

A Study on the Impact of GDP Per Capita on Global Competitiveness Index

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Abstract

GDP per capita is one of the parameter through which performance of different countries can be compared. It depends on the productivity of the country and the population of the country. Global competitiveness index is another parameter to know the competitiveness of the countries which also a parameter to know the competency of the country. Global competitiveness index is calculated based on twelve parameters categorized under three headings namely Business Requirements, Efficiency Requirements and Innovation and sophistication factors. As both of them are helping to evaluate the status of countries, there should be some relationship between these two. Five years data on the GDP and the competitiveness index is taken, samples of countries showing improvement, countries with declining results, and countries which exists at the same level are taken and the analysis is done. It is found that countries with more GDP growth rate are getting better ranks and the ratings are improving. So countries with higher GDP growth rate will be getting the better rating in the GCI.

Keywords: GDP, GDP per capita, Global Competitiveness Index, Global ranking

Introduction

Recently the competitions are increasing at a faster rate. Normally the winners are better recognized and have better living. India is a growing country; it is making significant achievement in many areas including Information Technology and aeronautics. As one of the growing country, India needs foreign direct investment to enhance its business opportunities. The investors make decisions based on the performance of the country. GDP per capita is one of the parameter to know the growth of the country. Global Competitiveness Index helps to compare the performance of the different countries. This paper discusses on the impact of GDP per capita on the Global Competitiveness Index.

Objective

Once in a year World Economic Forum is publishing a report on the competitive index of different countries. The trend shows that India is scoring lower and lower ranks year by year. This gives an impression, that India is becoming less competitive year by year.

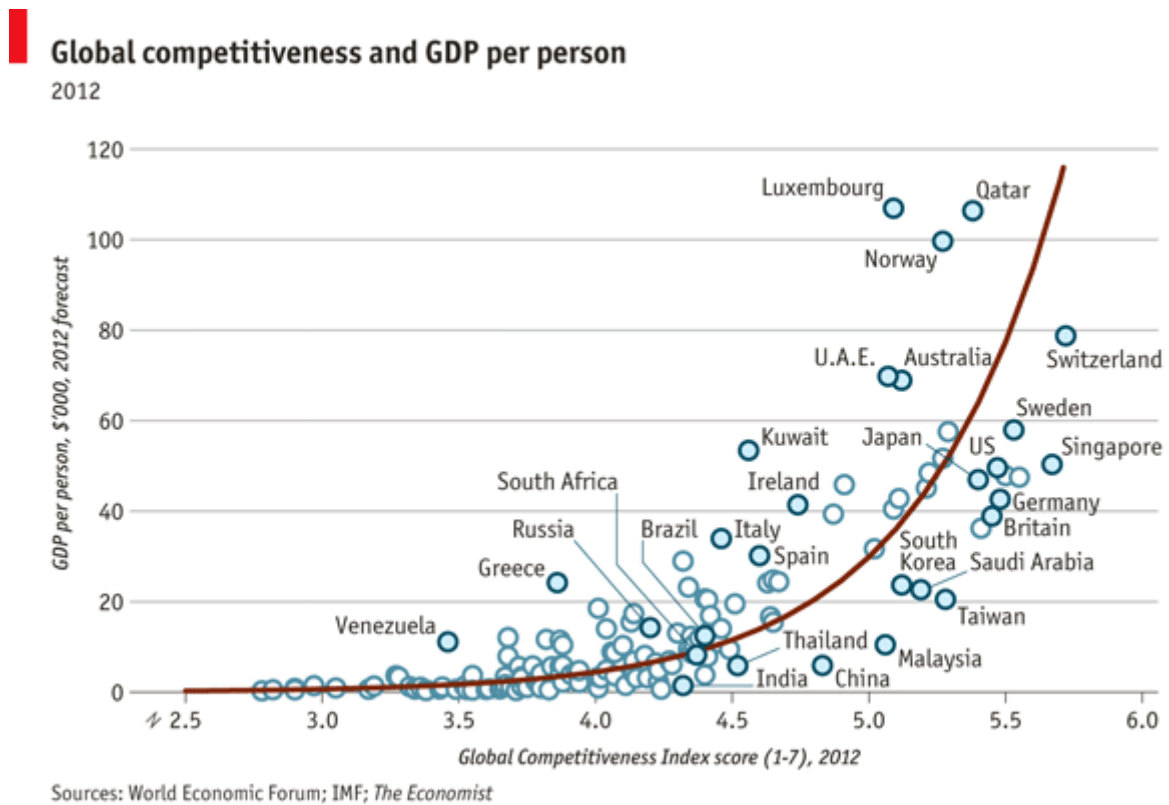
As other countries are growing faster, in future India may struggle to retain its status in the globalized environment. On the other side if we see, the GDP per capita of India is rising year by year. The GDP growth of India is fluctuating. The objective of the study is to know the relationship between GDP, GDP per capita and the Global

Competitiveness Index. There by to find the opportunities to improve the Global competitiveness index and ranking.

Literature Review

The Economist Online – Sep 5th 2012, says competitiveness brings wealth but rich countries can more easily afford competitiveness. The article discusses on the movement of the countries in the ranking and the GDP per capita.

Figure 1 – Global Competitiveness Index Score

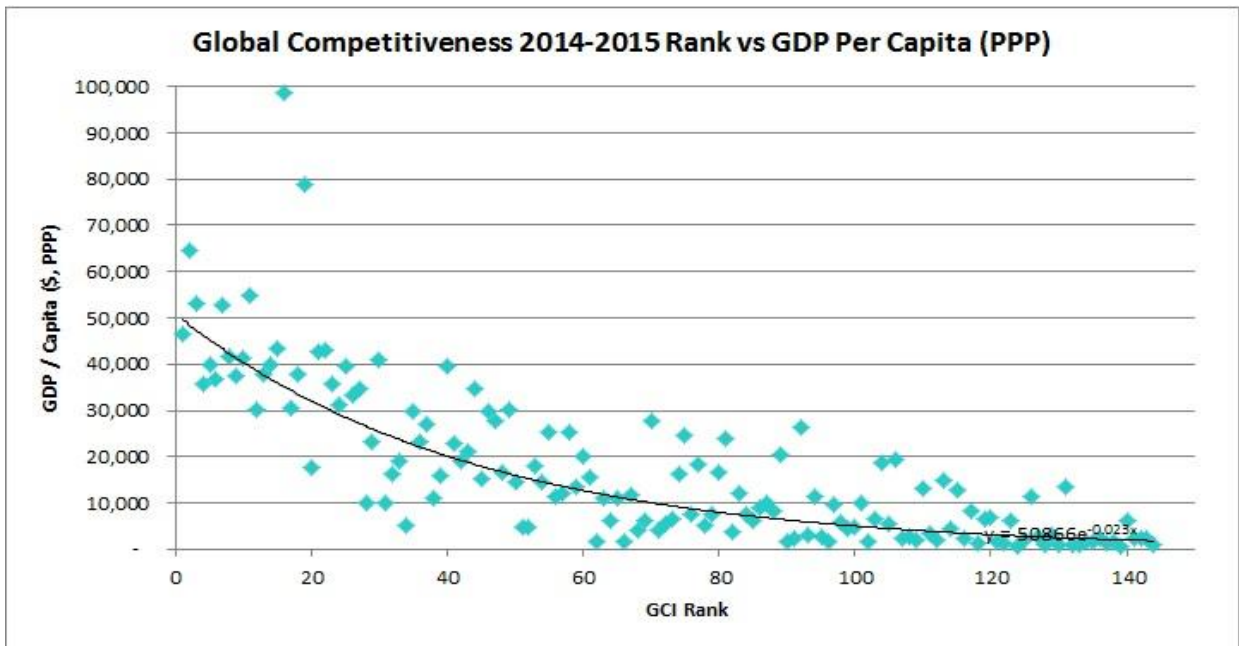


Source:

<http://www.economist.com/blogs/graphicdetail/2012/09/daily-chart-2>

Investment Frontier in the article 3 Ways to use the 2014 Global Competitiveness Report dated Sep 8, 2014 mentioned that inverse correlation noticed between GCI ranking and GDP per capita

Figure 2 – Global Competitiveness Rank



Source: <http://www.investmentfrontier.com/2014/09/08/3-ways-use-2014-global-competitiveness-report/>

Global Competitiveness Report 2013-2014 says that strong institutions, available talent and a high capacity to innovate are the key factors for the success of the economy. Institutions and necessary talent to produce the product in an innovative way are a must to improve GDP.

Discussion

Global Competitiveness Index is calculated based on twelve parameters classified under three headings. Institutions, Infrastructure, Macroeconomic environments, health, and primary education are listed under the heading of Basic requirements. Human education and training, Goods market efficiency, Labor market efficiency, financial market development, Technological readiness Market sizes are grouped under the heading Efficiency enhancers. Business sophistication and innovation are categorized under the heading Innovation and sophistication.

Data are taken from The Global Competitiveness Reports and World Development Indicators. Samples are selected randomly such that two countries which made a significant improvement in scoring Global Competitiveness Rank, two countries which lost their ranking and two countries hold their ranking in the same level. Along with India is also considered.

INDIA

Table 1 - India Year wise GCI Score and Ranking

Year	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10
GCI Score	4.2	4.3	4.3	4.3	4.3	4.3
GCI Rank	71/144	60/148	58/144	56/142	51/139	49/133
Basic Requirements Score	4.2	4.2	4.3	4.2	4.3	4.2
Basic Requirements Rank	92	96	85	91	81	79
Efficiency Enhancers Score	4.2	4.4	4.5	4.5	4.4	4.5
Efficiency Enhancers Rank	61	92	39	37	38	3
Innovation and sophistication factors Score	3.9	4.0	3.9	3.9	4.0	4.2
Innovation and sophistication factors Rank	52	41	43	40	42	28

Source: The Global Competitiveness Report 2008-09 to 2014-15

The above shown Table 1 shows the GCI remains same from 2009-10 to 2013-14 and in 2014-15 it come down by 0.1 from 4.3 to 4.2. However, in the ranking it came from 49 to 71. In the Efficiency enhancers and Innovation and sophistication factors, there is a considerable decline seen from 2009-10 to 2014-15. We can say India is losing. At the time of calculating the GCI, Basic requirement is given 60% of the weightage and Efficiency enhancers is given 35% weightage and the remaining 5% is given to Innovation and sophistication factors. Therefore, the impact of decrease happened in the Efficiency enhancers and Innovation and sophistication factors are less when the GCI is calculated. In general, these data shows India is declining in ranking as well as in index.

Table 2- India - Year wise GDP and GDP per capita

Year	2013	2012	2011	2010	2009
GDP US\$ Trillion	1.877	1.859	1.88	1.708	1.365
GDP per Capita US\$	1498.87	1053.00	1503.00	1417.07	1147.24
GDP Growth Rate	5.0%	4.7%	6.6%	10.3%	8.5%

Source: https://www.google.co.in/webhp?sourceid=chrome-instant&rlz=1C1CHWA_enIN626IN626&ion=1&espv=2&ie=UTF-8#q=gdp%20per%20capita%20of%20india

Table 2 with GDP shows that there is a decline in the GDP per capita. Based on the data related to India, we can say there is a slight correlation seen between the GCI and GDP Capita.

Switzerland

Switzerland retains her as a leader for a longer time in Global Competitiveness ranking.

Table 3 - Switzerland - Year wise GCI Score and Ranking

Year	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10
GCI Score	5.7	5.7	5.7	5.7	5.6	5.6
GCI Rank	1	1	1	1	1	1
Basic Requirements Score	6.2	6.1	6.2	6.2	6.1	6.0
Basic Requirements Rank	4	3	2	3	2	3
Efficiency Enhancers Score	5.5	5.4	5.5	5.5	5.4	5.4
Efficiency Enhancers Rank	5	5	5	2	4	3
Innovation and sophistication factors Score	5.7	5.7	5.8	5.8	5.7	5.7
Innovation and sophistication factors Rank	1	1	1	1	2	3

Source: The Global Competitiveness Report 2008-09 to 2014-15

Table 3 shows the GCI improved from 5.6 to 5.7 from 2009-10 to 2014-15 retaining the rank 1 since 2009. When we look into the other indexes, the Basic Requirements score improved from 6.0 to 6.2. Efficiency enhancers’ score maintained between 5.4 and 5.5, but

the ranking came down from 3 to 5. In Innovation and sophistication factors area again the score is maintained between 5.7 and 5.8, the rank is improved from 3 to 1

Table 4 - Switzerland - Year wise GDP and GDP per capita

Year	2013	2012	2011	2010	2009
GDP US\$ Billion	685.4	666.1	696.3	581.2	539.5
GDP per Capita US\$	84,815.41	83,295.26	87,988.44	74,276.72	69,669.33
GDP Growth Rate	1.9%	1.1%	1.8%	3.0%	-2.1%

Source: https://www.google.co.in/webhp?sourceid=chrome-instant&rlz=1C1CHWA_enIN626IN626&ion=1&espv=2&ie=UTF-8#q=gdp+per+capita+of+switzerland

The table with GDP shows that there is a significant growth seen in the GDP per capita from US\$ 69,669.33 to 84,815.41 resulting 21.74% increase. The improvement made in the Basic requirements from 6.0 to 6.3, 5.4 to 5.5 improvement made in the Efficiency enhances also seems to have correlation between GDP and the GCI.

For the past six consecutive years Switzerland retains the first place. It is strong in Innovation and sophistication factors scoring 1st place. Strong cooperation between the educational institutions and the industry along with the high spending on Research and development results in making Switzerland the top 1 innovator of the world. High productivity is seen because of the educational system followed there. Business institutions offer on the job training opportunities. Public institutions are more transparent.

Philippines

Philippines are a country which is a fast growing in the GCI ranking ladder with 98.39 million populations.

Table 5 - Philippines Year wise GCI Score and Ranking

Year	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10
GCI Score	4.4	4.3	4.2	4.1	4.0	3.9
GCI Rank	52	59	65	75	85	87
Basic Requirements Score	4.6	4.5	4.3	4.2	4.0	3.9
Basic Requirements Rank	66	78	80	100	99	95
Efficiency Enhancers Score	4.3	4.2	4.2	4.0	3.9	3.9
Efficiency Enhancers Rank	58	58	61	70	78	78
Innovation and sophistication factors Score	3.9	3.8	3.6	3.4	3.4	3.4
Innovation and sophistication factors Rank	48	58	64	74	75	74

Source: The Global Competitiveness Report 2008-09 to 2014-15

Table 5 shows that the GCI has improved from 3.9 to 4.4 during the period 2009-10 to 2014-15 resulting an improvement in the ranking from 87th to 52nd. It is a good achievement. The improved in the score is seen in all the three headings. When we look into the other indexes, the Basic Requirements score is improved from 3.9 to 4.6. Efficiency enhancers' score improved from 3.9 to 4.3. In Innovation and sophistication factors area again the score is improved from 3.4 to 3.9.

Table 6 - Philippines Year wise GDP and GDP per capita

Year	2013	2012	2011	2010	2009
GDP US\$ Billion	272.1	250.2	224.1	199.6	168.3
GDP per Capita US\$	2765.08	2587.62	2356.07	2135.92	1831.97
GDP Growth Rate	7.2%	6.8%	3.7%	7.6%	1.1%

Source: https://www.google.co.in/webhp?sourceid=chrome-instant&rlz=1C1CHWA_enIN626IN626&ion=1&espv=2&ie=UTF-8#q=gdp+per+capita+of+Philippines

Table 6 with GDP shows that there is a significant growth seen in the GDP per capita from US\$ 1831.97 to 2765.08 resulting in an increase of 50.93%. Also the GDP growth rate also 7.6%, 6.8% and 7.2% in 2010, 2012 and 2013 respectively. We can say it is a remarkable growth in achieving the GCI. In 2009-10 it was ranked 87th place, in 2014-15 it advanced 35 places and ranked as 53. In the institutions ranking it advanced by 50 places which improve its strength in Basic requirements section. The actions taken against corruption gave a good result for moving from 135th to 81st place. Philippines made a significant breakthrough in the technological adoption.

Tajikistan

It is a small country with 8.208 million populations. More than 50% of the revenue is generated by service sectors and manufacturing industry. Agriculture contributes the rest of the revenue. It also made a remarkable positive movement in the GCI ranking from 122 to 91.

Table 7 - Tajikistan- Year wise GCI Score and Ranking

Year	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10
GCI Score	3.9	NA	3.8	3.8	3.5	3.4
GCI Rank	91	NA	100	105	116	122
Basic Requirements Score	4.2	NA	4.0	4.0	3.7	3.5
Basic Requirements Rank	94	NA	105	106	112	116
Efficiency Enhancers Score	3.5	NA	3.6	3.4	3.3	3.2
Efficiency Enhancers Rank	111	NA	112	118	123	123
Innovation and sophistication factors Score	3.5	NA	3.5	3.2	3.0	3.1
Innovation and sophistication factors Rank	81	NA	76	100	118	109

Source: The Global Competitiveness Report 2008-09 to 2014-15

Table 7 shows that the GCI is improved from 3.4 to 3.9 during the period 2009-10 to 2014-15 which resulted in a positive movement of ranking from 122nd to 91st rank. It is a significant achievement made by Philippines. The improvement in the score is seen in all the three headings. The Basic Requirements score improved from 3.5 to 4.2. Efficiency enhancer’s score improved from 3.2 to 3.5. In Innovation and

sophistication factors area also there is an improvement in the score from 3.1 to 3.5.

Table 8 – Tajikistan Year wise GDP and GDP per capita

Year	2013	2012	2011	2010	2009
GDP US\$ Billion	8.508	7.633	6.523	5.642	4.979
GDP per Capita US\$	1036.58	953.06	834.66	739.73	668.62
GDP Growth Rate	7.4	7.5	7.4	6.5	3.8

Source: https://www.google.co.in/webhp?sourceid=chrome-instant&rlz=1C1CHWA_enIN626IN626&ion=1&espv=2&ie=UTF8#q=gdp+per+capita+of+philippines

Table shows a significant growth in GDP and the GDP per capita from US\$ 668.62 to 1036.58 resulting as increase of 55.03%. The GDP growth rate is more than 7% consecutively for the three years starting from 2011. We can say it is also remarkable growth in achieving the improved GCI.

Tunisia

It is a small country having 10.8 million populations. This country gets more than 50% of its revenue from service sector. Manufacturing contributes 30% to 40% and the rest is taken by agriculture.

Table 9 - Tunisia Year wise GCI Score and Ranking

Year	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10
GCI Score	4.0	4.1	NA	4.5	4.7	4.5
GCI Rank	87	83	NA	40	32	40
Basic Requirements Score	4.4	4.5	NA	5.1	5.3	5.1
Basic Requirements Rank	85	74	NA	42	31	35
Efficiency Enhancers Score	3.7	3.8	NA	4.1	4.3	4.1
Efficiency Enhancers Rank	94	88	NA	58	50	56
Innovation and sophistication factors Score	3.4	3.5	NA	3.9	4.1	3.9
Innovation and sophistication factors Rank	93	79	NA	43	34	45

Source: The Global Competitiveness Report 2008-09 to 2014-15

Data in the Table 9 indicates a decline in the GCI from 4.5 to 4.0 during the period 2009-10 to 2014-15. It lost 47 places in the ranking sliding 40 to 87. When we look into the other indexes, the Basic Requirements score declined from 5.1 to 4.4. Efficiency enhancers' score declined from 4.1 to 3.7 and the Innovation and sophistication factors area also shows a negative growth scoring 3.9 to 3.4

Table 10 - Tunisia Year wise GDP and GDP per capita

Year	2013	2012	2011	2010	2009
GDP US\$ Billion	46.99	45.24	45.95	44.43	43.45
GDP per Capita US\$	4316.69	4197.51	4305.01	4211.36	4162.51
GDP Growth Rate	2.5%	4.7%	-0.5%	3.2%	3.6%

Source: https://www.google.co.in/webhp?sourceid=chrome-instant&rlz=1C1CHWA_enIN626IN626&ion=1&espv=2&ie=UTF-8#q=gdp+per+capita+of+tunisia

The table shows a slight improvement in GDP. The GDP per capita is increased from US\$ 4162.51 to US\$ 4316.69 resulting an improvement of 3.7%. GDP growth rate is lesser than 5% at all the time including a negative growth during 2011.

Egypt

Egypt having 78.08 million populations doing more on service followed by manufacturing and agriculture

Table 11 - Egypt Year wise GCI Score and Ranking

Year	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10
GCI Score	3.6	3.6	3.7	3.9	4.0	4.0
GCI Rank	119	118	107	94	81	70
Basic Requirements Score	3.7	3.8	3.9	4.2	4.2	4.2
Basic Requirements Rank	121	118	110	99	89	78
Efficiency Enhancers Score	3.6	3.6	3.7	3.7	3.8	3.9
Efficiency Enhancers Rank	106	109	101	94	82	80
Innovation and sophistication factors Score	3.2	3.3	3.3	3.3	3.5	3.5
Innovation and sophistication factors Rank	113	104	96	86	68	71

Source: The Global Competitiveness Report 2008-09 to 2014-15

Table 11 shows the declining GCI from 4.0 to 3.6 during the period starting from 2009-10 to 2014-15. The ranking shows a downward movement from 70th rank to 119th rank. When we look into the other indexes, the Basic Requirements score declined from 4.2 to 3.7. Efficiency enhancers’ score declined from 3.9 to 3.6 and the Innovation and sophistication factors area also shows a declining score 3.5 to 3.2

Table 12 - Egypt Year wise GDP and GDP per capita

Year	2013	2012	2011	2010	2009
GDP US\$ Billion	272	262.8	236	218.9	189
GDP per Capita US\$	3314.46	3256.02	2972.58	2803.53	2461.53
GDP Growth Rate	2.1%	2.2%	1.8%	5.1%	4.7%

Source:

https://www.google.co.in/publicdata/explore?ds=d5bncppjof8f9_&met_y=ny_gdp_pcap_cd&idim=country:EGY:NGA:IND&hl=en&dl=en

Table 12 shows a slight improvement in GDP. GDP per capita is increased from US\$ 2461.53 to US\$ 3314.46 resulting an increase of 34.67%. GDP growth rate is lesser than 2.3% in the last three years 2011, 2012 and 2013.

Belgium

Belgium is a small country with 11.2 million population. Service sector fetches more than 75% of the revenue. Manufacturing is the next contributor, agriculture contributes very minimum.

Table 13 – Belgium Year wise GCI Score and Ranking

Year	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10
GCI Score	5.2	5.1	5.2	5.2	5.1	5.1
GCI Rank	18	17	17	15	19	18
Basic Requirements Score	5.5	5.5	5.5	5.6	5.5	5.4
Basic Requirements Rank	22	22	22	22	22	20
Efficiency Enhancers Score	5.1	5.0	5.1	5.1	5.0	5.0
Efficiency Enhancers Rank	18	17	17	15	17	18
Innovation and sophistication factors Score	5.1	5.1	5.2	5.1	4.9	5.0
Innovation and sophistication factors Rank	12	12	13	14	15	13

Source: The Global Competitiveness Report 2008-09 to 2014-15

Table 13 shows a slight improvement in the CGI moving from 5.1 to 5.2. During the period the rank obtained varies from 15 and 19. When we look into the other indexes, the Basic Requirements score improved from 5.0 to 5.1. Efficiency enhancers' score maintained between 5.0 and 5.1 In Innovation and sophistication factors area again the score is maintained between 4.9 and 5.2, retaining the ranking between 12 and 15

Table 14 Belgium- Year wise GDP and GDP per capita

Year	2013	2012	2011	2010	2009
GDP US\$ Billion	524.8	498.9	528.2	484.4	485.8
GDP per Capita US\$	46877.99	44827.66	47814.08	44358.26	44996.45
GDP Growth Rate	0.3%	0.1%	1.6%	2.5%	-2.6%

Source:

https://www.google.co.in/publicdata/explore?ds=d5bncppjof8f9_&met_y=ny_gdp_pcap_cd&idim=country:BEL:NLD:DEU&hl=en&dl=en

Table 12 shows a growth in the GDP per capita from US\$ 44996.45 to 46877.99 resulting 4.1% increase. The GDP growth rate is minimal making a maximum of 2.5% during 2010 and on the negative side -2.6% during 2009.

Comparison between Countries –GDP Growth Rate

Table 15 - GDP Growth Rate of the Selected Countries

Country	Change in Rank	2013	2012	2011	2010	2009
India	49-71	5.0%	4.7%	6.6%	10.3%	8.5%
Switzerland	1-1	1.9%	1.1%	1.8%	3.0%	-2.1%
Belgium	18-18	0.3%	0.1%	1.6%	2.5%	-2.6%
Philippines	87-52	7.2%	6.8%	3.7%	7.6%	1.1%
Tajikistan	122-91	7.4%	7.5%	7.4%	6.5%	3.8%
Tunisia	40-87	2.5%	4.7%	-0.5%	3.2%	3.6%
Egypt	70-119	2.1%	2.2%	1.8%	5.1%	4.7%

Source: The Global Competitiveness Report 2008-09 to 2014-15

It is observed that countries having low GDP growth are losing their rank. Countries having good Growth are going forward in getting the better rankings. Tunisia and Egypt with lower GDP growth rate are losing their ranks. Philippines and Tajikistan are having more GDP gained good ranking. Switzerland and Belgium have lower GDP growth rate, but they maintain the same ranks.

Average GDP Growth Rate

Table 16 - Average GDP Growth Rate 16

	2013	2012	2011	2010	2009	2008
Average GDP Growth Rate	3.06%	3.65%	3.76%	4.35%	0.17%	3.85%

Source:

<http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>

Considering 214 countries the World Bank statistics shows the average GDP Growth rate as 3.14% during the period 2008 – 2013. When we take this 3.14% as a reference, we can say the countries roughly made twice the average GDP growth rate has shown an increase in the Global Competitiveness Ranking.

Comparison between Countries – GDP Per Capita

Table 17 - Change in Rank and PPP

Country	Change in Rank	2013	2009	Increase in GDP per capita
India	49-71	1498.87	1147.24	30.65%
Switzerland	1-1	84,815.41	69,669.33	21.74%
Belgium	18-18	46877.99	44996.45	4.18%
Philippines	87-52	2765.08	1831.97	50.93%
Tajikistan	122-91	1036.58	668.62	55.03%
Tunisia	40-87	4316.69	4162.51	3.70%
Egypt	70-119	3314.46	2461.53	34.65%

Source: https://www.google.co.in/webhp?sourceid=chrome-instant&rlz=1C1CHWA_enIN626IN626&ion=1&espv=2&ie=UTF-8#q=gdp%20per%20capita%20of%20india

It is observed that countries having low GDP growth are losing their rank. Countries having good Growth are going forward in getting the better rankings. Philippines and Tajikistan showing more GDP per capita improved their ranking. Tunisia, Egypt, India, Switzerland, and Belgium having lesser GDP per capita did not show any improvement in ranking, but tend to lose their ranking

Conclusion

GDP growth rate, GDP per capita, Global Competitive Rank, Global Competitive Index are helping to us to know the performance of a country in different aspects. Comparing to GDP growth rate and GDP per capita, Global Competitive Rank, and Global Competitive Index are calculated based on more variables. The impact of GDP per capita is seen on the World Competitiveness Index and ranking when the GDP per capita is significantly more. The countries having GDP growth rate nearly twice the global average GDP growth rate, the countries are able to make a significant improvement in Global Competitiveness Index and Rank

To improve the Global competitiveness ranking, the countries has to strive to improve their GDP growth rate, which helps to improve GDP per capita.

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