CHAPTER II

REVIEW OF RELATED LITERATURE

2.1. Theoretical Review

There are several differences on the study of Indonesia's Macroeconomy based on the variables used inside the research. They are World Crude Oil Price Fluctuations, Balance of Payment (BOP), Gross Domestic Product (GDP), and inflation presented on these following table as follows:

No.	Researcher	Research Variables	Research Methodology	Results
1.	Nizar (2012)	Independent: World oil prices fluctuations Dependent: Indonesia's economy	Vector Auto Regressive (VAR)	Oil price fluctuation in international market in several periods will be responded positively and fast by

				economic growth.
2.	Harunurrasyid (2013)	Independent: Price of fuel (*Bahan Bakar Minyak)* in Indonesia Dependent: Inflation rate in Indonesia	Ordinary Least Square (OLS)	Price of fuel (*Bahan Bakar Minyak)* positively affect inflation rate in Indonesia but it is was not significant.
3.	Luthfi, Senevirathne & Kaneko (2017)	Independent: Oil price Dependent: Indonesian macroeconomic indicator	Vector Auto Regression (VAR)	Oil price variables has positive impact on fuel subsidy, negative

				impact to GDP growth, inflation and interest rate.
4.	Fah & Shi (2017)	Independent: Plunging oil price Dependent: Malaysia's and Indonesia's economy	Ordinary Least Square (OLS) and Auto Regression Distributed Lag (ARDL)	For the growth of Indonesia's GDP, the negative response was found and it was more significant.
5.	Artami & Hara (2018)	Independent: Oil price changes Dependent: Economic activities in Indonesia	Vector Auto Regression (VAR)	The oil price fluctuations have an impact on economic activities in Indonesia, especially for

				Gross Domestic Product (GDP) and inflation.
6.	Novarinda (2016)	Independent: Oil price fluctuations Dependent: Indonesia's economic	Vector Error Correction Model (VECM)	The increase of oil prices in the international market seems to have no longer a blessing (windfall profits) for Indonesia.

Nowadays, there are three important things in the economy of the world. Those are the decreasing of oil prices, the getting stronger of dollar and the revolution by United States. The decreasing of the world crude oil price was caused by some factors, one of them is the revolution of shale gas in United States. Production of shale gas causes the decreasing of another energy sources prices because of the expansion and the stock of shale gas is quite abundant. There are few mechanisms that explains how the world crude oil price can hamper the economy. In the supply side shock, the role of world crude oil price is as an input factor for the production. The decreasing of oil supply will hamper the productivity and turn to lessen the real wage growth. If the wage plunging downward, the economy will be decreased and causes the increasing of unemployment and makes generate further reduction in the economy. In the demand side, the increasing of world crude oil price will shift the purchasing power from the oil importing countries to the oil exporting countries. Meanwhile, as a net, the effect will be decreased in consumer demand and it causes the increasing of world saving. More saving tends to make the interest rate decrease and push to higher investment and it leads to the constant GDP. Indonesia is a country with open economic system. There will be a big possibility which is influenced by the condition of world economy. We can also see when the fluctuation happens, the crude oil price will affect the local economy.

2.2. Theoretical Framework

2.2.1. Macroeconomy

According to Nanga (2001), macroeconomy theory is a theory that studies and discusses about every phenomenon and also a problem related with economy as a whole or in a big scale. Macroeconomy is also a part of economics that focusing on the working mechanism of a nation’s economy as whole because macroeconomy purpose is to understand a phenomenon of economy and trying to make a formula into a solution to fix the economy policies. Moreover, in macroeconomy there are several relationships that occur. The relationships discussed including the relationship among aggregative variables, such as:

a. National income level
b. Household consumption
c. National investment (government or private)
d. Savings rate (institution or individual)
e. Government expenditure (APBN or APBD)
f. Price level (general price or market price)
g. The amount of money circulating in the society
h. Interest rate obtained
i. Job and employment opportunities
j. Balance of payment
k. Export and import

2.2.2. World Crude Oil Price Fluctuation

Fluctuation means uncertain. Thus, we can say that world crude oil price fluctuation means that the oil price is uncertain or there is a shock in the oil price. World crude oil price fluctuation in international market following the general truth in economy market, the price of it is determined by demand and supply mechanism as a fundamental factor (Nizar, 2002).

In demand side, world crude oil price fluctuation have a negative relationship on economic growth and can explain economic growth. The experience shows that the increasing of the demand for oil will increase the oil price preceded with a quite high global economic growth. Before oil shock happened in 1973 and 1978, the global economic growth was high which was more than 4% a year, followed by the high demand of oil, each with the growth about 8% and 4% (Kesicki, 2010).

The increasing of oil demand is because the encouragement of economic growth in 1960's decade until 1973, especially from developed countries that joined in the Organization for Economic Cooperation and Development (OECD). After the second crisis of world crude oil price, the annual average oil consumption grew by more than 1 million barrels per day, except in the early 1990's, where global consumption was stagnant due to the collapse of the Soviet Union.

In supply side, the world crude oil price fluctuation is influenced by the availability or supply of oil by producing countries, either a country that joined Organization of the Petroleum Exporting Countries (OPEC) or non-OPEC producer countries. The availability or supply of oil is strongly related to production capacity, investment capacity, and refinery infrastructure (Kesicki, 2010 and Breitenfellner et al., 2009)

2.2.3. Gross Domestic Product (GDP)

Gross Domestic Product (GDP) is a representation of the total value of sales of all goods and services produced within a certain period of time. Briefly, GDP means everything that is produced by society and business, including the salaries of workers. GDP data is also a way to find out which sectors of the economy are experiencing growth or decline.

In United States (US), GDP is calculated and announced quarterly by the Bureau of Economic Analysis (BEA), which is part of the US Department of Commerce. BEA often revises estimates whether it is up or down during the development of data received throughout the quarter. Usually, the GDP announced comparison on previous quarter or year. For example, if GDP in the second quarter increases three percent, it means that the country's economy has grown by three percent throughout the first quarter.

World crude oil price fluctuations have a negative impact on economic growth. This difference is understandable because in Indonesia, the contribution of the oil and natural gas sector is still quite important in the formation of GDP, although the proportion is no longer large, which is only about 8.5% of total GDP. This low proportion is also indicated by the relatively small variant decomposition. Although the contribution of the oil and gas sector tends to decline, the effect of the shock of oil prices will be permanent on Indonesia's economic growth. The result of the study is used as a basis for justification that the oil crisis was the cause of the economic recession, especially what happened in the United States and a number of European countries at that time (Hamilton, 1983, 1988, 1996).

2.2.4. Balance of Payment (BOP)

Balance of Payment (BOP) is a statistic that records every economy transaction between the resident and non-resident in certain periods. Balance of payment transaction includes current transaction, capital transaction, and financial transaction.

Meanwhile, the International Investment Position of Indonesia (PIII) is a statistic that shows the value of asset and financial obligations of Indonesia on non-residents in certain periods. Financial asset can be an invoice on the non-residents or gold that owned as part of foreign exchange reserves.

2.2.5. Inflation

Inflation is the increasing of price in general and continuously in a certain period. The price increase from one or two goods only cannot be called inflation except the increase extends (or results in a price increase) in other goods. The indicator that is often used to measure the inflation rate is Consumer Index Price (CPI). Changes in CPI from time to time shows the price movement of the package of goods and services consumed by the public.

The determination of goods and services in the CPI basket is carried out on the basis of the Cost of Living Survey *(Survei Biaya Hidup)* that is conducted by *Badan Pusat Statistik* (BPS). BPS will monitor the development of prices of these goods and services on a monthly basis in several cities, in traditional and modern markets for several types of goods or services in each city.

The increasing of oil price also affects the increasing of inflation. The high crude oil price will be followed with the increasing of oil price products such as fuel that is used by consumer (Cologni and Manera, 2008). Moreover, due to oil substitution with the energy in another form, the price of alternative energy will be increasing as well. Beside the direct effect on inflation, there is undirect effect that is related with the company response and worker behavior (second round effects).

Company divert the increasing of production cost in the form of higher consumer price for the non-energy goods or services, meanwhile the worker will response the increasing of living cost by demanding the higher wage (Lardic and Mignon, 2006, 2008 and Berument and Tasci, 2002).

2.3. Hypothesis Formulation

Macroeconomy is a study about the whole economy. Macroeconomy explains the economy changes that affects society, company, and market as well. Few hypotheses are modified from previous studies and added by new hypotheses as researcher would like to add more variables.

2.3.1. The Impact of World Crude Oil Price Fluctuations on Gross Domestic Product (GDP)

World crude oil price fluctuations can explain economic growth. This difference is understandable because in Indonesia the contribution of the oil and natural gas sector is still quite important in the formation of GDP, although the proportion is no longer large, which is only about 8.5% of total GDP. This low proportion is also indicated by the relatively small variant decomposition. Although the contribution of the oil and gas sector tends to decline, the effect of the shock of oil prices will be permanent on Indonesia's economic growth. The result of the study is used as a basis for justification that the oil crisis was the cause of the economic recession, especially what happened in the United States and a number of European countries at that time (Hamilton, 1983, 1988, 1996).

2.3.2. The Impact of World Crude Oil Price Fluctuations on Balance of Payment (BOP)

Balance of payment can be explained by world crude oil price fluctuations. The increasing of price will have an impact on local goods that cannot compete in international market. Thus, the export will be decreasing. Moreover, the local production cost will get higher as an impact of the high inflation. It makes import goods cheaper. Then, there will be more imports.

The decreasing of export and the increasing of import will cause an imbalance in foreign currency and the balance of payment will get worse and it will influence the national income (Sukirno, 2005:339).

2.3.3. The Impact of World Crude Oil Price Fluctuations on Inflation

The increasing of world crude oil price also affects the inflation and can explain increasing on inflation. It means the world crude oil price fluctuation has positive relationship with the inflation. The high crude oil price will be followed with the increasing of oil price products such as fuel that is used by consumer (Cologni and Manera, 2008). Moreover, due to oil substitution with the energy in another form, the price of alternative energy will be increasing as well. Beside the direct effect to inflation, there is indirect effect that is related with the company response and worker behavior (second round effects).

Company divert the increasing of production cost in the form of higher consumer price for the non-energy goods or services, meanwhile the worker will response the increasing of living cost by demanding the higher wage (Lardic and Mignon, 2006, 2008 and Berument and Tasci, 2002).