

Qatar Economic Growth through Major Events in the Recent Years

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Abstract

Given Qatar's ambitious plan to sustain itself as one of the most emerging countries with a sound economy based on the Gas income, it had also developed parallel strategies by hosting significant events that have attracted several stakeholders to invest in its growth. However, one of the biggest challenges that face the growth of the economy was to build an infrastructure that can service the events while maintaining sufficient funds to do so. Considering the fluctuation of the Gas prices worldwide that represent the primary income of Qatar economy, this was the major challenge in addition to several variables as will further describe herein. The data was collected from several sources, mainly from the world bank database, to identify the impact on GDP linked to mega events. It was then analyzed using Power PI. The results show that it has a positive impact based on what was observed during past events on GDP, Capital expenditure, and other factors.

Keywords

Data-Driven Decision, Mega-events, Economic growth, Sustainability

1. Introduction

Considering the size of the Qatar Market as an emerging country with a limited population, Qatar has gone through significant changes over the past years. Those Major changes/ events have affected the growth of the country positively and negatively as well. Several Variables affect the country's economic growth. This paper aims to study the relationship between these variables and the economy over the past years. The study is conducted based on data gathered from different stakeholders from 1960 till 2016. Using data Analysis and Visualisation helps to understand the different effects of various events and variables; The variables considered in this study are as described later in the paper.

This will help policymakers make the right decisions to secure the sustainable growth of the economy while preparing the country's overall plan for the next coming years. Considering the collected information and data, we have shortlisted some variables that will help the decision-makers in understanding the challenge considering the following:

- As of 2030, Qatar is planning to change the economic model from gas-based to Multi sources Economic, which is the primary driver of Qatar's expenses.
- Several events took place and even planned that are affecting Qatar expenses, as will further describe later.
- With the occurrence of each event, we have noticed a significant impact on the economy, either income or expenses, which was the significant variables in the study.
- Each country gets affected by several variables differently, and over the past years, many events have changed Qatar Economy separately,

So, by studying each variable and event effect, we can extrapolate the essential variables that help decision-makers achieve the 2030 vision.

2. Methodology

2.1. Data-Driven Decision Making (DDM)

The idea of data-driven decision making is that decisions should be extrapolated from key data sets that show their projected efficacy and how they might work out. Businesses generally use a wide range of enterprise tools to get this data and present it in ways that back up decisions. This is in stark contrast to the idea that decision-making was done throughout the history of commercial enterprise. Before the presence of new sophisticated technologies, individuals often made decisions based on observation or informed guesswork. The main steps in developing a Framework are as follows:

1. **Discovery:** Discovery of the opportunity and the related Stakeholders and then preparing the Hypotheses or the main questions our framework wants to answer to make the correct decision.
2. **After exploring and delivering Visual and Analytical analysis, Insights:** The collected data provides us with insights on our problem and question and how to answer them.
3. **Actions:** once our questions are answered, we can start providing the recommendations and solutions that help to address future challenges; and
4. **Execution Plan:** once the proposals are studied thoroughly, management on the Strategic and Tactical level puts the action plans to implement these recommendations.

2.2. Data Collection:

In this study, data was collected from the world bank between 1960 to 2016; There was no available data for the years 2017, 2018 & 2019. The data covered most of the important sectors from Economic, Finical, Environmental and other factors; however, we needed to concentrate on the vital elements that can express economic growth for the subject study.

Table 1. Sample data collected and used in the studies

| Year | Population | Gas Prices (USD per cubic meter) | Oil Exports (USD) | Imports of goods and services (current US\$) | General government expenditure (current US\$) |
|------|------------|----------------------------------|-------------------|--|---|
| 2000 | 592,468 | 4.32 | 7,916,407,808 | 3,965,659,341 | 3,493,131,868 |
| 2001 | 615,012 | 4.4 | 9,895,520,256 | 5,099,450,549 | 3,266,758,242 |
| 2002 | 640,868 | 4.08 | 7,165,810,176 | 5,446,428,571 | 3,237,087,912 |
| 2003 | 681,788 | 4.47 | 12,180,397,784 | 6,699,450,549 | 3,625,549,451 |
| 2004 | 753,334 | 4.96 | 16,163,947,901 | 8,315,659,341 | 4,146,703,297 |
| 2005 | 865,416 | 5.79 | 22,863,961,146 | 13,207,967,033 | 6,365,934,066 |
| 2006 | 1,022,711 | 6.02 | 30,551,863,517 | 21,767,307,692 | 8,960,439,560 |
| 2007 | 1,218,434 | 6.23 | 37,615,826,796 | 28,566,208,791 | 9,887,362,637 |
| 2008 | 1,436,665 | 7.69 | 61,192,678,518 | 32,356,868,132 | 11,729,670,330 |
| 2009 | 1,654,950 | 8.4 | 64,358,836,943 | 28,370,604,396 | 15,289,010,989 |
| 2010 | 1,856,327 | 9.53 | 67,524,995,367 | 29,717,307,692 | 17,496,978,022 |
| 2011 | 2,035,871 | 10.54 | 92,276,970,690 | 43,792,582,418 | 18,520,879,121 |
| 2012 | 2,196,074 | 12.82 | 117,028,946,013 | 54,693,406,593 | 22,884,065,934 |
| 2013 | 2,336,574 | 13.36 | 119,960,526,088 | 58,953,296,703 | 28,926,373,626 |
| 2014 | 2,459,198 | 15.66 | 113,899,384,039 | 64,004,395,604 | 31,896,978,022 |
| 2015 | 2,565,710 | 10.92 | 64,534,030,165 | 59,271,428,571 | 32,715,659,341 |
| 2016 | 2,654,374 | 4.71 | 46,739,272,953 | 63,475,274,725 | 29,654,120,879 |

2.3. Data Validation:

The data was validated against another source of information that is the International Trade Centre data.

2.4. Major Events:

We are going to study the impact of several events on the economy, such as:

Establishment of Qatar Gas 1984

With the discovery of significant reserves of natural gas, Qatar Gas was established with the vision to raise Qatar to be the leaders of Natural gas production by developing and improving the technology on LNG (Liquified Natural Gas) for more comfortable transportation of gas by vessels.

This had a considerable impact on the entire economy and population of Qatar.

Qatar wins the Asia Cup 2000

In 2000 Qatar was awarded the hosting of the Asia Football cup; with this awarding, many Infrastructure projects started. More investments were put in the country for the new projects, which drove the economy for many years.

Qatar Hosts the Asia cup 2006

The Asia cup was hosted at 2006, and the finish of it, the level of projects was to come to ease.

Financial Crises 2008

In 2008 Global Financial Crisis started in the United States and developed into a full-blown international banking crisis with the collapse of the investment bank Lehman Brothers; this had a Global depression effect on most GCC countries.

Qatar wins the World cup hosting 2010

This was the dominant sport event ever hosted in the Middle East. Qatar put a very ambitious plan to develop its infrastructure and Stadiums to host such tournament, which led to massive investment in the local economy. After assigning the significant events and variables, we need to understand the primary relationships and how they relate. With the subject events, this is much easier by developing a series of questions helps us to understand the information behind the available data.

Some of the questions that we wish to have answers are:

- How does the fluctuation of Gas prices affect Government expenditure?
- How does the fluctuation of Gas prices affect the preparation of Major events infrastructure?
- How is that linked to the population?
- How does population spending affect the GDP?
- How is Qatar planning to attract foreign capital investors to Qatar Market to secure multiple economic sources and maintain the right trade balance?
- What is Qatar plan to sustain the right balance of trade given possible occurrences of significant positive and/or adverse events that will affect the economy?

After all, data is ready, we should start to Analyze them, and it begins with Data Visualization and Analytics. Power BI is a collection of software services, apps, and connectors that work together to turn your independent data sources into coherent, visually immersive, and interactive insights. We will use Power-BI to create multiple dashboards and graphs and then take out the most key influencers.

3. Results

The visual graphs will help to illustrate the changes of each variable over a certain period. Then we can *visualize* the relationship between this variable and other vital data to understand how each one is affected by a particular event. Observations from Figure 1: The population increase was stable till some time earlier to establishing of Qatar 1984; Population accelerated at the establishment of Qatar gas in 1984; and Further acceleration started after the award of the World cup in 2010. The relation between Population and Import of Goods and services with Government Expenditures shown in Figure 2.

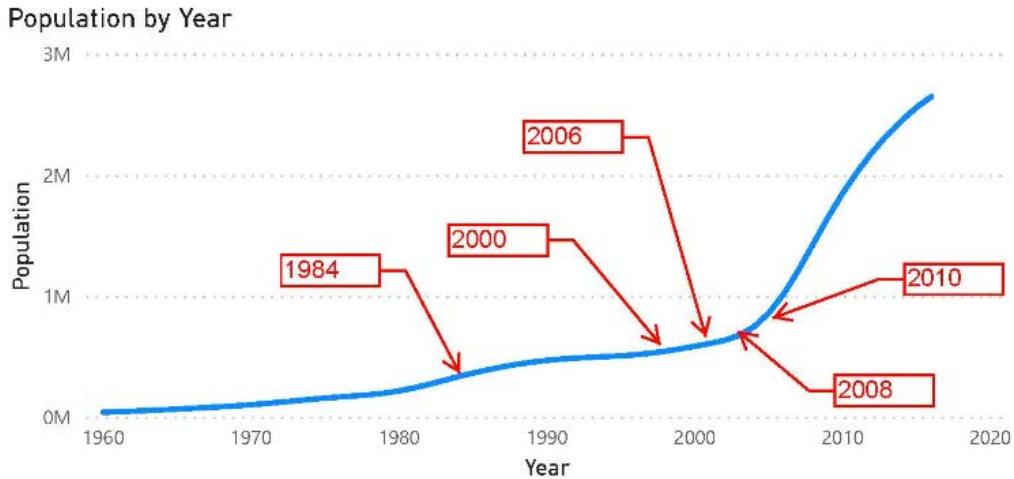


Figure 1. Line Chart summarizes the population per year

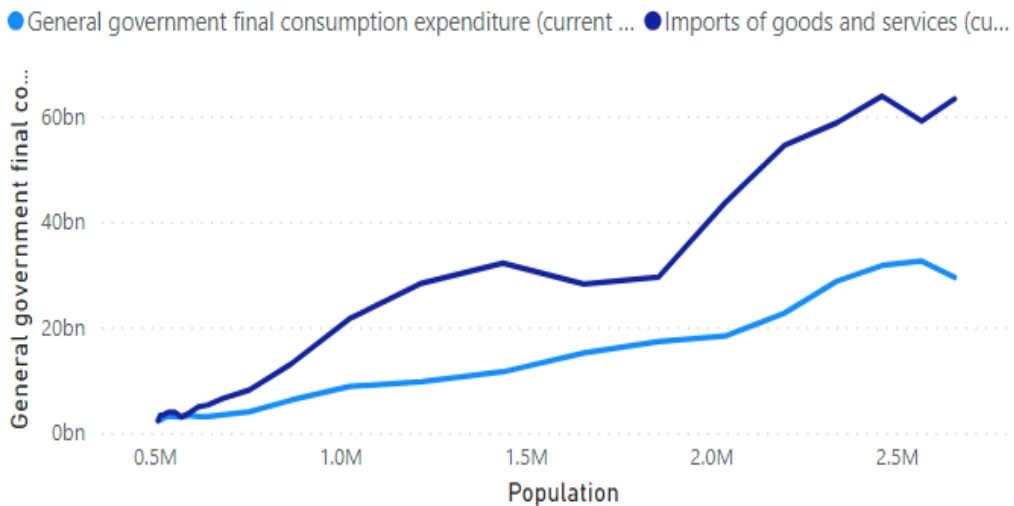


Figure 2. Line Chart summarizes the relationship between the population and the Imports of Goods and Services with Government Expenditures.

Observations from Figure 2: Both Imports of Goods and services increase along with the increase in population; and There is a clear trend between the rise in Imports and population, but it is not clear between the Expenditures and population, which means other factors affect it.

Observations from Figure 3: A slight increase in GDP after the award of the Asia cup in 2006. After the Asia cup was done in 2006, GDP started decreasing till the awarding of the World Cup; and GDP has begun to increase again after the world cup granting n 2010.

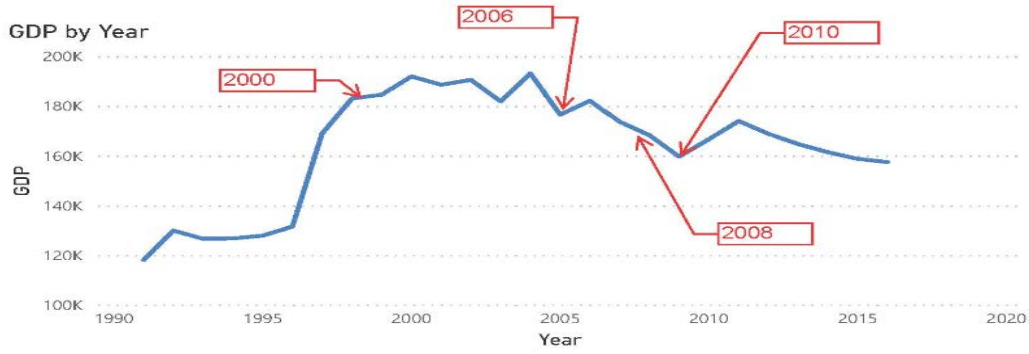


Figure 3. Line Chart summarizes the GDP per year

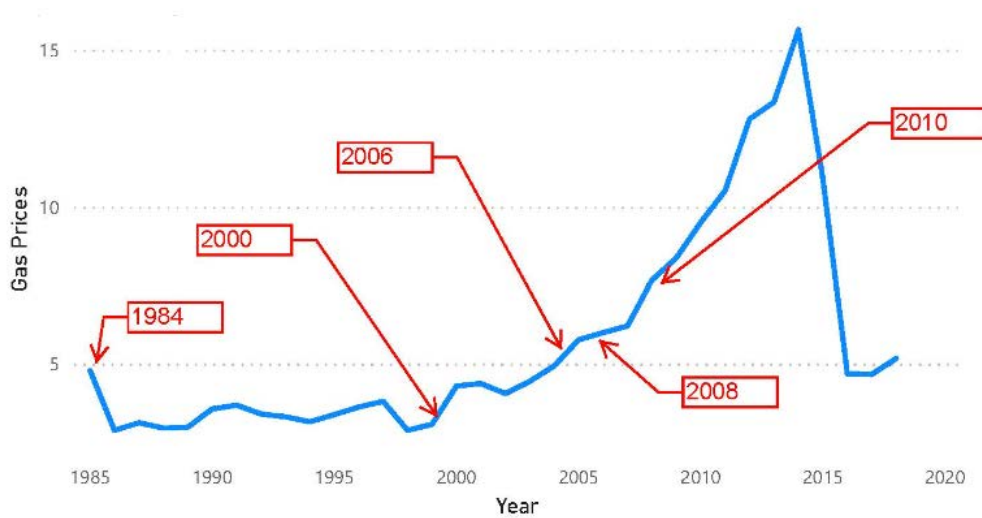


Figure 4. Line Chart summarise the Gas Prices per year

Observations from Figure 4: Gas prices are international prices, so they are not profoundly affected by the events mentioned earlier in our study; and there is a massive drop in gas prices by 2015 due to global economic growth showering, especially for uprising economies like China and India. The relation between Gas Prices and the exports especially Oil Exports

Observations from Figure 5: There is a definite positive relationship between Gas prices and the country Exports as the country economy is based on LNG exports. Power BI can also assist us in finding the key influencers on each variable by using Artificial Intelligence.

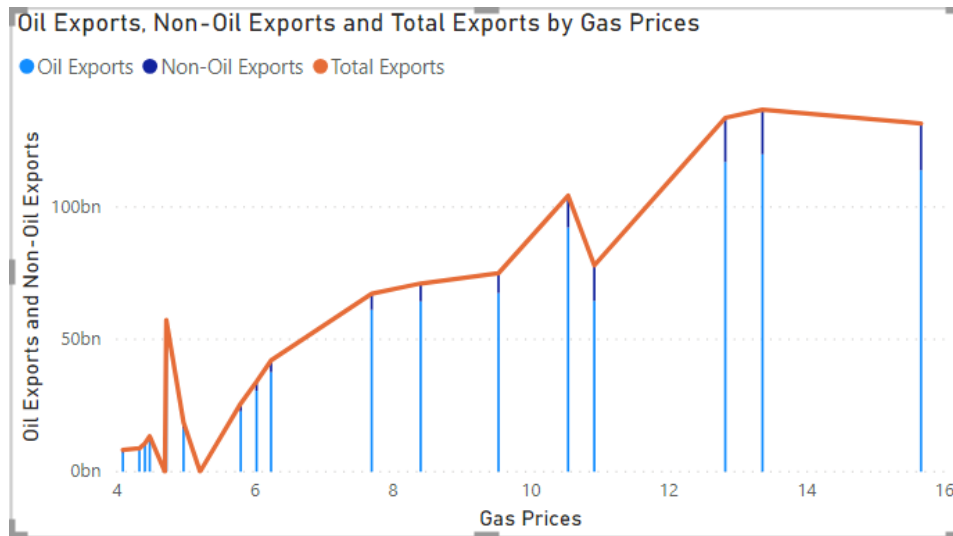


Figure 5. Line and Bar Chart summarise the relationship between the Gas prices and Exports

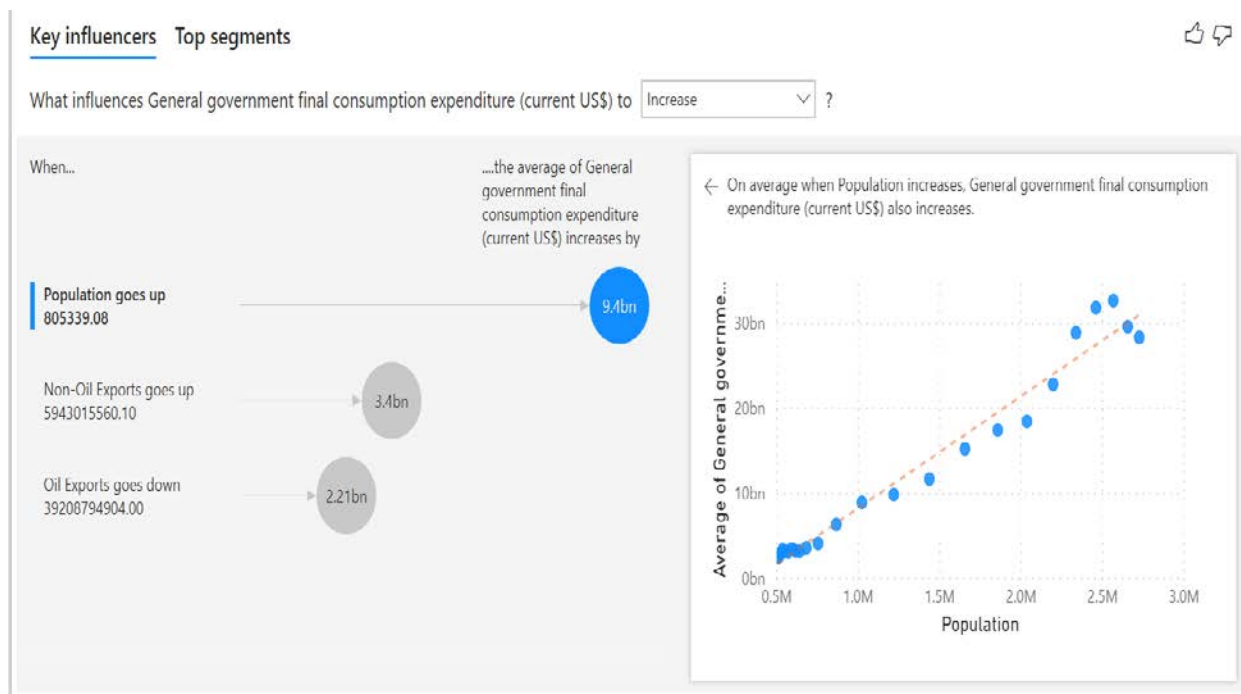


Figure 6. What influences General government final consumption expenditure?

On average, when the Population increases, the General government final consumption expenditure (current US\$) also increases. On average, when Gas Prices increases, Total Exports also increases. GDP is more likely to increase when the population is 522531 -2336574 than otherwise (on average)

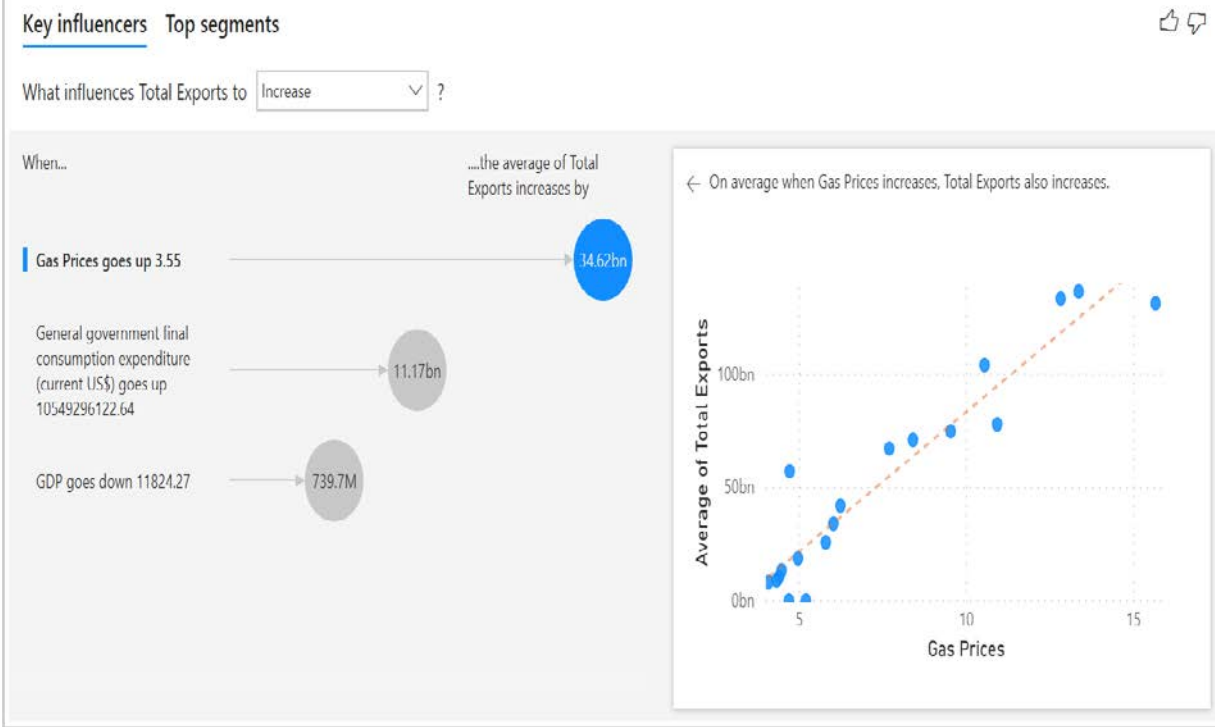


Figure 7. What influences Total Exports?



Figure 8. What influences GDP?

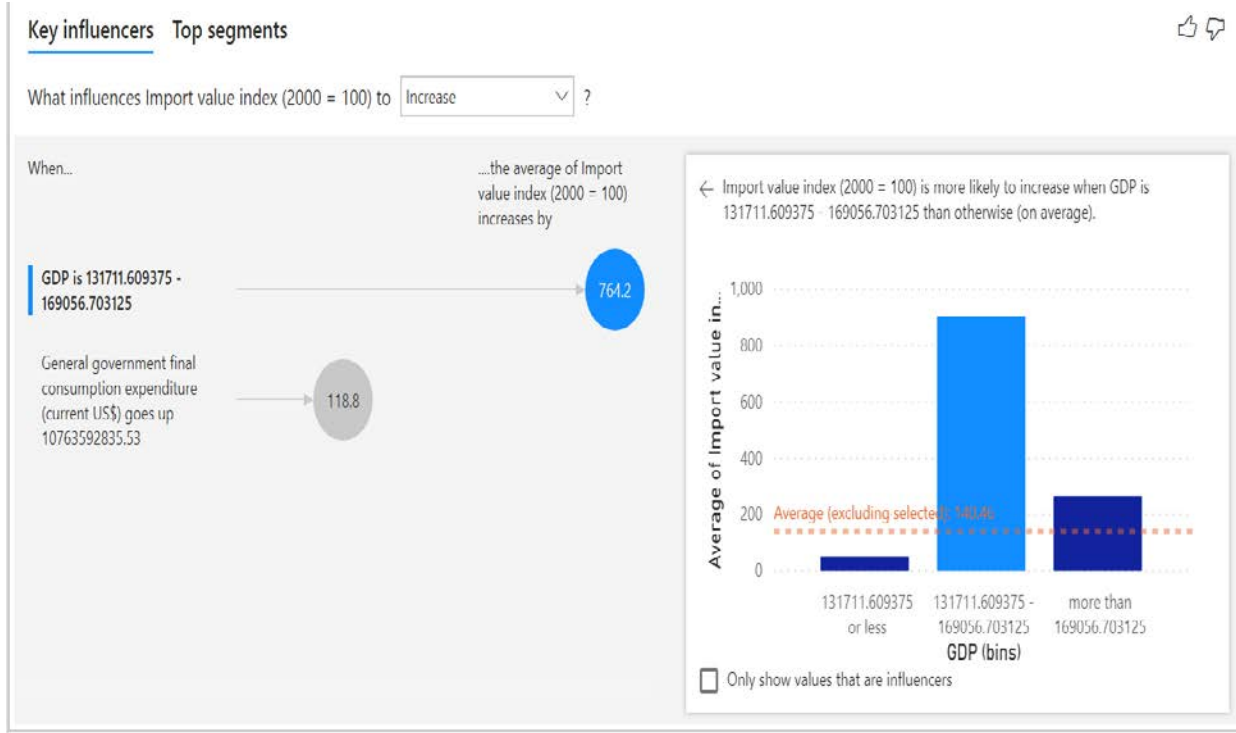


Figure 9. What influences the Import value index?

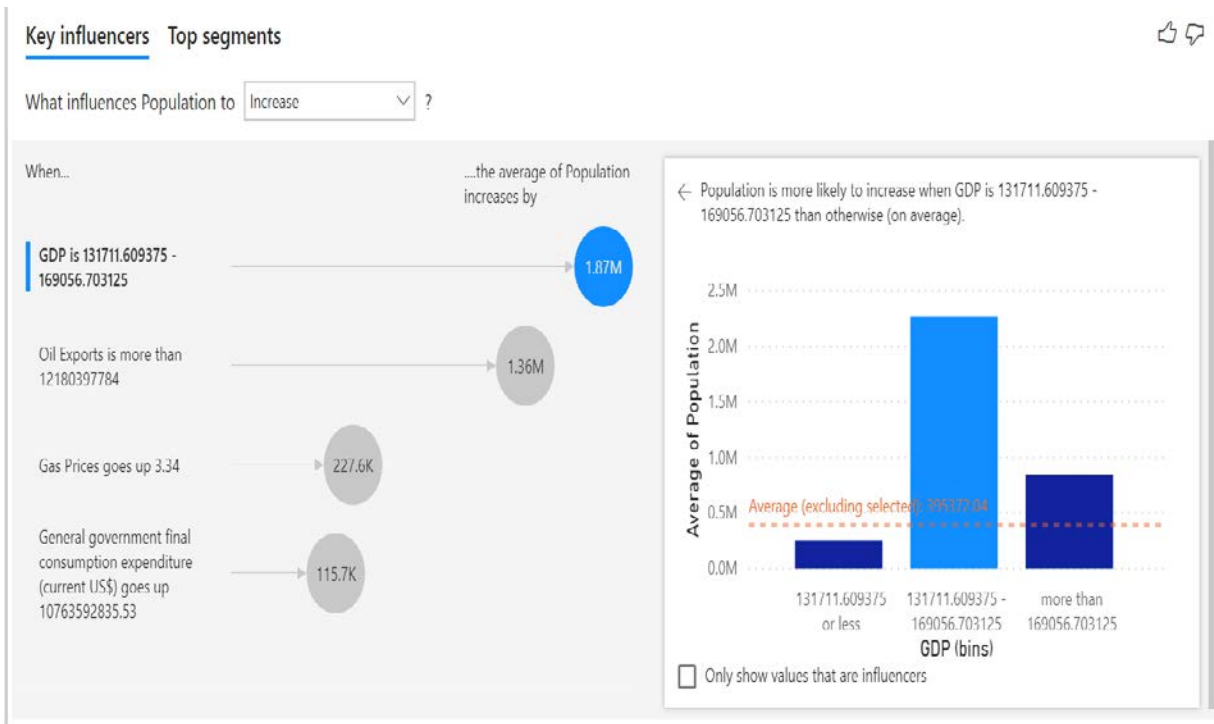


Figure 10. What influences population?

The import value index is more likely to increase when GDP is 131711.609375 -169056.703125 than otherwise (on average).The population is more likely to increase when GDP is 131711.609375 -169056.703125 than otherwise (on average).

4. Discussion

Some of the questions that were asked and the apparent answers are as follows:

How does the fluctuation of Gas prices affect Government expenditure?

The Gas prices affect the National Growth in a positive relationship, meaning that the more the prices increase, the more the economic income, which will lead to the availability of extra funds that can be utilised in different economic improvements sectors.

How does the fluctuation of Gas prices affect the preparation of Major events infrastructure?

The significant growth of the economy boosted after the establishment of Qatar Gas. However, there was a boost in the Government Expenditure; however, this expenditure was dramatically affected by the drop in gas prices in 2015.

How is that linked to the population?

With the occurrence of each event, there was a noticeable increment of the population which is mostly expat. These new populations play a significant role in economic growth in terms of expenses. Most of the population growth was expat needed to execute the necessary country infrastructure serving the events. To maintain a general level of economic growth, the population should be kept on a higher level. That can be maintained only by generating new events and related projects that can keep attracting the expats.

How does population spending affect the GDP?

GDP is more likely to increase when the population increases, subsequently linked to significant events that will attract more population.

5. Conclusion

Based on our study above, we have noticed the following: Government Expenditures are accelerated at each event; however, they are profoundly affected by the Gas prices that are the primary driver for the economy. GDP and Population are highly connected. At certain levels of population, GDP is the highest and so the Government Expenditures, Imports and Exports. Hence, the population needs to be kept at these levels to maintain the best growth of the economy.

To conclude the subject, the current general Economy growth and the population levels rely entirely on the Government securing new events. The main question will be shall this model be kept, or the decision-makers shall look for different economic growth models as bringing more foreign investors. One of the significant factors in the economic growth is that Qatar has to start looking to improve the partnership between the Government and the investors by adapting different financial modelling (PPP – Public-Private Partnerships) that will reduce the expenses and attract more capital investors. Decision-makers can only answer these questions at the Tactical and Strategic level to put the General and detailed plans.

6. Future Research

However, there is some question that will require answers in the future as follow: How is Qatar planning to attract foreign capital investors to Qatar Market to secure multiple economic sources and maintain a proper trade balance, and What is Qatar plan to sustain the right balance of trade given possible occurrences of significant positive and/or adverse events that will affect the economy. The two questions are linked majorly with a new economic source of income and secure more positive events that will drive the country's growth and attract more investors.

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Biographies

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