Factors Affecting Economic Growth

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ABSTRACT

Economy represents the power of a country, it is an important reason to study economic growth, what fiscal and monetary policies can be used by the government to stimulate the market? What factors and how they make a country's economy bigger? The United States is the first-largest economy of the world, they have survived from many times of recessions and Global Financial Crisis in the past, the debt-to-GDP ratio has exceeded 104% by 2019, however, the economic growth of US is still increasing, the US bond market has always been popular in the domestic, this gives the idea whether the government bond issuance would be a factor of economic growth. By studying the US case, it was found not only the bonds would affect the economy, but also tax cuts, adjustment of interest rate, economic freedom, foreign direct investment, and political risk were linked to the bonds affecting the economy. Quantitative data from US, UK, Japan, Greece, Thailand were collected to analyze how those factors would affect the economic growth in the linear regression model. It found the better stability of the government and financial development, and economic freedom make a country attract more investment for the market stimulation and FDI, thus the economy can grow. When the economic recession exists, it may reflect the economy has been overinflating or stagnating, the government might use the wrong policy to the economy, the high taxation might lead to the decrease of productivity and the burden for individuals, the over-low interest might lead to the low saving rate thus people would like to buy more houses and investment more, when it met the tipping point, the market had been overinflating or stagnating, thus the recession would occur, the government might need to issue bonds to get fund due to the low revenue of taxation, if the country is not strong enough, the country might go bankruptcy. This research findings aim to provide analysis of these factors mentioned above affecting the economic growth.

Keywords: Bonds, Economic Growth, Debts, Recession

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Introduction

Background

The economic growth implies many information of the economy, the comparative and absolute advantages of a country are the keys for their government to develop their economy by using fiscal and monetary policies. The US economy is composed of two-thirds of services sector, in the meanwhile, the trade deficit is very high, -316.3 billion[1], but the real GDP is still the first largest one, approximately 18.7 trillion USD[2], it implies the US has the structural advantages of services sector and intellectual resources, the information technology industry has been booming after the Information Revolution in the late 90s, it gives the US advantages with great stability of the government, and higher economic freedom. Economic growth is an outcome of both economic activities and political ones, thus the economic growth continues to be one of the most relevant and exciting sub-areas of economics. (Acemoglu 2012)[3]. Economic growth is no doubt good for the country, including higher average incomes, lower unemployment, lower government borrowing, advanced public services, financial development, and investment, on the contrary, the recession would lead to the increasing unemployment rate, the decrease of consumption and productivity, individuals and firms lose opportunity of trades. Back to the 2008 Global Financial Crisis, the US government launched the bailout program to save the bankruptcy, the Federal Reserve System was using the open market operations by printing the US Dollars to buy the bonds, up to 700 billion US Dollars flowing to the market. The US economy is the largest economy

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[1] U.S. Census Bureau, “U.S. International Trade Data,” https://www.census.gov/foreign-trade/data/index.html
[2] Bureau of Economic Analysis, “GDP,” https://www.bea.gov/data/gdp/gross-domestic-product
[3] Acemoglu, D. "Introduction to Economic Growth." *Journal of Economic Theory* 147, no. 2 (2012): 545-50.

of the world, investors believe the US bond is one of the safest investment because the default risk of the bond is very low, and the US dollar is hard currency, countries buying the US dollars as their main foreign exchange reserve, the US government can keep printing the money to give back to the investor without the risk of the USD dramatically devaluing. In the same time, Iceland was facing bankruptcy, they needed bailout program from the IMF to save their economy, they were unlike US, the currency of Iceland is not the strong currency, so they need foreign aid. Also, they rely too much on the tourism as their main domestic income, they could not help themselves in the short time by the domestic market. The trade within US bond market can also reflect to the global market because countries are buying the US bonds to maintain their foreign exchange deposit and for the investment for their countries' benefits, since the political risk is low, and the economic freedom of the US is high, so many countries would like to invest in the US, which means the FDI in the US is high. Japan's bond market is also very heavy because of the low default risk, the debt-to-GDP ratio has already been over 200% which indicates the Japan government using QE to maintain its economic growth and the revenue of corporations by printing money to buy bonds, the increased social burden of the aging society, and the decrease of the labor force need the economic stimulation from the Japan government. If the US government did not launch the bailout plan and using Quantitative Easing to print so much money to buy bonds, how could the US recover its economy from the 2008 Global Financial Crisis? Both the US and Japan are beneficial from the huge amount of bond issuance. However, small countries cannot issue such a huge number of bonds like the US Treasury, and they cannot highly attract global investors to buy their bonds because the default risk is high, they might not be able to pay back the debt, for an example: Greek government-debt crisis after the 2008 Global Financial Crisis, the Greek government almost could not pay for the

debt, and Thailand developed the bond market and issued bonds after the 1997 Asian Financial Crisis. For qualitative research is focused on the history of the US from the 80s to 2018, analyze what fiscal and monetary factors can increase the economic growth.

Motivation

According to the PwC Global Top 100 companies rank[4], US share of the Global Top 100 market capitalization rose from 45% as at March 2009 to 63% in 2019. It represents over 50 companies of the rank are from the US. Even the economy is so strong, but the United States still had suffered from many times of economic recession in the past, bubbles were the main concern for the central bank because the economy had been overstimulating, it would cause the recession lately, the wrong decision of the Fed to adjust the interest rate could also lead the recession worse, the wrong adjustment caused the inflation and stagnation of the economy, the decrease of aggerated supply since the Federal government kept using expansionary fiscal policy to increase the demand instead of the supply side (productivity), the economy was stagnant.

Financial development increases economic growth of all countries, also it will enhance economic growth through rapid capital accumulation and technological changes (Calderón & Liu 2003)[5]. Theoretically, the flow within the stock and bond market can also reflect the economic phenomenon (Harvey 1989)[6], the yield rate is the key for investors to decide where to put the money in.

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[4] PwC, Global Top 100 companies, Global ranking of the top 100 public companies by market capitalization (2019)
[5] Calderón, C., & Liu, L. The direction of causality between financial development and economic growth. Journal of Development Economics, 72(1), (2003): 321–33
[6] Harvey, Campbell R. "Forecasts of Economic Growth from the Bond and Stock Markets." *Financial Analysts Journal* 45, no. 5 (1989): 38-45.

However, the dividend yield of stock market has already higher than the bond one, but it has not seemed the huge flow goes from the stock market to the bond one.
Most of the people still think about the risk of investing stock is still higher than the bond which again shows the significance of the bond.

Since the United States is the largest economy of the world, we all already know they have high competitiveness, lots of natural and intellectual human resources, but I want to know more about how their governments' fiscal and monetary policies affected the economic growth, the budget deficits means the government need to issue bonds to get the fund. Also, the taxation is one of the important factors will affect the supply and demand, if the tax rate is too high, it will not only decrease the productivities, but also the consumption surplus of individuals and firms because the intention of better working efficiency and effectiveness will decrease. The US government was trying to decrease the tax rate in order to stimulate the economy, thus the decrease of taxation will be a transition to more budget surplus since the government funds decrease, so the issuance of government bonds become more significant.

Since the significance of US economy to the world, this research chose US for the case study, analyzing factors found in the case study, and collected more data from different countries to testify them in the statistic research method. This proposed to understand what factors of policies will stimulate the economic growth.

Research Purpose

By studying factors of economic growth, we can understand how those factors affect the economic growth, why some of the countries were not facing bankruptcy, but some were facing it back to the past financial crises,

and how they successfully recovered from the economic recession. Understanding the reason why government established certain fiscal and monetary policies to stimulate the market according to its advantages and disadvantages.

Research Questions

This research is focused on the factors of economic growth, thus the research questions will be the following below.

1. What factors will affect economic growth?
2. How those factors will influence economic growth?

Contribution

The main purpose of doing this research is to define what factors will affect the economic growth by not only using qualitative approach to analyze United States to explore some possible factors which will influence economic growth, but also using quantitative data to validate those main findings. The case study focuses on the US economy, policies, and government bond, government bonds can be beneficial to the economy, solve the shortage of the government funds, increase the domestic construction and investment, but it can also be harmful to the economy, the market might be too controlled by the government thus affect the free market order negatively, since it is an open market operation for Fed, we can know the influence of the bond market to the whole economy. If the debts were too high, it would lead to the financial and debt crisis since the government was not able to pay the debts back.

Issuing government bonds is one of the significant approaches for governments to raise money, and also an open market operation which is related to the monetary policy. The issuance of bonds can also reflect the economical phenomenon. If an economic

recession comes out, the funds of the government may decrease because most of those funds come from taxation, if corporations earning less than last year which indicates the economy might have a recession, so the government might need to issue bond in order to raise the money for the fiscal budget. Higher taxation will lead to the intention of productivity because more gain is going to the public services, it is not beneficial for the private capital accumulation, thus it might decrease the economic growth.

Limits

The limited access to the government website, for example, China as the second largest economy, it is not able to get the issuance of bonds directly from the government website. For a more complete databank, it is necessary to collect data with the open access provided by government databank websites, the United States, the United Kingdom, Japan, Greece, and Thailand, those governments have shared the sources with the public. However, the US Department of Treasury only provide the bond issuances from 2000, so the time range of my data collection is fixed on the governmental website.

Delimits

Since bond market is partly and specifically popular in some of the countries, for example, Taiwan does not have a popular government bond market compared to US bond market, this research findings of bond might not be certainly helpful to those countries they do not have hot bond market. Therefore, the issuance of bond may not be one of the main approaches of expansionary fiscal and monetary policies in those countries.

Literature Review

Definition of Economic Growth

Economic growth is the phenomenon of the economy: real gross domestic product increase or GDP per capita increase. (Divya and Devi 2014)[7] used GDP as the dependent variable to research what factors will influence the economy. Studying economic growth by using GDP as the main indicator of the economy. Increasing GDP indicates a rising position of the economy, relationship between GDP and selected independent variables to by linear regression to determine how those factors influence the economic growth. Classical economists (Adam Smith 1776)[8] and (David Ricardo 1817)[9] believed that economic growth consist in land, technology, labor, capital, but also consist in economic and political structures. Economic growth rate indicates the annual growth rate of real GDP which is the goal for country to maximize their economy. Economic growth defines economic power and the international status of a country. If the social return rate is higher than the private return rate, it indicates the taxation and fiscal policies are effective, thus the economic growth will increase because the social return come from the private return (Barro and Xavier 1992)[10]. The variation of economic growth can be observed by three aspects: (1) demand-leading, it indicates the change of consumption, capital, and net exports, (2) supply-leading, it indicates the variational production of agriculture, manufacturing, and service sector, (3) distribution, it indicates the variational revenue of labor and capital, and production factors.

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[7] Divya, K. H., & Devi, V. R. A Study on Predictors of GDP: Early Signals. *Procedia Economics and Finance,* 11*,* (2014):375–382.
[8] Smith, Adam. "An Inquiry into the Nature and Causes of the Wealth of Nations." (1776).
[9] Ricardo, David. "On the Principles of Political Economy and Taxation." (1817).
[10] Barro, Robert J., and Xavier Sala-I-Martin. "Public Finance in Models of Economic Growth." *The Review of Economic Studies* 59, no. 4 (1992): 645-61.

The economic growth rate indicates the total value change of the gross domestic product.

Calculation of Economic Growth Rate:

$$\boldsymbol{Economic\ Growth\ Rate_t = \frac{Real\ GDP_t - Real\ GDP_{t-1}}{Real\ GDP_{t-1}} \times 100\%}$$

If the economic growth rate decline than the last year or it is negative, this situation is called recession, so the central bank would like to decrease the interest rate to stimulate the stagnation of the economy, to make the market flow faster. Even the free market can lead to the decline of trade barriers, increase the opportunities of trades, but in the reality, it shows that there is no completely free market. However, the growth rate did not reflect the precise phenomenon of the economy, we could not know what is actual increasing within the GDP only by the economic growth rate, it only represented the total value of the economy. GDP is measured at the country level[11], so in this research using real GDP to measure the economic growth within different countries. The economic growth needs to accomplish by right policies and institutions, which means the market still need the government instead of letting it be a free market (Spence 1998)[12]. By three thesis statements mentioned above, the economic policy is the key to economic growth, which emphasize the relationship within the government and the market.

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[11] Grossman, Gene M., and Alan B. Krueger. "Economic growth and the environment." *The quarterly journal of economics* 110.2 (1995): 353-377.

[12] Charles I. Jones Michael Spence Takes, Michael Spence. *Introduction of Economic Growth.* (1998).

Definition of Real Gross Domestic Product

- The combination of real GDP (real Gross Domestic Product) is: Consumption + Investment + Government Purchase – Net Exports. The real GDP can reflect a measure of a country's total economic output that is adjusted for price changes.
- Real GDP makes comparing of GDP in different years more meaningful because it allows comparisons of the actual volume of goods and services without inflation factor unlike the nominal GDP.
- Real GDP measures the total output of all goods and services production in the domestic[13].
- $Real\ GDP = \frac{Nominal\ GDP}{Deflator}$
- $Deflator = \frac{Nominal\ GDP}{Real\ GDP}$*100, it represents the inflation or deflation of the economy.

Factors Related to Economic Growth

Definition of Short-Term US Bond Issuance:

The real issuance. Every fiscal year, the government will estimate how much budget deficits, thus reflect on the estimated bond issuance, however, there is not only the primary market, but also the secondary market, the real issuance is based on the market's condition, those amount value of investors purchased. (Herring and Chtusripitak 2000)[14] examined the relationship between bond markets and economic growth. It indicates the relationship is positive. The research method enabled regression analysis. Supply-leading financial development can induce real capital formation in the

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[13] Kohli, U., *Real GDP,* real domestic income, and terms-of-trade changes. *Journal of International Economics,* 62(1), (2004)

[14] Herring, R. J., & Chtusripitak, N., The case of the missing markets: The bond market and why it matters for financial development. The Wharton School Working Paper 01-08. (2000) University of Pennsylvania.

early stages of economic development which is the bond (Patrick 1966)[15]. Also, (Levine 1997)[16] pointed out the financial development will stimulate the economic growth via productivity and investment. Financial markets increase economic growth by stimulating capital accumulation and promoting efficient allocation of resources and technological innovations (Thumrongvit et al. 2013)[17]. Policies of industry and taxation may affect investment and education, and the training policy may affect the productivity, the investment and productivity are linked because more investment can induce new technology for the productivity.

Definition of Interest Rate (Bank Rate)

Adjustment of interest rate as a part of financial development can affect economic growth, savings give investors a less risky investment as their capital accumulation become more and more, however, if the rate is too high, it can also raise the burden of borrowings (Pagamo 1993)[18]. It can be used as the open market operation, raising the interest rate as the tightening monetary policy will lead to the speed of market currency flow slower, the demand for the currency decrease because the cost of currency is higher, it will be more difficult for people to loan money, thus the economy cannot be stimulated which might lead to the recession. The traditional expansionary monetary policy by decreasing the short-term interest rate (interbank overnight call-loan rate), which will also decrease the long-term rate (bank rate), so the consuming will be more,

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[15] Patrick, H.T. Financial development and economic growth in underdeveloped countries. Economic Development and Cultural Change 14, (1966):174–189.
[16] Levine, R. Financial development and economic growth: views and agenda, *Journal of Economic Literature*, 35, (1997) 688–726.
[17] Thumrongvit, P., Kim, Y., & Pyun, C. S. Linking the missing market: The effect of bond markets on economic growth. International Review of Economics & Finance, 27, (2013) 529-541.
[18] Pagano, Marco. "Financial Markets and Growth: An Overview." *European economic review* 37, no. 2-3 (1993) 613-22.

and the aggregated demand will be stimulated, also known as the decreasing interest rate policy.

The bank rate has smaller effect to the long-term bonds compared to the short-term bonds because the bond yield is related to the interest rate[19]. The 10-year bond's coupon rate is not affected by the market rate. On the contrary, the adjustment of interest will be reflected on the short-term bonds, when the interest rate raise, investors has a one-year bond, they may want to buy another one soon after the bond is at maturity because the coupon rate of the bond go up through the higher interest rate. The interest rate affect the short-term bond coupon rate positively. The relationship between bond yield and bond's price is reversed, when creditors buying bonds, they will prefer buy the higher bond yield with lower price, when selling bonds, they will sell them at the lower bond yield with higher price. The bond yield is calculated with the coupon rate, and the change of coupon rate is based on the market rate.

The Cheap Money Policy: Quantitative Easing (QE) and the Decrease of Interest Rate

QE is an untraditional cheap money policy by using open market operations, in the US case, the Fed buy assets from the market, thus affect the interest rate, and lead to the expected inflation, which means there are more cash flowing into the market, the economy can be stimulated. The QE is effective when the recession is occurring, otherwise it will lead to the recession[20].

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[19] Smirlock, Michael. "Inflation announcements and financial market reaction: Evidence from the long-term bond market." *The Review of Economics and Statistics* (1986): 329-333.

[20] Kapetanios, G., Mumtaz, H., Stevens, I., & Theodoridis, K. *Assessing the Economy-wide Effects of Quantitative Easing*. The Economic Journal, 122(564), (2012) F316–F347.*

The Background of US QE and Japan QE Policies

After the Global Financial Crisis, the US economy was having a recession, the unemployment rate increased because of many companies and banks crashed, the effectiveness of low interest rate had reached the limit, so the Fed used QE as another way trying to stimulate the economy.

We cannot neglect the effectiveness of QE: The Fed bought mid-long-term government bonds in order to raise the long-term bond prices, so the long-term interest rate would fall, thus the loan rate would fall which the real estate can be boosted. Buying stocks to let the cash flow into the stock market, so the stock price increase to stimulate consumption and investment. Lowering the US foreign exchange rate to export more goods, and to increase the value of revenue that the US government investing overseas, which means the same amount of foreign exchange will be more valuable compared to the US currency, when the US currency value decrease, the foreign currency value will increase. Foreign countries buy the US bonds have to pay the US dollar first, so they need to exchange, their currency will be more valuable when the US currency value falls, on the other side, the overseas assets purchased by the US will be more valuable when the US currency value falls.

Japan QE suggested by Bernanke[21] in 2000:

> The Japan central bank should have the market intervention to let the yen less valuable, if the aggregated demand could not be stimulated, the central bank should use QE and the expansionary fiscal policy to affect the consumer price which the deflation can be solved. Even if the price did not increase, the investment would increase because of appreciating bond and stock.

[21] Dr. Ben S. Bernanke was the chairman of the Fed from February 2006 through January 2014, also an economist before working for the Fed, he was appointed to that position by President Bush and Obama.

The Definition of Tight Monetary Policy: Increasing Interest Rate

In the study of (Calvo and Vegh 1995), increasing interest rate is an usual method for government to fight the high inflation, especially in many high-inflation countries, but it cannot be a long-term method since it will decrease the market flow thus the recession will come after[22].

After the 2008 Global Financial Crisis, the US kept using untraditional and unclassical cheap money policy to stimulate the recession, however, the risk of over inflation and overcontrol to the market is not the good approach for the economy, so the Fed now is trying to shrink the booming balance sheet[23]. Shrinking the balance sheet by decreasing purchase of Mortgage Backed Securities[24] (MBS) to moderate the inflation, which the price of bonds will decrease, the interest rate will increase, (the relationship within bond yield and bond price is reversed), however, it will lead to the capital flow into the US market, the demand for US currency will be higher, it might not be beneficial for exports. The Fed shrink the balance sheet decreasing the purchase of MBS instead of selling them, so it will not have a strong impact to the market.

Inflation and Deflation Influence the Economy

There are two important indicators of inflation and deflation: Producer Price Index (PPI) and Consumer Price Index (CPI).

1. The PPI reflect the change of production cost, which can be seem as the precedent index of CPI because the CPI is usually affected by the PPI.

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[22] Calvo, G. A., & Vegh, C. A. Fighting Inflation with High Interest Rates: The Small Open Economy Case under Flexible Prices. *Journal of Money, Credit and Banking*, (1995) 27(1)

[23] Shrinking the balance sheet has the side effect of lowering the level of bank reserves held at the central bank because those banks need the stable and large amount cash from the Fed.

[24] MBS are investments that are secured by mortgages, are a type of asset-backed security, and traded in the secondary market. It allows investors to benefit from the mortgage business without ever having to buy or sell an actual home loan. Typical buyers of these securities include institutional, corporate or individual investors.

2. CPI is an index for observing inflation, which is also an important indicator for central banks to decide their monetary policy. Inflation increase the human capital investment, research and development resources because it will intensify the need of efficiency of the market which is known as the accumulation or investment effect of inflation on economic growth[25].

The Fed put forward three goals of the CPI: Stepping up more employments, stabilizing the domestic price, and more stable interest rate, the Fed setting the goal of maintaining inflation rate within 2% because a moderate inflation is good for the economy. When the CPI rise, the risk of inflation increase, the purchase power will decrease, the currency become less valuable because the supply of the market currency is sufficient, the quantities of goods are not enough, so the consumers need to pay higher price more a good, this is the reason why the inflation will cause the increase of price. This is also the reason why the good inflation (inflation within 2%)[26] can stimulate the economy by increasing the supply side, so the unemployment rate will decrease.

Conversely, the deflation, when the CPI decrease which is called the deflation, the flow of market currency become slower, the supply of currency decrease which is not good for the private investment[27]. The real purchasing power of the currency increase, consumers pay less than the time during the inflation, so people may save more in the bank since their demand do not increase at the same time (the government did not establish the expansionary fiscal policy to stimulate the economy and increase the factors of demand side), it is assumed that individuals are rational when they are deciding, according to the marginal effect, the utility of buying more products will be

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[25] Andrés, Javier, and Ignacio Hernando. "Does inflation harm economic growth? Evidence from the OECD." *The costs and benefits of price stability*. University of Chicago Press, (1999). 315-348

[26] Diron, Marie, and Benoît Mojon. "Are inflation targets good inflation forecasts?." *Economic Perspectives* 32.2 (2008).

[27] Guttmann, Robert. "Asset bubbles, debt deflation, and global imbalances." *International Journal of Political Economy* 38.2 (2009): 46-69.

decreasing gradually. People may feel the fear of deflation thus they want to save more instead of spending money, thus the economy recesses and the unemployment increase. Keynes (1936)[28] pointed out that the Great Depression in the 30s was due to the lack of demand thus the deflation became worse.

According to Fisher (1933)[29], when the economy over inflated, the market is stimulated too much, and it is easy to loan, it will increase the debts, when the market's economy has been stimulated to a level, it will back to the neutral condition, and the capital will not be overvalued, so the investors would like to sell some of their capital assets because they believe those will become less valuable, and the burden for them will become bigger if they have debts. The reason why the burden become bigger is that those bonds and investment are devaluating, so those debtors need to pay more for their debt since their capital is becoming valueless. Also, the interest rate will not rise because of the recessing economy, deflation will lead to the net value of payment increase because of the value of currency increase, the value of bonds will thus increase, the burden of debts become bigger. When the market become neutral, the government need to lower the interest rate to stimulate the economy, those bonds issued by the government(higher coupon rate and bond yield with the lower price) and purchased by individuals during the deflation will be less valuable, the net value of bonds decrease. This are the reasons why deflation will lead to recession and the auction of bonds[30].

The real rate of return is equal to the coupon rate minus the inflation rate. The coupon rate is fixed when the bonds has already issued, so this is why the real rate of return of bonds will decrease during the inflation. The inflation will lead to the value of currency decrease which means the purchasing power of currency decrease which

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[28] Keynes, John Maynard. "The General Theory of Employment, Interest, and Money." (1936).
[29] Fisher, Irving. "The Debt-Deflation Theory of Great Depressions." *Econometrica* 1, no. 4 (1933).
[30] Wrase, Jeffrey M. "Inflation-indexed bonds: how do they work?." *Business Review* 4.1997 (1997): 3-16.

the par value will also decrease, the net value of investment will not increase, but decrease. For suppressing the inflation, the government will usually use tightening monetary policy, when the interest rate rise, the newly-issued bonds' coupon rate will be higher, which the bonds with lower coupon rate will become less attractive to investors, thus the price decrease.

Economic Freedom

Economic freedom ranked and collected data from 186 countries of the Heritage Foundation. Having economic freedom means individuals have rights to manage their labor activities and assets, in the economic free condition, people can join in any kinds of labor, production, consumption and investment. Government also allow labor sand assets goods can move freely, the higher the economic freedom is, the healthier the country society is, and have cleaner environment, also the GDP per capita, democratic freedom might be higher, and less poverty. Economic freedom is calculated by 12 quantitative and qualitative factors.

Table 1: Indicators of Economic Freedom[31]

4 Main Indicators	Concluded Factors		
Rule of Law	Property rights	Government integrity	Judicial effectiveness
Government size	Government spending	Tax burden	Fiscal health
Regulatory Efficiency	Business freedom	Labor freedom	Monetary freedom
Open Markets	Trade freedom	Investment freedom	Financial freedom

[31] Summarized from the Heritage Foundation Economic Freedom Index. https://www.heritage.org/index/

The higher economic freedom has a good impact on the economy, it can increase corporations' activities and opportunities, and maintain the stability of government policy[32]. When the economy grows, the taxation of government can be more stable to maintain their public constructions, monetary system, and government sectors, thus the cost for issuing bonds will be lower, the risk of breaking a contract is lower. If a country is ranked below BBB- or BB (based on different rank system), it is marked as trash bonds, people tends to invest to countries who have higher credibility, such as the US. The country with higher economic freedom which means they have more matured financial system and regulations, such as Hong Kong is ranked as the highest economic freedom country, the bond market is included in the secondary market, the matured secondary market can decrease the cost for bond market and have more trade opportunities. The more stable government regulations and sectors can let the risk of not paying back the debts lower, and make investors buying their bonds can be a good investment. Bonds issued by the government is a need for the market to buy bonds.

Influence of Increasing Tax and Tax Cuts

If a government increase the tax, it will increase the burden for individual's income, decrease the surplus of their income, which will decrease the opportunities and economic activities, and the intention for them to have the high expectation on their work, at the end it will decrease the effectiveness and efficiency of the private sectors[33]. Tax cuts is beneficial to the economy, it can make the government try to decrease the budget and let the individuals have more budget surplus to stimulate the economy,

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[32] De Haan, Jakob, and Jan-Egbert Sturm. "On the relationship between economic freedom and economic growth." *European Journal of Political Economy* 16.2 (2000): 215-241.
[33] Legler, John B., and Perry S. "The Responsiveness of State Tax Revenue to Economic Growth." *National Tax Journal* 21, no. 1 (1968): 46-56.

however, the decrease of taxation, the government might have more budget deficits thus the auction of bonds will be increased[34].

Political Risk and Foreign Direct Investment (FDI)

Economic development needs the profitable investment, it is necessary to attract the foreign countries for the investment because the emerging market still needs the stimulation. Harrison (1994)[35] found out corporations from the foreign country have higher productivity growth than the domestic in the developing country because most the foreign corporations are usually the multinational enterprises which of them have more human resources, this emphasize the importance of FDI to the economic growth.

Political risk is the stability of a government to maintain their policy, such as a government randomly increase the taxation, or frequently establish new policy, revise the trade agreement, or call on a war. The unstable factor of policy will influence the society, thus it is not beneficial to the development of private sectors[36], the high political risk will affect the intention of the foreign direct investment, it may decrease the foreign investment. If a government with high political risk wants to have more funds by issuing bonds, they may be failed because investors want to put their capital into more stable country. The risk of debt default is an important factor for investors to consider their investment. The decrease of FDI effects the economic growth of a country.

[34] Boskin, Michael J. "Tax Policy and Economic Growth: Lessons from the 1980s." *Journal of Economic Perspectives*, 2 (4): (1988) 71-97

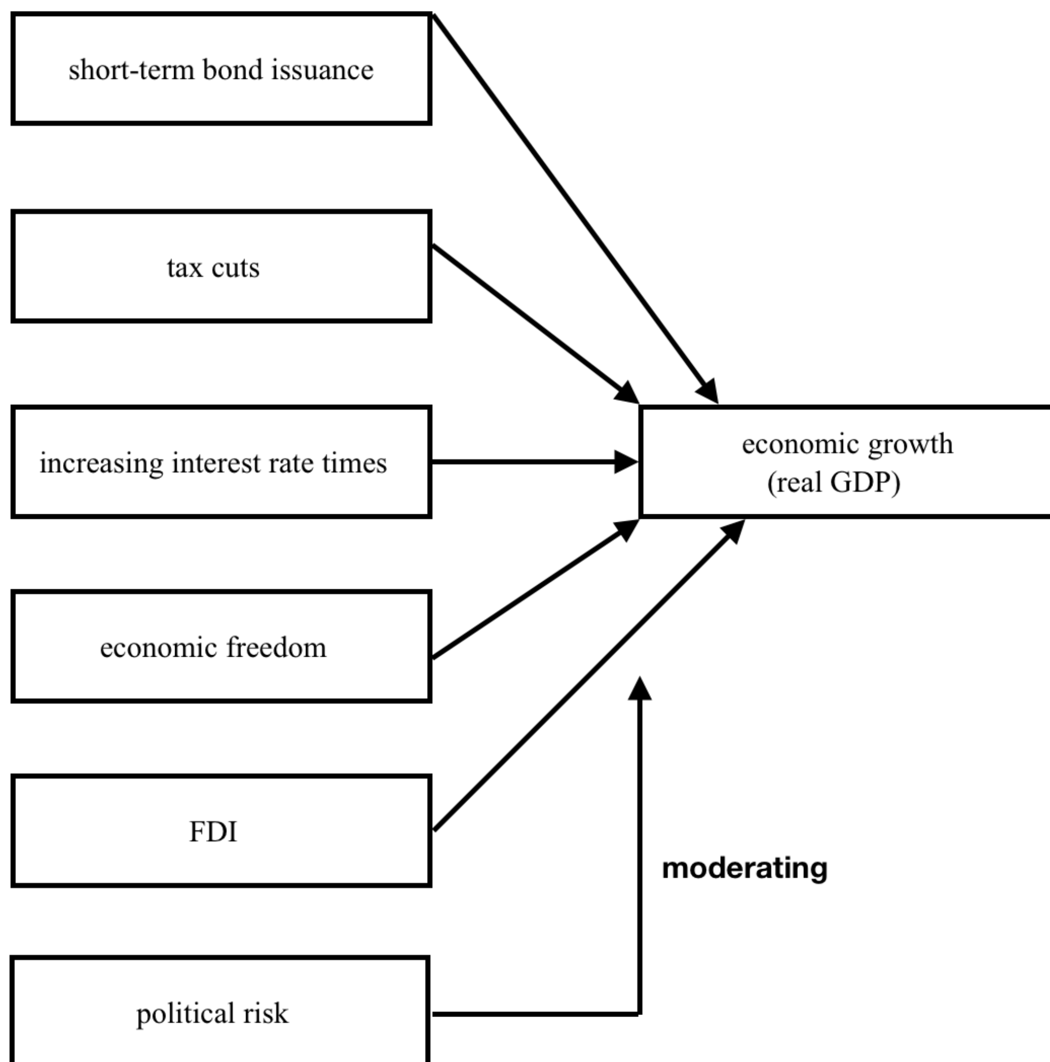
[35] Harrison, Ann., "The role of multinationals in economic development", The Columbia Journal of World Business, (1994)

[36] Busse, M., & Hefeker, C. Political Risk, Institutions and Foreign Direct Investment. *European Journal of Political Economy*, 23(2), (2007)397–415.

Research Framework

This research framework concluded those factors mentioned above to determine the consequence within these factors to the economic growth (real GDP).

Figure 1: Research Framework



Hypotheses

Factor: Short-term bond issuance

Financial markets increase economic growth by stimulating capital accumulation and promoting efficient allocation of resources and technological innovations (Thumrongvit et al. 2013)[37]. Issuing bond is a way for stimulating capital accumulation because the government use bond to get fund for the budget, thus it will be used on the policy and the public construction and investment. More issuance of short-term bonds means there might be more debts to the public, but it gives government the fund for budget deficit to increase the governmental construction, the following hypothesis below is to examine whether the short-term bond has positive effect to the economic growth.

H1: Issuing short-term bonds will positively influence economic growth.

Factor: Tax cuts

(Lucas 1990)[38] suggested the taxation will reduce the growth of investment, thus it is not beneficial to the accumulation of capital because the welfare gain is usually less than the taxation of the investment. More taxation may reduce the incentive for pursuing a more effective and efficient productivity because people suppose more salaries from work will be taxed, thus the output of production will decrease.[39]

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[37] Thumrongvit, P., Kim, Y., & Pyun, C. S. Linking the missing market: The effect of bond markets on economic growth. International Review of Economics & Finance, 27, (2013). 529-541.
[38] Lucas, R.E. 'Supply-side economics: an analytical review', Oxford Economic Papers, vol. 42, (1990), 293–316.
[39] Arnold, J. M., Brys, B., Heady, C., Johansson, Å., Schwellnus, C., & Vartia, L. *Tax Policy for Economic Recovery and Growth*. The Economic Journal,* 121, (2011). (550)

Revenue of taxation somehow are not always being effectively used by the government, more tax may not only reduce the productivity, but also reduce the social surplus of the economy, thus the economy growth decrease.

H2: More tax cuts from the government will increase the economic growth.

Factor: Increasing interest rate times

(Pagamo 1993)[40] pointed out that adjustment of interest rate as a part of financial development can affect economic growth, savings give investors a less risky investment as their capital accumulation become more and more, however, if the rate is too high, it can also raise the burden of borrowings, the risk of default may also lead to more burden to the society. (Fry 1978) [41] indicated the real rate of interest has the positive effect on saving by the empirical model mentioned on the next page. The lower interest rate decrease the saving and investment because it will increase the intention of borrowings to buy houses or other goods, many investment can be not used for the public construction, since the rate is low, the investors will also tend to invest overseas, thus it is not profitable for the domestic capital accumulation, since the capital accumulation is the foundation of production.

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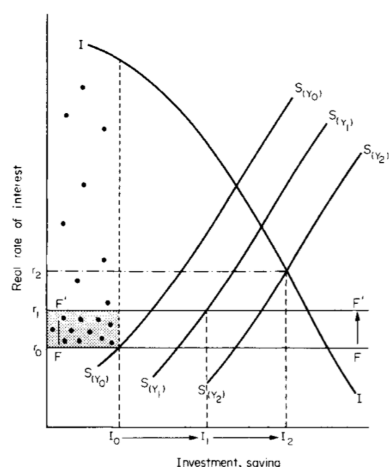
[40] Pagano, Marco. "Financial Markets and Growth: An Overview." *European economic review* 37, no. 2-3 (1993) 613-22.
[41] M.J. Fry, Money and Capital or Financial Deepening in Economic Developments? *Journal of Money, Credit, and Banking*, Vol. 10, No. 4 (Nov. 1978)

Figure 2: Interest rate and Investment Model[42]



The real interest rate increase from r_1 to r_2, the investment and saving line will shift to the right from I_1 to I_2.

H3: The greater number of times of raising interest rate will increase the economic growth.

Factor: Economic freedom

The higher economic freedom has a good impact on the economy, it can increase corporations' activities and opportunities, and maintain the stability of government policy[43]. Higher economic freedom allow firms and labors move freely without permission from the government, it allow them to enjoy their right. Higher economic freedom by privatization and deregulation, allow individuals have the ownership of their own assets. Taxation on imported goods would isolate the choice of consumer in the domestic market, it is not in part of a higher economic freedom. With higher economic freedom can let the market more liberalized, consumer can enjoy lower cost of products.[44]

H4: Higher economic freedom will increase the economic growth.

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[42] Ibid.
[43] De Haan, Jakob, and Jan-Egbert Sturm. "On the relationship between economic freedom and economic growth." *European Journal of Political Economy* 16.2 (2000): 215-241.
[44] Easton, Stephen T., and Michael A. Walker. "Income, growth, and economic freedom." *The American Economic Review* 87.2 (1997): 328-332.

Factor: Foreign Direct Investment (FDI)

Economic development needs the profitable investment, it is necessary to attract the foreign countries for the investment because the emerging market still needs the stimulation. Harrison (1994) found out corporations from the foreign country have higher productivity growth than the domestic in the developing country because most the foreign corporations are usually multinational enterprises which have more human resources, advanced technologies and business strategies, this emphasize the importance of FDI to the economic growth.

H5: More foreign direct investment (FDI) from the overseas will increase the economic growth.

Factor: Political risk

The government stability is one of the considerations for foreign investors to invest in a country, if a country is not unstable, the authority of government change frequently, the policies keep changing as well, it would limit the opportunity of the domestic market because they could not attract the foreign investor with uncertain condition[45]. The unstable factor of policy will influence the society, thus it is not beneficial to the development of private sectors, and for the foreign investors[46]. The economic growth not only need the domestic support, but the foreign direct investment, the political risk will become the fear for investors.

H6: Political risk will negatively moderate the relationship between FDI and economic growth.

[45] Dutta, Nabamita, and Sanjukta Roy. "Foreign direct investment, financial development and political risks." *The Journal of Developing Areas* (2011): 303-327.

[46] Busse, M., & Hefeker, C. Political Risk, Institutions and Foreign Direct Investment. *European Journal of Political Economy*, 23(2), (2007)397–415.

Methodology

In this research, both qualitative and quantitative research method are included. The historical analysis was used in the qualitative research, concluding history from the 80s to 2018, approximately 40 years to analyze the cause and the consequence within the US economy and bond market, analyzing and collecting the governmental policy.

The qualitative research aimed to find out the key factors related to policies affect the economic growth and recession. Therefore, the quantitative research aimed to examine and analyze those factors found in the qualitative research whether had the significant effect to the economic growth

Qualitative research:

From the case study, we can find what factors will affect the economic growth. The US federal government and the Fed are usually in a separated condition, the chair of Fed and the presidents most of the times have different opinions to the economy, so in this research would conclude both of their sides to analyze whether the policy implication had been effected to the economy, also the influence to the private sectors would be involved.

Quantitative research:

Measures

Dependent Variable

1. Economic growth

Real GDP measures the economic growth since it is the main indicator for the economy, real GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Data are in U.S. dollars based on the exchange rate of each year.

Independent Variables

1. Issuance of short-term bonds

The issuance of short-term bond of each year is the total money value of short-term bonds. All of the data had been conversed to billion / US dollars, the value of bonds are fixed to the US dollars exchange rate based on each year.

2. Tax cuts. The number of times of tax cuts is concluded for the year announced by the officials.

Since the tax rate are varied with different countries, tax cuts times measure the government establish the expansionary policy to the economy. When the official announced the tax cut policy in a year, the data coded with 1. No tax cut policy coded with 0.

3. The number of times raising the interest rate in each fiscal year

When the official raised the interest rate for one time in a year, the data coded with 1. For two times, coded with 2. No raising interest rate coded with 0.

4. Economic Freedom

Measurement: Economic Freedom scored by Heritage Foundation's measurement, the grades for each country were coded in the data.

5. Net value of FDI

Net value of FDI consist the inflow and outflow of FDI out and in the country. The net value of FDI for each country were in the value of current US Dollars.

6. Political risk index.

Political Risk Index consists of 12 components measuring various dimensions of the political and business environment facing firms operating in a country.

Data Collection

This research concluded statistical study and case study of causal research. The quantitative research examines the relationship between government policies and economic growth. This research used SPSS to execute Pearson liner regression analysis.

Statistic method: All data were included the United States, the United Kingdom, Japan, Greece, and Thailand from official databank. The time range is from 2000 to 2018 (19 years), 19 years times 5 countries=95 samples in the quantitative research.

Data Sources:

1. Real GDP: World Bank databank, and the GDP deflator based year is 2010
2. Issuance of short-term bonds: U.S. Department of Treasury, Bank of United England, Cabinet Office of Japan, Bank of Thailand, Bank of Greece
3. Tax cuts times: Summarized from the governments' official announcement.
4. Increasing interest rate times: Summarized from the governments' official announcement.
5. Economic Freedom: Heritage Foundation website.
6. Net Value of FDI: World Bank databank
7. Political risk index: World Bank databank

DATA ANALYSIS

Qualitative Study

The Beginning of US Government Debt

The first US government debt (also known as public debt) can be tracked back to 1776, the US fledging committee borrowed money from France and Netherlands in order to help secure funding for the American Revolution[47]. In 1783, the new United States government debt had been totaled $43 million[48]. The needs of debt came from wars and the government expansion, the new US government need funds to build their nation. In 1789, Alexander Hamilton, the first US secretary of the Treasury, suggested that the US need a national bank, fund the national debt, he said "A national debt, if it is not excessive, will be to us national blessing." In 1790, Hamilton established The Funding Act[49] to improve the system of national debt management.

The Significance of Debt to the Economy

Combination of US Debts

According to the U.S. Department of Treasury, two-third of US debts are credited to the US federal government, US citizen, and many of the US future retiree, and also included in many programs such as national fund and the pension for the public sector(public servants and soldiers), which means most of the debts are credited to the US domestic economy. Many of the US soldiers now are going to retire, so which

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[47] In 1776, a committee of ten founders took charge of what would become the Treasury, and they helped secure funding for the war through "loan certificates" (equivalent to bonds) with which they borrowed money for the fledgling government from France and the Netherlands.

[48] This marked the beginning of annual Treasury reports to the President. On January 1, 1783, the public debt of the new United States totaled $43 million. See Treasurydirect.gov.

[49] Alexander Hamilton (b. January 11, 1755 - d. July 12, 1804) was the first United States Secretary of the Treasury, estimating the total public debt at $77.1 million, called for the issuance of new federal bonds to cover the debt. By assuming the obligation to pay this debt, the government firmly established the Funding Act. See Treasurydirect.gov.

means the US government need to pay for their pension, so that's why the tax burden will go to the middle class citizen, however, the tax cuts are also applying to the economy, so the government need to issue more bonds to pay for their pension, thus the debts keep increasing.

The Unstoppable Increase of US Public Debt

After the Great Depression in 1929, the stock prices dropped 23% which was called the stock market crash in 1929, lots of people losing jobs, the unemployment rate increased dramatically about 25%. President Roosevelts launched the New Deal in order to save the economy by expanding the governmental system and providing programs for people to have job opportunities, and increasing the investment, which make the Federal government have to increase the budget deficit thus increase the public debt. At that time, the ideology of Keynesianism[50] which was the neoclassical economics had been supported by the President Roosevelts, Keynes believed that the economy needs the market intervention by the government, stimulating the demand by the fiscal and monetary policy in order to increase the demand of the private sector, allowing governments to have budget deficits, and a moderate inflation (inflation rate within 2% to 3%) is not harmful to the economy, but beneficial. However, he neglected the increase of supply side, he did not notice if the demand was much higher than the supply, it would cause the stagflation because the demand could be increased by the investment, the adjustment of interest rates, but neglected the increase of capital and technology.

[50] Keynes argued that inadequate overall demand could lead to prolonged periods of high unemployment. (Sarwat Jahan, Ahmed Saber Mahmud, and Chris Papageorgiou 2014)

It was the beginning of the US government to have more budget deficits. In the long run and in the future, the burden for the later generations will be largely increased. Since the 90s, the US debt-to-GDP ratio has already over 50%, and now 2019, the ratio has already exceeded 100%.

Types of US Treasury

The US bond market has been a popular investment goods, and the system of US Treasury is very matured. There are many types of US bonds categorized by the time and specific purpose. This research will be focused on the short-term bonds because they can reflect the short-term demand of the US economy.

Table 4: Types of US Treasury[51]

Terms	Names in the US market	Range of time
Short-term Bonds	Treasury Bills	4, 8, 13, 26 weeks
Long-term Bonds	Treasury Notes	2, 3, 5, 6, 10 years
	Treasury Bonds	30 years

Causes of the Increased Issuance of Bonds From the 80s

This research will conclude the histories related to the US economy from the 80s to 2018. Most of the public debts have come from more budget deficits, and the decrease of taxation.

The reasons why the US government want more budget:

[51] Summarized from official treasury services, the U.S. Department of the Treasury. https://www.treasurydirect.gov

1. Tax Cuts: The percentage of US income tax had been on a high number, the president called for tax cuts as their main policy to win the election, more tax cuts let individuals have more budget surplus to consume and stimulate the economy.
2. Recession: In an economic cycle, it is usual to see a recession come out, also there were too many unpredictable factors during the US history, such as oil prices dramatically increased due to the war, and the stock market crashed.
3. War: Since the US is the hegemony of global politics, the defense budget is always in a large number, especially after the 911 attack, the US government keep increasing the defense budget to maintain their status.
4. The Fed: The action of Fed has a strong impact on the US economy, since the federal government has no direct power to control the Fed, the systems are divided, the adjustment of interest rate will directly affect the economy, if the Fed had wrong decision of adjusting the rate, it would influence the market negatively, thus the market would need open market operation to help the recession and stock market crash. However, the federal government focus more on the GDP growth instead of a stable economy, unlike the Fed, the role of Fed is to stabilize the economy, so both of the sides usually have different viewpoints.

Beginning of the Expansionary Fiscal Policies

The increase of debts because of the Reagan Tax Cut which lead to the increase of budget deficits. In 1981, the budget was about 78.9 billion USD. 1982 was 127.9 billion. The end of the presidency was about 153 billion. The debt increased from 964.5 billion to 1989, 2.7 trillion. The causes of increases come from the more expenditure of defense. In 1981, the amount of defense budget was about 165 billion to 1989, 286 billion. In the 70s, there were two economic recessions because of the failure of Vietnam War, and the Crisis of Iraq-Iraq War, which led to many private sectors close down, thus the

investment of individuals and firms decreased, the market was not stimulated. The inflation occurred because of the decrease of the supply side, after the post-war the US government kept pursuing the Keynesian economics by increasing the demand side neglecting the increase of supply side. After President Reagan was elected, he used his famous Reagan-economics [52] as their main fiscal policy by decreasing tax for individual and enterprise income tax, approved the Economic Recovery Tax Act of 1981[53], the highest income tax brackets cut from 70% to 50%, the lowest cut from 14% to 11%, and the tax for income from profit-seeking cut from 28% to 20%, loosing the regulations for industries and making the market more freely. Because of the decrease of taxation, and the stimulation for the economy, and the increase of defense, the budget deficits increase dramatically. President Reagan used Laffer curve[54] to support why he wanted tax cut.

Figure 3: Laffer Curve[55]

Since the Fed is independent from the US Congress, the Fed has their own authority to decide the adjustment of Federal Fund rates. Because of the serious

[52] Reagan's economic policies called for widespread tax cuts, decreased social spending, increased military spending, and the deregulations of domestic markets.
[53] An act to amend the Internal Revenue Code of 1954 to encourage economic growth through reduction of the tax rates for individual taxpayers, acceleration of the capital cost recovery of investment in plant, equipment, and real property, and incentives for savings, and for other purposes.
[54] When the tax rate meets the tipping point, the tax revenue will be decreased. If the tax rate is too high, it will decrease the intention for individuals to work, thus decrease the supply side and the tax revenue will be decreased.
[55] Laffer, Arthur. "Laffer Curve." In *Investopedia* 2013.

inflation in the 1970s, the chair of Fed increased the interest rate to 20% which led to the recession from 1981 to 1982, higher inflation (the consequences of expanding fiscal policy), and also the high unemployment rate (10%), however, the bad condition of the economy had been controlled from the beginning of 1983. In the presidency of Reagan, the 1% of the richest in the US increased the revenue of 1 trillion USD, but also widened the gap between the rich and poor. The real GDP increased from 1981, 6941 billion to 9101 billion. However, in 1987, the high interest rate, high budget deficit, and high trade deficit, people expected the inflation may occurred again, so they sold their stocks to buy bonds because they believed bonds were more stable to get profits, this led to the black Monday stock market crashed. The economist advisors of President Reagan suggested that the increased interest rate, overvaluing of stock price, trade and budget deficit were the main factors of the crash. Selling stocks in large quantities on October 19 was just because of the scare, Greenspan[56] said.

Recessions After the Presidency of Reagan

From the high public debt burden of the last presidency of Reagan, it had been accumulated in 2.7 trillion dollars. At that time, Gulf War occurred which led to the oil price increased, thus the inflation rate increased, consumers bought less goods, market was not stimulated well, the Fed used increasing federal fund rate to solve the recession and high inflation, however, it did not work. The wrong decision of the Fed which made the recession worse. Increasing interest rate would make people harder to borrow money from the bank to make more investment, so this was the reason why the recession became more serious. The long-term bond yields minus federal fund rate had

[56] Greenspan was the 13th Chairman of the Fed. His first major challenge in office by preventing the 1987 stock-market crash from worsening. Then, in the 1990s, he presided over a long economic and financial-market boom and attained the status of Washington's resident wizard. But the super-low interest rates Greenspan brought in the early 2000s and his long-standing disdain for regulation are now held up as leading causes of the mortgage crisis. (TIME)

been positive, which meant people believe they could make more profits from bonds instead of just save it in the bank.

President Bush Senior was just elected, he needed to deal with the **Saving and Loan Crisis**[57] occurred in 1986 to 1995, and also the high debt back to the presidency of Reagan, he passed the Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA) to save this crisis by funding 50 billion dollars to the market. However, in 1989, the pressure of inflation had been bigger, the recession happened in the same time, the Fed did not raise the interest rate because they were afraid of those firms would increase wages to settle the lack of labor force, thus the inflation would be more serious. From July 1990 to March 1991, there was a recession, GDP% minus 1% because of the oil price increased rapidly due to the Gulf War which also made the Fed hard to do the correct decision of the tightening monetary policy, and the economy recessed. After the Gulf War ended, the US economy had been recovering, and the industrial index had been increasing. However, the economy did not really recover from the recession. In October to November 1991, the speed of manufacturing became slower, the credit rate of bank also decreased, the unemployment rate increased, which also lead to the D&J index[58] down for 120% points. In Bush Senior's era, the Cold War had been ended, the US increase more defense expenditure to maintain the US status and the harmony, which increased the budget deficit.

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[57] In the 1980s, the financial sector suffered through a period of distress that was focused on the nation's savings and loan industry.

[58] In July 2012, S&P Indices and Dow Jones Indexes joined together to become the world's largest provider of financial market indices. Combined, S&P Dow Jones Indices is the largest global resource for essential index-based concepts, data and research, and home to iconic financial market indicators, such as the S&P 500® and the Dow Jones Industrial Average®. See S&P Dow Jones Indices.

The First Time the US Government Had the Budget Surplus After the Great Depression

During the term of President Clinton, this was the first time after the Great Depression the US government had the budget surplus. There were the reasons: (1) The Chair of Fed, Greenspan, insisted to raise the federal fund rate, in order to suppress the risk of inflation came from the hot economy. (2) The US economy kept rising because the US had structural advantages[59]. (3) The competence of US kept increasing because of the boom of information and internet industries, there were many new jobs coming out, the unemployment rate fell. (4) President Clinton downsized the governmental institutions and programs to decrease the expenditure. (5) While having tax cuts, make sure the government fund the training of education and intellectual human resources to increase more job opportunities for the higher wages. However, the government still needed to pay for the interest of bonds and the auction of bonds were still there, so the debts increased.

President Clinton implied tightening fiscal policy when he just came in, he cut down the social benefits by asking beneficiary need to work for two years then get the benefits (The Personal Responsibility and Work Opportunity Reconciliation Act of 1996), after five years the qualification of the beneficiary would be taken off. Also, he raised the tax of individual income tax from 28% to 39.6%, and the profit-seeking enterprise income tax from 34% to 36% (Omnibus Budget Reconciliation Act of 1993)[60], also increased the gas tax brackets to 4.3 per gallon, and limited the ability for business to cut down the entertainment tax. He signed up the NAFTA, decrease the tariff within trades with Canada and Mexico. The Chair of Fed Greenspan said that the

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[59] As the largest economy and the hegemony of global politics, and stable economy development lead to its structural advantages.

[60] An act to provide for reconciliation pursuant to section 7 of the concurrent resolution on the budget for fiscal year 1994. See Authenticated U.S. Government information (H.R.2264).

long-term interest rate is affiliated with those firms who have big debt, if the long-term is low which allow them to have more cash, thus stimulate the economic growth. Also, Greenspan replied that the key to economic growth is the long-term interest rate, if financial circles expect the economic prospects of the fiscal policy, the interest rate would go down because they believe they would take back credits, and thus the business investment and individual consuming would increase. If the budget deficits keep expanding, financial circles might be worried about the inflation, so the long-term interest might go up, thus the recession might come out. For example, the high budget deficits in Vietnam War, which led to the recession and inflation in the 70s, the high bond yield of 30-year-bond in 1991 had exceeded to 8%, which was higher than the short-term bond for 3~4% point, this was not a common phenomenon, it implied the financial side had no confidence to the government, if President Clinton wanted to get the trust from financial circles, he needed to lower the budget deficits, thus the long-term interest rate would fall. Greenspan suggested three proposals, (1) dealer trade the bond when the long-term interest rate is low which can lower the loan interest, thus they have more surplus, (2) increase the export, (3) the US government need well cooperation with the Fed. After that, Clinton accepted the suggestions from Greenspan, he put the first goal as decrease the budget deficits, so the 30 years bond yields went to the lowest rate in 6 years, in the latter half of 1993, the US economy .was going to have the inflation because of the rapid economic growth, so the Fed increased the short-term rate for 7 times in one year in order to suppress the hot economy. The lower long-term rates going down means the government can pay less interests to the creditor, so the burden will become smaller.

Also, because of the decreasing of the long-term rate, people would like to invest more in the stock market which is also a good sign for the market, increasing the investment for the private sector, and thus the individual will raise.

Increasing Budget Deficits for Wars and the Prelude of Global Financial Crisis

(1) The information and Internet industries were just developed in the early of 2000, lots of related industries came out because of the rapid growth and overwhelming investment led to the burst of the internet bubble[61], which caused the recession. Which also lead to the tax cuts for the economic stimulation.

(2) 911 Attack and Anti-Terrorist War which led to the more defense budget to maintain the world order, thus the budget deficits increased. On 12 September, the Fed pour into 11.7 billion to the market. On 14 September, put about 80 billion dollars to the market by buying treasury bonds, and buying bonds from the European Central bank in order to let the EU have more foreign deposit during the war time.

(3) The Iraq War had a strong impact not only to the politics, but also the economy by suppressing the economy's stimulation, and increasing the demand for the arms. Consumers might be worried about the situation, thus the demand fell, on the contrary, the arms market supply and demand went up because of the need of the war, the US as the biggest arms forces, they put emphasis on the arms force technology and development, which led to other countries buy more

[61] Internet bubble, also known as dotcom bubble, was a rapid rise in U.S. technology stock equity valuations fueled by investments in internet-based companies during the bull market in the late 1990s.

weapons from the US, so the trade deficits could be decreased by selling more weapons overseas.

(4) In 2005, Hurricane Katrina had been a catastrophic damage to the economy, it took the government approximately 125 billion for the insurance and recovery. And economic impact was about 250 billion according to the University of North Texas Professor Bernard Weinstein.

In 2000, the burst of internet bubbles happened due to the booming of internet market, however the computer software had a problem called Y2K[62], lots of companies need to change the software and purchase the new one, which later caused the internet bubble because the industry was overvalued, and the stock market dropped dramatically. The Fed raised the interest rate three times in order to suppress the bubbling economy, however the market also need the stimulation because the US economy was suffering from the recession caused by the 911 Attack. The Fed insisted to raise the interest to prevent the inflation, the US federal government and the Fed had the contradiction. In 2001, President Bush Junior hoped the tax cuts can solve the recession by passing Economic Growth and Tax Reconciliation Act of 2001 (EGTRRA)[63], also known as Bush Junior tax cuts. The Act decreased the federal income tax, the highest income tax from 39.6% to 35% and capital gains tax, also limited more of application of the pension, and deleted the heritage tax, the tax income for the decreased. In 2003, extending the Act of 2001 by passing the Jobs and Growth Tax Relief Reconciliation Act of 2003[64]

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[62] Year 2000 bug, a problem in the coding of computerized systems that was projected to create havoc in computers and computer networks around the world at the beginning of the year 2000.

[63] An act to provide for reconciliation pursuant to section 104 of the concurrent resolution on the budget for fiscal year 2002.

[64] Jobs and Growth Tax Relief Reconciliation Act of 2003 - **Title I: Acceleration of Certain Previously Enacted Tax Reductions** - (Sec. 101) Amends the Internal Revenue Code to accelerate the increase to the $1,000 child tax credit to include 2003 and 2004. Maintains the levels and the sunset established under the Economic Growth and Tax Reconciliation Act of 2001 (EGTRRA) for years following. Provides for advance payment for 2003.

cutting more taxes. The US government increased 29.3 billion dollars for the Anti-Terror War. In December 2001 the Fed dropped the interest rate to 1.75 which make the revenue of bank decreased because those banks need the interest from debtors. The recession of 2001 was a potential factor caused the 2008 Global Financial Crisis because of the lower interest rates, banks got less from the interest, and in 2004, the Fed increased the rate which made many debtors could not afford for paying the higher interests. In 2007, the 2008 Global Financial Crisis was brewing, Real Estate Bubble was occurring, lots of bank went bankrupt. The US government provided 700 billion dollars for those banks were going to crash and already cashed. Debts credited from foreign had already increased from June 2001, 31% to June 2008, 50%, from 1 trillion to 2.6 trillion, the interest of debts was about 50 billion to 121 billion dollars. In the latter 2001, China joining WTO had a negative impact to the US, making their trade deficits bigger.

Recovery from the Global Financial Crisis

A year after the Global Financial Crisis, President Obama was elected, the factors of increasing debt were: (1) approving American Recovery and Reinvestment Act (ARRA)[65] by funding 787 billion to the market. (2) More defense budget for eliminating ISIS and Afghanistan and Iraq War, from 2009 to 2012 the defense budget are 800 billion dollars, and it would lead to more budget deficits to 2020, up to 1.4 trillion dollars. (3) Extending the budget of President Bush Jr., taxation had been cut and the bailout plan still provided large fund to the market. (4) In the presidency of

[65] American Recovery and Reinvestment Act of 2009. An Act making supplemental appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, State, and local fiscal stabilization.

Obama, the debt ceiling[66] had already increase 9 times, the debt ceiling allows the government not to break a contract to those creditors, so the Fed need to put more money to the market in order to pay back the money to creditors. When the debt crisis is happening, investors may not want to pay a high price for bonds because they think the risk of not getting back the money is high, they think the market is unstable, so they prefer buying short-term bonds instead of long-term bonds. (5) In 2010, Obama signed the Affordable Care Act (Obama Care), the Congress estimated there would be 940 billion dollars budget in 10 years.

The Global Financial Crisis had affected the US economy negatively, the US government funding so much to the economy, however, in 2010 the industry had been advancing to the higher level, the social media become much influenced, lots of different new jobs in the social media and internet industries came out, such as Facebook and Amazon, etc. The unemployment rate dropped from 8.3% to 4.8% in the presidency recovered by the bailout plan (ARRA). The financial market and the car industries had been recovered by the government, but the opposite party at that time pointed out the federal government using too much budget deficits which the debts keep increasing, and never dropping down. Honestly, the automobile manufacturing had been helped well by the government, so the debts still have the good effect to the economy.

Current Issues of President Trump

The time President Donald Trump just take place of the White House, the economy of US is hot, however he still increased the budget deficits for the 2020 defense budget, and he believed that more tax cuts can stimulate the economic growth. The value of tax

[66] Debt ceiling is also known as debt limit, if exceed the debt limit, the Treasury Department would be forced to rely solely on incoming cash flows to pay obligations, thereby risking default or delays in payments. (Peter G. Peterson Foundation 2019)

cuts was about 1.5 trillion, over 1 trillion had been counted into debts because of the tax cuts for enterprise income and the rich. The trade war within China and the US which led to the cost for manufacturing increase, thus the net revenue decrease, productivity decrease, the taxation decreased because of the fewer sales, the individuals need to pay more for buying goods because America is the trade deficit country. Since the federal government had been closed for 35 days, the Congress office estimated it would cost about 3 billion dollars internal loss to the economy.

The enterprise income tax has been cut from 35% to 21%, the US business and economic association made a report indicated that there were 84% of the US business still did not increase its investment of hire more people, especially for the information and communication industries. The tax cuts still work somehow, there are about 50% goods manufacturing increase its investment and offer more 20% jobs occupation. Because of the trade war, more tariffs lead to the higher cost of goods, thus the prices go up, those tariffs are paid by the consumers.

Conclusion of US History:

US had suffered from many times of recession back to the history, since US economy had been easily influenced by the oil prices, it was one of the main reasons led to the recessions, many businesses affected by the dramatically increasing oil prices. US has occupied an important position of world politics, the budget for defense is always a big portion of the total government budget, after the 911 Attack, US launched several anti-terror wars to maintain their world status, the budget deficits kept increasing. US government had decreased the tax rate (tax cuts policy) to expand the economy, they expected more market stimulation from the private sectors. Since the taxation decrease, the budget deficits would increase because funds for government

decrease due to the tax cuts, the need of bonds become more significant for the economy, also the bond as the QE approach to stimulate the recession after the Global financial Crisis. US have stable governmental system, safe financial development, low political risk and potential technology innovations, since it is a hegemonic country worldwide and the USD as the main foreign deposit for other countries, it attracts more foreign investors, the economy gets the stimulation from both public and private sectors. The Fed preferred higher interest rate to prevent the economy from overinflating, the over-lower interest rate make individual more easily to borrow money from banks to buy houses and capital, thus the bubbles will occur, this is the one of the main reasons caused the Global Financial Crisis. From findings of US case study, those factors mentioned above were found affecting the economic growth, so the quantitative research is to testify whether those factors have significant influence on the economic growth within five countries (US, UK, Japan, Greece, Thailand) data.

Quantitative Research

The dependent and independent variables found in the case study and listed on the research framework were put in the linear regression model to analyze how those independent variables affect the economic growth.

H1: Issuing short-term bonds will positively influence the economic growth.

Table 3. H1 Linear Regression Model

Standardized Regression Coefficients from Analysis Factors of Economic Growth (N=95)

Independent variable	Model 1
Issuance of short-term bonds	0.915***
Model F	463.082
R^2	0.837
Adjusted R^2	0.835
	P<0.1+, P<0.05*, P<0.01**, P<0.001***

We can see issuing short-term bonds will positively influence economic growth, the hypothesis 1 (H1) is supported. (β=0.915***; p<0.001). The short-term bonds reflected the short-term need of the market, which means the market need the immediate stimulation both from the market and the intervention of the government because the reasons why investor buy bonds is that they want higher gains from bonds since the interest rate of saving is lower than bonds. More short-term bonds can stimulate the market because it gives funds to the government to use for the fiscal and monetary policy, thus the real GDP will be increased.

H2: More tax cuts from the government will increase the economic growth.

Table 4. H2 Linear Regression Model

Standardized Regression Coefficients from Analysis Factors of Economic Growth (N=95)

Independent variable	Model 1
Tax cuts from the government	0.646*
Model F	12.147
R^2	0.417
Adjusted R^2	0.382
	$P<0.1^{+}$, $P<0.05^{*}$, $P<0.01^{**}$, $P<0.001^{***}$.

More tax cuts from the government will increase the economic growth (H2) is supported (β=0.646*; $p<0.05$), if government decrease the taxation of individuals' income and corporations' income which means there will be more budget surplus for them to consume, thus it will increase the investment and consumption on the market, this is also the reason why the US kept decreasing the taxation percentages from the 80s, it can stimulate the economy, increase the real GDP.

H3: The greater number of times of raising interest rate will increase the economic growth.

Table 5. H3 Linear Regression Model

Standardized Regression Coefficients from Analysis Factors of Economic Growth (N=95)

Independent variable	Model 1
The number of times of raising interest rate	0.189^{+}
Model F	3.406
R^2	0.036
Adjusted R^2	0.025
	$P<0.1^{+}$, $P<0.05^{*}$, $P<0.01^{**}$, $P<0.001^{***}$.

The greater number of times of raising interest rate will increase the economic growth (H3) is supported ($\beta=0.189^{+}$; $p<0.1$). It is necessary to raise the interest rate from the Fed's viewpoints because raising interest rate can prevent the economy from being stimulated too much, the burst of the economy bubble will occur if the market has been too stimulated, then the economy recession will come out. Higher interest rate can encourage individuals to save more, thus it is beneficial for the financial development and capital for the productivity accumulation.

H4: Higher economic freedom will increase the economic growth.

Table 6. H4 Linear Regression Model

Standardized Regression Coefficients from Analysis Economic Freedom(N=95)

Independent variable	Model 1
Economic Freedom	0.659***
Model F	71.262
R^2	0.434
Adjusted R^2	0.428
	P<0.1+, P<0.05*, P<0.01**, P<0.001***

Higher economic freedom will increase the economic growth, the hypothesis 4 (H4) is supported (β=0.659***; p<0.001), this is no doubts that if an economy needs growth, the market has to be more open, the market system should be more matured, the effectiveness, the efficiency, and regulations of governmental sectors have to increase, thus the higher economic freedom will increase the economic growth. Higher economic freedom by privatization and deregulation, allow individuals have the ownership of their own assets. With higher economic freedom can let the market more liberalized, consumer can enjoy lower cost of products because government allow consumer to buy foreign products with lower cost, and lower tariff.[67]

[67] Easton, Stephen T., and Michael A. Walker. "Income, growth, and economic freedom." *The American Economic Review* 87.2 (1997): 328-332.

H5: More foreign direct investment (FDI) from the overseas will increase the economic growth.

Table 7. H5 Linear Regression Model

Standardized Regression Coefficients from Analysis Factors of Economic Growth (N=95)

Independent variable	Model 1
FDI	0.797^{***}
Model F	144.534
R^2	0.635
Adjusted R^2	0.631
	$P<0.1^{+}$, $P<0.05^{*}$, $P<0.01^{**}$, $P<0.001^{***}$

More foreign direct investment from the oversea will increase the economic growth (H5) had been highly supported by the regression model ($\beta=0.797^{***}$; $p<0.001$), more foreign direct investment means other countries see the potentials of the market, they believe the market is flourishing, thus their investment will payback more, the aggregated supply and demand is still increasing, thus the economy will growth by the FDI.

H6: Political risk will negatively moderate the relationship between FDI and economic growth.

Table 8. H6 Linear Regression Model

Standardized Regression Coefficients from Analysis Factors of Economic Growth(N=95)

Independent variable	Model 1	Model 2	Model 3
FDI	0.797***	0.810***	2.760***
Political Risk		-0.020	0.274**
Moderating Variable FDI*Political Risk			-2.169***
Model F	144.534	71.468	68.741
Δ F	144.534	0.820	0.000
R^2	0.635	0.635	0.718
ΔR^2	0.635	0.000	0.083
Adjusted R^2	0.708	0.627	0.708
		P<0.1+, P<0.05*, P<0.01**, P<0.001***	

Political risk will negatively moderate the relationship between FDI and economic growth (H6), H6 is supported (β=-2.169***; $p<0.001$). When firms decide to go global, political risk is taken into consideration. High political risk will decrease MNE's willingness to invest in this local country and may be detrimental to economic growth.

Table 9: Hypotheses Consequences

	Hypotheses	Consequences
H1	Issuing short-term bonds will positively influence economic growth.	Supported $\beta=0.915^{***}$; $p<0.001$
H2	More tax cuts from the government will increase the economic growth.	Supported $\beta=0.646^{*}$; $p<0.05$
H3	The greater number of times of raising interest rate will increase the economic growth.	Supported $\beta=0.189^{+}$; $p<0.1$
H4	Higher economic freedom will increase the economic growth.	Supported $\beta=0.659^{***}$; $p<0.001$
H5	More foreign direct investment (FDI) from the overseas will increase the economic growth.	Supported $\beta=0.797^{***}$; $p<0.001$
H6	Political risk will negatively moderate the relationship between FDI and economic growth.	Supported $\beta=-2.169^{***}$; $p<0.001$

CONCLUSION

From the qualitative research findings, the comparative and absolute advantages give US potentiality for economic growth even with the high trade deficits and high debts, US enjoy its advantages from the service sector. The well-structuralized financial system, stable government services, and advanced technology give US the concrete foundation for better economic development. By its potentiality of high economic freedom and low political risk, foreign direct investment flowing into the country increasingly, investors believe their investment will be increased in the US market. Since the USD is the strong currency, the bond market is vital within the domestic market, people prefer buy bonds since the gain from bonds are higher from the saving rate. Also, the distinctiveness of USD attracts other country to buy government bonds as their foreign deposit to maintain their economy status. With high demand of US government bonds, the high budget deficits are used for the fiscal policy to make US have better public construction, service and human resources, in the meanwhile, the US governments had established several tax cuts policy in order to stimulate the productivity and consumption. Since the market of US is easily influenced by the stimulation from the government, the adjustment of interest rate is important to the economy, the increasing interest rate prevent the market from inflating, the inflation will make the economic recession occur in all probability. Thus, the Fed prefer high interest rate to suppress the overinflating economy compared to the federal government's concern. Since US occupy an important position of global politics, the budget deficits seem not to decrease in the future years because they emphasize the budget for defense and the arms industry. Also, the health care and welfare for the post-war baby boomers, may be a serious issue to the government to afford for them, so the issuance of bonds may keep its important portion to US market.

From the liner regression model, the hypotheses were testified, and the results are the following below.

1. Issuing short term bonds will positively influence economic growth.

   Issuing bonds give fund for budget deficits, it gives government credits to establish more public services, increase citizens' and market's more chances to trade, and better financial development, thus it positively influences the economy growth.

2. More tax cuts from the government will increase the economic growth.

   Higher taxation lead to the lower intention of better productivity, also it will lower the budget surplus for individuals, it is not beneficial for the market stimulation, since taxation is not always effectively and efficiently used by the government on the public construction and services, higher taxation will increase the burden to the society. Tax cuts give consumer more budget surplus to consume and let manufacturing lower their production cost, thus it can stimulate the market and increase the economic growth.

3. The greater number of times of raising interest rate will increase the economic growth.

   The lower interest rate is not helpful for the financial investment accumulation because it will decrease the intention of saving more, and it will also induce the intention of investors buying more risky investments, the accumulation of capital is the foundation for productivity, so firms have funds to increase technology and capital, saving can lead the decrease of social burden. Increasing interest rate can help the economy accumulate the capital thus it can increase the economic growth.

4. Higher economic freedom will increase the economic growth.

   Better financial and government development are the main consistence of higher economic freedom, these can increase the opportunities of trades by privatization and deregulation, which allow firms and individuals can enjoy more goods and services from overseas, and allow them to have ownership on assets, it can also reduce the cost, and increase the efficiency for consumption and productivity.

5. More foreign direct investment (FDI) from the overseas will increase the economic growth.

   Since foreign firms usually perform better than the domestic companies because they are usually multinational enterprises, they have better human resources, thus FDI is beneficial for a country because inflow stimulation can lead to advanced technological innovations and get the fund for business program, FDI can increase the economic growth.

6. Political risk will negatively moderate the relationship between FDI and economic growth.

   Political risk is a main concern for foreign investors to decide whether invest or not, a country with higher political risk symbolizing the instability of the government and policy, they expect they would not get the gain from their FDI, so they prefer invest in those foreign countries with lower political risk.

Theoretical and Practical Contributions

In the past literature, the bond issuance for economic growth was less discussed, the bond issuance is not only linked to the economic growth, but also linked to other factors mentioned in this research, moreover, those factors were not addressed together

in the field of economic growth, so this research emphasize the importance of bond issuance to the economic growth, and other governmental factors to the economic growth.

For practical contributions, tax cuts, issuing government bonds, and adjustment of interest rate are the approaches of fiscal and monetary policy, the stability of the government is also a factor for foreign direct investment, these factors are the keys to economic growth, governments should purse higher economic freedom to construct a better financial system for the market to increase the supply and demand, this research can advise the government that how these factors affect the economic growth.

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