Analysis of Regional Financial Independence, Economicgrowth Rate of Human Development Index in 34 Provinces in Indonesia

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Abstract : This research aims to determine how and how far the influence of regional financial independence, the rate of economic growth, the rate of school participation on human development index in Indonesia. This research data is taken from 34 provinces in Indonesia with a period from 2014-2018 through secondary data. The research uses a data panel analysis with the Fixed Effect Model (FEM) approach. The results showed that increased regional financial independence, economic growth rate and school participation figures could affect the achievement of human development index figures in 34 provinces in Indonesia.

Key words: Regional financial Independence (KKD), Economic Growth Rate (LPE), School Participation Rate (APS), Human Development Index (HDI)

I. INTRODUCTION

The concept of Human Development is man as the true wealth of the nation. The human development index (IPM) is an index set by the United Nations Development Programme (UNDP) in 1996 to measure people's well-being. Human development as a measure of overall development performance is formed through a basic three-dimensional approach that is longevity and health, knowledge and access to the resources needed to achieve a decent livelihood.

Man is the true wealth of the nation. It is appropriate when man becomes the main goal in development. The importance of human development becomes a necessity in the development of a region. According to UNDP human development is formulated as an effort to expand the choices of the people and at the same time as a level achieved from such efforts (BPS, 2018).

According to the Central Statisitik Agency (BPS) the Human Development Index (IPM) has several benefits:

1. IPM is an important indicator for measuring success in efforts to build human quality of life.

2. IPM can determine the ranking or level of development of a region/country.

3. For Indonesia, IPM is strategic data because as a measure of government performance.

Indications of improvement or decrease in human development performance each year can be observed from the development of IPM figures from year to year.

The current government seems to be very concerned about human development. This is characterized by the participation of the Human Development Index (IPM) as one of the allocators of the general allocation fund (DAU) to address the fiscal gap. Other alokators are area area, population, gross regional domestic product and construction cost index. As a result, areas with low Human Development Indexes can slowly catch up with them because of excessive allocation of funds. However, it still depends heavily on the development strategy carried out including strategies in financial management.
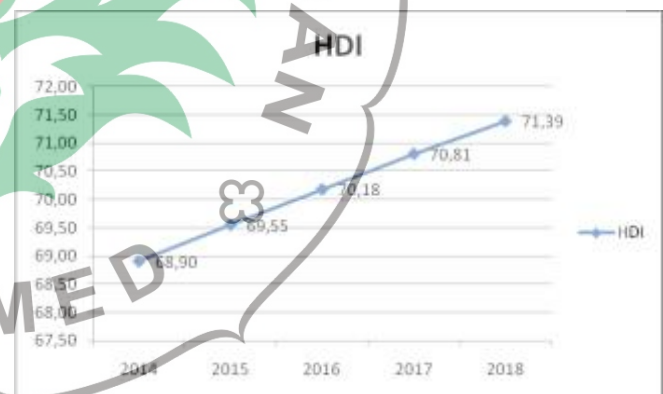

Fig. 1. Human of Development Index in Indonesia

Law No.32 of 2004 which was updated with Law No.12 of 2008 on Local Government states that through regional autonomy, regional economic development is expected to be realized through the management of regional resources. Regional autonomy is an autonomous regional authority to regulate and manage the interests of local communities according to their own initiatives based on community aspirations in accordance with the rule of law.

Regional autonomy aims to improve the well-being of people projected by the Human Development Index. The main goal of regional autonomy is to improve the welfare of the community. The importance of increasing human resources in development becomes a necessity. Human quality in a region has a great role in determining the success of development management in its territory. In the implementation of regional autonomy, the local government is expected to be able to optimally dig into its own financial resources, manage, and use

its own finances to finance the implementation of government so as to enable the financial independence of its regions.

Economic growth is one indicator to see the performance of the economy, both at the national and regional level (region). According to Todaro (2011) economic growth is defined as a process in which the production capacity of an economy increases all the time to generate a greater level of income. This economic growth is important to note that it continues to be improved because it is an indicator of the success of the government's performance and its ranks in creating a better and more prosperous life for its people.
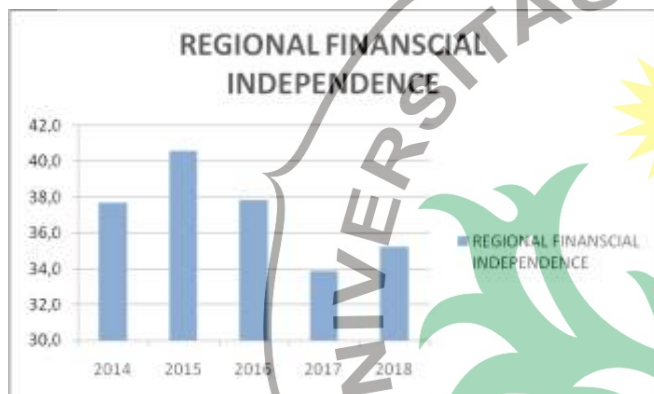

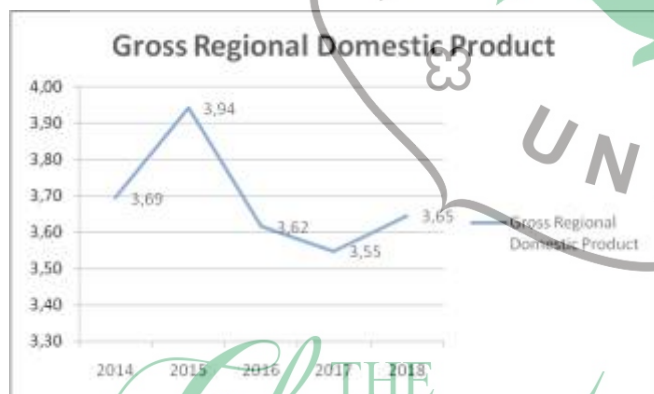
Fig. 2. Trend of Regional Financial Indepence in Indonesia

Fig. 3. Trend of Gross Regional Domestic Product per capita in Indonesia

II. THEORY

A. Human Development Index

In UNDP (United Nations Development Program), development is a human process to enlarge the choices for people (enlarge the people's choices). This concept or definition of human development basically includes a very broad dimension of development. In the concept of human development, development should be analyzed and understood from its human angle, not just from its economic growth. As quoted from HDR (2011), a number of important premises in human development are:

1. Development should be the population of the center of attention.
2. Development is tiered for choice for residents to share, just to increase their income. Therefore, the concept of human development must lie in the population in a way, and not just on the economic aspect.
3. Human development is not only on efforts to improve human capabilities but also in efforts to be able to be able to man optimally.
4. Human development is supported by four main pillars, namely: productivity, equalization, sustainability, and empowerment.

IPM then good good by United Nation Development Program, the reason for the improvement is none other than because it is a human size journey from development. So that the size of human weight alone is not and therefore it is necessary to achieve between the achievement of income physical and non-physical human beings. The reason for human development is the formation of human abilities stemming from the increase in health, expertise and science (Subandi, 2014).

The components of IPM according to UNDP (1995) are as follows:

1. Life Expectancy (AHH)

AHH is an average estimate of many years that a living life can take. The number of life expectancy numbers uses no direct approach (Indirect Estimation). There are two types of data used in the results of living tingling, namely Children Born Alive (ALH) and Children Still Alive (AMH). The maximum size and minimum value for each of these components is a great value that has been seen by all countries (187 countries in the world). In the life expectancy component, the highest number as the upper limit for the index is 85 years and the bottom is 25 years. This figure takes from the UNDP standard (1995).

2. Level Education

To measure the dimensions of population knowledge are used two indicators, mean years schooling and literacy rates uppercase letters. The average length of school image of the number of years used by residents aged 15 and over can be who read and write latin letters and or other letters. The process results from the process, the second indicator is combined after each is given weight. The average length of school is given three weights and literacy figures are weighted two-thirds (UNDP, 1995).

For the education score index, two restrictions are used in accordance with the agreement of several countries. The maximum limit for literacy numbers is 100 while the minimum limit is 0 (zero). It is pictured with 100 percent or all societies able to read and write, and zero zero value instead. While the maximum limit for the average length of school is 15 years and the minimum limit is 0 years. The maximum

limit of 15 years indicates the maximum level of education equivalent to graduating from high school.

3. Decent Standard of Living.

Furthermore the third dimension of the measure of human quality of life is a decent standard of living. In a broader area the standards deserve to be maintained the level of welfare that the population has as a result of the better the economy. Meanwhile, the CPM in the standard of living account is worth using the average real per capita spend.

B. Regional Financial Independence

Decentralization in Indonesia began to be warmly discussed after the collapse of new order powers. This is evidenced by the birth of two local autonomy laws namely Law No. 22 of 1999 on local government and Law No. 25 of 1999 on the financial balance of central and local governments. The law gives the region the widest autonomy in regulating and managing its own government affairs. The idea of decentralization originated from a political structure whose centrality cendrung unification of political power in the hands of the central government, hence decentralization put forward the idea of political power sharing, and/or administrative authority between the central and local governments (Zelmiyanti, 2016).

Effective decentralization in Indonesia began to be implemented on January 1, 2001. The implementation process is also colored by improvements to existing Laws. The birth of the new regional autonomy law for Law No. 32 of 2004 replaces Law no. 22 of 1999 on local government and Law No. 33 of 2004 replacing Law no. 25 of 1999 on the balance of central finance and local government. With the update of the law, it is increasingly clear that the relationship between government agencies in Indonesia has changed both vertically, namely the relationship between the central, provincial government, and the Regency/City government, as well as the horizontal relationship.

In Law No. 32 of 2004 on Local Government, regional financial independence means that the government can conduct its own financing and financial accountability, conduct itself in the framework of decentralized principles or surrender authority by the central government to autonomous regions based on the principle of autonomy currently known as regional autonomy.

The agency theory has a concept in which the government gives the authority to the agent (local government). The agency's theory begins with an emphasis on voluntary contracts arising between various parties of the organization as an efficient solution to an interest (Zelmiyanti, 2016). In exercising these authority does not mean that the local government is arbitrary, although the central and local governments have their own interests but both still have the goal of improving the welfare of the community. In connection with employment contracts, agents are morally responsible for maximizing principal profits and on the other hand agents are also interested in maximizing their own well-being.

Since the enactment of regional autonomy, the rights, authorities, and obligations given to the region to regulate and take care of its own households, is an attempt to increase the role of the local government in developing its own regional potential. The local government is expected to be able to assist the central government in carrying out its duties properly including in financial management so that the region is more independent in running its government. Regional financial independence shows that local governments are able to self-finance government activities, development, and services to communities that have paid taxes and levies as local revenues.

The Ministry of Finance (2011) states the level of regional financial independence is indicated by the ratio of Regional Native Income (PAD) to total income as well as the ratio of transfer to region to total income. The greater the pad ratio, the greater the regional self-reliance. On the other hand, the larger the transfer ratio, the smaller the level of regional independence in funding regional spending.

C. Economic Growth Rate

Economic growth is one indicator to see the performance of the economy, both at the national and regional level (region). According to Todaro (2011) economic growth is defined as a process in which the production capacity of an economy increases all the time to generate a greater level of income. This economic growth is important to note that it continues to be improved because it is an indicator of the success of the government's performance and its ranks in creating a better and more prosperous life for its people.

Economic growth is a process of increasing productive capacity in an economy continuously over time resulting in a higher level of output income and to know it must compare with the level of national income from year to year. To spur economic growth, an investment is needed which is a net addition to reserves or capital shock. Harrod-Domar clearly states that economic growth rates can be determined jointly by savings ratios and and capital output ratios. In addition, this analysis can also explain the relationship between economic growth and inequality between regions and why it can happen (Syafrizal, 2007).

Some theories related to economic growth include classical economic theory, Harrod-Domar theory, Solow-Swan theory and fast track theory (Turnpike) i.e. as follows (Bhinadi, 2003).

1. Classical Economic Theory

This theory is taken from Adam Smith's explanation that society is given the widest possible freedom in determining what economic activity it feels is best to do. According to Adam Smith, a free market economic system will create efficiency, and can bring the economy to full employment conditions and can guarantee economic growth until it reaches stationer position. While the role of the government is only as guarantor of security and order and

provides legal certainty and justice for economic actors. This means that the government has no role in the economy. John Maynard Keynes corrected Smith's view by pointing out that to ensure stable economic growth there needed to be government interference, but not in the production process but rather to play a role in ensuring aggregate demand, namely through the application of fiscal policy (taxation and government spending), monetary policy (interest rates and the amount of money in circulation), and direct supervision.

In a discussion about economic growth, namely national income, Keynes used a method of spending in calculating national income. Its components are household consumption (C), business sector investment (I), government expenditure (G), exports (X), and imports (M). The formulation can be notified as follows:

$$Y = C + I + G + (X - M)$$

2. Harrod-Domar Theory

In the Regional System this theory complements the keynes theory, where Keynes sees it in the short term (static conditions) while Harrod-Domar sees it in long-term (dynamic conditions). This is based on closed economic assumptions, the desire to save is constant, the production process has a constant return to scale, and the growth rate of the labor force is constant and equal to the rate of population growth.

This Harrod-Domar theory has several assumptions: (a) The economy is in full employment and capital goods consisting of society are used in full use. (b) An economy consisting of two sectors, namely households and corporate sectors, means government and foreign trade do not exist. (c) The amount of public savings is proportional to the amount of national income, meaning the function of savings starts from zero. (d) The tendency to save (marginal propensity to save = MPS) is fixed, as is the ratio between capital-output ratio (COR) and incremental capitaloutput ratio = ICOR).

In this Harrod-Domar theory, the production function is L-shaped because a certain amount of capital can only create a certain level of output (capital and labor that are not substitutive). To produce output of Q1, K1 capital and L1 manpower are required, and if that combination changes then the output level changes. For output of Q2, for example, it can only be created if the capital stock is K2.
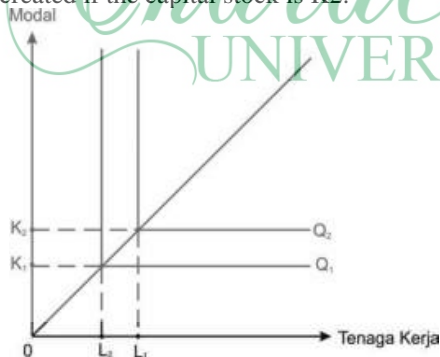
Harrod - Domar Production Function

Harrod-Domar's growth model explains the economic mechanisms that rely on increased investment in accelerating economic growth. This model suggests that each economy should essentially always reserve or save a certain portion of its national income to supplement or replace capital goods (buildings, tools, and raw materials) that have been shrinked or damaged. However, to spur economic growth, new investment is needed which is a net addition to reserves or capital stock. The pattern can be noted in the following equations:

The equation above is a simple version of harrod-domar economic growth theory equation. The equation explains that the growth rate of Gross Domestic Product ($\Delta Y/Y$) is determined jointly by national savings(s) as well as the national capital-output ratio (k).

3. Solow-Swan Theory

This theory was developed by Robert M. Solow and T. W. Swan using elements of population growth, capital accumulation, technological advances, and the amount of output that interacts with each other. This model is almost the same as the previous model, but the difference lies in the existing element of technological advancement in it. In addition, Solow-Swan uses a production function model that allows for the substitution between capital (K) and labor (L).

Thus, the condition of steady growth in the Solow-Swan model is less restrictive due to the possibility of substitution between capital and labor. This means flexibility in the capital-output ratio and the capital-to-labor ratio.

Solow's neoclassical growth model was a pillar that contributed so much to neoclassical growth theory that its founder, Robert Solow, was awarded the Nobel prize in economics. At its core, this model is the development of harrod domar formulation by adding the second factor, namely labor, as well as introducing a third independent variable, namely technology, into the growth equation.

The nature of neo-classical growth theory can be spelled out that its production functions are demonstrated by I1, I2, and so on. In such a production function, a certain level of output can be created using various combinations of capital and manpower. For example, to create an output of I1, a combination of capital and manpower that can be used include (a) K3 with L3, (b) K2 with L2, and (c) K1 with L1. Thus, although the amount of capital changes but there is a possibility that the output level does not change.
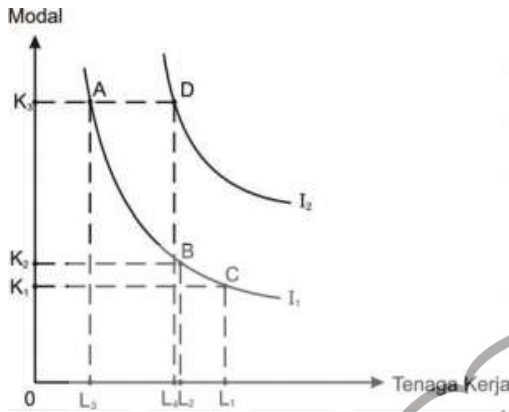
In a more formal form, Solow's neoclassical growth model standard aggregate production functions, namely:

In the equation Y is Gross Domestic Product (GDP), K is the stock of physical capital and human capital, L is labor, and A is labor productivity, whose growth is determined exogenously. The α symbol symbolizes the elasticity of the output to the capital. Because the rate of technological advancement is determined exogenously, Solow's neoclassical model is sometimes also referred to as an exogenous growth model.

4. Fast Track Growth Theory

This theory was introduced by Samuelson (1955), where each region needed to see what sectors/commodities had great potential and could be developed quickly, both because of the potential of nature and sectors that had competitive advantage to develop. That is, with the same capital needs the sector can provide greater added value, can produce in a short time and the volume of donations to the economy is also quite large.

III. METHOD

There are several approach methods commonly used to estimate regression models with panel data, namely:

a. Common Effect Approach

The simplest technique for estimating panel data is to simply combine time series and cross section data. By simply inflating the data without seeing the difference between time and individual then we can use ols method to estimate the panel data model. This method is known as Common Effect estimation. In this approach do not pay attention to individual dimensions or time (Widarjono, 2013).

b. Fixed Effect Approach

Models that assume there are intersep differences in equations are known as Fixed Effect regression models. Fixed Effect model technique is a technique of estimating panel data using dummy variables to capture intersep differences. The meaning of Fixed Effect is based on the difference between interseps, but the interseps are the same between times. In addition, this model assumes that the regression coefficient remains between variables and between times. This estimation

model is often referred to as the Least Squares Dummy Variables (LSDV) technique (Widarjono, 2013).

c. Random Effect Approach

Entering dummy variables in the Fixed Effect Model aims to represent our ignorance of the actual model. However, this also carries the consequence of a reduced degree of freedom which ultimately reduces the efficiency of parameters (Widarjono, 2013). This issue can be addressed with an error terms variable known as the Random Effect Model method. In this model it will estimate panel data where interference variables may be interconnected between time and between individuals.

IV. RESULTS

- Chow Test

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	70.372117	(33,134)	0.0000
Cross-section Chi-square	494.455783	33	0.0000

Table 1. Result of Chow Test

From the table above obtained a value of F – statistically of 70.372117 with a value of F-table at df (33,134) α= 5% is 1.523422 so that the value of F-statistical > F-table with a probability of 0.0000 (< 0.05) so that the statistics of Ha is rejected and received Ha. According to this estimation the exact model used is the Fixed Effect Model estimation model.

- Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	40.892959	2	0.0000

Table 2. Result of Hausman Test

From the table above obtained the value of Chi-Square statistics is 40.892959 with the value of Chi-Square table on df (2) α=5% is 5.991465 so the value of Chi-Square statistics > Chi-Square table with a probability of 0.0000 (< 0.05) then Ha is rejected and received Hs. According to this estimation the exact model used is the Fixed Effect Model estimation model.

- F-statistik Test

R-squared	0.963819	Mean dependent var	69.17171
Adjusted R-squared	0.954369	S.D. dependent var	4.149326
S.E. of regression	0.886353	Akaike info criterion	2.782168
Sum squared resid	105.2734	Schwarz criterion	3.446220
Log likelihood	-200.4843	Hannan-Quinn criter.	3.051633
F-statistic	95.9896	Durbin-Watson stat	0.788297
Prob(F-statistic)	0.000000		

Table 3. Result of F-Statistic Test

From the regression results in the table above obtained a value of F-Statistics 95.9896 with a probability of 0.0000 which means smaller than α = 5%, then Ha is accepted and Ha is rejected. From these results it can be said that independent variables have a shared effect on dependent variables.

- R^2 Test

R-squared	0.963819	Mean dependent var	69.17171
Adjusted R-squared	0.954369	S.D. dependent var	4.149326
S.E. of regression	0.886353	Akaike info criterion	2.782168
Sum squared resid	105.2734	Schwarz criterion	3.446220
Log likelihood	-200.4843	Hannan-Quinn criter.	3.051633
F-statistic	95.9896	Durbin-Watson stat	0.788297
Prob(F-statistic)	0.000000		

Table 4. Result of R-square Test

Based on the table above obtained a determination coefficient of 0.963819. The smaller the R^2 nears zero, the smaller the influence of independent variables on dependent variables and vice versa. The r^2 value means that about 96% of the Human Development Index can be explained by the variable regional financial independence and economic growth rate in 34 provinces in Indonesia.

V. Conclusion

Based on the results of the discussion stipulated in the previous section, it can be concluded that regional financial independence and simultaneous economic growth have a significant impact on the human development index of districts/cities in 34 Provinces in Indonesia in 2014-2018. Based on this, it shows that regional financial independence and economic growth have an impact on the human development index where if regional financial independence and economic growth increase, it will increase the index of human development. The government is expected to more intensively improve the welfare of the community through improving the quality of education by increasing the budget allocation of the budget to improve public health services as well as the fulfillment of basic needs for its people.

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