Analysis of the Effect of Inflation, Interest Rate and Exchange Rate on Economic Growth in Indonesia Period 2007-2020

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Abstract— This study aims to examine the effect of inflation, interest rates, and exchange rates on the rate of economic growth in Indonesia through the People's Business Credit. The data used is secondary data obtained from BPS. The data in this study is an annual time series from 2007-2020. This study uses the simultaneous regression analysis method with the Amos program. The findings of this study indicate that inflation, interest rates, and exchange rates do not affect Indonesia's economic growth. This study shows that the policies implemented can stabilize the rupiah exchange rate, inflation, and interest rates which in turn have an impact on the distribution of People's Business Credit so as to increase Indonesia's economic growth.

Keywords— Inflation, Interest Rates, Exchange Rates, People's Business Credit, Economic Growth.

I. INTRODUCTION

Indonesia's economic growth in 1997 was hit by the economic crisis. The Southeast Asian financial crisis that hit Indonesia at the end of 1997 quickly turned into an economic and political crisis. Indonesia's first response to this problem was to raise domestic interest rates to control inflation and the weakening of the rupiah, and to tighten its monetary policy. Indonesia's economic growth in 2020 will contract by 2.07 percent. This growth was the first contraction since 2006. The decline in growth was due to the 2020 outbreak of the corona virus which resulted in the decline of all economic components (Sadono Sukirno, 2008).

It can be explained that, if a country or region experiences an increase in economic growth, then they assume they are not at risk of taking credit. In other words, increasing economic growth will further increase the ability and desire to expand and to expand requires greater capital. In this case to carry out the expansion, an entrepreneur will decide to take credit. So it can be said that lending will increase economic growth (Sadono Sukirno, 2008).

The realization of the distribution of People's Business Credit (KUR) on December 31, 2019 reached Rp139.5 trillion. The realization was 99.65% of the 2019 target of Rp140 trillion. KUR distribution has increased rapidly, namely 366.67%6 since 2015 until now. The KUR rate in 2020 also increased by IDR 50 trillion or 36% to IDR 190 trillion (Depkop.go.id, 2019). Indonesia is one of the developing countries. A common problem often faced by developing countries is the high rate of inflation. Since the 1998 monetary crisis, market prices have tended to rise. In 2016 the inflation rate in Indonesia was 3.02%. This can mean that the assets owned will be reduced in price by 3.02% while the income is overvalued by the same figure. However, in 2020, the inflation rate decreased to 1.68% (BPS, 2020).

The interest rate has a very important role in lending in the credit market where the prevailing interest rate shows the price agreed upon by both parties in the credit transaction (Wardoyo, 2013). Credit interest rates have a major influence on credit development. The higher the credit interest rate, the burden on the community in paying off their credit loans will be heavier, and it will reduce the public's interest in making credit loans, which results in a decrease in credit disbursed. One of the factors that influence economic growth is the exchange rate. The crisis that hit Indonesia since 1997 began with the crisis of the rupiah against the US dollar. This is a very important lesson to look back at an economic development that really has a strong structure and can survive in any situation (Kasmir, 2012).

II. LITERATURE REVIEW

A country can be said to have a good economic condition which can be measured by the level of economic growth. According to Kuznets, defines economic growth as “a long-term increase in a country's ability to provide its population with a wider variety of economic goods. This capability grows with technological advances, and the institutional and ideological adjustments it requires. This definition has 3 (three) components: first, the economic growth of a nation can be seen from the continuous increase in the supply of goods; second, advanced technology is a factor in economic growth that determines the degree of growth in the ability to supply various kinds of goods to the population; third, the widespread and efficient use of technology requires adjustments in the institutional and ideological fields so that the innovations produced by human science can be used appropriately (Jhingan, 2009).

Economic growth is used to describe the progress or economic development in a country. An economy is said to experience growth if the number of goods and services increases. The figure used to estimate economic growth is GRDP at constant prices because the effect of inflation has been removed. This is in line with the opinion of I Made Dharma Setiawan which states that an economy is said to be experiencing growth or development if the level of economic activity increases or is higher than the previous year. The development will only occur if the number of physical goods and services produced by the economy increases in the following years. To see the increase in the number of goods produced, the effect of changes in prices on the value of regional income in various years must be eliminated by calculating regional income based on constant prices. Meanwhile, according to Budiono, economic growth is the process of increasing output per capita in the long term (Kuncoro, 2004).

The word credit comes from the Greek credere which means trust, which is to believe that the borrower can pay his obligations in accordance with a predetermined period of time. Derived from the Latin creditum which means belief in the truth. Credit is the delivery of goods, services, or money from one party (creditor) on the basis of trust to another party (debtor) with a promise to pay from the credit recipient to the creditor on a date agreed by both parties (Rivai, et al, 2005). People's Business Credit is credit or financing to Micro, Small and Medium Enterprises Cooperatives (UMKM-K) in the form of providing working capital and investment supported by guarantee facilities for productive businesses. KUR is a program launched by the government but the source of the funds comes entirely from bank funds. People's Business Credit (KUR) is a credit program that is channeled using a guarantee pattern and this credit is intended for micro and small entrepreneurs who do not have collateral but have businesses that are feasible to be financed by banks. The government subsidizes KUR with the aim of empowering MSEs in Indonesia (Ari Sofyan, 2012).

Inflation is a monetary event that shows a tendency to increase the price of goods in general, which means a decrease in the value of money (Judisseno, 2002). The definition of inflation is a process of increasing prices prevailing in an economy. The general characteristics of inflation are: There is a tendency for prices to increase, meaning that there may be an increase or decrease in the price level at one time, but it still shows an increasing tendency, the increase in prices takes place continuously, not only at a certain time, and includes the understanding of the level of inflation. General Price Level, namely the increase in the price level not only for one or various commodities, but includes all components of the aggregate index or GNP deplator (Sukirno, 2004).

Interest rates can be interpreted as remuneration provided by banks based on conventional principles to customers who buy or sell their products. Interest can also be interpreted as the price that must be paid to customers (who have deposits) with those that must be paid by customers (who get loans) to the bank (Irsyad Lubis, 2010). The exchange rate is the value of a country's currency expressed in the value of another country's currency or the number of rupiah needed to obtain one unit of foreign currency (Sukirno, 1994). Exchange rate or exchange rate is the price of a currency of a country, which is measured or expressed in another currency. The exchange rate plays a very important role in learning decisions, because the rupiah exchange rate allows us to translate prices from various countries into the same language (Krugman and Obsfeld, 2004).

The Relationship between Interest Rates, KUR Distribution and Economic Growth

Assuming real interest rates if inflation rises, the expected profit will increase and demand for credit will also increase, but if inflation rises due to an increase in the nominal interest rate, the demand for credit will also increase. Where inflation that arises due to increased production costs (Cost Push Inflation) is inflation that arises due to reduced supply due to increased production (Boediono, 2002). Inflation is very influential with the demand for bank credit because inflation also means an increase in prices. The higher the price, the person will try to be able to meet the needs, and in fulfilling these needs, it can be done by submitting a request for credit using the assumption of real interest rates. Therefore, with an increase in inflation, the demand for credit will also increase.

The Relationship Between Economic Growth and KUR Distribution The Economic Growth Model proposed by Harrod-Domar emphasizes how important it is for people to save to support investment activities that will encourage growth, which is represented by an increase in national income. The distribution of funds to the business world will be able to increase the output it produces. One component of national growth that is always calculated is economic growth (Mochamad Faza Rifai, 2005).

The Relationship between Interest Rates, KUR Distribution and Economic Growth

The interest rate has a very important role in lending in the credit market where the prevailing interest rate shows the price that has been agreed upon by both parties in the credit transaction. For credit applicants, low interest rates will be in great demand and vice versa if the interest is high then they will think and not be interested in taking credit (Kristanti, 2013). Interest rates have a direct effect on bank lending rates. Credit interest rates have a major influence on credit development. The higher the credit interest rate, the burden on the community in paying off their credit loans will be heavier, and it will reduce the public's interest in making credit loans, which results in a decrease in credit distributed. On the other hand, the lower the interest rate on the loans offered, the lighter the burden on the community, which results in an increase in the number of loans disbursed to the community, thus increasing economic growth.

If a country or region experiences an increase in economic growth, they assume they are not at risk of taking credit. In other words, an increase in economic growth will further increase the ability and desire to expand and to carry out expansion requires greater capital. In this case to carry out the expansion, an entrepreneur will decide to take credit. So it can be said that economic growth will increase lending (Wardoyo, 2013).

Theoretical Relationship of Exchange Rate, KUR Distribution and Economic Growth

The exchange rate is the value of a country's currency expressed in the value of another country's currency or the number of rupiah needed to obtain one unit of foreign currency (Sukirno, 1994). Exchange rates that fluctuate uncontrollably will cause difficulties in setting policies, therefore the policy on currency values to remain in a stable position is one of the monetary factors that support the macro economy (Pohan, 2008). One of the factors that influence economic growth is the exchange rate.

The crisis that has befallen Indonesia since 1997 began with the crisis in the exchange rate of the rupiah against the US dollar. This is a very important lesson to re-examine an economic development that really has a strong structure and can survive in any situation. People's business loans have been proven to play a major role in developing MSMEs and contribute to reducing unemployment. And when unemployment is reduced, economic growth will increase (Wahyuni, 2005).

III. METHODOLOGY

The research approach uses a quantitative approach which is carried out in the form of path analysis with time series data in the annual period, namely 2007 to 2020. The population is a complete group of elements (Sugiyono, 2013). The population in this study is all data from economic growth, People's Business Credit, Inflation Rate, Bank Interest Rates and Rupiah Exchange Rate. While the sample is a subset of the population that is expected to represent the research population. Sampling based on the variables used.

The data collection technique used is library research where library research is a research method to obtain information from literature related to this research, such as research journals, theses, dissertations and other published books related to this research. The data collection technique used is direct recording in the form of time series data for a period of 14 years (2007-2020).

The equation model of this research can be seen from the following equation:

$Y_1 = f(X_1, X_2, X_3)$

$Y_2 = f(Y_1, X_1, X_2, X_3)$

Based on the form of the function in the simultaneous equation system above, it can be stated explicitly in the form of the following function:

$Y_1 = \alpha_0\ X_1\ \alpha_1\ X_2\ \alpha_2\ X_3\ \alpha_3 + \mu_1$

$Y_2 = \beta_0\ Y_1\ \beta_1\ X_1\ \beta_2\ X_2\ \beta_3\ X_3\ \beta 4 + \mu 2$

The equation above can be expressed in the form of a linear equation as follows:

$\text{Ln } Y_1 = \text{Ln}\alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 \text{ Ln}X_3$

$Y_2 = \beta_0 + \beta_1 \text{Ln}Y_1 + \beta_2 X_1 + \beta 3X2 + \beta_4 \text{ Ln}X_3 + \mu_2$

Where:

X_1= Inflation

X_2= Interest Rate

X_3= Exchange Rate

Y_1= People's Business Credit

Y_2= Economic Growth

IV. RESULTS AND DISCUSSIONS

To analyze the People's Business Credit on economic growth in Indonesia, a simultaneous linear regression analysis is carried out which estimates the magnitude of the direct or indirect effect. This is intended to describe the stages in analyzing data with certain methods that will be used to answer the problem formulation followed by testing the research hypothesis. The data analysis method in this study is time series regression analysis using Amos software by producing an estimation model. Analysis of the estimation results used in this study with the aim of knowing whether there is an influence between variables.

Table 1 Results of Analysis of Relationships Between Variables

Effect Between Variable	Coefficients	Prob.	Standar Error	t-Statistic
(X1) → (Y1)	0.255	0.014	0.103	2.464
(X2) → (Y1)	0.172	0.026	0.077	2.224
(X3) → (Y1)	4.982	****	1.423	3.502
(X1) → (Y2)	0.256	0.223	0.210	1,220
(X2) → (Y2)	-0.100	0.511	0.152	-0.657
(X3) → (Y2)	-4.256	0.201	3.325	0.201
(Y1) → (Y2)	-0.256	0.583	0.465	0.583

Source: Model Estimation Results with Amos. Information: Significant Shows the Probability Value < 0.05

1. The Effect of Inflation on Indonesia's Economic Growth

The regression results show that inflation either directly or indirectly through the distribution of People's Business Credit has no effect on economic growth. In principle, not all inflation has a negative impact on the economy. Especially if there is mild inflation below ten percent. Mild inflation can actually encourage economic growth. This is because inflation is able to encourage entrepreneurs to further increase their production. Entrepreneurs are eager to expand their production, because with the increase in prices, entrepreneurs get more profits. Inflation in the long term, a high inflation rate will have a very bad impact.

With the high inflation rate, this causes domestic goods to be relatively more expensive when compared to the price of imported goods, inflation can cause disturbances, weaken people's enthusiasm to save, increase shopping tendencies, and direct people to invest in non-productive sectors. This finding indicates that the increase in the allocation of credit extended by the banking sector to the real sector has an insignificant effect on the increase in output generated by the real sector. The increase in real sector output is thought to be caused by the readiness of real sector institutions to optimize credit funds and the improvement and improvement of production technology used by the real sector.

2. The Effect of Interest Rates on Indonesia's Economic Growth

The regression results show that interest rates, either directly or indirectly through the distribution of People's Business Credit, have no effect on Indonesia's economic growth. This indicates that the increase in interest rates imposed by Bank Indonesia will not have an impact on the decline in economic growth. Where high interest rates cause people to tend to invest their funds rather than use them to shop and expand their business. The interest rate is the main indicator in making business decisions and monetary policy. High interest rates will push the cost of raw materials and production more expensive so that the price of production will also be expensive, which causes goods to be unable to be absorbed by the market. This will have an impact on the company's income declining which has implications for the sluggish trade. In addition, high interest rates will encourage people to prefer saving to earn high interest rates, while banks find it difficult to extend credit due to high interest rates that cannot be absorbed by the business world. And banks are more likely to choose stock and money market portfolios that have nothing to do with real sector movements.

3. The Effect of Exchange Rate on Indonesia's Economic Growth

The regression results show that the rupiah exchange rate either directly or indirectly through the distribution of People's Business Credit has no effect on Indonesia's economic growth. Indicates that, if the exchange rate weakens, it will not have an impact on economic growth.

One of the impacts is the increase in the price of imported goods and imported raw materials. If there are more and more industries made from imported raw materials in Indonesia, this will cause the economy to be disrupted, because it is quite difficult to fulfill raw materials, so that economic growth slows down.

This is in accordance with previous research conducted by Elvania Margareth (2014) Research by Alpon Satrianto (2014) explains that if the exchange rate appreciates, the selling price of Indonesian products abroad becomes more expensive so that this condition encourages a decline in exports.

V. CONCLUSION

Inflation, interest rates, and exchange rates have no direct effect on Indonesia's economic growth. And Inflation, interest rates, and exchange rates do not indirectly affect Indonesia's economic growth through people's business loans.

VI. RECOMENDATION

1. The government should carry out direct distribution. Where this is expected to avoid price increases that cause inflation. And the Government must be able to maintain the stability of prices of goods and services, as well as a stable and conducive domestic security condition so that the inflation rate can be controlled properly.
2. The role of the government so that the inflation rate reaches the lowest level by conducting market operations, maintaining adequate supply and availability of goods, securing regional stocks, maintaining the smooth distribution of goods and developing a national logistics system. It is recommended that the policy of Bank Indonesia as the parent bank in Indonesia which regulates the policy on interest rates must be in accordance with the procedures and the situation.
3. The instability of the rupiah exchange rate in the domestic market should be a concern of the government. With the stability of the rupiah exchange rate is expected to have a positive. Indonesian economy impact on the economic climate in Indonesia. The weakening of the exchange rate can provide a stimulus for economic growth. It is hoped that the government and the Indonesian central bank can maintain the stability of the rupiah exchange rate in order to provide clarity for economic actors. Exchange rate stability can be achieved through Bank Indonesia's monetary policy.
4. In further research, it is necessary to add variables other economies that are likely to affect economic growth. Indonesia so that the estimation model can explain growth.

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