



Structural Change, Jobless Growth and 'Informalization' of Labor: Challenges in Post Globalized India

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Abstract

Employment occupied a central stage and became a central objective of development in many countries after the 2009 Global crisis and the “Arab Spring” of 2011. In fact earlier it also became a part of MDG’s in 2007. Since then questions have been raised about the generation of employment and its quality with the ongoing process of globalization: whether growth contributes to employment creation? How does growth lead to structural change in an economy, and what kind of jobs is created in the process of globalization? The challenge today is not only to create enough jobs but also the quality of jobs that pay enough to end poverty (ODI, 2011).

It is argued that structural change takes place as a result of the growth process. As development takes place, sectorial changes in output are thought to occur because of higher income elasticity of demand for manufacturing goods and for services as compared to agricultural products. Some approaches to structural change view economic growth as the process which involves the creation of new highly technical industries and the replacement of old industries. The former drive growth processes by accelerating the pace at which existing output, employment and productivity in the economy grow. The change in pattern of production is evident by the increase in percentage of employment in the service industry from 33.6 percent in 1991 to 43.8 percent in 2008 for the world as a whole (Cornia et al., 2014).

It is found that in developing countries, a substantial proportion of employment and output generation is concentrated in the informal sector (Schneider et al., 2010; and Cornia et al., 2014). The phenomenon of increasing informalization of industrial labor is partly due to structural change when output and employment shift from agriculture to manufacturing and to services. However, ‘informalization’ is a serious issue of concern because if industrialization does not create many good jobs for people to shift from low productivity occupations, it cannot make a big contribution to economic development. Also available evidence show that wages and employment benefits received by informal workers are much lower than those of regular wage workers and the incidence of poverty is much greater among informal workers than the regular

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wage workers, so informalization may also lead to widening income inequality.

The ‘informalization’ of labor has taken place not only in the informal sectors of the economies but also in the formal sectors through out-sourcing and sub- contracting of output and jobs from formal sectors to informal sectors. The growth of global value chains has also helped this process. The challenge is however, to *measure* the extent of informalization in the non-manufacturing sectors especially in different fast growing service sectors. Many of the countries do not have either a consistent and reliable definition, or the data set to measure informal employment and its quality. So most of the studies have mainly focused on informalization in the manufacturing sector, while a major challenge is to measure ‘informal’ employment in service sectors.

One of the major concerns of the Indian economy today is to experience a growth process that is ‘inclusive’ and promotes employment by initiating a second round of structural reforms. The past experience of post liberalization growth, since 1990’s when the first generation reforms were started is that the growth has been ‘jobless’ (Kannan, et al 2009) - creating few jobs in the Indian economy with low employment elasticity. The pattern of employment growth has also been imbalanced with only a very few sectors experiencing employment growth. India now has a large share of unorganized sector employment in the economy; with declining productivity; growing use of temporary and contract workers; and subcontracting of organized sector jobs. It is mainly the ‘low-wage’ and ‘insecure’ employment that has been increasing.

The paper aims to investigate the phenomenon of ‘informalization’ of Indian labor force post reforms and wish to highlight the nature and causes underlying it. The paper would try to identify the sectors which have high employment growth potential based on their employment elasticity (which is overall very low) and extent of labor market reforms. The paper would explore different sources of data and focus on using an appropriate and consistent data base to measure ‘informalization’ not only in manufacturing sector but also in the services sector.

Key Words: structural change, informalization, manufacturing, employment elasticity

JEL classification: J21, J24

I: Introduction

Recent research has focused on the structural change² and the consequent impact on employment growth in many countries of the world-both developed and emerging. Attention has also been drawn towards falling labor productivity across countries (OECD, 2016). Efforts are on to understand if the existing slowdown in employment growth, especially after the meltdown in 2008 is closely associated with structural transformation of the economies to service led growth (Cornia et al., 2014). Another important phenomenon in emerging economies, where expansion of the informal economy has taken place has caught the attention of the economist (Schneider et al., 2010; Cornia et al., 2014; Andrews, 2011; Ghani et al. 2013; Goldar and Aggarwal, 2015) especially in view of emergence of global value chains. There are many consequences of increase in ‘informal’³ economy and ‘informal’ employment. Generally the ‘informal’ activities lack social protection and insurance; has low productivity and low wages; has small size of firms; is a small contributor to national exchequer; etc. As a result an economy may have persistent poverty and inequality.

Many recent studies on India has pointed out that the growth rate of GDP in India has been quite remarkable during the period 2001-02 to 2010-11 (7.9%) as compared to the earlier decade of 1991-92 to 2000-01 (5.6%) (Krishna, 2015). Simultaneously with the GDP growth of 7.9% during 2001-02 to 2010-11, industry grew at 7.8% and services at 9.4%. With a little slow down during 2011 to 2013, the economy has again picked up growth and is expected to grow between 7.3 to 7.5 % in 2015-16. As a result the Indian economy has simultaneously experienced some structural transformation (analyzed by many: Kochhar et al (2006), Islam (2008), Papola and Sahu (2012), Krishna (2015).) whereby it is seen that the share of primary sector has reduced to just 17.22% in 2013-14 (at 2011-12 prices). On the contrary, the share of services has increased to 51.09% and the share of secondary (as well as manufacturing) is 31.68% (18.8%). So the transformation in GDP has bypassed the secondary sector and has been from primary to tertiary sector. The growth has also been unequal in distribution with increase in inequalities over 2004-05 to 2011-12-Gini coefficient being 0.266 and 0.348 in 2004-05 in rural and urban India, which increased to 0.28 and 0.367 in 2011-12 for rural and urban India respectively.

However, it is noticed that the structural change in GDP has not happened in employment and agriculture & mining still absorbs 49% of the labor force in 2011 and industry and service sector employs 22% and 29% of the labor force. The growth in employment during the same period of 2001-02 to 2010-11 has been low (only 1.3%). The pattern of employment growth has also been imbalanced with only a very few sectors experiencing employment growth. India also has a large share of unorganized sector employment in the economy (and 2/3rd in manufacturing); with declining productivity; growing use of temporary and contract workers; and subcontracting of organized sector jobs. It is mainly the ‘low-wage’ and ‘insecure’ employment that has been increasing.

² Refer to Erumbun (2015) for a review of literature on structural change.

³ Informal has been used in different ways and does not have a unique definition. It broadly includes informal workers employed by firms; informal self-employed and informal production by firms (Andrews, pp 8, OECD, 2011)

It is also pointed out that ‘informalization’ of employment is deep rooted in India⁴. Besides the ‘informalization’ of labor in the informal sectors of the economies, out-sourcing and sub-contracting of output and jobs from formal sectors to informal sectors has also been a contributor to the process. However, the process of outsourcing and subcontracting seems to be more evident between the formal and the ‘modern’⁵ informal sector of the Indian economy (Moreno-Monroy et al, 2012).

One of the major concerns of the Indian economy therefore today is to experience a growth process that is ‘inclusive’ and promotes employment by initiating a second round of structural reforms. The paper aims to understand the phenomenon of ‘informalization’ of Indian labor force and the nature and causes underlying it. Efforts would also be made to identify the sectors which have high employment growth potential based on their employment elasticity (which is overall very low) and extent of labor market reforms. For achieving the objectives, the paper is divided into different sections. In the next section we give a brief review of the related literature. Section III summarizes some of the data sources available for employment including informal employment in India and the period of study along with the measurement of employment. While section IV not only includes the growth and structure of employment in India but also discusses the trend and underlying causes of informalization of employment in India. A discussion of employment elasticity in broad sectors and different industries in manufacturing and services is included in section V. The last section VI concludes the paper.

II: Review of Literature

Job creation is an essential aspect of economic development, and it has been one of the major policy priorities for national governments and international agencies. For instance, achieving full and productive employment and decent work for all was included as a sub-goal in the Millennium Development Goals (MDG1) in 2000. In addition to generating *productive* employment along with full employment and *decent* employment, Felipe and Hasan (2006) and Felipe (2010) emphasize the importance of reducing pervasive underemployment in developing countries.⁶ Yet, lack of adequate job creation is still a major problem for many economies. The problem has been worsening in several countries owing to a number of factors, including several changes in the structure of labor market and the impact of recent financial crisis on several advanced economies. From a policy perspective, it appears that the goal of achieving full employment has been abandoned by most of the central banks in developed and developing world in favour of price stability because of potential trade-off between full employment and price stability as enunciated by Philips curve (Felipe, 2010)⁷. Often, it is also argued that the

⁴ while Ghani, et al. 2013 believes it is persistent, Goldar and Aggarwal, 2015 find it reducing.

⁵ The authors define ‘modern’ informal sector as one in which number of firms with fixed location outside their home is relatively large. So they define it as the log ratio of the number of enterprises with a fixed location outside of the household to the number of enterprises located inside the household or without a fixed location.

⁶ They distinguish four types of underemployment: (i) working limited hours; (ii) high skilled workers being forced to take up low paying jobs- mismatch of skills demanded and supplied; a phenomenon very common in Indian labour market; (iii) overstaffing- which till few years back was a common sight in many public sector undertakings in India and was supposed to be one of the major cause of inefficiency in them; (iv) workers carrying out their work with very little capital- it is a common experience in many small and medium enterprises in India.

⁷ This may also be evident in the stance of RBI in India in recent times when they focused on inflation control.

process of globalization has led to ‘precarization’ of labor in many countries (ILO, 2014), which includes the rise of so-called “atypical” employment agreements such as temporary contracts, part-time work and subcontracts. Hoeven (2014) summarizes six labor market trends which have been globally witnessed over the years: (i) a decline in the employment to population ratio partly due to low female labor participation rate, (ii) changing pattern of production, as the employment shifted from industry to services, (iii) existence of a large and pervasive ‘informal sector’⁸ especially in developing countries, (iv) declining wage share and growing wage inequality, (v) internationalization of the production process, and (vi) international migration.

There are significant differences in the quality of jobs created across countries, industries, and gender, and these differences have been nurtured by a number of factors such as socio-cultural perceptions, technology, industry structure and so on. In general, the importance of low-skilled manufacturing as a job provider has eroded significantly (Fox and Gaal, 2008). Inter-sectorial movement of workers – which is often called the process of structural change – is often hindered by lack of adequate skill, making it imperative to focus on enhancing skill and achieving more flexibility for worker mobility. International Labor Organization (2011) argues that during the recent financial crisis employment fell globally in industry but increased in agriculture-providing a buffer. In many countries including India there are many who are employed, but are still poor – 40 percent of the world wide workers – implicitly suggesting that the link between growth and employment – especially ‘good’ employment that may reduce poverty is not automatic.

So we find that many economies have a dualistic character where the informal sector with low productivity and low wages exists and is predominant as compared to the formal sector and plays a very significant role in the development story of these economies. World Bank (2010) provides four reasons for the continuation of the dualistic structure: (i) labor market segmentation; (ii) capital market segmentation; (iii) product market segmentation; and (iv) policy induced segmentation (Unni, p.236).

A brief analysis of the formal-informal divide in the Indian context is included here. The informal sector has been a major contributor to employment and income to the Indian Economy for a sustained period of time. This, corroborated with the large size of the sector, has made the formal-informal divide a subject to a large body of literature (*Schneider, 2002*). Given the prominence of the discourse in the academic discourse, it may be expected that there would be a consistent definition pertaining to the informal sector. However, this has not been true – there have been wide variations in its definition both over time and across countries. One of the first definitions for the informal sector of the economy was proposed in Hart (1973). The basis for the difference between the sectors at this initial stage depended on whether the activity entailed wage or self-employment. Although the International Labor Organisation (ILO) later on did develop a conceptual framework to define the term ‘informal’ sector, there has been no such uniform definition in the Indian context (Naik, 2009; Bairagya, 2010). One of the latest in the series of definitions for the informal sector proposed by the National Commission for Enterprises in the Unorganized Sector (NCEUS henceforth) goes as follows,

⁸ In this sector informal sector in India is often used in synonym with unorganized sector. Note that this terminology is different from ‘informal employment’, as informal employment could also take place in organized or formal sector. We use these terms to distinguish between sectors, rather than job characteristics.

“The informal sector consists of all incorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers.”

As is evident from the definition, the informal sector basically comprises of the plethora of small enterprises that is a common feature of Indian markets. They generally do not fall under the purview of most legislation that governs the formal sector (for example, legislations pertaining to the registration of the enterprises, and labor protection laws). The cornerstone of these legislations (e.g. the labor laws) has been the historical concept of “employment relationship” (ILO, 2003; Chen *et al*, 2004). The conundrum with the informal sector lies in the fact that this “employment relationship” is often not defined for this sector. As an example, the employment relationship may be disguised to avoid falling under the purview of laws. For instance, *bidi* traders in Ahmedabad claim that they sell tobacco and other related materials to *bidi* producers. They then buy the *bidis* from them, thereby avoiding any legal requirements to pay retirement benefits to the *bidi* producers (Chen, 2006). The definition and basic features of informal sector as it exists in India naturally raises questions regarding the linkages it has with the formal sectors of the economy. The possible sources and sorts of linkages are varied in the existing literature⁹.

From scan of literature on informal sector in India a picture that arises is that the informal sector of India has exhibited the phenomenon of “jobless growth” (Bairagya, 2010; Naik, 2009; Narayana, 2006). Informal employment had a higher share than formal employment. Moreover the increase in formal employment has mainly come through the increase in employment from the informal elements of the formal sector. On the other hand, the share of the informal sector in India’s NDP has been declining (although the share is still around 60%) (Bairagya, 2010). The picture of jobless growth is also evident from the fact that the share of labor income in the informal sector has remained at 70% while that of the formal sector has decreased to 55%. This is possibly due to the labor intensive technology used in the informal sector and this high labor intensity may be the reason for the large employment generation in this sector.

However in India, and indeed many developing countries, the formal-informal divide is most prominent in the manufacturing sector (WTO, 2009). As a result there have been quite a few studies that focus on studying the characteristics of the formal and informal segments of India’s manufacturing sector. The manufacturing sector in India has undergone significant transformation over the course of the country’s post-independence history. Under the first three Five Year plans (1951-65), the manufacturing sector grew rapidly (at around 8% p.a.) and got more diversified due to the well-known import-substitution regime. After a period of stagnation in industrial growth, India initiated a series of economic reforms (including the reforms following the crisis of 1990). One of the primary objectives of the liberalization of economic policies was to promote the competitiveness and efficiency of the Indian manufacturing sector, thereby enabling it to attain a higher growth path. However, the effectiveness of such policies would depend on the structure of the manufacturing sector, in particular the formal-informal divide in the sector. As has been mentioned above, the manufacturing sector typically comprises of a large informal sector. Traditionally it has been recognized that the firms in the informal segment are less productive than the firms in the formal segment of the manufacturing sector

⁹ For a detailed discussion on this linkage, refer to Moreno-Monroy et al, 2012.

(Dabla-Norris *et al*, 2005).¹⁰ This is due to the general properties of the informal sector— lack of legislation, small size of the firms, lower access to credit etc (World Bank, 2005). This general perception of the poorer performance of the informal manufacturing sector is also reflected in the growth rate of value added in each of the segments. The growth rate of total manufacturing has been increasing in each decade for the period 1990-2011, with the formal segment growing faster than the informal segment (Goldar *et al*, 2013). However, this growth did not precipitate into lower productivity growth across major industries when we compare them with the informal sector. In terms of employment, the trend has been opposite – while the growth rate of employment in total manufacturing grew at around 2% p.a., it has been the unorganized segment that has grown more than the formal segment of manufacturing (Goldar, 2000). This employment generation capability of the informal sector is also reflected in the share of labor income. For the entire period 1990-2011, the labor income share in the informal manufacturing segment remained at a high of around 70% while in the formal segment the share declined to around 55% in 2005 (Goldar, 2013; Nagaraj, 2000). The use of labor intensive technology is probably the main contributor to the large employment generation and by consequence the large income share. Thus we see that the informal segment does indeed play a very significant role even within the manufacturing sector.

But the informal sector does not work in isolation and there is many a times a strong linkage between the formal and informal sector. One essential way in which the formal manufacturing sector interacts with the informal manufacturing sector is by means of sub-contracting. The big industrial units in the formal sector may try to reduce its cost by sub-contracting a part of the work to units working in the informal sector. Likewise, there are many informal enterprises that provide cheap raw materials and labor to the formal segment, thereby making their livelihood contingent on the demand from the formal segment. This is especially true in the case of Indian manufacturing – increasing competition due to openness induces high pressure to reduce costs. This, along with strict labor regulations, provides an ideal scenario for extensive sub-contracting (Mazumdar and Sarkar, 2008; Ramasawamy, 1999).¹¹

The other major issue that concerns the informal segment of the manufacturing sector is the issue of legality of operations and of output. Many times the operations of small informal sector may not be strictly legal- the unit may not be registered or hiding the use of labor or electricity and thus of output but most of the outputs produced in this segment are indeed legal (Thomas, 1992). However, there are substantial disadvantages to such informal workers for being not under the purview of legal sanctions as they do not get any legal protection and also any social security. Almost all of these workers are deprived from the worker's benefits and social security that the workers in the formal sector generally enjoy. Hence it seems rational to believe that the informal

¹⁰ In the Indian context, comparison of productivity between large scale manufacturing units and small scale manufacturing units can be traced to the study undertaken by Dhar and Lydall (1961). This pioneering study found that small scale units are relatively inefficient as compared to large scale units. Similar conclusions were reached in the study undertaken by Goldar (1988).

¹¹ The two views on explanation of formal- informal sector interactions- formal with “traditional” labour intensive segment of informal or formal with “modern” capital intensive informal sector has been discussed and analyzed by Portes, 1994; Tokman, 1978; Ranis and Stewart, 1999; Marjit, 2003; Moreno-Monroy *et al*, 2012.

workers are stuck in their working environment not by choice, but by their inability to be absorbed into the formal manufacturing segment.

Due to data problems on output and capital stock of informal sector there has been little systematic analysis of the difference in efficiency levels between informal and formal manufacturing firms. Nonetheless, there have been a few studies that do try to compare the efficiency levels of the firms in the formal and informal manufacturing sectors. For instance Goldar and Mitra (2013) find that the firms in the formal manufacturing sector outperform the informal counterparts in terms of technical efficiency. The general tendency of the superior efficiency of formal segment firms is also reflected in Kathuria et al. (2013). They find that firms in the formal manufacturing sector in India are technically more efficient – both in the relative and absolute sense, than the firms in the informal manufacturing sector.

To summarize, the informal sector in India comprises of small enterprises that do not fall under the purview of government legislations. It is a major contributor to India's Net Domestic Product but its share has been declining. However, it still remains a large source of employment in India, indicating that the sector has exhibited jobless growth and in general it is found that the formal firms are generally more technically efficient than the informal firms. However, most of the studies have so far analyzed mainly the manufacturing sector. It is therefore pertinent that some attention is also given simultaneously to the employment in service sector.

III: Sources of Data on employment in India, period of study and measurement of employment

3.1 Source of Data

Presently, in India the main sources of data on employment are varied- Registrar General of India; National Sample Survey Office (NSSO), Employment Market Information Programme of DGET, Annual Survey of Industries, and Labour Bureau Surveys. Further, while the first two have complete coverage (whole country across all households), the coverage of others is partial. In addition in majority of the data sources, the focus is on household surveys. Few data sources like DGET and ASI are based on enterprise surveys. NSSO is trying to supplement these through enterprise surveys for unregistered manufacturing but these are still restricted to only the manufacturing sector. Recently Labour Bureau has started conducting annual household surveys and has completed four rounds till July 2014¹².

Most of the studies in India use the NSSO Employment and Unemployment survey data to find out the total manufacturing employment in India and use ASI to estimate employment in 'organized' sector of manufacturing. Then estimates of unorganized manufacturing sector are taken as the residual of the two. But there is a further concern regarding the inconsistency of definitions of the informal sector. For example the enterprises covered in the informal sector by the Economic Census and National Sample Survey Office (NSSO) data are often incomparable (Guha-Khasnobis et al, 2006). Thus the number of studies on services is thus restricted due to data availability. However, since 1999-00, i.e. 55th round of NSSO employment-unemployment

¹² More details about these sources are provided in Appendix 1.

surveys (EUS), the information is collected on features of the employment- such as enterprise type, whether electricity used, the size of enterprise, and nature of social security contribution.

Unit level data of NSSO employment-unemployment surveys (EUS), the 55th, 61st 66th and 68th rounds covering the period 1999-00 to 2011-12, are used for estimating organized and unorganized sector employment in broad sectors and different industry groups. The identification of organized and unorganized sector components from the EUS is done with the help of the questions related to enterprise type and the number of workers in the enterprise. The details about the exact categories which are included to define organized sector is provided by Sundaram (2008), and that has been followed in this paper. Being based on the same data set, the definition of workers is the same for organized and unorganized sectors of manufacturing and hence the employment estimates are comparable. The same source has also been used by India KLEMS data base and the paper has used it for the current analysis. However, the India KLEMS data base has maintained consistency with Indian *National Accounts Statistics in coverage of some of the economic activities e.g.* cotton ginning is consistently included in the Textile industry group, as a part of manufacturing, but custom tailoring is exclude from manufacturing and included in personal services, as a part of services. The manufacturing sector has been divided into 13 industry groups. In some cases, these correspond to two-digit level of National Industrial Classification (NIC). But, in most cases, the level of industrial aggregation adopted in the paper (which follows India KLEMS) is higher than the two-digit classification.

3.2 Periodization

The period selected for the present paper is 1993-94 to 2011-12, which coincides with the 50th round and 68th round of the EUS of NSSO. However, for the analysis of informal employment it is restricted to 1999-00 to 2011-12 due to availability of consistent data. The period is sub-divided in to 1993 - 2002 and 2003 - 2011, where during the first period India's per capita GDP grew at an annual rate of 3.9 % and in the second sub-period the per capita GDP grew at the rate of 6.9 %. The periodization is similar to the one as adopted by Panagariya et al. (2014, chapter 2) as reflecting distinct periods of growth of the Indian Economy. The period can also be described as the post globalized period of Indian economy as it started serious reforms since 1990-91 and their impact started showing up since 1993-94 when the GDP grew faster.

3.3 Measurement of employment

While in most of the developed countries labor input is measured in number of hours actually worked, in many other economies it is still measured as number of persons employed. Though number of persons may hide differences in the number of hours actually worked by each person but in the absence of information on actual hours worked, it is the best bet. In India, EUS measures employment by using usual principal status (UPS), usual principal and subsidiary status (UPSS), current weekly status (CWS) and current daily status (CDS) for Quinquennial rounds (also known as major rounds) and Usual Status & CWS for annual rounds (also known as thin rounds). While UPS, UPSS and CWS measure number of persons, the CDS gives number of jobs.

The *usual principal status* gives the number of persons who worked for a relatively longer part of the reference period of 365 days preceding the date of survey, while the *usual principal status* and the *subsidiary status*, includes the persons who (a) either worked for a relatively longer part of the 365 days preceding the date of survey or (b) who had worked some time during the reference period of 365 days

preceding the date of survey. The *current weekly status* provides the number of persons worked for at least 1 hour on any day during the 7 days preceding the date of survey and the *current daily status* gives the average picture of the person-days worked in a day during the survey period. Because of its advantages¹³ UPSS is the most widely used of these concepts and the same has also been used by India KLEMS which is the main source of data for the current paper.

IV: Employment in India- Growth, structure and informalization.

IV.1: Growth and structure of employment

Agriculture is either still the largest employer in many developing countries in Asia or employs a significant share of the labor force (Felipe, 2010; p35). However, the general tendency across many developing countries is that agricultural output and employment shares decline as countries become richer (Felipe, 2010). The famous Lewis (1954) model tells us that with development, as productive capacity increases more resources flow from low productive activities– traditionally agriculture into activities with high productivity, such as industry and services (ADB; 2007, Felipe and Estrada; 2008; Felipe et al; 2007; Erumban et al, 2015). As workers and resources move from low productive activities to high productive activities, overall productivity and growth accelerates. Such patterns have been observed in many developed and developing countries.

The structure of employment in India has also changed over time (Table 1). Agriculture now employs less than half of the workforce as compared to 64 percent in 1993. The agriculture workforce also fell in absolute number for the first time in 2009-2010 by 20 million and then again in 2011-2012 by 13 million. The maximum growth in the employment share is in the construction sector where it has increased from just 3.2 percent in 1993 to 10.44 percent now in 2011; a more than threefold increase. The service sector employment share has increased from 21 percent in 1993 to 29 percent in 2011. However, we find manufacturing sector has experienced slow growth in employment and its share has just marginally increased from 10.6 percent in 1993 to 11.4 percent in 2011. So the structural change has been such that employment has shifted from agriculture sector to non-agriculture sector, especially to construction¹⁴. However, the structural change in employment is not similar to that of GDP. While agriculture still employs 48 percent of total persons employed in 2011 and is the largest employer, its share in GDP is just around 14 percent. On the contrary, services which employ just 29 percent of total persons employed, its share in GDP has reached almost 57 percent. In construction, though the share in employment increased more than three times but its share in GDP increased marginally from around 6.6% to around 8% only indicating a low labor productivity growth.

¹³ UPSS includes all workers who have worked for a longer time of the preceding 365 days in either the principal or in one or more subsidiary economic activity. Some of its advantages are that it provides more consistent and long term trend, is more comparable over the different EUS rounds, is used by NAS, and has wider agreement on its use for measuring employment in India (Visaria, 1996; BCV, 2007; Sundaram, 2008; Rangarajan, 2009). But there are few problems in using UPSS, which are: the UPSS seeks to place as many persons as possible under the category of employed by assigning priority to work, No single long-term activity status for many as they move between statuses over a long period of one year, and Usual status requires a recall over a whole year of what the person did, which is not easy for those who take whatever work opportunities they can find over the year or have prolonged spells out of the labour force.

¹⁴ For data and more details one may refer to Thomas, 2015

Though the shares seems to have changed uniformly but the growth in GDP and employment during the two sub periods (Table 2) is not uniform. GDP growth in the second sub-period is faster at 7.93% as compared to 5.69% in the first period of 1993-94 to 2002-03. The growth in GDP is led by services and manufacturing in the first period but the spurt is due to construction services and manufacturing in the second period. But the growth in employment has taken a different path. Not only the growth in employment in the second period of 2003-04 to 2011-12 is slower at 1% but is completely construction sector driven¹⁵. It is because of this phenomenon that economists have defined this phase as a ‘jobless’ growth phase as manufacturing and services both failed to absorb the labor which was displaced by agriculture (for the first time).

Table 1: Share of GDP and Employment -Broad Sectors: 1993, 2004, and 2011

Broad Sector/Year	1993		2004		2011	
	GDP	Empt	GDP	Empt	GDP	Empt
Agriculture, Hunting, Forestry and Fishing	28.16	64.18	19.03	56.74	14.37	48.08
Mining and Quarrying	3.23	0.70	2.86	0.57	2.11	0.56
Manufacturing	14.55	10.55	15.25	11.38	16.28	11.40
Electricity, Gas and Water Supply	2.21	0.38	2.11	0.28	1.92	0.33
Construction	6.58	3.22	7.70	5.61	7.91	10.44
Services	45.27	20.97	53.05	25.41	57.42	29.19
Total Economy	100.00	100	100.00	100	100.00	100

Source: India KLEMS data base (2015)

Table 2: Growth rate of GDP and Employment -Broad Sectors: 1993-94 to 2002-03, 2003-04 to 2011-12, and 1993-94 to 2011-12

Broad Sector/Year	1993-94 to 2002-03		2003-04 to 2011-12		1993-94 to 2011-12	
	GDP	Empt	GDP	Empt	GDP	Empt
Agriculture, Hunting, Forestry and Fishing	2.10	0.69	4.18	-1.12	3.08	-0.17
Mining and Quarrying	4.50	-0.51	4.08	0.87	4.30	0.15
Manufacturing	6.55	2.23	8.51	1.23	7.48	1.75
Electricity, Gas and Water Supply	5.62	-1.03	6.61	2.84	6.09	0.80
Construction	5.54	6.04	9.60	9.08	7.46	7.48
Services	7.33	3.37	8.93	3.00	8.09	3.19
Total Economy	5.69	1.67	7.93	1.04	6.75	1.37

Source: India KLEMS data base (2015)

The serious problem which India is now facing in terms of employment growth is the relatively slow employment growth in the second phase as compared to the first phase. Main sectors –

¹⁵ Erumban (2015) however find that the static structural change effect is positive as workers move from low productivity sectors to high productive sectors but the dynamic structural change effect of workers moving to fast growing sectors is hardly observed.

agriculture, manufacturing and even services have registered a decline in the rate of employment growth in the recent period. Therefore the concern of the Indian policy makers is twofold: firstly, how to increase the share of manufacturing in GDP and secondly, how to create jobs such that increasingly displaced persons from agriculture (and the addition to labor force) are absorbed and that too in ‘good’¹⁶ quality jobs. It is necessary because many of the jobs in India are in the ‘informal’ sector which is not as productive as the formal sector.

IV.2: Informalization of employment in India- trend and causes.

One important aspect of quality of employment in India relates to the nature of employment-organized/formal sector vs. unorganized/informal sector. As mentioned in data sources, to define organized sector, the paper has followed the same classification as provided by Sundaram¹⁷ (2008). Informal sector¹⁸ employment in India was however very high – of the total employment it was 93.6 percent in 1999-2000, 93.1 percent in 2004-05 (Papola and Sharma, 2015, pp. 533), 92.8 percent in 2009-10 (Mehrotra et al. 2014) and 92 percent in 2011-12 (Polaski, 2015), out of which 82.7 percent were in the unorganized sector and 9.3 percent in the organized sector.

Table 3 shows that in 2011, unorganized sector accounts for 70 percent of total non- agriculture employment. It is very large in all other important sectors like services, construction and manufacturing and constitutes 72 percent, 75 percent and 64 percent respectively. Mining is the key sector where the decline in the share of unorganized sector is more than 20 percentage points. For the economy as a whole, though the share of unorganized employment has declined in recent years it is still more than two-third of the total employment. Goldar and Khan (2015) have estimated that during 1999-2000 and 2011-2012 organized sector manufacturing employment grew faster (4.26 percent) as compared to unorganized sector manufacturing (2.49 percent) and this could be the reason for a substantial increase in the share of the organized sector in manufacturing. However, some economists (Papola and Sharma, 2015) have looked at

¹⁶ ‘Good’ is referred to high productive jobs with written job contract and some social security. Nayyar (2012) has defined quality of employment on the basis of the three parameters- wages, the availability of written job contracts and the availability of social security benefits. It is true that in India even among those who are employed, there are many who are poor, illiterate, employed as casual labour with relatively low wages, and who are predominantly in the informal sector of the economy where not only they earn lower wages but with little social security and few days of employment in a year.

¹⁷ It covers all workers on the Usual Status who report themselves to be employed in Government/Public Sector or Public/Private Limited Companies or Co-operative enterprises i.e. with enterprise type Codes 5, 6 or 7 in the NSSO surveys since 1999-2000. It also includes workers in proprietary/partnership enterprises engaged in manufacturing using electricity and employing 10 or more workers. A clear distinction has to be made between the nature of sector and nature of employment. An organized/ unorganized sector may have both formal/informal employment. So Persons in unorganized sector have no job security or social security and no secured tenure of employment.

¹⁸ The informal sector in India includes wide variety of economic activities in both rural and urban areas (NCEUS-2008). But ILO (2002) defines employment that is not covered by labour and other regulations as informal sector employment. So in reality not only workers employed by an informal sector enterprise but a part of the workforce of the formal sector enterprise may well be informal sector workers. NSSO (2001a, 2001b) specifically identifies the informal sector as being made up of unincorporated enterprises owned either as a proprietorship or as a partnership. NCEUS (2007, 2008) used the terms ‘unorganized sector’ and ‘informal sector’ as interchangeable and included all unincorporated private enterprises owned either as a proprietorship or as a partnership basis and with less than 10 total workers. In this paper also the two terms are used interchangeably.

the distribution of unorganized employment in both the formal/organized and informal/unorganized sectors and also in the public sector and private sector. He finds that since the initiation of economic reforms in 1991, there has been a tendency to employ contract workers at the expense of regular workers and outsource the production. On the basis of the Annual survey of Industry (ASI) data also, it is shown that the share of contract workers in total employment of the manufactured sector has increased during 2000-01 to 2008-09 (Kumar, 2012). The share of contract workers in organized manufacturing has increased to 34 percent in 2010-11 from about 10 percent in early 1990s, 14 percent in 1995-96 and 20 percent in 2000-01. The advantage of engaging contract workers was flexibility of varying the number to the employers, being overwhelmingly non-unionized; they are pliable and can be hired at a much cheaper rate compared to regular workers through a contractor with no statutory obligation of non-wage benefits. Papola and Sharma (2015) estimates that the per day cost of hiring a contract worker is 20 percent of regular worker in 2007-08. As a result not only private sector but also the public sector used them. So we find that though there is a fall in the share of the unorganized sector but a rise in the share of informal workers in the organized sector (resulting in growing inequalities also).

Table 3: Share of Employment in Unorganized sector by broad sector of the economy

Broad sectors	1999	2004	2011
Mining	60.78	44.26	38.03
Manufacturing	74.45	72.83	63.77
Electricity	15.39	7.92	10.34
Construction	86.55	88.13	75.30
Services	74.17	75.92	72.20
Economy	75.03	75.87	70.23

Source: Authors' calculations from India KLEMS data set, 2015.

An analysis at a more disaggregate level of industries (Table 4) reveals that with in manufacturing the three industries with highest concentration of unorganized employment are wood and products of wood, food products and manufacturing nec , each with its share of more than three-fourth . However, within manufacturing we have few industries where the share is relatively very low and could be the industries where it may be relatively easier to generate organized sector employment. These industries are coke and refined petroleum, chemicals and transport equipment, each with less than one-fifth share in the unorganized sector of the industry. However, Goldar and Sadhukhan (2015) has divided the manufacturing sector in to traditionally labor intensive, traditionally low capital intensive and traditionally high capital intensive industries in terms of capital intensity.¹⁹ They find that during 1989-2010, the annual organized employment growth rate of traditionally low capital intensive industries was fastest at 3.9 percent and its share in total organized manufacturing increased from 29 percent in 1989 to 35.8 percent

¹⁹ They used the cluster analysis in terms of capital labour ratio of 3-digit manufacturing industries in 1960 to group them in to 3 groups, with the mean and standard deviation of 1.7 and 0.63 respectively for traditionally labour intensive manufacturing industries, 4.02 and 1.27 for traditionally low capital intensive manufacturing industries and 20.5 and 24.9 respectively for traditionally high capital intensive manufacturing industries.

in 2010, while the share of organized traditionally labor intensive industries and traditionally high capital intensive industries fell from 50.6 percent and 20.3 percent to 46.6 percent and 17.6 percent respectively during the same period. An important result of the study by the authors is that the quality of employment measured in terms of share and growth of contract labor has deteriorated. They show that not only the growth of contract workers in all 3 industry groups of organized manufacturing was quite high, the highest at 15percent being in the traditionally low capital intensive industries, but the share of contract workers in total organized manufacturing workers (based on ASI data) also increased from just 14 percent in 1989 to 34 percent in 2010²⁰. Construction sector also has high (75 percent) share of employment in unorganized sector.

Similarly in the service sector we have different industries with different concentration of unorganized or “bad” employment. The service sector industries with low share of ‘bad’ employment, besides public administration are education, financial intermediation and post and telecom each with less than one-third share of unorganized employment. On the other extreme, the service industries with more than two-third share of unorganized employment are trade, hotel & restaurants, transport and storage, and other services.

From the discussion one may infer that Indian industry is quite diversified in terms of ‘informalization’ of persons employed. The key reasons for it may lie in the nature of the industries- the skill requirement of each industry, the nature of jobs-regular employment vs non-regular (which includes both self-employed as well as casual labor) it create and the kind of laws it has to follow. Based on the data (Appendix Table 1) on the characteristics of these industries a rank correlation was estimated and it is found that there is a significant negative (rank) correlation between share of informal employment with the share of employed persons with ‘above higher secondary’²¹ education (rank correlation of -0.7128, p=0.0000) and also with share of regular employees in the industry (rank correlation of -0.905, p=0.0000). It is therefore clear that generally industry with higher share of informal sector employment is also the one which has employed persons with low level of education and also low share of regular employment. However a strong positive significant rank correlation (rank correlation of 0.8195, p=0.0000) is also found between the level of ‘higher’ education and the share of regular employment in an industry. Both of these may mean that an increase in education level may be the answer to a reduction in ‘informalization’ of employment.

It is also obvious (Appendix Table 1) that construction is a sector with low educated, very low share of regular workers and high share of unorganized sector with high employment growth, it is highly probable that the release of low quality labor from agriculture must have been absorbed by the construction sector. On the contrary some of the sectors in both manufacturing and services are such as to employ relatively more educated labor with high share of regular labor and low share of unorganized labor. These are Coke, Refined Petroleum Products and Nuclear fuel, Chemicals and Chemical Products, Rubber and Plastic Products, Basic Metals and Fabricated Metal Products, Machinery, nec. , Electrical and Optical Equipment, Transport Equipment in manufacturing, and Electricity, Gas and Water Supply , Post and Telecommunication, Financial Services, Business Services, Public Administration; Defense; and

²⁰ The corresponding share of contract workers is 30 percent, 37 percent and 40 percent respectively in three industrial groups based on labour intensity.

²¹ ‘above higher secondary’ Education in India means persons with education of more than 12 years of schooling.

Compulsory Social Security, Education , Health and Social Work in services. India has to invest in human capital to make it suitable for both manufacturing as well as services. One plausible reason for it is that manufacturing has now become quite similar to services in terms of use of technology, capital intensity and skill labor requirements, especially in organized sector and the ‘modern’ informal sector.

Table 4: Share of Employment in Unorganized sector (UPSS) by non-agriculture industry

Industry / period	1999	2004	2011
Mining and Quarrying	60.78	44.26	38.03
Food Products	81.08	78.77	79.72
Textiles & Leather Products	77.98	74.15	66.91
Wood and Products	97.64	97.09	93.62
Pulp, Paper	65.45	55.79	60.75
Coke, Refined Petroleum	22.86	25.55	12.88
Chemicals and Products	45.02	42.32	20.12
Rubber and Plastic Products	45.81	52.9	33
Other Non-Metallic Mineral Products	73.32	69.17	50.19
Basic Metals and Fabricated Metal Products	64.48	65.36	53.5
Machinery, nec.	47.65	49.92	36.96
Electrical and Optical Eqp	31.68	56.82	34.04
Transport Equipment	28.1	24.21	19.39
Manufacturing, nec	85.51	81.82	76.25
Electricity, Gas and Water Supply	15.39	7.92	10.34
Construction	86.55	88.13	75.3
Trade	95.91	97.1	94.18
Hotels and Restaurants	93.66	91.35	88.08
Transport and Storage	79.73	83.3	82.24
Post and Telecom	39.82	46.96	32.63
Financial Intermediation	27.97	27.81	30.31
Business Services	80.76	71.25	47.92
Public Administration and Defence	14.35	2.55	0
Education	35.96	32.04	26.69
Health and Social Work	49.76	48.43	40.42
Other Services	90.03	94.96	92.63
Total	75.03	75.87	70.23

Source: Authors' calculations from India KLEMS data set, 2015.

Despite the large share of unorganized employment in the Indian economy, it has remained excluded from major and minor policy initiatives. So what can be done to facilitate the transition from informal to formal employment? Pais (2015) shows that ‘the informal sector has more or less not benefitted much from direct State policy’ and therefore, the way forward is to rethink

informal sector strategies including state policies differently and focus on enterprise and employment. He argues to include all enterprises in the regulatory framework, as well as for universal systems of protection- social security for all and including all hired workers in labor regulations. Moreno-Monroy et al (2014) argues that policies should focus on helping to modernize and formalize informal sector, and relax several constraints on firms' ability to grow in size. Polaski (2015) advocates the reliance on ILO Recommendation "Transition from the Informal to the Formal Economy" (2015), which is based on best practices of countries to reduce informality and offers an integrated policy framework that favours the use of economic and tax policies, labor market laws and regulation, equality and anti-discrimination measures, skill development, financial and business services, social protection and income security, and so on. This international consensus on how to formalize jobs could be used by India, who is a signatory to it, to reduce informality in employment.

V: Employment prospects: employment elasticity and policy actions

The ability of an economy to generate employment depends, among other things on the growth process and can be indicated by employment elasticity. Employment elasticity is basically a measure of the percentage change in employment associated with a one percentage point change in economic growth.

In India many studies have attempted to compute employment elasticity both for the total economy (Planning Commission, Papola and Sahu (2012)) and only for the organized manufacturing based on ASI data (Goldar, 2000, Nagaraj, 2000, Kannan and Ravindran, 2009). The employment elasticity numbers as calculated by the Sub-Group on Employment/Unemployment Projections, set up by the Planning Commission for the 12th Five Year plan were based on NSSO employment data up to 2009-10. For all sectors they estimated the employment elasticity between 1999-00 to 2009-10 as 0.19. In line with the Planning Commission estimates based on *Compound annual average growth (CAGR) approach*, Papola and Sahu (2012) have also estimated the employment elasticity to be 0.20 for the same period. The sector wise elasticity and the decline in aggregate employment elasticity from 1977-78 to 1999-2000 has also been documented by Papola and Sahu (2012), as well as by Rangarajan, Padma Iyer and Seema (2007). Misra and Suresh(2014) estimated elasticity for the organized sector separately from ASI data and found that employment elasticity in the organized sector has increased to 0.42 in the recent period of 2001-02 to 2011-12 as compared to 0.06 during the period 1981-82 to 1990-91, indicating that the Indian industrial sector has been job creating.

Employment elasticity²² estimates in the current study for the total economy and broad sectors are presented in Table 5. There has been fall in employment elasticity in the second phase of the period from 0.25 to just 0.07 and the fall in non-agriculture sector has been much smaller than that of agriculture-including forestry and fisheries. Since employment elasticity for the economy during 1993-2011 has been low (0.21), it implies that for every 10 percent increase in real GDP, there is about 2.1 percent change in employment. It is thus necessary that GDP must grow by

²² Employment elasticity has been computed by regressing log of employment over log of real value added and it gives the point elasticity of growth. The regression has been possible because we have a time series on both employment as well as real value added.

around 15 percent, double than at present and not in the realm of possibility in any near future, so that employment growth rate of 3 percent could be achieved which is necessary to take care of employment challenge of providing employment to the backlog and the additions to labor force. Since fast growth in GDP is desired, it is essential that aggregate employment intensity is increased by focusing on those sectors where long term employment elasticity is high such as construction; trade; transport; education; health; other services; machinery, nec; etc. Papola and Sahu (2012) plead for the accelerated growth of the manufacturing sector which had high employment elasticity till 2002-03 but later on lost its employment potential. Though service sector has grown quite fast and its share in GDP is more than half, but with fall in its employment elasticity in recent years from 0.42 between 1993-94 and 2002-03 to 0.25 between 2003-04 and 2011-12, it is doubtful that how much it could contribute to future growth in employment. However, quite a few of its segments; e.g. hotels (0.30); transport (0.33); education (0.41); business services (0.52), other services (0.78); health (0.58), and financial services (0.38) have shown overall employment potential in recent reform years of 2003-04 -2011-12, which must be tapped (Appendix Table 3). It is these sectors which could provide some scope for future employment generation. However, the analysis suggests that it is the non-agricultural sectors where all the new employment opportunities would exist.

Table 5: Employment Elasticity in Broad Sectors, 1993-2002, 2003-2011, and 1993-2011

KLEMS Broad Sector	1993-94 to 2002-03	2003-04 to 2011-12	1993-94 to 2011-12
Agriculture, Hunting, Forestry and Fishing	0.12	-0.43	-0.03
Mining and Quarrying	-0.30	0.23	0.22
Manufacturing	0.34	-0.02	0.20
Electricity, Gas and Water Supply	-0.42	0.28	0.08
Construction	1.05	1.07	0.97
Services	0.42	0.25	0.39
Total Economy	0.25	0.07	0.21

Source: Author's calculations from India KLEMS data base.

If employment elasticity is not only low but declining over the period, then what could be the accelerator to growth in employment and what should be the appropriate employment policies? Manufacturing employment may be one alternative which could generate employment in the next phase of development. National manufacturing Plan (NMP) has also focused on the growth of the manufacturing sector so that by 2025, it contributes 25 percent to GDP instead of the 16 percent now. Growth of Micro, Small and Medium enterprises (MSMEs) sector, which has emerged as a highly dynamic sector over the recent period could be an enabler of employment creation. As per the estimates of MSME Ministry, while the number of units has increased from 105.21 lakhs in 2001-02 to 467.56 lakh units in 2012-13, the employment has increased from 249 lakhs to 1061 lakhs during the same period. The MSMEs now contribute around 37.5 percent of the total output of manufacturing sector and 7.3 percent of the GDP.

However, since major share of employment in MSMEs is in the unregistered sector as self - employment, it may not be skill-intensive unless new technology and new business ideas are accepted and adopted by them. It is all the more essential as manufacturing everywhere has

become more capital and skill intensive. A lot of emphasis thus has to be given to increase the potential of manufacturing- both large and MSMEs. However, large public investment in electricity and other infrastructure sectors may be required to facilitate it.

Trade, especially exports is viewed as another potential engine of employment growth by many studies because of plentiful supplies of labor in India. Though India's trade to GDP ratio has increased from 13 percent in 1987 to 43 percent in 2013²³, wherein the export performance was better in service sector rather than in manufacturing sector, but there is no unambiguous empirical evidence that trade liberalization has resulted in any substantial positive break in employment trends except some growth in informal employment in some specific export industries (Damodaran, 2015). The empirical evidence in favour of trade as an engine of employment growth is not conclusive²⁴.

So we would also have to search for few more alternative routes to employment growth and find suitable policies. Hoeven (2014) has suggested few short term and long term policies. For short term he emphasizes on (i) macroeconomic policy targeting on employment rather than on inflation; (ii) considering Central Bank as agents of development- adopting an employment targeting approach; (iii) setting of minimum wages- which could reduce poverty and wage inequalities. The long term policy advocated is the focus on structural change – to shift in focus from low value added activities to high value added activities. Khan (2007) suggests some policies to create employment which take care of quantity as well as quality of employment- decent work which may reduce poverty, rather than perpetuating it. The policies suggested by him are aimed at a) increase in wage employment; b) an increase in real wage; c) an increase in self- employment to reduce 'casualization' of labor; d) an increase in productivity of self-employment; and e) an increase in the terms of exchange of the output of the self-employment.

The Sub-Group on Employment/Unemployment Projections (2011), set up by the Planning Commission for the 12th Five Year plan recommended that "while creating employment, objective should be that the work created should be (a) decent work and (b) productive employment. To achieve the latter objective transfer of surplus labor out of low productivity agriculture to industry or services would lead to an overall increase in productivity. In order to achieve the first objective two kinds of transitions would be needed: first, movement of unskilled labor from agriculture to unorganized industry or unorganized services; second, movement of labor from informal employment in the unorganized sectors to either formal employment in organized sectors (preferably), or at least informal employment in the organized sectors". Hoeven (2014) also argues for a refocus on employment creation and adopting suitable policies. Jha (2015) emphasizes on reducing the level of under employment and or raising the real wage rates for casual workers to reduce the problem of working poor. He also advocates the creation of regular wage employment outside the organized sector, especially for poor workers by suitable labor market policies. He supports Ghose (2004) in targeting those areas where the working poor have predominant share in total employment and also fixing and enforcing a national minimum wage for unskilled casual labor. OECD(2015) and Unni (2015) also called for suitable complementary policies related to further improving the ease of doing business, *modernizing labor regulations*, implementing the GST and making land transactions easier,

²³ Source: Damodaran, S (2015)

²⁴ While Goldar(2002,2009) found net effect of export and imports on trade to be positive; Raj and Sen (2012) found a decline in employment elasticity of export.

framing proper banking laws on insolvency and bankruptcy; investment in infrastructure- especially in power and roads for creating more and ‘better jobs’. All the studies thus call for designing of suitable policies for a faster growth in employment and to provide for ‘good’ jobs. We thus find that suitable policies aimed at creation of regular wage employment, especially outside the organized sector along with increase in real wages may go a long way in creating not only more jobs but also decent jobs. Emphasis has to be laid on removal of infrastructural bottlenecks and loosening of State controls and regulations so as to make it easy for the industry, both domestic and foreign to grow and create more employment.

VI: Conclusion

The importance of structural change in the process of economic growth has been emphasized in economic literature since Kuznets (1954) pointed out that traditionally a shift of employment from less productive agriculture to more productive manufacturing to services would take place with economic growth. The recent literature has however shown that empirically in many countries, rising GDP per capita is now associated with an increase in the share of services in total employment and a decline in agriculture (Kongsamut et al., 2001). Gordon and Gupta (2003) have shown how the share of industry by contrast first increases modestly and then may stabilize or decline. The present paper has attempted to examine if India has experienced the same structural transformation in its growth journey. The paper has mainly used the India KLEMS data base (2015) which provides employment and labor quality estimates not only for the total economy but for all the broad sectors as well as for 27 industries.

The results show that employment, as measured by persons employed has almost stagnated in the recent years; especially between 2004-05 (61st NSSO round) and 2009-10 (66th NSSO round) when only 1 million jobs were added. However, we witnessed an increase in employment of 14 million persons between the 2009-10 (66th round) and 2011-12 (68th round). We observe that while employment increased at a rate of almost 1.7 percent during the first period of analysis-1993-2002, the rate has slowed down to just 1percent during the period 2003-2011. The growth of employment has been highest in construction sector in both the sub-periods, and the growth rate is negative in agriculture during 2003-2011, as a result of which the share of agriculture in total employment has reduced to just 48 percent in 2011 as compared to 64 percent in 1993 and 57 percent in 2004. Even though the relative share of agriculture in total employment and output has eroded substantially over time, it still remains as one of the major employment providers in the Indian economy. It appears that job losses in agriculture are largely absorbed in the construction sector.

It is also noted that growth of persons employed have not been uniform across all industries and considerable variations are observed in growth rates of labor person employed across industries. While employment grew faster in business services, construction, financial services, rubber & plastic products, and post & telecommunication; it grew at half the rate in few industries such as food products, mining and quarrying, wood and wood products, agriculture, hunting, forestry & fishing, and public administration²⁵. As a result of this pattern of growth of employment, we find that there has been a structural shift of employment from agriculture to construction and

²⁵ Refer to Aggarwal (2015)

services- especially market based services. While the share of agriculture in total employment reduced from 64 percent in 1993 to 48 percent in 2011, that of construction and services increased from 3.2 percent to 10.4 percent and 21 percent to 29 percent respectively during the same period.

In India, thus the shift of labor has not been from agriculture to manufacturing but to construction and services. Though the overall employment elasticity has been very low in recent years but it has been relatively high in both construction and services sector. However, whether construction and service sector has absorbed and would continue to absorb the surplus labor from agriculture can be debated but it is almost certain that if infrastructure investment is undertaken at the desired pace, then growth in employment in this sector would definitely take place. While the skill composition of agriculture is similar to construction- both have predominantly 'less' educated labor force, so a substitution of labor from agriculture to construction is possible and may be easier, but doubts can especially be expressed on the substitutability of surplus agriculture labor to service sector where overall skill composition is different- where generally more 'educated or skilled' labor is required. Surplus or displaced agriculture labor, which is generally unskilled, has generally taken employment as self-employed or casual labor mostly in the informal sector of the economy. Manufacturing sector has not been able to absorb the surplus labor because the technology available and used has been either capital or skill intensive, thus having limited scope to expand employment. Rigid labor laws in many Indian States have also not helped the growth in employment in the manufacturing sector.

The concerns in India are not only about the slow growth of employment in the recent period (2002 to 2011) but also the 'bad' quality of employment²⁶. India is now faced with poor among employed (21% of total) and 25% of them earn less than half the poverty line income; low share of persons employed with skills (10 percent with education 'above higher secondary'); low growth rate in labor composition (only 1.63 percent during 2003-2011); high proportion of persons employed as casual labor (30 percent in 2011) and a very high share of unorganized sector employment (70 percent in 2011). The low level work participation rate, especially among females more than half of whom are self-employed, wage disparity, unpaid jobs, low productivity are some of some of the features in Indian labor market. The jobs that have been created for vast majority are mainly low paying contractual jobs both in the formal and informal activities (Sood et al 2014). Even in the service sector, the share of high value added jobs is small and restricted to certain skills to participate in the modern economy. These features have limited the advantage which the Indian economy is supposed to enjoy from the virtue of its demographic dividend. The continuous²⁷ trend of falling employment elasticity (just 0.07 during 2003-2011) has also put a challenge to employment generation in future.

Employment elasticity however varies considerably across sectors. While agriculture has witnessed negative elasticity, services including construction have generally been employment intensive. But even the sustainability of the service sector to provide jobs in near future is in doubt because of its falling employment elasticity in recent years. Within manufacturing, the employment elasticity for organized manufacturing sector based on various estimates seems to

²⁶ Aggarwal, et al (2015)

²⁷ Employment elasticity has declined from 0.53 (mid- 70 to mid-80) to 0.40 (mid -80 to mid-90) to 0.33 between 1994-95 and 2009-10 (Sood, 2016, endnote 5).

be higher, in the range 0.42-0.57 for 2000s and it has risen over the previous two decades²⁸. Because of wide differences in wages and productivity of the organized and unorganized sectors, greater employment generation in organized manufacturing is crucial as it provides 'better' quality employment and also has larger multiplier effect.

The policies to create employment must be such which take care of quantity as well as quality of employment-decent work which may reduce poverty and inequalities, rather than perpetuating it. Suitable short term and long term employment policies are immediately required as all available information on employment and GDP growth rates for some recent years (2015-16 and 2016-17) show some recovery after few years of moderation. Policy interventions on both demand and supply side of labor may be needed. Macroeconomic policies may aim at increasing the aggregate demand of goods which could push investment and employment. The policies could aim at increasing wages, the disposable income of households, a social security cover for households, and continuation of employment generation policies like NREGA and PMGSY. Supply of labor could be enhanced by encouraging the participation of more and more women in the labor force by removing barriers which they face. The quality of employment is also to be improved by better access to education and facilitating the expansion of formal employment. Roughly about 10-25 million people would need a job every year for the next 15 years (Chakraborty, 2013; Shrivastava, 2016). So if India is to meet the challenge, focus has to be on industries where employment elasticity is higher.

The biggest challenge therefore is to create such huge numbers of productive jobs in non-farm sector keeping in mind the overall structural changes that Indian labor market has experienced. Amongst the non-farm sector, it is the services sector that has led India's growth and employment story for some time now, but now it is the manufacturing sector, especially the organized manufacturing that has to play a more positive role in creating jobs in the coming times. So success of 'make in India' policy would determine the employment scenario in the coming decade. However, that success would partially depend upon the availability of suitable infrastructure and concomitant industrial policy. The current government is laying the required emphasis on creation of huge infrastructure which would create both direct and indirect employment opportunities. Steps are also being taken to ease the process of doing business by removing or reducing the bottlenecks through streamlining many of the processes of grant of permissions, etc. Efforts are also being made to make GST a reality which could also smooth the flow of goods and services and plug some of the leakages in the system. Lots of incentives are also being given to attract foreign investment, especially in the infrastructure sector. So only the suitable government policies which directly or indirectly aim at creating enough employment opportunities could achieve the desired objective of converting demographic dividend in to an opportunity. Kumar (2016) asks for policy attention on education, health, direct taxation and infrastructure and believes that these are the key to make Indian industry globally competitive and growth more inclusive.



²⁸ Misra and Suresh (2014)

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Appendix 1

Sources of Employment Data in India

Registrar General of India: The first important source is the Office of Registrar General of India, which during the Census; collects some key information on the workforce in the country. This information is collected after every ten years. The Census provide 'Economic Tables' containing detailed data on economic activity of the population, employment status, composition of the workforce, industrial and occupational workforce. **The survey is a household survey.**

The Census is believed to have produced underestimates of size of total workforce. Because of change in definitions and geographical coverage of census, the data collected through it not deemed to be comparable.

National Sample Survey Office (NSSO): The surveys conducted by the NSSO are the main data source on employment and unemployment situation in the country. Beginning with the 27th round in the year 1972-73 NSSO has been conducting quinquennial surveys (every five years-thick rounds) on employment and unemployment (EUS) situation in the country. The latest such survey, 68th round was conducted for the year 2011- 12. Apart from these quinquennial surveys on employment and unemployment, NSSO also collect information on certain key items of employment and unemployment, as a part of its annual series (thin rounds), from a smaller sample of households in each round starting from 45th round (July 1989 – June 1990) through the schedule relating to Household Consumer Expenditure. These thin rounds are not comparable with thick rounds because of different sampling frame, coverage and size of sample.

The latest round-68th (2011-12) has included 1,01,724 households and the number of persons surveyed was 4,56,999, **which is about 1 in 2400**. The estimates of work force participation rates (WFPR) from EUS, along with census population are used to estimate the workforce. **This survey is also a household survey.**

Following are also some other sources of data on employment but their coverage is not complete.

Economic Census: The other source of employment situation in the country is the Economic Census conducted by Central Statistical Office (CSO). The Economic Census is conducted for non-agricultural establishments in the Country & it provides a frame for conducting follow-up surveys for collection of detailed information particularly from the unorganized sector establishments. The basic information, relating to the distribution of non-agricultural establishments by activity, type of ownership, rural/urban break up and employment size, in respect of each establishment is collected through the Economic Census. So far five such Economic Census have been conducted by the CSO. The latest Economic Census was conducted in the year 2005. **This survey is an Enterprise survey.**

Employment Market Information Programme of DGET: Another source of employment data is Employment Market Information (EMI) programme of the Directorate General of Employment & Training (DGET). The data collected under the EMI programme covers only the Organized Sector of the economy which inter-alia covers all establishments in the Public Sector irrespective of their size and non-agricultural establishments in the Private Sector employing 10 or more persons. While the information from non-agricultural establishments in the Private

Sector employing 25 or more persons is collected under the provisions of the Employment Exchanges (Compulsory Notification of Vacancies) Act 1959, data from the establishments employing 10-24 persons is collected on a voluntary basis. **This survey is an Enterprise survey with limited coverage.**

Annual Survey of Industries (ASI): It is conducted every year by CSO and is an establishment based survey. However its coverage is restricted to only the establishments registered as factories under section 2m(i) and 2m(ii) of the Indian Factories Act 1948, i.e. those factories employing 10 or more workers using power; and those employing 20 or more workers without using power. From ASI 1998-99, the electricity units registered with the CEA and the departmental units such as railway workshops, RTC workshops, Govt. Mints, sanitary, water supply, gas storage etc. are not covered. So it is restricted to the organized manufacturing sector. **So this survey is an Enterprise survey with limited coverage.**

NSSO is trying to supplement these through enterprise surveys for unregistered manufacturing but these are still restricted to only the manufacturing sector.

Labour Bureau: In pursuance of the felt need for employment-unemployment data at a shorter interval, the Ministry of Labour and Employment entrusted to the Labour Bureau the task of conducting surveys on employment-unemployment on annual basis. The first household-based Annual Employment-Unemployment Survey (2009-10) was conducted on a thin sample basis during the year 2010 and the report was released in the month of November, 2010. Since then four surveys have been completed. The Fourth Annual Employment-Unemployment Survey has been conducted during the period January, 2014 to July, 2014 in all the 36 States/UTs by covering all the districts in the country. A moving reference period of last twelve completed months from the date of survey is used to derive various estimates of labour force and its derivatives. The *Fourth Annual Employment - Unemployment Survey (2013-14)*-has a sample size of 1,36,395 households consisting of 6,80,392 persons. After the 1998 crisis, Labour Bureau was entrusted the task of regularly assessing the effect of economic slowdown on employment in India on quarterly basis. Since the quarter October - December, 2008, Labour Bureau has been regularly conducting such surveys (**enterprise based**) to assess the employment situation and has completed 25 surveys till 2015.

Despite availability of different sources of data on employment in India, we do not have any time series covering all the sectors, which is especially based on enterprise surveys. Out of the available sources, the EUS by CSO are more dependable and have been used to assess the changes in the employment and unemployment for the employment planning and policy analysis. However, the definition of work used by the EUS surveys is still not completely synchronized with the UN system of National Accounts (Sundaram; 2009). The preference for the use of EUS is generally based on the notion that prior to 2001, the three Censuses have clearly under reported the participation of women in economic activities; whereas the EUS has provided reasonably stable estimates of the level and pattern of employment (Visaria; 1996). While Population Census underestimates work force participation rates (WPRs), the EUS estimates of total population are significantly lower than the Population Census based estimates – by over 20 percent in Urban India. However, since 2001 the WFPR are closer to the NSSO rounds.

Appendix Table 1

Share of unorganized sector employment, level of educational requirement, and proportion of Regular labour among non-agriculture industries in 2011.

Industry	Share of informal employment	share of employed persons with 'above Secondary Education Higher	Share of Regular employees in the Industry
Mining and Quarrying	38.03	14.19	36.13
Food Products	79.72	6.06	21.2
Textiles & Leather Products	66.91	6.56	38.26
Wood and Products	93.62	2.41	7.47
Pulp, Paper	60.75	29.33	62.39
Coke, Refined Petroleum	12.88	34.99	80.42
Chemicals and Products	20.12	31.16	75.81
Rubber and Plastic Products	33	17.27	78.62
Other Non-Metallic Mineral Products	50.19	4.1	21.94
Basic Metals and Fabricated Metal Products	53.5	14.43	55.89
Machinery, nec.	36.96	29.96	64.53
Electrical and Optical Equipment	34.04	47.3	75.29
Transport Equipment	19.39	46.02	82.35
Manufacturing, nec	76.25	5.21	32.35
Electricity, Gas and Water Supply	10.34	36.29	91.81
Construction	75.3	3.37	4.58
Trade	94.18	14.52	18.58
Hotels and Restaurants	88.08	7.83	29.06
Transport and Storage	82.24	8.79	40.33
Post and Telecom	32.63	44.09	82.57
Financial Intermediation	30.31	67.32	73.67
Business Services	47.92	58.79	66.42
Public Administration and Defence	0	41.92	99.19
Education	26.69	68.01	88.36
Health and Social Work	40.42	51.65	70.12
Other Services	92.63	8.15	28.81

Source: Author's calculations from India KLEMS data base (2015)

Appendix Table 2: Rank correlation

	Share of informal employment	share of employed persons with 'above Hr Sec' Education	Share of Regular employees in the Industry
Share of informal employment	1		
share of employed persons with 'above Hr Sec' Education	-0.7128	1	
p-value	0.00001		
Share of Regular employees in the Industry	-0.905	0.8195	1
p-value	0.00001	0.00001	

Source: Author's calculations from India KLEMS data base (2015)

Appendix Table 3: Employment Elasticity by Industry, 2003-2011

SL No	KLEMS Industry Description	2003-04 to 2011-12
1	Agriculture, Hunting, Forestry and Fishing	-0.43
2	Mining and Quarrying	0.23
3	Food Products, Beverages and Tobacco	0.08
4	Textiles, Textile Products, Leather and Footwear	-0.32
5	Wood and Products of wood	-0.46
6	Pulp, Paper, Paper products, Printing and Publishing	0.00
7	Coke, Refined Petroleum Products and Nuclear fuel	-0.28
8	Chemicals and Chemical Products	-0.10
9	Rubber and Plastic Products	0.10
10	Other Non-Metallic Mineral Products	0.08
11	Basic Metals and Fabricated Metal Products	0.21
12	Machinery, nec.	0.29
13	Electrical and Optical Equipment	0.30
14	Transport Equipment	0.56
15	Manufacturing, nec; recycling	0.20
16	Electricity, Gas and Water Supply	0.28
17	Construction	1.07
18	Trade	0.12
19	Hotels and Restaurants	0.30
20	Transport and Storage	0.33
21	Post and Telecommunication	-0.02
22	Financial Services	0.38
23	<i>Business Service</i>	0.52
24	Public Administration and Defense; Compulsory Social Security	0.02
25	Education	0.41
26	Health and Social Work	0.58
27	<i>Other services</i>	0.78

Source: Author's calculations from India KLEMS data base (2015)