DETERMINATION OF ECONOMIC GROWTH IN
NORTH SUMATRA PROVINCE

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Abstract

This study aims to find out how the influence of the Economic Development Index, Poverty, Unemployment, Capital Expenditure, Total Capital and Labor partially or simultaneously on Economic Growth by taking case studies in North Sumatra Province. The type of research used is descriptive quantitative, namely a descriptive approach with a quantitative approach. The data used is secondary data, this research is panel data research with panel data regression analysis method conducted with Eviews 12.0. The results of this study indicate that the HDI variable has a significantly positive effect on Economic Growth, Poverty has a negative but insignificant effect on Economic Growth, Unemployment has a positive but insignificant effect on Economic Growth, Capital Expenditure has a negative but insignificant effect on Economic Growth, Total Population has a negative but insignificant effect on Economic Growth and Labor has a significantly positive effect on Economic Growth.

Keywords: Economic Gowth; HDI; Unemployment; Capital Expenditure; Population and Labor

INTRODUCTION

The economic development activities of a country aim to increase per capita income and public welfare. The main goal of economic development is to achieve high Gross National Product (GNP) growth while eradicating poverty [1]. Over time, the Indonesian government continues to improve economic conditions by increasing economic growth. The regional economic development paradigm emphasizes the importance of economic development at the regional level to increase per capita income. Developing countries such as Indonesia have high hopes for stable economic development because it can overcome poverty, unemployment, and illiteracy, and improve people's welfare, especially in the fields of health and education. High economic growth can have a major impact on other sectors, increasing national income and supporting the development of economic infrastructure. Based on data from the Ministry of National Development Planning/National Development Planning Agency (PPN/Bappenas) in 2022, Indonesia's economic growth reached 5.31%, higher than in 2021 which grew by 3.70%, returning to pre-pandemic levels in 2020-2021 .

Table 1. GDP at Current and Constant Prices by Business Field (billion) 2019 - 2022

No	Type	Constant Price 2010			
		2019	2020	2021	2022
A	Agriculture, Forestry and, Fisheries	1,354,957.3	1,378,131.3	1,404,190.90	1,435,853.20
B	Mining and Excavation	806.206,2	790,475.2	822,099.50	858,146.60
C	Industrial Processing	2,276,682.8	2,209,920.3	2,284,821.70	2,396,603.00
D	Electricity and Gas Procurement	111,436.7	108,826.4	114,861.10	122,451.9

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E	Water Procurement, Waste Management, Waste and Recycling	9,005.5	16.29,3	24.19,3	14.00,10
F	Construction	1,108,425.0	1,072,334.8	1,102,517.70	1,124,725.20
G	Wholesale and Retail Car and Motorcycle Repair Motorcycles	1,440,523.2	1,386,695.4	1,449,831.40	1,529,951.80
H	Transportation and Warehousing	463,254.8	393,481.9	406,169.30	486,873.80
I	Provision of Accommodation and Drinking Meals	333,358.2	299,248.0	310,737.60	347,854.60
J	Information and Communication	589,435.2	651,930.9	696,506.10	750,319.00
K	Financial Services and Insurance	443,041.6	457,482.0	464,637.70	473,623.80
L	Real Estate	316,837.1	324,259.4	333,282.90	339,014.90
M	Company Services	206,936.2	195,671.1	197,106.70	214,399.00
N	Government Administration, Defense and Compulsory Social Security	365,678.2	365,440.9	364,246.60	373,404.00
O	Education Services	341,328.5	350,329.8	350,660.00	352,673.50
P	Health Services and Social Activities	127,506.6	142,309.7	157,085.50	161,397.80
Q	Other Services	204,998.5	196,608.7	200,773.20	219,778.40
R	Gross Value Added At Basic Prices	10,499,611.6	10,332,595.1	10,669,447.20	11,197,310.60
S	Tax Deducted Subsidies on Products	449,632.1	389,847.6	450,612.50	512,937.30
	GDP	10,949,243.7	10,722,442.7	11,120,059.70	11,710,247.90

Source: Central Statistics Agency

In theory, economic growth according to the classical theory proposed by Adam Smith in his book "An Inquiry Into The Nature and Causes Of Nation", states that economic growth can be analyzed through two main factors: total output and population growth. This total output is calculated using three variables: natural resources, human resources, and capital stock. According to Adam Smith, capital accumulation that comes from people's savings determines the speed or slowness of a country's economic growth. In this study, the factors that influence economic growth are the Human Development Index (HDI), poverty, unemployment, and capital expenditure. According to Adam Smith's classical theory, HDI, poverty, and unemployment are included in human resources, while capital expenditure is included in the capital stock. a high level of human development determines the population's ability to absorb and manage sources of economic growth, both in technology and institutions [2].

In addition to HDI, poverty also affects economic growth. According to Adam Smith's classical theory, poverty is a part of human resources that must be considered. Unemployment is also an important factor affecting economic growth. Based on Adam Smith's classical theory, high unemployment can hinder economic growth. Unemployment occurs when people who are classified as the labor force do not get a job. Capital expenditure also affects economic growth. According to Adam Smith's classical theory, capital accumulation determines the speed or slowness of economic growth. Population also affects economic growth. According to Adam Smith's classical theory,

population is part of the human resources that are important in increasing economic growth. The final factor is labor. Based on the Neo-Classical theory of economic growth, human resources or labor is an important factor of production.

LITERATURE REVIEW

Economic growth is a condition in which income increases due to increased production of goods and services. Economic growth can also be interpreted as a process of increasing the production capacity of an economy which is realized in the form of an increase in national income. The existence of economic growth is an indication of the success of economic development in people's lives. The Human Development Index (HDI) is defined as a calculation of the national socioeconomic development index, a combination of education, health, and per capita income. Poverty is an individual problem caused by the weaknesses and choices of the individuals concerned. Poverty will disappear on its own if market forces are expanded and accessed as much as possible and economic growth is spurred as high as possible. Directly, poverty reduction strategies should be temporary residual and only involve families, self-help groups, or religious institutions. The role of the state is only that of a guardian who can only intervene when the institutions above are no longer able to carry out their duties.

Unemployment is generally a person who is not working, looking for work, or preparing for work. According to the Central Bureau of Statistics (BPS) in relation to labor indicators, unemployment is a person who does not have a job but is looking for work, is preparing a new business, or a person who is not looking for work because they have been hired but have not started working. Capital Expenditure is local government expenditure whose benefits exceed one budget and will increase regional assets or wealth and will further increase routine expenditure such as maintenance costs in the general administration expenditure group. Population growth is a dynamic process of balance between population components that can increase and decrease the population, including births, deaths, in-migration, and out-migration.

RESEARCH METHOD

The data used in this research is secondary data of the panel data type. Panel data is a combination of time series data and cross-sectional data [3]. Time series data is data from one research subject during a certain period of time, while cross-sectional data is data obtained from one or more research subjects during the same period. This study uses 9 years of time series data (t=9) from 2014 to 2022, while the cross-sectional data in this study covers 33 regions (n=33), so the total data used in this study is 33 x 9 = 297 records. The location of this research is North Sumatra Province, North Sumatra data will be obtained from the Central Bureau of Statistics (BPS). The data used are Economic Growth, Human Development Index, Poverty, Unemployment, Capital Expenditure, Population, and Labor in 2014 - 2022.The data analysis method in this case uses a panel data regression analysis model. Panel data is a combination of cross section data with time series. In other words, tabular data is data derived from cross-sectional data that is observed repeatedly on the same object at different times. As for this research, it also uses the Classical Assumption Test with the OLS approach including Linearity, Normality, Multicollinearity, Heteroscedasticity, and Autocorrelation tests. For hypothesis testing, researchers used the T Test, F Test, and Coefficient of Determination Test with a significance level of 0.05 (α = 5%).

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RESULTS AND DISCUSSION

Panel data makes it possible to study more complex behavior in the model so that panel data testing does not require classical assumption tests.

Table 3. Results of Individual Effect Values

City	Effect
Nias	-4,538,251
Mandailing Christmas	-4,561,520
South Tapanuli	-1,609,301
Central Tapanuli	0.100907
North Tapanuli	3,533,546
Toba Samosir	6,362,751
Labuan Btu	-754367
Sharpening	-3,974,732
Simalungun	-1,817,182
Dairy	1,901,955
Karo	2,523,695
The Greater Delhi Area	-9,319,009
The Land of the Rising Sun	-4,130,365
South Nias	-5,378,346
Humbang Hasundutan	-0.063449
Pakpak Bharat	2,395,469
Samosir	3,421,194
The Serdang Bedagai	-2,558,149
Coal	-3,858,293
North Padang Lawas	0.412067
Old Field	-0.841585
South Labuhan Batu	0.202954
North Labuhan Batu	0.825903
North Nias	-1,640,393
West Nias	-2,195,151
Sibolga	6,514,446
Tanjung Balai	2,173,143
Siantar River	8,418,766
High Cliff	8,285,518
Medan	-1,665,510
Binjai	6,663,525
Padang Sidempuan	6,468,526
Mount Sitoli	3,690,824

Source: Researcher Processed Data

The following are the results of panel data regression data processing using the E-Views application.

Table 4. Panel Data Regression Analysis Results

Variable	Understandable Coefficient	Significant Value
(Constant)	-5383869	0.182638889
HDI	54601.78	0.0000
POVERTY	-2926.858	5,191666667
UNEMPLOYMENT	1720.060	6.315277778
LOG(CAPITAL EXPENDITURE)	-15834.75	3.147222222
LOG(TOTAL POPULATION)	-6346.658	6.714583333
LOG(LABOR)	297302.6	0.0060

Source: Researcher Processed Data

Furthermore, researchers conducted a T test to test the significance of the model partially between the independent variables, namely HDI, poverty, unemployment, capital expenditure, population, labor on the dependent variable of economic growth.

Table 5. T Test Result

Variable	Coefficient	Standard Error	P-Value
HDI	54601.78	10378.98	0.0000
poverty	-2926,858	9086,337	0.7476
Unemployment	1720,060	15103.24	0.9094
Log(Capital Expenditure)	-15834.75	21076.57	0.4532
Log(Total Population)	-6346,6568	152756.4	0.9669
Log(Labor)	297302.6	107344.0	0.0060

Source: Researcher Processed Data

Based on the output results above, the coefficient value of the Human Development Index (HDI) on Economic Growth is 54601.78 with a P-Value of the Human Development Index variable (HDI) of 0.0000 <0.05, meaning that Ha is rejected and Ho is accepted, so it can be concluded that HDI has a significant positive effect on economic growth. Based on the output results above, the coefficient value of Poverty on Economic Growth is -2926.858 with a P-Value of the Poverty variable of 0.7476> 0.05, meaning that Ho is rejected and Ha is accepted, so it can be concluded that poverty has a negative and insignificant effect on economic growth. Based on the output results above, the coefficient value of Unemployment is 1720.060 with a P-Value of the Unemployment variable of 0.9094> 0.05, meaning that Ho is rejected and Ha is accepted, so it can be concluded that unemployment has been a positive and insignificant effect on economic growth.

Based on the output results above, the coefficient value of capital expenditure is -15834.75 with a P-value of the capital expenditure variable of 0.4532> 0.05, meaning that Ho is rejected and Ha is accepted, so it can be concluded that capital expenditure has a negative and insignificant effect on economic growth. Based on the output results above, the coefficient value of Total Population is -6346.6568 with a P-Value of 0.9669> 0.05, meaning that Ho is rejected and Ha is accepted so it can be concluded that Total Population has a negative and insignificant effect on economic growth. Based on the results of the output above, the coefficient value of Labor is 297302.6 with a P-Value of 0.0060 <0.05, meaning that Ha is rejected and Ho is accepted, so it can be concluded that Labor has a significant positive effect on economic growth.

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Table 6. F Test Result

F Value Count	F Table Value	Significant Value	Level	Description
488.8715	2.14	0.0000	0.05	Influential

Source: Researcher Processed Data

Based on the results, it can be seen that the calculated f value is 488.8715> 2.14 at $\alpha = 0.05$ and a significant value of 0.0000 <0.05, so Ho is rejected and Ha is accepted. This shows that the variables of Human Development Index (HDI), Poverty, Unemployment, Capital Expenditure, Population, and Labor together (Simultaneously) have an influence on Economic Growth in Indonesia.

Table 7. Results of the Determination Coefficient (R2)

R-Square	Adj Square
0.9863020	0.984285

Source: Researcher Processed Data

From the results it can be seen that the adj Square (R2) is valued at 0.9842 where the figure is close to 1. This shows that the ability of the independent variables in this study is 98.42 percent able to explain the dependent variable. Conversely, the independent variables in this study cannot explain 1.58 percent of the dependent variable. Therefore, it can be concluded that the ability of the independent variables in this study is very appropriate to explain the dependent variable.

CONCLUSIONS

Based on the results of the research and discussion in the previous chapter, the conclusions that can be formulated to answer the problem formulation are as follows:

The results of this study indicate that the Human Development Index has a positive and significant effect on economic growth. The results of this study indicate that poverty has a negative and insignificant effect on economic growth. The large number of poor and poorly educated people will result in the scarcity of technical skills, knowledge that does not automatically develop. The results of this study indicate that unemployment has a positive and insignificant effect on economic growth. The results of this study indicate that capital expenditure has a negative and insignificant effect on economic growth. The results of this study indicate that population has a negative and insignificant effect on economic growth. Population in economic development is a fundamental problem where if the population is uncontrolled, it can result in not achieving the objectives of economic development. The results of this study indicate that labor has a positive and significant effect on economic growth. An increase in the number of workers balanced with an increase in output can encourage economic growth in a region.

REFERENCES

[1] Widiastuti, dkk (2006). *Ekonomi Pembangunan Islam*. Jakarta : Departemen Ekonomi dan Keuangan Syariah – Bank Indonesia.

[2] Mulyadi (2018). *Ekonomi Sumber Daya Manusia*. Jakarta : Raja Grafindo Persada.

[3] Gujarati, D. N. (2021). *Essentials of econometrics*. Sage Publications.