

A Case Study: Grenada's Sustainable Development

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Abstract

The Caribbean tri-island state of Grenada, Carriacou, and Petite Martinique is among many small island countries in the region seeking to establish sustainable initiatives for its people. After the island received its independence in 1974, countless efforts were made to keep the country self-sustainable as the main coloniser, The United Kingdom, no longer had direct influence over the country's political and economic interactions. To date, Grenada is in front of some Caribbean islands in areas of infrastructural development and education. However, the country lags behind in areas of manufacturing and technology implementation. This case study presents Grenada's economic situation through a review of Grenada's real GDP growth over five years. From the review of the five year real GDP growth it was observed that growth in Grenada is stagnant. The recommendation is made for the application of the Neoclassical Growth Theory to Grenada's economic situation in order to establish stronger sustainable initiatives.

Keywords: Grenada, neoclassical growth theory, growth accounting theory

1. Introduction

The Roman Philosopher and Playwright Seneca (4BC-65) said, "The economy is too late when you are at the bottom of your purse". In other words, if a country's economy is not efficient as well as effective in generating income for the people through the production of goods and services; then it would have failed the people in providing life's basic needs. Of course, there are numerous factors at play in the situation of generating wealth for a nation; but at its simplest understanding it can be done through the correct economic measures. Typically, nations can generate income through the optimum utilization of their physical and human resources; thus, leading to the production of goods as well as services that can benefit the wellbeing of the society.

As a comparatively smaller country to the United States, the United Kingdom and China, the tri-island nation of Grenada; Carriacou and Petite Martinique which has a total Area of 348.5 km² (134.6sq mi) can also boast of generating income from the utilization of physical and human resources. The income generated through this avenue or any other avenue is measured by internationally recognized economic indicator the GDP. For the 2018 Budget Report the Prime of Grenada with ministerial responsibility for Finance and Energy, Dr. the Rt. Hon. Keith C. Mitchell commented, "Mr. Speaker, a primary surplus of 4.7% of GDP is provisionally estimated for 2017, the third consecutive year" (Budget Report Grenada, 2018,p.5).

For the past four (4) years there have been positive growth in Grenada's Real GDP with variation in the level at which these growths may take place. The table below gives a listing of Grenada's Real GDP Rate from the year 2013 to 2017.

GDP	2013	2014	2015	2016	2017 (P)
Real GDP Growth (%)	2.4	7.3	6.5	3.7	4.5

Figure 1: Table showing Grenada's Real GDP from 2013 to 2017

This statement put forward by the Prime Minister is indicative of Grenada's Real GDP growth for the year of 2017. It also demonstrates that the economy of Grenada is quite active and seems to be meeting the needs of the people. However, at this level of Real GDP growth is this sufficient to meet the need of the entire Grenadian population,

making sure that no one is at the bottom of his or her purse. As such, what are the measures that can be adapted to increase the growth of Real GDP in Grenada?

In this paper, consideration will be given to the measures that Grenada can adapt to increase the growth of GDP by applying the Growth Accounting Theory and the Neoclassical Growth Theory. However, before delving into the issue of increasing GDP growth, a brief introduction will be given to GDP and the current international economic growth situation.

2. GDP and the Current International Economic Growth Situation

GDP

According to (Blessing Chiripanhura, Office for National Statistics, 2010, p.56), GDP can be defined as “an aggregate measure of production of goods and services in an economy”. Mr. Harlem Brizan who is the Director of Statistics in Grenada stated that the GDP measurement, along with other economic measurements used in Grenada are internationally accepted standards that are scientifically produced using established international methodology (Brizan, 2018). Although this is the case, GDP has been reprimanded by many critics for being unable to measure the societal wellbeing of a country despite not being designed for this purpose (Blessing Chiripanhura, Office of National Statistics, 2010).

Agreeing with the shortcomings of GDP, Mr. Brizan suggested that what is really needed to improve the robustness of the statistics produced by Grenada’s Ministry of Finance is additional economic indicators that will compliment the measures such as GDP, that are already in use. Other measures that can be used to compliment the use of GDP is the calculation of: 1. Net Domestic Product; 2. Gross National Income; 3. Net National Income; and Household Disposable Income. The inclusion of these measurements will produce a more realistic view of the economic and social well-being of citizens in Grenada.

Despite the shortcomings of the GDP measurement in calculating the full economic and societal well-being of Grenada it is important for the nation to devise a strategy to grow the GDP. In other words, the government of Grenada needs to embark on a new venture that will increase economic growth beyond what is currently being achieved. Such ventures or activities according to Mr. Brizan needs to boost local consumption, local and foreign direct investment, government spending and exports. Notably, the more the country of Grenada imports goods this will lead to a decrease in growth. Thoughtfully, this captures the GDP formula by the expenditures approach (Brizan, 2018).

GDP Formula by Expenditure Approach

$$Y = C + I + G + X - M$$

2.1. International Economic Growth

History has shown that a number of developing countries in the 1990s and the 2000s were able to achieve astonishing growth rates. The most histrionic improvements took place in Sub-Saharan Africa, Europe and Central Asia. However, the most rapid by far occurred in East Asia and the Pacific in both the 1990s and the 2000s (The State of Food Insecurity in the World, 2012). Evidence has shown that developing countries are catching up with developed countries when the convergence perspectives are considered. For example, developing nations such as China and India have been posting double digit growth rates. Such growth rate has been achieved mainly because of their exporting of natural resources and the high increases in commodity prices (World Trade Report, 2014). The following graph demonstrates that developing countries have been narrowing the gap in income and wealth between themselves and developed countries.

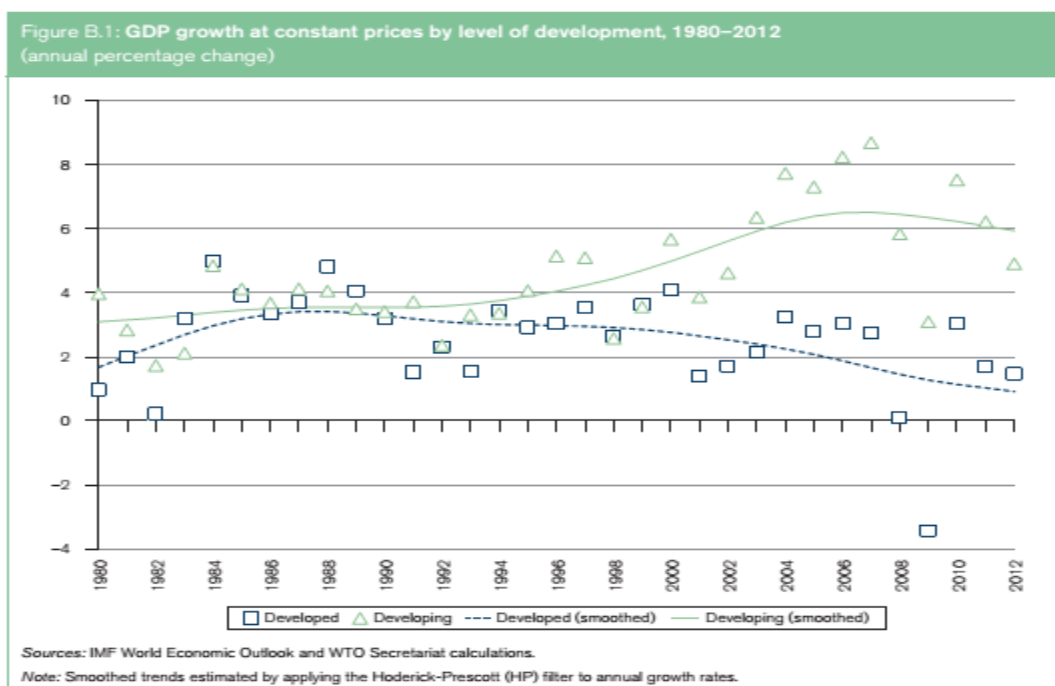


Figure 2: Graph Showing Growth Comparison between Developed and Developing Nations

As it has been mentioned before the developing nations of India and China have seen an increase in their economic growth due to an increase in the exporting of natural resources. Therefore, it can be deduced that global trade is a key factor that contributes to economic growth in a country. However, as it currently stands, the present growth experienced by developing nations may be stopped soon due to two factors. They are: 1. the current imposition of trade tariffs introduced by US President, Donald Trump from the beginning of 2018; and 2. the countermeasures taken by other nations to combat the tariffs imposed (The Macro View, 2018).

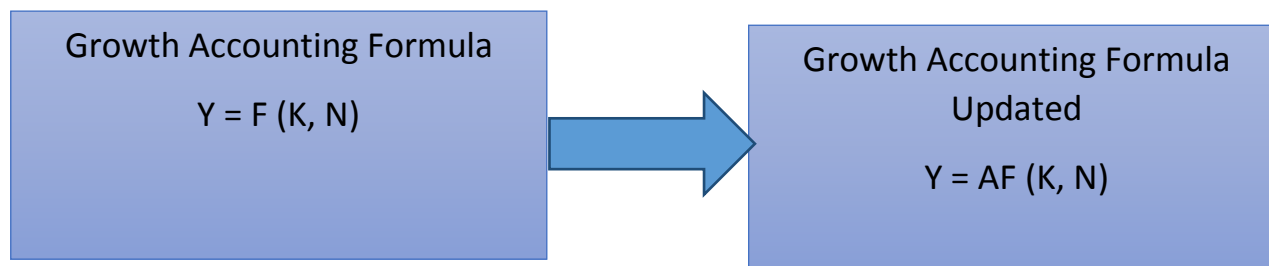
This trade war can also affect the growth experienced in Grenada since the nation is vulnerable to outside forces of the larger economic power houses. This brings the essay to the point of explaining what Grenada can do to increase economic growth. Following in the footsteps of developing nations, Grenada needs to consider ways in which the island's natural resources can be innovatively transformed, capturing its own market and thus being exported worldwide. The manner in which Grenada can increase economic growth will be presented through the discussion of Growth Accounting and Neoclassical Growth Theory.

3. Increasing Economic Growth in Grenada

In the (World Trade Report, 2014) it was noted that GDP can grow for two reasons. The first reason looks at the accumulation of resources which includes investments in physical and human capital. Investment in physical capital looks at machinery or infrastructure and investment in human capital considers job training to enhance skills. The second reason highlights the need to utilize resources more efficiently through technological advancement and institutional framework.

3.1. Growth Accounting Theory

One of the first school of thought developed to explain how an economy can grow is the Accounting Theory of Growth. Growth Accounting explains "what part of growth in total output is due to growth in different factors of production such as labour and capital (Dornbusch, Fischer & Startz, 2015, p.53). An understanding can be deduced from the growth accounting formula. This formula simple states that output will increase when inputs are increased. The inputs in the growth accounting theory are Labour (N) and Capital (k) and derived from these inputs are income. Recently a new function has been added to the growth accounting theory. This new function is none other than technology.



The application of such a theory can help Grenada's government increase economic growth in the coming months and years. Firstly, the government needs to devise a plan that will seek to increase the inputs of Labour and Capital. After a thorough revision of the 2019 Budget Report, it is evident that the government of Grenada is on the correct path in implementing a number of projects that will increase labour as well as capital; thus, leading to increased output.

3.2. Labour

In an effort to increase the efficiency of the labour force in the nation the government of Grenada has embarked on a number of projects that have converged the labour force into Human Capital. This has been done through investments in education and human resource development. In the Budget Report, 2019, the Prime Minister of Grenada provided evidence of such investments that were made. As it stands, a total of one hundred and seventy-three (173) scholarships which are valued at US \$ 48, 526, 330. 30 have been awarded to Grenadians. Additionally, the country has also recorded notable improvement in students' performance in the Caribbean Secondary Education Certificate (Budget Report, 2018).

The government has to be commended for recognising the shortcoming of human resource in Grenada and at the same time implementing measures that will address those shortcomings. As noted by the Prime Minister, not everyone is academically inclined and as such it is necessary to develop a sustainable technical and vocational structure. The structure will be aligned with priorities that are nation driven, the needs of the labour market and the needs of the broader economy. So far, a National Skills Development Institute has been established in Snell Hall, St. Patrick. Here persons are taught furniture making and construction (Budget Report, 2018).

To accommodate all persons of working age there are plans of constructing another two skills development centres. One will focus on clothing and textile and construction training; and the other on clothing and textile manufacturing as well as crop and poultry production. Other investments in human capital is targeted at the youth in Grenada. One such programme is the Youth Development Youth Enterprise Initiative. This programme seeks to establish business support centres at strategic locations throughout Grenada where the youth can have access to sound business planning and decision-making expertise (Budget Report, 2018).

3.3. Capital

The government of Grenada has sort to drive the increase of capital through Foreign Direct Investment as well as by tapping into the country's savings. A number of projects in Education; especially the building and renovation of a number of schools have been funded by the Basic Needs Trust Fund. The BNTF has funded the building of the St. Theresa's R.C School Pre-primary School for the year of 2018. Additionally, through the same fund thirteen (13) school libraries were upgraded. Other notably funding agencies are the World Bank; The International Fund for Agricultural Development; the Caribbean Development Bank; and Kuwait Fund for Arab Economic Development (Budget Report, 2018).

These funding agencies along with financial assistance from the government of Grenada have invested in programmes that will continue to build sectors in Grenada. These investments in the sectors will assist in achieving sustainable development. Sectors such as tourism will benefit from an OECS Regional Tourism Competitive Project which will allow the islands in the Eastern Caribbean to have access to each other by the operation of a ferry. Agriculture has also been boosted through investment in the Climate Smart Agriculture and Rural Enterprise Development Program. The Agriculture Sector is also benefiting from the feeder road project that are allowing farmers in rural areas to have easier access to agricultural lands (Budget Report, 2018).

According to Growth Accounting Theory, the investments made by the government of Grenada in labour and capital should lead to an increase in output. The presentation of the GDP Rate over the years has demonstrated that there has been relative increase in output and at times it seems as though this increase in output is stagnant.

With the introduction of technology to the Growth Accounting Theory one can suggest that the reason for this stagnation is as a result of the lack of technological advancement. Even with the government's recent move to centralise public office information and service through an online platform, is this form of technology sufficient to be coined technological advancement in Grenada. The following theory, the Neoclassical Theory will expound further on what may be leading to Grenada's stagnant or steady economic growth.

3.4. Neoclassical Growth Theory

The Neoclassical Growth Theory developed by Robert Solow in the 1990's, focuses "on capital accumulation and its link to savings decisions (Dornbusch et al, 2015, p.61)". This theory also adds to the equation of growth the endogenous determinant of technology. To begin the application of this theory of growth a simple assumption is made. The theory assumes that there has been no technological advancement in the economy. Following this first assumption a second assumption is made. The second assumes that the economy is at a resting level or steady equilibrium because the economic variables such as labour and capital are no longer changing.

When proceeding with the application of this theory there are usually three broad steps that are followed. They are: 1. Determine how various economic variables contribute to the economy's steady state; 2. The economy's present position of a resting state is thoroughly examined; and 3. Technological advancement is finally added to the model (Dornbusch et al, 2018). In an attempt to explain the reason for the stagnation in Grenada's GDP growth the perspective presented by the neoclassical theory will be applied.

One can state from this theory that in Grenada there has been tremendous foreign and local investments in building facilities for the people of Grenada such as schools, hotels, and agriculture feeder roads. It is theorised that when workers are continuously endowed with capital goods no further growth will be generated; instead growth will become stagnate due to diminishing returns of capital. Therefore, this form of growth which is derived only through capital accumulation cannot be sustained (World Report, 2014). Since this kind of growth cannot be sustained, what can be done?

According to the Neoclassical Theory Model if a country wants to move beyond stagnant growth in output per capita there needs to be continuous advancement in technological knowledge (World Trade Report, 2014). These technological knowledge or technological change can take the form of either advances in the production process; introducing new and improved goods and services; adapting new managerial techniques; and creating new forms of business organization. Grenada's stagnant growth in output per capita rests on its inability to introduce innovative industries that will take the country from its resting state to achieving its full economic potential. The country needs to now use innovative technology to turn natural resources into a unique product or service that can be traded to create more income for the country.

3.5. Resources

The country of Grenada is endowed with a number of natural crop resources namely, nutmeg, mace, cocoa and fresh fruits and vegetables. Added to the natural crop resources are the natural resource of land. The island also has some of the best fertile agricultural land in the Caribbean. So far, the natural crop resources are being exported regionally and internationally. However, most of these products such as the fresh fruits and vegetables, and nutmeg and mace when exported is done so in the raw form. Additionally, the country has been importing significantly more than it has been exporting. The following graphs show: Graph 1, the level at which each natural crop resource mentioned are being exported; and Graph 2, the 2018 Balance of Trade from January to June.

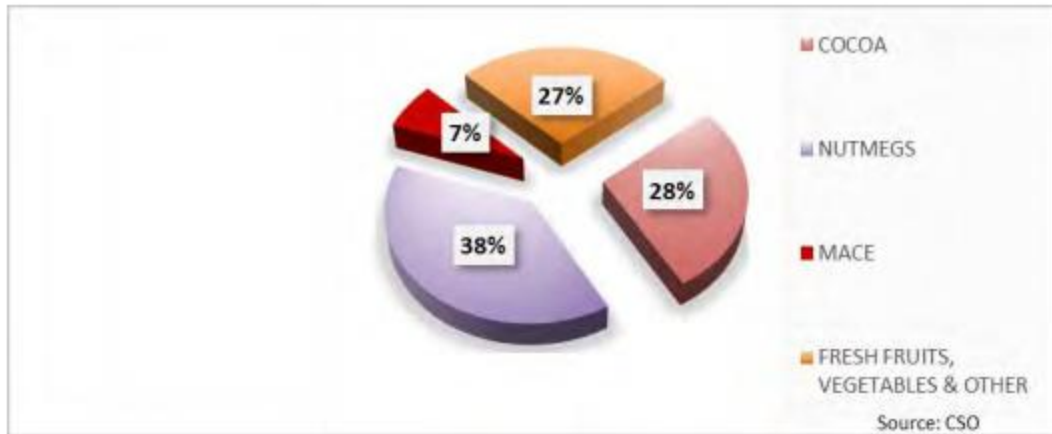


Figure 3: Grenada's Agricultural Exports from January to June, 2018



Figure 4: Grenada's Balance of Trade January to June, 2018

There is no doubt from an agricultural standpoint that Grenada is blessed with natural resources that can add to the country's income; however, the balance of trade is still negative. Moreover, Grenada's physical resources such as beaches, mountainous terrain, and the carnival festival have been attracting tourist to the island. At present, the country's performance in tourism has increased for cruise ship arrivals; but are somewhat stagnant for stay over tourists.

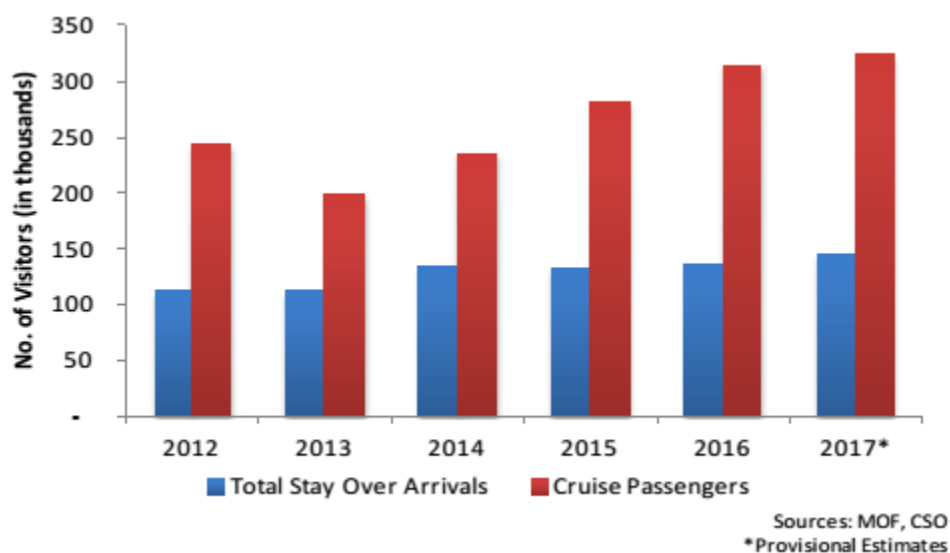


Figure 5: Grenada's Stayover and Cruise Ship Tourist from 2012 to 2017

The tourism as well as the agriculture sectors in Grenada are in need of a turn around that will catapult growth in both systems. This turn around can come from the introduction of innovation that will lead to the production of novel goods and services in both sectors.

3.6. Technology

The sectors, especially the agricultural sector can be revitalised by the development of specialised industries whether it may be for the fresh fruits and vegetables or the nutmeg and mace. Every year there is an abundance of fruits in Grenada such as mangoes, oranges, limes, cashew and many more. The majority of these fruits are wasted due to an oversupply and lack of preservation techniques. With the significant contribution in education there is sufficient human resource capital that can engage in Research and Development that will revolutionise the industry.

For example, there can be technological change in the manner in which the country's fresh fruits and vegetables are being exported. Consequently, instead of exporting these goods in the raw form, the research team can now experiment on an advance form, preferable a manufactured form in which fresh fruits and vegetables can be exported regionally and internationally. This will lead to branding, setting aside a market for the country's products.

There can be production specialisation for each fresh fruit and vegetable as well as nutmeg and mace. In this way the country moves beyond the extraction phase of production and distribution of the goods; but revolutionises the industry by now manufacturing products. For example, canned orange and lime juice, preserved cashew and other vegetables. The properties of the nutmeg and mace can be researched to develop a meaningful product such as medications and creams that can be sold to the international market. Additionally, the government can also tap into the country's blue economy.

It has been stated by the prime minister of Grenada that the country's economic blue space is seventy-five (75) times larger than the country's land space (Budget Report, 2018). As such the blue economy can also add to the growth of the Grenadian economy if the accurate processes are adapted to efficiently use the resources found in the sea. Similarly, the government can invest in the blue economy through research and development, followed by industrialization. For example, the canning of the red snapper fish in well-known Grenadian seasonings such as 'ginger' or 'shadow benny'. These industries (agriculture and the blue economy) can advance in Grenada by the government promoting policies that will encourage technological innovation in these areas.

On the trajectory of technological industrialization of agriculture and the blue economy the labour force available for work will now have to go through a series of educational enhancement, and skills training that are specifically tailored for this form of innovation. The government can seek to obtain this training and education through international diffusion of knowledge, especially from friendly ally China who are known for such technology (World Trade Report, 2014). With these improvements in the labour force it will be easier for government to streamline new industries or innovations which will lead to investment opportunities; especially foreign investment.

Work will also have to proceed on institutional reform so that foreign investors will be attracted to invest in the newly formed industries in Grenada. Institutional reform will boost foreign investment (World Trade Report, 2014), which will lead to an increase in employment in Grenada as well as an increase in regional and international trade; and ultimately economic growth. Hence, Grenada will now be able to exploit comparative advantage by now producing and exporting their manufactured goods and importing only those goods that are only paramount to do so (World Trade Report, 2014).

4. Conclusion

In conclusion, the Neoclassical Theory of Growth has given a better view of the economic situation in Grenada. From the GDP rates presented from over the years there is some understanding that the economy of Grenada is at stagnant or steady growth. Even though the government has made enormous strides to better the economy through capital investments, this seems to have led to diminishing returns of capital. On reflection of the Neoclassical Theory it can be deduced that the economy of Grenada can experience an increase in growth through the interjection of technological advancement in the agriculture and blue economy sectors. The revolutionizing of these sectors will increase the productivity level in the nation; thus, resulting in an increase in income and the GDP Rate.

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