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THE ABILITY LAGGING INDICATORS ECONOMIC TO THE GLOBAL ECONOMY OF THE SIM (SINGAPORE, INDONESIA, MALAYSIA) COUNTRY IN THE TIME OF COVID-19

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ABSTRACT: A special Target in this study is to study and analyse more in the control of economic stability with the inflation target of Singapore, Indonesia, Malaysia. The hypothesis in this study is all of the economy's lagging indicators state of the SIM (Singapore, Indonesia, Malaysia) is able to survive the Covid-19 outbreak against the global economy in the long and short term. The analysis method used in this study is quantitative data using the ARDL Panel regression method. The results of the study explained that the variables that functioned as a lagging indicator in maintaining the stability of inflation in Indonesia are exchange rate and in Malaysia is a variable interest rate, as well as in the country of Singapore is gross domestic product and interest rate..

*Keywords -*Unemployment, Gross Domestic Product, interest rate, exchange rate, inflation.

I.   INTRODUCTION

The impact of the Corona COVID-19 Virus outbreak is not only detrimental to health. Slowing the economic growth is wrong with the impact of pandemic this Corona COVID-19 Virus. The Virus that started from Wuhan City, China, is even affecting the economy of countries around the world, the Unexcluded Singapore, Malaysia and Indonesia. The global economy is certainly slowing down, following the determination of the WHO mentions Corona's outbreak as a pandemic affecting the business world.

Malaysia and Singapore decided to give large funds injections to stabilize the economy. The Malaysian government promises, a third of the stimulus funds will be focused on supporting the business sector, given that Malaysia's economic growth is hampered since the lockdown enactment. However, the economic burden of Malaysia even increased with the sudden changes in the government last month and the ongoing price war in the oil market.

Singapore is the second country with the largest of the cases of Corona in China. With the associated Corona virus, the ministry assessed that there were several sectors of the economy that would be affected such as manufacturing and wholesale sales, transportation and tourism as well as domestic demand that slumped because people decided to reduce activities such as shopping.

Likewise the spread of the rapid outbreak of Covid-19 in Indonesia certainly affects the economy of Indonesia. Physical distancing, working, learning and worship at home, to the prohibition of activities that give rise to the crowd certainly makes the economic wheels almost stopped. Government and community responses that do prevention, such as school-goers, work from home, especially formal sector workers, delays and cancellations of various government and private events, make the wheels of economic rotation slowed. The decline in global economic growth, especially the countries ' export destinations and the weakening of commodity prices, will put pressure on Indonesia's exports.

Fiscal Stimulus is the key to the negative impact on the economy, especially for business actors and communities affected by the greatest impact. In addition to weakening economic growth, this pandemic also potentially encourages increased unemployment rate and a very high poverty, although the percentage of population below the poverty line is experiencing the last few years. Consequently, vulnerable poor and almost poor who work in the informal sector and rely on daily wages will be very easy to lose their livelihood and fall to the poverty line in Indonesia.

This plague will also negatively affect the consumer price index. This negative influence will lead to the declining purchasing power of the public. In fact, many people are predicted to lose jobs that will lead to bad

people's income. However, the predicted condition of inflation figures is also quite a concern. Here are the consumer price index data of Singapore, Indonesia, and Malaysia in the last 20 years.

Figure 1. Singapore, Indonesia and Malaysia State inflation Data
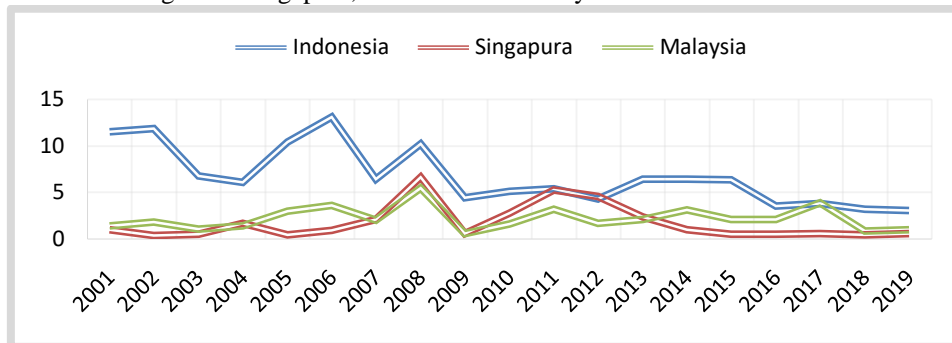
The graph is seen that the inflation rate in the SIM state moves wildly enough. Fluctuations in inflation among the three countries have almost the same decline and increment time. Where SIM state inflation figures in the years 2005, 2008 and 2011 increased quite sharply from the numbers in the previous years. Out of these three countries, Indonesia is the country whose most substantial value is almost every year, while the Malaysian state is the smallest of its infancy. The largest inflation rate in the country is 2006, where the amount is 13.11%, while the smallest number in the year 2019 is 3.03%. For Singapore The largest inflation rate was in 2008, which amounted to 6.63% and the smallest number was in the year 2002 which was 0.39%. As well as for Malaysia, the highest inflation rate is also in the year 2008 the amounted 5.44% and the smallest number is in the year 2009 Yaiu at 0.58%.

II. LITERATURE REVIEW

1. INFLATION

Economists define inflation differently but have the same core of rising prices that tend to rise continuously. Inflation is a tendency to increase price levels in general and continuously. The increase in the price of one or two goods alone cannot be referred to as inflation, except when the increase extends to (resulting in a hike) most of the prices of other goods. The price increase is caused by seasonal factors (e.g. by the anniversary of the great days), or what happens once (and has no continued influence) is not termed inflation [1].

Inflation can be caused by two things, namely the pull of the demand or the cost of production. Demand pull inflation starts from the increase in total demand (agregate demand) while the production has been in full employment or near a full employment opportunity. The result of excessive total demand resulted in the increase in the output price. Cost-push inflation is usually characterized by increased production cost (input) and decrease in production. Thus resulted in the resulting product price (output) Increase[2].

According to [3]Inflation is an ongoing process of rising prices in general prices. Inflation generally caused the decline in the purchasing power of people because the rate of income also decreased. So for example the inflation of the year in question rises by 5%, while the income is fixed, then it means that the revenue is in Riel decreased by 5% which consequently will relatively lower the purchasing power by 5% as well.

2. UNEMPLOYMENT RATE

According to [4], unemployment is a condition in which someone who belongs to the workforce wants to get a job but has not received it. A person who does not work but is not actively seeking employment is not classified as unemployment. The main fator that causes unemployment is the lack of aggregate expenditure. Entrepreneurs produce goods and services with the intention of obtaining profit, but the profit will be obtained if the entrepreneur can sell the goods and services they produce. The greater the demand, the greater the goods and services they realize. The increase in production will increase the use of manpower.

Unemployment is a macroeconomic problem that affects human survival directly. For most people losing a job is a decline in the standard of life. So it is not surprising that unemployment became a topic often discussed in the poltic debate by politicians who often examine that the policies they offer will help create jobs [5].

Classical theory explains the view that unemployment can be prevented through bidding and pricing mechanisms in the free market in order to ensure the creation of a demand that will absorb all offers. According to the classical view, unemployment occurs because the mis-allocation of resources is temporary because it can then be addressed by a price mechanism [6].

3. GROSS DOMESTIC PRODUCT

Gross domestic product is the most noteworthy economic statistics because it is regarded as the best single size of people's welfare. The underlying thing is because GDP measures two things at the same time: the total income of everyone in the economy and total country spending to buy goods and services from the economy. The reason that GDP can do the total measurements of revenues and expenses is due to an overall economy, the revenue is definitely equal to expenditure [7].

We can calculate the GDP economy by using one of two ways: adding all household expenses or adding all income (wages, rents and profits) that the company pays. However, in this case it is important to know about the GDP function in the economy, what can be measured and that is not, components and types as well as the GDP relationship with prosperity.

In the last discussion, the GDP relationship with well-being can be explained as follows. GDP can measure total revenue as well as total economic expenditure on goods and services. Thus, the GDP per person (capita) tells us the income and expenses of the average person in the economy. Because most people prefer higher income and expenses, the GDP per person (capita) is likely to be a measure of the average welfare of individuals who are quite natural. Per capita GDP tells us what is happening on the average population, but behind the average, there is a big difference between the experiences experienced by people. In the end, we can conclude that GDP is a good measure of well-being for various purposes, but not for all purposes [7].

4. EXCHANGE RATE

According to [8]The exchange rate or exchange rate can be considered as the price of a country's currency against the currency of another country. As this exchange rate includes two currencies, the balance point is covered by the supply and demand side of both currencies, or in other words the exchange rate is some money from a particular currency that can be redeemed for one unit of another country currency.

Meanwhile, [9] in [8]provide a definition of the following exchange rates: "An exchange rate is defined as the amount of one currency that can be exchanged per unit of another currency, or the price of one currency in terms of another currency". Exchange rate is the price of a country currency related to the currency of another country [10]. Decreasing currency value is often called depreciation. An example when the Indonesian rupiah is depreciation against the US dollar means strengthened relative to the rupiah. An increase in currency value is called appreciation.

The exchange rate or exchange rate can be defined as the price of a country's currency relative to the currency of another state of [11]. Because this exchange rate includes two currencies, the balance point is determined by the supply side and the demand of both currencies, or in other words the exchange rate is a certain amount of money from a particular currency that can be exchanged with one unit of another country currency. According to [12]exchange rate is the exchange between two different currencies, then it will get a comparison of the value/price between the two currencies.

5. INTEREST RATE

The interest rate is the size of the investment profit that can be obtained by the capital owner and also a measure of the cost of capital to be issued by the company for the use of funds from capital owners. For investors, deposit interest is profitable because the interest rates are relatively higher than other forms of deposits, other than that the deposit rates are relatively smaller in risk. The low interest policy will encourage people to choose their investments and consumption rather than saving the policy of raising interest rates will cause the community to be more happy to save than investing and consumption [8].

According to [13], interest is the cost to be paid borrowe on loan received and reward for lenders for its investment. Interest rates influence individual decisions on the choice of spending more money or saving on buying a home.

Interest rate is the price of the use of investment funds (loanable funds). According to [14], the interest rate is one of the indicators in determining whether a person will invest or save. If in an economy there are members of the community who receive revenues beyond what they need for their consumption needs, then the excess revenue will be allocated or used for saving. The offer will be formed or acquired loanable funds from the sum of all public savings in the given period. On the other party in the same period of community members who need funds for operationor expansion of its business. Another sense of interest rates is as the price of use of money for a certain period of time.

III.   RESEARCH METHODS

This research uses cross section data that uses data between time and data between countries. A regression of ARDL panels is used to obtain the estimated results of each individual characteristic separately. Testing regression Panel with formulas:

$INF_{it} = \alpha + \beta_1 UR_{it} + \beta_2 GDP_{it} + \beta_3 IR_{it} + \beta_4 ER_{it} + \epsilon$

Here's the Regressian panel formula by country:

$$INF_{INDONESIAit}= \alpha+\beta_1 UR_{it}+\beta_2 GDP_{it}+\beta_3 IR_{it}+ \beta_4 ER_{it}+ €$$
$$INF_{MALAYSIAit}= \alpha+\beta_1 UR_{it}+\beta_2 GDP_{it}+\beta_3 IR_{it}+ \beta_4 ER_{it}+ €$$
$$INF_{SINGAPOREit}= \alpha+\beta_1 UR_{it}+\beta_2 GDP_{it}+\beta_3 IR_{it}+ \beta_4 ER_{it}+ €$$

Where :

INF   = Inflation
UR   = unemployment rate
GDP   = gross domestic product
IR = interest rate
ER   = exchange rate
€   = term error
α   = constant
β   = coefficient

Based on a regression equation of ARDL panel then the conceptual framework of this research can be described as follows:
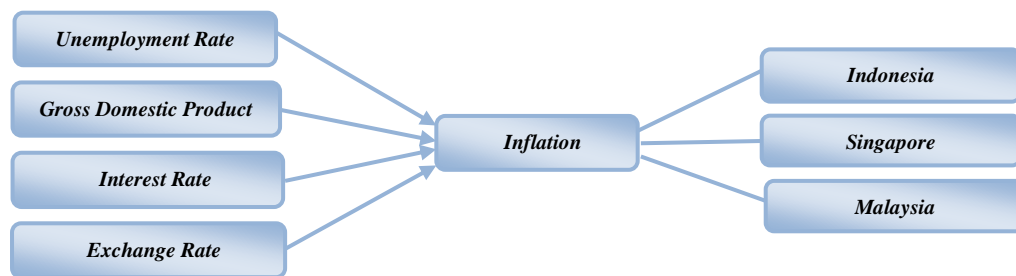

Figure 1: Conceptual framework

So the hypotheses in this study are formulated as follows: All economic indicators of the state SIM (Singapore, Indonesia, Malaysia) are able to maintain economic stability during the Covid-19 period of the global economy.

IV. RESULT AND DISCUSSION

1. RESULT

Analysis panel with Auto Regresive Distribution Lag (ARDL) test pooled data that is combined data cross section (country) with Data time series (yearly), ARDL panel results are better compared with the usual panels, because it is able to cointegrated long-term and has the distribution of Lag most appropriate to the theory. By using Eviews 10 software, get the following results:

Table 1. Results Test Pooled Data

SHORT RUN EQUATION		
VARIABLE	**COEFFICIENT**	**PROB**
COINTEQ01	-0.611635	0.0001
D(ER)	-7.717307	0.3791
D(GDP)	-0.107923	0.4560
D(IR)	0.122106	0.0507
D(UR)	0.152417	0.8630
C	7.676453	0.0378

Explanation of the data table above to see the relationship or influence of unemployment rate, gross domestic product, interest rate and exchange rate against inflation, proving the analysis of each country. Then the result of the data shows the value of Koefisian and probCointeq has been qualified with the coefficient value Cointeq-0.611635 (negative) and its prob value is $0.0001 < 0.05$ so that research can be done.

2. DISCUSSION
1) Indonesia State Panel Analysis

Table 2. Results Of Analysis With ARDL Panel Approach In Indonesian Country

Variable	Coefficient	Prob. *
COINTEQ01	-0.565006	0.0008
D(ER)	0.000157	0.0000
D(GDP)	-0.394046	0.8609
D(IR)	0.034294	0.3094
D(UR)	1.693772	0.4646
C	14.52757	0.7799

$$INF_{Indonesia}= \alpha+\beta_1 UR_{it}+\beta_2 GDP_{it}+\beta_3 IR_{it}+ \beta_4 ER_{it}+ e$$

Models that can be built based on the results of data above are as follows:
$INF_{Indonesia} =14.52757+ 1.693772UR_{Indonesia} - 0.394046GDP_{Indonesia} + 0.034294IR_{Indonesia} + 0.000157ER_{Indonesia}+ e$

The ARDL Panel test results in the equation above indicate:
[1] Unemployment Rate (UR)
Unemployment rate does not significantly affect inflation. It can be seen on the probability value sig 0.4646 > 0.05. Where unemployment rate has no significant effect on inflation in Indonesia.
[2] Gross Domestic Product (GDP)
Gross Domestic Productnot significantly affects inflation. It can be seen on the probability value sig 0.8609 > 0.05. Where Gross Domestic Product has no significant effect on inflation in Indonesia.
[3] Interest Rate (IR)
Interest Rate does not significantly affect inflation. It can be seen on the probability value sig 0.3094 > 0.05. Where the Interest Rate has no significant effect on inflation in Indonesia.
[4] Exchange Rate (ER)
Exchange rate significantly affects inflation. It can be seen in the value of sig probability 0.000 < 0.05. The exchange rate has significant effect on inflation in Indonesia.

2) Malaysia State Panel Analysis

Table 3. Results Of Analysis With ARDL Panel Approach In Malaysia Country

Variable	Coefficient	Prob. *
COINTEQ01	-0.871165	0.0007
D(ER)	1.859607	0.2292
D(GDP)	0.044052	0.2967
D(IR)	0.094338	0.0142
D(UR)	-1.341660	0.6857
C	5.906672	0.5114

$$INF_{Malaysia}= \alpha+\beta_1 UR_{it}+\beta_2 GDP_{it}+\beta_3 IR_{it}+ \beta_4 ER_{it}+ e$$

Models that can be built based on the results of data above are as follows:
$INF_{Malaysia} = 5.906672 - 1.341660UR_{Malaysia} +0.044052GDP_{Malaysia} + 0.094338IR_{Malaysia} + 1.859607ER_{Malaysia}+ e$

The ARDL Panel test results in the equation above indicate:
[1] Unemployment Rate (UR)
Unemployment rate does not significantly affect inflation. It can be seen on the probability value sig 0.6857 > 0.05. Where unemployment rate has no significant effect on inflation in Malaysia.
[2] Gross Domestic Product (GDP)
Gross Domestic Productnot significantly affects inflation. It can be seen on the probability value sig 0.2967 > 0.05. Where Gross Domestic Product had no significant effect on inflation in Malaysia.
[3] Interest Rate (IR)
Interest Rate significantly affects inflation. This can be seen at the probability value of sig 0.0142 < 0.05. Where the Interest Rate significantly affects inflation in Malaysia.
[4] Exchange Rate (ER)
Exchange rate does not significantly affect inflation. It can be seen in the sig probability value 0.2292 > 0.05. Where the exchange rate has no significant effect on inflation in Malaysia.

3) Singapore State Panel Analysis

Table 4. Results Of Analysis With ARDL Panel Approach In Singapore Country

Variable	Coefficient	Prob. *
COINTEQ01	-0.398734	0.0004
D(ER)	-25.01169	0.6518
D(GDP)	0.026224	0.0186
D(IR)	0.237686	0.0004
D(UR)	0.105138	0.6262
C	2.595117	0.2841

$$INF_{Singapura}= \alpha+\beta_1 UR_{it}+\beta_2 GDP_{it}+\beta_3 IR_{it}+ \beta_4 ER_{it}+ e$$

Models that can be built based on the results of data above are as follows:

$INF_{Singapura}=$ 2.595117+0.105138$UR_{Singapura}$ +0.026224$GDP_{Singapura}$ + 0.237686$IR_{Singapura}$ − 0.237686$ER_{Singapura}$+ e

The ARDL Panel test results in the equation above indicate:

[1] Unemployment Rate (UR)

Unemployment rate does not significantly affect inflation. It can be seen on the probability value sig 0.6262 > 0.05. Where unemployment rate has no significant effect on inflation in Singapore.

[2] Gross Domestic Product (GDP)

Gross Domestic Product significantly affects inflation. It can be seen in the value of sig probability 0.0186 < 0.05. where Gross Domestic Product has significant effect on inflation in Singapore.

[3] Interest Rate (IR)

Interest Rate significantly affects inflation. It can be seen in the value of sig probability 0.0004 < 0.05. Where the Interest Rate significantly affects inflation in Singapore.

[4] Exchange rate (ER)

Exchange rate does not significantly affect inflation. It can be seen on the probability value sig 0.6518 > 0.05. Where the exchange rate has no significant effect on inflation in Singapore.

4) Overall State Analysis Results

Table :Results Ouput Overall State Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
ER	-0.001090	0.000651	-1.675370	0.1028
GDP	-0.272283	0.215411	-1.264017	0.2146
IR	-0.531285	0.183307	-2.898327	0.0064
UR	-0.619262	0.675491	-0.916759	0.3655
Short Run Equation				
COINTEQ01	-0.611635	0.138358	-4.420684	0.0001
D(ER)	-7.717307	8.663834	-0.890750	0.3791
D(GDP)	-0.107923	0.143154	-0.753897	0.4560
D(IR)	0.122106	0.060333	2.023853	0.0507
D(UR)	0.152417	0.876573	0.173878	0.8630
C	7.676453	3.556448	2.158461	0.0378

Based on the overall results it is known that the significant in the long term affects the inflation of the country Singapore, Indonesia, Malaysia, IE only the interest rate. Meanwhile, in the short term among the independent variables studied there were no variables affecting inflation significantly.

Apparently in this analysis there is no independent variable that serves as a variable lagging effectiveness indicator in inflation control. It is seen from the stability of short run and long run, where no significant variable affects inflation in the short term. Although the interest rate significantly affects, but only in the long term.

The state-of-the-being indicators of the country's effectiveness in inflation control of Singapore, Indonesia, and Malaysia, including the Singapore state is a variable of gross domestic product and interest rate. For the country of Indonesia is the variable exchange rate and the country of Malaysia is the variable interest rate.

V. CONCLUSION

From the results and discussions that have been explained, researchers draw conclusions as follows:

1. In Indonesia, the variable unemployment rate, interest rate and exchange rate have a positive influence on inflation, while the gross domestic product variable gives a negative influence.

2. In Malaysia, variables that have a positive influence on inflation are gross domestic product, interest rate and exchange rate variables, while the unemployment rate variable provides a negative influence.

3. In Singapore, a positive variable affecting inflation is the variable unemployment rate, gross domestic product and interest rate, while which gives a negative influence is the variable exchange rate.

4. The variable that serves as a lagging indicator in keeping the stability of inflation in Indonesia is the exchange rate and in Malaysia is the variable interest rate, as well as in the country of Singapore is gross domestic product and interest rate.

5. Significant variables affect inflation in the long term in the country of Singapore, Indonesia and Malaysia are variable interest rates, whereas in the short term there are no variables that give a significant influence.

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