schuster, 2017.

exercise<sup>14</sup> has made some estimates using a 15-year horizon for the absorption of the current surplus of 117 million and estimating the annual addition at 6–8 million. This would require about 16 million jobs to be created per year. The challenge this poses for growth strategy is heightened by the fact that most of the currently surplus workers are low to medium skilled. The key lies in the rate of growth of the organised sector, and the study works out the outcomes for three alternate growth rates and an employment elasticity of 0.701. With 7.7% growth (trend rate for 1999/2000–2011/2012), the organised sector would absorb 5 million per year, with 10% growth rate, the absorption would rise to 6.7 million per year, and with 12%, it would be 8.3 million per year. The rest of the absorption would have to take place in the unorganised sector. But if these unorganised sector jobs are to be new and better work opportunities, then the absorption would have to largely be in the non-agricultural sectors and also be accompanied by significant productivity increases. The study estimates the required NDP growth rate for the three projections to be 7, 8.2 and 9.2%, respectively. These are plausible; but the real challenge will be the required productivity increase in the unorganised sector.

It has been argued that this scenario of job creation requires a substantial increase in manufacturing job growth. The demand-side impetus for faster manufacturing growth can come from domestic demand or from exports. When it comes to domestic demand, manufacturing growth rates will be determined by the income elasticity of demand for manufactured goods, except for the possibility of additional short- or medium-term acceleration in sectors like housing where there is a certain amount of pent-up demand. The prospects for export growth look less attractive than during the high-growth phase or China and East and South-East Asia, because of the slowdown in the major OECD markets and growing protectionist threats.

A major concern about the medium-term future of manufacturing and commercial service jobs comes from the prospective growth of robotics and automation. A recent study<sup>15</sup> by McKinsey & Company concludes that:

- Fifty percentage of current work activities are capable of being automated, and 6 out of 10 current occupation have more than 30% of activities that could be affected by automation.
- The number of workers potentially displaced by automation could be 800 million (30% of total) with fast adoption or at mid-point adoption, 400 million (15% of total).
- The number of workers who would have to change occupation would be 75 million (3% of total)/375 million (15% of total) depending on mid-point or fast adoption.
- Technology adoption can and often does cause significant short-term labour displacement, but history shows that, in the longer run, it creates a multitude of new

<sup>14</sup> Ajit K Ghose, *India Employment Report, 2016*, Institute for Human Development and Oxford University Press, Delhi, 2016 pgs 83–87.

<sup>15</sup> McKinsey & Co., *Jobs Lost, Jobs Gained, Workforce Transitions in a Time of Automation*, December 2017.

jobs and unleashes demand for existing ones, more than offsetting the number of jobs it destroys even as it raises labour productivity.

- On the basis of present trends, new jobs (390–590 million) are expected to be created by increased consumer spending, particularly in emerging economies, more health care spending on an ageing population, technology spending, increase in infrastructure and housing investment and more spending on an energy transition.
- In the case of India, job losses from automation in the 2016–2030 period are expected to be 57 million, and new jobs from the trends listed above would be 114 million, which could go up by a further 98 million if investment in infrastructure, real estate and energy transitions is step-up beyond current trends.
- In India, of the projected net increase in jobs in the step-up scenario of 155 million, about 100 million jobs will require at least secondary education and another 40 million jobs will require higher education, which reinforces the point about importance of education investments made earlier.

This scenario of the impact of robotics and automation suggests that instead of relying largely on faster creation of manufacturing jobs, India could do well by promoting jobs in construction and real estate, where there is a large unmet need, in technology development and deployment particularly in the info-tech sector where it has a significant advantage and in accelerated investment in energy efficiency, renewable energy and other areas of energy transition that it is already pursuing.

### 3 Employment and Income Distribution

A useful starting point for examining the link between employment and income distribution is look first at the trend in income distribution which is presented in Figures 7 and 8.

These charts come from a World Wealth and Income Database inspired mainly by the work of Thomas Piketty.<sup>16</sup> In the case of India, their calculations draw on national income data, household surveys and income tax data, and combining them poses methodological issues. Hence, the calculations are best seen as a measure of trends.

The Kuznets Curve<sup>17</sup> based on the pioneering empirical work of Simon Kuznets saw the evolution of inequality over time as a U-shaped curve, rising at first as traditional agricultural societies industrialised and urbanised. After reaching a peak, inequalities would decline as rural–urban migration tapers off and there is a gradual convergence of wages. One could argue that India is in the first Kuznets stage and that the rise in inequality since 1990 could be the result of the greater play permitted

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<sup>16</sup> This database can be accessed at <http://wid.world/>.

<sup>17</sup> Simon Kuznets, *Economic Growth and Income Inequality*, American Economic Review, Vol 45, Issue 1, March 1955, pgs 1–28.

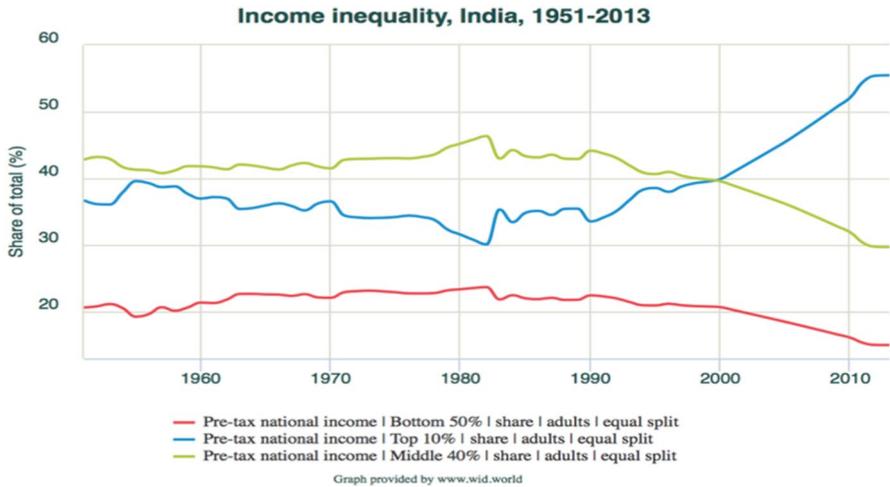


Fig. 7 Income Inequality in India 1951 to 2013



Fig. 8 Share of top 1% in National Income

to market forces. However, the rise in inequality in the West, which surely should be in the second Kuznets phase, is a refutation of the Kuznets hypothesis.

In an economy where the majority of people derive their income from wages, the starting point for understanding the link between employment and income distribution has to be some explanation for the distribution of value added between wages and profits understood as the return to all factors of production other than labour. Neoclassical marginal analysis would have us believe that the return received by

owners of capital is the marginal product capital comparable to the marginal product of labour. Neo-Ricardians would argue that this cannot be the case because the value of capital and the rate of profit cannot be determined independently. Hence, the distribution of value added between wages and profits has to be seen as an outcome of a social process based on relative power.

The relative constancy of the wage and profit share in the developed economies right up to recent times used to be set down as a stylised fact that any theory of income distribution would have to explain. The neoclassical explanation for the constancy was in terms of a constant elasticity of output with respect to each factor, as in the Cobb–Douglas production function. Alternate explanations rely more on some notion of relative bargaining power since the reality is that in a capitalist system workers and employers do not enter the labour market on equal terms. There may well be competition amongst workers; but when it comes to the bargain between workers as a class or group and employers, the latter are more able to further their interests.

Stylised facts have now changed, and the constancy of factor income shares has been replaced by a demand for an explanation of changing shares and, more particularly, the rising share of profits in value added.<sup>18</sup> A plausible explanation will probably involve a combination of several factors including the relative bargaining strength of workers and employers, technological changes that change substantially the relative importance of factors of production and, perhaps underlying shifts in labour and capital markets.

An explanation for how value added is distributed between profits and wages advanced by Thomas Piketty has attracted much attention lately. Piketty's explanation hinges on the relationship between  $r$ , the return on capital, and  $g$ , the growth rate of value added. He argued that if  $r > g$ , then the capital stock will grow faster than value added and hence get a growing proportion of value added. This simple relationship becomes weaker if a significant part of income of owners of capital is consumed or if the return to capital declines with rising accumulation. Piketty recognises these qualifications in a recent article.<sup>19</sup> He also points out that that the relationship between  $r$  and  $g$  cannot explain inequalities in wage income, which have widened in recent years.

Is the role of the wage rate and the profit rate primarily allocative or is it distributive? The answer depends on the degree of substitution between capital and labour. If these two factors have to be used strictly in fixed proportion, then the rates have no allocative role since there is no possibility of capital labour substitution. While fixed proportion maybe plausible at the enterprise or industry level, the possibility for capital labour substitution may still exist at the economy level as changes in wage and profit rates will lead to a shift amongst enterprises and industries with differing capital labour ratios. When a possibility of capital labour substitution exists, then

<sup>18</sup> Thomas Piketty, *Capital in the Twenty-First Century*, tr. Arthur Goldhammer, Harvard University Press, 2014.

<sup>19</sup> Thomas Piketty, *About Capital in the Twenty-First Century*, American Economic Review: Papers & Proceedings 2015, 105(5): 48–53.

any policy measure that affects the relative cost of labour and capital will lead to departures from market equilibrium. However, if the market outcome is deemed to be undesirable, then there is an implicit assumption of market failure. Policy measures should address the root of the market failure and thus simultaneously correct this failure and redistribute income.

Wages are the return that the labourer gets for the physical and mental capacities and the acquired skills that he or she offers for the production of goods and services of value to consumers—a rather long definition that can be summarised in the term labour productivity. Neoclassical theory holds that differences in wages reflect differences in productivity. But this will not be the case in labour markets where monopoly or monopsony powers are exercised for legal or institutional reasons.

Monopoly power can arise, for instance, when a professional association or trade union is able to enforce a closed shop and restrict access to employment to its members alone and exclude outsiders even if they are qualified for the work. Monopsony power can be exercised in geographies or sectors where there is only one employer on where an employer's association enforces a standard wage pattern quite different from the productivity-based differentials that would emerge if there was competition amongst employers. In many labour markets, the wage structure is the outcome of the confrontation between monopoly and monopsony power and the result may not reflect productivity levels and differentials but just the relative strength of the two powers.

In the context of labour markets in India, it is more plausible to consider the wage outcomes as a product of relative bargaining strengths, particularly when one takes account of the wage differentials by caste, community and gender for virtually identical work. By implication, the return to capital in the form of profits cannot be treated as its marginal product but more as an appropriation based on bargaining strength.

The actual record of the wage share in gross value added at the economy level in India is shown in Figure 9 for the period 1980–1981 to 2014–2015. It shows a decline in the wage share by about 2% in the first few years after the 1990–1991 liberalisation, a further decline by about 4% during the high growth boom period to 2008–2009 and a recovery since then by about 3%. The average for the whole period is around 50%. The profit share is simply the rest of the value added, i.e. one minus the wage share (Figs. 10, 11).

Given the varying institutional conditions governing the wage bargain in different sectors, similar charts for manufacturing and commercial services are presented:

As these charts show the wage share has declined in manufacturing and even more sharply in commercial services. The data for manufacturing include both the organised and unorganised sectors. A separate calculation for organised manufacturing for the period 1999–2000 to 2011–2012 drawing on unit wise data from the Annual Survey of Industries shows a much lower share of production workers in value added and a sharp decline in the share over this period.

A theory of factor income distribution that reflects a relative bargaining strength approach and is sufficiently structured to permit quantitative exploration is that advanced by Mikhail Kalecki. His theory of income distribution assumes that industries operate in imperfectly competitive markets, and the return to capital (profits + managerial rewards) is a markup on variable average costs (wages for

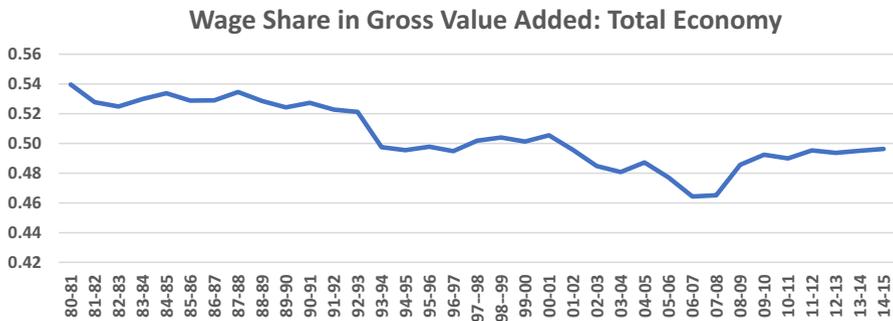


Fig. 9 Wage Share in Gross Value Added. Source: KLEMS databases available at [http://rbidocs.rbi.org.in/rdocs/content/docs/IKLEMS2016\\_22112017.xlsx](http://rbidocs.rbi.org.in/rdocs/content/docs/IKLEMS2016_22112017.xlsx)

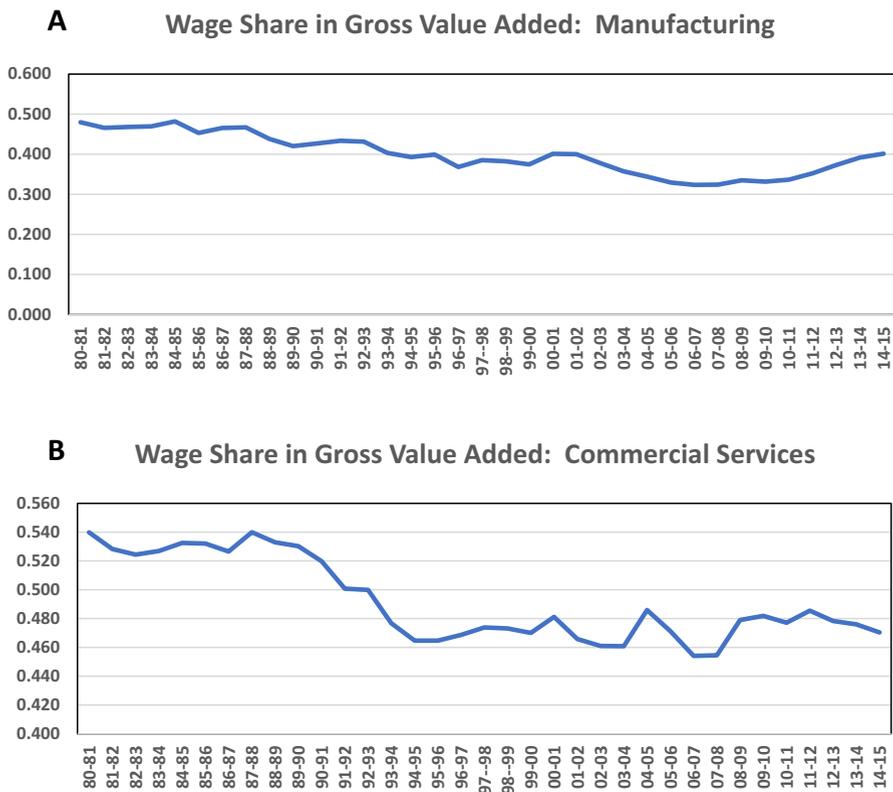
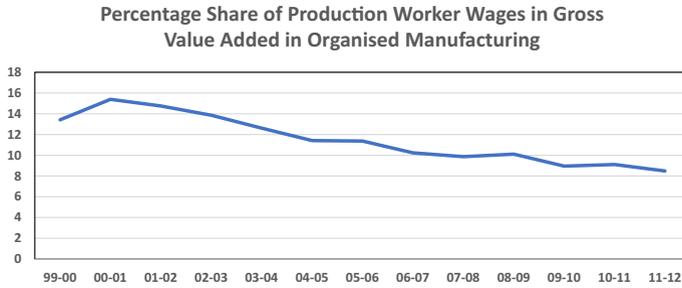
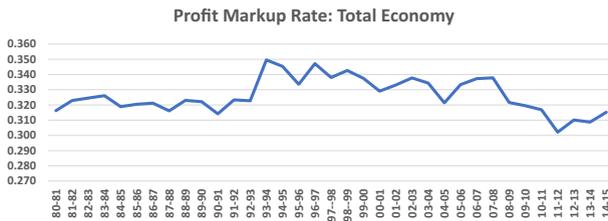


Fig. 10 Wage Share in Manufacturing and Services. Source: Author's calculation based on KLEMS database available at [http://rbidocs.rbi.org.in/rdocs/content/docs/IKLEMS2016\\_22112017.xlsx](http://rbidocs.rbi.org.in/rdocs/content/docs/IKLEMS2016_22112017.xlsx)



**Fig. 11** Wage Share of Production Workers in Organised Manufacturing. *Source:* Author's calculation based on data from Ajit K Ghose, *India Employment Report, 2016*, Institute for Human Development and Oxford University Press, Delhi, 2016, Tables S15–S23 pgs.157–178



**Fig. 12** Profit Mark-up Rate 80-81 to 14-15

production workers + raw material costs). This can be summarised in the following equation:

$$P + M = \pi(W + R)$$

where  $P$  and  $M$  are profits and managerial rewards,  $\pi$  is the average markup,  $W$  is the wage bill and  $R$  is the cost of raw materials. Thus, national income  $Y$  will be:

$$Y = W + P + M = W + \pi(W + R)$$

This readily simplifies to:

$$\alpha = \frac{W}{Y} = \frac{1}{1 + \pi(1 + \lambda)}$$

where  $\alpha$  is the wage share in the national income and  $\lambda$  is the ratio of material to wage costs. Hence, the share of wages varies inversely with the profit mark up rate, and the relative importance of material costs vis-a-vis wage costs. Hence, explanations for changes (or the lack of change) in the labour share over the business cycle or the longer term have to be sought by examining the factors that influence these two parameters.

At the economy wide level in India, the profit markup, defined as the percentage of profits to variable cost (labour plus input cost), is presented in Figure 12.

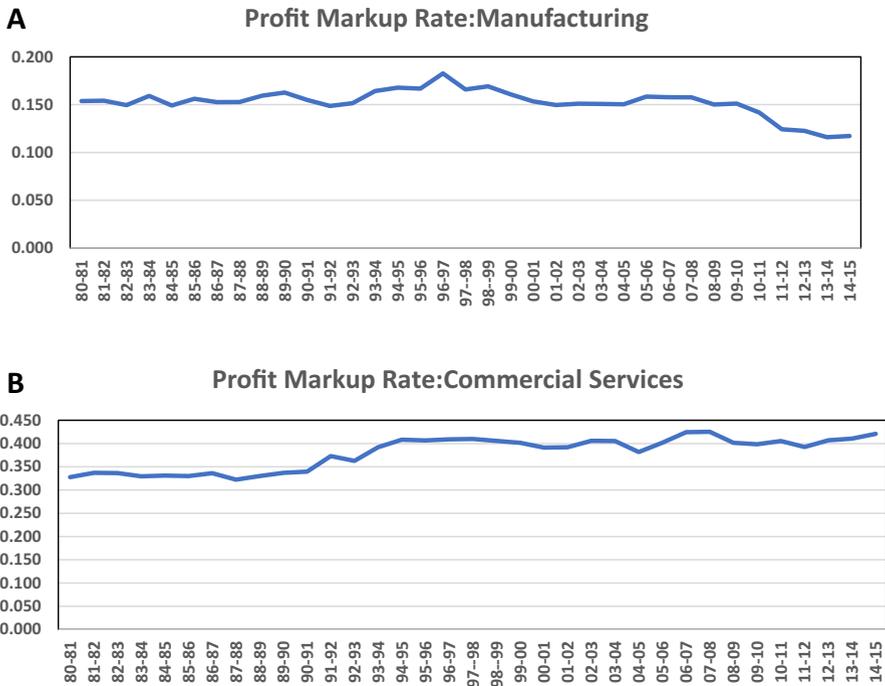


Fig. 13 Profit Mark-up Rate in Manufacturing and Services. Source: Author's calculation based on KLEMS database available at [http://rbidocs.rbi.org.in/rdocs/content/docs/IKLEMS2016\\_22112017.xlsx](http://rbidocs.rbi.org.in/rdocs/content/docs/IKLEMS2016_22112017.xlsx)

Table 5 Wage differentials

	1999–2000	2011–2012
Urban/rural		
Organised sector	1.5	1.7
Unorganised sector	2.0	1.4
Male/female		
Organised sector	1.3	1.3
Unorganised sector	1.8	1.5
Organised/unorganised		
Regular	1.1	1.4
Casual	1.5	1.2
Regular/casual		
Organised	1.8	1.5
Unorganised	2.4	1.3

This chart shows a significant increase in the mark up rate from the mid-nineties to 2008–2009, mirroring the fall in the wage share over this period. These economy wide calculations may not be wholly appropriate in an Indian context. Hence,

similar charts of the profit markup rates for the manufacturing and commercial services sector are presented:

The profit markup rate in manufacturing at an average of 15% may look much smaller than the 33% markup rate in the economy as a whole. But that is because intermediate inputs, on which too, a markup is earned as profit, constitute a much larger proportion of total costs in manufacturing than in other sectors. Hence, the share of profits in manufacturing value added of about 60% is much higher than the 50% share in the economy as a whole. It is also worth noting that the ratio of intermediate costs to labour costs has been rising through this period (Fig. 13).

The relative share of wages in value added is only the beginning offering understanding off the link between employment and income distribution. We also need to understand the sources of the inequality in the distribution of the wage share.

Table 5 presents some data<sup>20</sup> on the differentials in wages between categories of workers:

In the labour hierarchy, the workers with regular employment in the organised sector enjoy a high degree of protection from exploitation, partly because of stronger trade union organisation and partly because of the fact that labour laws are enforced more effectively there. The comparison above is mainly between workers who have regular but informal employment and casual workers in the organised sector and the same two categories in the unorganised sector. Even if one leaves out the cream of the labour hierarchy, the wage differentials between urban and rural areas, male and female workers and regular workers with informal contracts and casual workers, it is quite substantial. Over time the narrowing of differentials can be seen mainly in the urban–rural and regular–casual differentials in the unorganised sector. This is possibly because of the impact of the MGNREGA in rural areas.

Some further insights are provided by a recent study<sup>21</sup> that compared the growth trajectories of India and Brazil. The two countries appear to be mirror images of one another—Brazil experienced high growth and rising inequality till 1980 and a slow-down thereafter with falling inequality, while in India, growth was slower till 1980 with no change in inequality and higher growth after that with a rise in inequality. Some of the findings about India reported in the study that are relevant for understanding the employment income distribution link are as follows:

- Inequality measured in terms of the Gini coefficient of household expenditure, rose from the late 90s, quite sharply up to 2004 and a little more slowly during the high-growth phase, possibly due to policy interventions like MGNREGA. Yet poverty reduction was higher during the latter phase.

<sup>20</sup> Based on data from Ajit K Ghose, *India Employment Report, 2016*, Institute for Human Development and Oxford University Press, Delhi, 2016, Table S6, pg.136; estimates derived from unit level data available from NSSO *Surveys of Employment and Unemployment* 55th and 68th round.

<sup>21</sup> A Barbosa, M Cacciamali & G Rogers, *Growth and Inequality, the Contrasting Trajectories of India and Brazil*. Cambridge University Press, 2017.

- In comparison with Brazil, employer–employee relationships are more informal and the role of the labour justice system, trade unions and minimum wage legislation is weak. Brazil also has a more comprehensive social security system.
- In India, the greater part of the labour market is in the informal sector and is not seriously influenced by public policy or trade union activity.
- The labour market is segmented, and only a small proportion of workers are in the formal sector with regular employment and a slightly larger proportion with casual employment in the formal sector. The bulk of the labour force finds work in the informal sector or in self-employment.
- Wage inequality between the segmented sectors is quite large and has a caste community and gender bias with scheduled caste and women having a larger proportion of workers in the lower paid segments of the labour market.
- Wage inequality was lower in India than in Brazil both in urban and rural areas in the 1980s. But between 1994 and 2005, the curves crossed so that in 2011–2012 inequality was higher in India than in Brazil, especially in urban areas.

The lessons that one can draw from this exercise are that long as a situation of excess supply continues workers will be at the weaker end of the wage bargaining process. Public policy can improve the odds in several ways. One step is the implementation of minimum wage legislation not just through labour inspectors but also through programmes like MGNREGA which seems to have given a boost to rural wages. In this context, one must note to the Supreme Court judgement that stated that.

“Where a person provides labour or service to another for remuneration which is less than the minimum wage, the labour or service provided by him clearly falls within the meaning of the words ‘forced labour’ and attracts the condemnation of Article 23. Every person who provides labour or service to another is entitled at the least to the minimum wage and if anything less than the minimum wage is paid to him, he can complain of violation of his fundamental right under Article 23 and ask the court to direct payment of the minimum wage to him so that the breach of Article 23 may be abated”.<sup>22</sup>

Individuals differ in their mental and physical capacities and that will be reflected in some productivity differential. But differentials that cannot be justified on the grounds of productivity need to be eliminated. Doctrinaire argument cannot justify the differentials which arise because of prejudices against specific social groups like Dalits or Adivasis. That is the case for public intervention in the form of affirmative action.

There are major inequalities the wage structure on account of skill differentials. Market fundamentalists argue that productivity differentials linked to skills are a matter of choice when information access and credit availability are competitively and freely available to all and people can choose how much time and money to

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<sup>22</sup> Sanjit Roy vs State of Rajasthan (1983, SCC (1) 525). Sanjit Roy better known as Bunker Roy of the Social Work and Research Centre Tilonia took up this case against the Rajasthan Government and got this seminal decision from Hon'ble Judges PN Bhagwati and RS Pathak.

invest in education and skill acquisition. As these preconditions are not available in practice, this argument is clearly a case for public intervention in education and training to equalise opportunities.

In the context of economic liberalisation, there is much talk of labour law reform. Undoubtedly some reforms in employment protection and wage determination processes in the organised segment of the economy, particularly the public sector, are necessary. But really crying need for labour reform is in ensuring greater security and more just and fair wage determination processes in the unorganised sector.

India also needs a more comprehensive social security system not just for workers but also for older persons. The beginnings which have been made in recent years need to be consolidated into a more comprehensive and unified system. With labour migration, family support will no longer provide the work force with the protection against economic vulnerability. As India approaches the Lewis turning point, some form of unemployment insurance will be necessary.

The responsibility for equalising the odds in favour of the vast majority of workers who are in the unorganised sector rests not just with the government but also with the trade union movement. But for that to happen we need a political transformation that gives a more organised voice to the interests of workers.

#### 4 Concluding Remarks

India's employment challenge is primarily one of finding decent work for a large backlog of surplus labour and growing additions to the labour force. Taking a 15-year horizon for reaching full employment with decent work for all, the scale of the problem is creating around 16 million new productive jobs per year. Addressing this problem will require action not just in labour markets but also in sectoral priorities in growth strategy, in education and training and in social policy. There are wage differentials based on caste, community and gender which cannot be justified on the grounds of productivity differences. This will not be corrected by the market alone. They will require public and civil society intervention.

Actual outcomes in the labour market have led to an income distribution that is becoming progressively unequal. Part of the reason for this is the situation of surplus labour, and this should start correcting as the country approaches fuller employment. In 1943, Kalecki wrote: "... 'discipline in the factories' and 'political stability' are more appreciated by the business leaders than are profits. Their class instinct tells them that lasting full employment is unsound from their point of view and that unemployment is an integral part of the normal capitalist system."<sup>23</sup> He believed that the full employment delivered by Keynesian policy would eventually lead to a more assertive working class and weakening of the social position of business leaders, causing the elite to react to the erosion of their political power and force a displacement of that policy, in spite of profits being higher than under a *laissez-faire* system.

<sup>23</sup> Michal Kalecki, *The Last Phase in the Transformation of Capitalism*, Monthly Review Press, 2011, pp. 76–80.

As in any capitalist society, the real challenge of work and welfare is not one of incremental changes in economic and social policy, though these are always welcomed, but of political action to increase the bargaining power of labour. The greatest barrier for improving the links between work and welfare is the fact that, as of now, the majority of the work force are not protected by trade union membership. Nor are the interests of workers given priority in the political space. Hence, this plea for political action may be the appropriate point to end an address in memory of a labour leader and a freedom fighter.