Analysis of Economic Growth Determinants in China

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Abstract

This study aims to analyze the determinants of economic growth in China for the period 1980-2020. The benefits of this research are expected to be input for the Chinese government. The data used are time-series data from 1980-to 2020. The analytical tool used is multiple regression with the Ordinary Least Square (OLS) method. The results show that the unemployment rate has a negative and significant effect on China's economic growth, the contribution of industry and the level of exports has a positive and significant impact on China's economic growth. Meanwhile, inflation has a negative and insignificant effect on China's economic growth in 1980-2020. As well as the joint influence of the variable unemployment rate, industry contribution, export rate and inflation on economic growth. The determinant coefficient of 83.8% can be explained by the independent variable on the dependent variable, and the rest is explained by other variables outside the model studied.

Keywords: *Economic Growth, Unemployment Rate, Industry Contribution, Export Rate, Inflation*

Abstrak

Penelitian ini bertujuan untuk menganalisis determinan pertumbuhan ekonomi di Negara China periode 1980-2020. Manfaat penelitian ini diharapkan menjadi bahan masukan pemerintah Negara China. Data yang digunakan berupa data time series dari tahun 1980-2020. Alat analisis yang digunakan adalah regresi berganda dengan metode Ordinary Least Square (OLS). Hasil penelitian menunjukkan bahwa tingkat pengangguran memiliki pengaruh negatif dan signifikan terhadap pertumbuhan ekonomi China, kontribusi industri dan tingkat ekspor memiliki pengaruh positif dan signifikan terhadap pertumbuhan ekonomi China. Sedangkan untuk inflasi memiliki pengaruh negatif dan tidak signifikan terhadap pertumbuhan ekonomi China tahun 1980-2020. Serta adanya pengaruh secara bersama-sama variabel tingkat pengangguran, kontribusi industri, tingkat ekspor dan inflasi terhadap pertumbuhan ekonomi. Koefisien determinan 83,8% dapat dijelaskan oleh variabel independen terhadap variabel dependen, dan sisanya dijelaskan oleh variabel lain diluar model yang diteliti.

Kata Kunci: Pertumbuhan Ekonomi, Tingkat Pengangguran, Kontribusi Industri, Tingkat Ekspor, Inflasi

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INTRODUCTION

China is a country that has the 4th largest area in the world after Russia, Canada, and the United States. In addition, China is also seen from the data on the population of the World Bank, which occupies the first position in the world, followed by India, the United States of America, Indonesia, and Brazil. In addition, China is also included in the GDP category which is upper middle income which can continue to develop into high income according to data at the World Bank.

One of China's economic developments is seen from economic growth. According to Sukirno (2011), economic activity, especially economic growth, refers to the development of the state's production of goods and services, starting from infrastructure, total production, education, health. Economic growth is a long-term economic problem and an important phenomenon experienced by the world recently (Rinaldi, 2017).

China's economic growth can be seen from 1980-to 2020, wherein that year there were many events and events that affected the economy. Starting from the closed political policy set by China until 1980 which made the existing economy less developed. Until the joining of China in the WTO organization in 2006, as well as cooperating with other countries.

In addition, the Chinese economy began to decline again due to the global financial crisis that occurred in the United States, because America is one of the pillars of the world economy so it has a direct impact. Not only that in 2020, the emergence of the Covid -19 Virus which started there made the Chinese economy experience a decline again that can be seen in Figure 1. Unemployment is a problem faced by all countries, including China.According to (Sukirno, 2012) unemployment is a condition in which a person belonging to the workforce wants to get a job but has not been able to get it. While the unemployment rate can be interpreted as the percentage of unemployment in the country in a certain period of time. Research from Tenzin (2019) that unemployment has a negative influence on economic growth in Bhutan.

This is in accordance with Okun's Law theory which explains that there is a relationship between economic growth (in this case GDP) and unemployment. Okun's law states that the unemployment rate decreased by 1 percent for every 2 percent increase in real GDP. If there is an increase in national/regional output, in this case, economic growth, it will cause demand for labor to rise and unemployment to fall. Conversely, if real GDP falls, it will cause the output produced to fall.

Unemployment is related to the availability of jobs and skills possessed. One of the jobs that require a lot of employees is the industrial sector. According to the Central Statistics Agency (BPS) industry is a production unit/unit located in a certain place that carries out economic activities, aiming to change an item mechanically, chemically, or by hand so that it becomes a new object/goods/product with a higher value and its nature is closer to the end consumer.

Research from Zhou et al (2020) explains that industry has a significant and positive effect on economic growth in China in 2007- 2018. The positive influence of industry is also explained in the Kaldor growth theory. In theory, Kaldor considers that the manufacturing industry sector is a growth engine for a region in increasing the

growth of other sectors while increasing economic growth (Sholilah et al, 2017).

The industrial sector with exports is closely related either directly or indirectly. China's products and services have been in great demand by foreign markets, the low price and good quality being one of the factors that attract people's interest. Export is the release of goods from the Indonesian customs area to be sent abroad by following the applicable provisions, especially regarding customs regulations. Meanwhile, the level of exports can be interpreted as export growth against economic growth in the country.
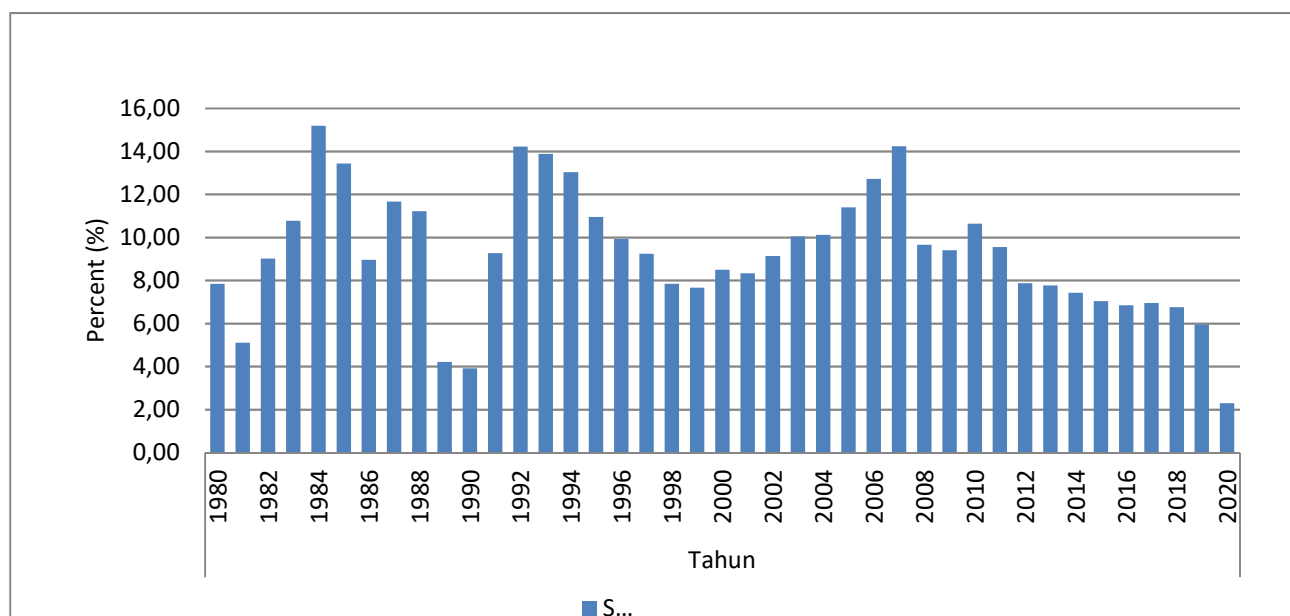

Figure 1. Economic Growth (Percent) of China for the Period 1980-2020
Source: World Bank, 2021

Akalpler & Shamadeen (2017) found that Net Exports have a positive effect on economic growth in America. The research is also in accordance with the export base and resource theory. The theory of export base and resource, namely the export sector can be a driver in economic development. In this case, exports contribute directly and indirectly to the economy. The direct contribution is to increase imports, make other sectors also productive and expand the market for the production of existing industries. Inflation is an increase in the prices of goods and services in general and continuously. High consumption is not commensurate with the goods and services offered, there will be an increase in prices.

Research from Tenzin (2019) shows that inflation has a negative effect on economic growth in Bhutan. This study is in accordance with Keynes's theory argues that inflation occurs because society tends to want to live beyond the limits of its economic capacity. This situation is indicated by public demand for goods that exceed the number of goods available which creates an inflationary gap.

When the inflationary gap persists, during that time the inflation process occurs and is sustainable. Thus, inflation will have a negative

effect on economic growth because Keynes argues that price increases are not only determined by an increase in the money supply but are also determined by an increase in production costs. The aim of this study is to analyze the impact of unemployment rate, industry contribution, export rate, and inflation have an effect on economic growth in China in 1980-2020.

RESEARCH METHODS

The location chosen in this study is China, with the consideration that China has the largest population and large GDP compared to other countries in the Asian region. The type of data used in this study is secondary data from 1980-to 2020. The analytical tool used is multiple regression with the Ordinary Least Square (OLS) method. The research model is as follows:

$$Y_t = \alpha + \beta_1 X_1_t + \beta_2 X_2_t + \beta_3 X_3_t + \beta_4 X_4_t + \varepsilon_t \dots\dots\dots\dots\dots\dots(1)$$

$$PE_t = \alpha + \beta_1^* P_t + \beta_2^* IND_t + \beta_3^* ET_t + \beta_4^* INF_t + \mu_t \dots\dots\dots\dots\dots\dots(2)$$

Where Y_t is China's Economic Growth in 1980-2020 unit percent (%), X_1_t is China's Unemployment Rate in 1980-2020 units of percent (%), X_2_t is Contribution of China's industry in 1980-2020 units of percent (%), X_3_t is China's Export Rate in 1980-2020 units of percent (%), X_4_t Inflation is the year of 1980-2020 units of percent (%), $\beta_1, \beta_2, \beta_3, \beta_4$ is the regression coefficient, α is a constant and ε is disturbance factor or disturbance error .

RESULTS AND DISCUSSION

Based on the Ordinary Least Square (OLS) method of multiple linear analysis, the analysis of the determinants of economic growth in China obtained the partial regression coefficient values in Table 1.

Table 1. Multiple Linear Regression Results

Variable	Coefficient	t-Statistic	Prob.
Constant	6.286.563	5.661.060	0.0000
Unemployment	-1.045.896	-3.431.597	0.0015
Industry	0.469243	8.125.249	0.0000
Export Rate	0.103687	3.235.404	0.0026
Inflation	-0.043552	-0.816788	0.4194

Source: Output e views 9, data processed, 2021

From Table 1, the following equation can be obtained:

$$PE_t = 6.286563 - 1.045896 * P_t + 0.469243 * IND_t + 0.103687 * ET_t - 0.043552 * INF_t + \mu_t \dots(3)$$

The explanation from the above equation is where PE_t is China's Economic Growth in 1980-2020 unit percent (%), P_t is China's Unemployment Rate in 1980-2020 unit percent (%), IND_t is China's industrial contribution in 1980-2020 unit percent (%), ET_t is China's 1980-2020 Export Rate in percent (%), INF_t is China's Inflation in 1980-2020 in percent (%).

Based on the value of Prob (F-statistic) < (5%) it can be concluded that the variables of unemployment rate, industry contribution, export rate and inflation together affect economic growth. And the R-squared result of 0.838843 can be concluded that 83.8% can be explained by the independent variable (unemployment rate, industry contribution, export rate and inflation) to the dependent variable (Economic Growth), and the rest is explained by other variables outside the model studied.

Based on the results of testing the data, it can be seen that the probability value < (5%) (0.0015 < 0.05). The results of the t-test state

that the unemployment rate in China has a significant effect on economic growth in China for the 1980-2020 period. The regression coefficient value of the labor variable is -1.045896. This means that if the unemployment rate increases by one percent, it will reduce China's economic growth by 1.045896 percent assuming ceteris paribus.

The results of this study are the same as research from Tenzin (2019) which explains that unemployment has a negative effect on economic growth in Bhutan. In this case, unemployment is one of the problems that almost all countries face. In addition, research from Hongo et al (2019) on the effect of inflation and unemployment on economic growth in China, the results of his research that unemployment has a negative and significant effect on economic growth.

The results of this study are the same as research from Tenzin (2019) which explains that unemployment has a negative effect on economic growth in Bhutan. In this case, unemployment is one of the problems that almost all countries face. In addition, research from Hongo et al (2019) shows that unemployment has a negative and significant effect on economic growth. The negative influence of the unemployment rate has been felt by many other countries, including China.

Unemployment is one of the problems of all countries, surely all countries have unemployment problems, the difference is only low and high. Unemployment has a negative impact as seen from the large number of workers in China who do not have jobs but are available for and looking for work. If there is an increase in national/regional output, in this case, economic growth, it will cause demand for labor

to rise and unemployment to fall. Conversely, if real GDP falls, it will cause the output produced to fall. The decline in production resulted in producers reducing inputs in this case labor which eventually increased unemployment.

This research is in line with the theory used, namely the theory of Okun's Law. This theory states that there is a relationship between economic growth (in this case GDP) and unemployment. Okun's law states that the unemployment rate decreases by 1 percent for every 2 percent increase in real GDP. Where in China, the unemployment rate has begun to stabilize and only increases occasionally due to events and events from within and outside the country. But after that China was able to overcome the increase so that the unemployment rate began to decline again.

Based on the results of testing the data, it can be seen that the probability value is < (5%) (0.0000 < 0.05). The results of the t-test state that the contribution of industry in China has a significant effect on economic growth in China for the period 1980-2020. The regression coefficient value of the industry variable is 0.469243. This means that if the industry's contribution increases by one percent, economic growth will increase by 0.469243 percent with the assumption of ceteris paribus.

The results of this study are in accordance with research from Sholilah et al (2017) where the manufacturing industry has a positive and significant effect on economic growth in Indonesia. Research from Zhou et al (2020) which examines the influence of industry and technology on economic growth in China, especially the Beijing-Tianjin and Hebei regions, concludes that industry has a positive effect on existing economic growth.

In addition to research from Songling et al (2019) on the relationship between the tourism industry and economic growth in Beijing, China the results stated that there was a positive relationship between the tourism industry and economic growth in Beijing. Industry plays a very important role in the country's economy. The existence of the industry will absorb a lot of labor and reduce unemployment in the country.

In addition, the industry will increase the country's consumption and exports, so that the country's economy slowly begins to rise. The increase in the existing economy is marked by the increase in the country's economic growth. China is well known for its industry, where many goods and services produced by China are found abroad. This industry has an impact on the number of Chinese exports, the more the contribution of industry and the production of Chinese goods and services makes the number of exports also increase.

Chinese products, which are known for their quality and cheapness, are increasingly popular and in-demand by foreign people, so exports will increase. Goods that are widely produced in China and improve existing industries include Ships, Coal, Cement, Cellphones, Automotive, Computer equipment, Solar Panels, and many others. The results of this study are in line with the theory used in this study, namely by the Kaldor theory which explains that the industrial sector is an engine of growth for a region in increasing the growth of other sectors as well as increasing economic growth.

This is because the industrial sector will certainly require sufficient labor and capital to be able to carry out the production process, thereby increasing the productivity of labor and capital. The existence of productivity from labor, capital, and the existing industrial sector will make the economy continue to develop, one of which is for economic growth.

Based on the results of testing the data, it can be seen that the probability value < (5%) (0.0026 < 0.05). The results of the t-test state that the level of exports in China has a significant effect on economic growth in China for the period 1980-2020. The regression coefficient value of the industry variable is 0.103687. This means that if the export rate increases by one percent, economic growth will increase by 0.103687 percent with the assumption of ceteris paribus.

The results of this study are the same as research from Larasati & Sulasmiyati (2018) found that exports have a positive and significant effect on products. gross domestic product (GDP) for Indonesia, Malaysia, Singapore and Thailand. Research from Sultanuzzaman (2019) on the effects of exports and technology on economic growth in several developing countries in Asia.

As a result, exports and technology will increase the existing economic growth so that exports and technology will have a positive effect on economic growth. As well as research from Akalpler & Shamadeen (2017) shows that Net Exports have a positive effect on economic growth in America. Exports in China are very influential on economic growth because one of the influential sectors in China's economy is exports.

This export is also supported by the existence of an industry which is one of the drivers of the economy in China. Exports in China are mostly exports of natural resources, mining, and industrial goods. The main export destinations in China are in the United States,

Hong Kong, Japan and South Korea as well as countries that have a large population and economy below China.

China's export commodities are electrical and mechanical goods, textiles, iron, steel, medicine, automotive, mobile phones and others. For this reason, the industry also has an impact on exports in China. The theory of export base and resource, namely the export sector can be a driver in economic development. In this case, exports contribute directly and indirectly to the economy.

For direct contributions, it can increase imports, make other sectors also productive and expand the market for the production of existing industries. This theory supports the results of this study where exports have a positive and significant effect on economic growth in China in 1980-2020. Based on the results of testing the data, it can be seen that the probability value is > (5%) (0.4194 > 0.05).

The results of the t-test state that inflation in China has no significant effect on economic growth in China for the 1980-2020 period. The regression coefficient value of the inflation variable is 0.647243. This means that if inflation increases by one percent, economic growth will increase by 0.647243 percent with the assumption of ceteris paribus. The results of this study are the same as research from Hongo et al (2019) explaining that inflation has a negative effect on economic growth in China in his research entitled Inflation, unemployment and subjective wellbeing: nonlinear and asymmetric influences of economic growth.

In addition, research from Tenzin (2019) also conclude that inflation has a negative effect on economic growth in Bhutan. While research from Larasati & Sulasmiyati (2018) concludes that inflation has a negative and significant effect on the gross domestic product (GDP) in Indonesia, Malaysia, Singapore, and Thailand. Inflation occurs due to an increase in the prices of goods continuously within a certain period of time.

The increase is caused by the demand for goods continuing to increase but the supply of these goods is not commensurate with the existing demand. High demand will trigger changes in the price level of these goods. This increase in demand causes the price of production factors to increase, so that production will decrease which results in a decrease in state income, especially economic growth.

In addition, inflation will reduce people's purchasing power due to rising prices. The increase in prices and not accompanied by existing income will make people start to reduce their purchasing power. This will reduce public consumption and affect the existing economy. The results of this study are in accordance with the theory used, namely Keynes's theory, which argues that price increases are not only determined by an increase in the money supply but are also determined by an increase in production costs.

An increase in production costs will make the price of these goods so that the consumption of these goods is reduced because it is not balanced with existing income. In addition, inflation will make the value of the currency fall, which will encourage savings owners to spend their money. Then use it to buy goods or services as soon as possible, before cash loses even more value. For this reason, inflation will have a negative impact on a country's economic growth.

CONCLUSION

The results of the research using the Ordinary Least Square (OLS) method from research on the Analysis of Economic Growth Determinants in China for the 1980-2020 period can be concluded to the several statements. The unemployment rate has had a negative and significant effect on economic growth in China for the 1980-2020 period. This explains that an increase in the unemployment rate in China will reduce China's economic growth for the 1980-2020 period.

Industry's contribution has a positive and significant impact on economic growth in China for the period 1980-2020. This explains that an increase in the contribution of industry in China will increase China's economic growth for the 1980-2020 period. The level of exports has a positive and significant effect on economic growth in China for the period 1980-2020.

This explains that an increase in the level of exports in China will increase China's economic growth for the 1980-2020 period. Inflation has a negative and insignificant effect on economic growth in China for the period 1980-2020. This explains that an increase in inflation in China will increase China's economic growth for the 1980-2020 period.

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