Analysis Of The Impact Of Special Autonomy Funds/Privileges On Health And Education Spending On HDI In Special Autonomy Regions

by Iqbal Nurfansyah

Analysis Of The Impact Of Special Autonomy Funds/Privileges On Health And Education Spending On HDI In Special Autonomy Regions

Iqbal Nurfansyah[1*], Azansyah[2]

[1]Department of Development, Economics, University of Bengkulu
[2]Department of Development, Economics, University of Bengkulu

Address: Jl. WR. Supratman, Kandang Limun, Kec. Muara Bangka Hulu, Sumatera, Bengkulu 38371
Author correspondence: iqbalnurfansyah39@gmail.com

Abstract:Humans are the true source of a nation's wealth and are a crucial factor in development. Through the HDI, we can see the extent of the quality of human resources as viewed from the levels of economy, health, and education. The province with the highest HDI in Indonesia is DKI Jakarta, while the provinces with the lowest HDI are Papua and West Papua. Both provinces hold the title of special autonomous regions and receive special funding known as special autonomy funds. It has been 20 years since the distribution of special autonomy funds to Papua, yet Papua still remains the province with the lowest HDI in Indonesia. Spending in the sectors of Economy, Health, and Education is an important factor in improving the Human Development Index (HDI). The aim of this research is to examine the influence of Local Government Expenditure (DOK), as well as spending on Economy, Health, and Education on the HDI. The research method used is panel data regression utilizing secondary data from the Central Statistics Agency (BPS) and the Directorate General of Fiscal Balance (DJPK). The research results indicate that DOK, as well as spending on Economy, Health, and Education, positively affects the HDI.

Keywords: Human Development Indeks, Special Autonomy Funds, Special Autonomy Region, Government Expenditure

Abstrak: Manusia adalah sumber kekayaan suatu bangsa dan merupakan faktor krusial dalam pembangunan. Melalui IPM kita dapat melihat sejauh mana kualitas sumber daya manusia dilihat dari tingkat ekonomi, kesehatan, dan pendidikan. Provinsi dengan IPM tertinggi di Indonesia adalah DKI Jakarta, sedangkan provinsi dengan IPM terendah adalah Papua dan Papua Barat. Kedua provinsi tersebut menyandang predikat daerah otonom khusus dan mendapat pendanaan khusus yang dikenal dengan dana otsus. Sudah 20 tahun penyaluran dana otsus ke Papua, namun Papua masih menjadi provinsi dengan IPM terendah di Indonesia. Pengeluaran pada sektor Ekonomi, Kesehatan, dan Pendidikan merupakan faktor penting dalam meningkatkan Indeks Pembangunan Manusia (IPM). Penelitian ini bertujuan untuk menguji pengaruh Belanja Daerah (DOK), serta belanja Ekonomi, Kesehatan, dan Pendidikan terhadap IPM. Metode penelitian yang digunakan adalah regresi data panel dengan memanfaatkan data sekunder dari Badan Pusat Statistik (BPS) dan Direktorat Jenderal Perimbangan Keuangan (DJPK). Hasil penelitian menunjukkan bahwa DOK serta belanja Ekonomi, Kesehatan, dan Pendidikan berpengaruh positif terhadap IPM.

Kata kunci: Indeks Pembangunan Manusia, Dana Otonomi Khusus, Daerah Otonomi Khusus, Belanja Pemerintah

INTRODUCTION

Humans are the true wealth of the nation and are an important factor in development. Humans have a role as adaptive and transformative social creatures capable

of managing themselves and all the potential contained in nature in order to realize prosperity in a sustainable order of life.

According to Mulyadi (2003), classical theory considers humans to be the main production factor that determines the prosperity of nations. Because nature (land) has no meaning if there are no human resources (HR) who are good at processing it so that it is useful for life. Classical theory also sees that effective allocation of human resources is the start of economic growth. Effective allocation of human resources is a requirement *(necessary condition)* for economic growth.

Human resources (HR) are one of the key factors in economic change, namely how to create quality human resources who have skills and are highly competitive in global competition. Human resources play an important role in the development process. The higher the quality of human resources (HR), the more it will encourage the progress of a country or region.

One way to measure the quality of human development is through the Human Development Index (HDI). The Human Development Index is the main indicator in measuring the success of development. The aspects that are the focus of attention are improving educational standards, health status and the quality of the family economy. Jalil & Kamaruddin (2018) said that the average length of schooling, expected length of schooling, life expectancy, and GDP per capita show a significant positive influence on the human development index.

Thus, in the context of human resource development, these three aspects must be considered in their entirety. The human development index (HDI) is a comparative measurement of life expectancy, educational literacy, and living standards for all countries around the world. HDI is used to classify whether a country is a developed country, developing country or underdeveloped country and also to measure the influence of economic policies on quality of life.

**Figure 1.1** Map of Indonesia based on HDI in 2022

Source: Publication of the Central Statistics Agency (BPS)

Indonesia's human development index in 2022 is at 72.91, an increase of 0.86 percent from the previous year. This figure is included in the high classification, however, there are still areas on the islands of Nusa Tenggara and Papua that have HDI below the average, as can be seen in Figure 1.1. Almost all large islands in Indonesia are blue, which indicates that the human development index on these islands is high.

However, there are still several islands and archipelagos that have a medium HDI category, such as the Nusa Tenggara Islands and Papua. The province with the highest HDI is DKI Jakarta Province at 81.65, the very high HDI category is DI Yogyakarta Province and the lowest province is Papua Province at 61.39.

The interesting thing that can be seen from this data is that two of the provinces that have a high human development index are special autonomous regions, namely, DKI Jakarta and DI Yogyakarta and the province with the lowest HDI is Papua province, which is also one of the special autonomous regions in Indonesia. Comparison of HDI between Provinces with Special Autonomous Regions can be seen in Figure 1.2 below.

Figure 1.2 Development of the Human Development Index in Special Autonomous Regions for 2019-2021
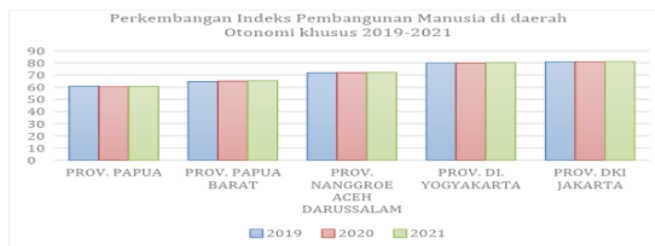

Source: Central Statistics Agency

The image above shows the development of the Human Development Index (HDI) in the special autonomous region in 2019-2021. It can be seen that among the 5 special autonomous regions, there are 2 special autonomous regions that still have HDI below the average, namely, Papua and West Papua Provinces with HDI values in 2021 of 61.39 and 65.89. For almost 20 years since special autonomy funds were first provided in 2002-2022, Papua Province has remained the province with the lowest HDI in Indonesia. Even though the provinces of Papua and West Papua are one of the provinces that hold the same title of Special Autonomous Region as DKI. Jakarta and D.I Yogyakarta.

Special Autonomy Funds (Otsus Funds) are funds allocated from the State Revenue and Expenditure Budget (APBN) to finance the implementation of special autonomy for a region. Special autonomy is special authority given to regional governments to regulate their regions in accordance with the aspirations and context of local communities. Special autonomy is given to recognize and respect regional government units that are special or special.

In granting Special Autonomy in Papua, there is a basis for granting Special Autonomy. It can be seen from the basis for considering Law Number 21 of 2001 concerning Special Autonomy for Papua Province. Law Number 35 of 2008 concerning Special Autonomy for West Papua Province, and Law Number 18 of 2001 concerning Special Autonomy for the Special Region of Aceh Province as Nanggroe Aceh Darussalam Province. Another region that has received recognition as a special region is the Special Capital Region of Jakarta based on Law Number 29 of 2007 concerning the Provincial Government of the Special Capital Region of Jakarta as the Capital of the Unitary State of the Republic of Indonesia. Finally, one region also holds the status of a Special Region, namely the Yogyakarta Special Region based on Law Number 13 of 2012 concerning the Specialties of the Yogyakarta Special Region. The status of special autonomous regions is given because these regions have differences, namely unique, specific backgrounds and are different from other regions.

Figure 1.3 Development of Special Autonomy/Special Autonomy funds in special autonomous regions in 2019-2021
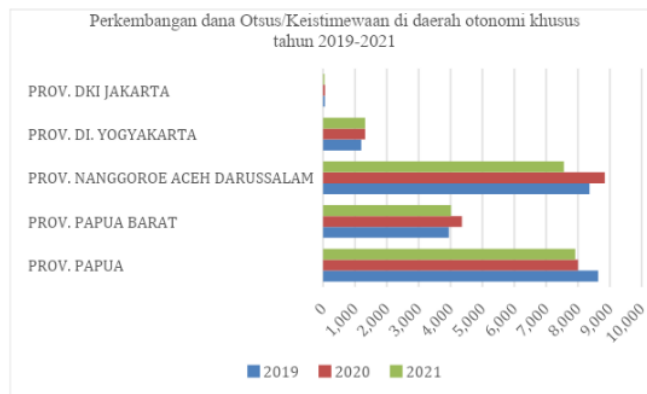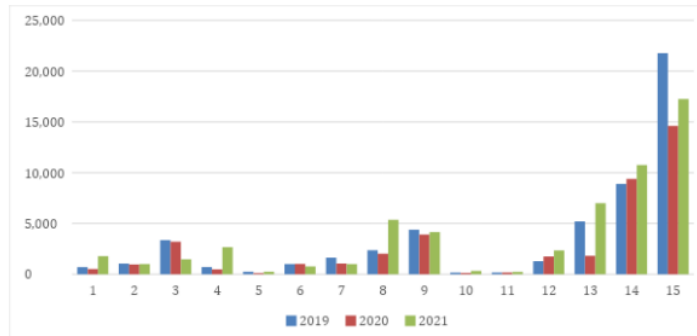

Source: Directorate General of Financial Balance (DJPK)

In contrast to the human development index value, the special autonomy funds for the Provinces of Papua and West Papua and the Province of Nanggoroe Aceh Darussalam occupy the highest vulnerable position in 2019-2021. Nanggoroe Aceh Darussalam Province occupies the top position with an average amount of special autonomy funds of IDR. 8,251 billion, followed by Papua Province with Rp. 8,181 billion and West Papua Rp. 4,107 Billion. Meanwhile, DI Province. Yogyakarta occupies fourth position with an average Privilege Fund of IDR. 1,280 billion and finally DKI Province. Jakarta with Rp. 54 Billion.

Papua's worrying condition is inversely proportional to the special autonomy status that the province holds. Papua's special autonomy status was obtained as a form of asymmetric decentralization that applies in Indonesia. The government, in implementing special autonomy, not only issues the underlying law, but also provides Special Autonomy Funds (DOK) for its implementation. (Budiratna & Qibthiyyah, 2020) states that the asymmetric decentralization policy is a greater delegation of authority intended to pursue certain goals to the relevant regions and in its implementation there is a special allocation of transfer funds from the central government. Juliarni & Hatmoko (2020) Research results show that special autonomy funds have a positive relationship with HDI, both in Papua and West Papua Provinces, but the value is very small. However, this research is not in accordance with research from Widodo (2019) whose research shows that Special Autonomy income has a negative effect on the efficiency of spending on education, health and public infrastructure.

Keynes argued that government spending can have a positive impact on HDI. Keynes stated that in situations of economic imbalance, governments can use fiscal policy, such as increasing public spending, to stimulate economic growth. In the context of HDI, increasing government spending can improve access and quality of health services, education and infrastructure, which can contribute to increasing HDI.

One way the government spends is by spending. Regional spending is expenditure made to be used for various purposes, including infrastructure, education, health, public services, economic development, security, and so on. The aim of regional spending is to improve community welfare, improve infrastructure, provide adequate public services, and develop the economy in the region.

Figure 1.4 Development of Economic, Health and Education Expenditures in Special Autonomous Regions in 2019-2021 (Billions of Rupiah)

Source: Directorate General of Financial Balance (DJPK)

Based on the picture above, we can see that the rate of economic, health and education spending in the special autonomous region fluctuated in 2019-2021. DKI Province. Jakarta is the province that has the highest expenditure in terms of economic, health and education expenditure. Average economic spending in DKI. Jakarta amounting to Rp. 4,672 billion, health spending Rp. 9,682 billion and education spending Rp. 17,879 Billion. Meanwhile, the province with the lowest expenditure is D.I Yogyakarta with an average economic expenditure of Rp. 208 billion, health spending Rp. 195 billion and education spending Rp. 1,793 Billion. Aceh Province has economic expenditure of Rp. 1,228 billion, health spending Rp. 3,248 billion and education spending Rp. 4,149 billion, then Papua Province has economic expenditure of Rp. 1,000 billion, health spending Rp. 1,007 billion and education spending Rp. 2,676 billion and West Papua Province has economic expenditure of Rp. 1,284 billion, health spending Rp. 202 billion and education spending Rp. 930 Billion. The similarity that can be seen from the expenditure between special autonomous regions above is that education expenditure is the largest expenditure among other expenditures. Rambeli, et al. (2021) in their research concluded that financial policy plays an important role in improving education for the country in the long term. Financial development is seen as a key catalyst in driving sustainable development in the future.

LITERATURE REVIEW

Human Development Theory *(Human Capital Theory)*

Human capital is linguistically composed of two bases, namely humans and capital. Capita is defined as a production factor used to make a good or service without consuming it during the production process. Based on this definition of capital, humans in human capital are a form of capital like machines and technology. Humans also have a role or responsibility in all economic activities, such as production, consumption and transactions.

As this theory develops, the concept of human capital can be defined into three concepts. The first concept is human capital as an individual aspect. This concept states that human capital is an ability that exists in humans, such as knowledge and skills. This was clarified by Rastogi (2002) who stated that human capital is the knowledge, competence, attitudes, health and traits possessed by humans. The second concept states that human capital is knowledge and skills obtained through various educational activities such as schools, courses and training. The main concept of this model is that human capital is something that is obtained through the accumulation of a certain process (Alan et al, 2008). This concept assumes that human capital does not come from human experience. The third concept views human capital from a production orientation perspective. Romer (1999) states that human capital is a fundamental source of economic productivity. Human capital is also an investment made by humans to increase their productivity (Rosen, 1999). Frank & Bemanke (2007) argue that human capital is a combination of education, experience, training, skills, habits, health, energy and initiative that influence human productivity.

Human capital can be achieved or obtained in two ways. First, humans are used as labor based on their quantitative number. This states that the greater the number of people or workforce, the higher the productivity. Second, investment is the main way to increase or obtain human capital. The education and training that humans receive will increase their abilities and skills, so that productivity will also increase. Todaro (2002) revealed that human capital can be measured through the fields of education and health. Education and training can add value to a human being. This can be explained if the higher a person's education or the more training they have, the higher their abilities and skills. Meanwhile, health is a field that is interrelated with education. Higher education without a healthy body will not increase productivity. Meanwhile, higher education can also influence a person's level of health awareness.

Human Development Index (HDI)

The Human Development Index (HDI) is one of the most widely used indicators in socio-economic development (Biggeri & Mauro 2018). The human development index (HDI) is the main indicator in measuring development success. In order to increase the human development index, the aspects that are the focus of attention are improving educational standards, health status and the quality of the family economy. These three things are related to each other. Thus, in the context of human resource development, these three aspects must be considered in their entirety. The human development index (HDI) is a comparative measurement of life expectancy, educational literacy, and living standards for all countries around the world. HDI is used to classify whether a country is a developed country, developing country or underdeveloped country and also to measure the influence of economic policies on quality of life.

Each HDI component is standardized with a minimum and maximum value before being used to calculate the HDI. as the geometric average of the health, education, and expenditure indices. The formula used is as follows:

HDI = 1/3 (X1 Index + X2 Index + X3 Index)

Where :

X1   = Health

X2   = Education

X3   = Production

Sen, argues that human development through improving the quality of education, health and living standards (represented by HDI) is not only the ultimate goal, but also an important means of achieving sustainable economic growth. According to Sen, countries with high HDI tend to have more stable and highly competitive economies because their populations are healthier, more educated and more productive. Increasing HDI provides the foundation for increasing individual and collective productivity, which ultimately drives sustainable economic growth. In his theory of the "Capability Approach," Sen emphasizes that focusing on increasing HDI is a form of human investment that can produce long-term benefits.

HDI is an indicator that can confirm progress in the quality of human life, although it can actually be an important indicator for measuring the success of developing the

quality of human life (Safuridar & Putri, 2019). This means that if an area has a high Human Development Index (HDI) value, it can be concluded that the level of community welfare is also high, and vice versa, if the HDI value in an area is low then the level of community welfare is low, because the HDI value goes straight to welfare and is not There are studies where the HDI value is low but an area is prosperous.

Special/Special Autonomy Fund

Based on Qanun Number 10 of 2016, OTSUS funds are funds intended to finance district/city development programs and activities in accordance with priorities. According to Yani (2013) special autonomy funds are OTSUS regional government revenues aimed at financing infrastructure development and maintenance, empowering the people's economy, alleviating poverty, as well as funding education, social and health. The provision of special autonomy funds aims to encourage regions with special autonomy status to catch up compared to other regions. Special autonomy funds, which are transfers from the central government, can certainly influence the size of a region's regional revenue and expenditure budget (APBD).

According to Yulianti, et al. (2024) shows that special autonomy funds in the education sector have a significant positive influence on HDI in Aceh Province, while special autonomy funds in the health sector have a negative and significant influence on HDI and economic growth is unable to moderate the influence of special autonomy funds in the education sector and health sector on HDI in Aceh Province. In line with Rahman's (2024) research, the implementation of the Special Autonomy Fund Transfer has had a significant impact on the economies of Aceh, Papua and West Papua Provinces, as shown by the ADHB per capita GRDP variable. Based on the Determination Coefficient, the Realization of Special Autonomy Fund Transfers from 2014 to 2022 is able to explain 94.2% of the value of ADHB per capita GRDP in these provinces. This figure shows that the realization of Special Autonomy Fund Transfers has a positive and significant effect on economic development in the recipient areas. From 2014 to 2022, during President Joko Widodo's administration, the Special Autonomy Fund was used to improve welfare in the provinces of Aceh, Papua and West Papua. This is a positive thing because the significant funds released by the Indonesian Government every year are expected to have a positive impact on economic development. Juliarni & Hatmoko (2020) Research results

show that special autonomy funds have a positive relationship with HDI, both in Papua and West Papua Provinces, but the value is very small.

However, opposite results were found in research by Arispen & Rahmi (2021), DOKA has a negative influence and has a significant effect on HDI. This is because the DOKA allocation in public services is more dominant for physical development, while the quota for human development such as education, health, or programs that can improve the quality of human life is not as much as physical development. So the DOKA allocation is still considered not on target even though its influence is very large and causes a decrease in the HDI. Supported by the research results of Isnadi and Fikriah (2020) which stated that the Special Autonomy Fund budget allocation program had a negative correlation with the Human Development Index. The findings stated that the allocation of the Special Autonomy Fund budget was focused on the infrastructure sector but the minimal quota that would be allocated to human development, especially in the education sector, was a factor causing the decline in community welfare. Firmansyah, et al. (2021) The research results show that the Special Autonomy Fund variable has a significant negative effect on the Human Development Index. There is no relationship between DOK and Economic Growth in Papua Province in 2002-2009. Duwith (2009).

The Yogyakarta Special Fund is a budget allocation given by the central government to the Special Region of Yogyakarta (DIY) based on its special status which is legally recognized through Law no. 13 of 2012 concerning the Specialties of the Special Region of Yogyakarta. This Special Fund aims to support and strengthen the implementation of DIY authority in aspects that are considered special, including regulations related to culture, land, spatial planning and regional government institutions. Based on research by Tjajanto, et al. (2022) The Yogyakarta special fund has not had a big influence in overcoming current development problems. The Yogyakarta Special Fund only has a significant effect on capital expenditure, where capital expenditure itself has a different influence between the city model and the district model on development performance. On the other hand, based on research by Putra & Nugroho (2019), the impact of the Yogyakarta special fund means that regional economic growth can be driven even higher through timeliness in the implementation of government spending programs and activities. This means that there is a process of accelerating the multiplier effect and reducing lag on the economy which results in increased prosperity.

Economic, Health and Education Spending

Based on Minister of Home Affairs Regulation 13 of 2006, regional government expenditure based on its function is divided into 11 and has a purpose for each expenditure. In relation to HDI, the spending that is most in line with the HDI components is economic, health and education spending. Firmansyah, et al. (2022) The Regional Government Expenditure variable has a significant positive influence on the Human Development Index. Simultaneously, all variables have a positive and significant influence on the Human Development Index in Papua Province.

Based on research by Sasongko & Wibowo (2022), spending on health has a positive impact on human development and economic growth. Research also proves that a high human development index will have a positive impact on economic growth in the region. Meanwhile, education spending by local governments in Indonesia has a negative and significant impact on human development. Education expenditure which has a negative and significant effect is caused by the unequal allocation of education expenditure between regions. Infrastructure spending has a negative and significant impact on human development. The results of descriptive analysis of regional government budget data for 2013 - 2018 show that regional government spending allocations for infrastructure tend to decrease during the 2013 - 2018 time period.

Lescano, et al. (2021) Public spending on health and education has been used as a key fiscal instrument to improve economic and human development, and as a consequence, the quality of life of citizens. However, the impact of these public policies on economic and human development is not just a matter of the amount of resources they absorb, because organizational aspects can have an important influence. In line with Kousar, et al. (2023) The results of the study show that current health expenditure has a positive and significant relationship with educational attainment, at least completed primary education, educational attainment, at least completed lower secondary education, educational attainment, at least completed short cycle higher education , and life expectancy at birth. In the short term, while in the long term, current health expenditure has a positive and significant relationship with educational attainment, at least completed primary education, educational attainment, at least completed junior secondary education, life expectancy at birth, and infant mortality rate (per 1000 live birth). Chinedu (2022)

The findings of this study show that there is a positive and significant influence between government spending on education ($\beta1 = 0.639840$; p-value $= 0.000 < 0.05$) and real GDP at the 5% significance level. The conclusions drawn from this model show that holding other factors constant, a one naira increase in Government Expenditure on Education will lead to a 64% increase in Real Gross Domestic Product. Without education, there is no economic growth in a country.

In the Yogyakarta Special Region, it was found that the Government Expenditure in Education variable had a significant influence and had a negative relationship with the Poverty Level variable in the Yogyakarta Special Region. This reflects that the provincial government of the Special Region of Yogyakarta has implemented an education program that is right on target and has had a significant impact in reducing the poverty rate in the Special Region of Yogyakarta. (Akbar & Taufiq) However, it is different from Alifia's (2018) research that Yogyakarta government spending on the education function has a negative and significant influence on the human development index, but indirectly through the economic growth variable. These findings indicate that increasing government spending on the education function can have an impact on reducing economic growth in Yogyakarta Regency/City. On the other hand, government spending on health functions shows a positive and significant influence on the human development index indirectly.
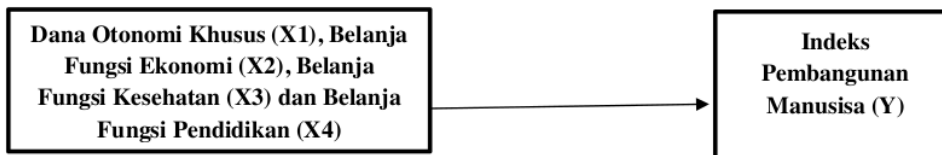
Hypothesis

Figure 1.4 Thinking Framework

There are several assumptions that can be made based on the problem and research objectives:

H0: It is suspected that the Special Autonomy Fund, economic spending, health and education variables have a negative effect on HDI in the Special Autonomous Region.

H1: It is suspected that the Special Autonomy Fund, Economic Expenditure, Health and Education variables have a positive effect on HDI in Special Autonomous Regions.

METHOD RESEARCH

In this research, the type and source of data used is secondary data in the form of panel data with a period of 10 years from 2013-2022. Secondary data is data taken through data collection that has been carried out previously from various existing official sources. The data used in this research was obtained from institutions such as the Central Statistics Agency (BPS), Directorate General of Financial Balance (DJPK) of the Ministry of Finance. The research uses dependent variables and independent variables, where the independent variables in this research are Special Autonomy Funds (DOK), Economic Expenditures, Health Expenditures and Education Expenditures.

The data collection method used in this research is the literature study method. According to Martono (2010), this research technique using library research is not just about obtaining data but can also enrich knowledge about the concepts that are used as the basis for research and also as a guide in the process of conducting research. So it is good if it is adopted in this research. Meanwhile, the literature study in this research uses secondary data which is used to assist research, namely by collecting information through online newspaper articles, books and previous research with the aim of finding facts and knowing the concept of the method to be used.

In this research, the analysis method used is the panel data regression analysis method. The data processing in this study used the Econometric Views Student Version 10 (Eviews) program for the regression model which was developed and became a good predictor. Estimation or estimation of panel data regression models can be done using several approaches, namely Common effect, Fixed effect and Random effect. Then a test was carried out to select the best model among the three models, namely, the Chow Test and the Hausman Test.

Panel data regression equation used in this research:

$$IPM_{it} = \alpha + \beta_1 DOK_{it} + \beta_2 BE_{it} + \beta_3 BK_{it} + \beta_4 BP_{it} + t\,\varepsilon_{it}$$

Where :

IPM	= Human Development Index
WHILE	= Special Autonomy Fund
BE	= Economic Spending
BK	= Health Shopping
BP	= Education Expenditure

i   = Special autonomous regional province

t   = Time

and   = *Eror term*

a   = Constant

b1, b2, b3   = independent variable

RESULT AND DISCUSSION

Research using panel data regression consists of several common effect model approaches, fixed effect models and random effect models. The results of the three models can be seen in the table below.

Table 1.1 Panel data regression estimation results

Variable	Common effect		Fixed effect		Random effect	
	t-stat	p-value	t-stat	p-value	t-stat	p-value
C	10.06318	0.0000	13.02492	0.0000	46.40263	0.0000
LOG_Dana Otsus	-5.757948	0.0000	-0.555100	0.5820	-26.55063	0.0000
LOG_Economic Shopping	-2.673380	0.0106	0.875895	0.3865	-12.32730	0.0000
LOG_Health Shopping	0.609027	0.5457	2.240496	0.0308	2.808300	0.0075
LOG_Education Shopping	2.365592	0.0226	3.697689	0.0007	10.90805	0.0000

To continue the research we have to choose the best model between the Common effect model, Fixed effect model and Random effect model by testing it with the Chow Test and Hausman Test.

Uji Chow

Effects Test	Statistic	d.f.	Prob.
Cross-section F	218.821839	(4,39)	0.0000

| Cross-section Chi-square | 151.419997 | 4 | 0.0000 |

The Chow test is carried out to select the best model between the Common effect model and the Fixed effect model. Based on the Chow Test results above, the probability value is 0.0000 <0.005, the model chosen is the Fixed Effects model.

Hausman test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	875.287356	4	0.0000

The Hausman test is carried out to select the best model between the Fixed effect model and the Random effect model. Based on the results of the Hausman test above the probability value of 0.0000 <0.005, the model chosen is the fixed effect model. The Lagrange Multiplayer (LM) test was not carried out because based on the results of two previous tests, namely, the Chow Test and the Hausman Test, the model chosen was the Fixed Effect Model (FEM). Because if it is done, the results will still affect the Fix Effect Model (FEM).

Classical Assumption Test

According to Gujarati, the advantage of using panel data is that it does not require testing classical assumptions such as normality and autocorrelation. Verbek (2000), Gujarati (2003), Wibisono (2006), Aulia (2004:27) in the book by Ajija et al (2011:52). However, multicollinearity and heteroscedasticity tests may be carried out.

Multicollinearity Test

Table 1.2 Multicollinearity Test

	LOG_DOK	LOG_BE	LOG_BK	LOG_BP

	LOG_DOK	LOG_BE	LOG_BK	LOG_BP
LOG_DOK	1	-0.1302496300556947	-0.1463766338610299	-0.2316543691999729
LOG_BE	-0.1302496300556947	1	0.7769656202828159	0.661995490162151
LOG_BK	-0.1463766338610299	0.7769656202828159	1	0.865516819678183
LOG_BP	-0.2316543691999729	0.661995490162151	0.865516819678183	1

The results of the multicollinearity test show that there is no high correlation value between the independent variables, not exceeding 0.90 (Ghozali, 2013: 83). So it can be concluded that there is no multicollinearity in the independent variables.
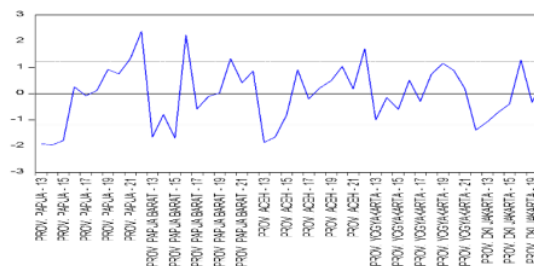
Heteroscedasticity Test

Figure 1.3 Graph of residual heteroscedasticity

From the residual graph (blue) it can be seen that it does not exceed the limit (500 -500). This means that there are no symptoms of heteroscedasticity or passing the heteroscedasticity test (Napitupulu et al., 2021:143).

Panel Data Regression Equation

$$Y = 53.40 - 0.11X1 + 0.34X2 + 0.99X3 + 1.13X4$$

Based on the regression model, the following explanation can be provided.

The constant value of Y is 53.40, meaning that if the variables Special Autonomy Fund, Economic Expenditure, Health and Education Expenditure are equal to 0, then the HDI variable is 53.40 in percent form, assuming the other variables are constant.

The Special Autonomy Fund coefficient value (x1) is negative at -0.11, meaning that every increase in the Special Autonomy Fund by 1% (1 billion) will reduce the human development index by 0.11% and vice versa.

The value of the Economic Expenditure Coefficient (x2) is positive at 0.34, meaning that every 1% (1 billion) increase in economic expenditure will increase the human development index by 0.34% and vice versa.

The health spending coefficient (x3) value is positive at 0.99, meaning that every 1% (1 billion) increase in health spending will increase the human development index by 0.99% and vice versa.

The education spending coefficient (x4) has a positive value of 1.13, meaning that every 1% (1 billion) increase in economic spending will increase the human development index by 1.13% and vice versa.

Hypothesis Testing

Hypothesis testing is carried out to see whether the regression coefficient value obtained is significant. Hypothesis testing in this research uses a confidence level of 95% or a = 5%. Testing this hypothesis uses the E-views 10 application.

Tabel 1.4 Fixed effect model t-staistik

Variable	t-static	prob
C	13.02492	0.0000
LOG_DOK	-0.555100	0.5820
LOG_Economic shopping	0.875895	0.3865
LOG_health shopping	2.240496	0.0308
LOG_education shopping	3.697689	0.0007

The results of the t test on the special autonomy fund variable (x1) obtained a calculated t value of -0.555100 which is smaller than the t table, namely 2.010635 and the sig value. 0.5820 is greater than 0.05, so H0 is accepted. H1 is rejected, meaning that the special autonomy fund variable (x1) has no significant effect on HDI (Y) in the special autonomous region.

The results of the t test on the economic function expenditure variable (x2) obtained a calculated t value of 0.875895, which is smaller than the t table test, namely 2.010635 and the sig value of 0.3865 is greater than 0.05, so H1 is rejected. H0 is accepted, meaning that the economic function expenditure variable (x2) has no significant effect. significant to HDI (y) in special autonomous regions.

The results of the t test on the health function expenditure variable (x3) obtained a calculated t value of 2.240496 which was greater than the t table test, namely 2.010635 and a sig value. 0.0308 is smaller than 0.05, so H0 is rejected. H1 is accepted, meaning that the health function expenditure variable (x3) has a significant effect on HDI (y) in the special autonomous region.

The results of the t test on the education function expenditure variable (x4) obtained a calculated t value of 3.697689 which is greater than the t table test, namely 2.010635 and a sig value. 0.0007 is smaller than 0.05, so H0 is rejected. H1 is accepted, meaning that the education function expenditure variable (x4) has a significant effect on HDI (y) in the special autonomous region.

Table 1.5 Results of f-static and R^2

R-squared	0.982818
Adjusted R-squared	0.979293
S.E. of regression	1.209677
Sum squared resid	57.06939
Log likelihood	-72.26266
F-statistic	278.8456
Prob(F-statistic)	0.000000

Uji F

The calculated F value of 278.8456 is greater than the table f value of 2.5787 and the sig value. i.e. 0.000000 is smaller than 0.05. then H0 is rejected and H1 is accepted. This means that the Special Autonomy Fund variables (x1) economic function expenditure (x2) health function expenditure (x3) education function expenditure (x4) have an effect on HDI (y) in the special autonomous region.

Determination Coefficient Test (R^2)

The adjusted R square value is 0.979293 or 97.9293%. The coefficient of determination value shows that the independent variables consisting of Special Autonomy Funds, Economic Function Expenditures, Health Function Expenditures, and Educational Function Expenditures are able to explain the HDI variable in the special autonomous region of 97.6243%. Meanwhile, the remaining 2.3757% (100-adjusted R square value) is explained by other variables that were not included in the research.

Analysis of the Effect of Special Autonomy/Privileged Funds on HDI

The position of Papua and West Papua provinces with the lowest HDI values in Indonesia from 2002-2022 shows that the provision of special autonomy funds for 20 years from 2002-2022 did not have a significant impact on the development of the human development index in Papua province. Meanwhile, Nanggoroe Aceh Darussalam Province has a fairly good human development index value and is at the national average, but it is still far from being compared to DI Province. Yogyakarta and DKI. Jakarta.

In accordance with the results of the hypothesis test, DOK has a negative and insignificant effect on HDI in special autonomous regions with a t-static value of -0.555100 and a sig value. 0.5820. In line with Duwith's (2009) research that there is no relationship between DOK and Economic Growth in Papua Province in 2002-2009. Arispen & Rahmi (2021) DOKA has a negative influence and has a significant effect on HDI. This is because the DOKA allocation in public services is more dominant for physical development, while the quota for human development such as education, health, or programs that can improve the quality of human life is not as much as physical development. So the DOKA allocation is still considered not on target even though its influence is very large and causes a decrease in HDI.

Isnadi and Fikriah (2020) stated in their research that the Special Autonomy Fund budget allocation program had a negative correlation with the Human Development Index. The findings stated that the allocation of the Special Autonomy Fund budget was focused on the infrastructure sector but the minimal quota that would be allocated to human development, especially in the education sector, was a factor causing the decline in community welfare.

Analysis of the Effect of Economic Expenditures on HDI

Economic spending has a positive and insignificant effect on HDI in special autonomous regions based on hypothesis testing with a t-static value of 0.875895 and a sig value. 0.3865. The research results of Komariah, et al. (2019) shows that government expenditure which is proxied into capital expenditure does not have a significant effect on HDI in East Kotawaringin Regency in the 2009-2017 period.

According to Ostrom, in the book "Governing the Commons" (1990) shopping that focuses on consumption can ignore aspects of environmental sustainability. Environmental damage has a direct impact on public health, which ultimately harms the health dimension in HDI. Study by Sachs, (2022) In a report on global development, Sachs points out that increasing consumer spending without adequate investment in education and health could slow HDI progress. He emphasized the importance of long-term investment to improve the quality of life.

Analysis of the Effect of Health Expenditures on HDI

Health spending has a positive and significant effect on HDI in special autonomous regions based on hypothesis testing with a t-static value of 2.240496 and sig. 0.0308. In line with research by Santoso, et al. (2013) District/city government expenditure in the health and education sectors simultaneously has a significant effect on the value of the Human Development Index in each district/city in Aceh Province.

Harsono, et al. (2024) shows that health spending has a positive and significant impact on HDI in NTB province from 2013 to 2022. This research is supported by research conducted by (Anantika & Sasana, 2020; Maulina & Andriyani, 2020), which says that Government spending on the health sector has a positive and significant effect, and every increase in health spending will further increase the HDI.

Furthermore, research (Nurvita et al., 2022) reveals that efforts to develop health facilities through government investment have been proven to encourage human development and ultimately contribute to regional economic development. Health development and facilities contribute to guaranteeing people's right to health. Of course, this will bring many great benefits in the future, especially in improving the regional economy.

Analysis of the Effect of Education Expenditures on HDI

Education spending has a positive and significant effect on HDI in special autonomous regions based on hypothesis testing with a t-static value. Health spending has a positive and significant effect on HDI in special autonomous regions based on hypothesis testing with a t-static value of 3.697689 and sig. 0.0007. These results are supported by research by Mongan, Jehuda., S. (2019) The percentage of regional government spending on education from GRDP has a positive and significant effect on HDI in Indonesia. Santoso, et al. (2024) District/city government expenditure in the health sector has a significant effect on the value of the Human Development Index in each district/city in Aceh Province. Mongan, Jehuda., S. (2019) The percentage of regional government spending on education from GRDP has a positive and significant effect on HDI in Indonesia. Harsono, et al. (2024) Based on the results of hypothesis testing, it shows that education spending has a positive but not significant impact on HDI in NTB province from 2013 to 2022.

Sachs, argues that investment in education is one of the most effective ways to promote economic and social development. In his reports, he shows that countries with high education spending tend to have better HDI, because education improves productivity and public health. Data from the Central Statistics Agency (BPS) shows that there is a positive correlation between education spending and HDI in Indonesia. Increasing budget allocations for education in certain areas is often followed by improvements in the quality of life and public health.

CONCLUSION

Based on the test results described previously, the results of this research can be concluded as follows.

a. Special Autonomy Funds have a negative and insignificant effect on HDI in special autonomous regions in 2013-2022.

b. Economic spending has an insignificant positive effect on HDI in special autonomous regions in 2013-2022.

c. Health spending has a positive and significant effect on HDI in special autonomous regions in 2013-2022.

d. Education expenditure has a positive and significant effect on HDI in special autonomous regions in 2013-2022.

e. Special Autonomy Funds, Economic Expenditures, Health Expenditures and Education have a significant influence on HDI in Special Autonomous Regions in 2013-2022. Together they have an influence of 97.62% on HDI, while the remaining 2.38% is influenced by other variables. outside research.

IMPLICATION/LIMITATION AND SUGGESTIONS

Based on the research results and conclusions that have been presented, the implication that can be given is that the government in the province of the special autonomous region can optimize and increase spending in the health and education sectors which has a positive and significant effect on increasing the HDI in the special autonomous region. Good and thorough planning is needed by the government so that funds and expenditure are right on target and have an impact on HDI. Then, for special autonomy and privilege funds, the government should be able to carry out evaluations and investigations into the proper expenditure of these funds in order to determine their effectiveness and efficiency. So that later these funds can be managed wisely by the local government.

This research has limitations including:

a. This research period is only 10 years, namely from 2013-2022, so it is small to provide a detailed picture of the special autonomous region.

b. This research uses a panel data regression model so it only examines how big the influence is and cannot look at efficiency.

c. This research was only conducted in the special autonomous region so it cannot broadly summarize the influence of these variables.

Suggestions from the author for further research are:

1. Add a longer research period, for example 20 years or since the funds were distributed.

2. Carry out a research model using DEA (data envelopment analysis) so that you can find out how efficient the use of special autonomy/special autonomy funds and spending in special autonomous regions is.

3. Comparing special autonomous regions that are lagging behind in terms of HDI with other regions that are not included in special autonomous regions to see the comparison.

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