Interactions And Contributions Between Islamic Human Development Index , Economic Growth, Fiscal Policy And Demographics In Indonesian Provinces : Panel Vector Autoregression (P-Var) Analisys

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Abstract: *The purpose of this study is to analyze the interactions and contributions between the Islamic Human Development Index (IHDI), economic growth, fiscal policy, and demographics in Indonesia's provinces. The method of analysis uses the Vector Autoregression Panel (PVAR) with a Sample of 33 Provinces in Indonesia. The findings in this study state that long-term estimates of Economic Growth have a positive and insignificant effect on IHDI in Indonesia, health and education Fiscal policies and demographics have a positive and significant effect on IHDI Provinces in Indonesia. The conclusion of this study states that IHDI is a variable that is strongly influenced by fiscal policy, demographic conditions and also policies in achieving economic growth in each province. The existence of the IHDI gap in each province shows that there is an imbalance of development and loss of moral and spiritual foundation in every development achievement.*

Keyword*: Islamic Human Development Index, Economic Growth, Fiscal Policy, Demographics*

Introduction

One of the goals of a country's development is the achievement of a high *Human Development Index* (HDI). HDI is formed from the dimensions of life expectancy, education index and income distribution becomes a measure of welfare people. (Eren and Kaynak, 2017). The Human Development Index introduced by UNDP is one of the agreed measurement tools in the world based on the increase, of course this is not yet comprehensive if we viewed from an Islamic economic perspective to measure the welfare of a country . The indicators still refer to the achievement of material welfare.

Islam as a religion that has perfectly governed all aspects of human life with guidance on how welfare can be achieved. Prosperity is not only measured by world achievements but also prosperity in the hereafter, according to the word of God " O you who believe, eat among the good fortune that We give to you and thank God, if truly to Him you worship " (Al-Baqarah 2: 172)

Islamic view of economic development is a very unique and distinctive, very different to the conventional view, especially on the subject were very basic. The goal of economic development in the Islamic view is to achieve overall prosperity both in the world and the hereafter and is called *falāh* (Chapra 2008; A nto 2010). Development based on the view of Islam refers to the Qur ' an and Hadith, of faith and piety factor got a major role in assessing the builder 's men. The concept of development according to Islam will provide a broader view and can be a basic source of development of a country (Mohammad and Ahmad 2013 ; Sadeq 2016; Chapra, 2008)

Humans Development based approach *maqhosid sharia* is one approach that can describe how the concept of need - basic human needs that exist within 3 (three) aspects *Maqasid Syarī'ah* (Syatibi , 1997) is *Daruriyah (Necessity), Hajiyyah (Complement), Tahsiniyah* (*Refinement*) can be developed to become a more complex and complete

indicator of the human development index, and can cover all physical and spiritual aspects to be achieved in the development of a nation (Amin ed.el, 2015; Mirakhor, 2007), specifically the *Daruriyyah* aspect which consists of 5 (five) elements, namely enrichment *Hifz Din* (Faith), *Hifz Nafs* (Human self), *Hifz Aql* (Intellect), *Hifz Nasl* (Posterity) *Hifz Mal* (Wealth).

Research conducted by Hendri Anto on OIC countries (*Organization of Islamic Countries*) by comparing the measurements of the *Human Development Index* issued by UNDP in general and measurements using additional proxies on Religiosity Index apparently obtained different results and more comprehensive, because it measures the material and non material welfare (Anto, 2010). Based on the formulation of human development with *maqhasid* perspective, this research try to re-formulated it and obtained the results of the *Islamic Human Development Index of* Provinces in Indonesia a long 2017, showed that 33 provinces recorded, there are 3 provinces at the very high level ($80 \leq HDI \leq 100$) 2 provinces at the level of high IHDI ($70{,}00 \leq HDI \leq 79{,}99$), 2 provinces are at IHDI medium ($60{,}00 \leq HDI \leq 69{,}99$) and 26 provinces are at low IHDI ($0 \leq HDI \leq 59{,}99$), this condition implies that human development based on divine and moral values is far from being successful, marked by uneven attainment of the *Islamic Human Development Index* throughout Indonesia . (Appendix 8)

Efforts to improve the quality standards of islamic human development Index linked to all policies implemented by the government in terms of political, economic, social and cultural. Exspecialy Fiscal policy in the field of special spending on education and health (Todaro and Smith, 2006). Expenditures on education and health for 2017 are still maintained at around 20% and 5% of the total APBN, respectively. fiscal policy was also very influential economic growth for the last 3 years , economic growth Indonesia is in the range from 5.1 to 53% (www. kemenkeu.go.id). policies on the growth and equitable distribution of the population also determines the quality and equity of public welfare, and these will impact on the level of *Islamic Human Development Index.* (David, 2019; Ciutience and Lailaite 2019 ; Oladapo and Rahman , 2016)

unequal human development disparity shows how important it is to optimize the function of central and regional fiscal policies, economic growth and also optimize the presence of productive populations in each province. With the gap in the *Islamic Human Development Index* in each province, the authors want to analyze the patterns of interaction and contribution between the *Islamic Human Development Index*, Economic Growth, Fiscal Policy, and Demography in Indonesia using the *Panel Vector Autoregression* (PVAR) approach

Research Method

In accordance with the objectives of this study, the data analysis methods and techniques used by using the *Panel Vector Autoregression* approach , where each variable can act as an endogenous and exogenous variable, and try to see the pattern of relationships between variables.

Population and sample

The sampling technique used is *Non Probability Sampling (Non Random Sampling) in the* form of *purposive / judgment sampling* which is based on certain criteria determined by researchers because it is considered to have the best position that can provide information needed by researchers . This study uses pooling data which is a combination of *time series* data and *cross section* . The use of pooling data can be done using the *Vector Auto Regression* (VAR) method . Complete variable data for each province. Provinces that have complete data are 33 provinces and the year of observation in this study was 10 years from 2007 to 2017

Analysis Techniques D ata

a. Vector Auto Regression (PVAR) Panel

The PVAR equation is used as follows

$$y_t = \beta_{10} + \beta_{11} y_{t-1} + \beta_{12} z_{t-1} + \alpha_{11} P_{t-1} + \alpha_{12} u_{t-1} + \varepsilon_1$$
$$z_t = \beta_{20} + \beta_{21} y_{t-1} + \beta_{22} z_{t-1} + \alpha_{11} P_{t-1} + \alpha_{12} u_{t-1} + \varepsilon_{2t}$$

The following is the Panel VAR analisys model of contributions and interactions between economic growth, fiscal policy in the health and education and demographics on the *Islamic Human Development Index* ((*I HDI*) provinces in Indonesia

b. Stationary Test

Stationary test on *time series data* or *panel series* is the first step to make sure the data used is stationary or not. If the data is not *stationary* will be arranged *stationary* , in a way to test the level of data stastioner difference that we are familiar with the degree of integration testing. Non-statistical data at the level level will be tested at the level of *difference* , until the data is stationary, using the *Augmented Dickey-Fuller* (ADF) test .

c. Determination of Optimum Lag

Determination of the number of lags (orders) to be used in the VAR model can be determined based on the *Akaike Information Criterion* (AIC) and *Schwarz Information Criterion* (SC) criteria . The lag that will be selected in this study is the model with the smallest AIC value. In this stage the VAR model stability test is also carried out. determining the optimum lag and VAR stability test is done first before going through the cointegration test stage.

d. Cointegration Test

If the phenomenon of stationarity is at the level of *physical difference* then testing is needed to see the possibility of cointegration. The concept of cointegration is basically to see the long-term balance between the observed variables. Sometimes a data that is not individually stationary, but when connected linearly the data becomes stationary, this is then called that the data is cointegrated. If a set of variables is completely cointegrated, *implied restriction* or *unrestriction* VAR must be detected .

e. Vector Error Correction model (VECM)

VECM is a form of *vector distortion Autoregression* . This additional restriction must be given because of the existence of data forms that are not stationary but cointegrated. VECM then utilizes the cointegration restriction information into its specifications. That's why VECM is often called VAR design for non- *stationary series* that has cointegration relations .

f. Impulse Response Function (IRF)

Impulse Response Function (IRF) is performed to determine the dynamic response of each variable to one standard deviation of innovation, IRF analysis aims to determine whether each transmit variable is co-integrated in the long term or short term, according to the formula

$$Y_{t+1} = E(Y) + \sum \sum_t \varepsilon^{\gamma}{}_{t+n-1}$$
$$Z_{t+1} = E(Z) + \sum \sum_t \varepsilon^{z}{}_{t+n-1}$$

Where :

E (Y) and E (Z) are the average values of Y and Z, respectively.

g. Forcast Error Variance Decomposition (VD)

Forcast Error Variance decomposition decomposes the variation of one endogenous variable into the surprise component of other endogenous variables in the VAR system. This variant decomposition explains the proportion of movement of a series due to the shock of

the variable itself compared to the shock of other variables. The *Forcast Error Variance Decomposition* (FEVD) equation can be summarized as follows

$$E_t X_{t+1} = A_o + A_1 X_1$$

Values A_o and A_1 are used to estimate the future value X_{t+1}

$$E_t X_{t+1} = e_{t+n} + A_1^2 e_{t+n-2} + \ldots\ldots\ldots + A_1^{n-1} e_{t+n-2}$$

This means that the FEDV value is always 100 percent, the higher FEDV value explains the contribution of the variance of one transmit variable to the other transmit variable.

Research Results

This research data is processed with the Eviews 9. application. Below is presented the results of data processing

a. Stationary Test

For stationary test results can be seen in the table below

Table 3. 1 Stationarity Test Results *for unit root in level* Augmented Dickey-Fuller Test Statistics

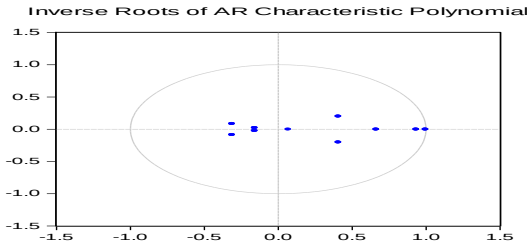
Variable	ADF value		McKinnon Critical Value of 5%	
	Level	1st Difference	Level	1st Difference
IHDI	-2,017662	**-5.725297**	-3.470032	-1.945199
GROWTH	**-4.423513**	**-11.42053**	-3.470032	-1.945199
FISCAL_HEALTH	-3.434638	**-10.45421**	-3.470032	-1.945199
FISCAL_EDUCATION	-2.578532	**-3.732163**	-3.470851	-1.945199
DEMOGRAPHY	-2.378988	**-3.431635**	-3.470851	-1.945199

Testing the roots of this unit is carried out at the *level* up to the *first difference.* The variables used in this study are stationary and some are not stationary at the level *level* . After the *first difference is* done then all the stationary data at the real level of five percent. This means that the data used in this study is integrated in first order or can be abbreviated as I (1). The variable which has been stationary at the level *level* is the value of economic growth.While others only experience stationary at *first difference* .

b. Data Stability Test

Data s reliability test is needed before conducting further analysis, because if the VAR estimation results which will be combined with an unstable error correction model, then the *Impulse Response Function* and *Variance Decomposition* become invalid . To test whether the estimated VAR has been stable or stable, a *VAR stability* condition in *the* form of *roots of characteristic polynomial is* checked

Figure 1. *Roots of characteristic polynomials*



VAR estimation will be stable if the *roots of characteristic polynomial* values are in a circle or *root* values

c. Determination of Optimum Lag

Determining the optimum lag in the VAR model is very important to do by doing a VAR *Lag Order selection criteria* test that has several criteria that can be used to determine the optimum number of lags. Testing *the* optimum *lag* length is very useful to eliminate

autocorrelation problems in VAR systems . The results show that the model experienced a *lag* optimal *lag* 1.

Table 3.2 Optimum Lag Test Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-994,1661	NA	401.7348	20,18517	20,31624	20,23820
1	-504.0602	920,8051	0.033388	10.78909	**11,57549 ***	**11,10727 ***
2	-481.3231	40.42141	0.035085	10.83481	12.27654	11,41814
3	-440.8747	67,82267	0.025930	10,52272	12.61979	11,37120
4	-413.4303	43,24566 *	0.025139 *	10.47334 *	13,22574	11.58697
5	-392,5892	30.73534	0.028184	10,55736	13.96509	11,93613

Note: An asterisk (*) indicates the smallest SC-HQ

d. Cointegration Test

The cointegration test is carried out by following Johansen's procedure. In the Johansen test, cointegration determination is seen from the value of *trace statistics* and *max eigen statistics* after precedence by finding the length of the lag that will be known. **The *trace statistic* value that exceeds the critical value** indicates that there is cointegration in the model used

Table 3.3 Cointegration Test Results

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE (s)	Eigenvalue	Statistics	Critical Value	Prob. **
None *	0.376345	171.3055	69.81889	0.0000
At most 1 *	0.249686	93.39932	47,85613	0.0000
At most 2 *	0.130036	46,00075	29.79707	0,0003
At most 3 *	0.084124	23,01572	15.49471	0.0031
At most 4 *	0.050305	8.516440	3.841466	0.0035
Trace test indicated 5 cointegrating eqn (s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
** MacKinnon-Haug-Michelis (1999) p-values				

e. Vector Error Correction Model (VECM)

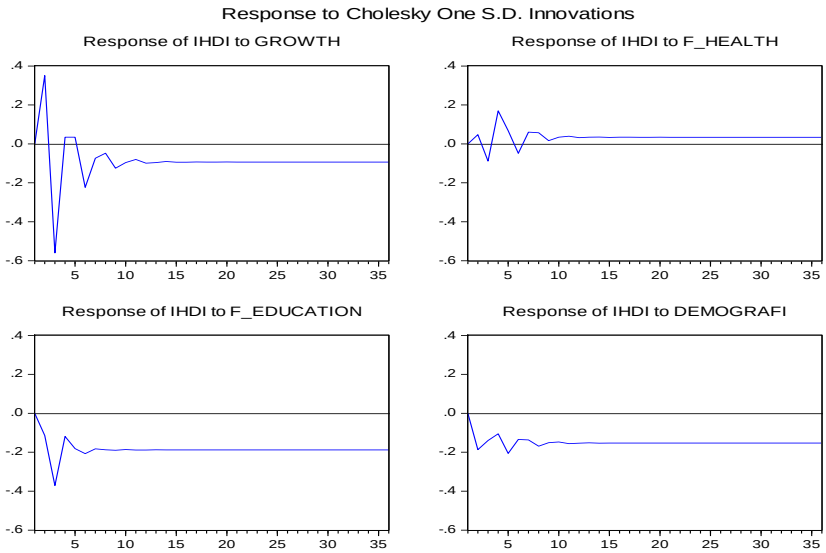
VECM estimation results can be considered significant if the t-statistic value> ± (1.98). Shows data with long-term and short-term trends. From the estimated results of the *Vector error correction Model* (VECM) the long-term and short-term equations can be analyzed. The long-term equation model of the VECM equation model based on test results is as follows.

D (IHDI) = 136.2588 + 7.823893 D (*Growth* (-1)) + 127.7267 D (*Fiscal_Health* (-1)) + 97.68005 D (*Fiscal_E education* (-1) + 60,94662 D (Demographics (-1))

***f. Impulse Response Function* (IRF) *Islamic Human Development Index* (IHDI)**

In analyzing the *Impulse Response Function* in the VAR panel model or *vector moving average* application that aims to find out how long it takes a variable to respond to changes in other variables. A shock to one variable will immediately respond to that variable and then be passed on to all other endogenous variables through the dynamic structure of *VECM*. The following summary of the analysis *Impulse Response Function* to the influence of exogenous variables on the stability of IHDI endogenous variables can be read in g amber below

Figure 2. Response of Exogenous Variables to IHDI Variables



g. Forecast Error Variance Decomposition (FEVD) Islamic Human Development Index (IHDI).

Forcast Error Variance Decomposition Analysis in PVAR and PVECM serves to analyze how much the shock of a variable affects other variables or to see how the contribution percentage of the variance of each variable due to changes in other variables in the system, the analysis FEVD also our analysis, shock which variable has a very important role in the research period

Table 3.4 *Variance Decomposition of IHDI*

		Variance Decomposition of IHDI:				
Period	SE	IHDI	*Growth*	*Health*	*Education*	Demographics
1	4,459243	100.0000	0.000000	0.000000	0.000000	0.000000
2	5.031353	99.31483	0.487479	0.009003	0.051216	0.137477
3	5.752102	98,02917	1.320792	0.030512	0.455272	0.164259
4	6.463357	98.30702	1.048949	0.093175	0.394295	0.156563
5	7.009056	98.39505	0.894452	0.088547	0.402221	0.219728
6	7.540982	98.41446	0.860247	0.080620	0.423070	0.221605
7	8.050200	98.51440	0.763247	0.076330	0.422684	0.223337
8	8.513689	98.57618	0.685550	0.072758	0.426374	0.239138
9	8.956941	98.62070	0.638691	0.066079	0.430051	0.244483
10	9.382267	98.66713	0.592484	0.061557	0.431306	0.247521

Discussion

a. **Relationship of Islamic Human Development Index with Economic Growth** Economic growth has positive and no significant effect on the *Islamic Human Development Index* (IHDI with statistical value of 0.79814. This is consistent with studies (Mustafaa ed.al 2017: Agustina ed.al, 2016) Relationship IHDI with economic growth shows that the development taking place in each province has not had a major impact on increasing IHDI, the actual economic growth implies an increase in the production capacity of goods and services, (De Clercq, D., & Arenius 2006; Cowling ed.al, 1998 ; Camp 1999), increasing the number of entrepreneurs and access to finance, widespread and efficient use of technology , adjustments in the field of institutions and ideology so that the innovations produced by science make progress for a nation (Abramovitz, 1986; Audretsch, 2005; Griliches, 1998) Economic growth must also be a

moral requirement and the formation of spiritual values in the presence of sharia compliance in economic management. (Beik and Arsyianti, 2016 ; Mirakhor, 2007).

b. **The Relationship of *Islamic Development Index* with Health Fiscal Policy** Fiscal policy in the health sector has a positive and significant influence on IHDI. Long-term estimates of fiscal policy in the health sector have a positive and significant relationship to IHDI (Agustina ed.al, 2016) which means that fiscal policy especially budget absorption the health sector has a very positive impact on the improvement of IHDI in each province, the presence of an IHDI gap indicates a development gap in the health midwife in each region. Health policy is mandated in Law Number 36 of 2009 concerning Health. One of the mandates in the Act (UU) is the Regional Budget, which is 5% and 10%, respectively. Since 2010 the fulfillment of the 5% budget has been met by the central government through the APBN. (www. Kemenkeu. APBN2007) . If the basis for allocating the health budget is only based on obligations as mandated by the Law on Health without looking at other factors, the allocation of the health budget will be nominally large but the clarity of performance achievements is not the focus of attention. Even though the budgeting paradigm used is performance based budgeting . If the established performance is met, surely the IHDI level in each province will increase and be evenly distributed.

c. **The Relationship of *Islamic Development Index* with Education Fiscal Policy**.
Fiscal policy in the field of education spending has a positive and significant impact on IHDI (Agustina ed.al 2016) to the budget for education in Indonesia mandated in the 1945 Constitution and the law No . 20 of 2003 on National Education System, fund pe n upbringing in addition to the salaries of Teachers and Education Fund of State received an allocation of at least 20% of the total state budget. This education budget allocation is almost the same as that of Vietnam, but in the annual report of the *Organization for Economic Cooperation and Development* (OECD), the *World Economic Forum* in 2018 places Indonesia in 53rd place and Vietnam ranks 8th in the world in terms of education from 36 countries (http: //edukasi.kompas. 2018). Efforts to increase the education budget have not necessarily improved the quality of education and management of education in Indonesia, especially ASEAN countries.

d. **Relationship of *Islamic Development Index* with Demographics**
Specific demographics of productive population have a positive and significant influence on IHDI (Bintang ed all, 2015). The economic disparity in various provinces in Indonesia triggers demographic changes, especially the composition of the productive population in various regions, this condition affects the high IHDI in these areas, especially in the regions of Western Indonesia and provinces with large populations. Concentration of the productive age population in urban areas has shown that equitable distribution of development does not work, the availability of jobs in urban areas has caused massive urbanization to cities

Conclusion

Results of the study show that long-term estimation there is a significant influence between IHDI Fiscal Policy in health. There is a positive and not significant effect between IHDI and economic Growth. There is a negative effect between IHDI with Fiscal Policy in education and Demographic. Policies implication showed that education in achieved did not had contribution on Islamic Human Development index in Indonesian. In order Demographic (age productive) showed the same result. Its mean economic development has

not been able to contribute to improving the quality of education. The productive population is still a burden for the availability of employment fields in Indonesian.

Islamic Human Development Index which is based on *Maqhasid sharia* is a concept that can provide solutions to development problems in Indonesia, because it is built from the framework of achieving the goals of the *maslahah*, which balances the achievement of material and non material welfare. Human development marked by *Islamic Human Development index* indicators can be a reference for policy makers in the fields of education and health, as well as for development planning, empowerment and equitable distribution of productive human resources in each province in Indonesia. The importance of the state in harmonizing the balance of the monetary and real sectors by empowering the social funds of the Ummah and driving the Islamic economic sector, in order to avoid usury funds for development and minimize poverty and will lead to an increase in the quality of human resources.

References

Agustina, Eka dkk, 2016. *Pengaruh Pengeluaran Pemerintah Daerah sektor Pendidikan dan Kesehatan terhadap Produk Domestik Regional Bruto serta Indeks Pembangunan Manusia di Kalimantan Timur*. INOVASI : Journal Ekonomi Keuangan dan Manajemen, Vol. 12 (2)

Amin, Ruzita Mohd dkk, 2015. *The Integrated Development Index (I- Index) a new comprehensive approach to measuring human Development*. ResearchGate , Blomsbury Qatar Foundations journal vol.2

Anto, Hendri MB. 2010. *Introduction an Islamic human development Indeks (I- HDI) to measure development in OIC countries*" *IRTI journal, Vol. 19 No. 2*

Al-Qur'an dan Terjemahannya Departemen Agama RI (Semarang : Cv. As Syifa) 2001

Audretsch, D. 2005. *The emergence of entrepreneurial economics*, research on technological innovation. Management and Policy

Beik, Irfan Syauki dan Laily Dwi Arsyianti, 2016. *Ekonomi Pembangunan Syariah*. Jakarta : Rajawali Press

Bintang *ed,all*. 2015. *Determinan Indeks Pembangunan Manusia: Analisa Pendekatan MaqāṢid syarĪ'ah al-ghazali (Studi kasus: Negara-negara OKI)ResearchGate: **Eksyar**, Volume 02, Nomor 02, November*

Chapra, M. Umer. 2008. *The Islamic Vision of Development in the Light of Maqāsid Al-Sharī'ah.* Working paper, ResearcGate

Chapra, M. Umer. 2008. *Ibn Khaldun's theory of development: Does it help explain the low performance of the present-day Muslim world?* The Journal of Socio- Economics 37

Ciutiene, Ruta and Rasa Lailaite. *A Development of Human Capital in the Context of an Aging*. Procedia – Social and Behaviour Sciences p. 753- 757. 2015

Cowling, Gavron, R. *ed.all*. 1998. *The entrepreneurial society*: Institute for Public Policy Research. London, UK.

David, Oladipo Olalekan. 2019. *Nexus Between Telecommunication Infrastructures, Economic Growth and Development in Africa: Panel vector Autoregression (PVAR)Analysis* . Telecomunication Policy . Elsevier ltd

Eren, Miraç and Selahattin Kaynak. 2017. *An evaluation of EU member states according to human development and global competitiveness dimensions using the multi-period grey relational analysis (MP-GRA) technique* Application Vol. 7 No. 1, pp. 60-70 © Emerald Publishing Limited.

Griliches, Z . 1998. *Issues in assessing the contribution of research and development to productivity growth*. In Z. Griliches (Ed.), R&D, patents and productivity (pp. 17–45). Chicago: University of Chicago Press.

Mirakhor, Abbas. 2007. "*A Note on Islamic Economics,"* Islamic Research and Training Institute, IDB Lecture Series No.20. Islamic Development Bank

Mohammad, Nur Sahid dan Sanep Ahmad. 2013. *Pembangunan Menurut Perspektif Islam, satu analisis Awalan Development from Islamic perspective: an Interim analysis*). Prosiding PERKEM VIII jilid 1

Mustafa, Ghulam, *ed,all.* 2017. *Growth, Human Development, and Trade: The Asian Experience*. Economic Modelling. Elsevier

Oladapo, Ibrahim Abiodun dan Asmak Ab. Rahman. 2016. *Re-counting the determinantfactors of human development:a review of the literature* HumanomicVol.32 No. 2, pp. 205-226 Emerald Group Publishing Limited.

Reynolds, P. D., Hay, M., & Camp, S. M. 1999. *Global entrepreneurship monitor.* executive report. Kansas City, KS: Kauffman Center for Entrepreneurial Leadership

Sadeq, Abul Hasan. 2016. *Development Issues in Islam*. International Islamic University Malaysia

Syatibi, Abu Ishaq. 1997. *Al-Muwafaqat*, jilid 2, Beirut: Darul Ma'rifah

Todaro, Michael P. dan Stephen C. Smith. 2003. *Pembangunan Ekonomi di Dunia Ketiga* edisi 8 Jakarta: Erlangga

http://www. Kemenkeu.go.id/ APBN 2017

http://Www. Bps.go.id

http://edukasi.kompas.com/read/2018/10/30/08000011/5-negara-dengan-alokasi-anggaran-pendidikan-terebesar?page=all diakses 12 Agustus 2019

Appendix 1
Unit Root test

Hasil Uji Akar Unit				
Variabel	**Nilai ADF**		**Nilai Kritis McKinnon 5%**	
	Level	**1st Difference**	**Level**	**1st Difference**
IHDI	-2.017662	**-5.725297**	-3.470032	-1.945199
Growth	**-4.423513**	**-11.42053**	-3.470032	-1.945199
Fiscal_Health	-3.434638	**-10.45421**	-3.470032	-1.945199
Fiscal _ Education	-2.578532	**-3.732163**	-3.470851	-1.945199
Demografi	-2.378988	**-3.431635**	-3.470851	-1.945199

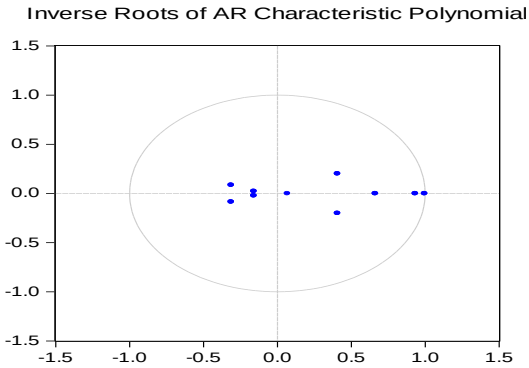
Appendix 2
Lag Optimum

Date: 04/25/19 Time: 15:01
Sample: 2010 2017
Included observations: 99

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-994.1661	NA	401.7348	20.18517	20.31624	20.23820
1	-504.0602	920.8051	0.033388	10.78909	11.57549*	11.10727*
2	-481.3231	40.42141	0.035085	10.83481	12.27654	11.41814
3	-440.8747	67.82267	0.025930	10.52272	12.61979	11.37120
4	-413.4303	43.24566*	0.025139*	10.47334*	13.22574	11.58697
5	-392.5892	30.73534	0.028184	10.55736	13.96509	11.93613

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Appandix 3
Stability VAR Test



Appendix 4
Cointegration test

Date: 04/25/19 Time: 15:04
Sample (adjusted): 2013 2017
Included observations: 165 after adjustments
Trend assumption: Linear deterministic trend
Series: IHDI GROWTH FISCAL_HEALTH FISCAL_EDUCATION DEMOGRAFI
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.376345	171.3055	69.81889	0.0000
At most 1 *	0.249686	93.39932	47.85613	0.0000
At most 2 *	0.130036	46.00075	29.79707	0.0003
At most 3 *	0.084124	23.01572	15.49471	0.0031
At most 4 *	0.050305	8.516440	3.841466	0.0035

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.376345	77.90617	33.87687	0.0000
At most 1 *	0.249686	47.39857	27.58434	0.0000
At most 2 *	0.130036	22.98503	21.13162	0.0271
At most 3 *	0.084124	14.49928	14.26460	0.0459
At most 4 *	0.050305	8.516440	3.841466	0.0035

Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

IHDI	GROWTH	F_HEALTH	F_EDUCATION	DEMOGRAFI
-0.006242	-0.048836	-0.797261	0.609711	0.380424
0.055390	-0.482490	0.660521	-0.763972	-0.314887
-0.026513	-0.266189	-1.034890	1.118867	0.667714
0.061021	-0.153040	-0.462013	0.457112	-1.118967
-0.101613	-0.158426	-0.164358	0.157456	0.001847

Unrestricted Adjustment Coefficients (alpha):

D(IHDI)	-0.215053	-0.401386	0.272988	-1.082653	0.401862
D(GROWTH)	-0.174080	0.657987	0.201773	0.030030	0.145998
D(F_HEALTH)	1.981225	0.921010	-1.059196	-0.212148	0.097815
D(F_EDUCATION)	1.473603	0.961973	-1.231382	-0.233722	0.093626
D(DEMOGARAFI)	-0.000225	-0.001564	-0.000702	0.001622	0.002506

1 Cointegrating Equation(s): Log likelihood -980.0573

Normalized cointegrating coefficients (standard error in parentheses)

IHDI	GROWTH	F_HEALTH	F_EDUCATION	DEMOGARFI
1.000000	7.823893	127.7267	-97.68005	-60.94662
	(9.80261)	(24.7199)	(24.7998)	(19.1035)

Adjustment coefficients (standard error in parentheses)

D(IHDI)	0.001342
	(0.00217)
D(GROWTH)	0.001087
	(0.00080)
D(F_HEALTH)	-0.012367
	(0.00221)
D(F_EDUCATION)	-0.009198
	(0.00224)
D(DEMOGARFI)	1.40E-06
	(6.6E-06)

2 Cointegrating Equation(s): Log likelihood -956.3580

Normalized cointegrating coefficients (standard error in parentheses)

IHDI	GROWTH	F_HEALTH	F_EDUCATION	DEMOGRAFI
1.000000	0.000000	72.93138	-57.98600	-34.79776
		(12.9893)	(13.1010)	(10.1271)
0.000000	1.000000	7.003590	-5.073440	-3.342179
		(1.49443)	(1.50729)	(1.16513)

Adjustment coefficients (standard error in parentheses)

D(IHDI)	-0.020891	0.204167
	(0.01927)	(0.16762)
D(GROWTH)	0.037533	-0.308971
	(0.00653)	(0.05680)
D(F_HEALTH)	0.038648	-0.541134
	(0.01933)	(0.16821)
D(F_EDUCATIO N)	0.044086	-0.536108
	(0.01957)	(0.17028)

D(DEMOGRAFI	-8.52E-05	0.000766
	(5.8E-05)	(0.00051)

3 Cointegrating Equation(s): Log likelihood -944.8655

Normalized cointegrating coefficients (standard error in parentheses)

IHDI	GROWTH	F_HEALTH	F_EDUCATION	DEMOGARFI
1.000000	0.000000	0.000000	-11.29191	-4.587219
			(1.57383)	(8.06442)
0.000000	1.000000	0.000000	-0.589413	-0.441065
			(0.13177)	(0.67520)
0.000000	0.000000	1.000000	-0.640247	-0.414232
			(0.04278)	(0.21922)

Adjustment coefficients (standard error in parentheses)

D(IHDI)	-0.028128	0.131501	-0.376182
	(0.02129)	(0.19082)	(0.50493)
D(GROWTH)	0.032183	-0.362680	0.364589
	(0.00716)	(0.06416)	(0.16978)
D(F_HEALTH)	0.066731	-0.259188	0.124945
	(0.02075)	(0.18594)	(0.49202)
D(F_EDUCATIO N)	0.076734	-0.208328	0.734903
	(0.02078)	(0.18628)	(0.49291)
D(DEMOGRAFI)	-6.66E-05	0.000953	-0.000128
	(6.4E-05)	(0.00058)	(0.00153)

4 Cointegrating Equation(s): Log likelihood -937.6158

Normalized cointegrating coefficients (standard error in parentheses)

IHDI	GROWTH	F_HEALTH	F_EDUCATION	DEMOGRAFI
1.000000	0.000000	0.000000	0.000000	-20.89684
				(4.61422)
0.000000	1.000000	0.000000	0.000000	-1.292392
				(0.47421)
0.000000	0.000000	1.000000	0.000000	-1.338982
				(0.66863)
0.000000	0.000000	0.000000	1.000000	-1.444363
				(0.75527)

Adjustment coefficients (standard error in parentheses)

D(IHDI)	-0.094193	0.297191	0.124017	-0.013930
	(0.02896)	(0.19150)	(0.51215)	(0.51861)
D(GROWTH)	0.034015	-0.367276	0.350715	-0.369338
	(0.01006)	(0.06656)	(0.17799)	(0.18024)
D(F_HEALTH)	0.053786	-0.226721	0.222960	-0.777725
	(0.02914)	(0.19267)	(0.51527)	(0.52178)
D(F_EDUCATION)	0.062472	-0.172559	0.842885	-1.321038
	(0.02918)	(0.19297)	(0.51607)	(0.52258)
D(DEMOGRAFI)	3.23E-05	0.000704	-0.000877	0.001014
	(9.0E-05)	(0.00059)	(0.00159)	(0.00161)

Appendix 5
Vector Error Correcion Model (VECM)

Vector Error Correction Estimates
Date: 04/25/19 Time: 15:12
Sample (adjusted): 2013 2017
Included observations: 165 after adjustments
Standard errors in ( ) & t-statistics in [ ]

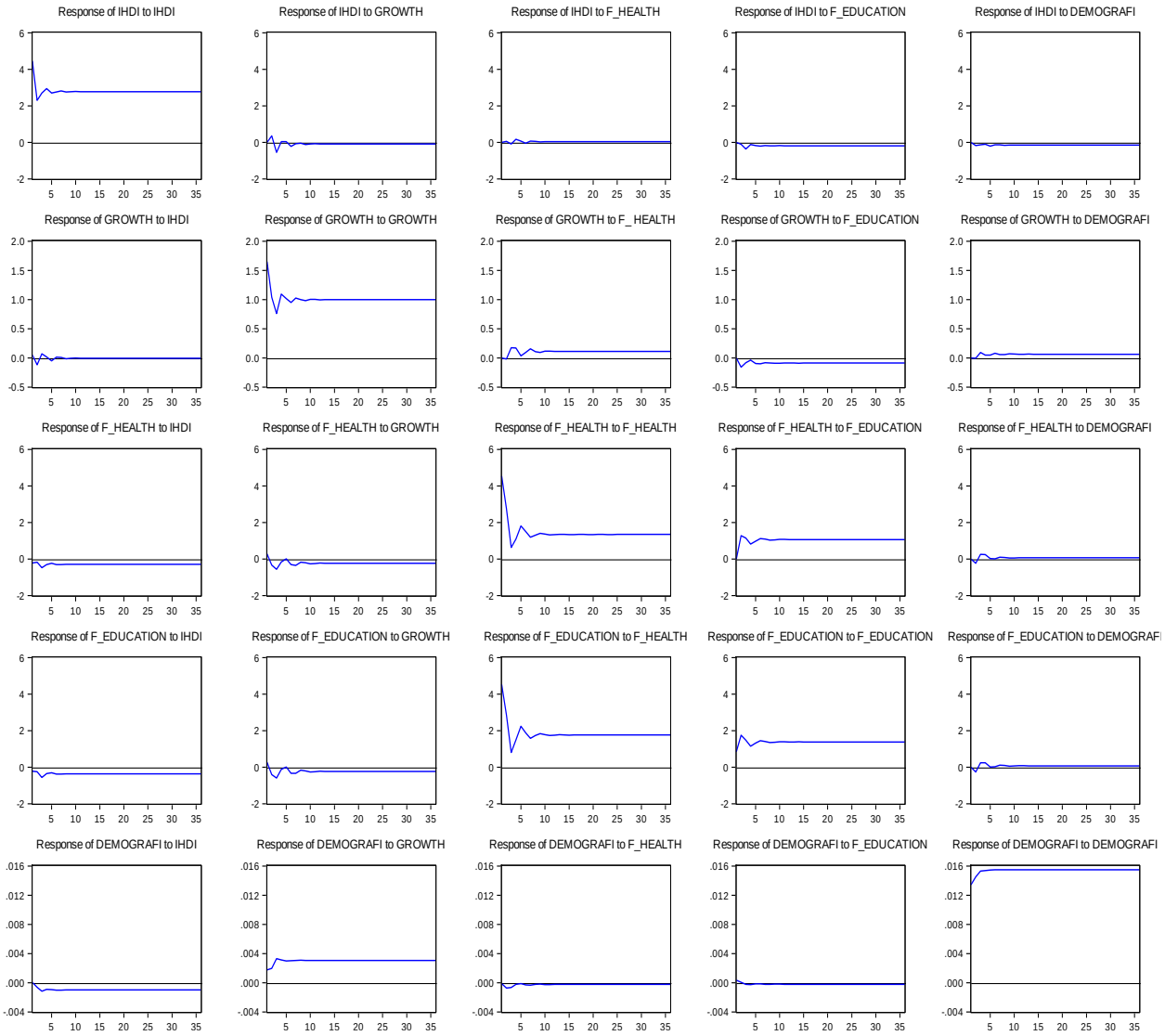
Cointegrating Eq:	CointEq1
IHDI(-1)	1.000000
GROWTH(-1)	7.823893 (9.80261) [0.79814]
F_HEALTH(-1)	127.7267 (24.7199) [5.16696]
F_EDUCATION(-1)	-97.68005 (24.7998) [-3.93875]
DEMOGRAFI(-1)	-60.94662 (19.1035) [-3.19034]
C	136.2588

Error Correction:	D(IHDI)	D(GROWTH)	D(F_HEALTH)	D(F_EDUCATION)	D(DEMOGRAFI)
CointEq1	0.001342 (0.00217) [0.61948]	0.001087 (0.00080) [1.35329]	-0.012367 (0.00221) [-5.58484]	-0.009198 (0.00224) [-4.09746]	1.40E-06 (6.6E-06) [0.21349]
D(IHDI(-1))	-0.489074 (0.08253) [-5.92607]	-0.034780 (0.03058) [-1.13731]	0.005806 (0.08434) [0.06884]	-0.012002 (0.08550) [-0.14037]	-0.000167 (0.00025) [-0.66762]
D(IHDI(-2))	-0.139646 (0.08690) [-1.60692]	0.012728 (0.03220) [0.39526]	-0.072251 (0.08881) [-0.81359]	-0.094139 (0.09003) [-1.04566]	-0.000203 (0.00026) [-0.76856]
D(GROWTH(-1))	0.213735 (0.21654) [0.98705]	-0.379326 (0.08024) [-4.72754]	-0.171563 (0.22128) [-0.77532]	-0.240273 (0.22433) [-1.07108]	3.40E-05 (0.00066) [0.05174]
D(GROWTH(-2))	-0.374554 (0.20280) [-1.84691]	-0.333899 (0.07515) [-4.44330]	-0.143193 (0.20724) [-0.69096]	-0.167648 (0.21009) [-0.79796]	0.000736 (0.00062) [1.19584]

D(F_HEALTH(-1))	-0.033079	0.044067	-0.322229	-0.256864	5.87E-05
	(0.30043)	(0.11132)	(0.30700)	(0.31123)	(0.00091)
	[-0.11011]	[0.39585]	[-1.04960]	[-0.82531]	[0.06436]
D(F_HEALTH(-2))	0.211152	-0.029596	-0.107206	-0.079142	0.000120
	(0.29377)	(0.10885)	(0.30020)	(0.30433)	(0.00089)
	[0.71877]	[-0.27188]	[-0.35712]	[-0.26005]	[0.13421]
D(F_EDUCATION(-1))	0.002511	-0.082139	0.306087	0.167422	-0.000242
	(0.29784)	(0.11037)	(0.30436)	(0.30856)	(0.00090)
	[0.00843]	[-0.74425]	[1.00566]	[0.54259]	[-0.26808]
D(F_EDUCATION(-2))	-0.271731	0.040364	-0.179193	-0.266471	-0.000177
	(0.29415)	(0.10899)	(0.30058)	(0.30473)	(0.00089)
	[-0.92380]	[0.37033]	[-0.59615]	[-0.87446]	[-0.19831]
D(DEMOGRAFI(-1))	-13.82955	-0.463631	-17.99736	-20.54453	0.081898
	(26.4222)	(9.79063)	(27.0006)	(27.3726)	(0.08017)
	[-0.52341]	[-0.04735]	[-0.66655]	[-0.75055]	[1.02153]
D(DEMOGRAFI(-2))	-2.144592	6.413448	33.57415	34.99154	0.045279
	(12.1745)	(4.51121)	(12.4410)	(12.6124)	(0.03694)
	[-0.17615]	[1.42167]	[2.69867]	[2.77437]	[1.22572]
C	1.363607	-0.431390	2.927075	3.323477	0.017604
	(0.69752)	(0.25846)	(0.71279)	(0.72261)	(0.00212)
	[1.95493]	[-1.66905]	[4.10649]	[4.59926]	[8.31774]
R-squared	0.249086	0.234001	0.484702	0.468965	0.045919
Adj. R-squared	0.195099	0.178930	0.447655	0.430786	-0.022675
Sum sq. resids	3042.382	417.7307	3177.035	3265.177	0.028011
S.E. equation	4.459243	1.652352	4.556856	4.619635	0.013531
F-statistic	4.613792	4.249026	13.08324	12.28331	0.669433
Log likelihood	-474.5670	-310.7584	-478.1399	-480.3976	482.0672
Akaike AIC	5.897782	3.912223	5.941090	5.968455	-5.697784
Schwarz SC	6.123669	4.138110	6.166977	6.194342	-5.471897
Mean dependent	0.589644	-0.211758	2.623467	2.806094	0.019621
S.D. dependent	4.970383	1.823527	6.131404	6.123077	0.013380

Determinant resid covariance (dof adj.)	0.144805
Determinant resid covariance	0.099271
Log likelihood	-980.0573
Akaike information criterion	12.66736
Schwarz criterion	13.89092

Appendix 6
Impuls Response Function* (IRF*) Islamic Human Development Index Multigraph


Response of lHDI to lHDI
Response of lHDI to GROWTH
Response of lHDI to F_HEALTH
Response of lHDI to F_EDUCATION
Response of lHDI to DEMOGRAFI
Response of GROWTH to lHDI
Response of GROWTH to GROWTH
Response of GROWTH to F_ HEALTH
Response of GROWTH to F_EDUCATION
Response of GROWTH to DEMOGRAFI
Response of F_HEALTH to lHDI
Response of F_HEALTH to GROWTH
Response of F_HEALTH to F_HEALTH
Response of F_HEALTH to F_EDUCATION
Response of F_HEALTH to DEMOGRAFI
Response of F_EDUCATION to lHDI
Response of F_EDUCATION to GROWTH
Response of F_EDUCATION to F_HEALTH
Response of F_EDUCATION to F_EDUCATION
Response of F_EDUCATION to DEMOGRAFI
Response of DEMOGRAFI to lHDI
Response of DEMOGRAFI to GROWTH
Response of DEMOGRAFI to F_HEALTH
Response of DEMOGRAFI to F_EDUCATION
Response of DEMOGRAFI to DEMOGRAFI

Appendix 7
Forcast Error Variance Decomposition (FEVD) *Islamic Human Development Index* (IHDI)

Variance Decomposition of IHDI:						
Period	S.E.	IHDI	*Growth*	*Health*	*Education*	Demografi
1	4.459243	100.0000	0.000000	0.000000	0.000000	0.000000
2	5.031353	99.31483	0.487479	0.009003	0.051216	0.137477
3	5.752102	98.02917	1.320792	0.030512	0.455272	0.164259
4	6.463357	98.30702	1.048949	0.093175	0.394295	0.156563
5	7.009056	98.39505	0.894452	0.088547	0.402221	0.219728
6	7.540982	98.41446	0.860247	0.080620	0.423070	0.221605
7	8.050200	98.51440	0.763247	0.076330	0.422684	0.223337
8	8.513689	98.57618	0.685550	0.072758	0.426374	0.239138
9	8.956941	98.62070	0.638691	0.066079	0.430051	0.244483
10	9.382267	98.66713	0.592484	0.061557	0.431306	0.247521
11	9.786165	98.70419	0.551180	0.058186	0.433468	0.252973
12	10.17458	98.73382	0.519274	0.054806	0.435367	0.256730
13	10.54950	98.76085	0.491203	0.052036	0.436433	0.259478
14	10.91090	98.78438	0.466004	0.049666	0.437590	0.262363
15	11.26074	98.80453	0.444429	0.047506	0.438741	0.264795
16	11.60027	98.82257	0.425325	0.045642	0.439623	0.266843
17	11.93001	98.83870	0.408140	0.043989	0.440407	0.268761
18	12.25085	98.85308	0.392826	0.042479	0.441153	0.270464
19	12.56357	98.86607	0.379021	0.041127	0.441814	0.271973
20	12.86866	98.87785	0.366473	0.039909	0.442405	0.273362
21	13.16668	98.88856	0.355067	0.038794	0.442948	0.274626
22	13.45811	98.89837	0.344643	0.037774	0.443444	0.275774
23	13.74336	98.90736	0.335066	0.036840	0.443899	0.276831
24	14.02281	98.91565	0.326247	0.035979	0.444319	0.277806
25	14.29679	98.92331	0.318101	0.035183	0.444706	0.278706
26	14.56563	98.93040	0.310548	0.034445	0.445065	0.279540
27	14.82959	98.93700	0.303528	0.033760	0.445399	0.280315
28	15.08893	98.94314	0.296987	0.033121	0.445710	0.281037
29	15.34389	98.94889	0.290877	0.032525	0.446000	0.281712
30	15.59469	98.95426	0.285157	0.031966	0.446272	0.282344
31	15.84151	98.95930	0.279791	0.031442	0.446527	0.282936
32	16.08455	98.96404	0.274746	0.030949	0.446767	0.283493
33	16.32397	98.96851	0.269996	0.030485	0.446993	0.284018
34	16.55992	98.97272	0.265514	0.030048	0.447206	0.284513
35	16.79256	98.97670	0.261279	0.029634	0.447408	0.284981
36	17.02203	98.98047	0.257270	0.029243	0.447598	0.285423

Cholesky Ordering: IHDI, *Growth*, *Health*, *Education*, Demografi

Appendix 8. Counting result *Islamic Human Development Index* Provincies in Indonesia 2010 s/d 2017

Counting result *Islamic Human Development Index* Provincies in Indonesia 2010 s/d 2017								
No	PROVINSI	TAHUN 2010	PROVINSI	TAHUN 2011	PROVINSI	TAHUN 2012	PROVINSI	TAHUN 2013
1	DKI JAKARTA	89.87	DKI JAKARTA	91.24	DKI JAKARTA	92.18	DKI JAKARTA	90.99
2	SUMATERA UTARA	71.55	SUMATERA UTARA	76.30	SUMATERA UTARA	74.25	SUMATERA UTARA	81.94
3	DI YOGYAKARTA	57.29	JAWA BARAT	67.60	JAWA BARAT	66.80	JAWA BARAT	65.81
4	SUMATERA SELATAN	56.86	SULAWESI SELATAN	65.15	BANTEN	64.90	SUMATERA SELATAN	65.41
5	SULAWESI SELATAN	56.84	JAWA TIMUR	62.33	BENGKULU	62.25	SULAWESI SELATAN	61.47
6	SULAWESI TENGAH	56.45	SUMATERA BARAT	57.68	SUMATERA BARAT	58.68	SUMATERA BARAT	59.93
7	NUSA TENGGARA BARAT	55.08	JAWA TENGAH	56.11	SULAWESI TENGGARA	58.22	JAWA TENGAH	57.19
8	JAWA BARAT	54.85	MALUKU	55.82	RIAU	57.89	RIAU	56.29
9	SUMATERA BARAT	54.67	NUSA TENGGARA TIMUR	55.60	NUSA TENGGARA TIMUR	55.86	NUSA TENGGARA TIMUR	56.05
10	MALUKU	54.65	NUSA TENGGARA BARAT	55.56	DI YOGYAKARTA	55.21	PAPUA	56.00
11	KALIMANTAN TIMUR	53.85	SULAWESI TENGAH	55.43	NUSA TENGGARA BARAT	55.19	JAWA TIMUR	55.87
12	NUSA TENGGARA TIMUR	53.73	KEP. RIAU	53.70	KALIMANTAN TIMUR	54.07	SULAWESI TENGAH	55.39
13	RIAU	53.32	PAPUA	53.16	SULAWESI UTARA	53.41	MALUKU	54.71
14	JAWA TENGAH	52.96	RIAU	52.78	MALUKU	53.35	KALIMANTAN TIMUR	54.36
15	BANTEN	51.40	ACEH	52.32	ACEH	53.26	NUSA TENGGARA BARAT	54.21
16	JAWA TIMUR	51.36	KALIMANTAN TIMUR	52.24	SULAWESI SELATAN	53.16	SULAWESI UTARA	53.85

No	PROVINSI	TAHUN 2010	PROVINSI	TAHUN 2011	PROVINSI	TAHUN 2012	PROVINSI	TAHUN 2013
17	ACEH	50.99	SULAWESI BARAT	51.72	KEP. RIAU	52.80	ACEH	53.60
18	PAPUA	50.91	SULAWESI UTARA	51.71	GORONTALO	52.75	KALIMANTAN SELATAN	53.21
19	GORONTALO	50.76	BANTEN	51.66	KALIMANTAN BARAT	52.32	GORONTALO	52.75
20	SULAWESI BARAT	50.57	KALIMANTAN BARAT	51.10	SUMATERA SELATAN	51.36	KEP. RIAU	52.56
21	SULAWESI UTARA	50.51	KALIMANTAN TENGAH	50.82	SULAWESI BARAT	51.31	KALIMANTAN BARAT	51.81
22	KALIMANTAN SELATAN	49.17	KALIMANTAN SELATAN	50.59	PAPUA	50.80	BALI	51.72

23	KEP. RIAU	48.85	DI YOGYAKARTA	49.71	KALIMANTAN SELATAN	50.41	DI YOGYAKARTA	50.59
24	KALIMANTAN BARAT	48.60	BENGKULU	49.12	SULAWESI TENGAH	49.93	BANTEN	50.58
25	KALIMANTAN TENGAH	48.35	SUMATERA SELATAN	49.02	MALUKU UTARA	49.91	BENGKULU	50.15
26	SULAWESI TENGGARA	48.32	GORONTALO	48.86	BALI	49.01	KALIMANTAN TENGAH	49.46
27	BALI	47.93	LAMPUNG	48.29	KALIMANTAN TENGAH	48.95	SULAWESI BARAT	49.08
28	MALUKU UTARA	47.92	MALUKU UTARA	47.33	LAMPUNG	48.63	SULAWESI TENGGARA	48.83
29	LAMPUNG	47.60	SULAWESI TENGGARA	47.19	JAWA TIMUR	48.37	LAMPUNG	48.48
30	BENGKULU	46.86	BALI	47.12	JAWA TENGAH	47.11	JAMBI	47.68
31	KEP. BANGKA BELITUNG	44.93	KEP. BANGKA BELITUNG	45.92	KEP. BANGKA BELITUNG	46.72	MALUKU UTARA	47.30
32	JAMBI	43.31	JAMBI	45.90	JAMBI	46.42	KEP. BANGKA BELITUNG	45.71
33	PAPUA BARAT	30.40	PAPUA BARAT	30.08	PAPUA BARAT	30.46	PAPUA BARAT	30.59

No	PROVINSI	TAHUN 2014	PROVINSI	TAHUN 2015	PROVINSI	TAHUN 2016	PROVINSI	TAHUN 2017
1	DKI JAKARTA	91.81	DKI JAKARTA	92.28	DKI JAKARTA	88.79	SUMATERA UTARA	87.39
2	SUMATERA UTARA	80.99	SUMATERA UTARA	82.46	SUMATERA UTARA	81.65	DKI JAKARTA	83.95
3	JAWA BARAT	69.64	JAWA TIMUR	77.50	JAWA BARAT	77.61	JAWA TIMUR	82.11
4	SUMATERA SELATAN	67.61	JAWA BARAT	73.11	JAWA TIMUR	73.31	JAWA BARAT	76.28
5	SULAWESI SELATAN	61.03	SUMATERA SELATAN	65.18	BENGKULU	65.35	SULAWESI SELATAN	70.27
6	SUMATERA BARAT	60.89	SUMATERA BARAT	63.57	SUMATERA BARAT	61.87	SUMATERA BARAT	62.16
7	JAWA TENGAH	59.53	SULAWESI SELATAN	62.61	SULAWESI SELATAN	61.74	PAPUA	60.09
8	PAPUA	57.48	JAWA TENGAH	61.07	KALIMANTAN BARAT	59.26	SUMATERA SELATAN	58.98
9	NUSA TENGGARA TIMUR	57.05	SULAWESI TENGAH	58.27	JAWA TENGAH	58.60	KALIMANTAN BARAT	58.87
10	RIAU	56.84	RIAU	58.01	KALIMANTAN TIMUR	56.00	LAMPUNG	57.41
11	JAWA TIMUR	55.85	MALUKU	57.68	ACEH	55.96	JAWA TENGAH	57.13
12	MALUKU	55.43	ACEH	55.68	LAMPUNG	55.92	KALIMANTAN TIMUR	57.12
13	NUSA TENGGARA BARAT	55.27	DI YOGYAKARTA	55.48	NUSA TENGGARA TIMUR	55.13	JAMBI	56.17

No	PROVINSI	TAHUN 2014	PROVINSI	TAHUN 2015	PROVINSI	TAHUN 2016	PROVINSI	TAHUN 2017
14	SULAWESI TENGAH	54.75	LAMPUNG	54.85	RIAU	55.00	ACEH	55.68
15	KEP. RIAU	54.60	JAMBI	54.77	MALUKU UTARA	54.96	NUSA TENGGARA TIMUR	55.33
16	KALIMANTAN TIMUR	54.56	SULAWESI UTARA	53.51	SULAWESI TENGAH	54.61	RIAU	54.23
17	ACEH	53.44	KEP. RIAU	53.30	MALUKU	53.78	NUSA TENGGARA BARAT	54.12
18	BANTEN	53.32	GORONTALO	52.88	JAMBI	52.78	MALUKU UTARA	53.92
19	GORONTALO	52.51	BENGKULU	52.80	NTB	52.78	MALUKU	53.66
20	SULAWESI UTARA	52.49	KALIMANTAN TIMUR	52.60	GORONTALO	52.54	KALIMANTAN SELATAN	52.95
21	DI YOGYAKARTA	52.14	SULAWESI BARAT	52.20	SUMATERA SELATAN	52.42	GORONTALO	52.68
22	KALIMANTAN SELATAN	51.99	BALI	52.12	DI YOGYAKARTA	51.86	DI YOGYAKARTA	51.83
23	KALIMANTAN BARAT	51.83	PAPUA	50.68	BALI	51.76	BENGKULU	51.78
24	SULAWESI BARAT	51.74	BANTEN	49.49	KALIMANTAN SELATAN	50.47	SULAWESI BARAT	50.92
25	BALI	51.23	KALIMANTAN SELATAN	48.35	SULAWESI TENGGARA	50.19	SULAWESI TENGGARA	50.68
26	LAMPUNG	51.07	MALUKU UTARA	47.80	SULAWESI BARAT	49.97	BALI	50.43
27	JAMBI	50.02	SULAWESI TENGGARA	47.79	PAPUA BARAT	49.62	PAPUA BARAT	49.88
28	KALIMANTAN TENGAH	49.66	NUSA TENGGARA TIMUR	46.81	KALIMANTAN TENGAH	48.73	BANTEN	48.06
29	BENGKULU	49.16	KEP. BANGKA BELITUNG	46.05	BANTEN	48.15	KEP. RIAU	47.08
30	SULAWESI TENGGARA	48.21	NUSA TENGGARA BARAT	45.99	KEP. RIAU	47.99	SULAWESI TENGAH	47.03
31	MALUKU UTARA	47.82	KALIMANTAN BARAT	45.39	KEP. BANGKA BELITUNG	46.58	KEP. BANGKA BELITUNG	46.08
32	KEP. BANGKA BELITUNG	45.10	KALIMANTAN TENGAH	43.12	PAPUA	37.17	KALIMANTAN TENGAH	44.73
33	PAPUA BARAT	30.68	PAPUA BARAT	31.11	SULAWESI UTARA	27.43	SULAWESI UTARA	25.68