



Determinant Analysis of Regency/City Human Development Index Determinants in North Sumatera Province 2017-2021

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ABSTRACT

The human development index (IPM) is an index that contains three essential dimensions in development, namely fulfilling the need for a long and healthy life, obtaining knowledge, and being able to meet a decent standard of living. This study examines the factors influencing Regency/City HDI in North Sumatera Province from 2017 to 2021. The analytical method used in this research is Panel Data Regression analysis. The study results show that Gender Equality and the Proportion of Female Labor affect the Regency/City Human Development Index in North Sumatera Province. Meanwhile, the variables Government Expenditure in the Education Sector, Government Expenditure in the Health Sector, and Gross Regional Domestic Product did not affect the Regency/City Human Development Index variable in North Sumatera Province. This variable has no effect because the focus of development in the education sector is on infrastructure development so government spending still prioritizes physical development. Whereas in the health sector, the government is considered to be still not on target in allocating funds to the district/city health sector in North Sumatera Province, as well as the relatively small income owned by the Regency/City community in North Sumatera Province which then results in the people's purchasing power is lower. Thus, the government is expected to pay more attention to development sectors and improve the quality of human resources through education, health, and by increasing the minimum wage for workers.

Keywords: HDI, Government Expenditures in Education, Government Expenditures in Health, Gender Equality, Gross Regional Domestic Product, and Proportion of Female Workers

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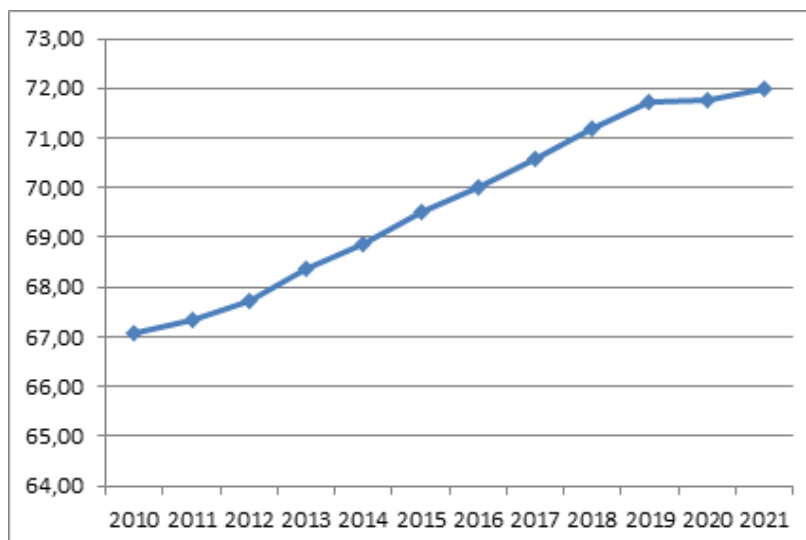
INTRODUCTION

Development is a process of improving the quality of all human life and abilities by increasing the level of human life, self-esteem, and freedom. (Todaro & Smith, 2020). Development can also show positive growth and changes in the level of welfare that occur in all aspects of life, including economic, political, social, cultural, and environmental, so development must be on the priorities and needs of each region, the root of the problems and targets that have been determined through short-term and long-term development plans. (Nuriyah et al., 2017). Meanwhile, Human Resources (HR) development is defined as expanding human choices through many empowerment efforts that prioritize increasing basic human abilities to participate in all areas of development. Humans here are seen as subjects of development who are one of the assets owned by a country. (Vildzah Nurul, 2016). One measuring tool that is widely used to measure the success of human resource development is the Human Development Index (HDI). (Paleyukan, 2019).

The United Nations Development Program (UNDP) coined the Human De-

velopment Index theory in 1990 to improve the concept of human resource development analysis. This is because when a country achieves high economic growth, that country also faces the problem of high rates of poverty, unemployment, and other social issues. Hence, a country experiences problems of inequality in development related to human resources. (Badan Pusat Statistik, 2022). Therefore, the concept of human resource development emerged to correct this deficiency by looking at development more comprehensively and can play a role in the direction of equality in ensuring priorities for formulating policies and establishing development plans.

In 1990, UNDP also stated that the Human Development Index contained three critical dimensions of development, namely those related to fulfilling the need for a long and healthy life, gaining knowledge, and meeting a decent standard of living. The better the health level of the workforce, higher levels of expertise, and a decent living, the better the quality of work results will be. Vice versa, if the condition of the workforce gets worse, the work results will also be worse or of lower quality. (Mahroji & Nurkhasanah, 2019). This shows that



Source: BPS (processed)

Figure 1.
North Sumatera Province Human Development Index 2010-2021 (%)

three critical dimensions in human development are indicators for assessing the quality of human resources. Thus, the human development index (HDI) is an index that measures the impact of the development capacity of a vast region because it shows the quality of life expectancy, intelligence, and decent living standards of the people in an area. In implementing development plans, IPM also plays a role in the direction of equity to ensure priorities for formulating policies and establishing development plans. (Todaro & Smith, 2020)

The development of HDI in North Sumatera Province during the 2010-2021 period can be seen in Figure 1. Figure 1 shows that the Human Development Index (HDI) in North Sumatera Province during the 2010-2021 period continues to increase. In 2010, the HDI level for North Sumatera Province was 67,09%, which then grew to 70,00% in 2016 and 72,00% in 2021. Overall, the HDI achievement increased by 0,69 % per year, but still below the national HDI average of 72,29% in 2021. This shows that the quality of human development in North Sumatera Province based on the categories given by UNDP has been included in the medium category in 2010-2016 ($60 \leq \text{HDI} \leq 70$) and falls into the high class in 2017-2021 ($70 \leq \text{HDI} \leq 80$).

Badan Pusat Statistik Sumatera Utara (2021) stated that the increase in the Human Development Index for North Sumatera Province in 2021 was driven by improvements in all aspects of human development in the Province, both from education and health. However, this looks different in 2020, which experienced a decline. The COVID-19 pandemic has caused a slowdown in HDI growth due to a decrease in adjusted per capita expenditure. In 2021, the average real expenditure per capita was recorded at IDR 10,5 million in 2021 or an increase of 0,76%. Meanwhile, in terms of education, children aged 7 years have an Expected Years of Schooling of 13,27 years or an increase

of 0,04 years. Apart from that, the average length of schooling for residents aged 25 years and over also increased by 0,04 years or 9,58 years. Then, from a health perspective, the Life Expectancy Rate for newborns in 2021 was recorded at 69,23 years.

HDI emphasizes that a region or country must implement policies that encourage the use of the region's economic wealth for the welfare of its citizens. The implication is that a region's resources must be channeled into human development projects for national development that are feasible and capable of generating economic value to encourage sustainable national development. However, humans are the only factor of production among others who can learn, create, adapt to change, and embrace new technology. (Omodero, 2019).

The growth model by Romer in 1986 explained that human capital acts as a growth engine, which has been widely used in the literature to analyze the effects of economic policies. Human capital plays a role in explaining development and economic growth to absorb new technology as well as high absorptive capacity in increasing the positive effects of foreign knowledge on the domestic economy. (Mastromarco & Simar, 2021). Growth theory states that investment in human capital, innovation, and knowledge can substantially contribute to economic growth and development. (Gruzina et al., 2021).

Physical and mental development of Human Resources (HR) means increasing the fundamental capacity of the population. The essential capacities are the three central values for successful economic development namely sufficiency, self-esteem, and freedom. Human development is crucial and needs attention. This can be caused by high economic growth not always being able to solve welfare problems such as poverty and the standard of living of society, so the success of development

today is often seen from the achievement of the quality of human resources. (Todaro & Smith, 2020).

Another alternative to the human development strategy is people concern or putting people first, meaning that humans (society) are the primary goal of development and human capacity is the most critical resource. The dimensions of development like this are broader than just forming professional and skilled people so that they are so it is helpful in the production process. Human income as a development subject emphasizes the importance of human empowerment, namely the ability to actualize all of its potential. Human capital formation is acquiring and increasing the number of people with the skills, education, and experience crucial for a country's economic and political development. (Asnidar, 2018).

Sukirno (2015) also stated that a high quality of life in society would impact the population's ability to explore and develop productive sectors to increase economic development. With the quality of life of the community rising along with the increase in population, this will increase the amount of public consumption to encourage and stimulate economic development.

Nurdiana et al., (2021), Sania et al., (2021), Hadinata et al., (2020), Fadillah & Setiartiti (2021), dan Manggala (2019) found that Gross Regional Domestic Product (GRDP) had a positive effect on HDI. Government Expenditure in the Education Sector has an inconsistent influence, Maryozi et al., (2022) dan Claudia & Arif (2022) found that Government Expenditure in the Education Sector has a negative effect on HDI, while Nurdiana et al., (2021), Hadinata et al., (2020), dan Mailassa'adah et al., (2019) found that government spending on education has a positive effect on HDI. Maryozi et al., (2022), Nurdiana et al., (2021), Ratnasari et al., (2019), Fadillah & Setiartiti (2021), Mailassa'adah et al., (2019), dan Claudia & Arif (2022) found that

government spending in the health sector has a positive influence on HDI. Sania et al., (2021) dan Widodo et al., (2020) found that the Minimum Wage positively affects HDI.

Rahmawati & Intan (2019) dan Arisman (2018) found that State Per Capita Income positively affects HDI. Rahmawati & Intan (2019) found that Regional Government Expenditures positively affected HDI. Arisman (2018) found that the country's population and inflation rate have a negative effect on HDI. Maryozi et al., (2022) found that government spending on infrastructure positively affects HDI. Arifin et al., (2020) found that Capital Expenditure and Economic Growth positively affected HDI. Mailassa'adah et al., (2019) found that Social Protection positively affected HDI. Halid & Yapanto (2021) found that Average Years of Schooling, Literacy Rate, Infant Mortality Rate, and Purchasing Power positively affect HDI. Claudia & Arif (2022) found that teaching staff positively affected HDI. Sarkoro & Zulfikar (2016) found that Regional Expenditures had a negative effect on HDI and Original Regional Income had a positive effect on HDI.

Based on the previous background, this research will observe the direction and magnitude of the influence of Government Expenditures in the Education Sector, Government Expenditures in the Health Sector, Gross Regional Domestic Product (GRDP), Gender Equality, and the Proportion of Female Workers on the Regency/City Human Development Index (HDI). in North Sumatera Province in 2017-2021.

METHODOLOGY

This research analyses the influence of Government Expenditures in the Education Sector, Government Expenditures in the Health Sector, Gross Regional Domestic Product, Gender Equality, and the Proportion of Female Workers on the Human Development Index of 33 Regencies/Cities in North Sumatra Province,

namely Sibolga City, Tanjungbalai City, Kota Pematangsiantar, Tebing Tinggi City, Medan City, Binjai City, Padang Sidempuan City, Gunungsitoli City, Nias Regency, Mandailing Natal Regency, South Tapanuli Regency, Central Tapanuli Regency, North Tapanuli Regency, Toba Samosir Regency, Labuhan Batu Regency, Asahan Regency, Regency Simalungun, Dairi Regency, Karo Regency, Deli Serdang Regency, Langkat Regency, South Nias Regency, Humbang Hasundutan Regency, Pakpak Bharat Regency, Samosir Regency, Serdang Bedagai Regency, Batu Bara Regency, North Padang Lawas Regency, Padang Lawas Regency, Labuhan Batu Regency South, North Labuan Batu Regency, North Nias Regency, West Nias Regency.

Estimated using Panel Data Regression analysis. Panel data is a combination of time series and cross-section data. Time series data is arranged based on time sequence, such as daily, weekly, monthly or yearly. Meanwhile, cross-section data is data collected at the same time by several companies, regions or countries. The estimation method using panel data can be carried out using three approaches, which include the Pooled Least Square, Fixed Effect Model, and Random Effect Model. (Swara, 2021).

The Pooled Least Square is an estimation model that combines time series and cross-section data. This approach does not pay attention to individual or time dimensions, so we can use the Ordinary Least Squares (OLS) method to estimate panel data models. In this approach, it is assumed that the behavior of data between regions is the same over various periods. Meanwhile, the Fixed Effect Model assumes that the slope (regression coefficient) is constant across space and time. Fixed Effect Model estimation can be done using a dummy to explain the intercept difference. Then, the Random Effect Model is a panel data regression estimation model assuming that the slope coefficient is con-

stant and the intercept differs between individuals and over time (Random Effect Model). The dummy variable in the Fixed Effects Model aims to represent ignorance about the actual model. This also has the consequence of reducing degrees of freedom, which ultimately reduces parameter efficiency. The solution to this problem can be overcome using a disturbance variable known as the Random Effect Method. (Septianingsih, 2022).

The econometric model formulation or estimator model is as follows:

$$HDI_{it} = \beta_0 + \beta_1 GEES_{it} + \beta_2 GEHS_{it} + \beta_3 GRDP_{it} + \beta_4 GND_{it} + \beta_5 PFW_{it} + \varepsilon_{it} \quad (1)$$

$$HDI_{it} = \beta_0 + \beta_1 \ln GEES_{it} + \beta_2 \ln GEHS_{it} + \beta_3 \ln GRDP_{it} + \beta_4 \ln GND_{it} + \beta_5 \ln PFW_{it} + \varepsilon_{it} \quad (2)$$

where: HDI is human development index, GEES is government expenditures in the education sector, GEHS is government expenditures in the health sector, GRDP is gross regional domestic product, GND is gender equality, PFW is proportion of female workers, β_0 is constant, $\beta_1 \dots \beta_5$ is independent variable regression coefficient, i is Regency/City to i North Sumatera Province (33 regencies/cities), t is year t (2017-2021), \ln is natural logarithm operation and ε is Error term.

The data used is panel data from 2017-2021. Aims to determine the determinants of the Human Development Index in 33 Regencies/Cities of North Sumatra Province during that period. The data was obtained from several sources, such as the Central Statistics Agency and the Directorate General of Financial Balance.

RESULTS AND DISCUSSION

Estimation Results

The results of the estimation of the econometric model in advance using the Pooled Least Square (PLS), Fixed Effect Model (FEM), and Random

Table 1.
Estimation Results of Panel Data Regression Econometric Models-Cross section

Variable	Regression Coefficients		
	PLS	FEM	REM
<i>C</i>	71,06700	75,41694	73,01690
<i>lnGEES</i>	-0,014585	-0,119482	-0,055246
<i>lnGEHS</i>	0,043775	-0,009868	0,006903
<i>lnGRDP</i>	-0,102519	-0,327944	-0,104736
<i>GND</i>	0,017250	0,059311	0,020461
<i>lnPFW</i>	0,055664	0,040551	0,041722
<i>R</i> ²	0,125771	0,932371	0,074212
Adjusted. <i>R</i> ²	0,098105	0,912512	0,044915
<i>F</i> Statistic	4,546121	46,94897	2,533071
Prob. <i>F</i> Statistic	0,000670	0,000000	0,030927
Model Selection Test			
(1) Chow			
Cross- Section <i>F</i> (32, 126) = 46,962098; Prob. <i>F</i> (32, 126) = 0,0000			
(2) Hausman			
Cross-Section Random $\chi^2(5)$ = 3,278466; Prob. $\chi^2(5)$ = 0,6571			

Source: Analysis Results

dom Effect Model (REM) approaches along with the results of the model selection tests are summarized in Table 1.

Chow test and Hausman test will be used to select the best-estimated model - Pooled Least Square (PLS), Fixed Effect Model (FEM) and Random Effect Model (REM).

Test Chow

The Chow test is used to select a Pooled Least Square (PLS) or Fixed Effect Model (FEM) estimated model. H_0 : the estimated model is Pooled Least Square (PLS), and the H_A : the estimated model is the Fixed Effect Model (FEM). H_0 is accepted if the p-value, probability or empirical statistical significance of $F > \alpha$; H_0 is rejected if the p-value, probability or empirical statistical significance of $F \leq \alpha$. From Table 1, it can be seen that the p-value, probability or empirical significance of the *F* statistic is 0,0000 (<0,01), so H_0 is rejected. In conclusion, the estimated model is the Fixed Effect Model (FEM).

Hausman Test

The Hausman test is used to select the estimated model Fixed Effects Model (FEM) or Random Effects Model (REM). H_0 Hausman test: the estimated model is the Random Effects Model (REM) and the H_A : the estimated model is the Fixed Effects Model (FEM). H_0 is accepted if the p-value, probability or statistical empirical significance $X^2 > \alpha$; H_0 is rejected if the p-value, probability or statistical empirical significance $X^2 \leq \alpha$. From Table 1, it can be seen that the p-value, probability or empirical statistical significance of X^2 is 0,6571 (>0,10), so H_0 is accepted. In conclusion, the estimated model is the Random Effects Model (REM).

The Chow test and Hausman test show that the Random Effects Model (REM) was chosen as the best estimated model, as seen from the probability or empirical significance of the *F* statistic and the X^2 statistic, each of which has a value of 0,030927 (<0,05). Complete estimation re-

Table 2.
Random Effect Model (REM) Estimation Model

$$\widehat{HDI}_{it} = 73,01690 - 0,055246 \lnGEES_{it} + 0,006903 \lnGEHS_{it} -$$

$$(0,2615) (0,8762)$$

$$0,104736 \lnGRDP_{it} + 0,020461 GND_{it} + 0,041722 \lnPFW_{it}$$

$$(0,3132) (0,0375)^{**} (0,0129)^{**}$$

$$R^2 = 0,074212; DW = 0,958168; F = 2,533071; Prob. F = 0,030927$$

Source: Analysis Results. **Notes:** *Significant at $\alpha = 0,01$; **Significant at $\alpha = 0,05$; ***Significant at $\alpha = 0,10$; The numbers in brackets are the probability values of the t-statistic.

sults from the REM estimated model are shown in Table 2 and Table 3.

From Table 2, it can be seen that the REM estimated model exists with a probability or empirical significance of the F statistic of 0,030927 ($<0,05$), with a coefficient of determination (R^2) of 07,4212%, which shows that the REM estimated model has low predictive power. However, this predictive power must be interpreted critically, because separately from the five variables in the econometric model, it turns out that only two variables, namely the Gender Equality variable and the Proportion of Female Workers, have an influence on the Human Development Index with statistical probability or empirical significance t 0,0375 ($<0,05$) and 0,0129 ($<0,05$).

The Gender Equality variable has a regression coefficient value of 2,097480, with a linear-linear (lin-lin) relationship pattern. This means that if Gender Equality increases by one percent, the Human Development Index will increase by 2,097480 percent. On the other hand, if Gender Equality decreases by one percent, the Human Development Index will reduce by 2,097480 percent.

The variable Proportion of Female Workers has a regression coefficient value of 2,514761, with a linear-logarithmic relationship pattern. This means that if the proportion of female workers increases by one percent, the Human Development Index will increase by $2,514761/100 = 0,02514761$ percent. On the other hand, if the proportion of female workers decreases

by one percent, the Human Development Index will reduce by $2,514761/100 = 0,02514761$ percent.

Table 3 shows that the area with the highest constant value is South Tapanuli Regency, which is 73,463755. This means that related to the influence of the variables Government Expenditure in the Field of Education, Government Expenditure in the Health Sector, Gross Regional Domestic Product, Gender Equality, and the Proportion of Female Workers on the Human Development Index, South Tapanuli Regency tends to have a higher Human Development Index than other regency/cities. After the South Tapanuli Regency, the four regencies with the most significant constants are the Toba Samosir Regency, Central Tapanuli, Mandailing Natal, and North Tapanuli.

The lowest constant value belongs to the Pakpak Bharat Regency, namely 72,607751. Regarding the influence of the variables Government Expenditure in Education, Government Expenditure in Health, Gross Regional Domestic Product, Gender Equality, and Proportion of Female Workers on the Human Development Index, Pakpak Bharat Regency tends to have a lower Human Development Index than with other regencies/cities. Before the Pakpak Bharat Regency, the four regencies with the lowest constants were Dairi, Humbang Hasundutan, Samosir, and South Nias Regencies.

Discussion

The Human Development Index in

Table 3.
Region Effects and Constants

No	Region	Effect	Constant
1	Sibolga City	-0,160068	72,856832
2	Tanjungbalai City	0,014565	73,031465
3	Pematangsiantar City	-0,051015	72,965885
4	Tebing Tinggi City	0,015546	73,032446
5	Medan City	0,218769	73,235669
6	Binjai City	0,182636	73,199536
7	Padang sidimpuan City	0,048922	73,065822
8	Gunungsitoli City	0,317595	73,334495
9	Nias Regency	0,271365	73,288265
10	Mandailing Natal Regency	0,395012	73,411912
11	Tapanuli Selatan Regency	0,446855	73,463755
12	Tapanuli Tengah Regency	0,411345	73,428245
13	Tapanuli Utara Regency	0,387996	73,404896
14	Toba Samosir Regency	0,443686	73,460586
15	Labuhan Batu Regency	0,204403	73,221303
16	Asahan Regency	-0,153360	72,863540
17	Simalungun Regency	-0,189587	72,827313
18	Dairi Regency	-0,391183	72,625717
19	Karo Regency	-0,242439	72,774461
20	Deli Serdang Regency	-0,142248	72,874652
21	Langkat Regency	-0,102535	72,914365
22	Nias Selatan Regency	-0,266686	72,750214
23	Humbang Hasundutan Regency	-0,369026	72,647874
24	Pakpak Bharat Regency	-0,409149	72,607751
25	Samosir Regency	-0,329098	72,687802
26	Serdang Bedagai Regency	-0,063938	72,952962
27	Batu Bara Regency	0,066306	73,083206
28	Padang Lawas Utara Regency	-0,122197	72,894703
29	Padang Lawas Regency	-0,092738	72,924162
30	Labuhan batu Selatan Regency	-0,054308	72,962592
32	Labuan batu Utara Regency	-0,108302	72,908598
32	Nias Utara Regency	-0,006566	73,010334
33	Nias Barat Regency	-0,170559	72,846341

Source: Analysis Results

various districts and cities in North Sumatera Province during the 2017-2021 period was positively influenced by the variables Gender Equality and the Proportion of Female Workers. Meanwhile, the variables of Government Expenditure in the Education Sector, Government Expen

diture in the Health Sector, and Gross Regional Domestic Product do not affect the Human Development Index.

The Government Expenditure Variable in the Education Sector does not affect the Human Development Index. The results of this research are not in accordance

with the hypothesis which states that Government Expenditures in the Education Sector have a positive influence on the Human Development Index. In the opinion of Kahang et al., (2016), who stated that "Investment in education is necessary, so the government must be able to build a good educational facility and system. The government's budget allocation for education is a concrete manifestation of Investment to increase community productivity. Development expenditure in the development sector can be allocated to provide educational infrastructure and provide educational services to the entire population of Indonesia evenly." In realizing regional development this can be done by paying attention to various aspects, one very important aspect is the field of education. Increasing the quality of education will encourage an increase in the Human Development Index, which is related to the number of qualified workers. Apart from that, if you look at the current conditions, it is the workforce accompanied by knowledge and skills that can compete to make the availability of labour a big investment for the future in sustainable economic growth. So that educational development can be made one of the main priorities that the government must carry out. However, the Government Expenditure Variable in the Education Sector has no effect because the large expenditure made by Regency/City governments in North Sumatera Province in the education sector is still unable to provide an effective impact in increasing the Human Development Index. This is because the focus of development is on infrastructure development, so government spending still prioritizes physical development and has not focused on improving training for teaching staff and students or the quality of education itself. Thus, Government Expenditures in the Education Sector are still unable to directly influence the growth of the Regency/City Human Development Index in North Sumatera Province.

The Government Expenditure Variable in the Health Sector does not affect the Human Development Index. The results of this study are not in accordance with the hypothesis which states that Government Expenditures in the Health Sector have a positive influence on the Human Development Index. Basically, the health aspect is also a determinant of human development. Good quality health can encourage increased productivity, reduce mortality and increase life expectancy. So, people will be healthier, able to live longer and can work better with a high level of productivity. (Maryozi et al., 2022). Thus, in assessments related to HDI, health is one of the determinants in its measurement and still requires driving factors, including improving health standards themselves, which includes the need for special infrastructure in the health sector. However, this research is in line with research conducted by Kahang et al., (2016), which states that there is no influence between the Government Expenditure variable in the Health Sector on the Human Development Index. This lack of influence on Government Expenditures in the Health Sector is because the allocation of funds in the District/City health sector in North Sumatera Province is still not on target. In general, the budget allocation used in the District/City health sector in North Sumatera Province continues to increase every year. Thus, the realization of government spending in the health sector is still unable to impact improving the quality of life of the people, and it is still found that many less fortunate people cannot enjoy hospital services to the fullest.

The Gross Regional Domestic Product variable does not affect the Human Development Index. The results of this research are not in accordance with the hypothesis, which states that Gross Regional Domestic Product has a positive influence on the Human Development Index. Development is a tool used to achieve national goals and economic growth is an indicator

for assessing the success of a country's development. The development paradigm that is currently developing is economic growth as measured by human development as seen by the level of quality of human life in each country. Apart from that, an increase in GRDP will also facilitate the process of economic development. With a high GDP, it will affect the community's ability to meet their daily needs. (Hadinata et al., 2020). So that when GRDP increases, the level of per capita income of the community will also increase, which in the end will ensure that the welfare of the community is clearly visible. This is what makes the higher Gross Regional Domestic Product value also cause a higher Human Development Index. However, the lack of influence on the Gross Regional Domestic Product is due to the relatively small income of the Regency/City people in North Sumatera Province, which results in lower purchasing power of the people, such as limited spending on Education, Health, and results in further slowing down the increase in the Human Development Index.

The Gender Equality variable has a positive effect, indicating that Gender Equality is effective in increasing the Human Development Index. The results of this research are in line with the hypothesis which states that Gender Equality has a positive influence on the Human Development Index and is in line with research conducted by Fauziyyah et al., (2022) Gender equality is an indicator of the success of human development, which is influenced by inequality in education, health, and employment. In line with the results of this research, it is also basically a supporting factor at the education level. Looking at the level of education between women and men in North Sumatera Province, it can be said to be equal, meaning that men and women have the same level of education. According to the Ministry of Women's Empowerment and Child Protection of the

Republic of Indonesia, the National Medium-Term Development Plan (RPJMN) states explicitly that Gender Equality is one of the fundamental considerations in development plans in Indonesia. Human Resources are positioned as capital in national development, so the quality of human resources is a top priority in action, and striving for Gender Equality is an essential strategy in empowering society, both for men and women. In measuring gender equality, the RPJMN has used three indicators, including HDI, IPG, and IDG. One of the indicators that have been used is the Human Development Index, where the Gender Equality variable does influence the Human Development Index, so if the HDI value is higher, it will affect increasing economic growth, which is also expected to not only be able to encourage poverty reduction but also encourage the existence of Gender Equality.

The variable Proportion of Female Labor has a positive effect, indicating that the Proportion of Female Labor is effective in increasing the Human Development Index. The results of this research are in line with the hypothesis which states that the proportion of female workers has a positive influence on the Human Development Index. The positive influence of the Female Labor Variable causes human capital development and development towards increasing human productivity to increase. Through investment in education, especially education for women, it is hoped that it will be able to improve the quality of Human Resources (HR), which is demonstrated by increasing a person's knowledge and skills so that it will encourage work productivity. (Mahroji & Nurkhasanah, 2019). Increased productivity can influence increased participation in employment opportunities. Apart from that, the proportion of female workers is also an aspect that has the potential to increase household income from the wages they earn. So, household consumption of goods and services also increases. Thus,

increasing productivity and household income can become a driver and driver of economic growth in a region. The increase in economic growth is expected to increase job opportunities and increase demand for labour so that many people, especially women, can be absorbed into the labour market and will increasingly show that the quality of female human resources in Districts/City in North Sumatera Province will also improve.

CONCLUSIONS

The Regency/City Human Development Index in North Sumatera Province in 2017-2021 is influenced by Gender Equality and the Proportion of Female Workers. Meanwhile, Government Expenditures in the Education Sector, Health Sector, and Gross Regional Domestic Product have no influence on the Regency/City Human Development Index in North Sumatera Province in 2017-2021. The variable Government Expenditure in the Education Sector has no effect because the government's focus is on infrastructure development. Hence, government expenditure still prioritizes physical development. Meanwhile, the variable Government Expenditure in the Health Sector has no effect because the government is considered to have yet to hit the target in allocating funds to the District/City health sector in North Sumatera Province. The income of the people of the District/City in North Sumatera Province is still relatively small, which then has an impact on People's lower purchasing power and is also why the Gross Regional Domestic Product variable has no effect on the Human Development Index.

In the future, the government will be able to pay more attention to development sectors and improve the quality of human resources through education, health and by increasing the minimum wage for workers. This needs to be done to increase people's productivity and welfare because if the level of productivity increas-

es, it will affect household income from the wages they earn. Household consumption of goods and services will also increase. This can be a driver or driver of economic growth in a region. Thus, when economic growth in an area increases, the Human Development Index in part also increases.

It is hoped that future research can add other variables, considering that the independent variables used in this research are still not fully able to explain the determinants of the Human Development Index. Using other analytical tools is also necessary to obtain cross-verification for the results of this research.

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