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STRUCTURAL CHANGE AND EMPLOYMENT IN INDIA

Nomaan Majid

WORKING PAPER Nº 1

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Structural change and employment in India

Nomaan Majid

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Foreword

Full and productive employment and decent work are at the heart of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). In addition to the specific goal (SDG8) of promoting “sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”, decent work is featured in many of the other SDGs.¹

In adopting the SDGs, in particular SDG8, the international community has put job creation at the heart of economic policy-making and development plans: economic growth that generates decent work opportunities will lead to inclusive and poverty-reducing growth. Systematic follow-up and review of the implementation of the 2030 Agenda is required in order to maximize and track its progress. The follow-up and review is expected to “maintain a longer-term orientation, identify achievements, challenges, gaps and critical success factors and support countries in making informed policy choices”.²

In order to support ILO constituents in their efforts to maximize and track progress on SDG8, a multi-country research programme has been undertaken that diagnoses opportunities and challenges associated with promoting productive employment and that identifies policy options for achieving SDG8. Within the framework of the ILO/Sida Partnership on “More and better jobs for inclusive growth and improved youth employment prospects”, this global research on “SDGs and employment policies: Macroeconomic, sectoral and labour market policies for structural transformation and full and productive employment” was conducted in 10 countries, taking into account their specific country context. In particular, the research focused on the interlinkages and potential virtuous circle between targets 8.1 (sustaining per capita economic growth), 8.2 (sustaining labour productivity growth), 8.3 (promoting development-oriented policies), 8.5 (promoting full and productive employment for all women and men) and 8.6 (decreasing the share of NEETs by engaging young people in the labour market).

To better tailor policy advice and to customize employment diagnostics, it is important to present types of employment and economic growth pathways, and similar dynamics, according to core employment and productive characteristics and challenges. This is related, for example, to demographic transition and labour market transformations driven by globalization and technological change. The country selection included a diversity of countries across the employment and productive transformation pathways for more nuanced and contextualized policy guidance.

Four global syntheses are presented, based on the country studies, focusing more specifically on: (i) Structural transformation for inclusive growth and productive employment; (ii) Gender impacts of structural transformation; (iii) Young people not in employment, education and training; and (iv) Delivering on SDG8.

The Employment and Labour Markets Branch (EMPLAB) is engaged in global advocacy and in supporting Member States’ efforts to put the aim of more and better jobs at the centre of economic and social policies and of growth and development strategies. Policy research and knowledge generation and dissemination are essential components of EMPLAB’s activities. The ILO/Sida Partnership on Employment working paper series is

¹ See ILO: *Decent Work and the 2030 Agenda for Sustainable Development* for more information on the linkages between decent work and the SDGs. Available at:

https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_436923.pdf

² United Nations (2015): *Transforming our world: The 2030 Agenda for Sustainable Development*. Available at: <http://undocs.org/A/RES/71/313>

designed to disseminate the main findings of research on a broad range of topics undertaken by EMPLAB on employment and youth employment policies. The working papers are intended to encourage the exchange of ideas and to stimulate debate. The views expressed in them are the responsibility of the authors and do not necessarily represent those of the ILO.

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1. Structural change and economic development

The term “structural change” refers to changes in the relative importance of the main sectors of an economy (agriculture, industry, services, and so on) in the course of economic growth. Relative importance here pertains to changing shares of both output and employment in economic sectors. In the context of large, low-income, and dualistic developing economies the corresponding changes in the structures of production organization and labour use are of critical importance.

The topic of this chapter is the links between structural change and employment in India. The notion of structural change used here chapter is productivity-centred, as usual in development economics and growth theory. There are two broad approaches. One is to take structural change with regard to productivity and employment as given and then to explore how broader economic policies (industrial, export and trade, as well as macroeconomic policies) have conditioned the growth process in which structural change occurs. This is really more of an analysis of economic growth and what has contributed to the growth process, and less about specific components of structural change (capital accumulation and labour reallocation) and growth. The second approach is more focussed and narrower; in it changes in productivity and employment are considered to be driven primarily by investment and capital accumulation, on one hand, and labour input, on the other. Here, growth in productivity is broken down into two components,³ attributed to capital and labour, and some conclusions are drawn about employment from the labour (reallocation) component. Changes in employment structure with growth is a key issue in the development of low-income developing economies. These are complementary approaches but they have distinct perspectives.

In this chapter we take the latter approach but with a small innovation. We introduce dualism in both the structure of production organization on the side of output and in the quality of employment on the side of labour use. The reasons for introducing this distinction are theoretical and practical. One of the larger concerns in classical development literature is labour transfer and industrialization (Lewis, 1954). As this transfer of labour is supposed to move a dual economy structure towards a more homogenous one over time, there are implications here for parallel shifts in production organization. Secondly, and this is the practical concern, one feature of less developed economies is a large labour reserve that is not in full-time regular work. This has led to the labelling of a substantial portion of labour in these economies as surplus, less productive, traditional, or unorganized, a category whose share is supposed to decline as growth takes place. This means that we have to use a measure of employment that is not as broad as the one that is directly available from labour force surveys, which does not distinguish between workers on the basis of contracts and uses the headcount of employed labour as a proxy. The reclassification of labour as regular and non-regular (on our definition) from labour surveys⁴ allows us to examine growth in terms of its

³ Different formulations are possible of this relationship that describes output ranging from simple growth accounting decompositions (that are theoretically less demanding in terms of assumptions) to full-fledged production functions that entail many assumptions about the behaviour of labour, capital, and technology.

⁴ These definitions are given in the text below. The basic division is between regular paid employment and non-regular employment. In the former group we also distinguish between those workers who have some social protection (regular, protected) and those who do not (regular, non-protected). An unorganized economy is dominated by non-regular labour, while an organized economy has both regular and non-regular labour.

employment effects in a more meaningful and nuanced manner. The division of sectoral output between organized and unorganized parts of the economy is done in accordance with definitions from government data sources. In short, we seek to explain productivity changes (or growth) not only in terms of the changing sectoral composition of output and employment, but also in terms of whether or not that output is increasingly being produced in an organized production process and whether the labour involved is becoming more regularized.⁵

One area of discussion concerning growth and structural change is the lead sectors of growth. Some views on this are linked to larger discussions on industrialization and development. Lewis' dual economy framework is the original formulation of this idea, and while industrialization is supposed to be the transforming process the focus is on the transfer of labour from agriculture to non-agriculture. In Kuznets' work (Kuznets, 1969), a broader context of growth and distribution arouses expectations regarding sequencing on lead sectors (industrialization followed by services at later stages of development), just as Lewis's later historical work does (Lewis, 1978, Chapter 6; Kuznets, ...). Kaldor's growth laws are more specifically about the primacy of manufacturing over services, where manufacturing as the initial engine of growth is superior in scale economies and has a higher income elasticity of demand and a higher propensity to employ less-skilled workers. Important as these discussions are for general development theory, in a particular country context an historical pattern, which is critically important to describe, just has to be taken as given when we empirically identify the lead sector in a growth process. For example, while India's growth is services led, China's is manufacturing led, and Indonesia's is somewhere in the middle (Dasgupta and Singh, 2005; Majid, 2015; Sarma and Majid, 2018). Examining country experiences together sheds some light on the debate on lead sectors and growth, and indeed on global convergence and divergence debates. There is of course cross-country work that discusses this issue as well (Roncolato and Kucera, 2013).

India is a developing economy over 45 per cent of whose labour force was in agriculture and around 8 per cent in what one would call "decent employment" in 2012. While its growth experience in the past two decades makes it an emerging economy, the dual economy framework is also relevant. The mechanism of labour transfer from the traditional to modern parts of the economy is key to structural transformation in such economies. When economies become richer and shed their dominant dualistic character, cross-sectoral labour transfers still take place, but linked exclusively to productivity growth without connotations of overcoming dualism. The framework that is still relevant in this more advanced context is due to Kaldor (Kaldor, 1967, 1968; Thirwall, 1986). While applicable to both, this is more suited to the study of developed economies, in which the aforementioned structural dualism has been overcome or is of less relevance. In these more advanced economies the employment side of structural change⁶ only concerns labour transfer and reallocation across otherwise homogenous economic sectors that differ mainly in terms of productivity.

Insights from these frameworks are used in our empirical analysis of Indian data. We discuss sectoral changes in output, employment, and productivity in order to provide a narrative of the Indian growth process from 2000 to 2012, and carry out a growth accounting decomposition⁷ to complement it. As already noted, we divide the available output, employment, and productivity data for 2000–12 into the unorganized and organized parts of

⁵ As discussed later, we rely on definitions of organized and unorganized as defined by government statistical organizations.

⁶ This is in fact called "structural change" in growth-accounting diagnostics.

⁷ For a discussion on growth decomposition, see McMillan and Rodrik (2011)

multiple sectors in the Indian economy.⁸ Employment in each of these sectors is divided into regular and non-regular groups. We do this by reorganizing the National Sample Survey Organisation (NSSO) employment data into a hierarchy of four types of workers (two regular and two non-regular) in the organized and unorganized parts of economic sectors.

While we believe that the findings and approach taken in this chapter are relevant to large low-income dual economies, some clarifications are needed at the outset to temper expectations. Our aim is not to examine structural change in India from the standpoint of convergence and divergence of growth rates in comparison with other countries. Nor is our aim to explore the role of lead sectors in the growth of the economy, although we do look at it in terms of the issues in this chapter. The chapter is also not concerned with formality versus informality debates in the Indian literature, which is probably the richest of any country in terms of its sophistication. The chapter stays away, too, from problems of open-ended labelling and classification. It also assumes that structural transformation that takes place in a surplus labour developing economy is a productivity based description of the growth process and therefore it is important to understand how it is reflected in the changing employment structure, not least as a basis for social policy. The focus of this chapter is more on the structural change/labour transfer dimension of transformation and less on capital accumulation.⁹

The discussion in the next section examines the broad contours of output and employment growth in India. It shows that while growth of output and productivity has been high, the major positive employment effect is rising real consumption overall and for each category of worker. At the aggregate level, however, the employment structure does not show serious improvements. *Prima facie*, increases in economy-wide output and productivity have improved returns to workers by increasing their consumption, without significantly altering the distribution of employment by quality. This is the major employment policy issue in relation to growth in India, and it is also at the heart of public discussions on jobless growth.

In Section 3, we look at output, employment, and productivity in greater sectoral detail to identify leading sectors of growth in India, and to ask some questions about their potential for growth and employment enhancement. It is well known that growth in India has been services-led and is not of the classical variety. Because manufacturing is the lead sector in development frameworks, however, it is important to take an empirical view of lead sectors in the Indian context. We show that while the high growth period in India has been services-led, in terms of its longer term growth and employment-enhancing potential, services may not necessarily be superior to manufacturing in this regard.

In Section 4 we introduce a number of distinctions with regard to production organization. We examine output, employment, and productivity in the organized and unorganized economy, respectively, and observe that while significant productivity

⁸ For the decomposition we use NDP data from national accounts for various years. The classification of organized/unorganized for sectors is based on Government of India (2008). This classification is then mapped onto employment data in the NSSOs. In this way, productivity estimates for the organized and unorganized parts of economic sectors are calculated. We then do a decomposition analysis of multiple sectors (15 unorganized and 15 organized) of the Indian economy.

⁹ It is therefore less concerned with examining important topics such as the drivers or sources of the capital accumulation component in the decomposition versus capital deepening, nor does it explore the demand side of productivity growth in the organized economy or indeed the internal characteristics of the lead sectors in the organized economy, such as increasing returns or economies of scale. There are many dimensions of economic development in both the output and the employment domains that cannot be considered directly. Apart from the fact that productivity itself is more directly comprehensible in a non-services context, typical labour productivity measures used in any analysis cannot be reconstructed with regard to gender and age. These are the main limitations of the data.

increases have taken place in both, the shift in shares of output and particularly of employment have been slow across the unorganized/organized economy divide. This is important.

This sets up the context for the decomposition. The aforementioned growth-accounting decompositions are presented to ascertain the contribution that labour transfer makes to increasing labour productivity. The first of these decompositions is done for 30 (15/15) unorganized and organized sectors of the economy. This decomposition captures both the Lewis (two sectors) and Kaldor (multiple sectors) aspects of labour transfer. We then carry out a more restricted examination of a relatively purer Lewisian transfer across the unorganized and organized economy only and compare the respective components for labour transfer/structural change in the two sets of results. We argue that the bulk of labour transfers contributing to productivity growth in India have been within the unorganized economy. This finding is reinforced by the clear evidence of a limited shift in the proportion of workers to the organized economy. It has implications for our original expectations concerning the transformation of the employment structure and in a sense explains the limited nature of transformation in the structure of employment, which is the core problem of Indian growth that we identified in the introductory section.

Our analysis suggests that because the labour transfer–productivity growth linkage (the structural change component) is more relevant to sectors within the unorganized economy in India – which is dominated by non-regular employment – it would therefore be unwarranted to expect major changes in the employment structure, given how growth has occurred in India. The puzzle of the slow change of the employment structure in a period of high productivity growth (jobless growth) is thereby partly solved.

In Section 5 we discuss in detail the small changes in employment structure that have taken place in India and relate these to changes in productivity in the unorganized and organized economy, respectively. Despite the slow shift of employment across the unorganized/organized divide, we nevertheless do find some internal changes in employment structure in the unorganized and organized economy that are worth noting. In particular, these are more favourable for employment in the unorganized economy than in the organized economy. Lastly, as a special case, we examine regular protected employment, the elusive goal of all policy discussions on employment, in more depth. Regular protected employment, which was almost constant in its share during the period, deteriorated in terms of both its security dimensions and contract duration.¹⁰ The final section makes some concluding observations.

¹⁰ This matter should also not be confused with the category of contract labour, which is really labour contracted via third parties. See Kapoor and Krishnapriya (2019). In contrast to the NSSO, the Labour Bureau data 2015–2016 do allow us to look at third-party contract workers. Our estimates for this category for 2014 and 2016 are 12.91 million and 14.63 million, respectively. In 2016, 26.9 per cent of such workers were in manufacturing, 13.6 per cent in construction and 55.6 per cent in services.

2. The problem of output and employment growth in India

GDP and NDP data by sector are available up to 2012.¹¹ The annual growth of value added in the Indian economy in 2000–12 was 7.2 per cent per annum and productivity growth was around 5.6 per cent. This is undoubtedly a high rate of growth sustained over a decade and a half. For the period 2000–12, the growth of employment and the annual growth of the labour force are the same (1.47 per cent), and the unemployment rates (2.7 per cent) for 2000 and 2012 are similar as well.¹²

¹¹ A host of issues arise with regard to estimating national output in India after 2012. Our main discussion is concerned with 2000–2012. The real sector committee (RSC) data, which is a government-produced data set, starts from 1994 and runs up to 2017. It is a full series but it cannot be disaggregated into unorganized and organized. We use these data in our discussion of shares of gross value added (GVA) across sectors and until 2012. In our view, the GVA series from the RCS is useable. Its advantage is that it is a single series. The government's preferred series for gross value added was released in 2018 but it starts from 2004–2005 and cannot be extended backwards for an analysis that chooses an earlier starting point. It also has problems of its own. For the decomposition exercise for 2000–2012, which requires that we distinguish between unorganized and organized parts of sectors, the only option is to use the NDP series from national accounts.

¹² Using the Labour Bureau data for 2016, we find growth in employment was higher in 2000–12 than it was in the period 2000–16. The gap between labour force growth and employment growth was higher in 2012–16 than in 2000–12. This is reflected in the rise in the unemployment rate, withdrawals from the labour force (the gap increased between the working age population and labour force) and falling participation rates. Thus after 2012, overall employment growth declined and the open unemployment rate jumped from 2.7 per cent in 2012 to 5.1 per cent from 2016. There is consequently no surprise in the reported NSSO 2018 figures of an unemployment rate over 6.1 per cent in 2017–18. Even on the basis of a basic projection, if we increase employment and unemployment by the rate of growth between 2012 and 2016, the unemployment rate for 2017 was 5.8 per cent and 6.8 per cent for 2018. The slowdown in growth of value added since 2012 is associated with an increase in the unemployment rate and declining participation rates. This also explains in part the higher productivity growth in 2012–2016.

Table 1. GDP and GVA in India, 2000-16¹³

	2000	2005	2010	2012	2016	Growth 2000-12	Growth 2000-16	Growth 2012-16*
GDP at factor cost (2004–05 prices) billion	22 549.4	29 714.7	45 106.7	52 475.3	—	7.40%	—	—
GDP at constant (2011–12 prices) billion	—	54 803.8	76 510.8	87 363.3	113 861.5	—	—	6.63%
NDP at constant (2011–12 prices) billion	—	50 045.3	68 824.8	78 191.6	101 197.9	—	—	6.47%
GVA (2011–12 prices) billion [RSC-All sub-sectors aggregate]	35 498.2	45 724.1	69 223.6	81 069.7	105 033.5	7.23%	7.18%	6.46%
GVA (2011–12 prices) billion [RSC- Adjusted Aggregate]	33 812.4	44 642.8	69 207.7	81 069.5	105 033.5	7.69%	7.52%	6.46%
Labour productivity (2011– 12 prices) Rs thousands [RSC – All sub-sectors aggregate]	99.1	112.2	163.4	189.9	240.7	5.57%	5.71%	6.11%
Labour productivity (2004– 05 prices) Rs thousands [NAS – factor incomes]	56.6	65.0	94.3	108.2	—	5.55%	—	—

Note: Calculations of growth (log linear estimates). The RSC adjusted aggregate is the based on adjustments that the RSC has itself done on the addition of subsectors

¹³ The definition is from MOSPI (2008), Factor Incomes Document 1999–2000 base. Unorganized is all that is not in the organized economy. There is some (very marginal) employment in Public Administration and Defence that can come in the unorganized economy that has been shifted to the organized part.

Defined as part of the organized economy are:

Agriculture, public, semi-public, public limited, private limited, cooperatives & enterprise size ≥ 10

Forestry and fishing, public, semi-public, public limited, private limited, cooperatives

Agriculture, public, semi-public, public limited, private limited, cooperatives & enterprise size ≥ 10

Forestry and fishing, public, semi-public, public limited, private limited, cooperatives

Mining, public, semi-public, public-private limited, cooperatives

Manufacturing, public, semi-public, public limited, private limited, cooperatives & enterprise size ≥ 10

Electricity, water and gas supply, public, semi-public, public-private limited, cooperatives

Construction, public, semi-public, public-private limited, cooperatives

Services, public, semi-public, public-private limited, and cooperatives.

Table 2. Employment and labour force indicators, 2000-16

	NSSO 2000, UPS, 15+	NSSO 2005, UPS, 15+	NSSO 2010, UPS, 15+	NSSO 2012, UPS, 15+	LB 2016, UPS, 15+	Growth 2000-12	Growth 2000-16	Growth 2012-16
Employment	358 251 025	407 651 335	423 730 609	426 913 119	436 290 376	1.47%	1.24%	0.54%
Unemployed	10 057 389	13 050 305	10 613 577	11 800 729	23 039 090	1.34%	5.32%	18.21%
Unemployment rate	2.73%	3.10%	2.44%	2.69%	5.02%			
Labour Force 15+	368 308 414	420 701 639	434 344 186	438 713 848	459 329 467	1.47%	1.39%	1.15%
Working age population 15+	643 889 936	722 828 124	811 362 406	850 130 448	912 243 702	2.34%	2.20%	1.78%
LFPR All	57.2	58.2	53.53	51.6	50.35			
LFPR Male	82.81	83.09	79.91	79.07	75.02			
LFPR Female	30.69	32.65	26.17	23.34	23.71			

Note: Census adjusted estimates, NSSO data various years. Employment calculated on the UPS definition. Unless otherwise stated, in general we use UPS employment classification. All calculations involving employment are built from unit level data.

For details on definitions see http://www.mospi.nic.in/sites/default/files/publication_reports/concepts_golden.pdf

The employment data used in this chapter come from the NSSO (2000, 2005, 2010 and 2012). Use of employment data from the Labour Bureau (2016) surveys is specified¹⁴ and where absolute numbers are given they are census-adjusted. There are different ways in which employment sub-categories can be constructed from unit-level survey data. For our purposes, we take the UPS classification of employment status in the NSSO.¹⁵

We consider self-employment and casual employment to be non-regular forms of employment. What remains is regular paid wage employment. Regular paid employment can itself be separated between regular paid employment that has some security or contractual protection associated with it and regular paid (non-protected) employment which has no such security or protection. For the former we measure security by examining answers to questions in the surveys on security and social protection provisions in contractual arrangements, and we classify members of this group who enjoy at least one type of protection provision as being in regular protected employment. We call regular paid employment with no security, regular non-protected employment. From the perspective of structural change, in the best-case scenario we can expect both regular protected and all regular employment shares in total employment to rise as transition takes place. Casual employment and self-employment are non-regular forms of employment, and their shares – or at least the share of all non-regular employment in total employment – is expected to fall as output and productivity grow.

It is important first to establish that the hierarchies that we associate with the four employment types are valid in some basic sense: namely that, on average, regular protected employment is the best, regular non-protected employment the next best, self-employment the next and casual labour the least good. In order to do this we estimate monthly per capita household consumption for each of these groups from unit-level data for households. These

¹⁴ Our view is that the 2016 Labour Bureau data – from which 2016 estimates are drawn – is comparable to NSSO data and the changes we see between 2012 NSSO and 2016 LB are not merely a reflection of the differences in methods employed and frequencies of surveys between the two sources. The NSSO 2017–2018 data files had not been officially released at the time of writing.

¹⁵ The status of activity on which a person has spent a relatively longer period of the year prior to the date of survey is considered to be the person's usual principal activity status (UPS).

estimates are given below, and validate the hierarchy for employment types.¹⁶ These also suggest that the ratio of regular to non-regular employment per capita household consumption is fairly stable, confirming the broader Lewisian assumption of a wage premium. There is, however, an increase over time in real per capita average household consumption for each employment type and this is expected in a situation of consistent and high output growth for over a decade. At the most general level – and without distinguishing between the organized and unorganized parts of the economy, which is done later¹⁷ – this is the broad picture.

Table 3. Real average monthly per capita consumption expenditure MPCE 82011-12 prices)

UPS Workers	2000	2005	2010	2012
Regular formal	2 100	2 852	2 858	3 263
Regular informal	1 434	1 517	1 852	1 955
Regular	1 774	2 097	2 299	2 488
Self-employed	1 067	1 193	1 346	1 494
Casual workers	788	865	958	1 104
Non-regular	957	1 075	1 187	1 347
Total	1 082	1 235	1 372	1 567
Ratio regular/ non-regular	1.85	1.95	1.94	1.85

Note: Based on NSSO data, various years. The NSSO gives household consumption expenditure for each respondent; this is converted in to real values at 2011–12 prices. Per capita household consumption expenditure is then calculated by dividing this number by the number of household members.

Table 4. Employment types as a percentage of total employment

	2000, UPS, 15+	2005, UPS, 15+	2010, UPS, 15+	2012, UPS, 15+	2016, UPS, 15+
Regular protected	7.8	6.8	7.4	7.9	8.4
Regular non-protected	7.5	8.8	9.3	11.4	12.2
Regular	15.3	15.6	16.7	19.3	20.7
Casual workers	34.6	30.3	34.2	30.4	32.8
Self-employed	50.1	54.1	49.1	50.3	46.6
Non-regular (casual and self-employed)	84.7	84.4	83.3	80.7	79.3

Note: Estimates based on NSSO and LB data for 2016

In 2000–12, which was a period of high growth, regular employment grew slowly and its employment share increased from 15.3 per cent in 2000 to 19.3 per cent 2012. Regular protected employment grew much more slowly, from 7.8 per cent to 7.9 per cent of total employment in the same period. Thus while the regular employment share in total

¹⁶ The hierarchy is exactly the same for the estimates we have done for earnings. The earnings estimate requires some assumptions to be made for self-employed in the unorganized part of the economy, because using mixed income from national accounts for the self-employed does not reflect their returns to labour.

¹⁷ This hierarchy is not disturbed even when we look separately at the organized and the unorganized parts of the economy. It is worth noting that the rising share of regular non-protected employment in all regular employment is associated with an increasing consumption gap over time; the ratio between the MPCE of the protected regular employed to the MPCE of the non-protected regular employed is rising.

employment increased, that of regular protected employment scarcely budged. Just as the regular employment share increased in 2000–12, the non-regular employment share slowly declined (84.7 per cent to 80.7 per cent).¹⁸ This is the economy-wide picture of the employment structure.

While we find that the growth of output and productivity were impressive in India in 2000–12, two aspects of the employment situation evolved very differently. The real consumption (and therefore income) of each type of worker improved significantly over time without there being any significant change in the consumption-based hierarchy. In other words, this improvement is not commensurately reflected in any major changes in the employment structure. *Prima facie* increases in economy-wide output and productivity improved returns for workers – increasing their consumption – without significantly altering the qualitative structure of employment in the country.

¹⁸ This is in fact the basis on which those who set the standard of improvement on trends in the best form of employment (regular protected employment) argue that the employment structure did not improve, even if, technically speaking, it did not deteriorate. On the other hand, those who base the standard of judgement on the lesser “all regular employment” standard (because it is better than non-regular employment, that is, self-employment and casual employment) argue that the employment situation improved discernibly, albeit slowly.

3. Growth of labour productivity and leading growth sectors in India

In India, changes in output, employment and productivity are indicative of a growth process led by services, not manufacturing. While commentators may differ on whether this growth path is sustainable or feasible, the fact that this non-classical pattern of growth has taken place is not in doubt.¹⁹ Our aim in this section is to give a comparative and direct overview of the output, employment and productivity trends in the main sectors of the economy and to examine the nature of the relative dominance of services over other sectors in terms of its growth-enhancing and employment-generating potential. The latter is done with a comparison with manufacturing in mind.

The economy-wide growth process can be divided into basic economic sectors as a first approximation. We examine gross value added (GVA) in five basic sectors. We present two complementary tables on gross value added: one shows real value added growth in each major sector (and for the economy as a whole); and the other shows the changing shares of value added across sectors over the same period. These are complementary tables as sustained value added growth in a particular sector over time is reflected in shifting relative shares of value added in favour of that sector.²⁰ The same tables are repeated for employment.

Table 5. Gross valued added percentage shares across major sectors

	Agriculture	Manufacturing	Construction	Services	Other Industries	Economy
1999-2000	29.4	17.1	8.9	36.9	7.9	100.0
2004-05	24.7	17.8	10.3	39.6	7.6	100.0
2009-10	19.0	17.8	9.8	47.2	6.1	100.0
2011-12	18.5	17.4	9.6	49.0	5.5	100.0

Note: * "Other industries" include electricity and gas, mining and quarrying and water supply.

Table 6. Growth in gross value added (CAGR), 2000-12

Agriculture	3.1
Manufacturing	7.3
Construction	7.8
Services	9.9
Other Industries	4.1
Economy	7.2

¹⁹ Amirapu and Subramanian (2015) argue that manufacturing-led growth may be less feasible now. The sub-sectoral comparisons they perform suggest similar characteristics between services and industry, both positive and adverse. See Dasgupta and Singh (2005) on the future of services as a lead sector in India. On the relationship between the acceleration of growth and the role of services in India, see Ghose (2014).

²⁰ If the cross-sectoral share of output for a particular sector rises significantly over a period, the output growth rate of that sector will be significantly higher than the economy-wide growth rate. Similarly, if the cross-sectoral share of a sector's output falls systematically over time, the sector's growth rate will be lower than the economy-wide growth rate during that period.

Table 7. Sectoral employment as a percentage of total employment in the economy (%)

	Agriculture	Manufacturing	Construction	Services	Other Industries	Total employment
2000	59.64	10.73	4.68	24.04	0.91	100 (358 251 025)
2005	56.00	11.77	6.11	25.20	0.92	100 (407 651 335)
2010	51.52	11.09	9.74	26.68	0.97	100 (423 730 609)
2012	47.00	12.67	10.74	28.52	1.06	100 (426 913 119)

Table 8. Employment growth in each sector and the economy, 2000-12 – Compound annual growth rates (CAGR) (%)

Agriculture	-0.52
Manufacturing	2.89
Construction	8.76
Services	2.93
Other Industries	2.72
All sectors	1.47

Table 9. Real average monthly household per capita consumption expenditure MPCE, 2011-12 prices Rs

Economy	Agriculture	Manufacturing	Construction	Services	Other industries	Total
NSSO 2004-05	968.72	1 383.99	1 083.41	1 777.2	1 685.11	1 234.95
NSSO 2009-10	1 061.95	1 560.81	1 141.26	1 966.06	1 704.34	1 372.45
NSSO 2011-12	1 195.29	1 773.27	1 254.96	2 186	2 127.72	1 567.38
<i>Organized</i>	<i>Agriculture</i>	<i>Manufacturing</i>	<i>Construction</i>	<i>Services</i>	<i>Other Industries</i>	<i>Total</i>
NSSO 2004-05	1 273.67	1 853.23	1 316.04	2 731.07	2 202.85	2 346.34
NSSO 2009-10	1 181.36	2 021.67	1 406.55	2 755.69	2 158.38	2 382.98
NSSO 2011-12	1 973.72	2 214.92	1 420.69	3 035.89	1 745.75	2 594.71
<i>Unorganized</i>	<i>Agriculture</i>	<i>Manufacturing</i>	<i>Construction</i>	<i>Services</i>	<i>Other Industries</i>	<i>Total</i>
NSSO 2004-05	968.21	1 183.17	1 069.4	1 485.86	1 091.01	1 106.54
NSSO 2009-10	1 061.63	1 343.17	1 111.69	1 698.53	1 213.78	1 235.59
NSSO 2011-12	1 194.3	1 519.32	1 232.39	1 893.65	1 403.59	1 402.29

It is expected that, over time, agriculture's share of value added, while high in earlier stages of development, will decline, given that agriculture is a sector with low relative

productivity. This has happened in an unbalanced manner in India. The decline in agriculture's share of employment has not been particularly rapid, while the decline in its share of output has been high. In 2012, agriculture accounted for 18.5 per cent of output and 47.0 per cent of employment. Moreover, consumption in agriculture (unorganised) has increased the least. This is the first obvious sign that dualism is only slowly being reduced in the Indian economy. In general, value added growth rates are positive for all sectors. The share of services in total output is the highest in the economy (49 per cent). The sector's growth (9.9 per cent) also markedly outstripped economy-wide value added growth in 2000–12. The share of services in total employment was also the highest outside agriculture (28.5 per cent) and it grew faster than in manufacturing and other sectors, with the exception of construction.²¹ It is, however, worth noting that consumption differentials between construction and agriculture are positive in the economy, especially between unorganized agriculture and unorganized and organized construction. This is supposed to be the major pathway of labour transfer. While no sector exhibited negative output growth, the share of manufacturing is constant and that of services rose. The highest level of productivity (except for the “other industries” category, which is relatively very small) and the highest rate of productivity growth was in services.²² It is quite clear that Indian growth has been services-led.

Table 10. Growth in GVA per worker (CAGR) (%)

	Agriculture	Manufacturing	Construction	Services	Other industries	Average GVA per worker
2000-12	3.63	4.28	-0.86	6.57	1.27	5.57

Table 11. GVA per worker, Rs (thousands in 2011-12 prices)

Financial year	Agriculture	Manufacturing	Construction	Services	Other industries	Average GVA per worker
2000	48.8	157.5	188.1	151.9	853.1	99.1
2005	49.4	169.8	189.6	176.2	923.7	122.2
2010	60.4	262.9	165.0	289.1	1 018.2	163.4
2012	74.8	260.6	169.5	326.0	992.3	189.9

²¹ It is worth noting that, while agriculture reduced its employment share from nearly 60 per cent to 47 per cent, construction increased its share from 4.6 per cent in 2000 to 10.7 per cent in 2012. Construction is becoming a refuge employment sector as its productivity declines.

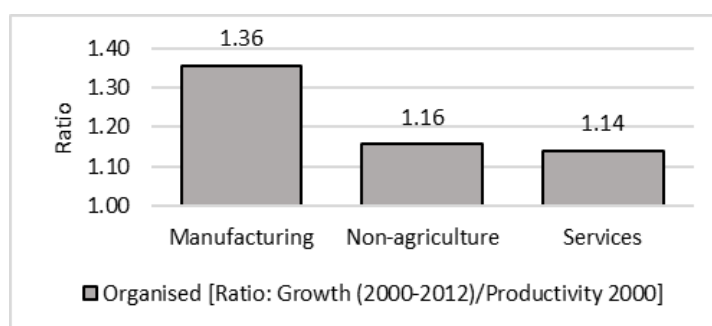
²² One needs to bear in mind two things about services. First, in general, productivity is difficult to measure in services. Second, in India a significant portion of services are in the government and defence sector.

4. Growth and employment in manufacturing and services

The next question that we pose regarding the lead sector concerns internal growth and employment generation potential in comparison with manufacturing.²³ More specifically, we try to ascertain whether services has an intrinsic high growth characteristic in India²⁴ and how it fares with regard to the growth of decent employment. It is difficult to test such propositions except indicatively. In general, it is generally accepted that in low income developing economies manufacturing-led growth has more sustainable growth-enhancing and employment-improving potential,²⁵ with the proviso that some modern services are considered to be similar to manufacturing in terms of their skill requirements (Dasgupta and Singh, 2005) or as offshoots of an erstwhile integrated manufacturing sector to form separate services.

Figure 1 takes two variables to construct a basic indicator of long-term growth in a sector. It is restricted to the organized economy. Manufacturing output growth potential is best judged by focussing on the modern and higher productivity side of the economy, which is the organized part. The numerator is the compound annual growth in labour productivity between 2000 and 2012; the denominator is the initial level of labour productivity at the beginning of the period, in 2000. The greater this ratio for an economic sector, other things being equal, the higher – it can be argued – is its growth potential. We want to see the magnitude of this ratio, in a comparative sense, for manufacturing and services, bearing in mind that economy-wide growth has been services-led. The figure shows that this ratio is higher for manufacturing in the organized economy.

Figure 1. Ratio of labour productivity growth during 2000-12 (CAGR) to level of labour productivity in 2000 in the organized economy



²³ We shall see later that in manufacturing the larger part of output is in organized manufacturing (66.4 per cent), while the bulk of employment is in unorganized manufacturing (63.5 per cent). The same applies to services: while 50 per cent of output is in organized services, 74.4 per cent of employment is in the unorganized economy. The only difference is that while in organized manufacturing both the shares of output and employment are increasing over time, for organized services there is now a decline in the employment share.

²⁴ Sometimes these discussions carry implications for government policy choices in determining growth paths. Our concern is basically about the validity of the general expectation. For a comprehensive case for manufacturing led growth in India see Ghose (2016).

²⁵ The East Asian export led growth experience is often used to show that it was manufacturing-led growth tied to exports that transformed these economies (or significantly reduced or eliminated dualism – see Ghosh and Chandrasekhar, 2013). In recent decades China has also shown the same development (Majid, 2015).

The second point concerns the potential for generating more and better forms of employment. First, we look at services and manufacturing in themselves. Here we focus on the organized part of the economy, as it is here that the bulk of output and most regular (that is, good) employment is to be found in these sectors. The ratio between the share of employment and the share of value added in the organized economy over time captures the extent to which there is a balance between output and employment in a sector. The higher the ratio the greater the likelihood that output generation in a sector has also been employment generating. It is quite clear that organized manufacturing has a higher ratio of employment share to value added share compared with organized services. It is also important to note that this ratio between employment and output share in organized services is declining over time.

Table 12. Sectoral employment share in total employment/share of sectoral value added in total value added – organized economy only

Organized	2000	2012
Manufacturing	1.51	1.66
Services	1.03	0.79

The next illustration concerns a sector's potential for generating better forms of employment than in other sectors. Essentially, for 2000–12 we calculate growth in gross value added in a sector (for example, for manufacturing or services) and examine the growth in regular employment²⁶ in sectors other than the one in which we are measuring GVA growth. It is a cross-elasticity indicator. This gives us a view, again under simplifying assumptions, of potential good employment multipliers in other sectors as a result of output growth in a particular sector. The regular employment multipliers seem to be higher for manufacturing growth than for services growth.

Figure 2. Elasticities, 2000-12



These indicative findings need to be stated together. Services at least does not seem to be superior to manufacturing from the point of view of its long-run capacity for output growth.²⁷ Second, the economy-wide potential for generating regular employment is lower from services growth, even though the share of regular employment in services is high. This

²⁶ Regular employment, as we shall see, is better employment than non-regular employment. It includes regular paid employment with some social security, as well as without social security. We estimate that it accounted for around 19.3 per cent of total employment in 2012.

²⁷ Bearing in mind that for many services the notion of output is itself problematic.

has to be seen in conjunction with the country's growth trajectory, which was led by services, whose shares of both output and employment increased.²⁸

Structural change and productivity growth in the organized and unorganized parts of the Indian economy

It was suggested in Section 1 that some dualism (between the organized and the unorganized parts) in the economy should decline as labour transfer occurs and productivity increases. The expectation is for an increase in both the output and the employment share of the organized economy. Growth decomposition exercises that distinguish between the unorganized and the organized parts of the economy, in addition to determining the contribution of labour transfer or "structural change" to productivity growth, allow us to probe this matter in some detail.

The output share of the organized part of the economy increased from 39.1 per cent in 2000 to 45.6 per cent of total output in 2012. This has been a positive change, but it was not too rapid. The bulk of the Indian economy in output terms was still in the unorganized part in 2012. We also find that the employment share of the organized economy grew from a low base of 10.3 per cent in 2000 to 13.9 per cent in 2012. This is not rapid at all for a 12-year period.

Table 13. Organized sectoral output as a percentage of total output in the sector (%) – Constant 2004-05 prices

Sectors	2000	2012
Agriculture	4.9	4.7
Manufacturing	55.5	66.4
Construction	40.6	33.7
Services	46.4	50.6
Other Industries	92.8	88.6
Total-Organized	39.1	45.6

Note: All output shares in this section are NDP estimates. MOSPI database.

²⁸ The share of services in employment grew between 2000 and 2012, rising from 24 per cent of total employment to 28.5 per cent. However, the share of employment in organized services in total organized employment fell slightly, from 53 per cent in 2000 to 52.6 per cent in 2012. In absolute terms, our census-adjusted estimates show that services employment grew from 86.1 million in 1990 to 121.8 million in 2012, and importantly that regular employment in services – which is mainly in the organized part – grew from 36.2 million in 2000 to 55.2 million in 2012.

Table 14. Organized employment shares as a percentage of total employment in the sector

Sectors	2000	2012
Agriculture	0.2	0.2
Manufacturing	26.5	36.5
Construction	9.6	12.0
Services	26.9	25.6
Other Industries	47.7	54.0
Total-Organized	10.3	13.9

It is very clear that the unorganized/organized shift in output and, especially, employment has been very limited overall. Looking at manufacturing, the shifts have been pronounced: the share of the organized manufacturing sector as a percentage of total manufacturing output increased from 55.5 to 66.4 per cent, while that of organized manufacturing employment increased from 26.5 to 36.5 per cent.

As far as differences in organized and unorganized productivity across and within sectors are concerned, our main observation is that labour productivities in the organized parts of each sector are systematically higher than they are in unorganized parts of the same sector. This is only to be expected. It is also worth noting that narrowing productivity gaps between organized and unorganized parts of the same sectors over time is a general phenomenon in the Indian economy, except in manufacturing, where this gap is near stationary or rising only slowly.²⁹ Although most of the productivity gaps within sectors were declining over time until 2012, they were still fairly wide. On the other hand, productivity gaps across sectors within the unorganized economy are lower than those among sectors within the organized economy.

Table 15. Ratio of organized to unorganized labour productivity

Sectors	2000	2012
Agriculture	21.54	19.83
Manufacturing	3.26	3.67
Construction	4.11	1.42
Services	2.65	1.94
Other Industries	8.92	2.65
Total-Organized	5.64	3.66

²⁹ Another implication of these large gaps is that within-sector movements of labour – that is, between unorganized and organized parts of the same sector – are likely to be low because of the skills required in the organized parts.

Table 16. Labour productivity growth and Labour productivity standard deviation

	Labour productivity growth 2000-12 (2004-05 prices)	Labour productivity 2012 — standard deviation
Organized 15 sectors	4.26%	433 989
Unorganized (15 sectors)	4.93%	374 767
Economy (30 sectors)	5.56%	433 989

The growth process in India suggests that, while productivity growth has taken place in both the unorganized and the organized parts of the economy, the transition to an organized system of production organization has not been rapid and, importantly, the shift of labour from the unorganized to the organized parts of the economy has been very modest.³⁰ We need to bear this mind when interpreting results of the growth decompositions below.

Can the analysis of the components of changes in labour productivity shed some further light on the pattern of changing output and employment shares observed above? Given that there is a continuum of different productivities not only across but within the unorganized and organized parts of an economy, there is a high likelihood that labour transfers occur significantly within the unorganized sectors as well. There is also no necessity that the bulk of labour transfer must only or predominantly be across the unorganized/organized divide.³¹ In fact, in typical labour surplus economies, as long as there are large numbers of workers in unorganized segments many labour transfers are likely to occur first there. This is because productivity increases resulting from the capital accumulation/deepening component, while relatively stronger, are generally less so in the unorganized economy, and productivity gaps between sectors in the unorganized economy are smaller than those in the organized economy. The latter would facilitate movement of a pool of unskilled surplus labour from lower to relatively higher productivity activities within the unorganized economy.

We shall now carry out the decomposition³² and divide the economy into 15 unorganized and 15 organized economic sectors.³³ We run two decomposition diagnostics and try to examine both the dualism dimension and the purely sectoral productivity

³⁰ The industry-led growth engine assumption does not hold in the Indian case and neither does the idea that labour transfer is from the lower end of the productivity scale to the higher end, as that would imply a move from the unorganized to the organized economy.

³¹ The general expectation is still that in the long run the dualism in production organization will decline and output and employment will move in favour of the organized economy. In the medium term, however, we should expect productivity levels in the unorganized and the organized economy to converge somewhat before shifts from the unorganized to the organized part dominate. The sequencing in a Lewis framework should therefore be that the first phase of labour transfers will be dominated by moves within the unorganized economy, and in the second phase they will be joined by transfers from the unorganized to the organized part, before a turning point is reached, after which wages also begin to rise.

³² This can be expressed using the following equation: $\Delta Y_t = \sum \theta_{i,t-k} \Delta y_{i,t} + \sum y_{i,t} \Delta \theta_{i,t}$ where i = sector, t = 1990 to 2012 and Y_t and $y_{i,t}$ refer to economy-wide and sectoral labour productivity levels, respectively, and $\theta_{i,t}$ is the share of employment in sector i . The Δ operator denotes the change in productivity or employment shares between years. The first term in the decomposition is the weighted sum of productivity growth within individual sectors, where the weights are the employment share of each sector at the beginning of the time period or the “within” component of productivity growth. The second term captures the productivity effect of labour reallocations across different sectors and is called the “structural change” component.

³³ The following sectors are in both organized and unorganized segments: agriculture; forestry and logging; fishing; mining and quarrying; manufacturing; electricity, gas and water supply; construction; trade; hotels and restaurants; transport (railways and others); storage; communication; banking, insurance, real estate and business services; and other services. (We keep public administration and defence in the organized domain only and agriculture only in the unorganized). The main increase from the five-sector template used earlier is in the number of services-related sectors.

differential dimension of labour transfers.³⁴ This is a matter of choice and in no way reflects the importance of the capital component.³⁵

The results below show the two components of the decomposition for the period 2000–12.³⁶

³⁴ The adjustment to the typical decomposition exercise is done in the following manner. We introduce the unorganized and organized distinction for each economic sector to proxy the dualism associated with production organization and labour use. On the output side, NDP data, and on the employment side NSSO data are recast for the same unorganized/ organized sectoral divisions. We then do a decomposition analysis on multiple sectors (15 unorganized and 15 organized) of the Indian economy.

³⁵ If we find that the capital component that accounts for productivity growth in India is 70 per cent and the labour transfer component is 30 per cent, then these component attributions to productivity growth have to be further explored in the specific country context. The capital component of the decomposition, for example, in the above hypothetical 70 per cent attribution needs to be elaborated upon. The explanation could be innovation and technology-driven physical and human capital deepening in the economy or it might be due to capital accumulation or even both, with one having primacy over the other or vice versa. There are many possibilities that effectively constitute the “context” of the figure of 70 per cent.

³⁶ While it is possible to do this estimate for 2000–2016 for the whole economy using RSC data for value added and Labour Bureau data for employment, it is not possible to break down sectors by organized and unorganized for this period, which is one reason why we use the 2000–2012 period. It is also our view that shorter periods for such exercises are less likely to make sense and these decompositions should be at least a decade long. We need to use the NDP measure of factor incomes from national accounts because the CFC depreciation component of GVA is calculated in the data set only after 2004–2005. The series from 1999–2000 to 2004–2005 uses 1999–2000 as its base. The series from 2004–2005 to 2011–12 uses 2004–2005 as base. We use an NDP deflator for each sector to make this into one 2000–2012 series using 2004–2005 as base.

Table 17. Labour productivity change decomposition for 30 sectors (15 unorganized and 15 organized) – NDP data for output and NSSO data for employment

Period	Within (capital accumulation)	Between (labour transfer or structural change)	Change in labour productivity
2000-12	$\sum \theta_{i,t-k} \Delta y_{i,t}$	$\sum y_{i,t} \Delta \theta_{i,t}$	ΔY_t
Economy	0.038	0.018	0.056
Percentage share	67.4%	32.6%	100%

The structural change component is 32.6 per cent. It is important to bear in mind what this labour transfer component across economic sectors represents. Any move on the part of workers – reflected in changing shares of employment – that crosses any of the 30 economic sectoral boundaries is considered in the labour transfer component. The following transfers of labour should be covered: (i) labour shifts from any unorganized part of a sector to any organized part of a sector;³⁷ (ii) labour shifts across unorganized parts of different economic sectors; and (iii) labour shifts across organized parts of different economic sectors.³⁸ In this decomposition all labour transfers that take place across sectors as defined are taken into account. Essentially, by introducing multiple sectors and the unorganized and organized parts of each economic sector this decomposition covers all labour transfers. The next decomposition of labour productivity simply aggregates the economic sectors into unorganized and organized parts of the economy, respectively, for the decomposition. This is more in line with the idea of labour transfer in the dual economy framework. The structural change component here captures only those shifts that take place between the two aggregated parts – the unorganized and organized – of the economy. The share of the labour transfer component in this decomposition is 12.4 per cent,³⁹ which is lower than the 32.6 per cent obtained from the previous decomposition. This means that a very large part of productivity-enhancing shifts do not take place from the unorganized to the organized economy

Table 18. Labour productivity change decomposition with two (unorganized and organized) parts of the economy using NDP data for output and NSSO data for employment

Period	Within (capital accumulation)	Between (labour transfer or structural change)	Change in labour productivity
2000-12	$\sum \theta_{i,t-k} \Delta y_{i,t}$	$\sum y_{i,t} \Delta \theta_{i,t}$	ΔY_t
Economy	0.049	0.007	0.055
Percentage share	87.6%	12.4%	100%

We argued at the beginning of this chapter that structural change defined as the transfer of workers in large and poor developing countries can be linked in theory, to the reduction of dualism in production organization. We have found that, despite high productivity growth, this had not taken place in India on a substantial scale. Based on the results of the

³⁷ This will include shifts that take place between unorganized and organized parts of a given sector because these are now separated in to two. In other words this will include movements “within” a broadly defined “economic sector” (i.e. from unorganized to unorganized parts of say manufacturing as both organized and unorganized manufacturing exist separately in the sample). Such shifts in our view are small as productivity gaps between organized and unorganized parts of the same sector are still quite large.

³⁸ These are unlikely to be linked to productivity change in those sectors.

³⁹ It is worth pointing out that this 12.4% is more likely to be attributable to increase in labour productivity in the unorganized sector (and onward to total productivity) due to the exit of labour from it. We have done many decompositions on the data. Using GVA data from 2005-2012 is possible. The results are not very different.

decomposition exercises, it appears that one of the main reasons for this is that a majority of labour transfers that have resulted in increased productivity are within the unorganized economy⁴⁰ and not from the unorganized to the organized economy. This has implications for our expectations concerning improvements in the structure of employment (that is, the reduction of dualism), as we have also shown that the bulk of employment in the unorganized economy is non-regular, while in the organized economy it tends to be regular. The puzzle of slow change in overall employment structure in a period of high productivity growth (sometimes called jobless growth) is partly solved by distinguishing between two types of labour transfer that can obtain in a large developing economy characterized by surplus labour with productivity growth.

⁴⁰ While it is difficult to show, given the superiority of manufacturing in terms of growth and employment outcomes, that the developmental path of services-led growth is in some degree directly responsible for the unorganized economy's dominance in structural change, these two findings are to some extent complementary.

5. Structural change and the quality of employment

We have noted that different types of employment coexist in every economic sectors and indeed within both their organized and their unorganized parts. The following two tables present the main points we need to make in this section. The first shows how much of the given type of employment is distributed across the unorganized and the organized parts of the economy. The second shows the distribution of employment types in the unorganized and the organized parts of economy, respectively. We shall use information in these tables in the following discussion on the unorganized and organized parts of the economy.

Table 19. Percentage share of employment type in total employment (%)

	2000			2005			2012		
	Organized	Unorganized	All	Organized	Unorganized	All	Organized	Unorganized	All
Regular Formal	81.31	18.69	100.00	91.24	8.76	100.00	90.47	9.53	100.00
Regular Informal	29.48	70.52	100.00	28.08	71.92	100.00	37.87	62.13	100.00
Regular Self-Employed	55.94	44.06	100.00	55.52	44.48	100.00	59.30	40.70	100.00
Casual	3.98	96.02	100.00	0.60	99.40	100.00	0.41	99.59	100.00
Non-Regular	0.63	99.37	100.00	4.65	95.35	100.00	7.27	92.73	100.00
Total	2.00	98.00	100.00	2.06	97.94	100.00	3.00	97.00	100.00
	10.28	89.72	100.00	10.41	89.59	100.00	13.87	86.13	100.00

Table 20. Percentage share in total employment by employment type (%)

	2000			2005			2012		
	Organized	Unorganized	All	Organized	Unorganized	All	Organized	Unorganized	All
Regular protected	61.98	1.63	7.8	59.50	0.66	6.8	51.33	0.87	7.87
Regular unprotected	21.55	5.91	7.5	23.84	7.10	8.8	31.25	8.26	11.45
Regular	83.53	7.54	15.4	83.34	7.76	15.6	82.58	9.13	19.32
Self-Employed	13.38	37.03	34.6	3.13	60.01	54.1	1.48	58.14	50.28
Casual	3.09	44.43	50.0	13.53	32.23	30.3	15.94	32.73	30.40
Non-Regular	16.47	92.46	84.6	16.66	92.24	84.4	17.42	90.87	80.68
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Employment structure and productivity in the unorganized economy

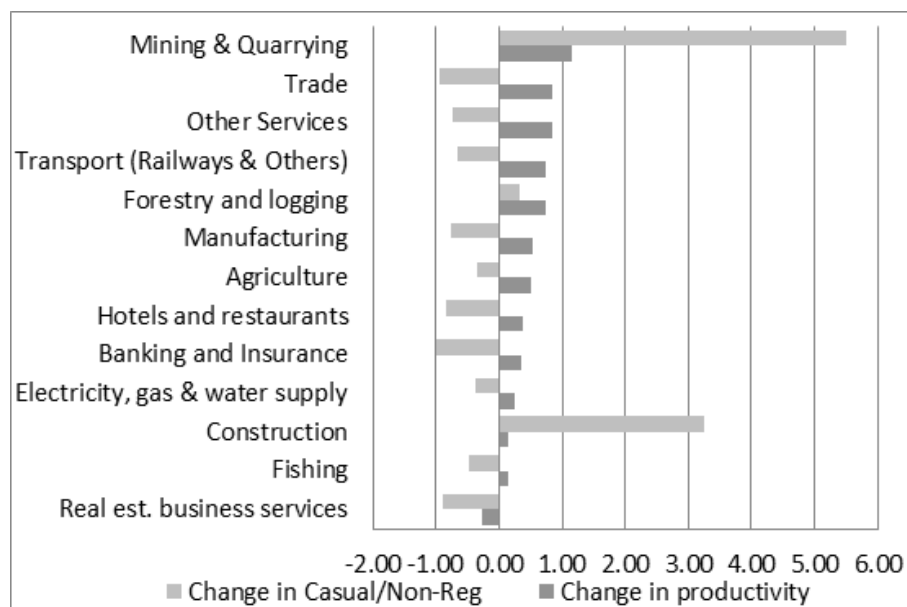
We shall first examine the unorganized economy in detail. We have argued that labour transfer and structural change played an important part in productivity increases. We can also see that because most employment (92.46 per cent in 2000 and 90.87 per cent in 2012) in the unorganized economy was non-regular, this would not show up as an improvement in the economy-wide employment structure. This dominance of non-regular employment in the unorganized economy has indeed not changed significantly over time. We need to look beneath this level of qualitative aggregation of employment to see whether there are changes consistent with the fact of high productivity growth, as well as labour transfer within the unorganized economy.

Only a miniscule part of employment in the unorganized economy offers the best employment – regular protected employment (0.87 per cent of all unorganized employment in 2012) and so we can ignore this category. Regular non-protected employment is effectively the best form of employment in the unorganized economy.⁴¹ While not an extremely large proportion in the economy as a whole, the majority of all regular non-protected employment exists in the unorganized economy (62.13 per cent). The proportion of regular non-protected employment in the unorganized economy increased in the period under examination, from 5.9 per cent in 2000 to 8.3 per cent in 2012. This is a positive development for the employment structure in the unorganized economy. Self-employment and casual labour dominate employment in the unorganized economy. Combining them under the heading “non-regular employment”, they accounted for 90.87 per cent of employment in the unorganized economy in 2012. If we examine the components of non-

⁴¹ We estimate for the unorganized economy that the per capita consumption ratio of all regular non-protected employment to all non-regular employment was 1.36.

regular employment, however, the share of casual workers in total unorganized employment fell from 55.4 per cent in 2000 to 32.7 per cent in 2012; and that of self-employment rose from 37.0 per cent to 58.1 per cent in the same period.⁴² Taken together, the proportion has not changed significantly, but taken separately there was a decline in the proportion of casual workers in non-regular employment in the unorganized economy. This also represents an improvement in the structure of employment in the unorganized economy. In other words, less casual employment and more regular (albeit non-protected) employment.

Figure 3. Change in labour productivity and in casual employment/non-regular employment in the unorganized economy



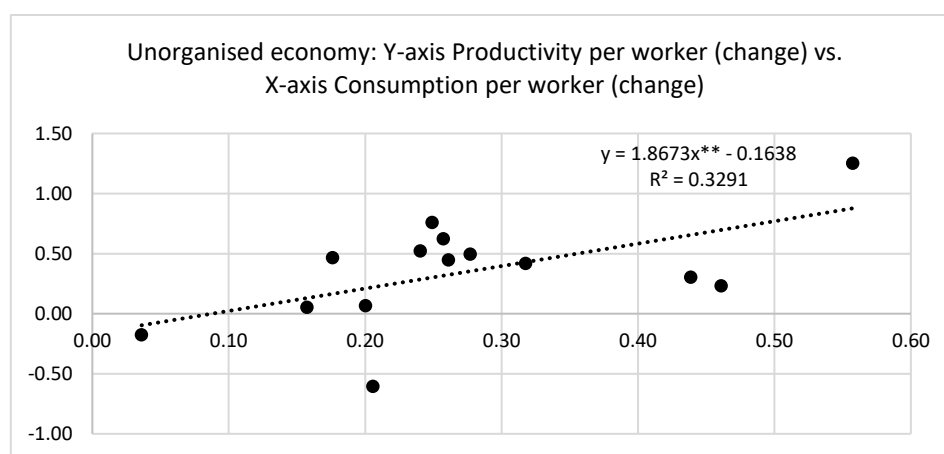
Note: Two sectors – storage and communications – are excluded from the figure as their productivity growth estimates are very high. However, they show the same pattern as regards the movement of the casual/non-regular ratio in the opposite direction to productivity changes.

We need to examine whether this improvement in employment structure has some connection to productivity increases in the unorganized economy. Figure 3 shows that the share of casual employment in total non-regular employment (which we know is declining in the unorganized economy) moves in the opposite direction to productivity growth in ten out of fifteen sectors in the unorganized economy. These shifts are of course not so systematic as to be correlated with each other with statistical significance, but their direction is indicative of the employment effects of labour productivity growth in the unorganized economy.⁴³ Moreover a strong linkage between changing sectoral productivities and some metric of welfare or returns to workers in each sector can be discerned for the unorganized economy, namely that change in labour productivity and change in per capita household consumption per worker are positively related in the unorganized economy. This is shown in Figure 4 for sectors within the unorganized economy. Given that we know that significant labour transfers are likely to have taken place inside the unorganized economy this clearly means that there is a returns-based incentive within the unorganized economy for less skilled labour to move to relatively higher productivity sectors inside the unorganized economy.

⁴² The per capital household consumption ratio of self to casual employment in 2012 in the unorganized economy was 1.35.

⁴³ Construction and mining are, however, red flags for where casualization is increasing fast in the unorganized economy. Construction is fast becoming the employment refuge sector of the Indian economy.

Figure 4. The unorganized economy: Y-axis productivity per worker (change) vs X-axis consumption per worker (change)



Employment structure and productivity in the organized economy

We can now look at the organized part of the economy. In 2000, regular employment was 83.5 per cent and 82.6 per cent of all employment in the organized economy. Thus the broad structure of employment is the same. We know that in the organized economy productivity growth is more closely linked to non-labour transfer aspects of growth and that significant productivity growth has taken place. We find that there has been an observable shift within the organized economy from regular protected employment to regular unprotected employment. In 2000, 61.9 per cent all employment in the organized economy comprised regular protected jobs,⁴⁴ falling to 51.3 per cent by 2012. By contrast, in the organized economy 21.5 per cent of employment was regular in 2000, rising to 31.2 per cent in 2012.⁴⁵ This is an adverse shift. On the other hand, non-regular employment, which makes up a minor part of organized employment, showed a small increase, from 16.5 per cent to 17.4 per cent. But even within this change, self-employment declined drastically, from 13.4 per cent of organized employment to 1.48 per cent and casual employment increased from 3.1 to 15.9 per cent of total employment.⁴⁶ This, too, was an adverse shift.

On the face of it, this means that productivity growth in the organized sector – which was around 4.3 per cent per year – was accompanied by an adverse shift in the structure of employment quality. In percentage terms, regular protected employment hardly rose, regular unprotected employment increased and casual employment rose, too. This finding is corroborated at a more disaggregated sectoral level by examining changes in labour productivity and changes in the percentage shares of regular unprotected employment in all regular employment in the organized economy.

⁴⁴ Once again, when looking at these percentages one should not forget that no more than 14 per cent of total employment in the economy is in the organized part.

⁴⁵ The per capita household consumption ratio of regular protected to regular unprotected employment in 2012 in the organized economy was 1.52.

⁴⁶ The per capita household consumption ratio of self-employed to casual employed employment in 2012 in the organized economy was 2.3.

Figure 5. Change in productivity and in regular informal employment/all regular employment in the organized economy

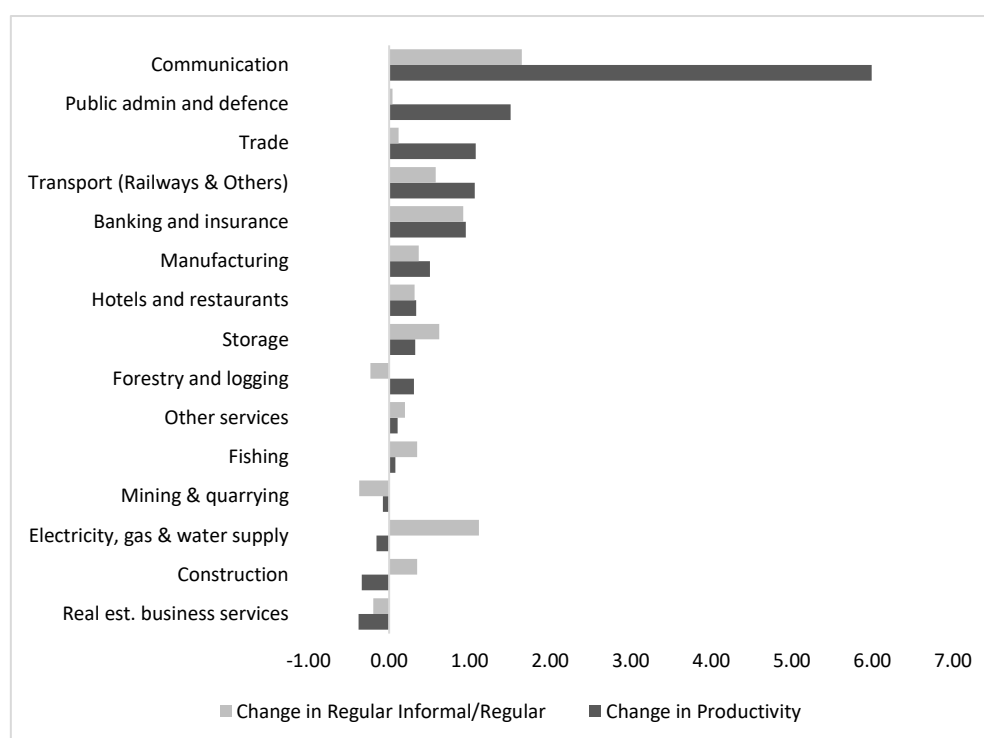
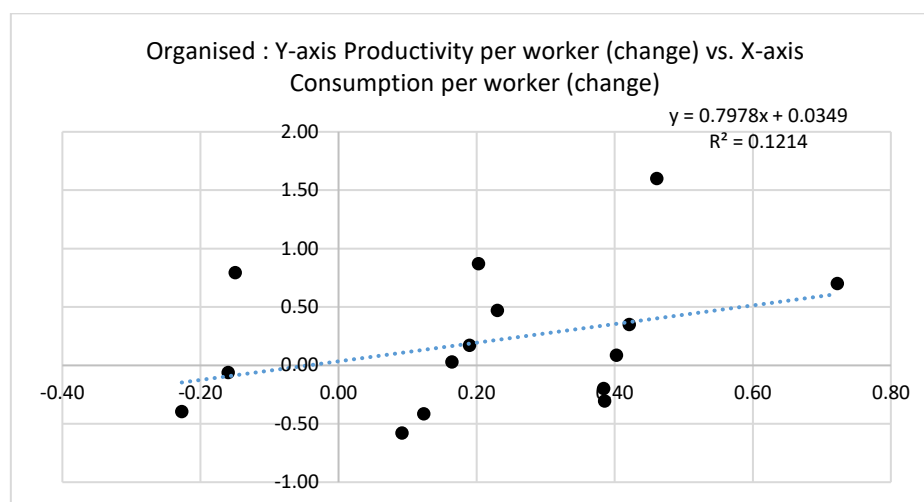


Figure 5 shows that the percentage change of regular unprotected employment in all regular employment has generally moved in the same direction as changes in labour productivity in 12 out of 16 sectors of the organized economy. These shifts, mostly positive, are not so systematic as to be correlated with each other with statistical significance, but the direction of these shifts is indicative of the process underlying the changes under way in the organized economy. Labour productivity growth was not only detached from improvements in the employment structure in the organized economy, but was adversely associated with it. A perverse shift in the distribution of employment is taking place in the organized economy.⁴⁷ It is also interesting that there appears to be no statistically significant relationship between changes in per capita household consumption in an economic sector and changes in productivity in that sector in the organized economy, which suggests that movements, even where they occur within the organized economy, may not be accompanied by returns to workers.

⁴⁷ We have no reason to believe that this process has reversed. In fact some indicators strongly suggest that it is likely to be continuing

Figure 6. Organized: Y-axis productivity per worked (change) vs X-axis consumption per worker (change)



Best form of employment: regular protected employment

We focus, finally, on an employment form that is almost exclusive to the organized economy, regular protected employment. Unit level data from the NSSO allow one to examine in some detail what has happened to this category in the organized economy. One should recall that in counting regular protected employment we take a very generous definition of security and protection. There are a number of indicators of security. Membership of a general provident fund – which is essentially inclusion in a pension system – constitutes one important form of security. Then there are other protections pertaining to health care, maternity benefits and gratuity that can be examined in the data. Our definition of regular protected employment is generous because we normally count a person who has regular employment and who has at least one – any one – of the aforementioned protections as being in regular protected employment. In 2000, it was this definition that produced the figure of 7.8 per cent for the share of regular protected employment in total employment, increasing to 7.9 in 2012.

Table 21. Distribution of regular protected employment in relation to social security benefits

	2005	2010	2012	2015
GPF, CPF, PPF, pension, etc.	20.5	24.2	20.7	14.5
Only gratuity	1.6	2.3	2.4	4.2
Only health care and maternity benefits	2.9	3.5	4.3	7.8
Only PF/pension and gratuity	5.7	5.8	6.6	10.9
Only PF/pension and health care and maternity benefits	5.9	6.6	7.6	6.8
Only gratuity and health care and maternity benefits	3.1	3.5	3.8	4.5
PF/pension, gratuity, health care and maternity benefits	60.4	54.1	54.7	51.2
Total regular protected employment	100.0	100.0	100.0	100.0

Workers enjoying maximum protections made up 60.4 per cent of protected employment in 2005, falling to 54.7 per cent in 2012. Using a stricter and fuller definition of security and protection therefore we see a lower level of regular protected employment

than in the case of the standard definition of one protection only.⁴⁸ While we can assert that the incidence of regular protected employment improved slightly or remained constant in the period within a narrow range of 7–8 per cent of total employed, on a more exacting view this observation is more questionable and it is likely that, overall, security in protected employment declined. The next issue we address is “regularity” in the regular protected employment contract. In terms of types of employment the existence of a written contract and its duration represent the degree of job security in a job.⁴⁹ It is important to see what has happened to this aspect of regular protected employment.

Table 22. Contracts and contractual durations in regular protected employment (%)

	NSSO 2004-05, UPS, Age 15+	NSSO 2009-10, Ups, Age 15+	NSSO 11.12, UPS, Age 15+	LB 15-16, UPS, Age 15+
No written job contract	25.6	36.0	33.3	41.6
Written job contract: 1 year or less	1.4	1.6	2.9	2.9
Written job contract: more than 1 year to 3 years	2.3	3.0	3.3	4.1
Written job contract: more than 3 years	70.7	59.3	60.4	48.3
Missing	0.0	0.1	0.0	3.1
Total	100.0	100.0	100.0	100.0

A written job contract for more than three years – the best category – saw a trend decline from 70.7 per cent in 2005 to 60.4 per cent in 2012 (and a sharp decline thereafter to 48.3 per cent in 2016, on which we do not have room to comment). In an important sense this indicates a drastic decline in tenure-based security or the level of regularity for those in protected regular jobs. Moreover, the incidence of regular protected jobs with no written contract at all, the worst category on which we have data, rose from 25.6 per cent in 2005 to 33.3 per cent in 2012 (and right up to 41.6 per cent in 2016).⁵⁰ This is another sign of an unwelcome transformation in regular protected employment, a decline in the extent of tenure-based security and the level of regularity. While one might claim at a stretch that regular protected employment improved marginally during the period from 7.8 per cent in 2000 to 7.9 per cent in 2012 of the total employed, but on a more exacting view this observation is less convincing. In terms of protections, but also contract duration, regular protected employment deteriorated. The best form of employment in India is being hollowed out.

To summarize, during the period of high productivity growth the employment structure worsened in the organized economy.

⁴⁸ The generous definition being regular employment with any one security. In fact even if we look at those who have some kind of pension this share is coming down from 20.5 % in 2005 to 14.5 % in 2016 amongst those who do regular jobs and have any kind of protection. Of course this share was stable around 20% in 2012. This share plummeted after 2012.

⁴⁹ It is important to emphasize that here we are talking about the type of contract a person has as opposed third party contract labour.

⁵⁰ We need to treat the latter figure with some caution because a written contract may appear to be lacking merely because the respondent is unaware of its existence.

6. Conclusions

In a surplus labour economy like that of India, during a period of high output and productivity growth (2000–12) led by services, the structural change component (labour reallocation and transfer) of productivity change was lower than the component attributable to capital. This is of course as expected. Growth is driven mainly by investment. This period of growth, while producing only small improvements in the employment structure, did however witness increases in real incomes and consumption in all categories of workers. This is an important fact that ought to be given more prominence.

Decomposition exercises suggest that labour transfer and structural change was likely to be found more in shifts of labour across sectors within the unorganized economy than in shifts from the unorganized to the organized part of the economy. Structural change was therefore less of a Lewisian variety. This pattern of structural change kept the overall structure of employment relatively constant- as most workers in the unorganized economy remained non-regular, while in the organized economy they tended to be regular.

On a more detailed examination, however, we do find that there was a small decline in the share of the unorganized sector in total employment (from 89.7 to 86.1 per cent) and a reduction in the share of casual workers in the unorganized economy. There have also been some increases in regular, albeit non-protected employment. These indicators suggest improvements in the employment situation in the unorganized economy. In the organized economy, on the other hand, which increased its share of employment from 10.3 to 13.9 per cent, there has been an increase in regular non-protected employment as a share of total employment and an increase in the share of casual employment. These are adverse internal changes. Moreover, the best form of employment – regular protected employment – is almost constant over time in incidence, but in terms of contract regularity and the amount of security associated with it, it is weakening.

We find that although labour reallocation and transfer has been associated with rising productivity growth in the Indian economy, and productivity growth increased incomes and consumption for all categories of workers in 2000–12, this process did not lead to significant changes in employment structure. This is in good part because productivity-increasing labour transfers occurred more within the unorganized economy and less from the unorganized to the organized part of the economy. Two general policy implications arise from this. First, industrial policy requires a serious re-examination of manufacturing and investment in it must be incentivized. Second, policymakers need to recognize that in order to improve employment outcomes they must focus on boosting employment in the organized sector in a manner that does not have adverse implications for improvements in the consumption of workers in the unorganized economy.

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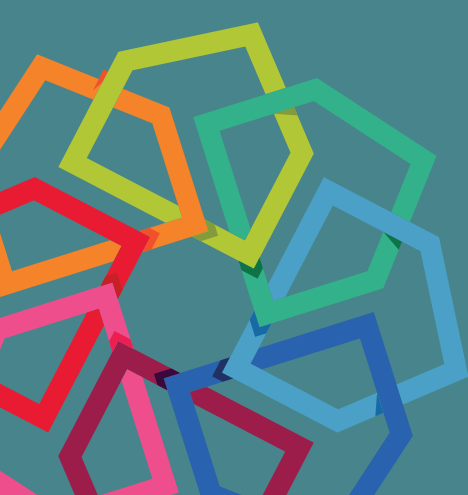
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