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THE ROLE OF FISCAL POLICY IN ECONOMIC GROWTH IN INDONESIA

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Abstract

This research aims to analyze the influence of economic variables on Indonesia's economic growth in the short and long term. In this analysis, four main economic variables are evaluated: Goods Expenditures, Taxes, Subsidies, and Human Capital. The research results show that goods spending has a positive but not significant influence on economic growth, both in the short and long term. Meanwhile, taxes show a positive and significant influence on economic growth in both periods. However, subsidies are proven to have a negative and significant effect, indicating that providing subsidies may affect economic growth negatively in the short and long term. Apart from that, Human Capital also shows a negative and significant influence, highlighting the importance of investment in human resources to support sustainable economic growth in Indonesia. These findings provide valuable insights for economic policy that can be used to design more effective strategies for increasing Indonesia's economic growth.

Keywords: Fiscal Policy, Economic Growth, Indonesia

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INTRODUCTION

Economic growth is the key to macroeconomic goals. This is based on three reasons. First, the population is always increasing. Second, as long as wants and needs are always unlimited, the economy must always be able to produce more goods and services to meet these wants and needs. Third, efforts to create economic equality through income redistribution will be easier to achieve in periods of high economic growth (Soeratno, 2004).

Economic growth in a country can see how a country's economy increases and develops. Economic growth in a country can be positive or negative. If during a period the economy experiences positive growth, this indicates that economic activity in that country is increasing. Meanwhile, if during a period the economy experiences negative growth, indicating that economic activity in the country is experiencing a decline (Soeratno, 2004).

Indonesia has also experienced negative growth during the 1990-2020 period (figure 1). This situation is also experienced by other Southeast Asian countries such as Singapore, Malaysia, Thailand and the Philippines.

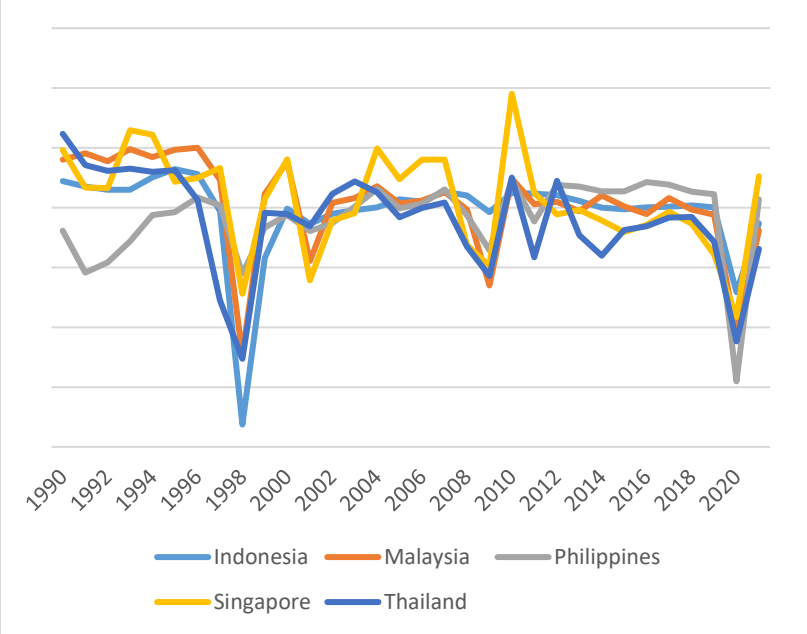

Figure 1.
Economic Growth of ASEAN Countries
(Source: World Bank)

Figure 1 shows that Indonesia's economic growth is on average lower than Malaysia and Singapore. Malaysia's economic growth averaged 5.5% and Singapore's 5.8%, higher than Indonesia's 4.8%. For the period 1990 - 2003, it was found that the dominant factor that had a positive and significant influence on economic growth in five ASEAN countries (Indonesia, Malaysia, the Philippines, Singapore, and Thailand) was government spending. Therefore, efforts are needed to encourage economic growth, one of which is through fiscal policy (Oktozuhri, 2006).

Figure 1 shows that in Indonesia in 1998 and 2020 economic growth experienced negative growth. In 1998, negative growth was due to the Asian currency crisis, while in 2020 negative growth was due to the Covid-19 pandemic, the PSBB and PPKM policies implemented had an impact on food availability in the consumer market due to product buildup and also a decreased in the number of buyers caused by a decrease in people's purchasing power (Dermoredjo, Saputra, Azahari, 2020).

Indonesia's economic growth from 2004-2014 continued to fluctuate. Indonesia's highest GDP fluctuation occurred in 2014 at 7.98% and the lowest was in 2009 at 4.54%. The low economic growth in 2009 was due to global economic conditions which were still under pressure as a result of the crisis, exposing the Indonesian economy to several challenges that were not easy in 2009. These challenges were quite serious, especially at the beginning of 2009, due to the still strong impact of the global economic crisis which reached its peak in the last quarter of 2008 (Hartati, 2021).

One of the crucial elements that can influence economic development is human capital (Riley, 2012; Lucas, 1988; Mankiw et al., 1992; De la Fuente and Doménech, 2000, 2006; and Whalley & Zhou, 2013). Mincer (1996) suggests that there is a close relationship between economic growth and increasing human capital, which plays a key role in shaping sustainable economic growth. When a country has limited natural resources, having qualified and skilled human capital is the key to the efficient use of its physical capital and natural resources, as has been seen in the cases of countries such as Japan, South Korea, and Singapore. Therefore, improving the quality of human capital is very important for a country to achieve optimal economic development goals (Hasibuan & Yusrizal, 2023).

Human resources, known as human capital, emphasize the qualities of individuals in addition to their numbers. Wadji & Isa (2013) identified several aspects that include human capital, including education, training, experience, skills, entrepreneurship and networks. In the context of this research, focus will be given to the analysis of the population aged 15 years and over based on the highest level of education completed and the type of activities carried out during the last week with a focus on diplomas and universities.

As a production element, human capital can be defined in the context of health and education (Sultana, Dey & Tareque, 2022). Belke & Wernet (2015) also noted a causal link between economic growth and policy factors such as investment in human capital through education and health. Lucas (1988) considers human capital as a component of production with a special role for education as an accumulation of human capital (Sultana et al, 2022). Theoretical and empirical research shows that there is a positive relationship between individuals' aspects of human capital, such as the duration of their education, experience, skills, and subsequent earnings (delSola, Contrerasc & Valenzuela, 2019).

Adriani (2019) suggests that investment in human resources through increasing knowledge, skills training, and work experience can provide benefits for companies and employees. Education is considered the foundation of human capital, with the values and skills acquired increasing a person's learning ability and productivity (Isnan, 2023). Apart from that, Adriani (2019) believes that human capital can be improved through various types and levels of education. The higher a person's level of education, the greater the increase in human capital that occurs. The process of forming human capital involves investment in human resources, which can be done through education, work experience, health care, and even through migration (Fattah, 2000).

The results of research conducted by Rantebua (2020) show that fiscal policy as measured by state revenues (taxes), government spending, and subsidies has a significant effect on economic growth. This is in line with the study of Stoilova, et. al, (2017) and Gashi, et. al (2018) who found that tax revenues have a positive and significant effect on economic growth. However, Engen and Skinner, (1996) stated that taxes have a negative effect on economic growth. Five things make taxes have a negative effect, namely: inhibiting

investment, affecting labor supply, reducing productivity growth, reducing the marginal productivity of capital, and reducing effective utilization (Engen and Skinner, 1996). This is in line with the findings of Zhao, Zhang, and Lee who found that tax revenues had a significant negative impact on economic growth in the period after 2008.

RESEARCH METHOD

The Scope of Research

The scope of this research is a study of economics with a quantitative approach which includes the variables of economic growth, goods spending, tax revenues, subsidies, and human capital.

Data Types and Sources

The type of data used in this research is Secondary Data. The secondary data used is data recorded in a structured manner in the form of time series data. This research uses annual data starting from 1990-2021 obtained from several sources, including the Central Statistics Agency (BPS), the Ministry of Finance, Bank Indonesia, and other data sources such as books, journals, and previous research results.

Operational Definition

This research uses one dependent variable and four independent variables. The operational definition of each variable in this research is as follows:

Table 1.

Operational Definition of Variables

No	Variables	Operational Definition	Unit
1	Economic growth	Economic growth means the development of activities in the economy which causes the goods and services produced in society to increase and the prosperity of society to increase	Percent
2	Shopping for Goods	Government spending on goods is a routine activity of government budget expenditure to	Billion

		support the needs of government service activities to the community.	
3	Tax	Tax is a levy which is the government's prerogative where the levy is based on law and the levy can be imposed on the tax subject where there is no direct remuneration that can be shown to be used.	Billion
4	Subsidy	A subsidy is defined as "a government action that lowers production costs, increases producer income, or lowers the prices paid by consumers.	Billion
5	Human Capital	Population Aged 15 Years and Over According to Highest Education Completed and Type of Activity During the Past Week Diploma & University	Soul

Data Analysis Technique

This research uses the ARDL-Bound Test (Autoregressive Distributed Lag) method by carrying out the following stages: stationarity test, bound cointegration test, model stability, and classical assumption test.

This research applies the Autoregressive Distributed Lag (ARDL) approach introduced by Pesaran, Shin, & Smith (2001) to test the existence of cointegration between variables and also to estimate the long-term and short-term coefficients of these variables.

In contrast to the Johansen cointegration approach which uses several equations to analyze long-term relationships, ARDL only adopts one equation. The application of ARDL and the Granger causality test can help in avoiding problems associated with estimating the period of data series. There is no provision for pre-testing variables in the use of ARDL as long as the variables can achieve stationarity at the first differential or below. Haug (2002) argues that the ARDL approach to cointegration provides better results for small sample sizes when compared with other traditional approaches such as Engle and Granger (1987), Johansen and Juselius (1990), and Philips and Hansen (1990). Pesaran & Shin (1999) show that by using the ARDL framework, the parameters in the short-term relationship estimates

will be consistent and the coefficients in the long-term relationship estimates will be very consistent at small sample sizes. In addition, Pesaran & Shin (1999) stated that ARDL can correct residual and endogenous variable problems simultaneously.

In determining the regression equation, each variable will be estimated by including long-term and short-term lags until the best model is found, namely the model with significant variables. To produce the best model, the general to specific method is used, namely by eliminating variables that are not significant. With this method, one by one the variables that have insignificant and largest probability values will be removed.

RESULTS AND DISCUSSION

Statistical Analysis of Data

1. Descriptive Analysis

Descriptive analysis is used to provide a general overview of the data, which is done by forming data plots in the form of data on Indonesia's economic growth, central government tax revenues, central government subsidies, and human capital based on population aged 15 years and over according to the highest level of education completed and types of activities during the week last diploma & university period from 1990 to 2021. The data processed is data that has been transformed into logarithms.

2. Stationarity Test

Stationary data means that the data has a constant variance value so it tends to approach the average value. A set of data is declared stationary if the average value and variance of the time series data do not change systematically over time.

If the time series data is not stationary, then the regression results will be spurious (skewed or false) where the model has a high R2 value but a low Durbin Watson (DW) value. A high R2 value in the spurious regression model does not indicate an association between variables according to economic theory but rather is due to a strong trend, while a low DW value indicates a non-stationary residual value. Most of the regression results are used for forecasting, if the data is non-stationary then the validity of the results is doubtful.

To test unit roots in this study, the Augmented Dickey-Fuller (ADF) test developed by Dickey and Fuller was used.

Table 2.
Stationarity Test Results

Unit Root Test				
Variable	**Levels**		**1st Difference**	
	t-stat	**Prob**	**t-stat**	**Prob**
GWT	-4.0747	0.0036	-3.8953	0.0063
LNBB	-0.6271	0.8503	-5.0413	0.0003
LNPAJ	-3.1910	0.0309	1.6867	0.9993
LNSUB	-1.3139	0.6104	-5.0936	0.0003
LNHC	-2.1948	0.2120	-5.3438	0.0001

Source: Eviews Data Processing Results

In the ARDL method, the unit root test does not have to be stationary at the same level of difference (as in the Engle-Granger and Johansen methods), but this is done to ensure that the variables used are stationary at the level and first difference and that there are no variables that are stationary at the same level. second difference. Unit root testing using the Augmented Dickey-Fuller (ADF) method provides data stationarity output summarized in Table 2. The ADF test results show that the variables economic growth (GWT), and taxes (LNPAJ) are stationary at level level and the overall data is stationary at the first level or first difference.

3. Optimal Lag Determination Test

Optimum Automatic Lag selection utilizes the Akaike Information Criteria for the ARDL model. Figure 2 shows that the best ARDL lag model selection is model (4, 3, 4, 4, 4) with the minimum AIC value.

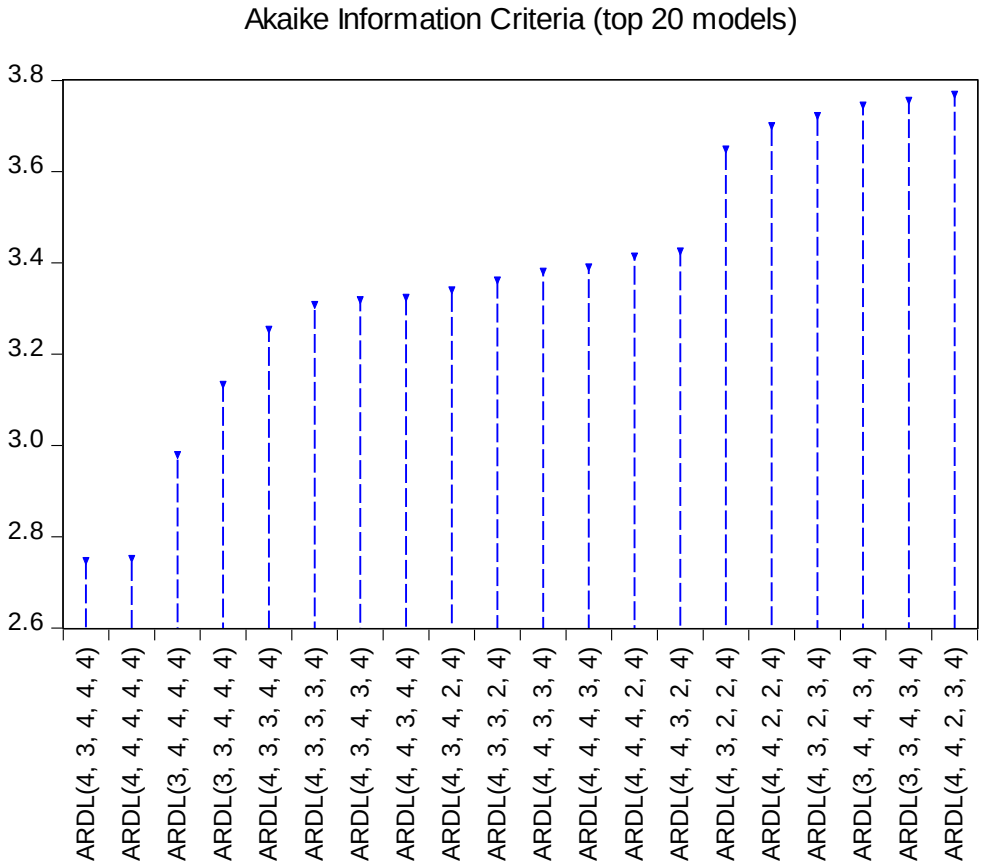

Figure 2.
Optimal Lag of ARDL Model
Source: Results of Eviews Data Processing

4. Cointegration Test (Bound Test Cointegration)

Cointegration can be used as an analytical tool for non-stationary time series data solutions. Specifically for research using the ARDL approach, the Bounds Testing Cointegration cointegration test method is used to determine the presence of cointegration in the model so that the long-term relationship between the variables in the equation can be identified.

Table 3.
Bound Test Cointegration

F-statistic Value = 6.794835		
Significance	I(0) Bound	I(1) Bound
10%	2.2	3.09

5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Eviews Data Processing Results

From the table above, information is obtained that the F-Statistic Value > I(0) and I(1) values, namely 6.794835 > 2.56 and 3.49 are significant at 5%, so Ho is rejected. This means that it can be used to find out that each model has a long-term equilibrium relationship so that the variables GWT, LNBB, LNPAJ, LNSUB, and LNHC are considered stationary.

5. Classic Assumption Test

a. Multicollinearity Test Results

The multicollinearity test aims to test whether the regression model finds a correlation between the independent variables. A good regression model should not correlate with independent variables. To detect whether there is multicollinearity in the regression model, you need to look at the tolerance value and variance inflation factor (Ghazali, 2013). The way to test whether there are symptoms of multicollinearity is to look at the tolerance and variance inflation factor (VIF) values. If the VIF value is below 10 then the regression model does not have symptoms of multicollinearity, and conversely, if the VIF value is above 10 then the regression model has symptoms of multicollinearity. And looking at a tolerance value of less than 0.10 shows that there is multicollinearity. So if the VIF value does not exceed 10 and the tolerance is more than 0.10, then it can be said that there is no multicollinearity (Ghazali, 2013). To find out whether there are symptoms of multicollinearity in the regression model, pay attention to the table below:

Table 4.
Multicollinearity Test Results

Variance Inflation Factors

Date: 01/24/24 Time: 05:51

Sample: 1990 2021

Included observations: 27

Variables	Coefficient Variance	Uncentered VIF	Centered VIF
D(GWT(-1))	0.035605	8.948446	8.907830
D(GWT(-2))	0.046023	10.59654	10.59506
D(GWT(-3))	0.051561	11.87626	11.87372
D(GWT(-4))	0.041906	9.653706	9.650641
D(LNBB)	6.575240	4.242391	1.879707
D(LNBB(-1))	8.619593	5.827325	2.564830
D(LNBB(-2))	6.091477	3.982057	1.858453
D(LNBB(-3))	8.474622	5.722162	2.424138
D(LNPAJ)	16.64271	6.199046	3.153339
D(LNPAJ(-1))	26.51726	10.23686	5.026630
D(LNPAJ(-2))	41.17990	15.98095	6.056090
D(LNPAJ(-3))	18.05627	7.274215	2.536924
D(LNSUB)	0.300062	2.463220	2.357627
D(LNSUB(-1))	0.722763	5.932108	5.667038
D(LNSUB(-2))	1.045383	8.695187	8.212928
D(LNSUB(-3))	1.367974	11.44559	10.87718
D(LNHC)	128.2367	12.47907	4.277884
D(LNHC(-1))	67.91174	7.101311	2.386281
D(LNHC(-2))	56.19149	6.301777	1.862408
C	1.534863	17.37830	NA

Source: Eviews Data Processing Results

From Table 4, it can be seen that the centered VIF value of each independent variable is not smaller than 0.10. So, it can be stated that there is no multicollinearity in the model used.

b. Autocorrelation Test Results

The autocorrelation test aims to determine whether there is a serial relationship between the error terms for period t-1 and period t. The autocorrelation test in this study used the Breusch-Godfrey LM Test:

Table 5.
Autocorrelation Test Results

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.694979Prob. F(2.5)	0.2742
Obs*R-squared	10.90934Prob. Chi-Square(2)	0.0043

Source: Eviews Data Processing Results

The LM test results in Table 5 show that all variables experience autocorrelation. This means that the error term for period t-1 is correlated with the error term for period t.

c. Heteroscedasticity Test Results

The Heteroscedasticity Test aims to test whether, in the regression model, there is an inequality of variance from the residuals of one observation to another. If the variance of the residual from one observation to another is constant, it is called homoscedasticity, and if it is different it is called heteroscedasticity (Ghazali, 2013). A good regression model is homoscedastic, or heteroscedasticity does not occur.

Table 6.
Heteroscedasticity Test Results

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.557762Prob. F(19.7)	0.8527
Obs*R-squared	16.25982Prob. Chi-Square(19)	0.6399
Scaled explained SS	1.669059Prob. Chi-Square(19)	1,0000

Source: Eviews Data Processing Results

To detect whether there is heteroscedasticity or not by looking at the Obs*R-squared probability, because the probability is 0.64 > 0.05, we can conclude that the regression model does not have heteroscedasticity.

d. Short Term Auto-Regressive Distributed Lag (ARDL) Estimation

After the data passes the classical assumption test, an optimal lag combination is then carried out to select the best ARDL model using the Akaike Information Criteria selection. Meanwhile, the regression results show that the R-squared value of the ARDL model is relatively high with a value of around 0.99. The Adjusted R-squared value of 0.99 indicates that 99% of the variation in the dependent variable GWT can be explained by each independent variable of the selected ARDL model.

Table 7.
Short-Term Model Estimation Results ARDL Model

Variables	Coefficient	Std. Error	t-Statistics	Prob.
D(GWT(-1), 2)	2.047075	0.369309	5.542994	0.0009
D(GWT(-2), 2)	1.218933	0.263378	4.628078	0.0024
D(GWT(-3), 2)	0.439291	0.137418	3.196753	0.0151
D(LNBB, 2)	2.082356	1.624238	1.282051	0.2406
D(LNBB(-1), 2)	-0.056625	1.454282	-0.038937	0.9700
D(LNBB(-2), 2)	-5.548358	1.651628	-3.359326	0.0121
D(LNPAJ, 2)	17.59612	2.770877	6.350380	0.0004
D(LNPAJ(-1), 2)	-4.459113	4.115683	-1.083444	0.3145
D(LNPAJ(-2), 2)	5.524120	2.530919	2.182654	0.0654
D(LNSUB, 2)	-1.710403	0.335305	-5.101029	0.0014
D(LNSUB(-1), 2)	2.933464	0.894487	3.279492	0.0135
D(LNSUB(-2), 2)	-1.258516	0.573883	-2.192984	0.0644
D(LNHC, 2)	-17.46406	5.602936	-3.116948	0.0169
D(LNHC(-1), 2)	20.59862	4.303570	4.786403	0.0020
CointEq(-1)*	-3.893791	0.465764	-8.360008	0.0001

Source: Eviews Data Processing Results

From the short-term estimation results using the ARDL model in Table 7, it can be seen that each of the independent variables (goods expenditure, subsidies, taxes, and human capital) has different coefficient and probability levels.

1) The goods expenditure variable (LNBB) has no significant effect (0.24) > 5%, meaning there is no short-term effect on economic growth (GWT). The goods

spending coefficient value is 2.08, meaning that if the level of goods spending increases by 1 percent, the economic growth ratio will increase by 2.08. The goods expenditure variable (LNBB(-1)) lag 1 year has no significant effect at lag 1 (0.97) > 5%, meaning there is no short-term effect on economic growth (GWT). The 1-year lag goods spending coefficient value is -0.06, meaning that if the level of goods spending increases by 1 percent, the economic growth ratio will decrease by 0.06. The goods expenditure variable (LNBB(-2)) has a significant effect at lag 2 (0.01) > 5%, meaning there is a short-term influence on economic growth (GWT). The 2-year lag goods spending coefficient value is 0.01, meaning that if the level of goods spending increases by 1 percent, the economic growth ratio will decrease by 0.01.

2) The tax revenue variable (LNPAJ) has a significant effect (0.00) > 5%, meaning there is a short-term influence on economic growth (GWT). The tax revenue coefficient value is 17.60, meaning that if the level of tax revenue increases by 1 percent, the economic growth ratio will increase by 17.60. The tax revenue variable (LNPAJ(-1)) lag 1 year has no significant effect at lag 1 (0.32) > 5%, meaning there is no short-term effect on economic growth (GWT). The 1-year lag tax revenue coefficient value is -4.46, meaning that if the level of tax revenue increases by 1 percent, the economic growth ratio will decrease by 4.46. The tax revenue variable (LNPAJ(-2)) has no significant effect at lag 2 (0.07) > 5%, meaning there is no short-term effect on economic growth (GWT). The 2-year lag tax revenue coefficient value is 5.52, meaning that if the level of tax revenue increases by 1 percent, the economic growth ratio will increase by 5.52.
3) The subsidy variable (LNSUB) has a significant effect (0.00) > 5%, meaning there is a short-term effect on economic growth (GWT). The subsidy coefficient value is -1.71, meaning that if the subsidy level increases by 1 percent, the economic growth ratio will decrease by 1.71. The subsidy variable (LNSUB(-1)) lag 1 year has a significant effect at lag 1 (0.01) > 5%, meaning there is a short-term influence on economic growth (GWT). The 1 year lag subsidy coefficient value is 2.93, meaning that if the subsidy level increases by 1 percent, the economic growth ratio will

increase by 2.93. The subsidy variable (LNSUB(-2)) has no significant effect at lag 2 (0.06) > 5%, meaning there is no short-term effect on economic growth (GWT). The 2 year lag subsidy coefficient value is -1.26, meaning that if the subsidy level increases by 1 percent, the economic growth ratio will decrease by 1.26.

4) The human capital variable (LNHC) has a significant effect (0.02) > 5%, meaning there is a short-term influence on economic growth (GWT). The subsidy coefficient value is -17.46, meaning that if the level of human capital increases by 1 percent, the economic growth ratio will decrease by 17.46. The human capital variable (LNSUB(-1)) lag 1 year has a significant effect at lag 1 (0.00) > 5%, meaning there is a short-term influence on economic growth (GWT). The 1-year lag human capital coefficient value is 20.60, meaning that if the level of human capital increases by 1 percent, the economic growth ratio will increase by 20.60.
5) Based on Table 4.6, it can be seen that CointEq(-1) has a negative and significant value, namely 0.0001, which means that there is a balanced relationship between variables in the long term. The magnitude of the CointEq(-1) coefficient indicates the speed of adjustment (Speed of Adjustment) in correcting variable imbalances to return to the balance point (Bekhet and Matar, 2013).

6. Long Term Auto-Regressive Distributed Lag (ARDL) Estimation

From the short-term estimation results using the ARDL model in Table 8, it can be seen that each independent variable (goods expenditure, subsidies, taxes, and human capital) has different coefficient and probability levels.

Table 8.
Long-Term Model Estimation Results ARDL Model

Variables	Coefficient	Std. Error	t-Statistics	Prob.
C	-0.937396	1.238896	-0.756638	0.4740
D(GWT(-1))*	-3.893791	0.765067	-5.089474	0.0014
D(LNBB(-1))	8.890454	5.610120	1.584717	0.1570
D(LNPAJ(-1))	35.91167	11.93807	3.008164	0.0197
D(LNSUB(-1))	-8.334356	2.702242	-3.084238	0.0177

D(LNHC(-1))	-55.29320	18.33548	-3.015640	0.0195
D(GWT(-1), 2)	2.047075	0.597546	3.425801	0.0110
D(GWT(-2), 2)	1.218933	0.407097	2.994207	0.0201
D(GWT(-3), 2)	0.439291	0.204709	2.145924	0.0690
D(LNBB, 2)	2.082356	2.564223	0.812081	0.4435
D(LNBB(-1), 2)	-0.056625	3.449938	-0.016413	0.9874
D(LNBB(-2), 2)	-5.548358	2.911120	-1.905919	0.0983
D(LNPAJ, 2)	17.59612	4.079547	4.313253	0.0035
D(LNPAJ(-1), 2)	-4.459113	8.527689	-0.522898	0.6172
D(LNPAJ(-2), 2)	5.524120	4.249267	1.300017	0.2348
D(LNSUB, 2)	-1.710403	0.547779	-3.122430	0.0168
D(LNSUB(-1), 2)	2.933464	1.943056	1.509717	0.1749
D(LNSUB(-2), 2)	-1.258516	1.169604	-1.076019	0.3176
D(LNHC, 2)	-17.46406	11.32416	-1.542195	0.1669
D(LNHC(-1), 2)	20.59862	7.496098	2.747912	0.0286

Source: Eviews Data Processing Results

From the long-term estimation results using the ARDL model in Table 8, it can be seen that only the goods expenditure (LNBB) and tax (LNPAJ) variables have a positive effect on GWT, while the subsidy and human capital variables do not have a positive effect on GWT. All variables have a significant effect on economic growth, but only the goods expenditure variable is not significant.

a. The goods spending variable (LNBB) has a positive effect with a coefficient of 8.89, which means that if the level of goods spending increases by 1 percent, the economic growth ratio will increase by 8.89. The probability of 0.16 is greater than the 5% significance level, which means there is no long-term influence on economic growth (GWT).
b. The tax revenue variable (LNPAJ) has a positive effect on GWT with a coefficient of 35.91, which means that if the tax level increases by 1 percent, the economic growth ratio will increase by 35.91. The probability of 0.02 is smaller than the 5% significance level, which means there is a long-term influence on economic growth (GWT).

c. The subsidy variable (LNSUB) has a negative effect on GWT with a coefficient of (-8.33), which means that if the subsidy level increases by 1 percent, the economic growth ratio will decrease by 8.33. The probability of 0.02 is smaller than the 5% significance level, which means there is a long-term influence on economic growth (GWT).

d. The human capital variable (LNHC) has a negative effect on GWT with a coefficient figure of (-55.29), which means that if the level of human capital increases by 1 percent, the economic growth ratio will decrease by 55.29. The probability of 0.02 is smaller than the 5% significance level, which means there is a long-term influence on economic growth (GWT).

7. Model Stability Test

To determine the validity of the model in the ARDL method, several diagnostic tests need to be carried out to determine the validity of the model variables. In the ARDL method, the CUSUM test is used to measure coefficient stability and to determine whether there is a structural break in the model as a result of the analysis.

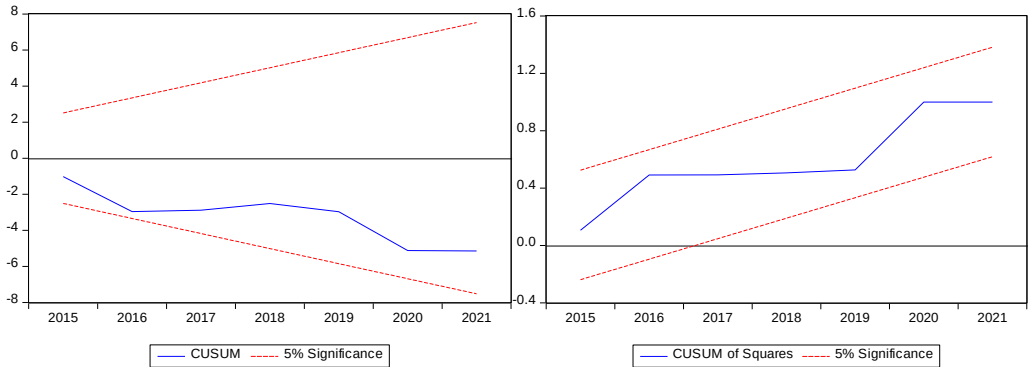

Figure 3.
Cusum Test & Cusum of Square Test
Source: Eviews data processing

Based on Figure 3, the model is declared stable because the blue line does not leave the red line. This means that the ARDL model is declared stable/passes the CUSUM test and Cusum of Squares Test and all variables are verified.

8. Interpretation of ARDL Model Results

a. The Effect of Goods Shopping on Economic Growth

In the short and long term, the influence of changes in goods spending is responded positively by economic growth (GWT), this can be interpreted as meaning that increasing goods spending will increase economic growth. This result is in line with the results of research conducted by Akpan (2005) which found that at the aggregate level capital expenditure tends to have a more positive growth impact than current expenditure. Among the current items, spending on direct productive sectors has the most positive growth impact. The findings are in line with research by Okoro (2013) which supports the claim of a positive relationship between economic growth and public spending. Research by Ebong et al (2016) shows that government spending on human resource development through the social services sector tends to encourage economic growth.

According to Suindyah (2011), government expenditure refers to the combination of products that have been produced and includes decisions and various choices taken by the government to provide goods, services and services to the community. Sukirno (2015) also defines government spending as part of fiscal policy, namely the government's actions to regulate the economy by determining the amount of government income and expenditure each year, which is reflected in the national State Revenue and Expenditure Budget (APBN) documents and the Regional Revenue and Expenditure Budget (APBN). APBD) for the region.

In economic growth theory, the positive relationship between Gross Domestic Product (GDP) and government spending is clearly visible. GDP includes the total value of goods and services produced by producers in a country in a certain time period, with one component being government spending. State expenditure includes all state expenditure in one budget year, reduces the equity of existing funds, and is a state obligation that does not produce a return. Government spending involves central and regional government spending.

Keynes' theory states that government spending can be a driver of economic growth. Keynes argued that increasing government spending could increase demand for the goods and services that have been produced, thereby stimulating economic growth. Therefore, government spending is considered an exogenous force that can change aggregate spending, so that economic growth is seen as a function of government spending.

b. The Effect of Taxes on Economic Growth

The estimation results in the ARDL model show that tax variables have a positive effect on economic growth in the short and long term, this is because tax variables are generally interpreted as mandatory payments from companies and households to the government, so that all taxes must be based on valid laws. (Olufemi et al., 2018). The government needs tax revenues to carry out its functions, including providing public goods, enforcing the law and national defense, and ensuring economic development and redistribution of societal wealth (Edame & Okoi, 2014; Olufemi et al., 2018). This is in line with the endogenous growth theory put forward by Romer (1986) which states that government spending and tax policy can influence long-term or sustainable growth and is reinforced by research conducted by Tosun and Abizadeh (2005) who found a positive relationship between taxes and economic growth in 21 member countries of the Organization for Economic Co-operation and Development (OECD).

Todaro and Smith (2015) describe economic growth as "a stable process in which the productive capacity of an economy increases over time to increase the level of output and national income". Meanwhile, the role of taxes in economic growth has been recognized in the latest theories. In classical growth theory, economic growth depends on limited resources and the growth of a country's population, so that economic growth tends to decline in the long term. In contrast, neoclassical economic growth theory will reach a stable condition with the participation of labor, capital and technology. Thus, this theory argues that short-term economic balance can be achieved by increasing labor and capital, while technology will be an exogenous factor that significantly influences overall economic performance (Solow, 1956). Therefore, this theory believes in a more

passive fiscal policy approach, where the budget deficit is assumed to hamper economic growth due to the crowding-out effect. This theory advocates reducing tax rates, limiting government spending, and reforming the tax system to achieve neutrality; this keeps the average tax rate and resulting tax revenues unchanged. The Laffer curve effect describes this relationship, where tax revenue (T) is determined by the tax rate (t) and the tax base (Y) (Kakaulina, 2017). Neoclassical theory also believes that tax revenues are more important than tax rates because the resulting economic growth will generate enough additional tax revenues to make it sustainable.

Researchers such as Dreßler (2012), Macek (2015), and Stoilova (2017). Stoilova (2017) argues that taxes help mobilize resources that can be used to finance public spending, as a tool for income redistribution, to influence the allocation of resources in the economy, which is necessary for economic growth. Meanwhile, Macek (2015) stated that tax revenues increase government resources that can be used in various activities that encourage growth, such as infrastructure development, human resource development, supporting start-up projects, and many other activities.

c. The Effect of Subsidies on Economic Growth

The estimation results in the ARDL model show that the subsidy variable has a negative effect on economic growth in the short and long term. According to Abimanyu and Imansyah (2023) in a study entitled "The Impact Of Fuel Subsidy To The Income Distribution: The Case Of Indonesia" found that low-income groups received fewer benefits than high-income groups, and even the top group received the highest income. . This can be concluded that the subsidy allocation is not distributed to the right target recipients or non-productive sectors.

Subsidies are the provision of budget allocations to institutions or state parties that control the livelihoods of many people, where in the 2019 APBN structure the government provides energy subsidies amounting to 71.3% of the total subsidy budget and the remainder for non-energy subsidies. (Ministry of Finance of the Republic of Indonesia, 2019). Energy subsidies consist of fuel oil, 3 kg LPG cylinders and electricity. Often the subsidies provided by the government are not on target. 3 Kg LPG

cylinders, for example, do not only target the poor, even though their designation has been stated. Therefore, the provision of subsidies by the government needs to be further evaluated because it has not had an impact on economic growth.

Amir et al. (2019) argues that the fuel subsidy program in Indonesia has failed to reduce poverty and inequality effectively because it provides benefits not only to poor and vulnerable households but also to rich households. The authors also found that the blanket nature of the fuel subsidy program led to the inevitable result of reduced prices of commodities consumed by all customers, regardless of their income level.

The results of hypothesis testing from research conducted by Maulid et al (2021) show that providing subsidies by the government has no impact on economic growth, so the results of this research cannot prove Keynes' theory. In line with research by Sukmawati & Siregar (2014) which found that providing fertilizer and seed subsidies had no impact on GDP growth in the agricultural sector. The number of subsidies in the Indonesian economy is relatively small, for example in the transportation sector, so it has not had a real impact on economic growth (Afifah, 2008).

d. The Influence of Human Capital on Economic Growth

In the short and long term, the influence of changes in human capital (LNHC) is responded negatively by economic growth (GWT), this can be interpreted as meaning that increasing human capital will reduce economic growth. This finding is in line with the results of research conducted by Keumala, et al (2023) that of the five independent variables used in this research for countries with developing Muslim populations, only the health variable, namely life expectancy, child mortality rate and population growth variable, is significant. Meanwhile, educational variables such as literacy rates and participation are not significant, this can be seen from the probability of significance being greater than alpha 5 percent.

CONCLUSION

Based on the analysis of the discussion described above, the authors can conclude as follows:

a. In the short and long term, goods spending has a positive and insignificant effect on economic growth in Indonesia.
b. In the short and long term, taxes have a positive and significant effect on economic growth in Indonesia.
c. In the short and long term, subsidies have a negative and significant effect on economic growth in Indonesia.
d. In the short and long term, Human Capital has a negative and significant effect on Economic Growth in Indonesia.

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