

# Demographic dividend in India: a missed opportunity

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## Abstract

*With an absolute size of 331 million youths in the age group 15-29 years in one geographical location, India is said to be placed in an advantageous position in terms of demographic dividend. However, it may be noted that this 'youth-bulge' in itself does not lead to any economic gain unless there are enough and decent job opportunities for the youth entering into workforce. This, in turn, requires adequate investments in key social sectors also. India is a vast country with great diversity from one region to another. As the pace and timing of demographic transition varied a great deal, different states are in varied stages of demographic transition. While for some states, mainly in the south, demographic window is either already closed or nearing closure, for others like Bihar, Uttar Pradesh, Madhya Pradesh, and Rajasthan the window has just opened. Rest of the states are in between these two extremes. Drawing evidences from varied sources, the present paper takes a critical look at India's performance in harnessing this demographic dividend.*

**Keywords:** *age structure, demographic transition, demographic window, dependency ratio, social sector, youth bulge.*

## Introduction

The process of demographic transition is associated with transformation in age structure of population. With the long term declining trend in birth rates, working age population gradually outstrips that in the dependent age-groups resulting into reduced dependency burden. This entails significant economic advantages, if harnessed effectively. A situation like this is, therefore, referred to as *demographic dividend*. It is also sometimes called as demographic *gift* or *bonus*. This situation of demographic advantage lasts only for a limited period of time, and therefore it is sometimes also referred to as 'window of demographic opportunity'. In the wake of improved longevity, proportion of 'aged dependents' eventually becomes large and together with 'young dependents' results

in high dependency ratio once again. If the fertility decline is slow and steady as it happened in developed countries of the west, this phase may even pass unnoticed (James, 2008;64). But among developing countries including India, it is due to sudden and rapid decline in fertility levels during the recent decades that have made the transformation in age structure more vivid.

Fertility transition in India that began sometime in the early 1960s gathered momentum since late 1980s. This is amply reflected in transformation of age-structure of population in the country (Table 1). The share of children under 15 years of age in the country has declined from over 41% in 1961 to a little over 30% in 2011 with a

corresponding decline in dependency ratio from 85 to 65%. This is despite an increased share of population of the aged-dependents during the same period. With an absolute size of over 333 million in 2011, youth in the age-group 15-29 years alone account for nearly 28% of the population (Fig. 1). By 2020, it is estimated that more than half of the population in the country will be below 25 years of age (Mander et al, 2019:1). Some view this surge in the size of youth population as a precursor to higher economic growth in the coming years. The present paper takes a

critical look at this prospect in the light of the prevailing socio-economic and demographic conditions.

It is interesting that almost half of the decline in the share of population under age 15 has occurred only during the last 10 years due to a faster decline in fertility. Long term decline in mortality with improvement in socio-economic condition resulted in a growing share of elderly in the population. Population aged '60 years and above' that accounted for 5.6% of the total in 1961 is

Table 1: India: Percentage Distribution of Population in Broad Age Groups, 2011.

Census Years	% population by Broad Age-Groups			Dependency Ratio
	0-14	15-59	60+	
1961	41.02	53.30	5.6	87.47
1971	42.02	51.99	6.0	92.36
1981	39.54	53.91	6.5	85.40
1991	37.25	55.42	6.8	79.48
2001	35.35	56.94	7.5	75.25
2011	30.76	60.29	8.6	65.28

Source: Census of India for various years.

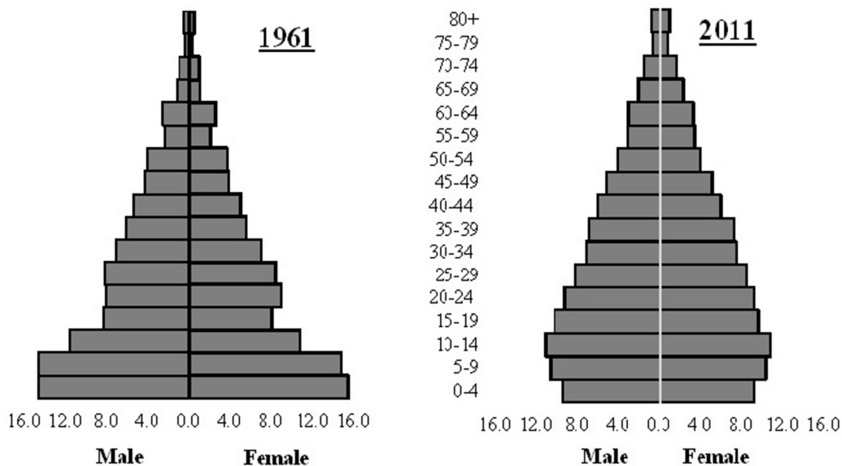


Fig. 1: Age pyramid, India (1961 and 2011)

now nearly 9% in 2011. As a result, the share of population in the working age groups has constantly increased at least since 1971, and according to 2011 census over 60% of the population is now in the working age-group. More people in working age-group than in dependent ages is a good sign for the economic health of a population.

The demographic scenario at the aggregate national level, however, conceals many of the regional peculiarities. India is a vast country with tremendous regional diversity in geography, historical experience and socio-cultural attributes. The pace and timing of decline in birth rates therefore, varied a great deal across different states. Kerala reached replacement level fertility way back in 1988 followed by Tamil Nadu in 1993. Andhra Pradesh and Karnataka, the other two southern states achieved this in 2004 and 2006 respectively. The other states

which also reached replacement level around the same time include Punjab, West Bengal, and Maharashtra. Although more recent data reveals significant decline in birth rates, the latest estimates of SRS (2017) indicate that many of the bigger states including Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand, Madhya Pradesh, Rajasthan and Uttar Pradesh still continue to grapple with fertility higher than the replacement level. Remarkably, these states together, account for over half of India's population in 2011.

Inter-state variation in the share of the population in working age groups i.e. 15-59 or 25-59 years is in tune with the timing of the onset and pace of demographic transition. Tamil Nadu, Karnataka, Andhra Pradesh, Punjab and Kerala which were the leading states in terms of demographic transition report significantly higher share of population in working age groups (Table 2). Contrarily,

Table 2: Major States of India: Population by Broad Age Groups, 2001 and 2011

Major States	Below 15		15-59		60+	
	1961	2011	1961	2011	1961	2011
Andhra Pradesh	39.5	25.8	54.2	93.5	6.2	9.8
Bihar	42.3	39.3#	52.1	53.4#	5.6	7.3#
Gujarat	42.9	28.9	52.2	62.8	4.9	7.9
Haryana	46.2*	29.7	48.2*	61.5	5.8*	8.7
Karnataka	42.2	26.2	52.1	64.2	5.7	9.5
Kerala	42.6	23.4	51.5	63.9	5.8	12.6
Madhya Pradesh	40.8	33.1#	54.0	59.0#	5.2	7.9#
Maharashtra	40.7	26.6	54.1	63.1	5.3	9.9
Odisha	39.1	28.8	55.2	61.5	5.7	9.5
Punjab	43.6	25.5	49.9	64.0	6.6	10.3
Rajasthan	42.7	34.6	52.2	57.5	5.1	7.5
Tamil Nadu	37.6	23.6	56.8	65.9	5.6	10.4
Uttar Pradesh	40.5	35.7#	53.2	56.4#	6.3	7.9#
West Bengal	40.9	27.1	54.1	64.3	5.0	8.5

\* For Haryana, figures relate to 1971 and not 1961.

# 2011, figures refer to undivided Bihar, Madhya Pradesh and Uttar Pradesh.

Source: (i) James, K. S. 2008. (ii) Census of India, Social and Cultural Tables, C-08, 2011.

Table 3: India: Current Expenditure on Health (2000-2015)

Year	Current Expenditure (% to GDP)	Year	Current Expenditure (% to GDP)
2000	4.18	2008	3.51
2001	4.28	2009	3.49
2002	4.25	2010	3.27
2003	4.01	2011	3.25
2004	3.96	2012	3.33
2005	3.79	2013	3.75
2006	3.63	2014	3.63
2007	3.52	2015	3.89

Source: WHO, Health Financing Profile 2017, India.

Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh etc. are yet to pick up. In other words, India at the aggregate level is unlikely to derive large scale economic advantage as one would expect with the given the size of its population. As the demographic window opens for different regions at different points of time, India will derive only moderate benefits for a longer period. While for some states demographic window is already open now, others will follow suit only after a time lag when the window is closed for the leading states.

### **A missed opportunity?**

Needless to say that increased relative ‘numerical strength’ of the economically active population (15-59) by itself does not act as a positive force for economic growth. Weeks (2018) refers to ‘good’ and ‘evil’ consequences of youth bulge in a population, the former happens when potential of young people is harnessed to spur economic development and the latter when in the absence of adequate job opportunities the young people are forced to engage their energies in various forms of social evils (Weeks, 2018:317). Youth bulge is only an opportunity and whether or not

this opportunity contributes to economic growth depends on two conditions. Firstly, the growth depends in number of youths should be accompanied by a proportionate growth in decent employment opportunities which, in turn, requires adequate investment in not only creation of new job opportunities but also improvement in education and skill enhancement. Secondly, status of health of the people, in general, and youths, in particular, has significant bearings on economy as healthy workforce contributes more to productivity. This would entail an increased public spending on health sector.

The forthcoming section presents a critical overview of India’s performance in terms of public spending in these two key social sectors- health and education. This is followed by a discussion on changing levels of educational attainment and employment status among the youth using data from census publications for 2001 and 2011.

The priority accorded to social services like health, education, family welfare, water supply, sanitation etc. within the public expenditure in the country has not been adequate. Public sector expenditure in India in the social sector indeed has been one of

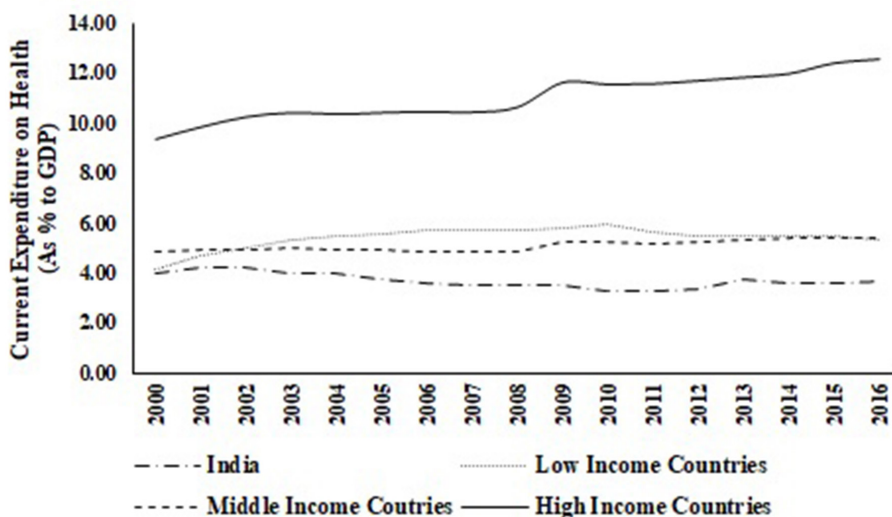


Fig. 2: Trends in current expenditure on health, 2000 to 2016  
 Source: World Bank, World Development Indicators

the lowest in the world (Das and Mishra, 2010:64). The trends in current expenditure on health as proportion to GDP since the turn of the present century shows a monotonous decline up to 2011 (Table 3).

As per World Bank, the gap in government expenditure on health as percentage to GDP in 2016 between the USA and India, the two largest democracies of the world is to the tune of 17.07% against 3.66%. China spends nearly 5% of its GDP on healthcare. Remarkably, India occupied 22<sup>nd</sup> position from the bottom among the countries of the world with respect to current expenditure on health as share of GDP in the list for which World Bank provides data. Not surprising that India's public expenditure is lower than that of the average of even all low-income countries of the world (Fig. 2). Among South Asian countries Sri Lanka fares better than India in terms of government expenditure on health.

The situation is hardly different with regard to government spending on education also (Table 4). During the year 2017-18, less than 3% of the GDP was allocated to education. This is much lower than that in China and even Mauritius. *NITI Ayog* has recommended an increase of expenditure on education to at least 6 percent of the GDP in the coming years. Earlier Kothari Commission (1966) had also recommended that total public spending on education should be raised to the level of 6 percent of the GDP (Das and Mishra, 2010:65). However, emphasis on 'expenditure-compression' has continued in budgetary allocation (Fig. 3). Despite improvement, combined contribution of centre and states remain below 4.5% of the GDP. Needless to say, the increase in budgetary allocation to education is essential to raise the quality of education in order to harness demographic dividend. According to a report of *Business Insider* dated July 5, 2019, in terms of *education score* India

Table 4: Trends in Actual Public Expenditure (centre and state combined) on Education in India, 2005-06 to 2016-17

Years	Government Expenditure (As % to GDP)		
	Total Education	Higher Education	Technical education
2005-06	3.46	0.67	0.28
2008-09	3.56	0.87	0.31
2011-12	3.82	0.62	0.51
2014-15	4.07	0.57	0.70
2015-16 (RE)	4.27	0.65	0.80
2016-17 (BE)	4.38	0.64	0.87

Notes: RE – Revised Estimates; BE – Budgeted Estimates

Source: Govt. of India, MHRD, Analysis of Budgeted Expenditure, on Education, Table 6, 2005-06, 2008-09 and 2014-17

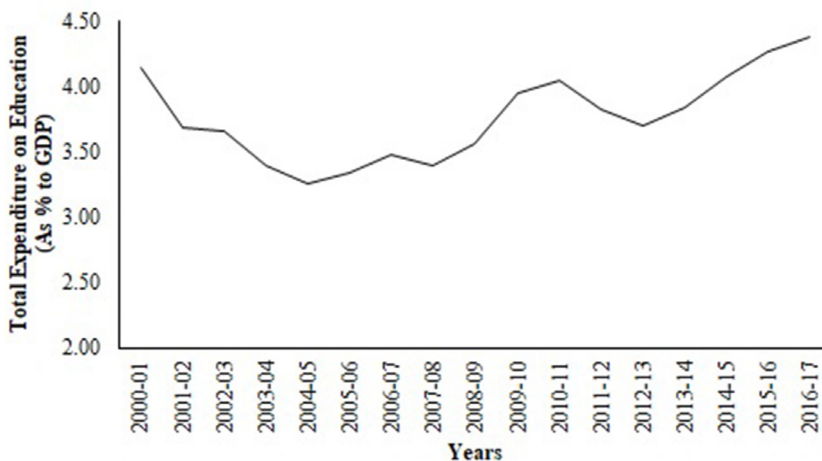


Fig. 3: Public Expenditure on Education (states and centre combined) as percentage to GDP.

Source: Govt. of India, MHRD, Analysis of Budgeted Expenditure on Education, 2014-17, Table 5, page 18

ranks second lowest among the South Asian countries, ahead only of Afghanistan. Further, according to the report, although there has been a rise in the educational budget in absolute terms in the recent years, allocation for higher education including prominent technical education like IITs and IIMs has seen a decline (Sindwani, 2019).

The net outcome is evident in Table 5. Literacy rate among the youth had definitely

improved during 2001-11. However, what is heartening is that the proportion of youth with at least matric/secondary level education has declined. One plausible explanation could be that more youths are now continuing in higher education than before. But the proportion of such youth appears to be negligible as only a marginal increase in the share is seen with regard to the level of technical/non-technical skills (not equal to degree). Percentage

Table 5: Literacy Rate and Educational Attainment among Youth aged 20-34 years, 2001 and 2011

<i>Percentage Youth (Age 20-34 years)</i>	<i>Census Years</i>	
	2001	2011
As literate	67.68	78.22
Having at least Matric/ Secondary level education	12.81	12.23
Having Diploma or certificate (Non-Technical) not equal to degree	0.08	0.17
Having Diploma or certificate (Technical) not equal to degree	0.77	1.25
Graduate and Above	8.40	12.48

Source: Census of India, Tables C-08, 2001 and 2011.

youth as ‘graduate and above’ has definitely improved between 2001 and 2011, but the net gain in the share is much lower than that in literacy level. This indicates that much is still required in the field of skill development among the youth in both technical as well as regular streams.

That the growth in the number of youth is not commensurate with growth in job opportunities becomes evident from Table 6.

As seen in the table the share of youth aged 20-34 years in the workforce (main and marginal combined) has undergone a decline by 2.5 percentage points during 2001-11 although 1990s had witnessed a marginal increase. It is also revealed that growth in marginal workforce has been much faster than that in main workforce particularly in the post 1990s period. There is a sudden jump in the share of marginal workers from 9 percent in 1991 to nearly 23 percent in 2001 and 26 percent in 2011. This is a sure indication of the fact that growth in opportunities for regular employment is not commensurate with growth in the number of job aspirants leading to increased dependence on temporary activities. In other words, the incidence of underemployment in the economy has indeed increased. According to Census of India 2011, about two-thirds of the total male

youth in marginal workforce are seeking/available for work. Besides, proportion of non-workers among the youth seeking or available for work, a proxy indicator of the magnitude of unemployment, also indicates worsening situation in post 1991. This takes us to the discussion on present employment-unemployment scenario in the country.

In a recent study, Mehrotra and Parida (2019) have examined recent trends in labour-force and unemployment in India. Based on data obtained from National Sample Survey (NSS) for 2004-05 and 2011-12 and, Annual Periodic Labour Force Survey (PLFS) of 2017-18, the study reveals a marked decline in total employment in the country during the period 2011-12 to 2017-18. Some of the observations in the forthcoming section are based on the findings of this study.

As seen in Table 7, total employment that registered a net increase of 14.8 million (i.e. 2.1 million per annum) between 2004-05 and 2010-11 has recorded a net decline of 9.1 million between 2011-12 and 2017-18. Unemployment rate both at the aggregate level and for the youth aged 15-29 years has, therefore, undergone sudden jump during the period. The latter casts doubt about the prospect of demographic bonus being appropriated in the country. Based on data



Table 6: Share of Marginal Workers and Proportion of Non-workers Seeking/ Available for Work in India, 1991-2011(Age Group 20-34 Years).

Census Years	Workers I (% total population)			Marginal workers (%total workers)			Non-workers seeking/ Available for work		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1991	61.6	86.5	36.2	9.0	0.9	28.7	6.7	20.2	3.7
2001	62.5	83.9	40.6	22.6	12.9	43.0	24.0	50.7	16.6
2011	60.0	81.2	37.8	25.6	18.7	41.0	24.8	40.9	19.8

Notes: 1. Main and marginal workers put together. 2. Excluding Jammu & Kashmir

Sources: (1) Census of India 1991, General Economic Tables, Table B(S) 1Part-IIIB series. (2) Census of India 2001 and 2011, General Economic Tables, Table B-1.

Table 7: Sectoral Employment, Labour Force and Unemployment in India\*, 2004-05 to 2017-18

Sector	Absolute Number (million)					
	Overall Population			Youths (15-29 years)		
	2004-05	2011-12	2017-18	2004-05	2011-12	2017-18
Agriculture	268.7	231.9	205.3	85.7	60.7	41.8
Manufacturing	53.9	59.8	56.4	22.4	22.1	18.5
Non-manufacturing	29.4	55.3	58.9	11.6	19.4	17.8
Service	107.3	127.3	144.4	34.5	35.7	37.6
Total Employment	459.4	474.2	465.1	154.2	138.0	115.7
Labour-force	470.2	484.8	495.1	163.1	147.0	140.7
WPR %	42.0	38.6	34.7	53.3	41.9	31.4
LFPR %	43.0	39.5	36.9	56.4	44.6	38.3
Unemployment rate % (Usual status)	2.3	2.2	6.1	5.4	6.1	17.8
Unemployment rate % (weekly status)	3.4	3.0	8.8	6.4	6.8	21.4

WPR: worker population ratio

LFPR: labour-force participation rate

\* Based on NSS and PLFS unit level data.

Source: Mehrotra, and Parida, 2019, Table 1, page 4.

from CSO and NSS, Mehrotra and others in an earlier study had indicated a continuous rise in total employment (principal and subsidiary status combined) in the country since 1993-94 (Mehrotra et al, 2014:50). Open unemployment i.e. gap between total workforce and total labour-force, has increased from 7.2 million in 1993-94 to 10.6 million in

2011-12. However, the period from 2011-12 to 2017-18 alone has witnessed an addition of nearly 20 million in 'open unemployment'. Looking at disaggregated level, it is evident that both agriculture (including its allied activities) and manufacturing have registered decline in employment during 2011-12 to 2017-18. The pace of increase in employment



Table 8: Unemployment rate\* (usual status) in India by levels of education, 2017-18 (Age 15 years and above)

<i>General Education Level</i>	<i>Total</i>	<i>Male</i>	<i>Female</i>
Not literate	1.2	1.8	0.2
Literate & up to primary	2.7	3.2	0.8
Middle	5.5	5.8	4.0
Secondary	5.7	5.7	6.3
Higher Secondary	10.3	9.4	15.4
Diploma/ certificate course	19.8	18.8	24.6
Graduate	17.2	14.7	27.5
Post graduate and above	14.6	10.4	24.3
Secondary and above	11.4	9.9	18.5
All	6.0	6.1	5.6

\* In percent

Source: PLFS 2017-18, Table 24, pages A-144 to A-146.

Table 9: Unemployment rates according usual status for population by Levels of educational attainment in India (2004-05 to 2017-18)

General Educational Level	Unemployment rate in percent (Age 15 years and above)							
	2004-05	2009-10	2011-12	2017-18	2004-05	2009-10	2011-12	2017-18
	Rural Male				Rural Female			
Not literate	0.3	0.3	0.5	1.7	0.2	0.0	0.2	0.1
Literate & up to primary	1.0	1.0	1.0	3.1	1.1	0.5	0.3	0.6
Middle	1.6	1.8	1.8	5.7	3.4	2.3	2.5	3.7
Secondary and above	4.4	3.5	3.6	10.5	15.2	11.8	9.7	17.3
All	1.6	1.6	1.7	5.7	1.8	1.6	1.6	3.8
	Urban Male				Urban Female			
Not literate	1.0	1.0	0.7	2.1	0.3	0.9	0.4	0.8
Literate & up to primary	2.1	1.6	1.9	3.6	2.9	0.5	1.3	1.3
Middle	4.2	2.6	2.2	6.0	8.0	3.7	3.0	5.1
Secondary and above	5.1	3.6	4.0	9.2	15.6	12.2	10.3	19.8
All	3.7	2.8	3.0	6.9	6.9	5.7	5.3	10.8

Source: Source: PLFS 2017-18, Statement 32, page 84.

in non-manufacturing sector which largely includes ‘construction’ has also undergone a sudden ‘slowdown’. The only sector that has managed to grow in terms of employment opportunities is ‘service’ sector. However, the

jobs created in this sector are mostly outside the modern services and hence extremely poor in quality (Mehrotra and Parida, 2019:2).

An unemployment rate of 6.1 percent for population aged 15 years and above is said to

be one of the highest in the last four decades. Centre for Monitoring Indian economy (CMIE) in its recent survey has revealed unemployment rate at a still higher level of 8.45 percent. The fact that unemployment rate among the youth (age 15-29) is nearly three times as that for total population speaks volume about India's inability in harnessing demographic dividend. The picture is even more alarming if one looks at the magnitude of unemployment by levels of educational attainment (Table 8).

As both quinquennial rounds of NSS and PLFS are based on similar interview schedule and equally large sample size from across the states and union territories, the data are comparable to a great extent (Mehrotra and Parida, 2019:2). For a quick glance we take a look at NSS 61st (2004-05), 66th (2009-10), 68th (2011-12) rounds and PLFS (2017-18).

A comparison of figures indicates not only a sudden jump between 2011-12 and 2017-18 but also a dramatic increase in differentials across levels of educational attainment (Table 9). A reflection of this is a drastic increase in the number of unemployed youth in the age 15-29 years from 9 million in 2011-12 to 25.1 million in 2017-18 (Mehrotra and Parida, 2019). Furthermore, the total number of youth in the same age group who are 'not in labour force, education or training' has gone up from 83 million in 2011-12 to over 100 million in 2017-18. This negates the possibility of youth bulge being harnessed for economic growth.

### **Concluding Remarks**

India is currently passing through a crucial phase in its demographic history. A long term decline in death rates and a rapid fall

in fertility levels has led to a remarkable transformation in age structure of population. Decline in the share of children has led to a bulge in its working age groups. Dependency ratio is at its record low level, and with a sizeable population of youth, Indian economy is expected to get a boost. There are instances where this youth bulge has been utilised in promoting economic growth. In order to get the best out of this growing labour force, adequate investment in areas like healthcare, education and skill building is a necessary precondition. At the same time creation of adequate decent job opportunities for the youth entering into labour force is also necessary. Our report card on these fronts is not very encouraging. In terms of public spending, education and health continue to be low priority for the planners and policy makers. Trends in employment and unemployment in the country, particularly during the recent past reveal a still more worrisome picture. Total employment has gone down during the present decade. Employment in agriculture has shrunk for quite some time but non-farm employment has not grown to absorb the increasing number of unemployed. Recent decline in manufacturing which employs a sizeable proportion of skilled youth needs a serious rethinking by the planners and policymakers. Media reports indicate economic slowdown in major key sectors like textile, automobiles, telecom and information technology which would mean further rise in joblessness for the educated youth. There has been slowdown in growth of employment in services as well. Although, job opportunities in micro and small units of the unorganised and private sector have managed to increase, it is not good enough for demographic dividend to materialise.

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