Growth and Structural Transformation of the Workforce : Are we Heading in the Right Direction?

** Anjali Agarwal*

Abstract

In India, after a period of jobless growth from 1993-94 to 1999-2000, the workforce saw an escalation in employment rate during the period from 1999-2000 to 2004-2005 (which was seen as a form of distress employment), followed by a stagnation in employment rates during the next 5 years. During the recent period from 2004-05 to 2009-10, the women workforce declined sharply throughout all age groups, while the workforce of men increased almost equally above the 24 year age group. Agriculture is still the largest employer in India, but it continues to have the lowest gross value added per worker. There has been a slight structural shift of employment away from agriculture due to women (mostly in the rural areas). The sectoral shift of the GDP in the favour of the services sector has not been successful in making corresponding changes in employment patterns. The industrial sector has shown promising results in terms of absorption of surplus agricultural labour, mainly in the construction sector, which is casual in nature. Category wise disaggregation of workforce showed a significant increase in regular employment, while the casual labour segment seems to have picked up a large part of the decline in self-employment. Still, a large part of the women workforce is concentrated in the low productivity agricultural sector and very few women in are engaged in regular employment, which is the best form of employment. The present paper critically examined the trends in growth rate and structural changes in employment during the period from 1983 to 2010, especially since the economic reforms.

Keywords: **GDP, workforce, economic reforms, structural changes, agricultural labour, employment rate**

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The growth in employment has always been considered as a major objective of development planning and policy in India. However, the experience of the last two decades in India shows that in spite of high growth in India in the era of economic reforms through globalization, privatization, and deregulation, the impact of the reforms in creating productive, regular, and sufficient number of employment opportunities has not been satisfactory, failing the standard argument that higher growth leads to higher employment. This is the reason that the Planning Commission in its 12th five year plan (2012-2017) initiated to make the development process more inclusive and sustainable to enhance good quality employment opportunities for the population out of agriculture.

When looked at in a longer time framework, the employment growth rate was around 1.65% per annum from 1983 to 2009-10, which also fluctuated from period to period. Since the economic reforms of the 1990s, employment growth was expected to increase, but in spite of the high growth rate, there was a sharp deceleration in employment growth rate. The reason for this slowdown is that even though the share of agriculture in GDP is declining at a faster rate, it still continues to be the largest source of employment in India ; 52% of the workforce in agriculture is producing just 15% of the total output of the country. Despite a sharp rise in their share in GDP, the industry and services sectors have not been able to generate the required employment opportunities to absorb the shift of surplus labour from agriculture. Long term trends indicate that employment growth decelerated from 2.04% during 1983/1993-94 to 1.84% during 1993-94/2004-05. However, the short term view indicates that in between 1993-94 and 2004-05, employment growth fluctuated with a decline of less than 1% during 1993-94 to

* *Assistant Professor,* Moti Lal Nehru College (Evening), University of Delhi South Campus, Benito Juarez Road, Near Anand Niketan, New Delhi -110 021. E-mail: anjaliagarwal0025@gmail.com

1999-2000 and witnessed a sharp increase of 2.84% during 1999 - 2000 to 2004-05 . This sudden jump in the employment rate was seen by many as positive after-effects of the liberalization strategy bearing fruit in terms of high employment growth, thereby putting an end to the period of jobless growth.

Literature Review

During the time period from 1999 - 2000/2004-05, most of the employment growth was concentrated in the informal sector in the form of part-time work, with a large part of it in the form of self-employment, which raised doubts about the quality and nature of livelihood, which raised the rate of employment growth (Unni & Raveendran, 2007). This period saw an abrupt increase in the employment of women, children, and the old aged people (who are seen as the dependent population in the households) to show that the employment was of distressed nature (when the household income falls below a threshold), and the dependent population had to move out in search of jobs to supplement the family income (Himanshu, 2011). Moving ahead, the results of the 66th round of NSSO Survey recorded an almost stagnant employment situation during 2004-05 to 2009-10, which supports the doubts about the quality of employment growth in the previous period, and also indicates that not enough jobs were being created in the economy even with a 8% plus growth rate (Chaudhari, 2011) . The slow progress in the diversification of India's employment structure has led to large-scale withdrawal of women from the labour force, with the number of women thus "missing" being as large as the population of Brazil (Thomas, 2012).

Methodology and Data

Structural changes in the workforce were estimated by using the National Sample Survey Organization's (NSSO) data on employment and unemployment for the period from 1983 to 2009-10. Long term trends were examined by comparing short term fluctuations belonging to four sub - periods from 1983/1993-94, 1993 -94 /1999-2000, 1999-2000/2004-05, and 2004-05/2009-10.The values on population were calculated by using the National Population Census conducted every 10 years and then estimating the intermediate population values by extrapolating the same based on the corresponding growth rates. The sectoral data on gross domestic product (GDP) were taken from the National Accounts Statistics (NAS) published by Central Statistical Organization (CSO) under the Ministry of Statistics and Programme Implementation (MOSPI) for the above mentioned years. All the GDP values were converted to the constant 1999 - 2000 prices to account for the effects of price inflation. To estimate the labour productivity, I calculated GVA per worker at constant prices using national account estimates of GDP and number of workers engaged in different sectors. All the growth rates represent compound annual growth rates (CAGR) represented by:

$$\text{Final} = \text{Initial}\,(1 + \frac{rate}{100})^{time}$$

This paper critically examines the trends in growth rate and structural changes in employment during the period from 1983 to 2010, especially since economic reforms. This paper is organized as follows: After introduction and methodology, the second section deals with the employment trends over the years and its relation with GDP across different sectors. The third section addresses the issue of labour productivity, dependence of productivity on the GDP, and its impact on the economy. The fourth section analyzes the distribution of rural-urban dimension of employment. The fifth section focuses on the category wise disaggregation of workers across the different sectors. The sixth section deals with the problem of missing labour, and finally, the conclusion details the major findings of this paper.

Trends in Sector Wise Employment and GDP

With economic development, structural changes in employment take place in every developing economy in which share of agriculture in GDP and employment declines over time, while share of the industry/secondary sector and service sector increases. The Table 1 indicates that over the period of time from 1983-2010, the share of agriculture in employment declined from 68.45% in 1983 to 51.78% in 2009-10, while the share of agriculture in GDP declined from 37% in 1983 to 15% in 2009-10. This shows that the share of agriculture in employment declined at a relatively slow rate than its share in the GDP. During the same period, the share of industry in employment increased at a comparatively faster rate than the share of services, while the share of industry in GDP remained almost stagnant at 25%, but the share of services in GDP increased sharply from 38% to 58%. Therefore, it can be observed that the services sector has been contributing more than 50% to India's GDP growth, but the growth is not reaching the masses because of the growing mismatch between growth and employment.

Table 1. Sectoral Employment Shares (UPSS) and GDP Shares (at Constant 1999-2000 prices)

Sectors	Workers (million) and their share (%)					GDP in (₹ crores) and its share (%)				
	1983	1993	1999	2004	2009	1983-84	1993-94	1999-00	2004-05	2009
Agriculture/Primary	207.23	**239.36**	**240.18**	**259.08**	**238.26**	**279605**	**367231**	**446515**	**482910**	**562548**
	68.45	**63.94**	**60.34**	**56.47**	**51.78**	**37.15**	**30.01**	**24.99**	**20.22**	**15.23**
Industry/Secondary	41.75	**55.89**	**64.54**	**85.85**	**100.83**	**182863**	**307829**	**452241**	**626663**	**956264**
	13.79	**14.93**	**16.22**	**18.71**	**21.91**	**24.3**	**25.15**	**25.31**	**26.23**	**25.92**
Service/Tertiary	53.77	**79.07**	**93.26**	**113.86**	**121.02**	**290202**	**548757**	**887771**	**1279195**	**2170122**
	17.76	**21.12**	**23.43**	**24.82**	**26.3**	**38.56**	**44.84**	**49.69**	**53.55**	**58.84**
Total	302.76	**374.33**	**397.98**	**458.79**	**460.1**	**752670**	**1223817**	**1786527**	**2388768**	**3688923**
	100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Estimated by various rounds of NSSO Employment Unemployment Survey, National Accounts Statistics, and CSO.

Table 2. Employment Growth, GDP Growth, and Employment Elasticity (GDP at Constant 1999-2000 Prices)

	Employment Growth Rate				GDP Growth rate				Employment Elasticity			
Sectors/Years	83-93	93-99	99-04	04-09	83-93	93-99	99-04	04-09	83-93	93-99	99-04	04-09
Agriculture/primary	1.38	0.05	1.53	-1.66	2.76	3.31	1.58	3.1	0.5	0.02	0.97	-0.54
Manufacturing	2.04	1.49	5.09	-1.35	4.94	6.9	6.46	9.5	0.41	0.22	0.79	-0.14
Mining&quarrying	2.94	-1.66	2.47	2.87	6.14	5.2	4.8	4.11	0.48	-0.32	0.51	0.7
electricity and gas	4.47	-4.62	3.2	0.71	8.7	6.98	4.22	7.18	0.51	-0.66	0.76	0.1
construction	5.7	6.07	8.24	11.19	4.88	6.36	9.17	9.23	1.17	0.95	0.9	1.21
Non-manufacturing	5.1	4.28	7.44	10.21	5.93	6.24	7.14	7.86	0.86	0.69	1.04	1.29
Industry/secondary	2.82	2.33	5.87	3.27	5.35	6.62	6.74	8.82	0.53	0.35	0.87	0.37
Trade and hotel	3.74	5.96	4	0.82	5.58	9.29	7.87	9.07	0.67	0.64	0.51	0.09
Transport	3.47	5.06	4.96	1.9	6.03	8.66	12.9	16.12	0.58	0.58	0.38	0.12
Finance, real estate	3.51	4.99	9.55	5.82	9.07	7.78	6.71	12.3	0.39	0.64	1.42	0.47
Community	3.85	-1.56	2.81	0.37	5.86	7.83	4.99	8.18	0.66	-0.2	0.56	0.05
services	3.74	2.68	4.07	1.23	6.58	8.35	7.58	11.15	0.57	0.32	0.54	0.11
non agriculture	3.3	2.53	4.82	2.12	6.12	7.74	7.3	10.41	0.54	0.33	0.66	0.2
Total	2.04	0.99	2.88	0.06	4.98	6.51	5.98	9.08	0.41	0.15	0.48	0.01

Source: Based on Various Rounds of NSSO Surveys

This is because comparatively more skilled workers are employed in services, while unskilled or poorly educated workers are employed in agriculture. Hence, in order to increase the overall productivity of the workers, we have to train the surplus unskilled labour first for entering into the industry and then look towards the services sector for productive employment opportunities. For this purpose, there is a need to train the surplus unskilled labour by appropriate skill development programs at various primary, secondary, and tertiary education levels in line with the requirement of the ultimate users such as industry, trade, and services to make the market enabled.

The Table 2 clearly shows that there is an inverse relationship between GDP growth and employment growth rate since the economic reforms of the 1990s. This is true for agriculture as well as in the aggregate (Himanshu, 2011). During the period from 1993-94 to 1999-2000, the GDP growth was higher at 6.51% per annum, but employment registered a lower growth rate at 1%. While the period from 1999-2000 to 2004-05 showed the lowest growth rate in GDP at 5.98%, it was accompanied by the highest rate of growth of employment at 2.88%.During 2004-05 to 2009-10, at the time of the highest GDP growth rate of 9%, employment grew at the lowest rate of 0.06%.

Employment elasticity (EE) is defined as the ratio of employment growth to growth in gross value added. EE was calculated (Table 2) by using employment growth rate and GDP growth rate based on compound annual growth rate (CAGR), it measures the trend in employment growth. During 1983/1993-94 to 1993-94/1999- 2000, EE declined from 0.41% to 0.15% ; it then further increased to 0.48% during 1999- 2000/2004-05. In the period from 2004-05/2009-10, it declined, almost approaching zero in spite of high GDP growth rate of 9%, where there was only a marginal growth in employment.

Sector wise trends in employment and GDP growth presented in the Table 2 indicate that in the agricultural sector, employment growth declined consistently except in the period from 1999-2000 to 2004-2005, and became negative during 2004-05 to 2009-10. The period between 1999-2000 and 2004-05 recorded the lowest growth rate at 1.5% per annum in GDP, which was followed by an increase in the growth of employment at 1.5%, especially due to women in rural areas. During the period from 2004-05 to 2009-10, the growth rate in employment in the secondary sector was 3.27%, which was very high (higher than the agricultural and services sector) in spite of the overall employment growth during this period being just 0.06%. This increase in employment rate in the secondary sector can be attributed to the construction sector, which recorded the maximum growth at 11% per annum in employment and a very healthy growth rate in GDP at 9%, even during the stagnant period from 2004-05 to 2009-10. After a significant rise of 5% in employment growth during 1999-2000 to 2004-05, the manufacturing sector saw a negative growth rate in employment, even though it had a growth rate of 9% in GDP, as a result of which, its employment elasticity declined sharply.

The services sector saw a boom in terms of GDP growth at 11% per annum, but registered a meagre 1.2% growth rate in employment due to a steep fall in employment elasticity. The transport and communication sectors recorded the highest growth in GDP at 16%, with only 1.9% growth in employment, and the finance and real estate sectors recorded the maximum growth of employment at 5.8% and second highest GDP growth rate of 12% due to maximum increase in employment elasticity of 47% in the services sector during 2004-05 to 2009-10. The community, social, and personal services sector showed very little employment generation. If we ignore the period of 2004-05, the employment elasticity of the services sector declined from 0.57% in 1983 to 0.11% in 2009-10. This is a cause of concern, showing the inability of the services sector to create enough employment over the years inspite of high and rising GDP growth rate.

Labour Productivity Differentials across Sectors

While analyzing the trends in per worker productivity across sectors and in the economy as a whole, it can be inferred from the Table 3 that agriculture not only had the lowest per worker productivity, but it continued to worsen from 0.54 to 0.29 times of the total average productivity (100) from 1983 to 2009-10. Since labour productivity directly impinges on the returns to labour in both self-employment and rural casual labour (Sundaram, 2007), agriculture would need to not only increase its GDP growth but reduce its labour too in order to

Table 3. Labor Productivity and Growth in Productivity (UPSS)

	Gross Value Added (GVA) per worker					Growth in GVA per worker		
Years	**1983**	**93-94**	**99-00**	**5-Apr**	**10-Sep**	**93-99**	**99-04**	**04-09**
Agriculture	13492	15342	18591	18639	23611	3.12	0.05	3.84
	54.27	46.9	41.4	35.8	29.4			
Manufacturing	33900	44401	60424	64450	108612	5.05	1.3	11
	136.34	135.8	134.6	123.8	135.5			
Mining and quarrying	91400	122251	184044	206239	218633	6.76	2.3	1.17
	368.85	374.1	410	395.5	272.1			
Electricity gas and water supply	146579	213741	428135	452438	615947	11.76	1.11	6.36
	589.66	652.4	956.9	866.3	768.6			
Construction	64549	58081	58190	60734	55549	0.03	0.86	-1.77
	259.38	177.6	129.6	116.6	69.3			
Non-manufacturing	77363	81626	90315	89050	79975	1.63	-0.28	-2.13
	311.15	249.6	201.2	171	99.7			
Industry	43800	55078	70071	72995	94843	3.93	0.82	5.38
	176.21	168.5	156.1	140.2	118.3			
Trade hotels and restaurants	44764	52414	62198	74649	110626	2.78	3.72	8.18
	180.13	160.3	138.6	143.4	138			
Transport and communication	60053	75371	91163	131344	252416	3.09	7.58	13.96
	241.53	230.6	203.1	252.2	314.7			
Finance, insurance, real estate	246102	408115	471816	414205	557304	2.35	-2.57	6.11
	989.29	1249	1052	795.3	695			
Community, social personal services	39382	46827	81239	90232	131256	9.22	2.12	7.78
	158.39	143.2	181	173.3	163.8			
Services/tertiary	53971	69401	95193	112348	179323	5.19	3.37	9.8
	217.12	212.3	212.1	215.8	223.7			
Total	24860	32694	44889	52066	80177	5.2	3.01	9.02
	100	100	100	100	100			
Non Agriculture	49525	63468	84917	95429	140957			
	199.21	194.1	189.2	183.3	175.8	4.77	2.36	8.11

Source: Author's calculations based on sources of Tables 1 &2, values in lower line represent % of total average productivity

reduce underemployment, increase labour productivity, and to provide a decent income to its workers. Construction is another sector with very low productivity per worker (0.7 times of average productivity), and its growth rate of productivity per worker has in fact declined, showing that the sudden increase in employment was concentrated in the informal sector with low wages. Barring the period from 2004-05, labour productivity in the manufacturing sector (more or less) remained constant at 36%, which was more than the average productivity. The productivity in electricity, gas, and water supply sectors was maximum (about 7.6 times the average) from 2004-05 to 2009-10, and these sectors showed high growth in labour productivity over the years.

The services, finance, and real estate sectors along with the transport sector had seven and three times the productivity as compared to the average productivity and paid the highest emoluments in the services sector. The transport sector recorded the highest growth rate in per worker productivity to the tune of 14% followed by trade with 8% during 2004-05 to 2009-10. Growth rate in labour productivity was significantly higher in all the sectors and for the total workforce except for the mining and construction sectors during the period from 2004-05 to

Table 4. Percentage of Dependence

Years	PNA/PA	% of dependence
1983	3.7	45.9
1993-94	4.1	56.1
1999-00	4.6	65.2
2004-05	5.1	76.5
2009-10	6	93.3

2009-10 as compared to the previous sub - period, when labour productivity growth had been significantly lower in all the sectors except construction, trade and hotels, transport, storage, and communication.

The ratio of non - farm and farm productivity was very high in 2009-10, which shows that new jobs that are required to be created are not likely to be in agriculture. They have to come from the non-agriculture sectors (Papola & Sahu, 2012), and this shift out of agriculture should occur not as distress migration, but as a natural movement to higher paid employment in non-agricultural activities, some of which would be in the rural areas itself (Ahluwalia, 2011). The productivity of the services sector was almost double of the industrial sector, indicating that the jobs in the services sector are more lucrative for a shift in the economy, but the requirement of high level of technical education and change in location to far-off places create obstacles for shifting unskilled rural workers from agriculture to this sector to services.

Here, we see that the shift of labour - which was earlier underemployed in the low productivity agricultural sector to high productivity industrial and services sectors - led to an overall increase in productivity and is itself seen as a gain in terms of equity and efficiency in the economy (Gandhi, Sahoo, Saha, & Mehrotra, 2012). Between 2004-05 and 2009-10, there was an increase of about 22 million workers in the non-agricultural sector, out of which 18 million were in construction sector, comparatively more in the rural areas. However, whenever the workers increase in sectors with employment elasticity greater than 1, it leads to a loss of potential efficiency. This is the case with the construction sector with elasticity of 1.2, where the labour productivity declined from 16% more than the average to 30% less than the average productivity between 2004-05 and 2009-10. High employment elasticity is not necessarily the best way of achieving employment objectives. Decline in employment elasticity can even be welcome for sectors where productivity per worker is very low. Ideally, what is needed is a level of GDP growth that is sufficiently high to allow for an increase in employment as also in productivity in order to ensure rising real wage and growth of income per person employed (Government of India, Planning Commission, 2011).

Rising Dependence of Productivity on GDP

The ratio of non-agricultural to agricultural productivity per worker increased from 3.7: 1 in 1983 to 6: 1 in 2009-10 (Table 4). This shows that the corresponding wages in agriculture are comparatively on the decline since the non-agricultural sector is much more productive than the agricultural sector. One thing that is required to be noticed at the same time is that the ratio of the non-farm to farm GDP has been increasing hand in hand with the farm- non farm productivity. It is interesting to note that the sudden increase in the non-farm to farm productivity was governed (93%) by the surge in GDP. This dependence was calculated using the formula given below to arrive at the result that the % of GDP ratio in the productivity ratio increased from 77% to 93% between 2004-05 and 2009-10 (Table 4), thereby showing the increased dependence of productivity on GDP growth.

% of dependence of non-farm to farm productivity ratio on GDP ratio :

$$\text{Dependence} = ((GNA)/GA) / (PNA/PA))*100$$

Table 5. Share of Employment in Rural and Urban Areas along with Growth Rate (UPSS based)

Employment	Rural Employment (%)				Growth Rate Rural (%)			Urban Employment (%)				Growth Rate Urban (%)		
Years	1993	1999	2004	2009	93-99	99-04	04-09	1993	1999	2004	2009	93-99	99-04	04-09
Primary	**78.45**	**76.23**	**72.54**	**67.96**	**0.19**	**1.43**	**-1.66**	**12.32**	**8.75**	**8.67**	**7.47**	**-3.32**	**4.07**	**-1.67**
Manufacturing	7.00	7.40	8.08	7.16	1.56	4.25	-2.76	23.62	22.61	24.5	22.94	1.41	5.96	-0.05
Mining	0.53	0.50	0.49	0.64	-0.37	2.26	5.18	1.17	0.8	0.75	0.63	-3.91	2.89	-2.33
Electricity and gas	0.19	0.13	0.128	0.14	-5.43	1.99	1.17	1.01	0.68	0.67	0.64	-4.08	3.93	0.44
Construction	2.38	3.32	4.88	9.40	6.17	10.67	13.58	6.31	7.93	8.05	10.23	5.93	4.56	6.28
Non-manufacturing	3.10	3.95	5.50	10.18	4.62	9.49	12.69	8.5	9.42	9.47	11.5	3.82	4.38	5.31
Secondary	**10.10**	**11.35**	**13.58**	**17.34**	**2.55**	**6.19**	**4.62**	**32.12**	**32.03**	**33.97**	**34.44**	**2.08**	**5.5**	**1.56**
Trade and hotels	4.28	5.13	6.20	6.52	3.61	6.39	0.63	19.4	26.95	24.62	24.22	7.64	2.41	0.96
Transport	1.45	2.12	2.50	2.89	7	5.83	2.56	7.93	8.72	8.71	8.72	3.69	4.25	1.31
Finance, real estate	0.29	0.36	0.48	0.61	4.09	8.58	4.51	3.4	4.11	5.32	6.73	5.26	9.82	6.17
Public administration	5.42	4.81	4.69	4.68	-1.27	1.96	-0.45	24.83	19.44	18.71	18.41	-1.8	3.47	0.96
Services	**11.45**	**12.4**	**13.88**	**14.70**	**1.98**	**4.74**	**0.78**	**55.56**	**59.22**	**57.36**	**58.09**	**3.17**	**3.61**	**1.54**
Non agriculture	**21.55**	**23.77**	**27.46**	**32.04**	**2.25**	**5.44**	**2.75**	**87.68**	**91.25**	**91.33**	**92.53**	**2.78**	**4.29**	**1.55**
Total	**100**	**100**	**100**	**100**	**0.65**	**2.44**	**-0.37**	**100**	**100**	**100**	**100**	**2.12**	**4.27**	**1.29**

Source: Various rounds of NSSO Employment Unemployment Surveys

where,
GNA = GDP in non-farm,
GA = farm GDP,
PNA = productivity in non-farm,
PA = farm productivity.

The analysis shows that capital intensive techniques are being increasingly employed, which directly influence the faster growth of output. This is also evident from the fact that additional incentives are being offered by the State governments for encouraging employers to increase the capital intensity of production for maximum output growth in the form of cash subsidy based on the level of investment, interest subsidy, and a range of other incentives (Kannan & Raveendran, 2009). Stringent labour laws, scarcity of skilled labour, and adoption of capital intensive (labour saving) imported technology, growing competition, and changing nature of product markets have also led to the slowing down in the absorption of labour, which makes capital more productive than the unskilled surplus labour.

Structural Changes in Rural- Urban Workforce

In the rural areas (Table 5), agriculture is the main source of rural livelihood, but its share in employment is continuously decreasing - its share decreased from 78.4% in 1993-94 to around 68% in 2009-10. The compound annual growth rate (CAGR) of primary employment in rural areas saw a rise of 1.43% between 1999 - 2000 and 2004-05, and then there was a sharp fall of 1.66% during the period from 2004-05 to 2009-10. In the urban areas too, its share is decreasing and stood at 7.5% in 2009-10. On comparing the urban and rural workforce, it can be inferred that urban areas recorded higher employment growth than rural areas in all periods. The urban CAGR was 4.27% and 1.29% between 1999 - 2000 and 2004-05 respectively as compared to a CAGR of 2.44% and -0.37% between 2004-05 and 2009-10 respectively in rural areas. However, even though the urban sector recorded a faster overall growth, but rural areas dominated with much higher employment growth in the non-agricultural sector as compared to the urban areas. The rise in non-agricultural employment in the rural sector was 5.44% and 2.75% during 1999-2000/2004-05 and 2004-05/2009-10, which was more than the 4.29% and 1.55% increase in

Table 6. Category of Employment in Different Sectors (Millions) (UPSS based)

		Self-Employment			Regular Wages			Casual Labour		
		Women	**Men**	**Total**	**Women**	**Men**	**Total**	**Women**	**Men**	**Total**
1993-94	Primary	55	88.68	143.68	0.64	2.64	3.28	38.67	53.24	91.91
	%	(23.03)	(37.12)	(60.15)	(0.27)	(1.11)	(1.37)	(16.19)	(22.29)	(38.48)
	Industry	7.57	13.86	21.42	1.42	13.69	15.11	4.98	14.52	19.5
	%	(13.51)	(24.74)	(38.23)	(2.53)	(24.43)	(26.97)	(8.89)	(25.91)	(34.8)
	Service	6.73	33.04	39.78	5.61	26.56	32.17	1.42	6.17	7.59
	%	(8.46)	(41.54)	(50.01)	(7.05)	(33.39)	(40.45)	(1.79)	(7.76)	(9.54)
	Total	**69.3**	**135.58**	**204.88**	**7.67**	**42.89**	**50.56**	**45.07**	**73.93**	**119**
1999-00	Primary	52.61	86.1	138.71	0.84	2.91	3.75	39.97	57.71	97.68
	%	(21.91)	(35.85)	(57.76)	(0.35)	(1.21)	(1.56)	(16.64)	(24.03)	(40.68)
	Industry	9.24	16.63	25.87	1.75	14.82	16.57	3.78	18.3	22.09
	%	(14.32)	(25.77)	(40.09)	(2.71)	(22.97)	(25.68)	(5.86)	(28.36)	(34.23)
	Service	6.85	37.79	44.64	6.57	31.66	38.42	1.85	8.09	9.94
	%	(7.34)	(40.54)	(47.9)	(7.48)	(33.97)	(41.44)	(1.98)	(8.68)	(10.67)
	Total	**68.7**	**140.52**	**209.22**	**9.16**	**49.39**	**58.54**	**45.6**	**84.1**	**129.71**
2004-05	Primary	69.67	96.59	166.26	0.53	2.34	2.87	37.72	52.3	90.02
	%	(26.88)	(37.27)	(64.16)	(0.2)	(0.9)	(1.11)	(14.56)	(20.18)	(34.74)
	Industry	12.88	21.63	34.51	2.45	18.11	20.36	5.05	25.91	30.67
	%	(15.06)	(25.29)	(40.34)	(2.63)	(21.17)	(23.8)	(5.9)	(30.29)	(35.85)
	Service	8.34	49.59	57.93)	10.32	36.08	46.41	1.85	7.38	9.23
	%	(7.34)	(43.66)	(51.01)	(9.09)	(31.77)	(40.86)	(1.63)	(6.5)	(8.13)
	Total	**90.89**	**167.81**	**258.7**	**13.3**	**56.53**	**69.84**	**44.62**	**85.58**	**129.92**
2009-10	Primary	50.64	92.61	143.26	0.4	1.88	2.28	35.22	57.47	92.69
	%	(21.26)	(38.87)	(60.14)	(0.17)	(0.79)	(0.96)	(14.78)	(24.12)	(38.91)
	Industry	9.94	20.68	30.62	2.13	19.72	21.85	9.39	39.27	48.66
	%	(9.83)	(20.45)	(30.28)	(2.11)	(19.5)	(21.61)	(9.29)	(38.83)	(48.12)
	Service	7.1	52.23	59.33	11.25	40.24	51.49	1.8	8.12	9.92
	%	(5.86)	(43.12)	(48.98)	(9.29)	(33.55)	(42.83)	(1.49)	(6.7)	(8.19)
	Total	**67.68**	**165.52**	**233.21**	**13.78**	**61.84**	**75.62**	**46.41**	**104.86**	**151.27**

Source: Various Rounds of NSSO Employment Unemployment Survey

urban areas respectively. A break-up of the non-agricultural sector shows that the secondary sector showed a greater growth in employment in rural areas in all periods, while the services sector grew in urban areas.

A significant change in rural employment trend is noticed - that it is moving out of agriculture to non-agriculture. Construction showed the highest growth in both rural and urban employment with a growth rate of 10.6% and 13.5% in rural areas, and 4.56% and 6.27% in urban areas during 1999- 2000/2004-05 and 2004-05/2009-10. In 2009-10, construction was the largest employer of people in the rural areas after agriculture, which was closely followed by the manufacturing sector. In the urban areas, due to bulk of employment in the services sector, its share increased from 55.5% in 1993-94 to 58% in 2009-10. Finance and the real estate sector showed the highest employment growth in both rural and urban regions, even though their share in the services sector was the lowest. Trade and hotels & restaurants were the largest employers in urban areas followed by a decelerating trend in the manufacturing sector. The services sector also picked up in rural areas with trade as the largest employer, with a 6.5% share in 2009-10.

Table 7(a) Workforce - Men (millions)

Age	2004-05	2009-10
Below 24	71.8	61.2
Above 24	238.4	271.2
Workforce Women (millions)		
Age	2004-05	2009-10
Below 24	33.5	23
Above 24	115.6	104.8

Table 7(b). Population not in Workforce Due to Attending Educational Institutions

Period	Female (%)	Male (%)	Total (%)
2004-05	22.17	26.38	24.35
2009-10	24.1	29	26.6

Table 7(c). Not in Workforce due to Domestic Work

Females	Urban (%)	Rural (%)
2004-05	42.8	27.2
2009-10	46.5	34.7
Change	3.7	7.5

Source: NSSO Survey

Category wise Disaggregation of Workers across Sectors and Gender

From 1993 onwards, a fluctuating trend in self-employment and casual labour can be observed, while the share of the regular wage salaried (RWS) employment increased consistently. Self-employment decreased from 54.6% in 1993-94 to 52.6% in 1999 - 2000, rose sharply to 56.4% in 2004-05, and took a sharp fall at 50.6% in 2009-10. Whereas, casual labour followed the exact opposite trend - it increased to 32.75% in 1999-2000 from 31.7% in 1993-94, plummeted to 28.3% in 2004-05, and finally recorded a sharp rise to 32.9% in 2009-10. Share of regular employees increased constantly, registering a rise from 13.6% in 1993-94 to 15.2% in 2004-05, and finally reaching a figure of 16.36% in 2009-10.

However, if the sub-period between 1999-2000 and 2004-05 is skipped from the analysis, we see that in the last 16 years (1993-94 and 2009-10), the share of self-employment reduced continuously and that of casual and regular employment rose constantly. Majority of the women were employed in the primary sector, especially rural women. There was a sharp rise in self-employment for women in the primary sector in between 1999- 2000 and 2004-05 of 17 million and an even sharper decrease from 2004-05 to 2009-10 of 19 million. It can also be seen that the best form of employment, that is, regular salaried employment was mainly dominated by men, especially in the non-farm sector.

The period from 1999-2000 to 2004-05, which is known for its agrarian crisis, saw the resurgence of the primary self-employment (SE), which rose by 27.6 million (m) with 75% of the total 49 m increase in SE taking place in rural India (Sundaram, 2007). The increase for men was 10.5 m, and for women, it was even greater at 17m. There was a complete reversal with the share of casual labour in agriculture down by 6% points and that of self-employment was up by 6.5% points. This rise in self-employment was not seen as a healthy sign as significant proportion of jobs in the self-employment category are in the unorganized sector and may often be inadequately remunerative (Rangarajan, Kaul, & Seema, 2011). It is also seen that the rise in SE in rural areas was confined to households with marginal landholdings of less than 0.4 hectare (Abraham , 2009).

It can be inferred from the Table 6 that women accounted for more than 61% of the total increase in self-employed in agriculture, while men accounted for almost 76% of the entire increase in self-employed in the non-agricultural sector. Hence, the increase in employment shifted to the secondary and services sector, indicating that the men moved out of agriculture in search of better employment, and their place was substituted by family members, mainly the women. The share in the non-agricultural sector is increasing for both men and women, but it is still less than one third for women, whereas for men, it is over half. It reflects the defeminization of the workforce, mainly in high productivity, urban, non - agricultural sector as limited jobs are available for women in

the non - farm sector. This rise in non-agricultural employment along with a very high unemployment rate during this period shows signs of distress employment (Himanshu, 2011). On the other hand, during 2004-05/2009-10, casual employment increased at a much faster rate than in the previous period for both men and women. Casual labour in the secondary sector saw an increase of 18 million during this period, especially in the construction sector as compared to the 8.5 million increase from 1999- 2000 to 2004-05 and 2.6 million during 1993-94 and 1999-2000. Another concern with self-employment is the unpaid labour, especially for women in rural areas. The shocking reality is that if one removes unpaid labour from the work participation count, in 2007-08, only 15% of the female population in the country received wages or income for their labour (Neetha & Mazumdar, 2011). Otherwise, the RWS hardly saw an increase of 0.5 m women and about 5 m for men, suggesting that women are still not a part of the mainstream employment and are playing the role of supplementing the income of the family (Rangarajan, Kaul, & Seema, 2011).

The Missing Women

The employment for women in our country is a major concern for the economy. The quality of employment is quite low, with the women concentrated in areas of low productivity, low earnings, and irregular and uncertain availability of work with no or very little social protection (Papola & Sahu, 2012). The labour force in 2009-10 declined (Table 7(a)) for the first time from 470.34 million in 2004-05 to 469.8 million, whereas the workforce in SE fell from 259 m to 233 m, and saw a downfall of 23 million women from self-employment, out of which 18.5 m women were from the rural areas, mostly from the agricultural sector. Out of the loss of 23 million women in self-employment, 1.7 million moved to casual labour, and 0.4 m to RWS. The remaining 21 million women simply moved out from the workforce and constitute the "missing labour force". Another interesting fact is that the workforce of men increased almost by an equal number, making the workforce almost constant during this 5- year period. The Table 7(a) shows the age wise disaggregation of the workforce. It can be inferred from the Table that there was a decline of men and women in the working population who were below the age of 24 years. Since this population is associated with youngsters pursuing an education, a valid argument can be instituted as to why they did not choose to work in the agricultural sector.

On observing the population not offering themselves for work in the agricultural sector due to educational purposes, in can be inferred from the Table 7(b) that there was an increase in both men and women pursuing their education, indicating that one of the causes for missing women in employment is the stress on attaining quality education, which is a very promising sign. Now, upon analyzing the workforce above the age of 24 years, it can be seen that there was an increase in the population of men (32m) and a decline in the population of women (11m). Upon analyzing the statistics of women engaged in domestic work for the subsequent periods (Table 7(c)), it can be observed that there was an increase both among rural (7.5%) and urban (3.7%) women, indicating that women gave up their jobs and career and engaged themselves in managing household chores and domestic work to take care of their families and homes. This increase was more in rural areas, indicating that the women, especially the ones who were engaged in self-employment, gave up employment to look after their families and manage domestic chores. These statistics speak volumes about the quality of jobs in the self-employed sector in agriculture where women are mostly helpers, supporting the men in the family.

Policy Implications

The present study has shown that with economic growth, there has been a clear decline in the absolute number of agricultural workforce in case of women. Decline in labour force participation rate, mainly in case of rural women below 24 years of age for attending educational institutions, is a welcome development. In the future, it will encourage the participation of female workforce in highly productive non - agricultural sectors so that they can be part of the mainstream economic growth.

The problem of unemployment among the educated youth can only be tackled by reducing the mismatch

between skill development through education and meeting the needs of the industry to make them market enabled. Shift of labour from agriculture towards construction rather than manufacturing and services; it should worry the policy makers. A new manufacturing policy with flexible labour laws and skilled labour may result in rapid growth in employment. In India, economic development depends on human capital formation in which expenditure on skill development and better health facilities by the government can improve the efficiency and productivity of the workers.

Conclusion

(1) The period from 1999-2000 to 2004-05 saw a substantial rise in the workforce of about 60 million out of which 49 million were engaged in self-employment and 27 million further found employment in agriculture. About 17 million were women as compared to only men. This period also saw a decline in CL and increase in RWS workers in the non-farm sector, especially in case of women. However, this period is seen as a period of distress employment, where women, children, and older persons were economically forced to do part time jobs in the informal sector to supplement the family income. This raises questions about the nature and quality of employment generated.

(2) The period from 2004-05 to 2009-10 saw stagnation in the workforce, with a growth rate of just 0.06% when the growth rate of GDP was the highest at 9%; 25 million workers moved out of self-employment, out of which 23 million were women. The corresponding increase of women in casual and regular employment was just 1.7 and 0.4 million respectively. Surprisingly, 21 million women moved out of the labour force, and chose either to pursue education or devote themselves to domestic duties instead of working in low paying or unpaid self-employment activities as the casual labour saw an increase of 21 million workers and regular employment, which is considered the best form of employment, which still had a very poor percentage of women at only 18%. All these facts raise questions regarding the quality participation of women in the growth process.

(3) In rural employment, the highest growth was shown by the construction sector at 13.5% and in the case of urban employment, the real estate sector showed the maximum growth at 6%. The increase in employment in real estate signals towards the development of the real estate sector in the country. Investment in infrastructure at the beginning of the 11th Five Year Plan (2007-08) stood at 4.4% of the GDP, but its share in GDP rose to 7.5% in the terminal year of this plan. Hence, it is not surprising that construction and real estate services saw a consistent increase in employment. This shows that the rural non-farm sector continues to show promising results.

(4) Productivity per worker in agriculture was lowest at 0.3 of average productivity and ratio of non-agricultural to agricultural productivity was very high at 6:1. The dependence of this ratio on the non-agricultural to agricultural GDP ratio was increasing and jumped to 93% in 2009-10 from 76% in 2004-05. This shows that the an increasing GDP drives productivity, and that now, capital intensive techniques are being employed due to lack of skilled labour and strict labor laws, which are lowing down the absorption of direct labour in the non - agricultural sector, especially in the manufacturing and services sectors.

(5) Agriculture is still the mainstay of our economy in terms of employment, but its share in GDP has declined over the years. Still, 51% of the workforce in agriculture produces just 15% of the output. Hence, there is a need to migrate the surplus labour to the highly productive industrial and services sectors. Though the productivity of these sectors will decrease due to migration, but it will result in an increase in equity, efficiency, and will lead to an increase in overall productivity, which is favorable for the economy. The services sector showed a high growth in GDP (11% per annum), but it is suffering from low growth of employment of 1.2%. The industrial sector with a high employment growth rate of 3.3% shows that the shift of agricultural labour is more towards the industrial sector than the services sector. This is because the construction sector recorded the highest growth of 11% in

employment during this period. We are meeting our objectives of high GDP growth with a growth of 9% during 2004-05 to 2009-10, but have fallen short in our goal of creating decent employment by improving the structural changes in the workforce or the rising population, showing how inclusive the growth process actually is.

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Limitations of the Study and Scope for Further Research

Through this paper, I have tried to analyze the structural changes in the Indian workforce from 1983 to the latest period of 2009-10. Each topic I touched upon has the potential of being elaborated into complex research papers itself. There is a need to investigate the reasons for missing labour, especially for attending to domestic duties, its impact upon the economy, and how, in turn, it is related to the real wages of the workers. How to make women an active part of the mainstream growth process is a problem we wish to find the answers for in the near future. As the working age population in rising in India, there is a need to reduce the mismatch between employment and output by reaping the benefits of the demographic dividend. It is a challenge for the policy makers to create new jobs for the increased number of educated rural labour force in high productivity non-agricultural sectors other than casual jobs in the construction sector, especially in the manufacturing sector by reforming India's labour laws.

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