

Contribution Sector of Agriculture, Mining, Manufacturing, Construction, Retail Trade and Professional/Technical to the Formation of Indonesia's Gross Domestic Product

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Abstract: The purpose of this research aims to know the contribution of sector of Agriculture, Mining, Manufacturing, Construction, Retail Trade and Professional/Technical to the Formation of Indonesia's Gross Domestic Product. The type of this research is quantitative methods with secondary data from Economic of Indonesia Period 2000 until 2017 from Asia Development Bank. The statistical tool of this research use Time Series analysis with WarpPLS 6.0 software. The results show that Agriculture influence to the formation of Indonesia's Gross Domestic Product. The Mining, Manufacturing, Construction, Retail Trade and Professional/Technical are not influence.

1 INTRODUCTION

An economy experiences economic growth if the amount of production of goods and services. Economic growth is an increase in community economic activity that causes an increase in the production of goods and services or an increase of national income. Economic growth can be interpreted as a process of changing a country's economic conditions on an ongoing basis towards better conditions for a certain period (Pheng and Hou, 2019, Polyakova et al., 2019 and Van et al. 2019). Economic growth can indicate the success of economic development in people's lives, so it is important to do the calculation on economic growth. The Gross Domestic Product Period in 2000-2017 show in the Table 1.

Based on Table 1 show that the sectoral industry contributed by agriculture, forest, and fishing. Indonesia is an agrarian country, so most of the people of Indonesia search as farmers and ranchers. The contribution of the agriculture and livestock sector to economic growth and development in Indonesia This sector includes the sub-sector of plants, foodstuffs, estate crops, livestock, forestry and food. Agriculture and animal husbandry play an important role in human life, especially Indonesians whose food needs are dominated by agriculture and animal husbandry such as rice, vegetables, fruit, meat, milk, skin and so on. Agriculture also acts as a supplier of raw materials which will later be processed by the manufacturing industry (Ahmed and Sallam, 2018, Stupnikova and Sukhadolets, 2019). With agriculture and animal husbandry a free market system can be formed in which a variety of exchanges of basic needs for money occur. In this condition the Government also participates in setting prices in the free market.

Agriculture and animal husbandry are able to provide foreign exchange to the country if agriculture and animal husbandry are able to increase production capacity and increase the competitiveness of agricultural or livestock products (Muradi and Boz, 2018). This must be done so that Indonesian farmers and ranchers are able to increase exports and reduce imports. In this process of change, the government must participate in helping

Table 1. Gross Domestic Product by Industrial

Years	Agriculture, Forest, and Fishing	Mining and Quarrying	Manufacturing	Construction	Whole sale and Retail Trade	Professional, Scientific & Technical Activities	GDP by Industrial
2000	216.8	167.7	383.6	76.6	185.0	19.3	1389.7699
2001	223.9	168.2	398.3	80.1	191.6	20.1	1440.4657
2002	231.6	169.9	419.4	84.5	199.5	21.9	1505.2164
2003	240.4	167.6	441.8	89.6	210.7	23.4	1577.1713
2004	247.2	160.1	470.0	96.3	222.3	25.6	1656.5188
2005	253.9	165.2	491.6	103.6	241.9	28.0	1750.8152
2006	262.4	168.0	514.1	112.2	257.8	30.6	1847.1287
2007	271.5	171.3	538.1	121.8	282.1	33.1	1964.3273
2008	284.6	172.5	557.8	131.0	301.9	36.1	2082.4561
2009	295.9	180.2	570.1	140.3	302.0	39.6	2178.851
2010	956.1	718.1	1.512.8	626.9	923.9	99.1	6864.1331
2011	993.9	749.0	1.607.5	683.4	1.013.	108.2	7287.6322
2012	1.039.4	771.6	1.697.8	728.2	1.067.	116.3	7727.0824
2013	1.083.1	791.1	1.772.0	772.7	1.119.	125.5	8156.4978
2014	1.129.1	794.5	1.834.3	826.6	1.177.	137.8	8564.8666
2015	1.171.4	767.3	1.934.5	879.2	1.207.	148.4	8982.5113
2016	1.210.7	774.6	2.016.9	923.1	1.235.	159.3	9434.6223
2017	1.256.9	779.9	2.103.1	987.9	1.311.	172.8	9912.7492

Sources : Asia Development Bank (2019).

farmers by providing land that farmers use, providing basic training, subsidizing superior machinery and seeds, and encouraging people to use domestic agricultural and livestock products. This is useful to reduce imports and increase exports.

Indonesia has abundant natural resources. Indonesia can become a developed country if it has superior human resources in dealing with natural resource issues. Many mines in Indonesia are owned by foreign companies so it is not helpful to increase the country's foreign exchange income. The role of the mining industry is increasingly important for the economies of countries in the world including in Indonesia. There are 40 countries that depend on non-oil exports more than 25% of the country's goods exports. Three quarters of the 40 countries are middle and low income countries. Many of these 40 countries have low Human Development Indexes. Ericsson and Löf (2019) stated in many countries with the mining sector such as Chile, Ghana and Brazil, mining has played a large role in poverty alleviation and social development performance compared to countries without the mining sector.

The industrial sector that developed until now turned out to be still dominated by labor-intensive industries, which usually have relatively short links, so the creation of added value is also relatively small (Casni et al., 2019). However, due to the large population of business units, the contribution to the economy remains large. At present every region in Indonesia hotel and restaurant developments affect the economy in Indonesia. This is a trading activity so that the level of consumption in Indonesia is also quite large. In addition, the development of services is quite high such as insurance companies, travel, public accountants, teachers, and others.

2 METHOD

This study uses Secondary data. Data source from Asia Development Bank in 2000-2017 period. The hypothesis was tested by using WarpPLS software 6.0. The data analysis technique in this research with Linear Regression. The equation is formed as follows:

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e$$

- X1 = Agriculture
- X2 = Mining
- X3 = Manufacturing
- X4 = Construction

- X5 = Retail and Trade
- X6 = Professional/Technical
- Y = Formation of Indonesia's Gross Domestic Product
- b₁,...b₅ = Coefficient
- α = Constant
- e = Error

3 RESULT AND DISCUSSION

3.1 Result

The descriptive statistics of this research are as follows:

Table 2. Descriptive Statistics

	X1	X2	X3	X4	X5	X6	Y
X1	1	0.991	0.999	0.998	0.999	0.989	0.999
X2	0.991	1	0.985	0.981	0.987	0.961	0.985
X3	0.999	0.985	1	0.999	1	0.994	1
X4	0.998	0.981	0.999	1	0.999	0.996	1
X5	0.999	0.987	1	0.999	1	0.992	0.999
X6	0.989	0.961	0.994	0.996	0.992	1	0.995
Y	0.999	0.985	1	1	0.999	0.995	1
(Mean)	631.6	435.3	1071.	414.7	637.2	74.7	4684.
(SD)	441.4	306.7	695.9	367.0	466.2	56.71	3461.
(Min)	216.8	160.1	385.5	76.57	184.9	19.27	1389.7
(Max)	1256.	794.4	2103.	987.8	1311.	172.7	9912.
(Median)	290.2	176.3	563.9	135.6	301.9	37.83	2130.
(Mode)	216.8	160.1	385.5	76.57	184.9	19.27	1389.
(Skewne)	0.289	0.231	0.313	0.35	0.301	0.45	0.328
(Exc. k)	-1.819	-1.936	-1.753	-1.694	-1.78	-1.469	-1.737

Sources :WarpPLS 6.0 (2019).

3.1.1 Hypothesis Testing

Based on the results of testing the hypothesis found in Figure 1 below:

Sources :WarpPLS 6.0 (2019).

Figure 3. WarpPLS Testing Results 6.0

Based on Figure 1, only the Agriculture variable influences the formation of Indonesia's Gross Domestic Product while the other variables have no effect. This is indicated by the significance value smaller than 0.001 (Ho is rejected, Ha is accepted). The significance value (p value) of each variable is as follows:

P values

AFF(X1)	MQ(X2)	Mnf(X3)	Cons(X4)
WRT(X5)	PSTA(X6)		
GDP_In_	0.009	0.489	0.224
	0.203	0.292	0.381

From the description above, the multiple regression equation is derived from the path coefficient as follows:

$$Y = 0.459 X1 + 0.007 X2 + 0.165 X3 + 0.179 X4 - 0.121 X5 + 0.069 X6 + e$$

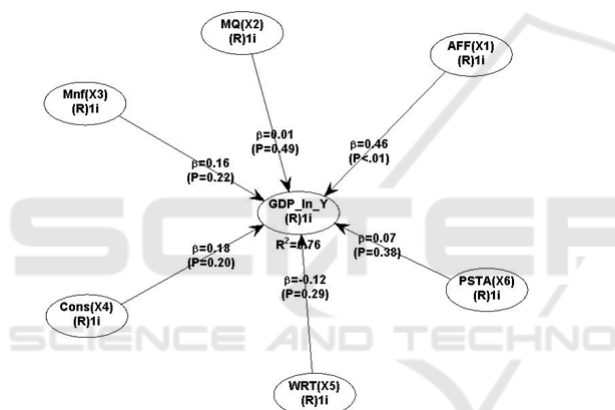
3.1.2 Determination Coefficient Test Results (R2)

The coefficient of determination is used to test the goodness-fit of the regression model which can be seen from the R Square value. R square only exists for endogenous constructs. The magnitude of the coefficient of determination is as follows:

* Latent variable coefficients *

R-squared coefficients

AFF(X1) MQ(X2) Mnf(X3) Cons(X4)
 WRT(X5) PSTA(X6) GDP_In_ 0.757



Source: WarpPLS Output 6.0. (2019).

3.2 Discussion

Income arising from the production activities constitutes domestic income. All goods and services as a result of economic activities operating in the domestic territory, regardless of whether the production factors originate from or are owned by the inhabitants of the area, are the domestic products of the region concerned. The fact shows that some of the factors of production used in production activities in an area originate from other regions or from abroad, and vice versa the factors of production owned by residents of the area participate in the production process in other regions or abroad (Chung and Tseng, 2019 and Hasan et al., 2019). This causes the value of domestic products that arise in an area is not the same as the income received by residents of the area. Gawrycka and Szymczak(2019) states that the flow of income that

flows between these which is generally in the form of wages/salaries, interest, dividends and profits, there is a difference between domestic products and regional products.

Value added calculation is the value of production minus the intermediate costs. Gross value added here includes components of income factors (wages and salaries, interest, land rent and profits), depreciation and net indirect taxes. So by adding up the gross added value of each sector and adding up the gross added value of all these sectors, a Gross Regional Domestic Product will be obtained at the market price (Mardones and Rio, 2019). Net Regional Domestic Product based on the cost of the factor is the amount of compensation for the factors of production participating in the production process in a region. Net Regional Domestic Product based on factor costs, is the amount of income in the form of wages and salaries, interest, land rent and profits incurred or is income derived from the area (Miller, 2019). However, the income generated earlier is not entirely the income of residents of the area, because there is a portion of the income received by residents of other regions, for example a company whose capital is owned by outsiders, but a company operating in the area, then by itself the profits of the company some will belong to outsiders, that is, those who have the capital (Olufayo, 2019 and Pescee et al., 2019). Conversely, if there are residents of this area who add capital outside the area, then some of the company's profits will flow into the area, and become income from the owners of capital.

For this reason the need to increase the volume of production in the agricultural sector, especially the added value. The manufacturing sector needs to be improved if there is a continuous supply of electricity and gas in an area. If the Regional Net Regional Product is based on a factor cost reduced by income flowing out and added to income flowing in, then the result will be the Regional Net Product that is the amount of income actually received by all who live in the area concerned. This Regional Net Product is Regional Revenue.

4 CONCLUSIONS

The results show that Agriculture sector influence to the formation of Indonesia's Gross Domestic Product. The Mining, Manufacturing, Construction, Retail Trade and Professional/Technical are not influence to the sectoral GDP.

REFERENCES

- Asia Development Bank 2019. Asian Development Outlook (ADO) 2019 Chart Data: Challenges from rising headwinds. Retrieved from <https://data.adb.org/dataset/asian-development-outlook-ado-2019-chart-data-challenges-rising-headwinds>. Accessed on July 23, 2019.
- Ahmed, O., & Sallam, W. 2018. Studying the volatility effect of agricultural exports on agriculture share of GDP: The case of Egypt. *African Journal of Agricultural Research*, 13(8), 345-352.
- Casni, A. Č., Palic, P., & Vizek, M. 2019. Long-Term Trends in Croatian GDP Growth. In *Policy-Making at the European Periphery* (pp. 127-145). Palgrave Macmillan, Cham.
- Chung, T. A., & Tseng, C. Y. 2019. The knowledge intensity and the economic performance in Taiwan's knowledge intensity business services. *Ekonomski Istraživanja*, 32(1), 797-811.
- Ericsson, M., & Löf, O. 2019. Mining's contribution to national economies between 1996 and 2016. *Mineral Economics*, 1-28.
- Gawrycka, M., & Szymczak, A. 2019. Reasons behind changes in the share of labour in national income in the Polish economy: Selected aspects. *Journal of Economics & Management*, 36, 5-18.
- Hassan, M. K. H., Noor, Z. M., Ismail, N. W., Radam, A., & Rashid, Z. A. 2019. The Contribution of Various Sectors in West Malaysia to the Economic Growth: An Input-Output Analysis. *International Journal of Academic Research In Business And Social Sciences*, 9(1), 221-234.
- Mardones, C., & Rio, R. 2019. Correction of Chilean GDP for natural capital depreciation and environmental degradation caused by copper mining. *Resources Policy*, 60, 143-152.
- Miller, M. A. 2019. Manufacturing Divergence of National Economies. In *International Scientific Conference "Far East Con" (ISCFEC 2018)*. Atlantis Press.
- Muradi, A. J., & Boz, I. (2018). The contribution of Agriculture Sector in the Economy of Afghanistan. *International Journal of Scientific Research and Management*, 6(10).23-45.
- Olufayo, M. B. 2019. The Contribution of Manufacturing Sector To Economic Growth (1981-2015). *Economic and Social Development: Book of Proceedings*, 167-177.
- Pesce, O., Tumuhimbise, C., Davis, W., & Sommer, L. 2019. The Importance of the Services Sector for Africa. In *Logistics and Global Value Chains in Africa* (pp. 239-263). Palgrave Macmillan, Cham.
- Pheng, L. S., & Hou, L. S. 2019. The Economy and the Construction Industry. In *Construction Quality and the Economy* (pp. 21-54). Springer, Singapore.
- Polyakova, A. G., Ramakrishna, S. A., Kolmakov, V. V., & Zavyalov, D. V. 2019. A Model of Fuel and Energy Sector Contribution to Economic Growth. *International Journal of Energy Economics and Policy*, 9(5), 25.
- Stupnikova, E., & Sukhodolets, T. 2019. Construction Sector Role in Gross Fixed Capital Formation: Empirical Data from Russia. *Economics*, 7(2), 42-54.
- Van C.A., Vancauteran, M., Braekers, R., & Vandemaele, S. 2019. International trade, foreign direct investments, and firms' systemic risk: Evidence from the Netherlands. *Economic Modelling*, 81, 361-386.