

Analysis of Canada Economy from 1960 to 2016:

Summary for DATA 501 Project

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1. Abstract

Economy is one of the most important parts of the human development index of each country, which includes many factors such as production, distribution, trade, consumption of goods (Prinsipe Ybarro, 2017). In this project, we will study the Canada economy, including consumer spending, exchange rate, gross domestic product and interest rate and so on. We will also study the inflation rate, misery rate and unemployment rate of Canada from 1960 to 2016. The dataset we are going to use is World development indicators published by The World Bank (“world-development-indicators,” 2017). For the analysis part, we will be using both Python and Excel to extract useful information from the dataset.

2. Economy Definition and importance

Economy is the cornerstone in the development of any country. According to Investopedia (“economy,” n.d.), “Economy is the large set of inter-related production and consumption activities that aid in determining how scarce resources are allocated. This is also known as an economic system”.

3. Dataset

The world development indicators dataset is an open dataset published by The World Bank that encompasses more than several hundred indicators of economic development from all the countries around the world. The dataset that we are using is the primary World bank collection that is compiled and collected from officially recognized international resources (“world-development-indicators,” 2017). It covers many topics ranging from agriculture and rural development to poverty and social development. It is being updated regularly and quarterly in April, July, September and December and the last update is April 27, 2017. The dataset can be download from [here](#).

4. Tools and Methodology

For this project, Python will be used for analyzing the data and finding the useful information about the data. More specifically, at first the Excel file containing the dataset will be cleaned and all unrelated information will be left out. Then, for

modification and transforming the data, we will be using some Python libraries provided. Finally, for data visualization, we will be using the some adds-in libraries provided in Python. It should be mentioned that we will use Excel when we want to verify our results, graphs and tables obtained by Python.

5. Potential characteristics

In this project, we will study the Canada economy, focusing on Gross Domestic Product (GDP), inflation rate, misery index (Mason Garrison, 2017), exchange rate, consumer spending, Gross National Product (GNP) (“Gross_national_product,” n.d.), manufacture export and import from 1960 to 2016. In fact, we will be studying how different governments and political parties handled the economy from 1960 where they were in power. We compare Canada economy with other developed country and see how it progress during that time.

6. Initial Analysis

In this section, the initial analysis that we did on the dataset using Excel is presented. The initial analysis is on national income, GDP which are the important parts of economy of any country.

6.1. Net national income: It refers to net national product (NNP) minus indirect taxes. It includes the income of government, households and business (“Net_national_income,” n.d.). Figure 1 shows the adjusted net national income for 5 developed countries including Canada, USA, China, Japan and Germany.

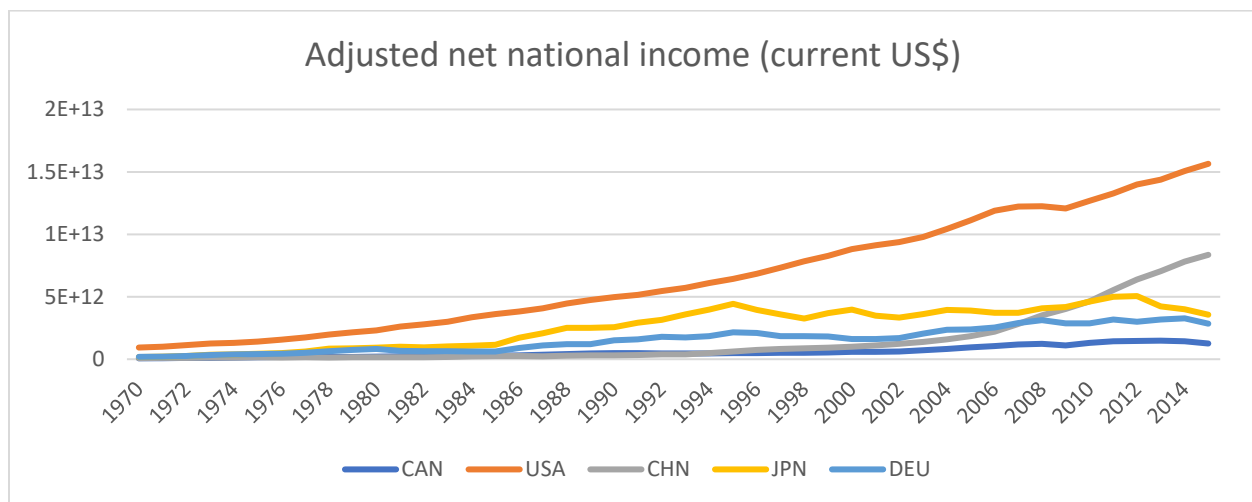


Figure 1-Adjusted net national income for 5 developed countries

As shown in Figure 1, net national income is enhancing almost exponentially for USA and after that from 2004, China's net national income has been growing drastically and faster than other 3 developed countries. In order to show the grow rate of net national income of these countries we provide Figure 2 that represents the net national income growth for these 5 developed countries.

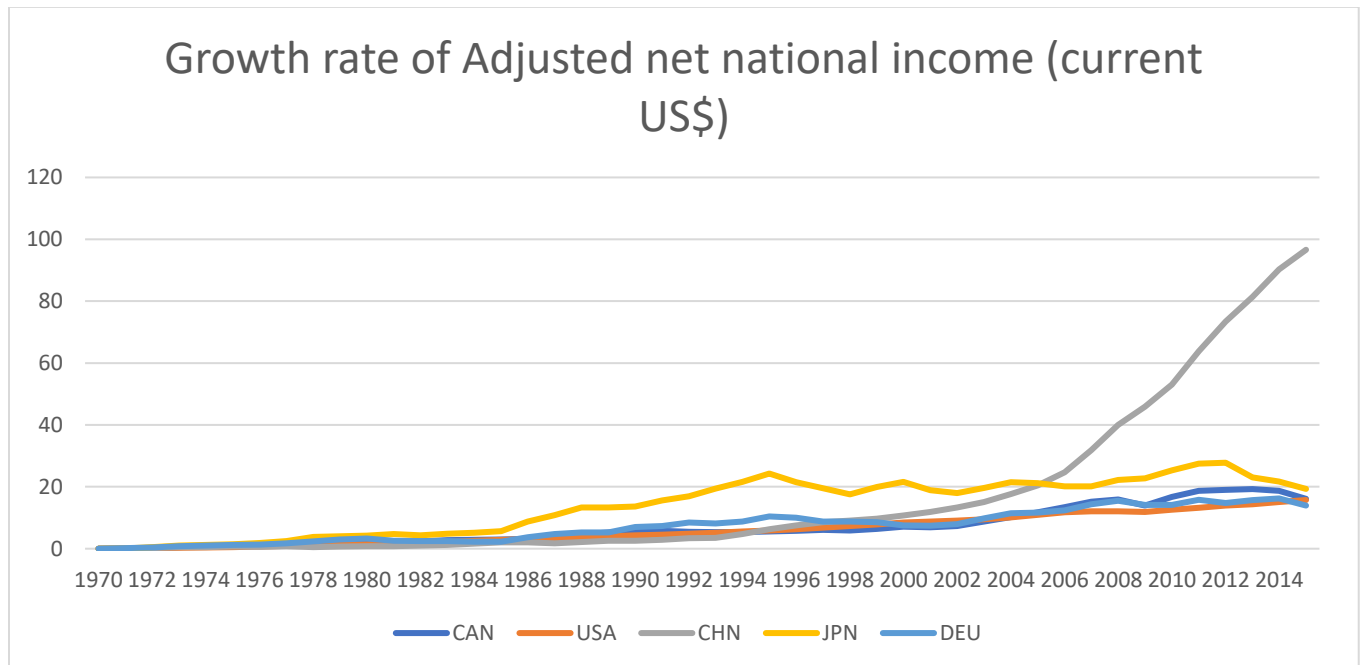


Figure 2- Growth rate of net national income of 5 developed countries

As shown in Figure 2, even though USA is the leading country in terms of net national income, China's growth rate of net national income is drastically faster than other countries.

6.2. GDP: It shows how healthy a country's economy is. It indicates the total dollar value of all goods and services for a country over a specific period of time (Investopedia Staff, 2017).

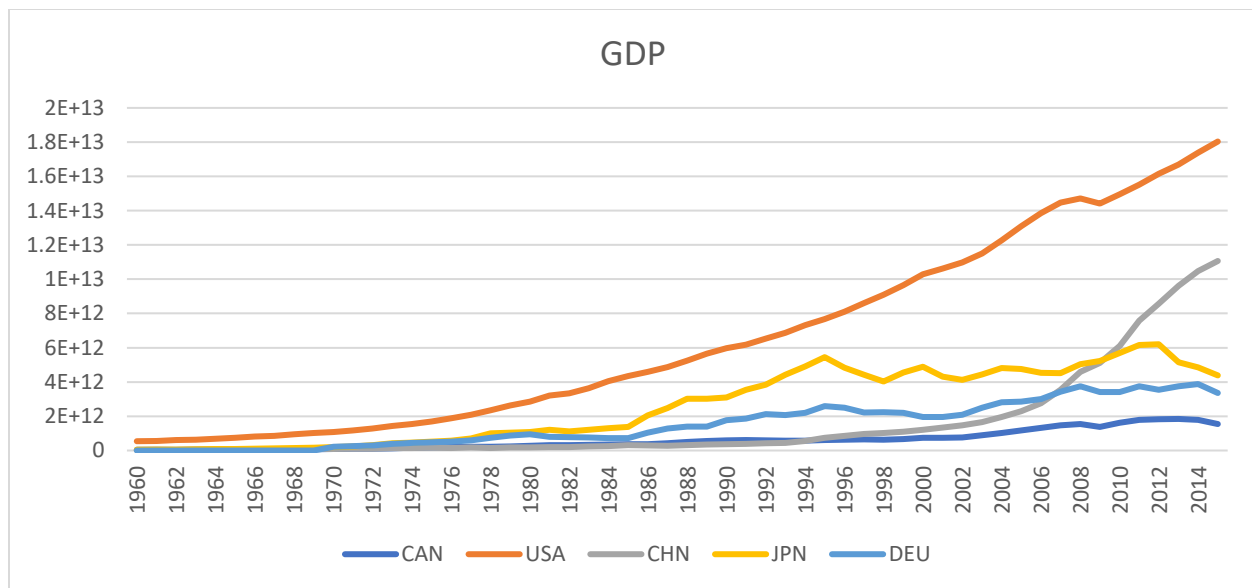


Figure 3-GDP for 5 developed countries

As shown in Figure 3, USA is significantly better than other 4 developed countries in terms of GDP. But, interestingly, the GDP's growth rate for China is the fastest among all 5 countries.

7. Bibliography

economy. (n.d.). Retrieved from <http://www.investopedia.com/terms/e/economy.asp>

Gross_national_product. (n.d.). Retrieved from https://en.wikipedia.org/wiki/Gross_national_product

Investopedia Staff. (2017). What is GDP and why is it so important to economists and investors?
Retrieved from <http://www.investopedia.com/ask/answers/199.asp>

Mason Garrison. (2017). Misery_index_(economics). Retrieved from
[https://en.wikipedia.org/wiki/Misery_index_\(economics\)](https://en.wikipedia.org/wiki/Misery_index_(economics))

Net_national_income. (n.d.). Retrieved from https://en.wikipedia.org/wiki/Net_national_income

Prinsipe Ybarro. (2017). Economy. Retrieved from <https://en.wikipedia.org/wiki/Economy>

world-development-indicators. (2017). Retrieved from <http://data.worldbank.org/data-catalog/world-development-indicators>