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"GDP-GNP Gap Trade-Off: Is it Significant for Economic Performance? Review of World Economies Having Different Gaps"

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Abstract

This study directed toward identifying the comparative economic performance of countries having GDP>GNP Gap and GNP>GDP Gap. A total of 32 countries with GDP>GNP Gap and 24 countries with GNP>GDP Gap were identified and analyzed using twelve important economic indicators. The result shows that Countries with GDP>GNP Gap are doing comparatively well in employment, export, foreign reserve, GDP, import, per capita income, savings and trade investment. Countries with GNP>GDP Gap are leading in inflation and exchange rate. Although Countries with GDP>GNP Gap are leading the race but this study concludes that economic development can be ensured and sustained with these two types of gaps.

Keywords: GDP, GNP, Gap, Economic performance, Indicators.

1. Introduction

GDP and GNP (GNI) two most widely used indicators of economic performance. While GDP shows how one particular economy is performing within its territory irrespective of the owners of the productions, GNP portrays economic results only counting the domestic owners of the factors of the production. Few economists argue that GDP is a better indicator on the other hand the supporters of GNP are also not scarce. If we go for reviewing the economies of the world we can see some economies have higher GDP in compare to GNP whereas others have higher GNP in compare to the GDP. Therefore it is important to evaluate countries with which gap (GDP gap or GNP gap) are performing better. Along with that it is also important to know that whether such type of gap is really important and correlated with growth, productivity, employment and other types of micro and macro-economic factors. This study aimed towards solving these very important yet unexplored research questions.

Economics and immense coverage of this field virtually touched everything about the human beings and their welfare in terms of both theories and models. Every year we receive thousands such models and theories in diversified sectors each directed towards solving important problems of people and society which can affect their livelihood in great ways. Professors and researchers of this field always work hard to contribute something so that resource can be utilized in better ways and growth and development can be obtained and sustained. Such contributions aren't easy by any means. In spite of these efforts still there are lost to be contributed in this field. Analysis of GDP and GNP gap and its correlation with growth is such a field where still lot of questions needed to be answered. We know what are GDP and GNP? Why these are important? How these figures can be improved? What are the prominent sectors of different countries that are contributing towards GDP and GNP? and so many things in this field but we do not know how countries with higher GNP figure than GDP is performing and also how countries with higher GDP figure in compare to the GNP is performing? So, these questions are needed to be answered in big times and thus we can know is these gaps are really important and also whether it is essential to have higher GNP or in other way higher GDP. By answering these questions we will be able to learn key empirical and theoretical aspects. Those include which countries of the world having higher GDP figure? Which countries having higher GNP figure? How countries with higher GDP are performing? How countries with higher GNP figure is performing and finally which types of countries are performing better if there is any difference in terms of the performance?

2. Literature Review

2.1 Gross Domestic Product

What is the economic condition of a country? What is its size? How it is doing in developing the standard of living of its citizen? These are some commonly asked questions by politicians, economists, businesses and the residents of both national and international arenas. Again, the most popular answers to these questions are the level of a country's Gross Domestic Product or GDP. Also known as gross domestic income (GDI), it measures the size of an economy, taking into account the level of national income and output or the total economic production for a country. For a given time period, GDP represents the total value

addition in the market value of goods and services newly produced within the national border (Barro 2008 and Abel, Bernanke, and Croushore 2008 in Hobijn and Steindel, 2009). It comprises the production by foreigners within the country's border but excludes the production of its citizens abroad. It includes personal consumption (payments by households for goods and services), government purchase (public spending on the provision of goods and services, infrastructure, debt payments, etc.), net capital formation (the increase in value of a nation's total stock of monetized capital goods, i.e., private inventories, paid-in construction costs) and net foreign trade (the value of a country's exports minus the value of imports) (Costanza et al., 2009). It also embraces taxes and subsidies not added previously in the valuation of products. GDP can also be measures as the total primary income distributed by the producers within the country (National Board of Revenue). Nonmarket productions like government's defense or nonprofit emergency spending are added to GDP as well. GDP doesn't, however, takes into account many important economic activities like, the level of education, volunteer works, homemaker's contributions and self services, crime rates, social capital formation, environmental soundness etc. It can just provide a consistent idea about a country's present economic level and an indication of probable future development (Mitra, 2012). Economists have found close associations between GDP growth and improvement in living standards and tax revenues in the long run. GDP has also been found to be significantly related with employment and inflation (Hobijn and Steindel, 2009). Nonetheless, GDP should be considered as an indicator of economic activities, not as a scorecard of economic well being (Costanza et al., 2009)

2.2 Gross National Product

Gross National Income (GNI) is the total value added by a country's citizens in the process of producing goods and services including those product taxes not added previously during the valuation of output plus the receipt of primary income from abroad(compensation of employees and property income) minus the payment of primary income to rest of the world. GNI includes the value addition and net income receipt only by the nationals of a particular country, even if they reside abroad but excludes the contribution of foreigners even though they reside within the country's border. It is actually GDP plus net factor income (interest and dividends) received. In other words, GNI is the national's earnings claimed from production and selling of goods and services and investment abroad. Therefore, GNI measures the income received or output produced only and only by a particular country's citizens, regardless of their location, that is, both domestically and internationally.

2.3 GDP GNP Gap

GDP is calculated as the value of the total final output of all goods and services produced in a single year within a country's boundaries. GNP is GDP plus incomes received by residents from abroad minus incomes claimed by nonresidents.

There are two ways of calculating GDP and GNP:

- By adding together all the incomes in the economy- wages, interest, profits, and rents.
- By adding together all the expenditures in the economy- consumption, investment,

government purchases of goods and services, and net exports (exports minus imports).

In theory, the results of both calculations should be the same. Because one person's expenditure is always another person's income, the sum of expenditures must equal the sum of incomes. When the calculations include only incomes received or expenditures made by a country's citizens, the result is GNP. When the calculations are made of all incomes (or all expenditures) that originated within a country's boundaries, including those of foreign citizens, the result is GDP.

GNP may be much less than GDP if much of the income from a country's production flows to foreign persons or firms. For example, in 1994 Chile's GNP was 5 percent smaller than its GDP. If a country's citizens or firms hold large amounts of the stocks and bonds of other countries' firms or governments, and receive income from them, GNP may be greater than GDP. In Saudi Arabia, for instance, GNP exceeded GDP by 7 percent in 1994. For most countries, however, these statistical indicators differ insignificantly.

The data support what many Americans intuitively already know: We are losing the competitive advantage which came from long-term adherence to free market principles. Gross national product has been outpacing gross domestic product for several years. The difference is not merely in a technical definition of the statistic. GDP measures the sale of goods and services which are made here, hence the word “domestic.” GNP measures what we as a nation make, not just here, but overseas as well.

Multinational corporations are increasingly producing more elsewhere than they are here. The difference between the “N” and the “D”, while small to any but the nicest economic eye, may signal the difference between ascendency and stagnation. Our domestic output lags our national output to the degree that our domestic policy environment incents American know-how to be employed on non-American soil.

2.4 Under what condition will the U.S. GDP be greater than its GNP?

a. When the value of what non-citizens produce in the U.S. is equal to what U.S. citizens produce in foreign countries.
b. When the value of what non-citizens produce in the U.S. is less than what U.S. citizens produce in foreign countries.
c. When more non-citizens live in the U.S. than U.S. citizens live in foreign countries.
d. When the percentage of the non-citizens in the U.S. is greater than the percentage of U.S. citizens in foreign countries.
e. When the value of what non-citizens produce in the U.S. is greater than what U.S. citizens produce in foreign countries.

GDP is based on production with a geographic constraint, while GNP does not have the geographic constraint but is based on ownership. So that means Guyana owns more production than there is available on its land. So yes, people from Guyana take ownership of production in other countries more than there is produced inside Guyana. It's not necessarily sending the money back. It means that the Guyanese do own things outside their country.Actually there are all wrong. GNP refers to what (in this example) people with US

nationality produce independently of whether they are inside or not of the USA. GDP refers to production inside the border independently of nationality. Therefore, if the production by all inside the USA exceeds that of all US nationals (no matter where they are) then GDP>GNP.

2.5 Implications and Dimensions of Gap

2.5.1 Economic Growth

Economic growth generally represents the economic health of a country. It is often confusing to define. Most of the times, it is said to be the comparative advancement of a country's productive capacity (Aghion and Howitt, 1998). In broader sense, it is the increase in the capacity of production or in output actually produced or even in the productive potential (highest possible production using all of a country's scarce resources) (Ezeala-Harrison, 1996). Such increase or growth is generally measured and compared from one period of time to another. Economic growth can be both intensive (by using inputs more efficiently) and extensive (by increasing the volume of input) (Acemoglu, 2008). Some main causes of economic growth are increase in the stock of capital, technology advancement and improvement in the quality of life and level of literacy. It occurs when resources are utilized for greater value addition. Economic growth can be measured both in nominal (not inflation adjusted) and real (inflation adjusted) terms (Jones, 1998). Growth in GDP is so much popular as an indicator of an economic growth that it is often used as a definition of economic growth. To compare economic growth among countries, per capita GDP is calculated adjusting for a country's population size (Barro and Sala-i-Martin, 1995).

2.5.2 Various Measures and Indicators of Economic Growth

Economic growth is the most desirable outcome of any national policy of any country. Therefore, policy makers and scholars are always searching for ways to stimulate economic growth. They are trying to find out variables to measure the current economic growth level, to determine how these variables are related to growth and ways to decide which variables are to be positively and which are to be negatively influenced to foster economic growth. In this endeavor, Barro (1999) attempted to identify determinants of economic growth focusing Chile in his study. Using growth rate of per capita GDP as economic growth indicator, the study identified inverse relationship with starting level of per capita GDP and positive relationship with low level of government consumption, high rule of law and investment and low fertility rate. Level of schooling, inflation, government policies and institutions, population and international openness were also used as growth stimulators. Moral-Benito (2007) dealt with model uncertainty in identifying determinants of economic growth and employing Bayesian model with country specific fixed effects, this study concluded that investment price, air distance to big cities and political rights are the most robust growth determinants. Tolo (2011) prepared a working paper for IMF focusing the determinants of economic growth in the Philippines. This paper also used per capita GDP growth as indicator of economic growth and applied terms of agricultural exports, investment, research and development, population growth, political uncertainty, budget deficit, inflation, trade openness, current account balance and frequency of crisis episodes as influencer of growth.

Ndambiri et al. (2012) employed Generalized Method of Moments (GMM) and found that economic growth of Sub Saharan countries is positively affected by physical and human capital formation and export and negatively affected by government expenditure, nominal discount rate and foreign aid. Capital and labor, technology, demographic factors, geographic factors and climate. Discussing past theories and empirics, Kibritcioglu and Dibooglu (2001) evaluated determinants of economic growth from an interdisciplinary perspective and used cultural factors, institutional factors and democracy, income distribution, government policies and macroeconomic stability as the indicators. Khaledi and Shirazi (2013) attempted and estimated that capital, labor and productivity are affecting economic growth in agricultural sector of Iran. On the other hand, accumulation of physical and human capital, research and development, macroeconomic policy setting, financial development and international trade have been identified as driving forces of economic growth for the OECD countries by Bassanini and Scarpetta (2001). Again, excluding countries with high inflation crisis, Bruno and Easterly (1998) found no consistent causal relationship between inflation and economic growth. Frankel and Romer (1999) with moderate statistical significance opined that, trade has a quantitatively large and robust positive effect on income, which has been used as the indicator of growth. Brunetti et al. (1998) and Hanushek and Kimko (2000) studied the importance of quality of human capital to influence economic growth. Kneller et al. (1999) found that discretionary taxation negatively and productive government expenditure positively affect economic growth while non-discretionary taxation and non-productive government expenditure does not. Folster and Henrekson (2000) discovered a robust negative relationship between government size and economic growth. Besides, investment and openness to trade by Artelaris et al. (2007); human capital, economic policies and macroeconomic conditions by Barro and Sala-i-Martin (1995); inflation, fiscal policy, budget deficits and tax burdens as macroeconomic factors by Fisher (1993) and Foreign Direct Investment (FDI) by Lensink and Morrissey (2006) have been selected as determinants of economic growth. Moreover, property rights, regulatory institutions and institutions for macroeconomic stabilization, social insurance and conflict management were identified by Rodrik (2000) as key institutions that affect economic growth directly and influence other determinants of growth like, physical and human capital, investment and technical changes. Along with these, human resource acquisition, technological improvement, amount of capital investment, natural resource endowment and exploitation and managerial know-how by Adelman (1961); capital accumulation, technological progress and institutional and social factors by Kibritcioglu (1997); R&D technology, the degree of firms' monopoly power and time horizon of investors by Romer (1986) and Lucas (1988); research and development (R&D) by Lichtenberg (1992) have been pointed as indicator of economic growth.

3. Methodology

Detecting the impact of GDP GNP gap on economic growth is a complex yet fascinating things to do. Thus exploring different methods for achieving this important and vibrant objective diversified and vibrant methodology is obligatory. This study has done the same. First of all we have selected different countries with having both higher GDP and GNP gaps. Among those 32 prominent and important countries with higher GDP gap have been selected

and 25 countries with same characteristics with higher GNP gap have been selected. Then we have presented the statistics of these gaps in tables to depict the statistics of the gaps. In next steps we have presented the figure of the economic performance of the countries with higher GDP gap in important macroeconomic variables. Those are: balance of payment, budget deficit, exchange rate, export, foreign reserve, GDP growth rate, import, inflation, per capita income, savings, and trade investment. Same methods have been utilized for GNP gap as well.

4. Discussion and Analysis

4.1 Countries with GDP>GNP Gap

Among the thirty two selected countries represents the countries having higher GDP than GNP with year wise GDP-GNI gap from 1994 to 2013. Australia (24.60), Brazil (24.65), China (14.24), Indonesia (14.83), Ireland (23.71), Canada (23.43), Mexico (15.23), Russian Federation (25.03) and Spain (13.93) had larger gaps than other countries on an average. However, Russian Federation (42.10), Australia (37.21), Ireland (35.35) and Brazil (33.46) had the largest average gaps during last ten years (2004 to 2013) while Canada (20.87), Brazil (15.84), Mexico (13.31), China (12.64), Ireland (12.07) and Australia (12.0) had the largest average gaps during first ten years (1994 to 2003). On the other hand, Cameroon (0.48), Ethiopia (0.06), Kenya (0.15), Morocco (1.49), Sri Lanka (0.46) and Uruguay (0.62) had much smaller gaps than other countries during the twenty years period (1994 to 2013) on an average. Among these countries, Ethiopia (0.05), Kenya (0.10) and Cameroon (0.38) had the smallest average gaps during the last ten years (2004 to 2013) while Ethiopia (0.06), Uruguay (0.19), Kenya (0.19), Sri Lanka (0.22), Singapore (0.32), Vietnam (0.45), Cameroon (0.57) and Portugal (0.91) had smallest average gaps during first ten years (1994 to 2003). In fact, during 2004 to 2013, gap between GDP and GNI of all the selected countries was 11.69 on an average while it was only 4.75 during 1994 to 2003.

4.1.1 Balance of Payment

The yearly balance of payments of the thirty two selected countries having GDP greater than GNI shows that Among these countries, Algeria, Argentina, Indonesia, Kenya, Morocco, Sri Lanka, Turkey and Canada had a decreasing trend in their balance of payments and Australia, China, Czech Republic, Hungary, Ireland, New Zealand, Nigeria, Russian Federation, Singapore, Uruguay and Vietnam had an increasing trend. On the other Brazil, Cameroon, Ethiopia, India, Israel, Italy, Malaysia, Mexico, Poland, Portugal, South Africa, Spain and Thailand had some fluctuating trend in their balances. On an average, China had the largest positive balance (257.19) followed by Russian Federation (153.58), Singapore (56.62), Ireland (49.0), Malaysia (40.64) and Nigeria (35.22). Conversely, India had the largest negative balance (-86.98) followed by Spain (-74.70) and Turkey (-54.31).

4.1.2 Budget Deficit

During 1994 to 2013, except Algeria (3.84%), New Zealand (1.31%), Russian Federation (4.01%), Singapore (9.76%) and Thailand (0.07%), all other countries among the selected thirty two (for which GDP>GNI) had budget deficits on an average. Sri Lanka had the largest

average deficit budget as a percentage of its GDP (-7.17). Besides, Hungary (-5.02%), Israel (-4.77%), Poland (-4.31%), Portugal (-4.26%), Ethiopia (-3.44%), Malaysia (-3.33%), India (3.22%), Italy (-3.10%) had Ireland (-3.03%) much larger budget deficits as percentage of GDP than other countries. Another important fact is, most of the countries had deteriorating situations in their budgets.

4.1.3 Employment

During 1994 to 2013, gross average rate of employment was 56.38%. Year to year averages were all around the gross average and there was not so much difference between the averages of first ten and last ten years. In fact, during 1994 to 2003, average employment rate was 55.64% and during 2004 to 2013 it was 57.34%. Highest average employment rate was observed in 2004 (58.31%) and lowest in 1995 (50.61%).among the individual countries, China had highest average employment rate of 72.82% while Algeria had lowest of 36.95%. Cameroon (61.75%), Ethiopia (71.83%), Indonesia (59.58%), Kenya (60.55%), Malaysia (62.19%), Singapore (61.84%), Thailand (71.04%) and Vietnam (72.23%) had above average employment rate. On the contrary, Sri Lanka (46.00%), South Africa (37.94%), Morocco (45.09%) and Italy (43.91%) had very low level of employment to population ratios.

4.1.4 Exchange Rate

Real effective exchange rate for the countries which had greater GDP than GNI for a period of twenty years from 1994 to 2013 shows that, during these overall period exchange rates for the countries showed a fluctuating trend. In fact, average exchange rate of the thirty two countries was 90.12 during 1994 which increased every year up to 1997 to 100.35. Then it fluctuated during next seventeen years to be 102.74 during 2013. During the entire period, Algeria (110.79), Israel (100.22), Malaysia (101.76), Mexico (102.37), Morocco (104.30) and Nigeria (114.86) showed higher effective exchange rates than other countries. However, along with these countries, Singapore (100.66) during the first ten years and Cameroon (100.99), Ireland (102.14), Italy (100.83), Portugal (100.75) during last ten years had higher average effective exchange rates. Among the countries having lower effective exchange rates on an average, there were Australia (84.28), Czech Republic (79.16), Hungary (84.92), Russian Federation (78.39), Uruguay (87.78) and Canada (86.18). In addition to these countries China (87.95), New Zealand (88.29), Poland (82.74) and Spain (89.0) during 1994 to 2003 had lower effective exchange rates. During 2004 to 2013, all the selected countries had average effective exchange rates above 90.00. Looking for the fluctuation, it can be seen that, standard deviations of the exchange rates for Algeria (13.23), Australia (13.08), Czech Republic (16.75), Hungary (14.02), Mexico (11.12), Poland (11.57), Russian Federation (19.29) and South Africa (11.59) were much greater than other countries. Nigeria had the highest deviation of 57.83. On the other hand, Cameroon (4.06), Italy (4.29), Morocco (4.38) and Portugal (4.11) had lower standard deviation in their effective exchange rates.

4.1.5 Export

From the export growth rates for thirty two selected countries for a period of 1994 to 2013, it can be observed that, average growth rates for all the countries was highest during 2000

(13.30%). Besides, growth rates were also higher during 1994 (11.7%), 1995 (11.68%), 1997 (10.72%), 2004 (11.62%) and 2010 (12.95%). During 1999 (4.82%), 2001 (1.64%), 2002 (4.98%), 2008 (4.02%), 2012 (2.62%) and 2013 (2.58%) growth rates were much lower. However, during 2009, growth rate was lowest and even negative (-9.17%). Gross average for all countries during 1994 to 2003 was 8.01% and 5.77% during 2004 to 2013. Among the countries, China (16.54%), Hungary (12.01%), India (13.57%) and Vietnam (15.72%) had very impressive average growth during the total period. Ireland (13.86%) and Poland (11.73%) in addition to these countries also showed good average performance in export. Algeria (2.88%), Cameroon (3.92%), Italy (3.18%), Kenya (2.72%), New Zealand (3.54%), South Africa (3.51) and Canada (3.47) had much lower growth rates during the entire period.

4.1.6 Foreign Reserve

Average foreign reserves for the countries having GDP greater than GNI were 14.92 billion (2005), 18.48 billion (2006), 28.78 billion (2007), 17.71 billion (2008), 18.43 billion (2009), 23.89 billion (2010), 17.42 billion (2011), 7.83 billion (2012) and 14.59 billion (2013). So, it can be clearly observed that, overall foreign reserve for the thirty two selected countries increased much up to 2010 but it again reduced during later periods making smaller differences between 2005 and 2013. However, year to year growth rates in average foreign reserves were 23.83% (2006), 55.77% (2007), -38.47% (2008), 4.08% (2009), 29.64% (2010), -27.09% (2011), -55.05% (2012) and 86.28% (2013). Among the countries having higher average reserve were Algeria (16.93 billion), Brazil (35.21 billion), India (27.17 billion), Mexico (13.30 billion), Russian federation (38.13 billion), Singapore (19.67 billion), Thailand (12.92 billion), and Turkey (10.40 billion). China had the highest amount of average reserve of 362.64 billion. On the other hand, Australia (0.79 billion), Cameroon (0.25 billion) and Kenya (0.29 billion) had very small amount of reserves while Ethiopia (-0.35 billion), Ireland (-3.47 billion), Morocco (-.3.66 billion), Portugal (-4.09 billion) and Sri Lanka (-1.24) had negative average foreign reserve during 2005 o 2013.

4.1.7 GDP Growth

Average GDP growth rates for the selected thirty two countries (GDP > GNI) was highest during 2004 (6.59%) and lowest during 2009 (0.42%). Growth rates on an average were also high during 1996 (5.47%), 2005 (5.38%), 2006 (5.79%), 2007 (5.73%) and 2010 (5.63%). China (9.84%), Ethiopia (7.52%), India (6.82%), Nigeria (6.16%) and Vietnam (6.81%) had higher and Czech Republic (2.54%), Hungary (2.10%), Italy (0.74%), Mexico (2.59%), New Zealand (2.93%), Portugal (1.33%), Canada (2.65%) and Spain (2.21%) had smaller average growth rates during the entire period. In addition to these countries, during 1994 to 2003, Ireland (7.76%) had very high growth rate and Argentina (0.98%), Brazil (2.50%), Kenya (2.51%), Russian Federation (0.93%), South Africa (2.97%), Turkey (2.96%) and Uruguay (0.98%) had lower growth rates than other countries. During 2004 to 2013, Singapore (6.38%) achieved very high average growth rate but Canada had only 1.90% average growth rate.

4.1.8 Import Growth

Gross average of import growth for the selected thirty two countries during 1994 to 2013 was 7.83%, while it was 8.14% during 1994 to 2003 and 7.50% during 2004 to 2013. Growth rate was highest in 2010 (14.91%) and not only lowest but also negative in 2009 (-9.29%). Double digit average growth rates were also observed in 1994 (11.56%), 1995 (12.23%), 1997 (11.79%), 2000 (13.05%), 2003 (10.22%), 2004 (14.44%), 2005 (10.86%) and 2007 (13.73%). During 1999 (1.79%) and 2012 (1.68%) average import growth rates were much lower. China (13.79%), Hungary (10.06%), India (13.52%), Nigeria (11.22%), Russian Federation (10.30%) and Vietnam (15.16%) had very high growth rate while Italy (3.05%) and Portugal (3.83%) had low growth rate during 1994 to 2013. Besides, Czech Republic (10.51%), Ireland (13.15%), Mexico (10.64%) and Poland (12.72%) during 1994 to 2003 and Argentina (13.52%), Brazil (12.20%), Kenya (10.42%) and Uruguay (11.86%) during 2004 to 2013 had much higher growth rates on an average in their imports. But, Algeria (3.11%), Argentina (2.63%) and Uruguay (1.25%) during first ten years and Ireland (3.02%), Spain (0.92%) and Canada (3.88%) during last ten years had much lower import growth rates.

4.1.9 Inflation

From 1994 to 2013, average rate of inflation for the selected thirty two countries was 11.99%. However, rate of inflation has decreased in the later periods for most of the countries. In fact, the average for the first ten years was 18.41% and for the last ten years it was 5.31%. Year to year averages were 95.70% (1994), 24.16% (1995), 13.19% (1996), 9.39% (1997), 10.71% (1998), 9.03% (1999), 6.12% (2000), 6.58% (2001), 6.07% (2002), 5.83% (2003), 4.62% (2004), 5.11% (2005), 5.23% (2006), 5.18% (2007), 9.16% (2008), 3.84% (2009), 4.30% (2010), 6.59% (2011), 5.22% (2012) and 3.85% (2013). Among the countries having severe inflation on an average, there were Russian Federation (42.39%), Turkey (38.84%), Nigeria (17.59%), Uruguay (13.44%), Kenya (10.26%), Indonesia (10.83%) and Ethiopia (10.15%). But Brazil with 113.24% of average inflation rate left these countries far behind. However, Brazil had 220.97% inflation rate during 1994 to 2003 which averaged to 5.51% during 2004 to 2013. Just like this, Russian Federation had 75.27% during first half and 9.51% during later and Turkey had 68.95% which became 8.72%. Though, Australia, India, Kenya, New Zealand, Singapore and Sri Lanka had higher average inflation rate during later periods, Ethiopia (3.22% to 17.08%) and Vietnam (3.15% to 10.51%) got harsh increases.

4.1.10 Per Capita Income

Per capita income growth rate averaged 2.79% for the thirty two countries during 1994 to 2013. The average growth rate increased from 2.49% (1994 to 2003) to 3.11% (2004 to 2013). Growth rate was highest during 2004 (5.31%) and lowest during 2009 (-0.84%). China had the highest average growth in per capita income (9.06%) followed by Vietnam (5.46%), India (5.20%), Sri Lanka (4.72%), Ethiopia (4.52%), Poland (4.29%) and so on. Italy had the lowest average growth (0.48%) followed by Portugal (1.08%), Kenya (1.12%), Mexico (1.12%), Cameroon (1.16%), Spain (1.32%), South Africa (1.42%), Canada (1.63%), Algeria (1.68%), Argentina (1.72%), New Zealand (1.78%) and Brazil (1.88%). During 1994 to 2003, Argentina had negative average growth rate (-0.14%) but it was improved to 7.91% during

2004 to 2013. Ethiopia also increased the rate from 0.96% to 8.08%, Nigeria from 0.98% to 5.89% and Uruguay from 0.52% to 5.39%. On the other hand, Ireland had a decrease in average growth rate from 6.57% (1994 to 2003) to -0.02% (2004 to 2013).

4.1.11Savings

Savings as a percentage of GNI for the thirty two countries having GDP greater than GNI averaged 24.01% for the total twenty years period. The average increased from 22.99% during the first ten years to 25.14% during last ten years. Average savings for all the selected countries was highest during 2006 (26.66%) and lowest during 2002 (22.49%). Singapore had the highest average savings of 47.71%. Besides, China (45.79%), Czech Republic (25.90%), India (29.61%), Indonesia (27.55%), Ireland (25.04%), Malaysia (37.50%), Morocco (27.73%), Russian Federation (29.20%), Thailand (31.87%) and Vietnam (28.76%) also had above average savings during the period of 1994 to 2013. Among the selected countries, Cameroon (15.05%), Uruguay (15.14%), South Africa (15.89%), Brazil (16.34%), Kenya (16.58%) and Portugal (16.85%) had much lower percentage of savings in compare to their GNI.

4.1.12 Trade Investment

Countries with GDP greater than GNI had average trade investment of 79.05% of their GDP. The average was 73.22% during 1994 to 2003 and 84.88% during 2004 to 2013. Average trade investment was highest in 2008 (89.38%) and lowest in 1994 (63.66%). It can easily be observed that, trade investment level has been increased during later periods. Except Indonesia, Kenya, Malaysia, New Zealand, Nigeria, Russian Federation, Sri Lanka and Canada, all other selected countries had greater trade level during the last ten years. However, for the total period, Singapore had the highest trade investment of 367.98% and Brazil had the lowest 23.01% of its GDP. Czech Republic (109.11%), Hungary (128.57%), Ireland (157.69%), Malaysia (189.08%), Thailand (123.77%) and Vietnam (122.04) also had very impressive trade investment level. On the other hand, Argentina (27.45%), Ethiopia (38.85%), India (36.06%), Italy (49.15%), Turkey (48.88%) and Uruguay (48.36%) had much lower trade investment level in compare to other countries.

4.2 Countries with GNP>GDP Gap

The twenty year's (1994 to 2013) representation of the GNI-GDP gap of twenty four selected countries having higher GNI than GDP shows that, among the selected countries during the entire period, on an average, Japan (101.77) had the largest gap followed by United States (98.03), France (34.04), Philippines (26.39), Germany (26.29), Switzerland (14.39), United Kingdom (12.27) and so on. On the other hand, Afghanistan (0.04) had the lowest average gap during this twenty year period among all the countries. It was followed by Nepal (0.05), Lebanon (0.09), Finland (0.17), Egypt (0.79), Korea (0.86), Norway (1.08), Denmark (1.28), Iraq (1.54) and so on. However, data of first ten years (1994 to 2003) reveals that, France (18.79), Germany (12.27), Japan (56.70), Switzerland (12.88) and United States had larger average gap while Afghanistan (0.01), Bangladesh (1.62), Greece (0.69), Nepal (0.01), Norway (1.05), Pakistan (0.01), Saudi Arabia (1.36), Sweden (1.24), UAE (1.98), Egypt

(0.57), Finland (1.83) and Lebanon (0.22) had smaller average gap than other countries during this period. Conversely, data of last ten years, from 2004 to 2013 reveals that, France (49.28), Germany (64.86), Japan (146.84), Philippines (43.21), Sweden (13.26), Switzerland (15.91) United Kingdom (18.67) and United States (160.23) had larger average gap while Afghanistan (0.06), Korea (1.44), Nepal (0.10), Finland (1.48) and Lebanon (0.04) had smaller average gap than other countries during this period.

4.2.1 Balance of Payment

The yearly balance of payments of the twenty four selected countries having GNI greater than GDP shows that, among these countries, Afghanistan, Bangladesh, Belgium, United Kingdom, France, Nepal, Pakistan, Philippines, Sweden, United States, Lebanon, Finland and Egypt had a decreasing trend in their balance of payments. On the other hand, Denmark, Germany, Greece, Korea, Netherlands, Saudi Arabia and Switzerland had an increasing trend while Iraq, Japan and Norway had to some extent, fluctuating trend in their balances. On an average, United States had the largest negative balance (-735.17) followed by United Kingdom (-155.63), France (-56.11), Greece (-40.73) and Germany had the largest positive balance (235.68) followed by Saudi Arabia (178.81), Norway (63.11), Netherland (54.22) and Japan (44.11).

4.2.2 Budget Deficit

During 1994 to 2013, except Denmark (0.42%), Korea (1.79%), Norway (14.07%), Sweden (0.17%), Switzerland (0.03) and Finland (1.39%), all other countries among the selected twenty four (for which GNI>GDP) had budget deficits as a percentage of GDP on an average. Lebanon had the largest average deficit budget as a percentage of its GDP (-10.76). Besides, France (-3.57), Greece (-6.91), Japan (-5.10), Pakistan (-4.90), United States (-5.07), Egypt (-4.95) and United Kingdom (-3.26) had much larger budget deficits as percentage of GDP than other countries.

4.2.3 Employment

Gross average of the employment to population ratios for selected twenty four countries having GNI greater than GDP was 53.72%. Though the average was 49.24% during 1994 and 55.85% during 2013, averages of the two halves of the total period were much closer. During 1994 to 2003 average employment rate was 53.72% while during 2004 to 2013 it was 53.52%. 2004 was the year of highest average employment rate (63.82%) while 1994 was of lowest. Nepal (81.03%), UAE (72.87%), Netherlands (60.96%) and Bangladesh (60.93%) had higher and Iraq (36.60%), Pakistan (40.52%), Lebanon (41.00%), Egypt (44.51%) and Saudi Arabia (47.65%) had mush lower level of employment on an average.

4.2.4 Exchange Rate

During the period of 1994 to 2013, average exchange rates for all the countries were equal or greater than 100.00 except 2001, 2005, 2006, 2007, 2008 and 2009. The average exchange rates for all the countries also showed a fluctuating trend. Grand average during 1994 to 2003 was 102.71 but it was 99.98 during 2004 to 2013. Standard deviation during the total period

was 9.18, but for first ten years it was 11.11 and for last ten years it was only 6.46. During the entire period, United Kingdom (109.27), Germany (103.77), Japan (103.78), Pakistan (102.25), Saudi Arabia (109.57), Sweden (107.69), United States (112.56) and Finland (103.22) showed higher effective exchange rates than other countries. None of the countries had average effective exchange rates below 90.00. In terms of fluctuation, standard deviations of the exchange rates for United Kingdom (10.42), Japan (14.14), Philippines (12.35) and Saudi Arabia (11.45) were greater than other countries, while Belgium (4.01), Denmark (3.20), France (3.93), Netherlands (3.72), Norway (4.02) and Finland (3.77) had much lower standard deviation in their effective exchange rates than others.

4.2.5 Export

Average growth rates for all the countries were highest during 1997 (11.97%). Besides, growth rates were also higher during 1995 (11.05%), 2000 (11.70%) and 2004 (11.50%). During 1998 (3.07%), 2001 (2.30%), 2002 (1.56%), 2008 (4.04%), 2012 (1.92%) and 2013 (3.15%) growth rates were much lower. However, during 2009, growth rate was lowest and negative (-8.34%). Gross average for all countries during 1994 to 2003 was 6.87% and 4.99% during 2004 to 2013. Among the countries, Bangladesh (11.34%), Korea (12.15%), UAE (10.89%) and Lebanon (12.38%) had very impressive average growth during the total period. On the other hand, Norway (1.86%) and Saudi Arabia (3.11%) had much lower growth rates during the entire period. However, only Nepal had a negative average growth rate of -1.39% during this period.

4.2.6 Foreign Reserve

Foreign reserves for the selected twenty four countries having GNI greater than GDP had an average of 8.77 billion during 2005 to 2013. Year wise averages for all the countries were 2.77 billion (2005), 5.85 billion (2006), 6.68 billion (2007), 5.79 billion (2008), 11.01 billion (2009), 11.33 billion (2010), 15.35 billion (2011), 13.37 billion (2012) and 6.75 billion (2013). On the other hand, year to year growth rates were 111.14% (2006), 14.29% (2007), -13.43% (2008), 90.39% (2009), 2.88% (2010), 35.43% (2011), -12.87% (2012) and -49.50% (2013). Therefore, though reserves were bigger during later periods, growth rates actually reduced very much. Among the countries having higher reserves were Saudi Arabia (70.59 billion), Switzerland (46.24 billion), Japan (41.07 billion) and Korea (15.33 billion). Afghanistan (0.24 billion), Belgium (0.82 billion), France (0.29 billion), Nepal (0.51 billion) had much small reserves and Greece (-3.77 billion), Pakistan (-.80 billion), Egypt (-1.62 billion) and Finland (-0.16 billion) had negative reserves during 2005 to 2013.

4.2.7 GDP Growth

Average GDP growth rates for the selected twenty four countries (GNI > GDP) was highest during 2004 (6.50%) and lowest and negative during 2009 (-0.05%). Growth rates on an average were also high during 1994 (4.10%), 1997 (4.47%), 2000 (4.51%), 2006 (4.62%) and 2007 (4.47%) and low during 2002 (1.59%), 2003 (1.78%) and 2013 (1.97%). From 1994 to 2003 average growth rate for all countries was 3.41% and from 2004 to 2013 it was 3.29%. Countries having higher average GDP growth rate than others during the entire period were

Afghanistan (8.68%), Bangladesh (5.58%), Iraq (8.36%), Korea (4.89%), Philippines (4.62%) and UAE (4.80%). In addition to these countries, Saudi Arabia (6.41%), Egypt (4.56%) and Lebanon (5.37%) also had high average GDP growth rate during 2004 to 2013. Among countries having lower than others average GDP growth rates during 1994 to 2013 were Belgium (1.87%), Denmark (1.54%), France (1.70%), Germany (1.36%), Greece (1.12%), Japan (0.90%), Netherlands (1.98%) and Switzerland (1.84%). In addition, Norway (1.53%), Sweden (1.94%), United States (1.72%), Finland (1.13%) and United Kingdom (1.22%) also had lower average GDP growth rates.

4.2.8 Import Growth

For the selected twenty four countries which have huger GNI than GDP during 1994 to 2013, overall average import growth rate was 5.82%. During the first ten years this average was 5.91% and during last ten years it was 5.635. However, double digit growth rates were observed in 1995 (10.51%), 2000 (10.32%), 2005 (10.29%) and 2006 (10.71%). Lowest and negative average growth rate was in 2009 (-8.96%). During 2001 (1.97%) and 2002 (1.56%) growth were also very low. During the entire period, Only UAE had double digit average import growth, while Korea (11.01%) had it during first ten years and Bangladesh (10.09%), Saudi Arabia (13.76%) and Egypt (11.55%) had during last ten years. On the other hand, Greece (3.88%) and Pakistan (2.27%) during the entire period, Nepal (-7.50%), Egypt (2.24%) and Lebanon (2.42%) during 1994 to 2003 and Belgium (3.80%), France (3.13%), Japan (2.90%), Netherlands (3.50%), Sweden (3.89%), United States (3.20%), Finland (3.58%) and united Kingdom (2.45%) during 2004 to 2013 had lower average import growth rates than other selected countries.

4.2.9 Inflation

In case of countries having greater GNI than GDP during the period of 1994 to 2013, double digit average inflation rate were observed only in 1994 (25.29%) and 1995 (22.88%). All other years except 2005 (4.99%), 2006 (5.60%), 2008 (7.75%) and 2011 (4.55%), average inflation rates for the selected twenty four countries were below 4.00%. During first ten years (1994 to 2003) average inflation rate was 7.31%, during last ten years (2004 to 2013) it was 4.18% and for the total period it was 5.75%. Countries that were responsible for making the average big were mostly Iraq (54.38%) and also Afghanistan (8.52%), Bangladesh (6.42%), Nepal (7.11%), Pakistan (8.98%) and Egypt (7.80%). Belgium, Denmark, Netherlands, Saudi Arabia, UAE, United Sates, Lebanon and United Kingdom had average inflation rates around 2.00%; France, Germany, Norway, Sweden, Switzerland and Finland had around 1.00% and Japan surprisingly had a negative average inflation rate (-0.02%). Among the countries for which inflation rate actually increased during later periods were Bangladesh, Belgium, France, Germany, Nepal, Pakistan, Saudi Arabia, Egypt, Finland and United Kingdom. However, none of these increases were more than 4.00%. In case of Iraq, average inflation rate dropped from 94.44% (1994 to 2003) to 14.33% (2004 to 2013).

4.2.10 Per Capita Income

Per capita income growth rate was 2.64% during 1994, but it was only 0.85% during 2013.

The overall growth rate for the entire period averaged 1.95% for the twenty four countries. The average growth rate decreased from 2.08% (1994 to 2003) to 1.81% (2004 to 2013). Highest average growth rate was observed during 2004 (4.78%) and lowest during 2009 (-1.50%). Afghanistan had highest average growth rate (5.58%) during the twenty years period, followed by Iraq (5.37%), Korea (4.22%) and Bangladesh (3.95%). Lowest growth rate averaged for UAE (-2.93%), followed by Japan (0.79%), Greece (0.84%), Switzerland (1.07%), France (1.14%), Denmark (1.15%), Belgium (1.34%), Germany (1.39%), Netherlands (1.50%), Norway (1.54%), United States (1.56%), United Kingdom (1.66%), Pakistan (1.77%) and Saudi Arabia (1.81%). Observing the averages of first ten and last ten years it can be found that, Iraq improved from 2.25% (1994 to 2003) to 8.49% (2004 to 2013) and Saudi Arabia from -0.27% to 3.89%. But, average per capita growth of UAE reduced from 0.65% to -6.91% and of Greece from 3.09% to -1.41%.

4.2.11 Savings

The selected twenty four countries had an overall average savings of 23.79% for the total period, 23.13% for the first ten years and 24.48% for the last ten years. Highest average savings level was observed in 2007 (26.98%) and lowest in 2009 (21.48%). However, in 2006, the savings level was 26.94% and in 1994 it was 21.71%. Having highest average savings of 34.53%, Saudi Arabia was followed by Philippines (34.26%), Korea (33.50%), Norway (33.13%), Switzerland (30.03%), Bangladesh (28.42%), Nepal (27.00%), Japan (26.07%), Netherlands (25.72%) and Finland (24.28%), all having above average savings. On the other hand, Lebanon had lowest level of average savings (4.25%), followed by Greece (13.12%) and United Kingdom (14.86%). Again, during 1994 to 2003, Lebanon had -12.43% and during 2004 to 2013, Afghanistan had -14.93% average savings as a percentage of GNI. An increasing trend in trade investment level can be observed for the selected twenty four countries having GNI greater than GDP during 1994 to 2013.

4.2.12 Trade Investment

The average trade was 56.27% of GDP in 1994 and it was 81.96% in 2013. However, during 2008, it picked up to 82.13%. Increasing trend can also be understood from the differential between the averages of first ten years (64.37%) and last ten years (78.22%). Gross average for the entire period was 71.17%. Except Afghanistan, Iraq, Nepal, Norway, Pakistan and Philippines, average trade level increased for all other countries during the later periods. Belgium (highest 139.09%), UAE (134.09%), Netherlands (125.88%), Switzerland (100.48%), Iraq (98.05%), Philippines (87.08%), Denmark (85.68%), Lebanon (82.49%), Afghanistan (81.13%) and Sweden (80.46%) had very impressive trade investment during the twenty years period. Conversely, Japan (24.90%), United States (25.34%), Pakistan (33.43%) and Bangladesh (36.41%) had much smaller percentage of trade in compare to their GDP.

5. Conclusion

GDP-GNP trade off and economic performance analysis was a breathtaking assignment for us. We have gone for thorough reviewing of the important countries and conducted trend as well as comparative analysis. The main outcome of the result has been done on twelve

variables. The result shows that during the period of 1994 to 2013 Countries with GDP>GNP Gap are having a gross average rate of employment of 56.38% whereas the average for the Countries with GNP>GDP Gap was 53.72%. Therefore the difference is insignificant in terms of employment figure. The number for the real effective interest rate for the Countries with GDP>GNP Gap was 96.35 and for the Countries with GNP>GDP Gap was 101.3. Thus it can be said that the later countries are doing bit better in compare to the formers. In contrast the export growth rate performance is better for the Countries with GDP>GNP Gap with 6.89% and the Countries with GNP>GDP Gap were lagging bit behind with a growth rate of 5.93%. The performance of foreign reserve collection is far superior for the Countries with GDP>GNP Gap with whopping average of 18 billion whereas Countries with GNP>GDP Gap is running far behind with 8.77 billion. The scenario is quite contrasting in inflation rate. While Countries with GDP>GNP Gap is experiencing relatively higher inflation rate with 11.99% the case for the Countries with GNP>GDP Gap was much more balanced and under control with a relatively much lower rate of 5.75%. The difference in the GDP growth rate is however not that much wide. The rate for the Countries with GDP>GNP Gap was 4.07% and for the Countries with GNP>GDP Gap was 3.35%. The difference in performance of the growth rate of import and per capita income is somewhat identical. In both the cases countries with GDP>GNP Gap were possessing higher rates. Import growth rates for the Countries with GDP>GNP Gap was 7.83% and for the Countries with GNP>GDP Gap was 5.82%. AS far as per capita income is concern the growth rate for the Countries with GDP>GNP Gap was 2.79% during 1994 to 2013 and for the Countries with GNP>GDP Gap was 1.95%. Countries with GDP>GNP Gap are also ahead in savings performance with 24.01% for the total twenty years period and Countries with GNP>GDP Gap was averaged 23.79% for the total period. The gap is even wider in trade investment where the average trade investment of Countries with GDP>GNP Gap is79.05% of their GDP and for the Countries with GNP>GDP Gap was 71.17%.The performance of balance of payment and budget deficit showed fluctuating trend for both category countries. This outcome represents that the economic performance of both category countries are somewhat similar with few exceptions. However, Countries with GDP>GNP Gap are seemingly performing better in more dimensions in compare to the Countries with GNP>GDP Gap. The gap is close in most indicators with few minor exceptions. Countries with GDP>GNP Gap are ahead in employment, export, foreign reserve, GDP, import, per capita income, savings and trade investment. On the other hand Countries with GNP>GDP Gap are leading in inflation and exchange rate dimensions. Although Countries with GDP>GNP Gap are leading but this study concludes that economic development can be ensured and sustained with having both type of gaps.

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