

CHAPTER II

LITERATURE REVIEW

A. Theoretical Framework

1. Economic Growth.

a. The Definition of Economic Growth.

Economic growth can be defined as an increase in per capita real output. It also defined as a broad perception that refers to the process of economic growth that has capacity to raise the welfare of its people (Berg, 2001).

According to Boediono (1982) economic growth is the increasing of output per-capita in the long run. Economic growth is a process, not an economic condition at a time. In this case, the dynamic economic growth seen from the aspect of an economy, which is to see how an economy grow or change over time. It is emphasized in itself to changes or developments.

The economic growth represent as the development of the activity in the economy that causes the good and services produced increases in economic activity in the community, regarding growth and development dimensional measured by the increased production and income (Sukirno, 2002). It also can be said as one indicator is in seeing the development of a country. A growth is not synonymous with

development, growth is one of the conditions required in a development (Meier, 1989).

b. Measuring the Economic Growth.

Economic growth occurs when an increase in the production of goods and services. In the real world to record the number of units of goods and services is a difficult thing to do. This is due to a wide variety of goods and services produced in one period that have different sizes. Therefore, the calculation uses to estimate the change in output which is the value of money is reflected in the value Gross Domestic Product (GDP). Gross Domestic Product (GDP) is the market value of all final goods and services, produced in the economy in a country in a period (Mankiw G. N., 2006).

There are two approaches to see the amount of GDP. The first one is GDP as the total income from every person in the economic activity, the second one is by seeing the GDP from the total output (Mankiw G. N., 2007) . The income approach can be differentiated from 4 different types; wage or salary, rent and interest, and profit. While the spending approach from each sector, namely; Consumption (C) from household, Investment (I) from firm, Government Expenditure (G), and the Export (EX) from abroad (Soediyono, 1989).

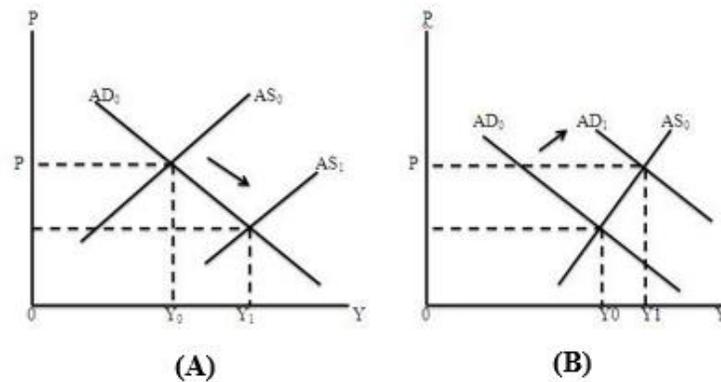
Based on the explanation above, it can be concluded that the economic growth is the growth on economy activity from the increasing GDP and GNP in long-term without considering the population growth and the economic structure change.

c. Economic Growth Theory.

The theory of economic growth determine as an explanation of what factors determine the increase in output per capita in the long term, and the explanation of how these factors interact with each other, resulting in a process of growth. On these descriptions below are the theories on economic growth (Boediono, 1982):

1) The General Theory of Economic Growth.

Based on Tambunan (2001), the economic growth can be seen from two sources in which the aggregate demand from the aggregate demand side. Based on figure 2.1, the equilibrium can be reached if the demand curve and supply crossed on each other, where the economic equilibrium result in output aggregate (GDP) with the certain level. Next, the aggregate output will result in national income. On the figure below, it will describe the initial period ($t = 0$) output is the form from Y , that the economic growth is the output from the following period, which is $output=Y_1$, where $Y_1 > Y_0$.



Source: Tambunan, 2001

FIGURE 2.1

Aggregate Demand and Supply in a Balance Macroeconomic Situation

Based on the picture, it can be seen that the economic growth occurred because the shift from the aggregate supply (AS) along with the demand curve (part A) or the movement from the aggregate demand (AD), along with the supply curve.

From the aggregate demand, the AD curve movement to the right shows the increasing demand in the economic due to the increasing factors of national income, including: consumers demand, company and government. While from the aggregate demand, the GDP usage namely; the household consumption, the investment (I), government spending (G), and net export means the goods and services export (X) minus the goods and services import

(M). The aggregate demand in the economy can be describe by the equation below:

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

From the aggregate supply, there are two ways on describing the phenomenon, which are; neo-classic theory and modern theory. The neo classical theory regards the production function such as labor and capital are influencing the output growth. While the modern theory shows that the production functions are not only the influence but also other variables, such as technology, energy, entrepreneurship, and material. As an addition, the modern theory also regards the economic growth is influenced by; infrastructure, law, regulations, politic condition, the bureaucracy, and exchange rate.

2) Adam Smith's Theory.

Based on Adam Smith's Theory in Sukirno (2002) total output in the economy is affected by the factors of production. The factors of production namely capital, labor, and technology. From those factors, it can be seen from the formulas the following equation:

$$\Delta Y = f(C, L, T)$$

Where,

Y= Economic Growth

C= Capital

L= Labor

T= technology

Smith explains that country's production system consists of three elements namely, available natural resources, human resources or population, and the stock of capital goods. First, Natural resources provided a means that most fundamental of the production activities of a society. The second element is human resources or population. In the process of growth of output element is considered to have a passive role, in the sense that the population will adapt to the needs of the community labor. The last element is capital. Capital actively determines the output level. Smith give a central role to the growth of the capital stock or capital accumulation in the growth process output. In other words, the output level depends on what happens to the stock capital (Boediono, 1982).

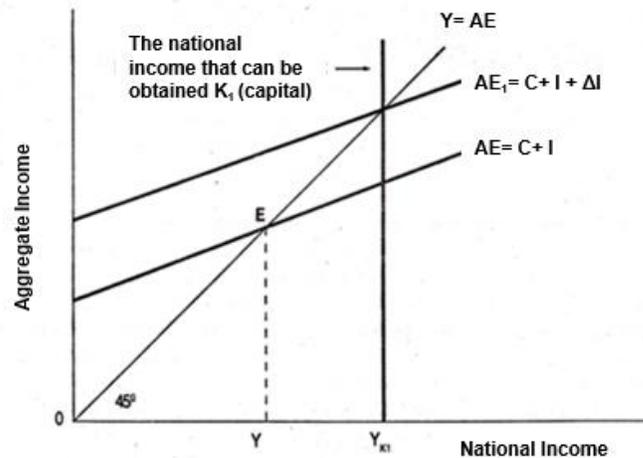
3) Harrod-Domar Theory.

Harrod-Domar theory is the development of macro theory Keynes short-term into long-term macro theory. This theory was developed by Evsey D. Domar and Roy F.Harrord. This theory

describes a long-term economic growth, because the Keynes theory is less complete in the long-term economic problems.

There are 4 assumptions in economic growth in Harrod-Domar Theory. Firstly, in the economy there are full employment and maximum use of capital. Secondly, the economy consists of two sectors, namely the household sector and the corporate sector. Thirdly, the amount of public savings is proportional to the amount of national income, which means saving function starting from the zero point. The last is the propensity to save in fixed amount, as well as the capital output ratio and the incremental capital output ratio (Jones, 1975).

In these assumptions explained that in order to increase the rate of economic growth, country must increase savings. However, economic growth is also seen in increasing the productivity of the output from investment activities. The productivity of investment is the amount of output that can be produced from one unit of investment generated, where productivity can be measured by the inverse of capital ratio output ($\Delta y / \Delta k$). Then, to determine the rate of growth of total output is by multiplying the level of investment that is contained in the savings ratio, $s = I/Y$ with investment productivity $1/k$.



Source: Sukirno, 2013

FIGURE 2.2

Theory of Harrod Domar: The Role of Investment in Economic Growth

The figure 2.2 above explaining the Harrod-Domar theory much further. The aggregate spending is the shape from $AE = C + I$. The equilibrium in the point E describes; (i) national income is Y and (ii) shows the national income from the economy reaches the maximum capacity. For example, the capital in this equilibrium is K_0 . Harrod-Domar theory shows that investment that invested in the beginning of the year leads to the increasing value in the following year, which is the capital from $K_1 = K_0 + I$, where K_1 results in national income; so that, the initial equilibrium can be reached again. This analysis shows the economic from two sectors

that investment should always increase in order to increase the economic growth. The increasing investment is highly needed to increase the aggregate spending.

Harrod-Domar theory doesn't focus the requirement to reach the maximum capacity if the economic is consisted with 3 sectors or 4 sectors. On that condition, the capital increases if $AE_1 = C + I_1 + G_1 + (X - M)_1$, where equal with $I_1 + G_1 + (X - M)_1$. The conclusion from Harrod Domar theory is that the theory completes the Keynesian analysis. Keynesian focuses on the short-term economic problem. While on Harrod Domar theory, it describes the long-run economic problem. It describes the long aggregate is needed to be reached to realize the economic growth. The robust economic growth can be reached if $I + G + (X - M)$ increases significantly with positive relationship.

4) Solow – Swan Theory.

The theory developed individually by Robert Solow from MIT and Trevor Swan from the Australian National University and the model is known as the Neo-classical growth model. This model is similar to Harrod- Domar theory model that focuses on how the population growth, capital accumulation, technological progress

and outputs interact each other in the process of economic growth (Boediono, 1982).

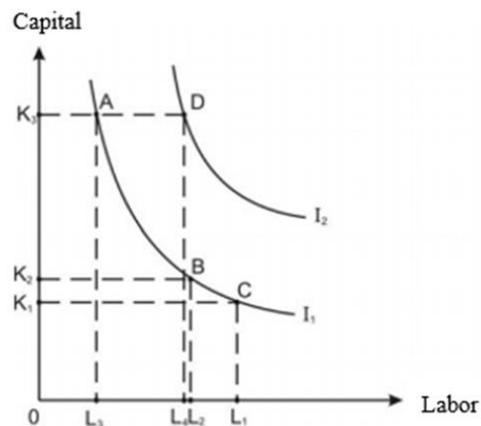
Although the general framework of the Solow-Swan model is similar with Harrod- Domar model, the Solow- Swan model is more flexible. This is because the Solow- Swan models more easily manipulated algebraically.

This model connects the output, capital, and labor in the production function where the coefficients are unchanged ($Q^p = hK$ and $Q^n = nN$). This growth theory used general production function, which can accommodate a wide range of possibilities for substitution between capital (K) and labor (L). This function can avoid the problem of instability and take new conclusions about the distribution of income in the growth process the form of the production function are:

$$Q = F(K, L)$$

Assumptions used in the Solow model that tends to run into diminishing returns capital. When labor supply is held constant, then the accumulation of capital to increase output will always be less than the addition earlier, reflecting the product of capital is diminishing if it is assumed that there is no technological development or growth of the workforce, the diminishing return on

capital indicates that the one point, increasing the amount of capital (through savings and investments) is only enough to cover the amount of capital losses due to depreciation. At this point the economy will stop growing, because it is assumed that there is no technological development or growth of the workforce.



Source: Arsyad, 2004

FIGURE 2.3

Neo-Classical Production Function

The Theory of Neo-classical illustrated in Figure 2.3. Production function indicated by I_2 , I_2 , and so on. In the form of the production function, a certain level of output can be created by using various combinations of capital and labor. For example to create an output of I_1 , a combination of capital and labor which can be used include (a) K_3 with L_3 , (b) K_2 with L_2 , and (c) K_1 with L_1 .

Thus, even though the amount of capital changed but there is a possibility that the output level unchanged.

Although the amount of fixed capital, the amount of output produced can be changed. For example, if the amount of fixed capital of K_3 , the amount of output can be enlarged to I_2 , if the labors that work are added from L_3 to L_4 .

In contradict to the Harrod-Domar theory that assumes a constant return with raw coefficients, meanwhile the neo-classical solow growth model uses the concept of diminishing return from worker and capital amount, if the two use distinct analysis. When analyzed simultaneously, the assumption of neoclassical also use the concept of constant return to scale. The advances in technology are just set as residual factor to explain the long-term economic growth. High or low growth is assumed to be exogenous or not influenced by other factors.

d. The Factors that Determine Economic Growth.

1) Land and Other Natural Resources.

The wealth of a country includes extensive and good soil quality, climate and weather, the number of forest products and marine, and type of minerals produced. Natural wealth will be to facilitate efforts to develop the economy of a country, especially at the beginning of the periods of economic growth (Sukirno, 2013).

Although the above stressed the importance of the role of natural resources in the economic development of a country, especially in the early days of the growth process, it does not mean that economic development is highly dependent on the amount of wealth of a country.

2) The Number and Quality of the Population.

The increasing of population time to time can be the trigger or the barrier to the economic growth. The increasing the number of population will raise the amount of labor, so it can increase the amount of production. Another matter arising from population growth to economic growth is the development of the broad market and the goods produced by the company sector will increase. Therefore, population growth will be conducive to stimulate the increase in national production and the level of economic activity.

If the additional labor cannot increase the national production level faster than the rate of population growth, per capita income will decline. Thus, the excess population will lead to decline in the people's welfare

3) Capital and Technology.

Capital is very important because it can improve the efficiency of economic growth. Capital and modern technology plays an important role for realizing high economic progress. If

capital is increasing, but the quality of the technology has not increased, the progress that occurs will not be significant.

4) Social System and Society Demeanor.

Social system and Society Demeanor is important in realizing economic growth. Traditional customs that might hamper the public to use modern producing system and increase the productivity. Therefore, economic growth cannot be brought forward.

2. Foreign Direct Investment.

There are two kinds of foreign investments in Indonesia which are foreign direct investment and foreign indirect investment. Foreign direct investment is the investment that apply in Indonesia territory by foreign investor which investment comes in form of building and buying a company or acquiring a company. Meanwhile, indirect foreign investment is made by the capital market instrument such as securities, stock, and bond.

Foreign Direct Investment based on UU No. 25 year 2007 is the planting of assets in the form of money or other forms that are owned by foreigners in the form of individual or business entity.

Foreign direct investment is direct investment that has done by an individual or company of another country, that focus into production or business either by buying a company or expanding operation of an existing business in that country (Kunle, et al. 2014).

According to (Macaulay, 2012) In (Kunle, et al. 2014) World Bank in 1996 states foreign direct investment as an investment that is made to promote a long-last management interest in an enterprise and operating in a country other than that of the investors (define based on to residency) the investor desire being an effective voice to earn long term capital as shown in the nation balance of payments. Based on the UU No. 25 year 2007 in (Agma) represent the purpose of investment as follows: increase national economic growth, to create a vocation, to Increase the sustainable economic development, to increase the capacity and capability of national technology, and to develop community economy.

Generally, there are three main sources of foreign capital in a country that apply open economic system, namely foreign debt, foreign direct investment and portfolio investment. According to Wuryaningsih, et al. 2008 foreign borrowing by the government bilaterally and multilaterally. Portfolio investment is investment made through the capital markets. Then, foreign direct investment is an investment made by a private foreign company to a particular country. The form can be a branch of a multinational company, a subsidiary of multinational companies (subsidiary), licensing, joint venture, or more.

Foreign capital inflows have been viewed by developing countries in recent years. Nowadays, foreign investment has become as a major source

of foreign technology. This view is relevant, especially given the failure of import substitution and the slowdown of technological progress in many developing economies. The developing countries coveted the foreign direct investment (FDI) by multinational enterprises (MNEs), FDI is seen as a major tunnel for technology transfer. MNEs are the firms that produce and market their products in more than one country (Berg, 2001).

FDI can also be divided into two types, namely Greenfield and Acquisition. Investments by type Greenfield will build a new production unit while FDI is a type of acquisition that buy part ownership of a company that already exists (Kurniati, et al. 2007).

In macroeconomics, investment has two important roles in the economy. First, investment is a major component of spending and provide changes in demand and the business cycle. Second, the investment is a form that leads to the accumulation of capital. If the additional shares of buildings and equipment, it can affect the country and increase potential output growth in the long term.

Based on the theory raised by Keynes, the investment amount is determined by the interest rate. For employers, the interest rate is considered to invest in a country. Then, the other factors that determine the behavior of entrepreneurs in investing that the current economic situation and the future to come.

3. Export.

Export is the activity of selling and sending goods from the origin country to other countries. These activities can bring the flow of expenditure will be flowed into the enterprise sector. Furthermore, the aggregate expenditure will increase, this is because the export activities of goods and services, and therefore the national income will also increase. If net exports in a positive state, the aggregate expenditure will increase. Then this will increase the national income and employment (Sukirno, 2013).

Exports are one of the component in aggregate spending on the open-economy. Aggregate expenditure in an open economy means that the household expenditure on domestic production, investment, government spending, spending on imported goods and foreigner who spend the export goods. The aggregate expenditure can be expressed by this following formula:

$$AE = C_{dn} + I + G + (X - M)$$

Another theory that is used in the export is the basic theory of export. The basis theory is that the economic basis that is developing from the basis export becomes the city basis. From all of the theories, all are stressing on the demand from the external sides. On the city theory, there is a division which is its environment and external.

In export theory it can be described as the autonomic factor. It means that export is a factor to increase the income and economic growth directly. To reach the high export level, then it needs the strategy to increase the appropriate export value and appropriate investment with the high technology to be implemented punctually (Adisasmita, 2013).

4. Infrastructure.

Infrastructure is the capital stock that provides public goods and services. Infrastructure will affect the production activities and quality of life for the households. Infrastructure is a fundamental factor behind economic growth. This variable has shown its long-enduring significance (Yoshino & Nakahigashi, 2000).

Infrastructure refers to the physical facility and organizational framework, knowledge and technology that is essential to society and economic growth. Infrastructure includes laws, public health and education systems, distribution systems, and transportation systems and public utilities.

In the economics, infrastructure is a form of public capital, which formed from the investment made by the government. In this study, infrastructure including roads, bridges, and sewer system (Mankiw G. , 2003).

Infrastructure means that the relatively of large physical capital facilities and organizational, knowledge and technological frameworks that together become a fundamental to the organization of communities and the economic development of the communities. Besides that, legal, educational and public health systems, water treatment and distribution, garbage and sewage collection, treatment and distribution system, treatment and disposal, public safety systems, such as fire and police protection, communications systems, public utilities and transportation systems. The federal government's principal involvement in infrastructure formation involves the military, legislative and judicial functions (Tatom, 1993).

Modernization of the economy requires modern infrastructure as well, due to various economic activities require the infrastructure to develop, such as roads and bridges, airports, ports, industrial estates, irrigation and water supply, electricity and telephone networks need to be developed. The various types of infrastructure is needed by the company to the efficiency of its operations.

Infrastructure development should be in harmony way with economic development. At a low stage of development, the necessary of infrastructure is still limited. At this level of development is based on the construction of roads, bridges, irrigation, electricity and other infrastructure in a simple level. Thus, developing the infrastructure must be in sync with

the economic development that has been achieved and realized and that will be realized in the future (Sukirno, 2013).

Based on the type, the infrastructure is divided into 13 categories as follows (Grigg, 1988):

- The water supply system: reservoirs, water storage, transmission and distribution, and water treatment facilities (treatment plant),
- Waste water management system: collection, processing, disposal, and recycling,
- Facility waste management (solid),
- Facilities flood control, drainage and irrigation,
- Inland waterways and navigation facilities,
- Facility of transport: road, rail, airports, as well as other complementary utilities,
- Public transit systems,
- Electrical systems: production and distribution,
- Natural gas facilities,
- Public Buildings: schools, hospitals, government buildings, etc.,
- Public housing facility,
- Garden City: the park is open, plaza, etc., as well as
- Communication facilities.

Based on the thirteen types of infrastructure above, then the type of infrastructure is grouped into seven major groups as follows:

- Transportation (roads, highways, bridges),
- Transport services (transit, airports, ports),
- Communications,
- Flooded (water, wastewater, flooded the system, including the water that rivers, open channels, pipes, etc.),
- Waste management (solid waste management system),
- Building, as well as
- Distribution and production of energy.

5. Inflation Rate

Inflation is an increase in the general price level of commodities and services during a specific time period. Inflation is regarded as a monetary phenomenon due to the impairment of the monetary calculation unit to a commodity (Greenwald, 1998).

Inflation is one of the problems that need most attention by the government. The long term goal of government is to keep the inflation rate at the lowest level. The three kinds of inflation based on the causes of inflation that is demand-pull inflation, cost-push inflation, and imported inflation (Sukirno, 2013).

Demand-pull inflation occurred in the economy is growing rapidly. The higher employment causes high levels of income, and this will cause expenses that exceed the ability of the economy to pull out of goods and services. Excessive spending will cause inflation.

Cost-push inflation happens when the level of unemployment at the lowest level. If the company is still facing the increasing of production demands, they will keep increase the production cost by providing the higher salaries to their workers, and look for new workers with higher payments. Consequently, the increasing of cost production will increase the price level of goods.

Imported inflation occurs when the price of import goods increasing. This kind of inflation can be illustrated by the real problem in the world, the effect of increasing oil price on 1970s toward to western economies, and the other oil-importing countries.

Based on the rapidity of the increasing level of price, inflation can define as three categories such as, creeping inflation, moderate inflation, and hyperinflation. The creeping inflation occurred when the rapidity of the increasing level of price is slow. The increasing of price level does not exceed 2 or 3 per cent a year. Then, the hyperinflation is a process of the rapid level of increasing price. In the developing countries, the level of inflation cannot be controlled easily. They don't experience the hyperinflation, and cannot decrease the inflation in lowest level as well. The

average level of the inflation is 5 until 10 per cent a year, and this is called as the moderate inflation.

The high inflation will not trigger the economic growth. The increasing of production cost causes the productivity is not beneficial. Usually, the owner of capital prefer to use their capital as the speculation. The increasing of price level can give bad impact on international trade. It causes the goods from that country in high inflation, cannot compete in international market. As the result, export will decrease and the price of import goods will decrease as well. The decreasing price of import goods will effect on frequently import activities. Finally, from those problem can cause the instability of the exchange rate circulation and the worsening of balance of payment.

Besides inflation give a bad effect on the country, inflation can also give a bad effect on the individual and society. Firstly, inflation will reduce the real income of the people who have a fixed income. Generally, the increasing of wage level not as fast as the increasing of price level. Therefore, inflation will decrease the individual real wage who have the fixed income. Secondly, inflation will reduce the amount of wealth (money-from). Thirdly, inflation makes the distribution of wealth unwell. As explained earlier, the fixed income will experience the degradation in the real-income, but the owner of the fixed asset such as; land, houses can maintain or increase the value of real asset.

B. Previous Study.

According to Pranoto (2016), simultaneously exports has a significant and positive effect on the gross domestic product, while foreign direct investment has a significant and negative impact in Indonesia 2004 until 2013. This analysis was performed using linear regression analysis.

Based on Irsania and Noveria (2014) in their research titled “the Relationship among Foreign Direct Investment, Inflation Rate, Unemployment Rate, and Exchange Rate to Economic Growth” reveals that FDI, inflation rate, and exchange rate has a significant influence towards economic growth. But FDI and unemployment have a positive correlation. The rest variables have negative correlation. This research used multiple regression as a method.

From the result of Koojaroenprasit (2012) by using the multiple regression, the findings shows that foreign direct investment has a strong positive impact on South Korean Economic Growth. Furthermore, this finding indicates that human capital, employment and export also have positive and significant impact, while domestic investment has no significant impact on economic growth in South Korea.

Research from Mofrad (2012) shows the study on The Relationship between GDP, Export, and Investment: Case Study Iran shows that there exist a positive and significant long-term and short-term relationship between investment and export with GDP in 95% confidence level. This study used the vector error correction model as the method period 1991 until 2008.

According to Sojodi, et al. (2012) the research that used ARDL Method indicated the transportation facilities distinctively length of railway. Roadway, and telecommunication infrastructure (fixed phone line) have positive and significant impact on economic growth.

Study from Wibowo (2016) explains that the road infrastructure has no significant impact on economic growth in Indonesia period 2006 until 2013. On the other hand, electricity, health, and education has positive significant impact on economic growth in Indonesia.

The development of infrastructure in a country is a major influence on economic growth in a country (macro and micro) and the development of a country. However, it is not easy to apply in Indonesia. Moreover, since the 1997 crisis which eventually widened into a multidimensional crisis impact can still be felt today (Haris, 2005).

The other study finds that foreign direct investment has significant impact on gross domestic product in Indonesia and vice versa. This study shows that there is two way relationship between FDI and GDP. This study used Engle Granger (EG-ECM) based on the theorem of granger's representation (Wuryaningsih, Setyowati, & Kuswati, 2008).

Research from Kasidi and Mwananemeda (2013) investigated that inflation has a negative impact on economic growth in Tanzania. There was no co-integration between inflation and economic growth during the period 1990 until 2011. In addition, no long-run relationship between inflation and

economic growth in Tanzania. This research used regression equation as the method.

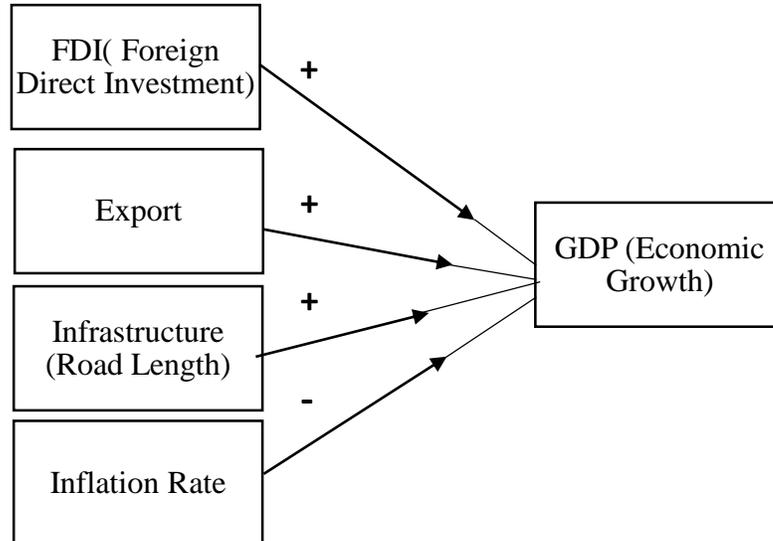
Study from Acyumida and Eko (2013) employs that the *Granger Causality* of GDP has no causality relationship on inflation. On the contrary, there is a causality relationship between Inflation on GDP in Indonesia period 2000 until 2013.

From the result of Izuchukwu and Patricia (2015) noted in their study about the Impact of Inflation on Economic Growth in Nigeria period 2000 until 2009 that the inflation has a significant impact on economic growth in Nigeria. In addition, exchange rate has a positive impact on economic growth and that high interest rate discourages investment and hence forestalls economic growth.

C. Hypotheses

On the paragraph below are the hypotheses based on the previous study and theoretical framework:

- 1) Foreign Direct Investment has a significant and positive impact on economic growth in Indonesia both in long-run and short-run.
- 2) Export has a significant and positive impact on economic growth in Indonesia both in long-run and short-run.
- 3) Infrastructure has a significant and positive impact on economic growth in Indonesia both in long-run and short-run.
- 4) Inflation has a significant and negative impact on economic growth in Indonesia both in long-run and short-run.

D. Research Framework**FIGURE 2.4**

Research Framework