World GDP growth

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Abstract

The Gross Domestic Product (GDP) of an economy is a measure of total production. More precisely, it is the monetary value of all goods and services produced within a country or region in a specific time period. While the definition of GDP is straightforward, accurately measuring it is a surprisingly difficult undertaking. And attempts to make comparisons over time and across borders are complicated by price, quality and currency differences.

From the long-term perspective of social history, we know that economic prosperity and lasting economic growth is a very recent achievement for humanity. In this section we will look at this more recent time and will also study the inequality between different regions – both in respect to the unequal levels of prosperity today and the unequal economic starting points for leaving the poverty of the pre-growth past.

Economic prosperity is measured as via growth domestic product (GDP) per capita, the value of all goods and services produced by a country in one year divided by the country's population. Economic growth is the measure of the change of GDP from one year to the next. This entry shows that the current experience of economic growth is an absolute exception in the very long-run perspective of social history.

Part One –Draft a Data-Collection Plan

- **What is the situation?**

Incomes remained almost unchanged over a period of several centuries when compared to the increase in incomes over the last 2 centuries. Life too changed remarkably little. What people used as shelter, food, clothing, energy supply, their light source stayed very similar for a very long time.

Global growth is expected to remain at 3.0 per cent in 2019 and 2020, however, the steady pace of expansion in the global economy masks an increase in downside risks that could potentially exacerbate development challenges in many parts of the world, according to the World Economic Situation and Prospects 2019. The global economy is facing a confluence of risks, which could severely disrupt economic activity and inflict significant damage on longer-term development prospects. These risks include an escalation of trade disputes, an abrupt tightening of global financial conditions, and intensifying climate risks.

In many developed countries, growth rates have risen close to their potential, while unemployment rates have dropped to historical lows. Among the developing economies, the East and South Asia regions remain on a relatively strong growth trajectory, amid robust domestic demand conditions. Beneath the strong global headline figures, however,

economic progress has been highly uneven across regions. Despite an improvement in growth prospects at the global level, several large developing countries saw a decline in per capita income in 2018. Even among the economies that are experiencing strong per capita income growth, economic activity is often driven by core industrial and urban regions, leaving peripheral and rural areas behind. While economic activity in the commodity-exporting countries, notably fuel exporters, is gradually recovering, growth remains susceptible to volatile commodity prices. For these economies, the sharp drop in global commodity prices in 2014/15 has continued to weigh on fiscal and external balances, while leaving a legacy of higher levels of debt.

- **What are the parameters or options in the decision?**

Gross domestic product is the total value of everything produced in the country. It doesn't matter if it's produced by citizens or foreigners. If they are located within the country's boundaries, their production is included in GDP.

To avoid double-counting, GDP includes the final value of the product, but not the parts that go into it

Expenditure Method: The components of GDP include personal consumption expenditures plus business investment plus **government spending** plus (**exports** minus **imports**). Now that you know what the components are, it's easy to calculate a country's gross domestic product using this standard formula: C + I + G + (X - M).

Output Method: This measures the monetary or market value of all the goods and services produced within the borders of the country. In order to avoid a distorted measure of GDP due to price level changes, GDP at constant prices o real GDP is computed. GDP (as per output method) = Real GDP (GDP at constant prices) – Taxes + Subsidies.

Income Method: It measures the total income earned by the factors of production, that is, labour and capital within the domestic boundaries of a country. GDP (as per income method) = GDP at factor cost + Taxes – Subsidies.

Nominal GDP: This is the raw measurement that includes price increases. In 2018, nominal U.S. GDP was $20.494 trillion.

Real GDP: To compare GDP by year, the BEA removes the effects of inflation. Otherwise, it might seem like the economy is growing when really it's suffering from double-digit inflation. The BEA calculates real GDP by using a price deflator.

Growth Rate: The GDP growth rate is the percentage increase in GDP from quarter to quarter. It tells you exactly whether the economy is growing quicker or slower than the quarter before. Most countries use real GDP to remove the effect of inflation.

GDP per Capita: GDP per capita is the best way to compare gross domestic product between countries. This divides the gross domestic product by the number of residents. It's a good measure of the country's standard of living. Some countries have enormous economic outputs only because they have so many people. In 2018 the U.S. GDP per capita was $57,170.

- **Who are the key stakeholders?**

Here are some of the key stakeholders and players in economic development, and how they contribute to making it all come together:

1. Government
2. Private business
3. Education
4. Healthcare
5. The public

- **How do you hope or expect data to help illuminate your decision?**

Illuminate the uncertainty in official GDP per capita measures using auxiliary data. Using The World Bank website or IMFwebsite or CIA website .

Real Gross Domestic Product (GDP) is at the heart of macroeconomic analysis and policymaking. It is the basis for measuring national economic development and comparing living standards across countries, and it often serves as a reference point for other economic variables. Measures of real GDP, however, can be quite uncertain. Lack of statistical capacity, mismeasurement of the economy, and the existence of informal economy, among others, can all subject real GDP measures to substantial revision. This problem becomes more acute for low and middle income countries where the data collection and compilation process is less sophisticated. Understanding the uncertainty of these measures and constructing more accurate measures are therefore of great importance to assess economic performance, facilitate crosscountry comparisons, and inform policy decisions.

Step 2: Identify data that will help you better understand the situation.

- **What are the key performance indicators for your situation?**

To know how well an economy is performing against these objectives economists employ a wide range of economic indicators. Economic indicators measure macro-economic variables that directly or indirectly enable economists to judge whether economic performance has improved or deteriorated. Tracking these indicators is especially valuable to policy makers, both in terms of assessing whether to intervene and whether the intervention has worked or not.

1. Levels of real national income, spending, and output. National income, output, and spending are three key variables that indicate whether an economy is growing, or in recession. Like many other indicators, income, output, and spending can also be measured in per capita (per head) terms.
2. Growth in real national income.
3. Investment levels and the relationship between capital investment and national output.
4. Levels of savings and savings ratios.
5. Price levels and inflation.
6. Competitiveness of exports.

7. Levels and types of unemployment.
8. Employment levels and patterns of employment.
9. The productivity of labour, which influences other economic variables, including an economy's competitiveness in international markets.
10. Trade deficits and surpluses with specific countries or the rest of the world.
11. Debt levels with other countries.
12. The proportion of debt to national income.
13. The terms of trade of a country.
14. The purchasing power of a country's currency.
15. Wider measures of human development, including literacy rates and health care provision. Such measures are included in the Human Development Index (HDI).
16. Measures of human poverty, including the Human Poverty Index (HPI).

- **What defines the range of cases you will consider?**

The GDP growth rate is how much more the economy produced than in the previous quarter. The ideal rate is between 2 and 3%. In a healthy economy, unemployment and inflation are in balance. The natural rate of unemployment will be between 4.7% and 5.8%.

The healthy gross domestic product growth rate is one that is sustainable so that the economy stays in the expansion phase of the business cycle as long as possible. Gross domestic product is the nation's entire economic output for the past year.The GDP growth rate is how much more the economy produced than in the previous quarter. Many economists place the ideal GDP growth rate at 2 %.

- **What are the variables you will consider?**

Financial Architecture aims sustainability of an economy by ensuring consistent growth rate.GDP is an indicator of the growth of an economy. Higher GDP of an economy reflects robust growth of an economy and vice-versa and as such every country tries to maximise the growth rate of GDP .There are certain macro factors operating in the economic environment that will influence the GDP growth rate. The study makes an attempt to determine the influence of selected economic variables namely

1. Inflation
2. Exchange rate
3. Foreign exchange reserves
4. FII's
5. Balance of Payments and
6. Current Fiscal Deficit on the GDP of an economy
7. Leisure Preference
8. Non-Marketed Activities
9. Underground Economy
10. Environmental Quality and Resource Depletion
11. Quality of Life
12. Poverty and Economic Inequality

Correlation and ANOVA are used for analyzing the relationship between the GDP and selected economic variables.

- **Is each variable categorical or quantitative?**

  Quantitative

1. Inflation
2. Exchange rate
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- **What purpose does each variable have in informing your decision?**

1. Inflation

An increase in inflation means that prices have risen. With an increase in inflation, there is a decline in the purchasing power of money, which reduces consumption and therefore GDP decreases. As a result, GDP is decreases further. So it appears that GDP is negatively related to inflation.

Inflation discounted value of GDP is known as real GDP.

Real GDP * Inflation = Nominal GDP

2. Exchange rate

An exchange rate appreciation causes a slower growth of real GDP because of a fall in net exports (reduced injection) and a rise in the demand for imports (an increased leakage in the circular flow). Thus a higher exchange rate can have a negative multiplier effect on the economy.

3. Foreign exchange reserves

The cross-country evidence shows that an increase in foreign exchange reserves raises external debt outstanding and shortens debt maturity. The results also imply that increased foreign exchange reserves may lead to a decline in consumption, but can also enhance investment and economic growth.

4. FII's

FII is essential for growth of our economy. India's economic growth is 35% affected by foreign institutional investors (FII). The association between FII and economic growth is statistically insignificant. Foreign Direct Investment (FDI) considered being most favorable as compare to FII.

5. Balance of Payments

A country's balance of payments tells you whether it saves enough to pay for its imports. ... A balance of payments deficit means the country imports more goods, services and capital than it exports. It must borrow from other countries to pay for its imports. In the short-term, that fuels the country's economic growth.

6. Current Fiscal Deficit on the GDP of an economy

The fiscal deficit stood at 86.5 per cent of 2018-19 budget estimate in the year-ago period. The government estimates the fiscal deficit to be at Rs 7.03 lakh crore during 2019-20. It aims to restrict the deficit at 3.4 per cent of the GDP in the current fiscal, same as the last fiscal.

7. Leisure Preference

Due to technological progress, average productivity of resources (including manpower) has gone up in most industrialised countries.The increased leisure available to the workers allows them to enjoy more recreation in the form of weekend terms and pursuing cultural activities.Their activities are, no doubt, welfare- enhancing in nature. But their extra hours of leisure are not priced in markets and, therefore, do not get reflected in GDP

8. Non-Marketed Activities

All economically important activities are not bought and sold in market. With a few exceptions, such as government services, non-marketed economic activities are omitted from GDP. An example is unpaid housekeeping services. Another example is voluntary services of NGOs such as volunteer free service and education services offered free of cost to poor children in slums. Such unpaid and un-priced services, no doubt, increase social welfare. But they are omitted from GDP, because it is difficult to estimate their market values.

9. Underground Economy

Many activities are performed unofficially. The underground economy includes both legal and illegal activities from informal (private) nursing, house cleaning or child care to organised crime. House cleaners or plumbers are paid in cash. Such transactions go unnoticed by the tax authorities. However, such activities have a welfare implication. No doubt, they may enhance or reduce social welfare.

10. Environmental Quality and Resource Depletion

China and India have recently achieved tremendous growth in real GDP and are cited as two models of globalisation. But in expanding their manufacturing base, both countries have also suffered from a severe decline in air and water quality. Increased pollution certainly reduces the quality of life. But because air and water quality are not bought and sold in markets, the Indian GDP does not reflect this downside of its economic growth.

The explanation of finite (non-renewable) natural resources also tends to be overlooked in GDP. If more oil is extracted today, less oil will be available in future. But this fact is not reflected in GDP.Incorporating factors like air quality and resource depletion into a comprehensive measure of GDP is difficult, since it often involves placing a rupee on intangibles, like having a clean river to take water instead of a dirty one. But the fact that the benefits of environmental quality and resource conservation are not measured in terms of money, does not mean that they are unimportant.

11. Quality of Life

Various factors make a particular town or city an attractive place to live. Some of these desirable features get reflected in GDP: spacious, well-constructed homes, good star hotels and restaurants, a variety of entertaining and high-quality medical services. However, other indicators of good life are not sold in markets and so may be omitted from GDP.

12. Poverty and Economic Inequality

With increase in per capita income, the incidence of poverty often goes up. So, social welfare diminishes. This is what has happened in India over the plan period. Although India has achieved a satisfactory growth rate in recent years, the planners have failed to alleviate poverty in 56 years.

Even though a dent has been made on poverty in recent years due to financial assistance from the World Bank and the IMF, the degree of income inequality has increased rather than diminished even though the growth rate has picked up.

Moreover, GDP measures the total quality of goods and services produced and sold in an economy, but it conveys no information about who enjoys those goods and services. Two countries may have identical GDPs but differ markedly in the distribution of economic welfare across the population.

Step 3: Develop a data-gathering plan. (100-250 words)

- **Where will the data come from?**

  The World Bank website or IMFwebsite or CIA website

- **Who will collect it?**

  I Self (Tarun Radadiya)

- **How much data will you need (sample size)?**

  Data required of World View,Poverty and Shared Prosperity ,People , Economy, States and Markets, Global Links, Country Profiles, Environment.(500-5,00,000)

- **How will you assure that it is representative of the population?**

  Will share data reference site bibliography

- **What steps will you take to mitigate potential bias?**

  For mitigate bias we have study and analyse past all year data on World Bank site or IMFwebsite or CIA website.

Part Two –Identify Data Summaries and Visualizations

- **What summary statistics will you use to inform your decision?**

World Development Indicators includes data spanning up to 59 years—from 1960 to 2019. World view frames global trends with indicators on population, population density, urbanization, GNI, and GDP. As in previous years, the World view online tables present indicators measuring the world's economy and progress toward improving lives, achieving sustainable development, providing support for vulnerable populations, and reducing gender disparities. Data on poverty and shared prosperity are now in a separate section, while highlights of progress toward the Sustainable Development Goals are now presented,Atlas of Sustainable Development Goals 2019.

The global highlights in this section draw on the six themes of World Development Indicators:

• Poverty and shared prosperity, which presents indicators that measure progress toward the World Bank Group's twin goals of ending extreme poverty by 2030 and promoting shared prosperity in every country.

• People, which showcases indicators covering education, health, jobs, social protection, and gender and provides a portrait of societal progress across the world.

• Environment, which presents indicators on the use of natural resources, such as water and energy, and various measures of environmental degradation, including pollution, deforestation, and loss of habitat, all of which must be considered in shaping development strategies.

• Economy, which provides a window on the global economy through indicators that describe the economic activity of the more than 200 countries and territories that produce, trade, and consume the world's output.

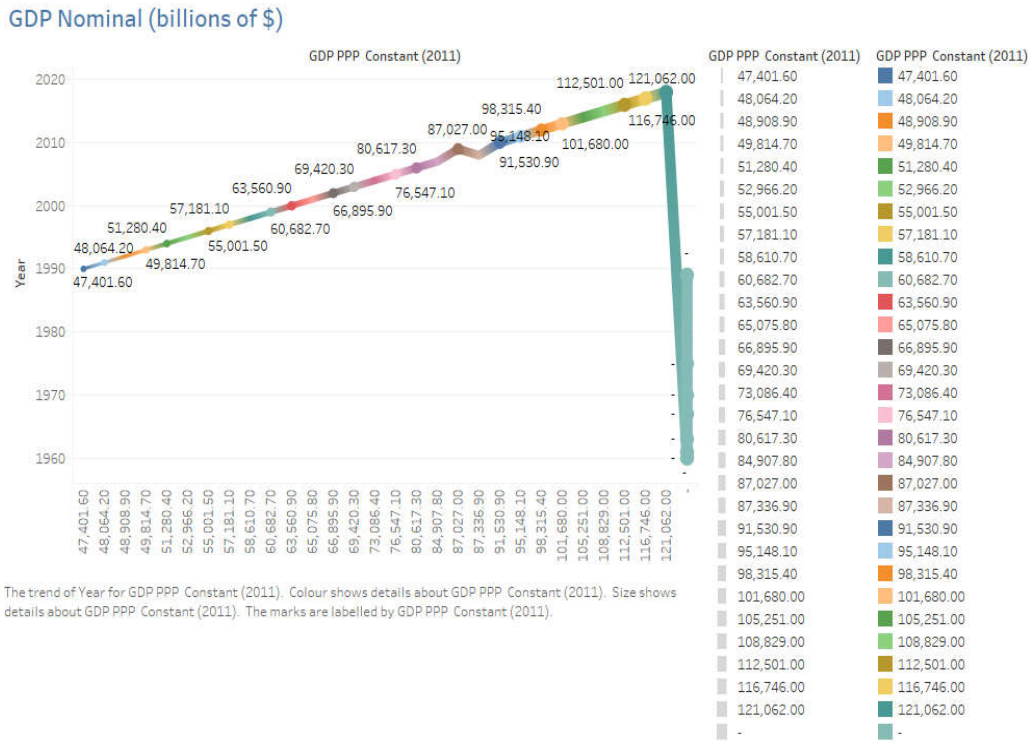
• States and markets, which encompasses indicators on private investment and performance, financial system development, quality and availability of infrastructure, and the role of the public sector in nurturing investment and growth.

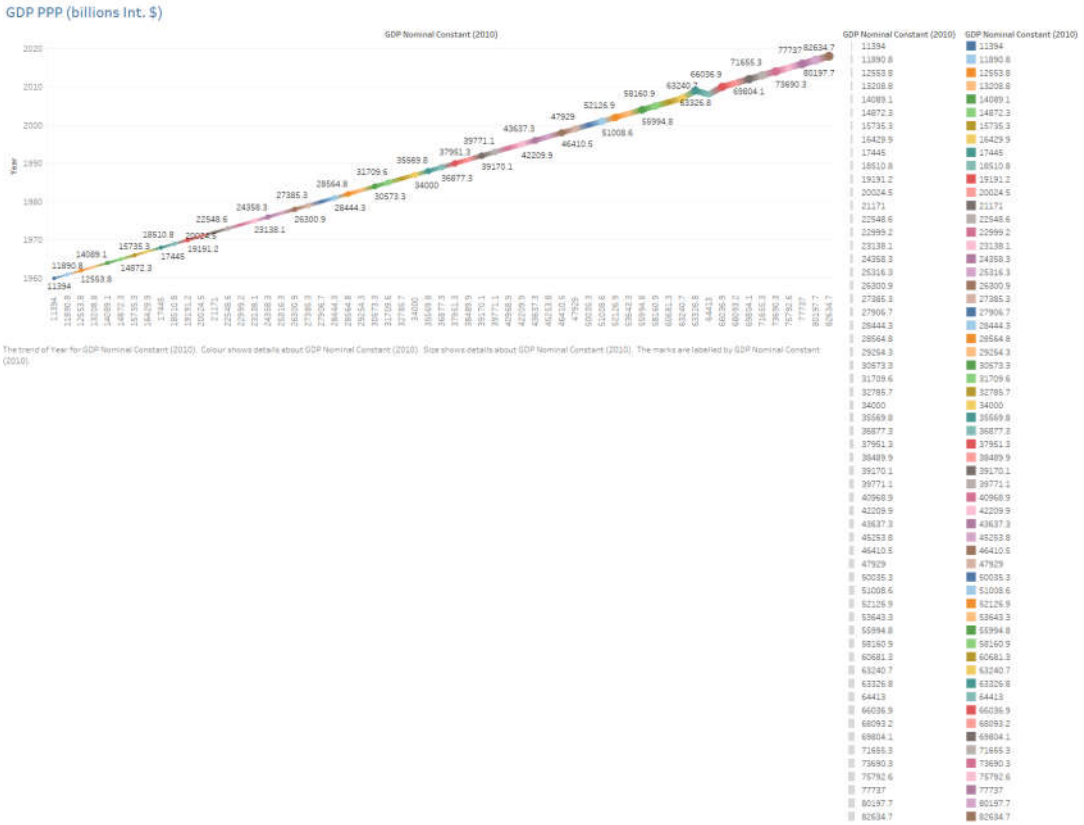
• Global links, which presents indicators on the size and direction of the flows and links that enable economies to grow, including measures of trade, remittances, equity, and debt, as well as tourism and migration.

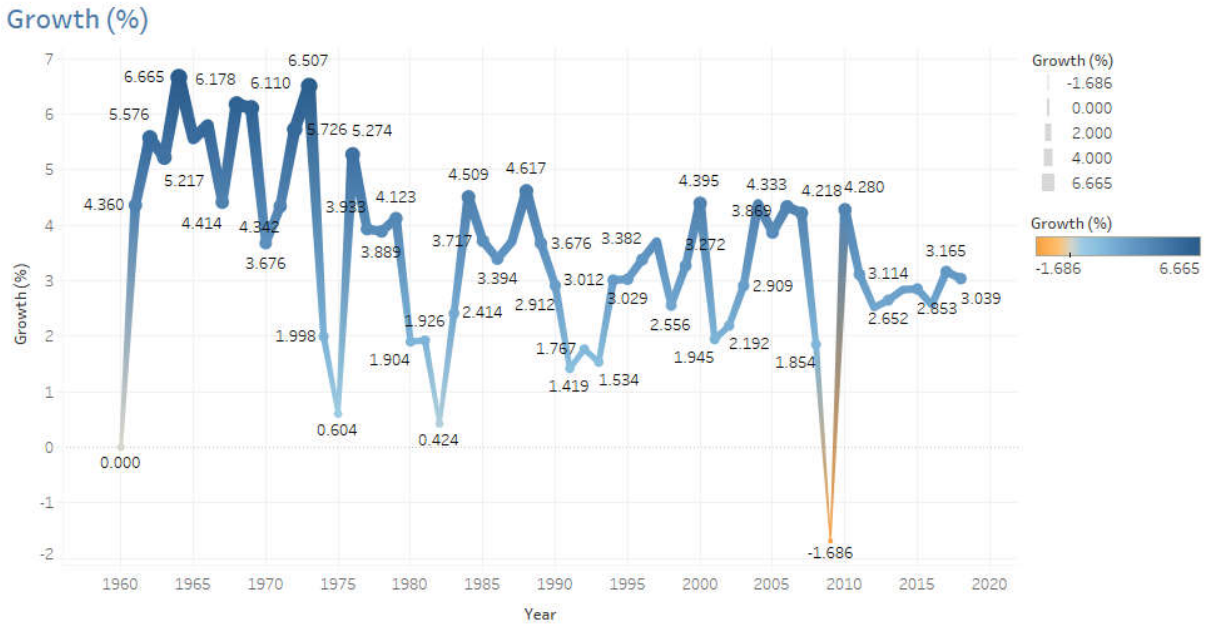
- **Are you interested in statistics that are sensitive to or resistant to outliers, and why?**

  Yes because of as basis on probability and predicted the futures world GDP economy growth.

- **What visualizations will you use to inform your decision?**

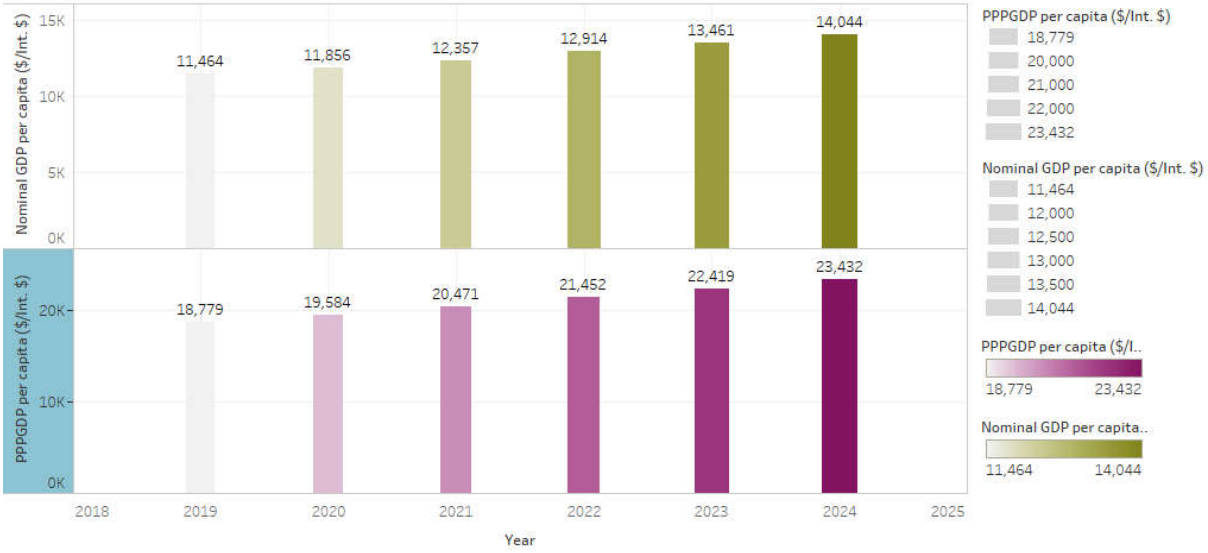






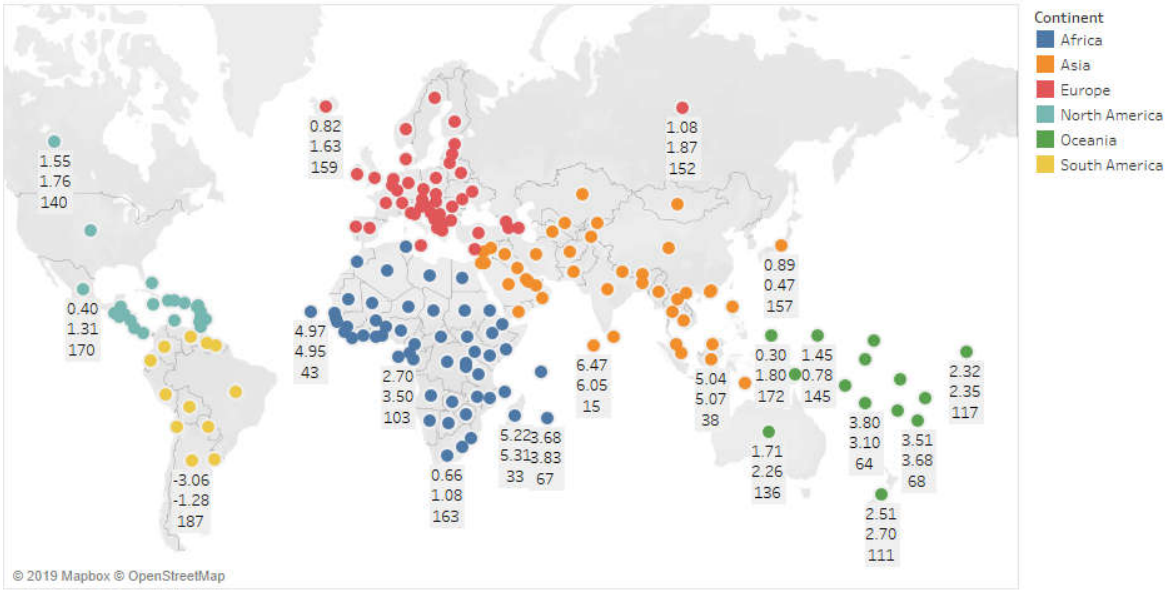
The trend of sum of Growth (%) for Year. Colour shows sum of Growth (%). Size shows sum of Growth (%). The marks are labelled by sum of Growth (%).

Obtained by IMF's Projections



The plots of sum of Nominal GDP per capita ($/Int. $) and sum of PPPGDP per capita ($/Int. $) for Year. For pane Sum of Nominal GDP per capita ($/Int. $): Colour shows sum of Nominal GDP per capita ($/Int. $). Size shows sum of Nominal GDP per capita ($/Int. $). The marks are labelled by sum of Nominal GDP per capita ($/Int. $). For pane Sum of PPPGDP per capita ($/Int. $): Colour shows sum of PPPGDP per capita ($/Int. $). Size shows sum of PPPGDP per capita ($/Int. $). The marks are labelled by sum of PPPGDP per capita ($/Int. $). The view is filtered on sum of Nominal GDP per capita ($/Int. $), which includes everything.

Countries by Projected GDP Growth



Map based on Longitude (generated) and Latitude (generated). Colour shows details about Continent. The marks are labelled by sum of 2019 GDP growth (%), sum of 2020 GDP growth (%) and sum of Rank. Details are shown for Country/Economy and Continent.

Part Three–Data and Your Decision

- **What are you attempting to model with your data?**

First of all find required enough data in IMF or World Bank websites and analysis data and working on it. Making model chart and dashboard inTableau.

- **What are the KPIs for the situation you are trying to understand?**

The gross world product (GWP) is the combined gross national product of all the countries in the world equals to the total global GDP.

World economy, comprising 193 economies, in 2019 is projected around of US$86.60 trillion in nominal terms, according to IMF. Global GDP in terms of PPP is forecasted around of Int$141.86 trillion. This number is 164% of nominal. PPP to Nominal ratio was 1.28 in 1990, all time lowest of 1.21 in 1995. But due to higher growth rate of developing economies, which have generally higher GDP in ppp terms, this ratio has increased.

During four years, world economy grew by over 6% with highest gdp growth rate of 6.7 percent in 1964. Lowest growth was in 2009 as gdp contracted by 1.7%, the only once when it shows negative growth.

In constant 2010 prices, which gives better idea about expansion over years, World economy has expanded from $11.39 tn in 1960 to $82.63 in 2018, or 7.25x on the basis of market exchange rate as estimated by world bank comprising more than 200 economies. In purchasing power parity terms, world gdp has expanded by 2.55 times since 1990, data for ppp terms available since.

Acc to World factbook, composition of Agriculture, Industry, and Services sector in 2017 are 6.4 percent, 30 percent and 63 percent, respectively.

- **What is the relationship between your variables and the KPIs?**

Nominal : Highest increment in global wealth was seen in 2010 when it has grown by $2,710 bn approx at constant 2010 prices. In 2009, it was contracted by $1,086 bn, only year in which economy was declined. At current prices, maximum increment was in year 2011 of $7.32 tn, while biggest decline was in 2015 ($4.29 tn). Figure moved to downward direction in six years.

PPP : Biggest incline and decline was in 2010 and 2009, respectively at constant 2011 prices. At current prices, figure didn't move to downward direction, even in 2009 it moved up by $825 bn.

- **What are the limitations of your model?**

Not show each year of each country GDP growth .

- **Do you feel your model, as defined, is "good enough" to inform your decision? Why or why not?**

Yes, Because of this model indicate the Overall GDP of world and also country by overall GDP.

More than enough you have able to next few year GDP will predicate.

Part b: Your Project Dashboard

Dashboard.