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The Effect of Good Governance, Government Spending on Health and Education on HDI in E7 Countries

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Abstract

This study aims to determine the effect of government spending on health and education sectors on HDI in Emerging Seven Countries (E7) through good governance as an intervening variable. The data used in this study are panel data with time series data from 2006 to 2020 and cross section data for 7 countries in E7. Using HDI data as the dependent variable, government expenditure data in the health and education sectors as independent variables, and good governance data which includes control of corruption and government effectiveness as intervening variables. The sobel test is used to determine the effect of the independent variable on the dependent variable through the intervening variable. Based on the results of panel data regression, it is known that good governance variables, government spending in the education and health sectors directly have a significant effect on HDI. Government spending variables in the health and education sectors on HDI through control of corruption also have a significant effect. While the variable of government expenditure in the health and education sectors through government effectiveness has no significant effect on HDI in E7 countries.

Keywords: HDI, Good Governance, Emerging Seven, Panel Data, Path Analysis, Sobel Test

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INTRODUCTION

A developed country is not only judged by its gross domestic income, but also by the level of life expectancy, health, and education of its citizens (Karwur et al., 2019). Human resource development can be done by improving the quality of human capital (Mankiw, 2008). The quality of human capital refers not only to education but also to health. Welfare can be achieved through health, while a decent life can

be achieved through good education. Education is the main key in shaping human ability to absorb modern technology and develop the capacity for sustainable growth and development (Todaro, 2003).

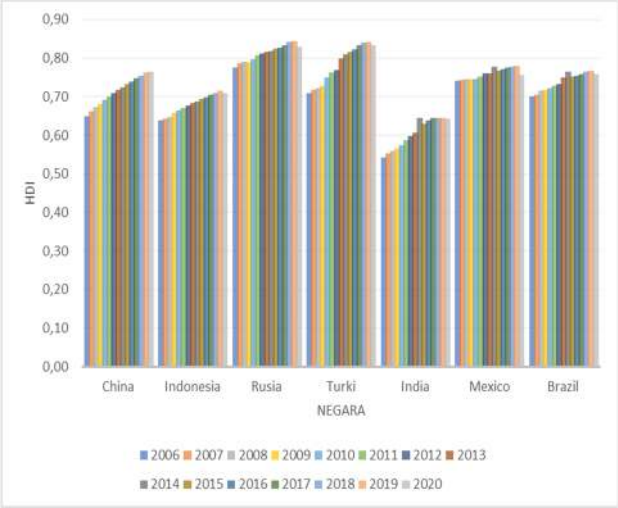

Figure 1. Human Development Index of E7 Countries 2006-2020
Source: Country Economy, 2023

To measure the extent of human development, the United Nations Development Program (UNDP) created a Human Development Index indicator that distinguishes HDI levels based on four qualifications, namely low (HDI <50%), lower - medium (HDI between 50% and 65.99%), upper -medium (HDI between 66 and 79.99) and high (HDI 80 and above). HDI compiles indicators that measure basic aspects of human development and the expansion of freedom of choice, using a set of indicators to maintain the simplicity of indicators covering social and economic aspects. (Wicaksono, 2014).

The higher the HDI level in a country indicates the higher the quality of life of its people. However, in its implementation, increasing HDI is not an easy thing to do for some countries in the world. Problems such as inequality, poverty, low quality of health and education cause the low quality of HDI in some developing and underdeveloped countries.

Figure 1 shows that overall, E7 countries have experienced an increase in HDI over the past fifteen years. However, between 2020 and 2021, E7 countries experienced a significant decrease in HDI levels such as Indonesia, Russia, India, Mexico, and Brazil due to the continuation of the Covid-19 global pandemic in 2020.

The decline occurred due to the continuation of the Covid-19 global pandemic. This pandemic has caused a considerable impact in the fields of health, education, and economy. E7 countries with underdeveloped health systems are more vulnerable to being affected so that it can affect overall public health. Factors that are thought to have an influence on HDI are public spending on health and education.

The specific objectives of national development in the field of education, which are clearly stated in Nawa Cita, contribute to improving the quality of life of the Indonesian people through improving the quality of education. (Rahayu & Nihayah, 2020). The existence of cheap education and health facilities will greatly help to increase productivity, and in turn increase income.

For this reason, government intervention is needed in order to improve the quality of human resources. Government intervention in providing public services is key to human development. These services can be in the form of providing social services, especially in the health and education sectors (UNDP, 1997). (UNDP, 1997). Gupta & Clements (1998) Gupta & Clements (1998) in their study stated that increasing spending on education and health

can bring social benefits and improve human development.

A good allocation of public expenditure in education and health is expected to improve the welfare of society through a country's HDI. The government continues to strive to achieve sustainable growth so that human development will also increase, including through the allocation of public expenditure in the health and education sectors through state spending. (Fahmi & Dalimunthe, 2018).

Kim & Kim (2012); Scully (2001); Yamamura (2011) explains that public spending has not been effective and efficient in increasing the level of development and community welfare. According to Banik et al. (2022) government spending on health has no direct effect on improving human welfare in the absence of good governance.

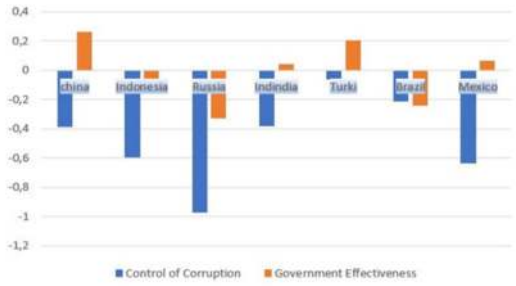

Figure 2. Average Good Governance in E7 2006 - 2020
Source: Worldbank Data, 2023

Spending in the health sector will be more effective in increasing HDI if the country can ensure a stable political environment, then the government as the party that has the authority to enforce the obligation to maintain economic stability, has the authority to implement policies that can stimulate the economy.

Government policies to boost the economy are also inseparable from the quality of the government itself. This finding is in line with Quang-Thanh (2017) which states that good governance largely affects human development aspects such as political freedom, and political participation, as well as human development components such as income, health and education.

This suggests that the government must consider these additional aspects in the process of handling governance to maintain human development. For this reason, the role of good governance is very important in improving human development, especially in developing countries.

Figure 2 shows that although Russia has an HDI that falls into the "Very High" category with a value of 0.824 in 2020, the country is faced with problems in terms of good governance that are quite poor. Lack of transparency, corruption, and limited freedom of the press and civil liberties are issues that are often faced in the country.

Russia is often criticized for human rights violations, corruption, and lack of freedom of speech and press. This poor state of good governance has affected governance in Russia despite its relatively high HDI. In relation to good governance, government effectiveness has a positive influence on welfare (Cárcaba et al., 2014). (Cárcaba et al., 2022).

However, it can be seen from the graph in Figure 1.2 that Russia shows the level of control of corruption with an average value of -0.974189, the level of government effectiveness with an average value of -0.33095. This figure shows that Russia has the worst control of corruption and government effectiveness achievements even though Russia's HDI level is the highest among the E7 country group. On the other hand, India has a relatively low HDI level. India's HDI value

in 2021 shows 0.633, this figure is lower than the world's average HDI value which shows 0.732.

In addition, India is also the country with the lowest HDI in the E7 country group. In relation to good governance, government effectiveness has a positive influence on welfare (Cárcaba et al., 2014). (Cárcaba et al., 2022).. In addition, Ko-Hsin Yang & Washington (2010) also explained that government effectiveness and national income have a positive and strong influence on human development, with government effectiveness being the most influential aspect on human development.

In his view, government effectiveness and national income have a strong positive influence on human development. Figure 2 shows that India has a fairly good government effectiveness performance with an average value of 0.04350. Conditions that occur in countries such as Russia, Brazil and Turkey raise questions where with the state of control of corruption and government effectiveness that can be said to be bad but the three countries have a fairly high HDI level.

This is inversely proportional to the situation of Emerging Seven member countries such as India when good governance indicators such as government effectiveness have good achievements, but have a low HDI level. In the New Growth Theory developed by Paul M. Romer, the concept of "human capital" refers to the knowledge, skills, education, and productive abilities of individuals in an economy (Romer, 1994).

This concept is an integral part of the new growth theory as it highlights the importance of investment in human capital development. This theory emphasizes the importance of the role of government especially in improving human capital development, the improvement of the quality of human resources can be indicated by the increase in knowledge and skills in humans. Increased knowledge and skills will be able to encourage increased work productivity so that it will be able to help reduce poverty and improve welfare.

The government, as an authority with the responsibility to maintain economic stability, has the power to implement policies that can stimulate the economy. New Institutional Economics (NIE) is an economic theory that focuses on the role of institutions in influencing economic behavior and economic outcomes. This theory was developed by a number of economists, including Oliver E. Williamson. Within the NIE framework, good governance affects the efficiency and effectiveness of government spending (Williamson, 2000).

When governments and institutions function well (adhering to the principles of good governance), then government spending tends to be more efficient and well directed towards education and health services. This in turn can contribute to an increase in HDI by providing better access to education and healthcare, which are key factors in human development. Thus, there is a positive relationship between good governance, efficient government spending, and improved HDI.

This research aims to knowing the direct effect of control of corruption, government effectiveness, government spending on health and education on HDI in Emerging Seven countries during the period 2006-2020. Knowing the effect of government spending in the health and education sectors on the control of corruption in Emerging Seven countries during the 2006-2020 period.

Knowing the effect of government spending in the health and education sectors on

government effectiveness in Emerging Seven countries during the 2006-2020 period. Knowing the effect of government spending on health and education through control of corruption on HDI in Emerging Seven countries during the period 2006-2020. Knowing the effect of government spending in the health and education sectors through government effectiveness on HDI in Emerging Seven countries during the 2006-2020 period.

RESEARCH METHODS

This study uses a quantitative approach in which the analysis process uses data with units in numerical form and then processed by multiple linear regression analysis with the Panel Data method using Eviews 9 software to determine the direct effect between variables. Path analysis is used to determine the effect of the independent variable on the dependent variable through the intervening variable.

This study uses Quantpsy to calculate the significant level carried out by looking at the probability value of the sobel test and calculating the standard error value of the inderect effect coefficient (Sab). This study uses the HDI variable as the dependent variable (Y), control of corruption (Z1) and government effectiveness (Z2) as intervening variables, as well as government spending in the health (X1) and education (X2) sectors as dependent variables. The locations in this study are 7 Emerging Seven member countries consisting of Chiana, Indonesia, Russia, Turkey, India, Mexico and Brazil in the period 2006-2020.

According to Gujarati & Porter (2012) panel data is a combination of cross-sectional data and time-series data. Analysis using panel data is often more satisfactory without the need for special treatment, because if the results are not significant data can still be added to the observations. This is because the observations in panel data are larger due to the combination of time series and cross-sectional data. In general, the form of the regression equation is as follows:

$$Y = \alpha_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon it$$

From the model above, this research model can be seen through the following equation:

Structural Equation I

$$Z_1 = \alpha_0 + \beta_1X_1 + \beta_2X_2 + \varepsilon it$$

Structural Equation II

$$Z_2 = \alpha_0 + \beta_1X_1 + \beta_2X_2 + \varepsilon it$$

Structural Equation III

$$Y = \alpha_0 + \beta_1X_1 + \beta_2X_2 + \beta_3Z_1 + \beta_4Z_2 + \varepsilon it$$

Where Z_1 is Control of Corruption, Z_2 is Government Effectiveness, Y is Human Development Index, X_1 is Health Spending, X_2 is Education Spending, β_0 is Intercept/Constant; β_1, β_2, β_3, β_4 is Regression Coefficient, εit is Error term.

The steps taken to analyze the model are: (1) model selection, (2) classical assumption test, (3) F test, (4) T test, and (5) sobel test. Testing autocorrelation on data that is not a time series, either cross section data or panel data, will only be useless or meaningless. (Basuki & Prawoto, 2017). This is because, especially in panel data, although there is time series data, it is not a pure time series. Therefore, the Autocorrelation test was not conducted in this study.

RESULTS AND DISCUSSION

The first step in estimating panel data is the model selection test. The first stage in model

selection for estimation can be done by comparing the CEM and FEM models through the Chow test. If the estimation results show the probability value is lower than α = 5%, it means that the most suitable model to use in the estimation is the Fixed Effect Model (FEM). If the probability value is lower than 5%, it is necessary to conduct a Hausman test to further confirm whether the Fixed Effect Model (FEM) model is the best model.

Table 1. Chow Test

Prob. Chi-Square	Results
Structural Equation I	0.0002
Structural Equation II	0.0000
Structural Equation III	0.0000

(significance level/α = 5%)
Source: Eviews, 2023

Based on table 1 shows the probability value on Cross-Section F is smaller than the significance value α = 0.05. Then the best panel data model for structure I, structure II and structure III equations used is the Fixed Effect Model. Since the panel data model that will be accepted is FEM, the Hausman Test must be performed to determine the Random Effect Model or Fixed Effect Model that will be accepted for use in this study.

The next stage in conducting a model selection test is the Hausman Test. The Hausman test is conducted to determine the Random Effect Model or Fixed Effect Model to be used. By comparing the random cross-section probability value with the significance level α = 5%. If the probability value is greater than the significance level α = 5%, it is necessary to conduct a Lagrange Multiplier Test to determine the REM or CEM model that is most suitable for research. Based on Table 2 shows the probability value on the Cross-Section random equation structure I and structure II has a value of Prob. Chi-Square value is greater than the significance value α = 0.05.

Table 2. Hausman Test

Prob. Chi-Square	Results
Structural Equation I	0.1784
Structural Equation II	0.2289
Structural Equation III	0.0073

(significance level/α = 5%)
Source: Eviews, 2023

So it is necessary to do the Lagrange Multiplier Test to determine the Random Effect Model or Common Effect Model that will be accepted for use in this study. Meanwhile, the structure III equation has a Prob. Chi-Square value is smaller than the significance value α = 0.05. So in structural equation III no Lagrange Multiplier Test is needed so that in structural equation III the best model is the Fixed Effect Model.

The final stage in selecting the panel data estimation model is the Lagrange Multiplier Test. The LM test is conducted to determine the Random Effect Model or Common Effect Model to be used. By comparing the Breusch Pagan value with the significance level α = 5%. If the Breusch Pagan value is lower than the significance level of 0.05, then the most suitable model to use is REM.

If the cross-section random probability value is higher than the 0.05 significance level, then the most suitable model to use is the CEM. Table 3 shows the probability value on the random cross-section is 0.0000, the value is smaller than the significance value α = 0.05. Then the best model for structural equations I and II used in this study is the Random Effect

Model. The results showed that government spending in the health and education sectors has a positive relationship with HDI in the Emerging Seven member countries.

Table 3. Lagrange Multiplier Test

Prob. Chi-Square	Results
Structural Equation I	0.0000
Structural Equation II	0.0000

(significance level/α = 5%)
Source: Eviews, 2023

The health spending variable has a significant positive relationship with a t-statistic probability value of 0.0004. The education spending variable also has a significant positive relationship with a t-statistic probability value of 0.0010, so it can be concluded that the higher government spending in both the health and education sectors will increase HDI.

The results of this study are in accordance with the New Growth Theory by Paul M Romer. In Romer's new growth theory, government spending is considered as one of the important factors in increasing human capital and improving HDI (Romer, 1994). The results of this study are in accordance with previous studies. Some previous studies conducted by (Artaningtyas et al., 2011; Astri et al., 2013; Gupta & Clements, 1998; Kadir et al., n.d.; Trifani et al., 2015).

They found that public spending in the education sector has a positive influence that can improve human development. Dissou et al. (2016) in their research stated that government intervention is needed in public spending in the education sector to increase human capital. This is in line with the results of a study conducted by Arimah (2004) stated that government spending on education is one of the indicators that determine the level of human development. Asaju, (2012) also stated that investment in human development through education is the best plan to answer future development challenges, especially poverty alleviation.

Control of corruption has a significant negative relationship to HDI in the Emerging Seven member country group with a t-statistic probability value of 0.0002, so it can be concluded that the higher the control of corruption will reduce HDI. This result is not in accordance with the theory of New Institutional Economics (NIE) which explains the relationship between good governance and HDI by emphasizing the role of formal and informal institutions in promoting development.

Corruption control should have a positive effect on human development because through better control of corruption, the government can ensure more efficient and fair use of public resources, and strengthen institutions that support economic development and social welfare. The results of this study are in accordance with research conducted by Tseng (2020) which examines the relationship between corruption and economic growth.

Although corruption does not have a direct relationship with human development, it has a direct relationship with economic growth. Increased economic growth also increases people's purchasing power, which is expected to be used to buy nutritious food, education and health costs. Therefore, corruption can affect human development through purchasing power, as seen from a country's high growth and GDP.

The results of this study indicate that there is a negative and weak relationship between corruption and human development. The results of this study are in line with research conducted by Tseng (2020) where in developing countries a

decrease in the level of corruption has no impact on economic growth.

On the other hand, it can be seen that corruption does not always have a bad impact on the economy, for example, the "speed money" feature of corruption can have a positive effect on economic growth. (Fernández-Torres et al., 2018; Méndez & Sepúlveda, 2006; Nawatmi, 2014; Sasti & Latrini, 2019; Shabbir et al., 2016; Tseng, 2020).. An increase in economic growth will automatically increase a country's HDI.

Government effectiveness has a significant positive relationship to HDI in the Emerging Seven member countries with a t-statistic probability value of 0.0008, so it can be concluded that the higher the government effectiveness will be able to increase HDI. The results of this study are in accordance with the theory of New Institutional Economics (NIE) which explains that the relationship between government effectiveness reflected in good governance and HDI can be explained through economic institutions in a country.

With strong institutions, the government can create a favorable environment for human development, including education and health, which is reflected in a higher HDI. Thus, good governance and HDI are interlinked through the role of institutions in enabling the government to operate effectively and provide benefits to society.

Government effectiveness is capable of protecting people from violence and ensuring the honesty and competence of its bureaucracy as well as enabling the provision and maintenance of infrastructure that enables the exchange of goods and the delivery of services. (Levi et al., 2006). This research is in line with the study conducted by Han et al. (2014) who found that government effectiveness, corruption control and regulatory quality have a significant and positive relationship with development.

Research conducted by Sacks et al. (2010) in a multi-level model reported that the level of government effectiveness has a significant effect on the ability of citizens to achieve food security and improve welfare. Research conducted by Nandha & Smyth (2013) showed that governance and human development indicators positively influence each other. Akinbode et al. (2020) also revealed that government effectiveness, economic growth, and government health spending have a significant positive effect on human development.

Government expenditure in the health sector has a positive relationship with the control of corruption in the Emerging Seven member countries with a t-statistic probability value of 0.0009, so it can be concluded that higher government expenditure in the health sector will increase corruption control. Increased government spending can have a positive impact on control of corruption if accompanied by good institutions and control mechanisms.

The results of this study are also in line with the findings of Enste & Heldman (2017) who said that countries with high government spending tend to score better on the corruption index. The proportion of personnel expenditure has a close relationship with the level of corruption because the higher the personnel expenditure, the higher the compensation or salary provided by the government to civil servants and public employees. This should reduce their desire to commit acts of corruption, because their welfare, especially in terms of finance, is sufficient.

Government expenditure in the education sector has a negative and insignificant effect on the control of corruption in Emerging Seven

countries with a t-statistic probability value of 0.0058, so that the higher the government expenditure in the education sector leads to lower control of corruption or causes a high level of corruption.

Increased government spending can have a positive impact on control of corruption if accompanied by good institutions and control mechanisms. However, the higher the income of civil servants and government employees, does not guarantee that they will be less willing to commit corruption. Many cases of corruption involve government officials who hold high positions in the government and have a high income.

Elliott (2017) in his research states that many problems arise in the procurement of goods and services, especially during the year-end budget. This is because many public institutions do not spend their money until the end of the fiscal year, thus encouraging officials of these institutions to immediately spend funds on things that are not actually needed or not in accordance with the needs, but are ordered by interested parties.

In addition, the low salaries of employees, which are insufficient to meet their living needs, will trigger corruption. The low salary factor reflects corruption at the "street level bureaucrats" rather than high-level corruption or collusion. To increase their income, they use illegal means such as extortion in the public service. This is consistent with research conducted by Yamarik & Redmon (2017) and Yuliani (2011) who concluded that a decrease in government salaries led to more corruption than a decrease in the number of corrupt regulators.

Many corruption cases involve officials who hold high positions in the government, even though their income is actually quite high. Setiawan (2012) stated that budgeting can lead to corruption if there is no transparency and effective institutional control in policy formulation regarding investment projects, procurement spending and the creation of extrabudgetary funds.

Government spending in the health and education sectors has an insignificant relationship to government effectiveness in the Emerging Seven member countries. Health sector government spending has a t-statistic probability value of 0.2707, while education sector government spending has a t-statistic probability value of 0.1152.

The insignificant impact of government spending on government effectiveness is due to the high level of corruption and lack of transparency in government spending. If funds that are supposed to be used for specific projects or programs are leaked or misused, the positive impact of such spending may be reduced. Some E7 countries face challenges with high levels of corruption.

Corruption can be detrimental to the effectiveness of government spending as funds that should be used for the public good can flow into inappropriate channels. In addition, limited qualified human resources and low levels of education in some E7 countries can reduce the government's capacity to effectively implement policies and programs.

The results of this study using the intervening variable, namely control of corruption, which identifies health sector government spending has a significant and negative effect on HDI through control corruption with a Sobel Test p-value of 0.0097, so it can be concluded that health sector government spending on HDI through control of corruption has a significant effect. Control of

corruption has a cause and effect relationship, meaning that when the control of corruption in a region increases, government spending in improving human development in a country is more effective.

Effective government spending in the health sector will automatically be able to increase HDI so that welfare will increase. However, not all corruption will lead to economic decline, Huntington (1968) and Leff (1964) indicate that not all corruption is bad for the economy. Corruption that is "speed money" has a positive impact on economic growth.

The argument put forward is that with the existence of bribes, entrepreneurs avoid bureaucratic delays, so that all matters with the bureaucracy will run smoothly, so it is concluded that corruption does not always have a bad impact on the economy. Speed money contained in corruption can have a positive effect on the economy. positive effect on economic growth (Fernández-Torres et al., 2018; Méndez & Sepúlveda, 2006; Nawatmi, 2014; Sasti & Latrini, 2019; Shabbir et al., 2016; Tseng, 2020). An increase in economic growth will automatically increase a country's HDI.

The results of research using intervening variables, namely control of corruption, which identifies government spending in the education sector has a significant and positive influence on HDI through control of corruption with a Sobel Test p-value of 0.0217, so it can be concluded that government spending in the education sector on HDI through control of corruption has an influence.

The results of this study are also in line with the study conducted by Sanjeev et al. (2002) who said corruption can increase costs and reduce the quality of education and health services. Study Rajkumar & Swaroop (2008) on 91 countries found corruption reduces the effectiveness of public spending on education and health in improving basic education and reducing infant mortality rates.

Likewise, Suryadarma (2011) in his study found that corruption in Indonesia hinders the effectiveness of public spending on education in achieving satisfactory results. Corruption can hinder the effectiveness of public spending in education in achieving outcomes. The results of this study, which used the intervening variable of government effectiveness, identified that government spending in the health and education sectors had an insignificant effect on HDI through government effectiveness.

This can be seen from the Sobel Test p-value of 0.2915 and 0.1488, so it can be concluded that government spending in the health and education sectors on HDI through government effectiveness has no significant effect. The insignificant effect of government spending on HDI through government effectiveness could be due to the high level of corruption in a country.

This is because the success of government spending in improving government effectiveness depends not only on the amount of funds spent, but also on the way the spending is directed, managed and evaluated. The overall institutional and policy context, as well as cultural and political factors, also play an important role in shaping the impact of government spending on government effectiveness.

In addition, the level of corruption and lack of transparency in government spending can reduce its effectiveness. If funds that are supposed to be used for specific projects or programs are leaked or misappropriated, the positive impact of such spending may be reduced. This leads to ineffective government

spending to improve HDI. Therefore, administrative reform measures and efforts to improve governance are needed to ensure that health and education spending can be managed effectively and have a significant positive impact on human development.

CONCLUSION

Government spending in the health and education sectors has a significant positive effect on the HDI of the Emerging Seven country group in 2006-2020. The relationship explains that if government spending in the health and education sectors increases, the HDI will also increase. This is because with increased government spending in the health sector, more resources will be allocated to build health facilities, hire medical personnel, and provide medical equipment, thus increasing people's accessibility to health services, which in turn will improve the general health of the population.

Allocation of sufficient funds in the education sector can also improve facilities, recruit qualified teachers, and develop appropriate curricula, which will result in an increase in the quality of education that has a positive impact on the quality of people involved in the learning process. Control of corruption has a significant negative effect on the HDI of the Emerging Seven country group in 2006-2020.

This is because corruption is also characterized by "speed money" which has a positive effect on economic growth. High and increasing economic growth means that people's purchasing power is also increasing, which is expected to be allocated to the purchase of nutritious food, education costs, and health costs. So corruption can affect human development through purchasing power as seen from the high growth and GDP of a country.

Government effectiveness has a significant positive effect on the HDI of the Emerging Seven country group from 2006-2020. An increase in government effectiveness can have a positive impact on HDI because when governments are effective in delivering public services such as education, health, and social services, people have better access to these basic services. For example, an effective government can ensure that schools and health facilities are available and operating properly. This will improve people's access to education and healthcare, which are components of the HDI.

Health sector government spending has a significant positive effect on the control of corruption in the Emerging Seven country group 2006-2020. This is because proper and transparent government spending can have a positive impact on control of corruption. Clearly documented government spending in budgets and financial reports can provide a more transparent picture of how public funds are used. This transparency makes it easier for external parties, such as watchdog organizations and civil society, to monitor and oversee government spending. This can identify irregularities, unauthorized spending, or indications of corruption.

Government expenditure in the education sector has an insignificant negative effect on the control of corruption of the Emerging Seven country group in 2006-2020. Lack of transparency in the allocation and use of education funds, along with a lack of effective oversight, can make government spending more vulnerable to corruption. Without strong oversight and accountability mechanisms, acts of corruption can more easily go undetected. Government spending in the health and education sectors has an insignificant effect on

the government effectiveness of the Emerging Seven country group 2006-2020. Despite increasing government spending, E7 countries often face serious resource constraints in providing adequate health and education services to the entire population.

The amount of funds available may still be far from sufficient to meet the needs of quality and widespread health and education. Therefore, the impact may not be so significant. In addition, high levels of corruption in some E7 countries may lead to a large portion of health and education funds being misused or not reaching the target. Government spending may fall due to corruption, and this may undermine government effectiveness.

Health sector government spending has a significant and negative influence on HDI through control of corruption (Intevening Variable). This explains that when the control of corruption increases, it will cause government spending to decrease, which will indirectly have a decreasing impact on HDI, and vice versa. This is because corruption is also characterized by "speed money" which has a positive effect on economic growth.

Government expenditure in the education sector has a significant and positive influence on HDI through control of corruption (Intevening Variable). This explains that when the control of corruption increases, it will cause government spending to increase which will indirectly have an impact on HDI, and vice versa. This is because increasing control of corruption causes education funds to be allocated properly so that it can help in improving human development. Government spending on health and education has an insignificant effect on HDI through government effectiveness (Intervening Variable). Low government effectiveness in managing these expenditures may reduce their positive impact.

This is because high government spending in these sectors is not always equitable, and sometimes more funds are allocated to richer or urban areas than to poor or rural areas. This can lead to inequalities in access and quality of services, so the HDI does not increase equally. In addition, frequent changes in government policy can disrupt continuity in spending on education and health, hindering the achievement of significant impacts in the long term.

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