



India's position in human capital formation in education infrastructure at global level

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Abstract

The paper overviews the India's position in human capital formation in education infrastructure at global level. The study is based on secondary data the data collected from RBI handbook of statistics, Ministry of Human Resource Department (MHRD) Government of India, Registrar General of India, Primary Census Abstract 2011, Indiastat, World Bank, Simple statistical tools such as percentage, ratio, growth rate used to analyse the India's position in human capital formation in education infrastructure at global level. The term human capital arrangement infers the advancement of capacities and aptitudes among the number of inhabitants in the nation. Governments around the world are nowadays widely perceived to be responsible for ensuring the provision of accessible quality education. This is a recent social achievement. Lucas assumes that investment on education leads to the production of human capital which is the important determinant in the growth process. India is lagging in almost human capital formation either health or education and which has direct and indirect effect on research and development consequence slow human capital formation during reform period. India has advantage of demographic dividend and if it is properly nurtured, human productivity in India increases and helps to human capital formation led economic growth.

Keywords: Human Capital, Economic Development, Education, Public Expenditure on Education

1. Introduction

In most countries, basic education is nowadays perceived not only as a right, but also as a duty – governments are typically expected to ensure access to basic education, while citizens are often required by law to attain education up to a certain basic level. This was not always the case: the advancement of these ideas began in the mid 19th century, when most of today's industrialized countries started expanding primary education, mainly through public finances and government intervention. Data from this early period shows that government funds to finance the expansion of education came from several different sources, but specifically taxes at the local level played a crucial role. The historical role of local funding for public schools is important to help us understand changes or persistence in regional inequalities.

2. Importance of public expenditure on education at global level

The second half of the 20th century marked the beginning of education expansion as a global phenomenon. During 1990s government spending on education as a share of national income in many developing countries was already close to the average as observed in developed countries (Szirmai, 2015). This global education expansion in the 20th century resulted in a historical reduction in education inequality across the globe: in the period 1960-2010 education inequality went down every year, for all age groups and in all world regions. Recent estimates of education inequality across age groups suggest that further reductions in schooling inequality are still to be expected within developing countries (Cuaresma, 2013). Recent cross-country data from UNESCO shows that the world is expanding government funding for education today,

and these additional public funds for education are not necessarily at the expense of other government sectors. Yet behind these broad global trends there is substantial cross-country and cross-regional heterogeneity. In high-income countries, for instance, households shoulder a larger share of education expenditures at higher education levels than at lower levels but in low-income countries this is not the case. Malawi is a stark example: tertiary education is almost completely subsidized by the state, yet household contribute almost 20% of the costs of primary education.

Following the agreement of the Millennium Development Goals, the first decade of the 21st century saw an important increase in international financial flows under the umbrella of development assistance. Recent estimates show that development assistance for education has stopped growing since 2010, with notable aggregate reductions on flows going to primary education. These changes in the periodization of development assistance for education across levels and regions can have potentially large distributional effects, particularly within low income countries that depend substantially on this source of funding for basic education (Steer and Smith, 2015).

3. Theoretical framework: the endogenous growth theory

3.1 The lucas model

Uzawa developed an endogenous growth model based on investment in human capital which was used by Lucas. Lucas assumes that investment on education leads to the production of human capital which is the important determinant in the growth process. He makes a distinction between the internal effects of human capital where the individual worker undergoing training becomes more productive, and external

effects which spill over and add to the productivity of capital and of other workers in the economy. It is investment in human capital rather than physical capital that have spill over effects that increase the level of technology. Thus, the output for firm i takes the form

$$Y_i = A(K_i, H_i) \cdot H$$

Where A is the technical coefficient, K_i and H_i are the inputs of physical and human capital used by firms to produce goods Y_i . The variable H is the economy's regular level of human capital. The parameter represents the strength of the external effects from human capital to each firm's productivity. In the Lucas model, each firm faces constant returns to scale, while there are increasing returns for the whole economy. Further, learning by doing or on-the-job tuition and spill over effects involve human capital. Each firm profits from the average level of human capital in the economy, rather than from the aggregate of human capital. It is not the accumulated knowledge or occurrence of other firms but the average level of skills and knowledge in the economy that are crucial for economic growth.

In the model, technology is endogenously provided as a side effect of investment decisions by firms. Technology is treated as a public good from the point of view of its users. As a result, firms can be treated as price takers and there can be equilibrium with various firms as under perfect competition.

4. Review of literature

Ojha and Pradhan (1987) ^[18] examined exclusively the educational capital in India and the study was stimulated by the strategic planning of the East Asian Economies. It considered human capital in an economy as the state of health and the educational levels of the people. The study was based on a multi-sectoral neo-classical type price driven CGE model, it incorporated the method of public education expenditure to build human capital which directly and indirectly helps to augment the supply of educated/skilled labour, and in turn increase in tax revenue and economic growth.

Paul (1992) examined the neo-classical growth model which supported public welfare through public debt and it is probable to make a case for public debt, because a balanced growth path may be dynamically inefficient. The author showed that balanced growth through possible public debt option no longer holds in an endogenous growth model with constant external returns to capital. It has shown that a raise in public debt reduced the growth rate, so there always exists a future generation that will be damaged, and that a reduction in public debt, although it increases the growth rate, cannot be Pareto-improving: one existing generation must be harmed, therefore the study strongly suggested to reduce public debt to reduce burden on future generation and benefit of socio-overhead capital.

Jones (1995) examined the endogenous growth models, according to endogenous growth theory, permanent changes in certain policy variables have everlasting effects on the rate of economic growth. Empirically, however, U. S. growth rates exhibited no large constant changes. Therefore, the determinants of long-run growth highlighted by a specific growth model which must similarly exhibit no large persistent

changes or the persistent association in these variables must be offsetting. Otherwise, the growth model is inconsistent with time series evidence. The author argued that many AK-style (Amartya Kumar Sen-style) models and Research & Development (Romer, 1990) ^[19] based models of endogenous growth were rejected by this criterion. The rejections of the Research & Development based models were particularly strong.

Waldow (2002) considered educational expenditure was an important and widely used indicator for the quantitative growth of educational systems and for human capital formation. However, educational expenditure was often difficult to measure correctly, especially in historical studies. The study focussed on the trouble of measurement, using the case of Sweden in the second half of the 19th and the early 20th century as an example. Official statistics used as main empirical basis for data on educational expenses.

Chani *et al.* (2012) ^[4] empirically tested the casual relationship between human capital formation all the way through education and economic development in Pakistan. Keeping in view the endogenous growth theory, the study also tests direction of causality, also human capital formation causes economic development or economic development causes human capital or both of them are causing and following each other. The study investigated the informal relationship between economic development and formation of human capital in Pakistan. Based on endogenous growth theory, empirically tested the standard growth model consisting of Gross household Product (GDP) per capita as a dependent relative variable and human capital formation, asset in physical capital and labour force as independent variables. Auto Regressive Distributive Lag (ARDL) bound testing approach to cointegration was used to ensure the long run equilibrium relationship between the variables were included in the model.

Diana (2013) ^[7] highlighted the role of education in the growth of economic competitiveness and competence of human capital, in accordance with the quality of education and investments in human resources, to enhance labour productiveness. The study on the go by a brief analysis of Romania's educational system, by comparison with the EU countries (27 Countries), analysing the number of high school students and college students per teacher, the percentage of education expenditure in the GDP, the correlation among the labour force's training level and insertion into the labour market.

5. Objectives of the study

- 1) To analyze the India's position in human capital formation in education infrastructure at global level.
- 2) To offer policy suggestions for the improvement of education infrastructure in India.

6. Methodology

The study is based on secondary data the data collected from RBI handbook of statistics, Ministry of Human Resource Department (MHRD) Government of India, Registrar General of India, Primary Census Abstract 2011, Indiastat, World Bank. Simple statistical tools such as percentage, ratio, and growth rate analysis used for causal relation and trend analysis

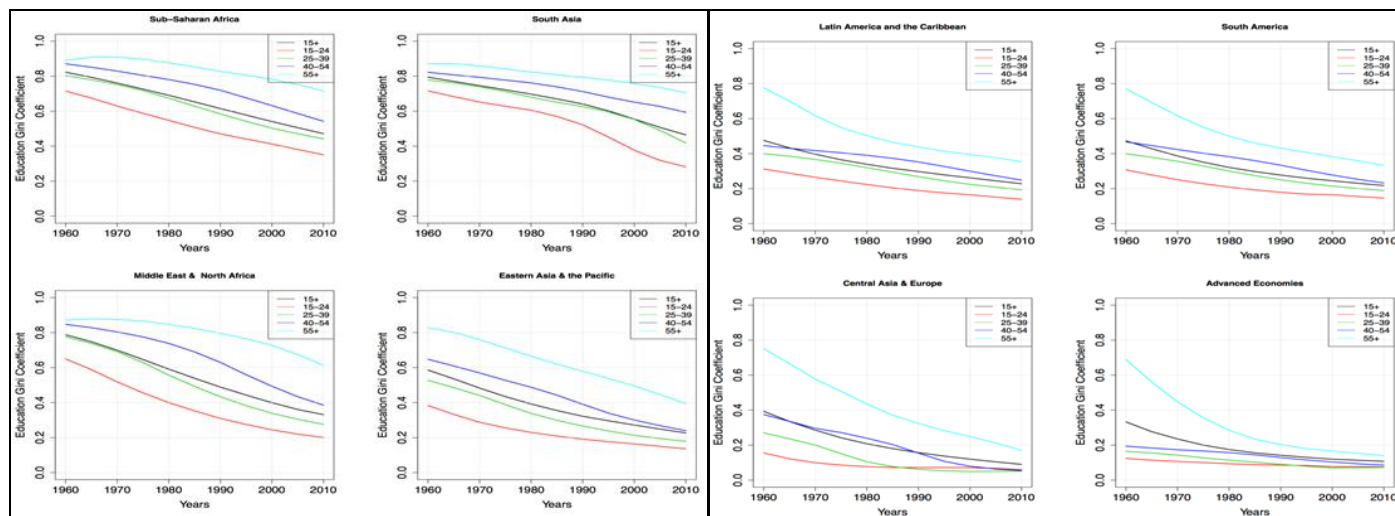
of human capital formation.

7. Results and discussion

7.1 Educational advancement at global level

According to Cuaresma *et al.* (2013) the Gini coefficient of the distribution of years of schooling across different world regions has been decreasing. Gini coefficient is a measure of inequality and higher values indicate higher inequality. Figure 1 shows Gini coefficient of distribution of years of schooling across different world regions inequality by age group during 1960 to 2010. As inequality is falling over time, the level of

inequality is higher for older generations than it is for younger generations. We can also see that in the reference period education inequality went down every year, for all age groups and in all world regions. The breakdown by age gives us a view into the future: as the inequality is lower among today's younger generations, we can expect the decline of inequality to continue in the future. Thus, further reductions in education inequality are still to be expected within developing countries; and if the expansion of global education can be continued, we can speed up this important process of global convergence



Source: Cuaresma *et al.* (2013)

Fig 1: Education Gini coefficients by world region for selected age groups, 1960- 2010

Table 1: Literacy rate at global level

Table 1: Adult literacy rate, population 15+ years, both sexes (%)					
	1999	2000	2010	2011	2015
Brazil	..	86.4	90.4	91.4	92.6
India	..	..	..	69.3	72.2
China	77.8	90.9	95.1	..	96.4
Kenya	..	82.2	..	..	78.0
Latin America & Caribbean (excluding high income)	87.1	89.5	92.4	..	..
Middle East & North Africa	58.5	70.4	80.8	..	..
Russia	..	..	99.7	..	99.7
South Africa	..	..	92.9	93.1	94.6
Sub-Saharan Africa	..	57.0	60.9	..	..
World	75.9	81.9	85.3	..	..
Low income	46.0	52.7	56.6	..	..
Middle income	71.4	79.7	84.4	..	..

Source: World Bank Database

Table 1 shows the adult literacy rate (i.e. 15+ years population) at international level estimated by World Bank during 1999 to 2015. The world average adult literacy rate in 1999 was 75.9% which is greater than Low Income, Middle Income, Middle East and North African countries average adult literacy rate 46%, 71.4, 58.5% respectively. At the end of 2010, adult literacy rate in Middle Income countries along with Middle East and North Africa improved to 84.4% and 80.8% respectively. As for the latest data of 2015, adult literacy rate in India is 72.2% which is lower than Brazil 92.6%, China 96.4%, Russia 99.7% and South Africa 94.6%.

India's adult literacy rate still won't match world average 85.3% in 2010 and Middle Income countries but better than Low Income countries and Sub-Saharan African nations level. Table 2 shows the Gross Enrolment Ratio (GER) at primary education at global level during 1999 to 2014. Compared to adult literacy rates, Gross Enrolment Ratio has been increasing across all income group nations and poor countries. Except developing countries and Sub-Saharan African nations all nations and regions reached 100% mark in 1999 itself. GER in India was 92.9% during 1999 which is slightly higher than Kenya 90.9%, Sub-Saharan Africa 80% and lower than

world average 98%. The enrolment ratio improved in India much better than developing and African nations in the recent past. In 2014, GER in India was 107.9% which is higher than Sub-Saharan Africa 99.6% and compounded annual growth rate (CAGR) of GER in India during 1999 to 2014 is 19.8%

which is higher than CAGR at world level 13.4%. The enrolment ratio at primary school level in India is improving and reached 100% mark in 2003. It is welcome step by all countries and regions in the world regarding educational improvement and helps to human resource formation further.

Table 2: Gross enrolment ratio, primary, both sexes (%)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Brazil	165.6	..	150.8	146.8	140.5	133.7	133.3	..	128.2	132.1	131.2	..	132.5	130.4	109.8	111.1
China	..	..	107.4	110.2	113.5	..	..	104.8	109.4	113.0	114.0	112.5	110.8	110.1	108.7	103.9
India	92.9	94.6	94.4	95.0	103.0	..	..	..	110.2	110.9	109.6	109.2	108.4	109.8	110.6	107.9
Kenya	90.9	95.7	97.4	91.9	107.4	107.4	107.7	105.6	112.6	112.3	113.3	..	..	116.1	..	111.4
Russian Federation	102.9	102.8	106.1	114.0	121.1	..	95.3	95.0	95.7	97.5	99.2	..	100.9	101.2	100.2	98.6
South Africa	111.3	103.7	102.9	103.2	102.7	101.8	99.6	98.2	98.6	97.7	96.9	96.3	96.3	97.6	98.5	99.7
Uganda	130.9	132.1	134.1	138.0	138.4	129.4	122.7	121.2	119.9	122.4	123.2	120.3	112.4	111.8	109.9	110.5
United States of America	103.6	102.5	103.0	100.6	100.6	100.0	100.7	101.6	102.8	103.4	102.3	100.6	99.9	99.6	99.4	99.5
World	98.0	98.5	99.0	100.2	102.6	102.5	102.2	103.1	104.6	105.5	105.6	105.3	105.3	105.7	105.2	104.6
Developed countries	102.9	102.5	102.6	101.5	101.4	101.5	102.0	102.5	103.1	103.5	103.1	102.4	102.0	101.9	102.0	102.0
Developing countries	97.3	97.9	98.4	99.8	102.6	102.6	102.3	103.3	105.0	105.9	106.0	105.8	105.8	106.2	105.7	105.0
Central and Eastern Europe	103.0	102.8	104.8	107.1	105.0	102.7	100.0	99.2	99.6	99.8	99.6	100.4	100.9	100.3	102.4	101.6
East Asia and the Pacific	105.7	106.0	106.4	108.0	109.8	106.6	103.1	104.0	107.0	108.9	109.7	109.4	108.9	108.8	107.9	105.4
Latin America and the Caribbean	122.3	119.4	119.7	119.4	117.7	116.3	115.9	115.1	114.9	115.1	115.0	112.5	114.9	113.9	109.0	108.4
North America and Western Europe	103.8	103.3	103.4	101.9	101.7	101.7	102.4	102.9	103.7	104.1	103.5	102.6	102.0	101.9	102.2	102.1
Sub-Saharan Africa	80.0	82.6	84.9	87.2	89.9	92.0	94.3	95.9	96.7	97.7	97.9	97.7	98.3	98.9	99.0	99.6

Source: UNESCO Institute for Statistics (2016)

7.2 Trends and pattern of education expenditure at global level

Education expenditure in India is not increasing

proportionately as increase in enrolment and needs compared to advanced economies and emerging nations.

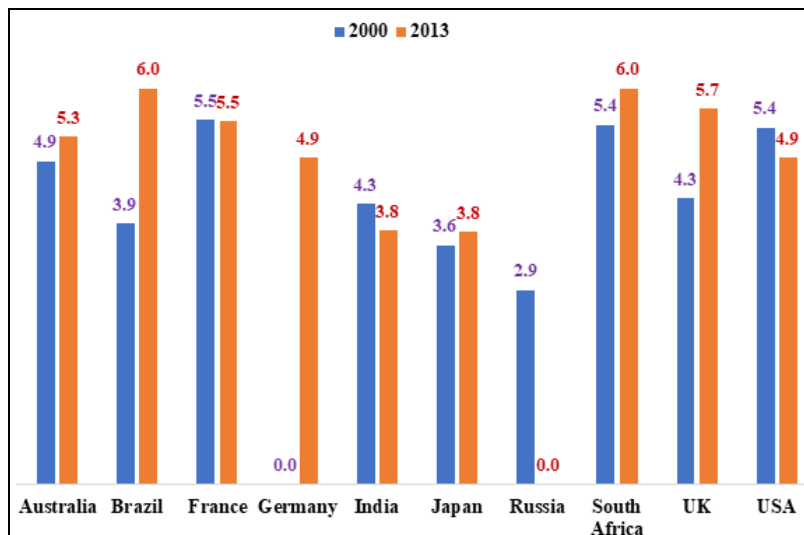
Table 3: Government expenditure on education as % of GDP, 1999-2014

	Australia	Brazil	France	Germany	India	Japan	Russia	South Africa	UK	USA
1999	..	3.8	5.6	..	4.3	3.5	..	5.9	4.3	4.8
2000	4.9	3.9	5.5	..	4.3	3.6	2.9	5.4	4.3	..
2001	..	3.8	5.4	..	..	3.6	3.1	5.2	4.4	5.5
2002	..	3.8	5.4	..	..	3.6	3.8	5.1	5	5.4
2003	..	..	5.7	..	3.6	3.6	3.7	4.9	5.1	5.6
2004	..	4	5.6	..	3.3	3.6	3.5	5.1	5	5.3
2005	4.9	4.5	5.5	..	3.1	3.5	3.8	5.1	5.2	5.1
2006	4.7	4.9	5.4	4.3	3.1	3.5	3.9	5.1	5.2	5.4
2007	4.7	5	5.4	4.3	..	3.5	..	5	5.2	5.2
2008	4.6	5.3	5.4	4.4	..	3.4	4.1	4.9	5.1	5.3
2009	5.1	5.5	5.7	4.9	3.2	..	..	5.2	5.3	5.2
2010	5.6	5.6	5.7	4.9	3.3	3.8	..	5.7	5.9	5.4
2011	5.1	5.7	5.5	4.8	3.7	3.8	..	6	5.8	5.2
2012	4.9	5.8	5.5	4.9	3.9	3.8	3.9	6.4	..	5.2
2013	5.3	6	5.5	4.9	3.8	3.8	..	6	5.7	4.9
2014	..	..	..	..	..	3.8	..	6.1	5.8	..

Source: UNESCO Institute for Statistics (2016)

Table 3 examines the government expenditure on education as percentage of GDP at global level during 1999 to 2014. In 1999, government expenditure on education as a percentage of GDP in India was 4.3% which was higher than Brazil 3.8%, Japan 3.5% and lower than South Africa 5.9%, France 5.6% and the USA (United States of America) 4.8%. However, education expenditure as a percentage of GDP has been decreasing in India in recent years compared to 1999 and 2000 years and it is illustrated in the table 3 and figure 2 shows India's education expenditure as a percentage of GDP with comparison to major countries in the world in 2000 and 2013.

For, the education expenditure as percentage of GDP in India was 3.8% in 2013 whereas it is 6% in South Africa, 5.3% in Australia, 6% in Brazil, 5.5% in France, 4.9% in Germany and 5.7% in the UK (United Kingdom) in the same year. While it is stagnant around 3.5% to 3.8% in Japan during last two decades. The education expenditure as a percentage of GDP in India registered negative CAGR at -0.86% which should be considered serious for prospects of human capital formation in India through education and education infrastructure development.



Source: UNESCO Institute for Statistics (2016)

Fig 2: Government expenditure on education (as % of GDP) at international level, (2000 and 2013)

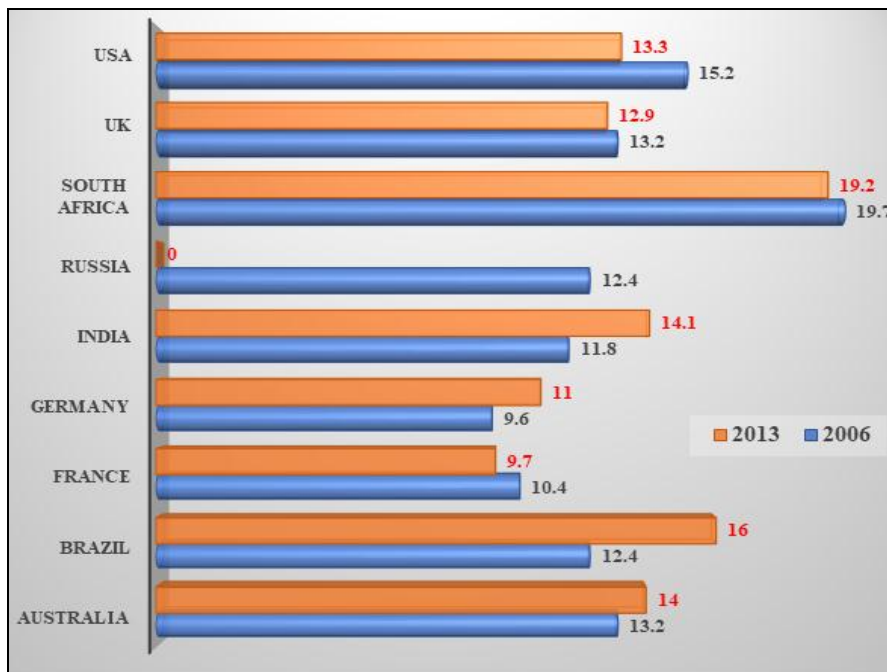
Table 4: shows the government expenditure on education as a percentage of total government expenditure during 2000 to 2013.

	Australia	Brazil	France	Germany	India	Russia	South Africa	UK	USA
2000	13.4	11.5	10.8	..	17.5	9	..	12.1	..
2001	..	10.6	10.6	..	..	9.2	20.5	12.3	..
2002	..	9.6	10.3	..	..	10.6	20.1	13.6	16.5
2003	..	..	10.8	..	12.9	10.5	19.6	13.6	16.6
2004	..	10.4	10.7	..	11.6	11.2	19.9	12.9	15.7
2005	13.6	11.3	10.4	..	11.5	12	19.9	13.2	15.1
2006	13.2	12.4	10.4	9.6	11.8	12.4	19.7	13.2	15.2
2007	13	13.2	10.4	10.1	..	..	18.4	13	14.5
2008	12.6	14.1	10.3	10.1	..	12	17.9	12.9	14
2009	13.4	14.7	10.1	10.3	10.8	..	18.3	12.6	12.9
2010	14.3	14.6	10.1	10.4	11.7	..	18	13	13.1
2011	13.5	15.3	9.9	10.8	13.7	..	18.9	12.7	12.9
2012	13.2	15.6	9.7	11.1	14.1	11.1	20.6	..	13.4
2013	14	16	9.7	11	14.1	..	19.2	12.9	13.3

Source: UNESCO Institute for Statistics (2016)

The time series data in the table 4 shows that, education expenditure in India is decreasing over the period. In 2000, government expenditure on education as a percentage of total government expenditure in India was 17.5% which is higher than other developed and developing countries. In the year 2013, education expenditure out of total government expenditure (i.e. in %) is 14.1% in India whereas it is 19.2% in South Africa, 16%, in Brazil, 14% in Australia, 13.3% in the USA, 12.9% in the UK, 11% in Germany and 9.7% in France. The education expenditure trend in the USA, and India has been decreasing while it has increasing trend in

South Africa during 2000 to 2013 which is illustrated in the figure 2 The average GDP growth rate in India during same period was 5-6% hence total absolute amount expenditure on education has been increasing while government expenditure on education as a percentage of total government expenditure is decreasing which is not good sign because still India is not reached better position in education and employment scenario compared to advanced economies and emerging nations, hence India should maintain subsistence expenditure pattern for human capital formation in the near future.



Source: UNESCO Institute for Statistics (2016)

Fig 3: Expenditure on education as % of total government expenditure at international level, 1999-2013

Education expenditure as a percentage gives the macro picture of total expenditure while the per capita expenditure of education clearly shows the micro level picture of actual spending pattern in a nation. Table 5 shows the per capita expenditure by the government on primary, secondary and tertiary student, at 2005 constant price, in terms of PPP (Purchasing Power Parity) dollar across major economies during 2000, 2010 and 2013. India is third largest economy in the world in terms of PPP term but her expenditure on education is still lower than any other advanced and emerging nations in terms of per capita education expenditure during last three decades. As data illustrated in the table 5, per capita

expenditure on primary education in India was 366 \$ (PPP) in 2000, whereas it was 6268.6 \$ in Australia, 1241.4 \$ in Brazil, 6377.8 \$ in France, 6864.3 \$ in Japan, 4409 \$ in the UK, and 8732 \$ in the USA in the same period. After a decade, India’s expenditure on primary education increased in terms of absolute but in terms of per capita expenditure has declined to 302.7 \$ in 2010 from 366 \$ in 2000 that is negative -17.29% growth rate which is due to increase in gross enrolment ratio along with population in India but absolute expenditure is not increasing as intake in the school increased. Moreover, private sector also taking much shares in primary education in India.

Table 5: Government Expenditure Per Primary Student (Constant 2005 prices of PPP\$)

Year	Per Capita expenditure on primary student			Per Capita expenditure on secondary student			Per Capita expenditure on tertiary student		
	2000	2010	2013	2000	2010	2013	2000	2010	2013
Australia	6268.6	9839.6	8546.7	7774.8	12916.3	11432.6	14457.5	13984.6	15382.7
Brazil	1241.4	3102.0	3169.0	..	2422.7	2611.2	4921.5	3195.1	3561.5
France	6377.8	7000.9	7054.9	11239.0	11899.3	11421.3	11669.1	15641.5	14929.3
Germany	..	7508.2	7936.3	..	10477.5	10804.3	..	..	17641.2
India	366.0	302.7	480.7	183.4	167.5	242.8	701.1	848.5	709.9
Japan	6864.3	7992.8	8543.4	8772.9	10710.1	11981.8	7339.9	11121.2	11771.2
UK	4409.0	9235.1	8770.1	8328.7	13013.4	9240.8	7871.1	9863.8	15018.0
USA	8732.0	10928.8	10175.5	10403.1	12037.0	11656.9	..	10325.7	10887.8

Source: UNESCO Institute for Statistics (2016)

In 2013, again per capita expenditure on primary student increased to 480.7 \$ from 302.7 \$ in 2010, that is good step by the government for educational improvement in India. It has decreased in major countries in the world during 2010 to 2013 due to already they reached almost saturation investment level in primary education but their expenditure has increased in 2013 year compared to 2000 level. Compared to primary per capita expenditure, secondary education per capita

expenditure in India is less. In 2000, per capita expenditure on secondary student in India was 183.4 \$ which is least among other major emerging and developed countries. For example, in France secondary education per capita expenditure was 11239 \$, followed by 10403.1 \$ in the USA, 8772.9 \$ in Japan, 8328.7 \$ in the UK, 7774.8 \$ in Australia during 2000 and it has increased over the period much more than in India. In 2013, the per capita expenditure on secondary education is

242.8 \$ which is not at all comparable spending level at emerging and advanced economies.

On the other hand, per capita expenditure on tertiary education (i.e. education at college, university and vocational courses) in India is higher than primary and secondary education but compared to emerging and major advanced economies it is very low. Per capita expenditure on tertiary education in India in 2000 was 701.1 \$ whereas it was 4921.5 \$ in Brazil, 7339.9 \$ in Japan, 7871.1 \$ in the UK, 11669.1 \$ in France, 14457.5 \$ in Australia. These data show that India need to increase per capita expenditure on education in all levels. Her per capita expenditure on tertiary education during 2000 was 701.1 \$ which has increased to 848.5 \$ which is the only education spending increased compared to primary and secondary education, but its spending again decreased to 709.9 \$ in 2013. Therefore, India need to increase education spending in terms of per capita than absolute to match the needs of students and help to human capital formation in the long run.

7.3 Brics countries expenditure on education

Brazil, Russia, India, China and South Africa (known as BRICS) are emerging economies that are forecast to continue to realize fast economic growth and achieve the status of developed economies. These countries also continue to present significant development opportunities and their collaboration is aimed at meeting the economic needs of this century which includes, amongst others, infrastructure development, innovation systems and the provision of quality education to the world's population. An examination of their expenditure on education will therefore provide useful insights into the different processes of allocating financial resources adopted by each country and how these countries can help each other to improve their education systems. As a group, BRICS countries have an important political and economic role to play on the world stage as they occupy about 26% of the planet's land, in addition to being home to 41% of world population and about 46% of its workforce. The countries had a combined GDP of approximately \$14.9 trillion, accounted for about 19% of the world GDP in nominal terms and approximately 26% of global GDP in terms of purchasing power parity and an estimated US\$4.5 trillion in combined foreign reserves in 2012. During the final quarter of 2012, the rise in World GDP by 2.5% was largely because of these big emerging economies. The BRICS alone have been responsible for 55% of global growth since the end of 2009.

Table 6: Government expenditure on education as a % of GDP and total government expenditure in BRICS nations (Values in %)

Country	Government Expenditure on Education as % of GDP			Government Expenditure on Education as % of Total Government Expenditure		
	1999	2005	2012	1999	2005	2012
Brazil	3.9	4.5	5.81	9.6	12	14.6
Russia	2.91	3.8	4.11	9	11.5	11.9
India	4.3	3.1	3.8	16.3	10.7	13
China	1.9	NA	3.71	12.6	NA	16.3
South Africa	6	5.3	6.6	NA	19.9	20.6

Source: UNESCO Institute for Statistics (2016)

Table 6 reflects the amount of money government devotes to education out of the country's output and total government expenditure. There are significance differences in education expenditure across the BRICS member countries. Amongst the BRICS countries, South Africa continues to allocate the highest percentage of its GDP (at 6.6% in 2012) and share of total government expenditure (20.6% in 2012), to education. This is acceptable by international standards. Brazil follows closely, with 5.8% of the country's GDP devoted to education and 14.6% of total government expenditure being spent on education. The share of GDP devoted to education financing is lower for both China and India, even though their GDP has been growing significantly over the years, which can mean that a significant share is being devoted to other competing priorities as opposed to education. Russia devotes the lowest share of total government expenditure towards education when compared to other BRICS member countries.

The total investment made by a country in its people in the form of education is a matter of great interest and importance. The Incheon Declaration adopted by the World Education Forum recognizes that the proposed Sustainable Development Goal for education cannot be achieved without a significant and well-targeted increase in financing. The declaration has increased the education financing targets for international benchmarking and has set targets to at least education expenditure of 4 to 6% of Gross Domestic Product (GDP) and/or at least 15 - 20% of total public expenditure to education (World Education Forum, 2015). Of the BRICS countries, South Africa, Brazil and Russia's education expenditure relative to GDP is acceptable while that of India and China seem to be slightly lower than the required target proposed by the Declaration. South Africa and China's education expenditure as a percentage of total public expenditure seems to be within the range required while that of Brazil, India and Russia falls short of the target required.

Looking at total government expenditure on each level of education per pupil in BRICS nations, India recorded the lowest per pupil expenditure for all the three levels of education (i.e. primary, secondary and tertiary). Brazil is leading in both the unit costs expressed in Purchasing Power Parity (PPP), as well as GDP per Capita for the primary level of education, while South Africa spent the highest per unit cost for tertiary education students. South Africa and Brazil spent similar amounts for secondary, while India was low at 16%. Brazil's GDP per capita expenditure on primary education was very high at 21%, followed by South Africa at about 19%. India's expenditure per tertiary student as a % of GDP stood at nearly 54% in 2011, while that for South Africa was about 40% in 2013.

8. Conclusion

The present paper attempted to link the human capital formation and economic development in the global level. This paper examined the trends and pattern of education Indicator of various countries in the world with comparison to India. India is lagging in almost human capital formation either health or education and which has direct and indirect effect on research and development consequence slow human capital formation during reform period. India has advantage of

demographic dividend and if it is properly nurtured, human productivity in India increases and helps to human capital formation led economic growth.

9. References

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