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Prospects of Employment Growth in Andhra Pradesh

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Introduction

The performance of Andhra Pradesh in terms of economic growth in the recent past is impressive. It is observed that there is turnaround with respect to economic growth in the state (Dev and Ravi, 2009; APHDR, 2007). The state has witnessed double digit growth between 2007-08 and 2008-09. Moreover the decadal average growth of the state in the last decade is higher than national average. It is expected to maintain this high growth trajectory in the near future. But the concern is about growth impact on employment generation which is one of the objectives of economic growth. Expanding productive employment is central for sustained poverty reduction and for improvement in human development. However it is observed that the growth of employment in the state during 1990s and thereafter it has declined when compared to that of 1980s whereas the economic growth has shown opposite trend – continuously increasing growth especially 2000s over that of 1980s. As a result employment elasticity in the state with respect to its economic growth is declining (Dev and Venkatanarayana, 2009; APHDR, 2007).

Herein one can make a general statement that the economic growth in the state is not promoting pro-labour or pro employment generation objective. One can also make another statement that it is the negative impact of economic reforms on the growth of employment. But it is not that simple to conform to these statements. Growth of employment depends on the growth of population as well as change in work participation rates which in turn depends on the growth of economy and its capacity to expand employment opportunity and the change in the participation rates in the activities alternative to work/labour among different age groups especially change in participation rate in schooling or education among younger age groups. The changes in all these aspects are apparent in case of Andhra Pradesh wherein increasing demand for education reduced the work participation rate among younger age

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groups. Also the demographic transition that the state has experienced during the last two decades has resulted in the lowest ever population growth (see Venkatanarayana, 2012).

In the midst of these trends in employment, the Confederation of Indian Industry (CII) Andhra Pradesh Chapter, however, proposes in its Vision 2022, creation of 35 million jobs in non-agriculture by 2022. It needs either a dramatic shift in workforce from agriculture to non-agriculture or high overall employment growth largely contributed by growth of workforce in non-agriculture.

In this respect the present paper examines the changes in work participation rates, participation rate in education and the growth of employment, and explores the prospects of employment growth in the state in the scenario of declining population growth which is proposed to limiting factors for the further employment growth particularly in the context of Andhra Pradesh.

I Growth of Employment in Andhra Pradesh

The growth of employment in Andhra Pradesh is declining over a period of time especially in the post reform period. The long-run rate of growth in employment in Andhra Pradesh was around 1.46% per annum during the last three decades between 1983 and 2011-12 (see Table 1). The declining trend in the growth of employment is clear if this two and half decades is divided into the pre-reform (i.e. between 1983 and 1993-94) and post-reform (i.e. period since 1993-94) periods. It declined from 2.97% in the pre-reform period to 0.59% in the post-reform period (between 1993-94 and 2011-12). The rate of growth in employment in the state was its lowest ever (0.30%) during early reform period (i.e. between 1993-94 and 1999-2000), thereafter (between 1999-2000 and 2004-05) it increased to 1.53% but it was still lower than that of the pre-reform period. Again there is a downward trend in growth of employment during the period between 2004-05 and 2009-10. It is coincided with the global recession especially the period since 2007-08. During the period between 2004-05 and 2007-08 the rate of growth in employment has decelerated in the state and registered a decline during the period between 2007-08 and 2009-10. The half-a-decade average growth in employment during the period between 2004-05 and 2009-10 turns out to be negative indicating a decline in workforce in the state.

When we take in to account the comment of Papola (2012) saying the work participation rate (WPR) especially that of women in India in 2004-05 is an outlier of the trend observed for the four decades since 1970s. Thus, if we consider disregarding the year 2004-05 for a moment, the average rate of growth in Andhra Pradesh for the period between 1999-2000 and 2009-10, found to be merely 0.63% in which is found to be less than half of the rate observed at the national level. The latest estimates for the period between 2009-10 and 2011-12 shows better prospects of growth but the sustenance such prospects is rather doubtful.

At the national level too almost a similar trend is observed. However, one can notice a clear cut demarcation that during the pre-reform period the rate of growth in employment in Andhra Pradesh was higher than the all-India average but in the post reform-period it turns out to be lower than the national average (Table 1). But the latest trend during the period between 2009-10 and 2011-12, indicates that there is a revival of past trend wherein rate of growth in employment for Andhra Pradesh is higher than the national average.

Table 1: Growth and Elasticity of Employment in Andhra Pradesh and in India

Sno	Period	Growth (%) - CAGR				Elasticity of Employment	
		Employment		GSDP		AP	India
		AP	India	AP	India		
1	2	3	4	5	6	7	8
1	1983 to 1987-88	2.99	1.53	3.87	3.5	0.773	0.433
2	1987-88 to 1993-94	2.95	2.38	6.59	5.6	0.448	0.422
3	1993-93 to 1999-00	0.29	1.05	5.30	6.7	0.054	0.157
4	1999-00 to 2004-05	1.53	2.81	6.35	5.8	0.241	0.488
5	2004-05 to 2007-08	0.62	-0.40	10.92	9.5	0.057	-0.042
6	2007-08 to 2009-10	-1.58	1.13	5.70	7.7	-0.278	0.148
7	2004-05 to 2009-10	-0.27	0.21	8.80	8.7	-0.031	0.024
8	2009-10 to 2011-12	1.29	1.08	8.74	7.8	0.148	0.139
9	1983 to 1993/94	2.97	2.02	5.42	4.7	0.548	0.405
10	1993/94 to 2004/5	0.85	1.85	5.78	6.3	0.147	0.215
11	1999/00 to 2009/10	0.63	1.50	7.57	7.2	0.083	0.208
12	1999/00 to 2011/12	0.74	1.43	7.76	7.3	0.095	0.189
13	1993/94 to 2011/12	0.59	1.30	6.93	7.1	0.085	0.174
14	1983 to 2009/10	1.57	1.60	6.87	6.1	0.228	0.252
15	1983 to 2011/12	1.46	1.57	6.37	6.2	0.229	0.239

Note: 1. Based on Usual Status (Principal and Subsidiary Status) of employment; 2. Growth is compound annual (CAGR) for both the Employment and GSDP/GDP and presented in percentage; 3. EE – Elasticity of Employment with respect to Growth of GSDP; 4. GDP/GSDP is at Constant (2004-05) prices.

Source: Author's calculation based on NSS data for Employment and CSO for GSDP/GDP.

The pattern in the rate of growth in employment is similar in both the rural and urban areas but the rate of growth in employment varied. In the pre-reform period (1983 to 1993-94) the rate of growth in was 2.33% and 3.83% in rural and urban workforce respectively (see Table

2). In the post-reform period, rate of growth in rural workforce in Andhra Pradesh has decelerated to almost insignificant; it is 0.09% for the period between 1993-94 and 2011-12 whereas in urban areas its workforce has grown at the rate 2.29% per annum during the same period. The highest rate of growth for rural workforce in Andhra Pradesh is observed at 0.55% during the last two years period between 2009-10 and 2011-12 while the urban workforce has registered a high rate at 3.47% during the same period. The decline in rural workforce observed for the period between 2007-08 and 2009-10 is coincided with global recession. During this period growth of urban workforce has decelerated but not declined (Table 2). When compared to the national level trend, during the pre-reform period rate of growth in rural and urban workforce of Andhra Pradesh was higher than that of the national average. It turns out to be completely opposite in the post-reform period (see Table 2).

It indicates that in the coming years due to increasing rural-urban migration there may be a decline in rural workforce. The rise in urban workforce would be the only source of growth in overall workforce. But the growth of urban workforce partly owing to the rural to urban migration may not compensate the rate of deceleration in growth of or decline in rural workforce.

Table 2: Growth of Employment in Andhra Pradesh and in India by Location

<i>Sno</i>	<i>Period</i>	<i>Andhra Pradesh</i>		<i>India</i>	
		Rural	Urban	Rural	Urban
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
1	1983 to 1987-88	1.65	4.38	1.19	2.9
2	1987-88 to 1993-94	2.84	3.42	2.12	3.4
3	1993-93 to 1999-00	0.29	0.27	0.67	2.3
4	1999-00 to 2004-5	0.52	5.35	2.29	4.4
5	2004-05 to 2007-08	0.26	1.78	-0.51	-0.1
6	2007-08 to 2009-10	-2.25	0.48	-0.09	4.6
7	2004/5 - 2009/10	-0.75	1.26	-0.34	1.77
8	2009-10 to 2011-12	0.55	3.47	0.11	3.6
9	1983 to 1993/94	2.33	3.83	1.72	3.16
10	1993/94 to 2004/5	0.40	2.55	1.40	3.29
11	1999/00 to 2009/10	-0.12	3.28	0.96	3.09
12	1999/00 to 2011/12	-0.01	3.31	0.82	3.17
13	1993/94 to 2011/12	0.09	2.29	0.77	2.90
14	1983 to 2009/10	0.98	3.07	1.20	2.95
15	1983 to 2011/12	0.91	2.85	1.12	2.99

Note: 1. Based on Usual Status (Principal and Subsidiary Status) of employment; 2. Growth is CAGR and presented in percentage.

Source: Author's calculations based on various rounds of NSS Employment and Unemployment Survey data

The trend observed for growth in employment is found to be completely in opposition to the trend in economic growth in Andhra Pradesh as well as at the national level. In the pre-reform period economic growth was lower and the employment growth was higher (Table 1). In the post reform period, especially in the later phase, the economic growth picked up and moved high growth trajectory but the growth of employment found to be very low. Andhra Pradesh state has witnessed a turnaround in its economic growth during the first decade of 21st Century. In case of employment growth it is other way round. During the global recession period (between 2007-08 and 2009-10), the economic growth in the state has decelerated but the growth of employment registered a decline (see Table 1). Rural employment growth was the most affected during the global recession period (see Table 2).

The elasticity of employment measures the responsiveness in growth of employment with respect to the growth of GSDP and indicates the employment generating capacity of its economic growth. In Andhra Pradesh the elasticity of employment with respect to growth of its GSDP was its lowest during the post-reform period. When compared to all-India average, the employment elasticity in the state is lower during the same period. The lower employment elasticity indicates the fact that the economic growth observed in the state in the recent past could not be translated into its potentials of employment generation. One can immediately draw a conclusion that the economic growth in the state is not pro-employment generation and it is mostly capital intensive based one. It may be considered as jobless economic growth.

Employment growth by Sub-Sectors

By sector or industry division, employment growth in agriculture sector in Andhra Pradesh is found to be fast declining in the post-reform period (see Table 3). During the global recession period, the decline in employment growth in agriculture was the highest ever in the state. It is interesting to note that when agriculture GSDP of the state has recorded a high growth (4 to 5%) which was never seen such a high growth in the past, the employment growth in agriculture registered a decline. There appears to be revival of employment growth in agriculture in the recent past especially between 2009-10 and 2011-12 but the trend indicates that it may not sustain for along. The decline in growth of employment in agriculture would continue but at which rate such a decline takes place depends on the growth of non-agriculture in general and rural non-farm sector in particular.

In the non-agricultural activities, employment growth in mining and quarrying (M&Q) has registered a decline in the early reforms period (between 1993-94 and 1999-2000) but dramatically revived and registered a double digit growth (nearly 11%) during the period between 1999-2000 and 2004-05. Again it has shown a fast decline in employment growth between 2004-05 and 2009-10 and a revival in the recent period. The trend in growth of GSDP of M & Q has not shown any decline during post-reforms period except for a small stint between 2007-08 and 2009-10. But in employment growth the M&Q sector has witnessed the completely opposite. However, a significantly high growth at 4.26% in employment growth in this sector is observed for the recent period i.e. between 2009/10 and 2011/12 (see Table 3).

In the manufacturing sector the decline in growth of employment observed during the early reforms period between 1993-94 and 1999-2000, later phase between 2004-05 and 2007-08, and in the recent past between 2009-10 and 2011-12. But during the period between 1999-2000 and 2004-05 it has registered a significantly very high growth in employment in manufacturing sector. Again, interestingly, such a high growth in employment sustained during the global recession period (between 2007-08 and 2009-10). But later, in the subsequent period (i.e. between 2009-10 and 2011-12), the employment growth in manufacturing sector of the state has declined; the decline is very sharp (see Table 3). State's own industrial policy ever since it was initiated in the early 1990s, it intends to facilitate and promote faster industrial growth while generating substantial employment opportunities. In this respect, special economic zones (SEZs) and industrial clusters and corridors have been promoted.

Despite the initiatives, even the growth of GSDP in manufacturing sector of the state during the post-reform period particularly between 1993-94 and 2004-05 had decelerated when compared to that of the scenario during pre-reforms period (i.e. between 1983 and 1993-94). One of the reasons for the decelerated GSDP growth of manufacturing sector of the state could be the problems related to the power sector during 1990s (Ravi and Venkatanarayana, 2011). But the period between 2004-05 and 2009-10 has shown a revival and accelerated growth in GSDP of manufacturing sector. But the recent estimate shows that there is a sharp decline in employment manufacturing sector of the state (Table 3).

Either the aftershocks of global recession or the problems related to power sector or both together might have affected the manufacturing sector of the state and resulted in deceleration

in GSDP growth of manufacturing and unprecedented decline in growth employment in this sector during the period between 2009-10 and 2011-12. In the recent period too, industry especially the manufacturing sector in the state has witnessed power supply problem (Venkatanarayana and Sridhar, 2013). Besides, the some of the ventures even mega projects initiated during 2004-05 and 2009-10 could not take off at all, some other venture retrograded as they are ultimately landed in land and other scams. Some of the ventures began retrenching its staff owing different problems. For instance, gas-based power projects as they could not realize gas allotments and supply meet their production cycle, they are going for downsizing their staff. Also, frequent power cuts in the state affecting its manufacturing sector as a whole, the labour-intensive small scale industry (MSME) sector is the severely affected one (Venkatanarayana and Sridhar, 2013).

Table 3: Growth of Workforce and GSDP in Andhra Pradesh by Industry Division

Period	Agri.	M & Q	Manufg.	Elec.	Const.	Trade	Trans & Comm.	Financial	Comty. Ser.	Total
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>
Growth of Employment (%)										
1983-1994	2.32	5.69	1.65	9.30	6.20	3.51	2.23	6.49	3.45	2.59
1994-2000	-0.15	-2.25	-1.59	-7.80	5.80	2.77	4.29	5.87	-0.25	0.28
2000-2005	-1.08	10.95	7.76	-5.60	4.42	6.18	9.52	9.90	1.68	1.54
2005-2008	0.25	-6.51	-1.89	22.14	11.81	-1.45	-0.38	14.16	0.19	0.59
2008-2010	-5.13	-7.95	7.05	-0.45	11.31	0.84	3.17	0.00	-3.97	-1.52
2005-2010	-1.94	-7.09	1.59	12.55	11.61	-0.54	1.02	8.27	-1.50	-0.26
2010-2012	1.10	4.26	-8.18	26.99	1.43	-0.56	3.77	0.23	14.81	1.26
1994-2005	-0.57	3.55	2.55	-6.81	5.17	4.31	6.63	7.68	0.62	0.85
2000-2010	-1.51	1.53	4.63	3.07	7.96	2.76	5.18	9.08	0.08	0.63
2000-2012	-1.08	1.98	2.38	6.72	6.84	2.20	4.95	7.55	2.39	0.74
Economic Growth (GSDP) (%)										
1983-1994	2.43	8.61	9.76	10.62	3.21	7.99	7.73	5.93	7.56	5.42
1994-2000	2.12	6.74	5.87	8.33	7.94	5.93	6.56	7.08	7.24	5.30
2000-2005	4.12	8.05	5.76	2.21	10.44	6.79	10.76	7.72	5.79	6.35
2005-2008	8.30	20.93	9.98	9.38	15.32	13.25	11.60	13.37	6.35	10.92
2008-2010	0.49	-5.52	7.94	-1.64	7.41	3.42	18.63	9.05	5.61	5.70
2005-2010	5.10	9.56	9.16	4.83	12.09	9.21	14.36	11.62	6.05	8.80
2010-2012	3.98	9.15	7.23	13.15	6.08	5.92	18.63	11.68	9.28	8.74
1994-2005	3.02	7.34	5.82	5.50	9.07	6.32	8.45	7.37	6.58	5.78
2000-2010	4.61	8.80	7.45	3.51	11.26	7.99	12.54	9.65	5.92	7.57
2000-2012	4.50	8.86	7.41	5.06	10.38	7.64	13.54	9.99	6.47	7.76

Note: Rural-urban and male-female combined.

Source: Authors' Calculations based on NSSO and CSO data.

Within the industry construction is found to be emerging as an important sector which registered a double digit growth not only in sectors' GSDP but also in its employment growth, it was around 11% during the period between 2004-05 and 2009-10. It appears that construction has become a residual sector especially for the rural workforce shifting from

agriculture to non-agriculture. With the real estate boom led high growth of construction sector facilitated the shift/diversification of rural agriculture labour to non-agriculture. The construction sector especially in brick kilns has even attracted the migrant labour from different parts of the country. However, the plight of the labourers particularly that of migrant labourers is the cause of concern (see Vamsi, 2013).

Among the services sectors, employment growth in trade related sub-sector although it maintained a rate of growth above 2% during early reform period and thereafter during 2000s (average), it has registered a decline since 2004-05. Rapidly expanding large scale retails shopping malls might be causing the decline or left no scope for further expansion of small and tiny retailers. Increasing connectivity in rural areas with the expanding transport and communication services with nearby towns and cities which hosts large scale retails/shopping malls led to decline or no scope for further expansion of tiny retailers in rural area. One has to note that the employment opportunities generated by these large scale retailers or malls must be less than the employment opportunities forgone due to decline or stagnation in tiny retails – indicates considerable opportunity cost. Whereas, transport and communication sector appears to be promising as it has not shown any decline in employment growth except for the period of global recession. It is one of the services sub-sectors that had registered an accelerated rate of growth in employment during the reform period (4 to 5%) when compared to that of the pre-reforms period (2.23%).

With respect to the financial and business services sub-sector in the state, it registered the highest rate of growth in employment among all the sub-sectors during the pre-reforms and post-reform period (average) as well. But during global recession period (between 2007-08 and 2009-10), this sector has shown a nil growth and again in the recent period (between 2009-10 and 2011-12) it has shown very low rate of growth. This sector (financial and business services) including the all those information and communication technology (ICT) services which is prone to global recessionary tendencies, as most of ICT service in Andhra Pradesh as well as in the country are export oriented. One can observe the decelerated growth of employment in this sector (to zero) during the global recession period.

In terms of GSDP growth, transport and communication, and financial and business services sub-sectors have registered double digit growth during the post-reforms especially during 2000s. These two sub-sectors too registered relatively high growth in employment too.

Interestingly, employment growth in the community and personal service sector in the state has witnessed a positive growth first time in the recent past (between 2009-10 and 2011-12) during the whole post-reform period since early 1990s. Although such a positive growth in this sector may sustain further, it may not registered any significant acceleration further in its employment growth. It is because most of the public sector employment is getting downsized since the reform initiatives. Employment opportunities in education and health sectors in private sector too are not going to expand at a great length in near future. The boom of mushrooming NGOs in Andhra Pradesh and employment opportunities that it had created for the rural youth, that sector witnessed a decline – meaning both the decline in number of NGOs and contraction activities of existing ones. Similarly, it is the case of other community and personal services. The potentials further growth in employment in this sector, as one can say, is limited.

On the whole, labour absorption in agriculture sector in Andhra Pradesh seems to be frozen and there began even workforce diversification/shift to non-agricultural activities. But the absorption capacity of industry sector especially the manufacturing has not expanded to facilitate smooth transition. Within the industry construction sector has become residual sector absorbing the rural workforce moving out of agriculture. Within the services too, the trade sector itself has shown a contraction in labour absorption. However, the employment growth in transport and communication, and financial and business services sub-sectors is promising. But the labour absorption in these sectors depends on the skills of the labour force.

Key Factors in overall Employment Growth

However, while examining the issue low growth of employment in the state one has to note three important factors that govern the growth of employment i.e. the growth of population, economic growth (GSDP) and changes in work participation rates across age group especially the younger age groups. Usually, in principle, the high economic growth (GSDP) and thereby expanding economy and its employment generating capacity that increases the work participation rate itself and thus the growth of employment. But given the already high and exhaustive work participation rate, a further raise in WPR in the state may be difficult if not impossible. In this context one can say that the growth of population determines the growth of employment irrespective of the growth of the state economy particularly in a high

economic growth scenario and low population growth regimes such is the experience of Andhra Pradesh.

Herein it can be observed that the highest growth of employment in 1980s in the state was coincides with the highest growth of population during the period. Also the increasing WPR and rate of growth in employment during 1980s coincides with the increasing rate of growth in the state' GSDP during the same period. The 1990s witnessed decline in both the WPR/growth of employment and rate of growth in the state's GSDP and the growth of its population. Therefore the low growth of population in the state has laid down the limits for the growth of employment and its buoyancy in relation with the growth of GSDP.

II Declining Work Participation Rate (WPR) in Andhra Pradesh

Around half of the population in Andhra Pradesh is found to be working in one or the other economically gainful activity. Of the 85.4 million population estimated in the state for the year 2011-12 (as on January 2012), around 40.06 million comprising 47% of the population, are in the workforce. The work participation rate (WPR) of the state is higher than that of the national average and it is the second highest WPR among Indian states, next to Himachal Pradesh (Figure 1). The higher overall WPR in the state is duly contributed by higher level female work participation (Table 4). The female work participation rate (39.5%) in the state is third highest among the major Indian states next to Himachal Pradesh and Chhattisgarh (Figure 1). During the last three decades the participation rates in the state have increased between early 1980s to early 1990s and thereafter it has shown a declining trend. By gender the declining trend is particularly observed in female's work participation rates (Table 4).

Table 4: Work Participation Rate (WPR) in Andhra Pradesh and India by Gender and Location

Year	Andhra Pradesh					All-India				
	Total	Male	Female	Rural	Urban	Total	Male	Female	Rural	Urban
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>
1983	49.1	58.0	40.1	53.5	34.8	41.8	53.8	21.6	44.5	34.0
1993-94	52.0	60.8	43.8	54.2	37.5	42.0	54.5	28.6	44.4	34.7
1999-2000	48.8	58.7	42.0	54.2	34.8	39.6	-	-	41.7	33.7
2004-05	50.1	59.2	41.0	54.4	39.2	42.0	54.7	28.7	43.9	36.5
2007-08	49.9	60.5	39.5	54.4	37.8	40.4	55.0	25.0	42.2	35.4
2009-10	47.6	58.2	36.8	52.1	36.4	39.2	54.6	22.8	40.8	35.0
2011-12	47.0	58.6	35.6	52.2	36.4	38.6	54.4	21.9	39.9	35.5

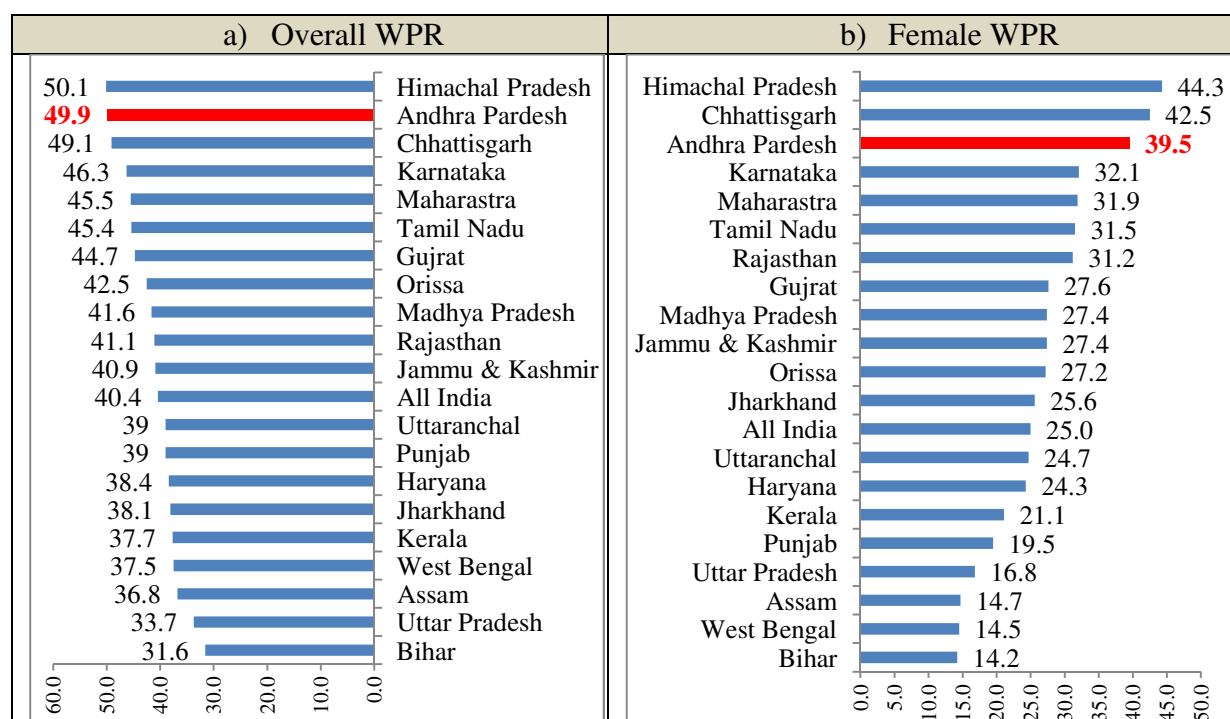
Note: 1. Figures presented are in percentages; 2. Usual Status - Principal and Subsidiary Status.

Source: NSS Employment and Unemployment Survey Reports.

The decline in overall WPR in the state coincides with the change in work participation rates across age group especially decline in work participation rate of younger age group which is due to increasing demand for schooling and policy measures to eliminate child labour especially during 1990s and thereafter.

In Andhra Pradesh the work participation of school age children (child labour) prior to 1990s was significantly high. But there is a drastic decline especially during the 1990s and thereafter. Around 5% of 5-9 age group children were found to be working in 1983 but none of this age group found to be working in 2011-12. Similarly for the 10-14 years age group, more than one-third of the children in this age group in the state were found to be working in 1983 but it has declined to less than 2% by 2011-12. Altogether the child workers aged below 15 years were contributing about 10% of the total workforce in the state in 1983 and its share has declined to negligible level by 2011-12.

Figure 1: Work Participation Rate (WPR) across Major States in India, 2007-08



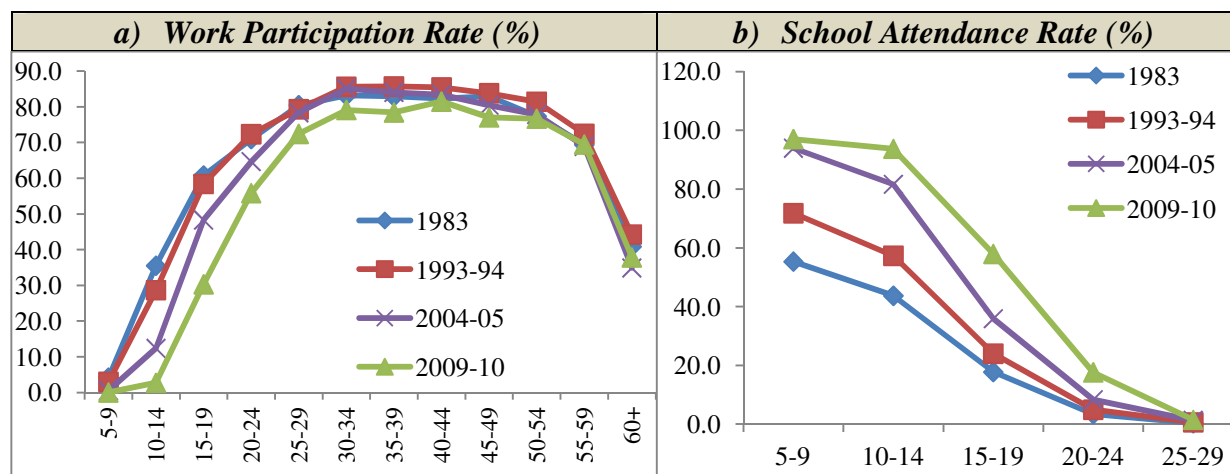
Note: Rural urban combined.

Source: Author's estimates based on NSS 64th (2007-08) Round EUS unit record data.

Not only the gradual disappearance of school age children (5-14 years age) in the work place is observed in the state during the last two and half decades (between 1983 and 2009-10) but also the decline in work participation rate of teenagers (15-19 years age group) and young

adults (20-29 years age group) mostly due to increasing participation in educational institutions which in turn indicates the increasing demand for education among these groups (see Figure 2).

Figure 2: Change in Work Participation Rate and School Attendance Rate across Age Groups in Andhra Pradesh



Note: Rural-urban and male-female combined.

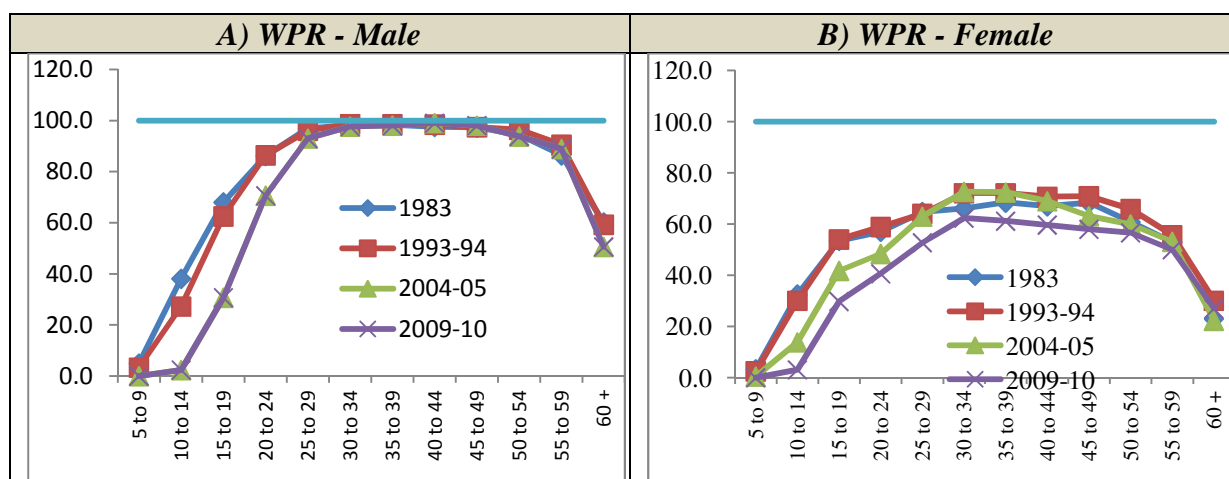
Source: Author's estimates based on NSS Employment and Unemployment Survey units record data.

Having said if one examines the levels of work participation across age groups by gender in Andhra Pradesh, the work participation rate among males reached its maximum limit (98-99%) especially among the 25 to 55 age group male population - there is no scope for further increase in WPR among this age group males (Figure 2a). Among the 5 to 25 years age males the work participation rates are declining during the last two decades owing to increasing demand for schooling/education – scope for further decline in WPR of this age group as the participation in schooling/education increases. The trend is similar in both the rural and urban areas.

Among the females the work participation rate is far below that of males, across age group. Even in the 25 to 55 years age group which is more productive age, the work participation rate for females below 75% - there is a scope for increase (Figure 2.3b). The work participation rates of females are observed to be declining during the last two decades across age groups. Among 5 to 25 years age females it is understood the decline is owing to corresponding increase in the demand for schooling/education – scope for further decline in WPR of this age group as the possibility of increasing participation in schooling/education increase is more. But one is not sure about the decline in WPR of females in the 25 to 55

years age groups. The decline in WPR of 5 to 25 years females is more noticeable since 1990s which is a breakthrough point for girls’ schooling/education.

Figure 3: Changes in Gender-specific Work Participation Rate (WPR) by age group - Andhra Pradesh

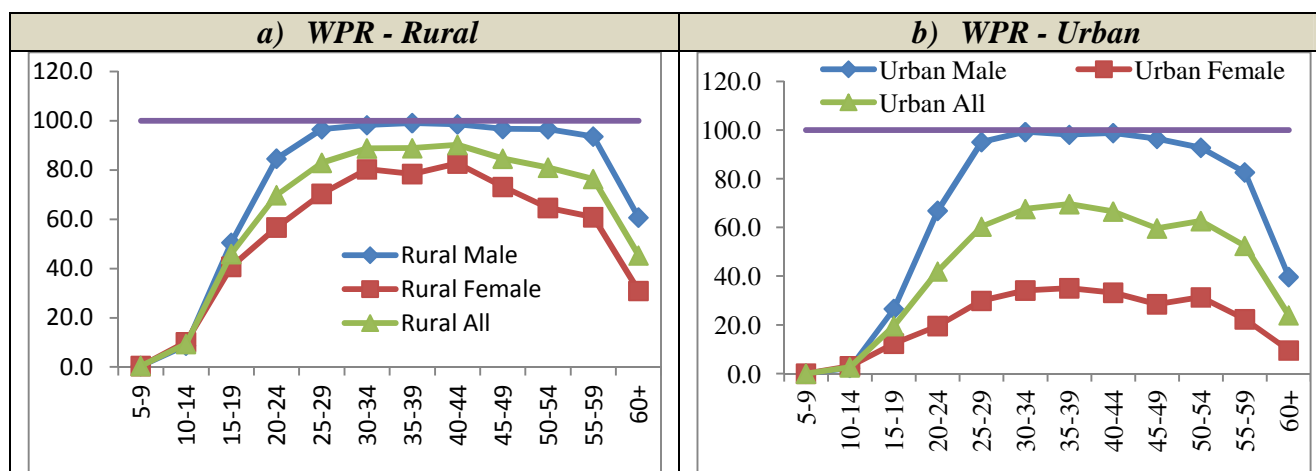


Note: 1. Rural-urban and male-female combined; 2. Straight line indicates the 100% bar as a benchmark.

Source: Author’s estimates based on NSS Employment and Unemployment Survey units record data.

The work participation rates among females vary between rural and urban areas, across age groups. The WPR among rural females is higher across age groups when compared to that of urban females. However the WPR of rural females is below 75% even among the productive age group females (25-55 years age); among urban females it is around 35% only.

Figure 4: Work Participation Rate by Location and Gender in Andhra Pradesh, 2007-08



Note: Straight horizontal bar indicates the 100% line.

Source: Author’s estimates based on NSS Employment and Unemployment Survey units record data.

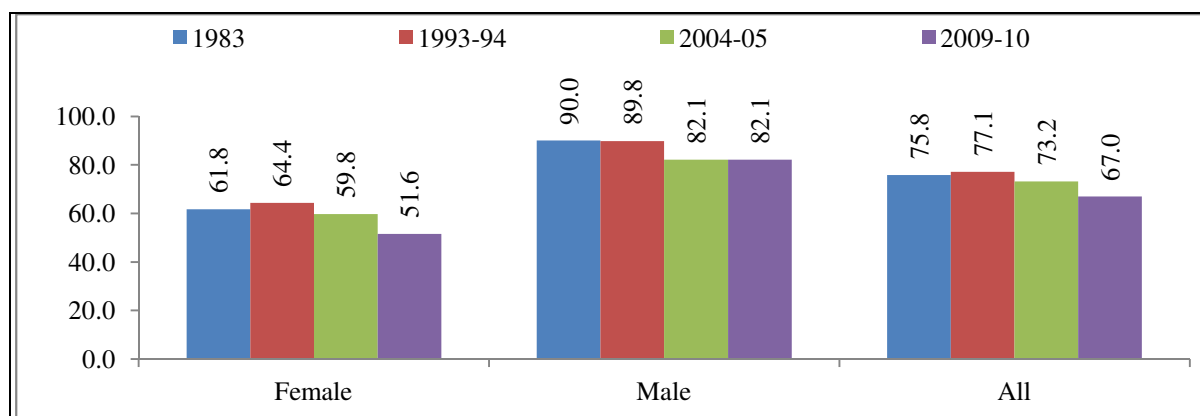
On the whole, the change in the work participation rate summarized as below. There is drastic decline in the younger age population especially 5 to 25 years age group due to increasing demand for schooling/education. It is possible that the work participation rates among children below 15 years in both the male and females will be at negligible level in the very near future. The increasing demand for schooling/education among 15 to 25 years has already reduced their work participation and possibility for further reduction. These trends are applicable to both the males and females of these age groups in the state. While the work participation rate among males in the 25 to 55 years age group has reached its maximum level, far below and shows a declining trend among females.

III Prospects of Employment Growth

Given the declining work participation rates and the rate of growth in its population, the concern is the prospects of employment growth in the state in future. Assuming that high growth trajectory of Andhra Pradesh continues in future and examines what are the prospects of employment growth in the state, one would find that it all depends upon the population growth and thus the low population growth observed in the state would become a limiting factor for its growth employment.

As mentioned above change in WPR is one of aspects that contribute to the growth of employment. But in Andhra Pradesh the possibility of increase in the WPR appears to be less. To reiterate, work participation rate among males reached its maximum limit especially among the 25 to 55 age group and hence there is no scope for further increase and among the younger ages (5 to 25) there is scope for further decline in WPR due to increasing demand for schooling/education. Among the females the work participation rate is lower than males and it is declining during the last two decades across age groups. The trend for males is similar in both the rural and urban areas. But for females it varies between rural and urban areas wherein it is higher across age groups when compared to that of urban females. The WPR will be at negligible level among children of both male and female and those below 15 years. Thus scope for increasing WPR is only among the 15 year above age females especially among the 15-59 years age group females (see Figure 5).

Figure 5: WPR among 15-59 age group for Male and Female in Andhra Pradesh

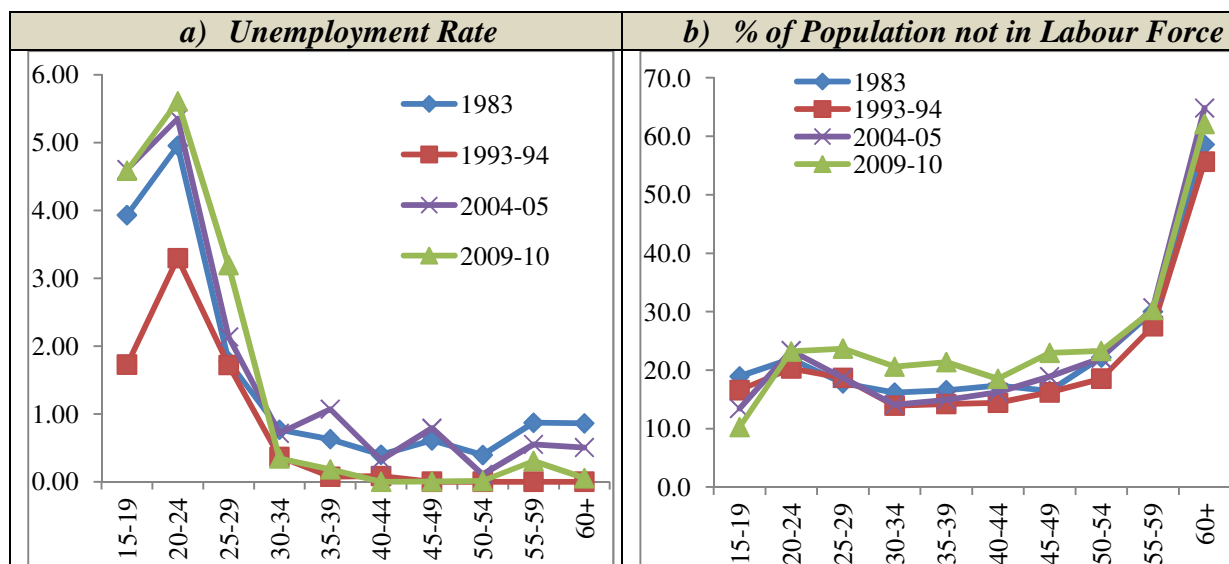


Note: Rural and urban combined.

Source: Author’s estimates based on NSS Employment and Unemployment Survey units record data.

The other possibility of increase in work participation rate is minimizing the unemployment in the labour force. However the unemployment is most prevalent among the youth especially those of 15 to 25 years age group, labour force and it is almost negligible among the 35 years above age labour force (see Figure 6). The increasing participation rate in educational institutions among the 15 to 25 years age would be nullifying the decline in unemployment resulted in increasing WPR.

Figure 6: Unemployment Rate and % of Population not in Labour Force across Age Groups in Andhra Pradesh

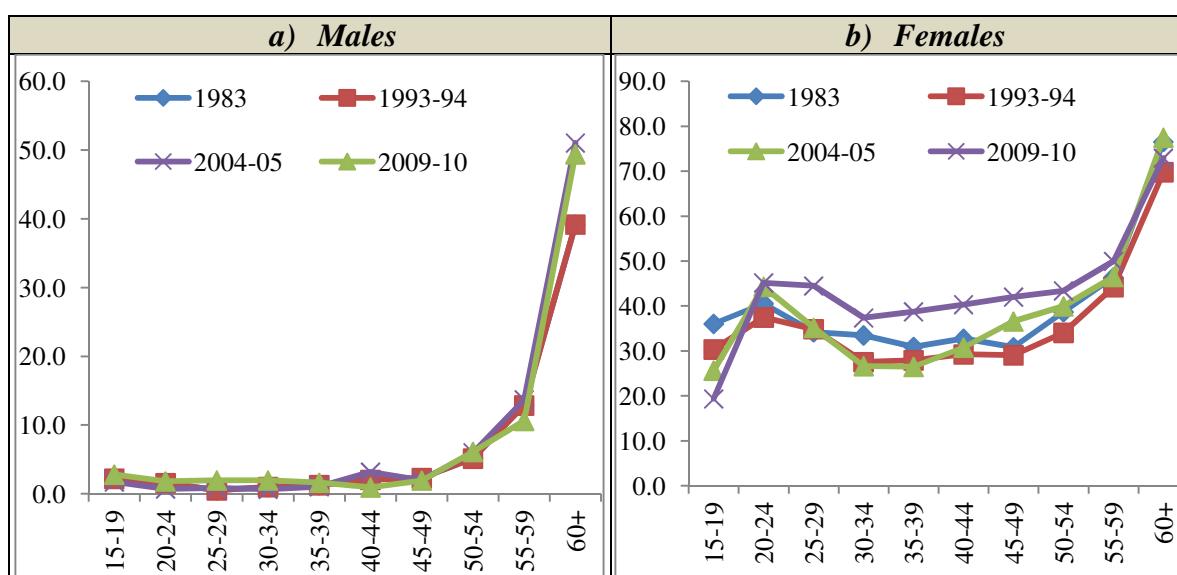


Note: Male and female combined.

Source: Author’s estimates based on NSS Employment and Unemployment Survey units record data.

Another possibility of prospects for increase in the work participation rate (WPR) is through reduction in the percentage of the population that is not in the labour force. One the whole around one-fifth of the population in the 15-59 years age group remained out of labour force. There are marginal differences with respect to percentage of the population not in labour force across sub age groups within the broad 15-59 years age population (see Figure 6b). By gender, among males in the 15-59 age group, the percentage of the population not in labour force is very minimal in the state whereas among females it is significantly higher (see Figure 7a&b) – more than one-third of the female population in the 15-59 age group.

Figure 7: Percentage of Population not in Labour Force across Age groups in Andhra Pradesh by Gender



Note: Rural and urban combined.

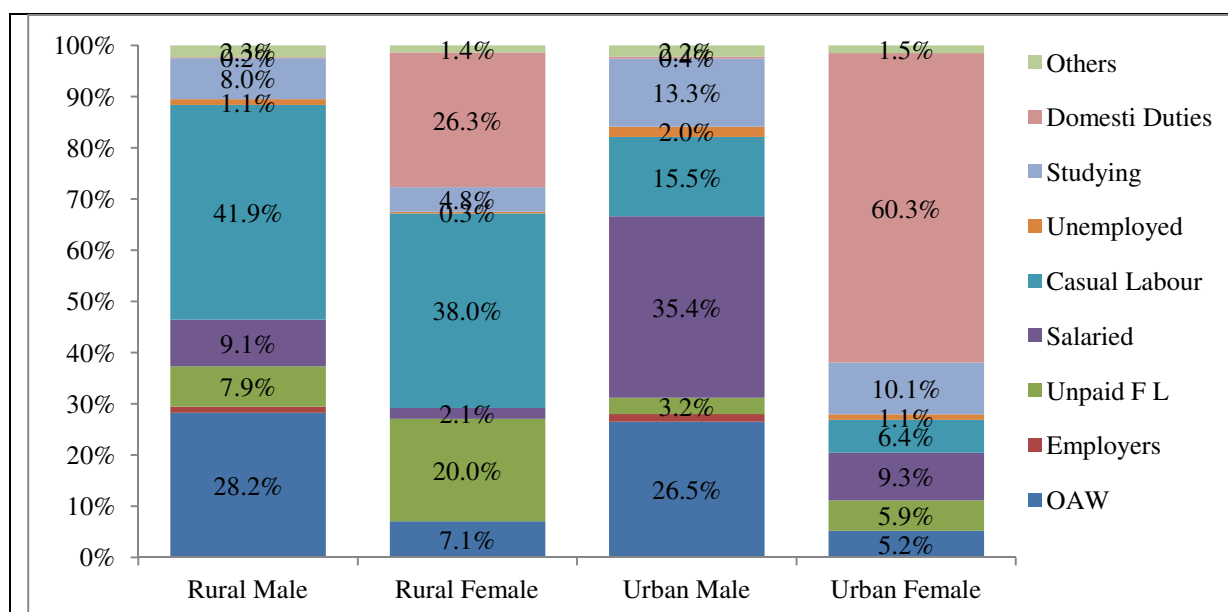
Source: Author's estimates based on NSS Employment and Unemployment Survey units record data.

Moreover, it is evident from the Figure 7b that the percentage of female population not in labour force across age groups in the state has shown increasing trend during the last two and half decades. When examined where these females who are not in the labour force located, most of these women not in the labour force are engaged in domestic duties especially the urban females (Figure 8).

The question one can raise is why are these women withdrawn from the labour force engaged in domestic duties? Is it that their families reached such a financial conformability to enjoy leisure time while carrying out domestic duties? Is it that increasing household responsibilities? Or is it because the entry barrier for unskilled and illiterate female labourers in the emerging labour market for the skilled labour. If it is due to first two reasons there is

little scope for improving work participation rates among women in the 15-59 years age group. Otherwise if it is due to the third reason policy intervention is necessary for improving the participation rate among the women in this age group.

Figure 8: Distribution of 15-59 years age Population by the Activity Status – Andhra Pradesh, 2007-08



Note: OAW – Own Account Workers; F L – Family Labour.

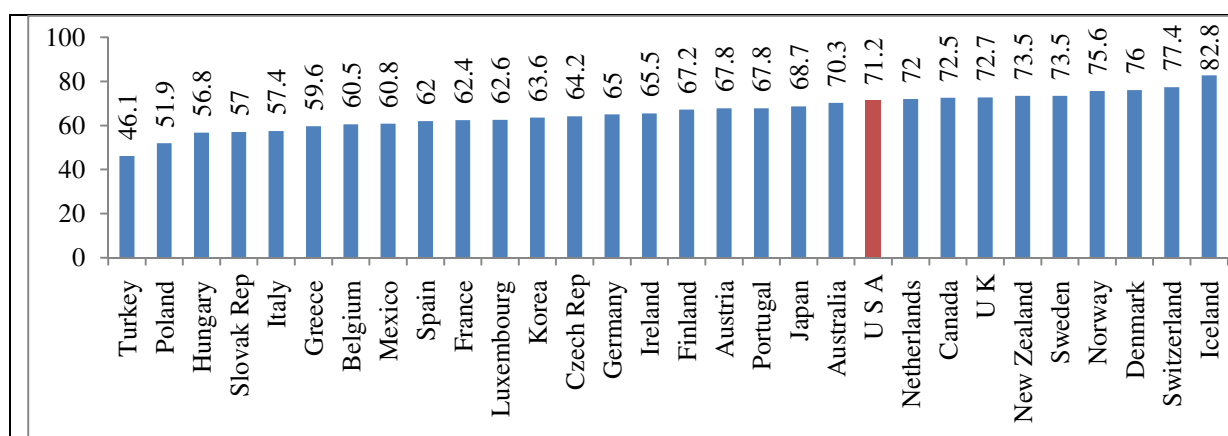
Source: Author's estimates based on NSS Employment and Unemployment Survey units record data.

Having observed the possibilities of change especially in terms improving the WPR in Andhra Pradesh, one would still doubt the further improvement. In this respect one may like to look at the WPRs of developed countries particularly the OECD countries which might have exhaustively explored all the possibilities and reached maximum possibility WPR. The comparison also explores the relationship between the economic development and the WPR among the adult population but there is no established relationship. It can be observed that WPRs among the 15-64 years age groups in the OECD countries indicates that except a subset of countries which may be referred as *Nordic or Scandinavian* countries along with UK, USA and Canada which are located at Northern Hemisphere and all the other countries have WPR around 70% or below (Figure 9). Among these OECD the WPR ranges from the highest 83% in Iceland to the lowest 46% in Turkey.

For the same reference age group for a comparison purpose (15-64), Andhra Pradesh is having WPR at 70% (see Figure 10). The WPR of the state in this age group is equal to that

of the Australia (70.3%). But in terms of the economic development it beyond any comparison.

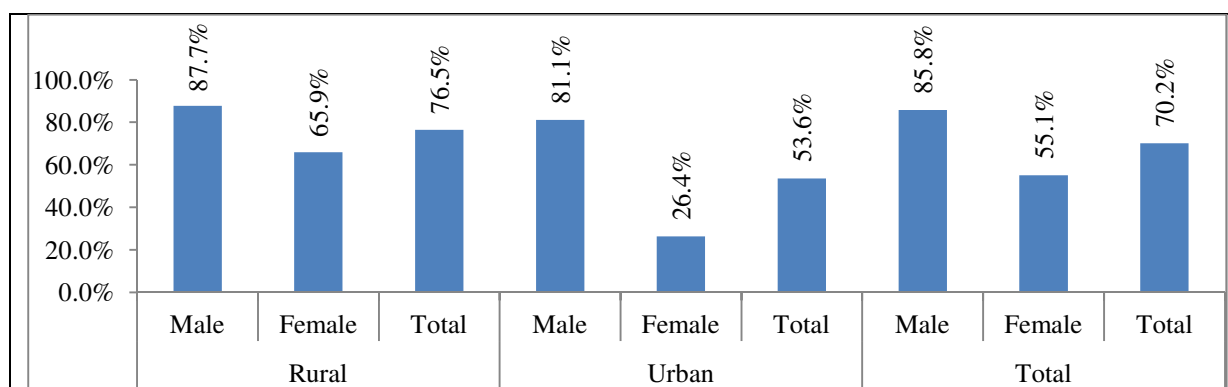
Figure 9: WPR of 15-64 years age group in the OECD Countries, 2004



Note: Refers to 15 to 64 years age population - male and female combined.

Source: ILO Website.

Figure 10: WPR among 15-64 age group in Andhra Pradesh, 2007-08



Source: Author's estimates based on NSS Employment and Unemployment Survey units record data.

The scenario observed for Nordic/Scandinavian countries indicates that there is a scope for improving WPR. It all depends upon the level of development, nature of activities, work culture in the society, climatic condition, living standards and health condition, educational levels and occupational skills and so on. Although in terms of levels of economic development the state is different from that of most of the developed countries but the work participation rate in the state is on par with these countries excluding *Nordic or Scandinavian*, the participation rate in male in the state is above some of the OECD countries. But the possibility of improving the WPR in the state to level of *Nordic or Scandinavian* countries may be difficult if not impossible. Appropriate policy initiatives may increase the possibility.

Having said if one makes an attempt look into the prospects of growth in employment in Andhra Pradesh, the scenario emerges is as follows. Given the demographic transition witnessed in the state and the consequent demographic dividend the working age population would be increasing. The total population increases from 84.5 million in 2011 to 92.3 million by 2022; an addition of 7.7 million. The 15-59 years age group population increase from 56.3 million in 2011 to 61.2 million by 2022; an addition of 4.8 million.

If the work participation rate of the 15-59 age-group population is expected to increase from the current 65% in 2011-12 to 70% by 2022. The percentage of those (especially among the 15-29 years age group) attending educational institutions in the total of 15-59 years age population would increase from the current 7% in 2009-10 to 12% by 2022¹. By gender, 85% of males and 55% of females in the 15-59 years age group *would be ready* (i.e. willing to work and get employment opportunity) to engage in one or other economic activity. Around 12% of males and females would be engaged in education-related activities and the rest, especially among the females, would prefer to remain in activities such as household duties. Thus, the workforce in the 15-59 years age group would increase from 37.2 million in 2011-12 to 42.8 million by 2022, an addition of 5.6 million during the period.

Table 5: Employment Scenario in Andhra Pradesh by 2022

Parameter	Historical - Actual					Projections	
	1983	1993-94	2004-05	2009-10	2011-12	2017	2022
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>8</i>	<i>9</i>
Population							
Total Population (in Millions)	56.3	69.1	79.3	83.6	85.3	89.4	92.3
15-59 age Population (in Millions)	31.1	40.1	49.0	55.1	57.3	59.3	61.1
% of 15-59 age Total Population	55.3	58.0	61.7	65.9	67.1	66.4	66.2
WPR – All (%)	49.1	52.0	50.1	47.6	47.0	49.0	50.0
WPR – 15-59 years age group (%)	75.8	77.1	73.2	67	64.9	67.0	70.0
Distribution of 15-59 Population by their Activity							
Working (in Millions)	23.6	30.9	35.9	36.9	37.2	39.7	42.8
Studying (in Millions)	1.1	1.9	3.5	6.1	7.0	9.1	11.9
Not Working (in Millions)	6.4	7.3	9.6	12.1	13.1	10.4	6.5
Workforce in Agriculture and Non-agriculture							
Agriculture (millions)	16.1	20.5	21.0	19.7	19.4	17.8	15.6
Non-agriculture (millions)	7.5	10.4	14.9	17.1	17.7	21.9	27.1
% of Agriculture	68.0	66.3	58.6	53.5	52.2	44.9	36.6
% of Non-agriculture	32.0	33.7	41.4	46.5	47.8	55.1	63.4

Note: 1. *Actual* is based on NSS Employment and Unemployment Survey Estimations.

Source: Author's Estimates.

¹ Above two assumptions are important to cut short the size of the non-working persons in the 15-59 age population.

The policy concern is can it manage two things simultaneously, while accommodating the increasing workforce by providing them the employment opportunities and it has to raise the quality and productivity of employment. More importantly, changes are required in the structure of workforce - distribution between agriculture and non-agricultural activities. Agricultural sector in the state is already exhausted and thus the only alternative is the employment in non-agricultural activities for the increasing workforce.

Given the current trends especially between 1983 and 2011-12, the number of persons employed in agriculture would decline from 19.4 million at the current level (2011-12) to 15.6 million by 2022; a decline of about 3.8 million. It would be the maximum decline one can expect in the state. It can be said that if the better opportunities are created in non-agricultural activities, there would be remarkable shift from agriculture to non-agricultural activities. It is also to be note a dramatic shift in workforce from agriculture to non-agriculture may lead to crisis in agriculture and thereby food security due to shortage of labour for crop cultivation.

As a result of shift the number of persons engaged in non-agricultural activities would increase from 17.7 million at the current level to a maximum possibility of 27.1 million by 2022; it is an addition of 9 million. The share of non-agriculture in the workforce of 15-59 years age group would increase from the current 47.8% in 2011-12 to 63.4% by 2022. It would reverse the distribution of workforce between agriculture and non-agriculture by 2022. Will the non-agricultural sector in the state be able to accommodate the increasing workforce? It remains as a policy question.

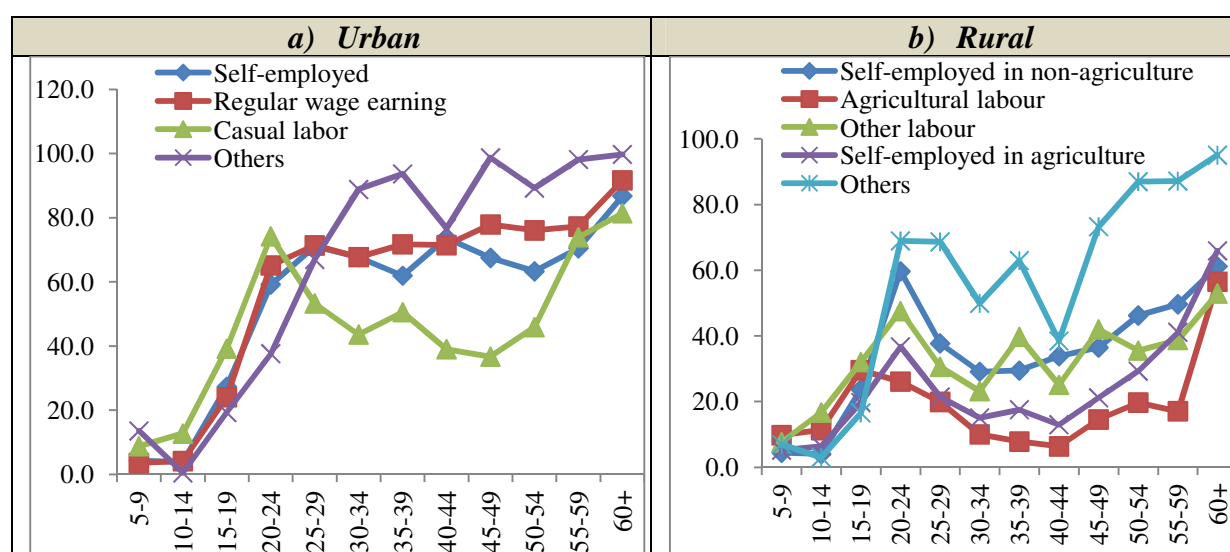
IV Policy Concern

The major policy concern must be not only creation of productive employment opportunities to more and more people in the state but also the quality of employment and human capital of workforce/labourforce in the state.

Based on the above analysis one can say that in spite of its high economic growth, there are higher chances for state of Andhra Pradesh to have further declining rate of growth in its employment along with declining rate of growth in its population. If the WPR of the state decline further the rate of growth in employment would be lesser than that of the population.

Otherwise if the WPR of the state increases, rate of growth in employment would be higher than that of the population. Change in WPR is the only source of growth in employment given the scenario of declining growth of population in the state. But the concern is that given the already high WPR is there possibility of improving. The analysis presented indicate that among working age males there is no such possibility as they already reached the maximum participation rates. The only possibility is among the working age females wherein there is a significant percentage of females in this age not in the labour force. But the concern is about the factors that motivate these women to participate in the workforce. One of the important factors is economic growth itself, it must be *gender sensitive growth*.

Figure 11: Percentage of Females not in Labour Force to their population across Age Groups in rural urban areas of Andhra Pradesh by the Type of Household (Major Source of Livelihood), 2007-08



Note: Percentage not in labour force is age group specific one.

Source: NSS Employment and Unemployment Survey units record data.

When examined the work participation rate of females by location and type of household (major source of livelihood) the percentage of females not in labour force is higher among urban females when compared to their rural counterparts. Within the urban areas percentage not in labour force is relatively lower among females of casual labour households. One possibility of among other aspects is that educational levels and skills requirements that the emerging economic activities in the urban topography demands might excludes those without such skills. Moreover the household responsibilities especially the child care in the context increasing nuclear family system restricts many of the mothers their participation in the workforce.

In rural areas the percentage of females not in the labour force is lesser among the agriculture labour households and those of self-employed in agriculture. It is higher among the non-agricultural households. One possibility could be that in the process of structural change when household shift from agriculture to non-agriculture in the rural areas, the working females of these agriculture household might not find employment opportunities given their educational background and skills (most of them are illiterate, uneducated and unskilled) so that they remain out of labour force.

The state policy has to encourage labour-intensive activities/industry which is gender sensitive to grow faster especially in the non-agriculture sector. When an economy grows the economic activities shift from unskilled in nature to that of highly skilled ones especially in the emerging knowledge based economy there is an increasing demand for skilled labour is high. Mismatch between illiterate and unskilled supply of labour and demand for educated and skilled labour. Andhra Pradesh is one of those laggard states in terms of literacy especially that of formal literacy (simple reading, writing and numeracy skills). In the emerging knowledge based economy concern must be about the functional literacy including financial literacy and technical literacy. It is an urgent need for the state improving literacy levels, skill development programmes related different occupational skills in demand in the industry. More important is developing entrepreneurship in general and women entrepreneurship in particular.

The other policy concern must be it is now time for in case of Andhra Pradesh that more than quantitative expansion of employment opportunities it is the reduction in underemployment, enhancing the productive and remunerative employment and thereby improvement in quality and productivity of labour.

V Concluding Remarks

The present paper examined the changes in work participation rates, participation rate in education and the growth of employment, and explored the prospects of employment growth in the state in the scenario of declining population growth and high growth trajectory of the state. It is observed that given the declining rate of growth in population with the onset of demographic transition in Andhra Pradesh the prospects of growth in employment are very bleak unless there is an improvement in the work participation rate (WPR). But the

possibility of improving work participation rate among the males is dismal as they already reached the maximum participation rate.

The possibility one can explore through is encouraging women's participation in workforce/labour force as the significant percentage of women remained out of the labour force. In this respect one has to explore the factors that motivate these women to participate in the workforce wherein the most important one is economic growth itself, it must be gender sensitive. Also the policy initiatives required are improving literacy levels, skill development programmes related different occupational skills in demand in the industry in general and among females particular. More important is developing women entrepreneurship. Beyond the quantitative expansion of employment opportunities the policy concern must be reduction in underemployment, enhancing the productive and remunerative employment and thereby improvement in quality and productivity of labour.

* * *

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