The Contribution of Fiscal Policies to the Industry Sector

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ABSTRACT

Fiscal policy is an adjustment in government revenue and expenditure as stipulated in the state revenue and expenditure budget in order to achieve better economic stability and pace of development. Several studies have shown that there is a relationship between fiscal policy and industrial sector output. The main objective of this study is to measure and analyze the contribution of fiscal policy on the industrial sector. The variables used in this research are industrial sector GDP, BI interest rate, government expenditure and tax revenue. The appropriate model for time series data that is not stationary is the Vector Error Correction Model (VECM). The data used are quarterly data from 1999 to 2019. The empirical results show that the industrial sector has a positive response to the shock of tax revenue variables and the consumer price index. On the other hand, the industrial sector responded negatively to shocks from government spending and the BI interest rate. The results of the variance decomposition analysis show that government spending provides the largest contribution to the industrial sector compared to other variables in this study.

Keywords: *Fiscal policy, Keynes, Industry sector, VECM.*

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Highlights of this paper

- The main objective of this study is to measure and analyze the contribution of fiscal policy (measured by government expenditure) on the industrial sector.
- In Indonesia, the industrial sector gave a negative response to the shock caused by government expenditure.
- The variance decomposition analysis show that government expenditure provides the largest contribution to the industrial sector.

1. INTRODUCTION

The significant influence of fiscal policy on the economy was stated by Keynes. One of the interesting researches is research conducted in Brazil. Aghion, Hemous, and Kharroubi (2011) and Holland, Marcal, and De Prince (2020) found that government spending is ineffective. This finding is in contrasts with advanced economies and even emerging market economies. Because the values are much greater for the estimates before the 2008 crisis, we infer that the fiscal policy lost luster during difficult times in Brazil.

Maşca, Cuceu, and Văidean (2015) identify the main determinants of economic growth in the EU countries and to highlight several reforms in terms of public policies. The results point out to the fact that a rather small dimensioned public sector positively influences economic growth, just like productive investments do, as opposed to non-productive investments. The differential taxation of tax base categories, as well as a cautionary increase or decrease in public debt, has to be considered in order to get a sustainable fiscal policy. Ezejiofor, Adigwe, and Echekoba (2015) show that the effect of taxes on the performance of manufacturing companies in Nigeria is significant. The implication of these findings is that the amount of tax paid depends on the company's performance. (Osinowo, 2015) found that the manufacturing sector has a positive relationship with total government fiscal expenditure, trade openness, interest rate, political instability, population, and labour, while inflation rate has negatively impacted output growth of the various sectors with an exception of manufacturing sector. The study concluded that the existence of disparity in the sectoral response to fiscal policy variables underscored the difficulty of conducting uniform and economic wide fiscal policy in Nigeria.

In managing macroeconomic stability, fiscal policy will interact with monetary policy (Surjaningsih, Utari, & Trisnanto, 2012). Compared with the empirical literature that deals with the effects of monetary policy, fiscal policy has received far less attention in economic research to date. This condition actually contradicts the fact that quite a lot of public debate on the role of fiscal policy is based on the argument that raises the macroeconomic importance of government spending and taxation (Fatas & Mihov, 2001). A study conducted by Aghion et al. (2011) discusses cyclical fiscal policies, credit constraints and industrial growth in 15 OECD member countries during the period 1980-2005. The results showed that the industrial sector with a relatively heavier dependence on external finance or having fewer tangible assets tended to grow faster. Al Arif and Tohari (2006) analyzes the impact of the inflation and the world interest rate on the Indonesian economy as well as the effectiveness of the Indonesian central bank policy to adopt the domestic macroeconomic fluctuation. The analysis provides 2 main results, first, the international variables do have impacts on the domestic variables fluctuation, implying the fragility of the domestic economy due to the external shock. Second, the monetary policy is effective in supporting the economic growth and stabilizing the price level. Giavazzi and Pagano (1990) and research by Mahfouz, Hemming, and Kell (2002) also found that fiscal expansion has a negative multiplier effect on the economy. Maryatmo (2004) states that there is a reciprocal relationship between fiscal variables and monetary variables as well as a reciprocal relationship between fiscal and monetary instruments that eliminates each other (substitution). Blanchard and Perotti (2002) examined the dynamic effects of government spending and tax shocks on the United States in the post-war period. This study uses a VAR study approach/event study approach and uses institutional information on tax and system transfers to

identify automatic tax and expenditure responses to activities, and to infer fiscal shocks. Research results consistently show that positive government spending shocks have a positive impact on output, and positive tax shocks have a negative impact. The specific outcome is that an increase in taxes and an increase in government spending has a strong negative effect on investment spending. In Nigeria, there have been concerns about the role of fiscal policy on the output and input of the manufacturing industry in Nigeria. However, the facts show that the government initiated several policies aimed at increasing Nigerian economic growth through the contribution of the manufacturing industry to economic utilization and capacity building of each sector. The results show that government spending significantly affects the manufacturing sector. The results show that there is a long-run relationship between fiscal policy and the output of the manufacturing sector. The implication of these findings is that if the government does not increase public spending and its implementation, the manufacturing sector in Nigeria will not produce a corresponding increase in Nigerian economic growth (Eze & Ogiji, 2013).

Ortiz and Rodriguez (2002) modified the Mundell-Flemming model by introducing the implications of the fiscal deficit and international reserves as determinants of the level of country risk. Leitemo (2004) emphasizes that if there is a conflict regarding the large output gap, monetary and fiscal policy will result in significant interest rate and exchange rate volatility, as a result of the output gap conflict. Perotti (2005) found a much smaller multiplier for European countries. Romer and Romer (2010) found that a fiscal stimulus of 1 percent of GDP resulted in an increase in GDP by almost 1 percent and as much as 2 to 3 percent of GDP during peak effect, several years later. Meanwhile, a cross-country study by Christiansen (2008) found a small fiscal multiplier for the economy and in some cases a negative sign multiplier. Freedman, Kumhof, Laxton, and Lee (2009) suggest that a worldwide expansionary fiscal policy combined with an accommodative monetary policy can have a significant multiplier effect on the world economy. Tkalec and Vizek (2010) show that changes in fiscal conditions, the real effective exchange rate and personal consumption mostly affect low technologically intens industries.

The purpose of this study is to analyze the contribution of fiscal policy to the industrial sector. There are three variables used in this study that adopt Surjaningsih et al. (2012) research, namely the total government expenditure variable, the total real tax revenue and the consumer price index. Two other variables used in this study are different from Surjaningsih et al. (2012) namely the interest rate variable of Bank Indonesia and the GDP of the industrial sector. The BI interest rate variable is used on the grounds that the 3-month time deposit interest rate used in the previous study is basically an interest rate that refers to the Bank Indonesia's interest rate. This study develops previous research conducted by Yunanto (2015) which is to analyze the impact of fiscal policy on the industrial sector. The purpose of this study is to analyze the contribution of fiscal policy to the industrial sector. The difference between this research and that of Yunanto (2015) is that the research data used here is data from 1999 to 2019. The method used is to adopt the research of Surjaningsih et al. (2012) and Yunanto (2015) i.e. using the VECM model, because the data in this study is of time series data. The contribution of this research the empirical findings in model development and their economic policy recommendations to the economy.

2. METHOD

This study uses time series data over the period 1999: 1 to 2019: 4, displayed on quarterly data based on constant values with the base year in 2010, except for data which is in the form of index values. The data sources are Economic and Financial Statistics (SEKI) published by Bank Indonesia (BI), and data from the Central Statistics Agency (BPS). Government spending, i.e. spending on goods and services (government consumption) as a proxy for fiscal policy. Fiscal policy is assumed to focus more on economic growth. The variables adopted from Surjaningsih et al. (2012) are total real government expenditure, total real tax revenue, and the consumer price index. Two

variables that are different from Surjaningsih et al. (2012) research are the use of the SBI (Bank Indonesia certificate) interest rate variable as a substitute for the 3-month time deposit interest rate variable and the industrial sector GDP variable. The complete operationalization of the variables can be seen in Table 1.

Table-1. Research variables description.

No.	Variable	Description
1.	KONP	Government Expenditure
2.	PDBINDUS	Industrial Sector Gross Domestic Product
3.	PPJK	Tax Revenue
4.	IHK	Consumer Price Index
5.	BIRATE	BI interest rate

Source: Yunanto (2015).

The stages of data testing include data stationarity test, Johansen cointegration test, Granger causality test, VECM estimation, Impulse Response Function analysis and Variance Decomposition.

3. RESULTS AND DISCUSSION

The following is a description of the conditions of the variables studied, namely the industrial sector GDP, BI Rate, government consumption, tax revenues and the consumer price index during the study period, 1999-2019.

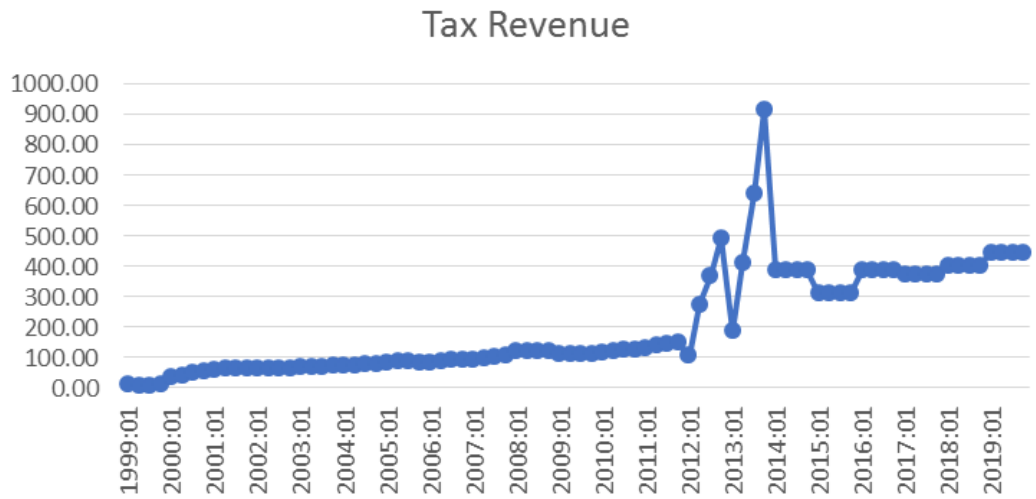

Figure-1. The Growth of Tax Revenue in the periode 1999-2019.

Taxes are one of the main sources of state revenue. Tax revenue, which includes tax and customs and excise revenues, also includes the backbone of the state budget. Tax revenue tends to increase, as shown in Figure 1. From 1999 to 2011, tax revenue continued to increase, although the increase was not sharp. Indonesia, which can be said to have just recovered from the monetary crisis that occurred in 1998, continues to strive for tax revenue development purposes. In 2009 : 95,1%, target : Rp652 trillion, realization: Rp620 trillion. In 2010 : 97,3%, target : Rp743 trillion, realization : Rp723 trillion. In 2011 : 99,4 %, target : Rp879 trillion, realization : Rp874 trillion 2012 : 96,4%, target : Rp1.016 trillion, realization : Rp981 trillion. In 2013 : 93,8 %, target : Rp1.148 trillion, realization : Rp1.077 trillion. In 2014 : 91,7 %, target : Rp1.246 trillion, realization: Rp1.143 trillion (Pratiwi, 2015). The decline in economic growth affects tax revenue. Revenue from the tax sector in 2013 was still far from the set target. However, when compared to the same period in 2012 (y-o-y), tax revenues increased by 7.72%. The Director General of State Treasury noted that the realization of tax revenues was IDR 634.6 trillion or 71.75% of the set target in the 2013 APBN-P as of 31 October 2013 (Universitas Gajah Mada, 2013).

CPI growth, has increased from year to year during the study period, as seen from Figure 2. This increase reached its peak at the end of 2014, which was 190.52. At the beginning of 2015 it decreased by 80 points. Historically speaking, the level and volatility of inflation in Indonesia is higher than inflation in other developing countries.

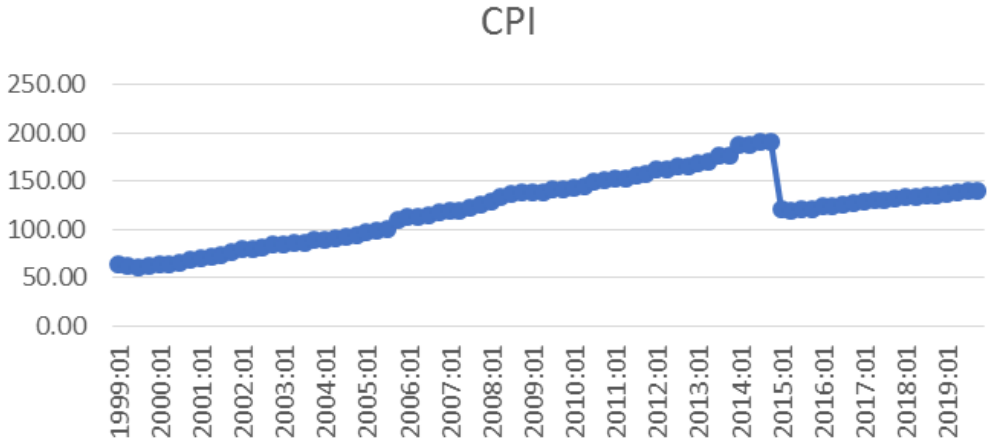

Figure-2. The Growth of Consumer Price Index (CPI) in the periode 1999-2019.

While other developing countries experienced inflation rates of between 3 - 5 percent, per year, during the 2005 - 2014 period, Indonesia actually had an average annual inflation rate of 8.5 percent over the same period. It was only from 2015 that inflation in Indonesia could be said to be under control. Even into the new era, the era of low inflation. In November 2014, the government cut fuel subsidies by 31% for premium and 36% for diesel. At that time the global crude oil price was very low. The dramatic fall in global crude oil prices that began in August 2014 in combination with subsidized fuel prices that did not change according to market prices resulted in a paradoxical situation buyers were subsidized by the government as subsidized fuel prices have become more expensive than market prices. However, despite low global oil prices, the decision to cut fuel subsidies in late 2014 pushed Indonesia's monthly inflation rates to 1.50 percent and 2.46 percent in November and December 2014, respectively (Indonesia-Investment, 2018).

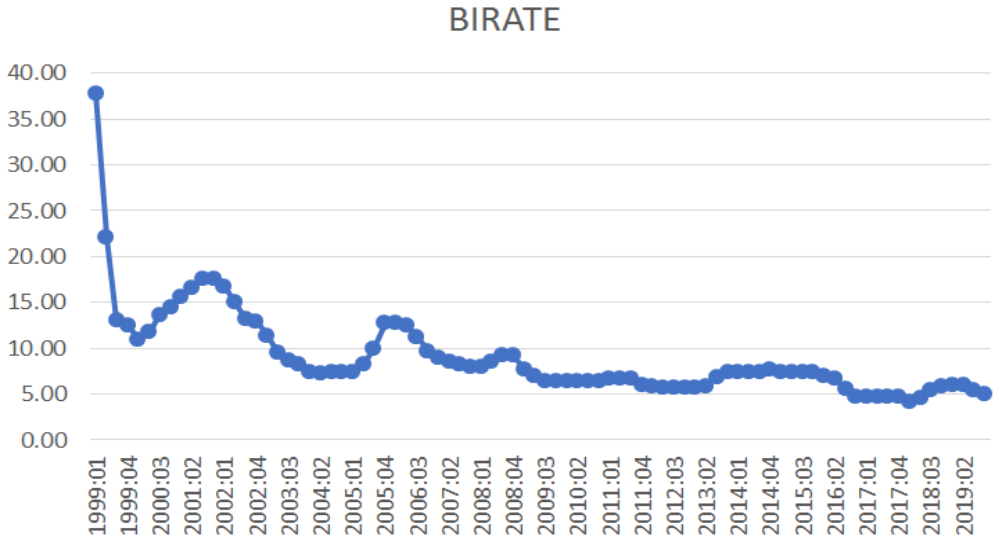

Figure-3. The Growth of BI Interest Rate in the Periode 1999-2019.

The movement of the BI interest rate fluctuated relatively during the study period, as shown in Figure 3. Base on a press release on July 3, 2008, the Board of Governors Meeting (RDG) of Bank Indonesia decided to increase

the BI Rate by 25 bps to 8.75%. This decision was taken after careful observation and consideration of risks that may affect the stability of the Indonesian economy and financial system, as well as the prospects for economic growth this year and next year. Inflationary pressure in 2008 originated primarily from the impact of the fuel price hike and rising food prices. However, Bank Indonesia, as the central bank, also saw an increase in pressure on the demand side, in line with the increase in credit growth and high money supply up to Q2 / 2008, and there were indications of rising inflation expectations, that may lead to a second round effect. Therefore, Bank Indonesia considers it necessary to increase the BI Rate to prevent the further impact of fuel and food increases on the prices of other goods (Makhijani, 2008).

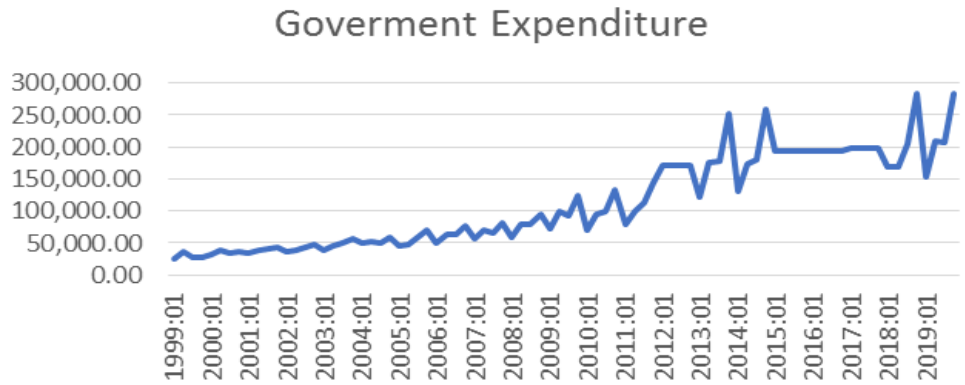

Figure-4. The Growth of Government Expenditure in the Period 1999-2019.

Government spending normally tends to increases from year to year as shown in Figure 4. In the fourth quarter of 2014, it experienced a significant increase, around 30%, compared to the third quarter. However, in the first quarter of 2015, it went down by about 33% from the previous period. The Central Statistics Agency (BPS) reported Indonesia's economic growth for the year 2015 period at a level of 4.79 percent. This realization missed the government's target. In the 2015 Revised State Budget, the government set the economic growth at 5.7 percent. When compared to 2014, this growth rate considered less. Two years ago the Indonesian economy was able to grow by 5.02 percent. The slowdown in Indonesia's economic growth cannot be separated from global economic growth. It can be noted, the British economy weakened from 2.1 percent to 1.9 percent. China's economy went down from 6.9 percent to 6.8 percent. Indonesia's economy in 2015 will grow by 4.72 percent, the main driving force behind being household consumption and government spending, as recorded at the end of the 2015 fiscal year (Gideon, 2015).

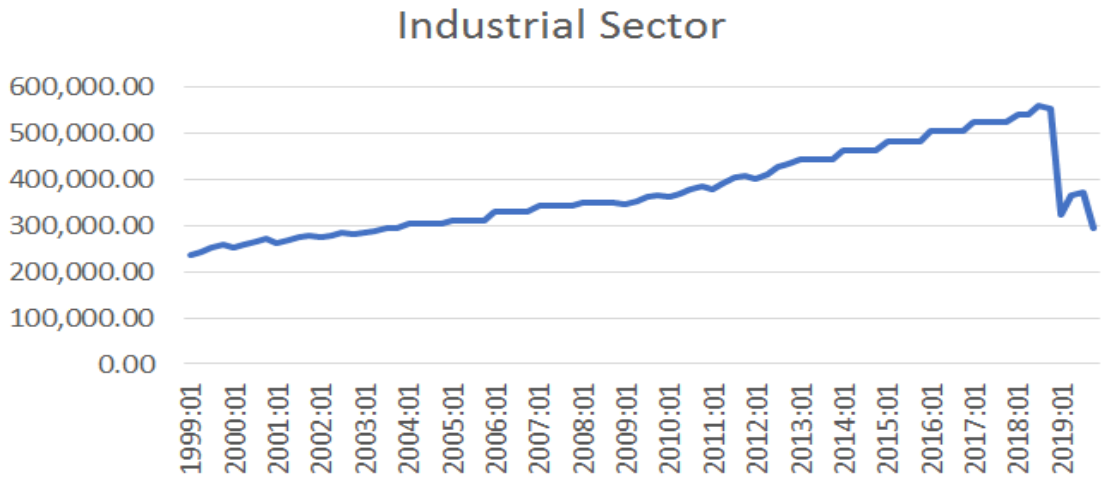

Figure-5. The Growth of GDP of Industrial Sector in the Period 1999-2019.

During the research period, the GDP growth of the industrial sector continued to increase, from 1999 to 2018, as seen from Figure 5.In the framework of industrial development, the aim of the Ministry of Industry in 2015-2019 is to build a strong and competitive industry through by strengthening National Industrial structure, increasing added value for the country, opening up business opportunities and expanding job opportunities, as well as equitable industrial development throughout Indonesia in order to strengthen and strengthening national resilience. PMDN investment in the first quarter of 2015 reached IDR 17.45 trillion, an increase of 57.01% from the same period in 2014. FDI investment amounted to USD 2.87 billion or decreased to 17.92% compared to the same period in 2013 (Ministry of Industry of the Republic of Indonesia, 2015). To compare, the condition of the manufacturing sector in India is as described below. Mehta and Rajan (2017) state that a strong infrastructure is an essential ingredient for any manufacturing sector to grow. The government of India is investing a large amount of funds in building a strong network of roads, rails and transport to foster the growth of the manufacturing sector. Research found that new laws especially on land and labor coupled with constant improvement in the infrastructure, is aiding India to emerge as the new manufacturing sector hub.

The initial step of data processing is the data stationarity test, namely testing all research variables. If the data being tested are not entirely stationary, then the next test that can be done is the cointegration test to see whether there is a long-term relationship (Widarjono, 2007). Stationarity test is carried out by unit root test through Augmented Dickey-Fuller (ADF) test. The data that has been tested show the results that the data is not stationary at the (first) level. So the next process is carry out data differentiation to confirm if all data is stationary at the same stage. The following are the results of the data stationarity test and the Johansen cointegration test results.

Table-2. Data stationarity test result.

Variable/Unit Root Test		Critical Value:			ADF-Test Statistic
		1%	5%	10%	
KONP	Level	-3.51443	-2.89814	-2.58635	0.144455
DKONP	First Difference				-13.18649
PPJK	Level	-3.51554	-2.89862	-2.58660	-1.132344
DPPJK	First Difference				-4.759801
BIRATE	Level	-3.51229	-2.89722	-2.58586	-1.793637
DBIRATE	First Difference				-13.09692
IHK	Level	-3.51126	-2.89678	-2.58562	-1.664249
DIHK	First Difference				-8.746555
PDBINDUS	Level	-3.51126	-2.89677	-2.58563	-1.237038
DPDBINDUS	First Difference				-9.202114

Table-3. Johansen cointegration test result.

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.745010	232.7104	69.81889	0.0000
At most 1 *	0.611231	123.3879	47.85613	0.0000
At most 2	0.258206	47.80638	29.79707	0.0002
At most 3	0.174142	23.91171	15.49471	0.0021
At most 4	0.101981	8.605102	3.841466	0.0034

Table 2 presents the results of the data stationarity test, while Table 4 presents the results of the Johansen cointegration test (Trace Test). The result of stationary test show that all data are not stationary at the (first) level, so the data must be differentiated. Since all the variables are not stationary at the (first) level indicates that the model has be estimated using VECM. The data is stationary after differentiation in the first order I (1) as shown in Table 1. The Johansen cointegration test was performed using lag = 3, based on according to the results in Akaike

Information Criteria (AIC). The use of this residual lag length in each VAR equation is free from normality and autocorrelation problems. The results of the Trace Test and Maximum Eigen Value show that there are four cointegrating equations.

In reality, the behavior of economic variables does not only have a one-way relationship, but shows a two-way relationship, as well as, known as the concept of causality (Widarjono, 2007). The following is the F-stat value and probability from the causality test which is presented in Table 3. The results of the causality test in the Table 3. show that the variables have two-way causality, namely the variable tax revenue and government spending, BI interest rates and government spending, CPI and BI interest rates as well as government spending and BI interest rates.

Table-4. Granger causality test result.

No.	Causality	Obs	F-Stat	Prob
1.	DPPJK does not Granger Cause DKONP	80	2.37139	0.0774
	DKONP does not Granger Cause DPPJK		0.44823	0.7193
2.	DBIRATE does not Granger Cause DKONP	80	0.16865	0.9172
	DKONP does not Granger Cause DBIRATE		0.30495	0.8217
3.	DBIRATE does not Granger Cause DIHK	80	0.03238	0.9598
	DIHK does not Granger Cause DBIRATE		0.09988	0.9921
4.	DBIRATE does not Granger Cause DPPJK	80	0.31718	0.8129
	DPPJK does not Granger Cause DBIRATE		0.26606	0.8496

The next stage is model estimation using VECM. The estimation results can be seen in the Appendix. The upper part of the output of the VECM estimation result is the long-run regression result of GDP Industry, tax revenue, consumer price index, government expenditure and BI interest rate. The next section shows the results of the VECM regression. The next is the statistical information for each equation and the bottom part is statistical information for the overall VAR.

The next step is to analysis two properties of the VAR, the impulse response function (IRF) and variance decomposition. The IRF of the estimated model confirms the dynamic response of all variables to the shock of one standard deviation on the variables in the system. The following is the response of the industrial sector to the shock of tax variables, government spending, consumer price index and BI interest rate.

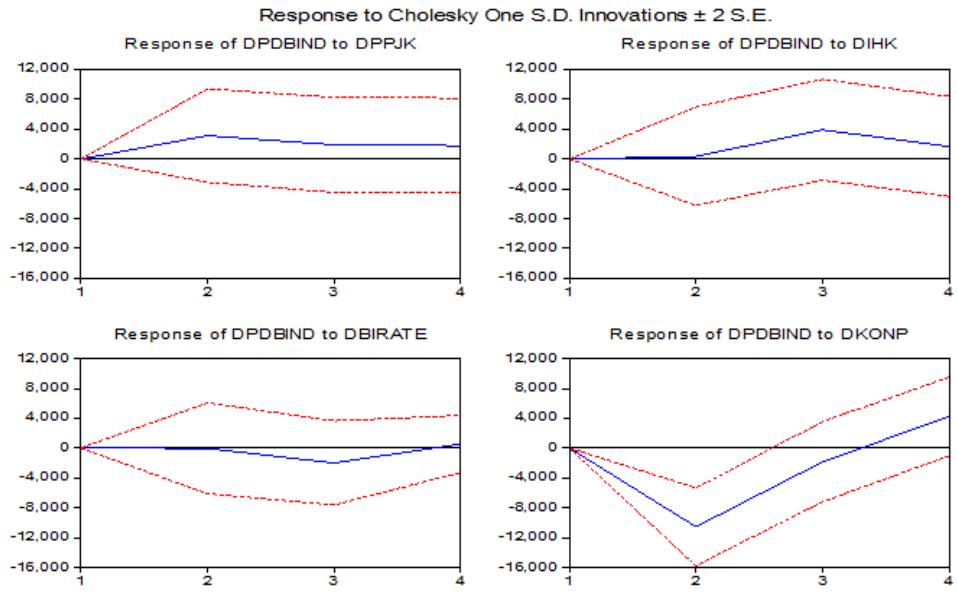

Figure-6. The industrial sector's response to tax revenue, government spending, consumer price index and BI interest rate.

Shock on the variable tax revenue and consumer price index was responded positively by the industrial sector in the second quarter, as shown in Figure 6. By the second quarter, the industrial sector stagnated. Shock on the variable BI interest rate and government spending responded negatively by the industrial sector in the second quarter. This result is in line with the study by Tang, Liu, and Cheung (2010) which states that government spending has a weak and largely insignificant impact on output. Tang et al. (2010) analyzed the effectiveness of fiscal policy in the five Southeast Asian Nations Association (ASEAN) from Indonesia, Malaysia, the Philippines, Singapore and Thailand. From the extension of the autoregression vector structure (VAR) model, the time-varying VAR model reveals the impact of taxes on output, particularly reflecting the increasing concerns over the financial community amid the Asian financial crisis and the global financial crisis. In contrast, in Singapore and Thailand, there is evidence that government spending can at times be useful as a tool for countercyclical policies.

In addition to the impulse response, the VAR model also provides Forecast Error Decomposition analysis of variance or often referred to as variance decomposition. This analysis of variance decomposition illustrates the relative importance of each variable in the VAR system due to shock. This analysis is useful for predicting the percentage contribution to the variance of each variable due to changes in certain variables in the VAR system (Widarjono, 2007).

Table-5. Industrial sector of variance decomposition.

Period	DPDBIND	DPPJK	DKONP	DIHK	DBIRATE
1	100	0	0	0	0
2	78,30420	0.978612	14.87463	3.042551	2.800008
3	74,76073	2.533172	16.68470	3.556024	2.697509
4	75.50833	2.675300	15.39446	3.047300	2.436184
5	79.44721	2.235587	11.39304	2.235708	2.591917
6	67.32896	3.414406	22.39577	3.751743	2.538297
7	67.80445	4.250206	21.39605	3.606781	2.510129
8	69.19773	4.683066	20.34036	3.375276	2.405926
9	70.65662	5.104498	18.29418	3.049287	2.910927
10	62.94279	5.553407	25.27282	4.231036	2.500737

Table 5 shows the prediction of the percentage contribution of variants of the industrial sector variables to changes in the consumer price index variables, tax revenues, government spending and the BI interest rate. The highest percentage contribution is shown by the government expenditure variable. The percentage of contributions consistently increases from period one to period six. In the ninth and tenth periods, the percentage tends to decline, but the percentage is not too big, to start with from 38.077% in the eighth period, down to 37,319%.

Fiscal policy through taxation policy provides a contractionary stimulus to the GDP of the industrial sector. Contractionary and expansionary economic policies are expected to produce a direct impact on GDP. The policy mix in the framework of goods market equilibrium (IS), money market (LM) and balance of payments (BOP) considers the role of coordination for each of them to act independently. The success of macroeconomic policies, such as fiscal, monetary, trade and industrial policies in achieving the final goal cannot stand alone. Policies without paying attention to those in the other sectors will not be optimal and may even have a negative impact on the economy as a whole. A fiscal policy that is too expansive can lead to inflation, as well as a fiscal policy that is too tight, such as a high tax rate increase in the society, can reduce consumption or reduce productive allocation of funds so that it can suppress economic growth (Pratiwi, 2015; M. Yunanto, 2013; Muhamad Yunanto & Medyawati, 2014). Indonesia's fiscal multiplier tends to be low, so it is necessary to look for the factors that cause this. According to Mahfouz et al. (2002) theoretically the fiscal multiplier will continue to be positive and may increase if (1) there is excess capacity in the economy so that additional government spending will encourage an increase in

demand for goods / services and an increase in demand for these goods and services. can be fulfilled; (2) An increase in government spending is not a substitute for private expenditure. So it will accelerate the productivity of labor and capital, and lower taxes increase investment and the supply of labor; (3) Fiscal policy still needs to be balanced with monetary expansion policy by taking into account the controlled increase in inflation. Expand fiscal policy by means of an increase in the ratio of fiscal balance to GDP compared to the previous year

4. CONCLUSION

Based on empirical facts, it can be concluded that fiscal policy contributes and impacts the industrial sector. This is based on the results of the IRF analysis which shows a positive response from industrial sector to the shocks of tax revenue and CPI. The results of the variance decomposition analysis show that the largest percentage contribution comes from the government expenditure.

The limitation in this study is that it has not included control variables such as the global crisis. The analysis of the impact of fiscal policy can be more comprehensive and in-depth. Further research is required for each period by including dummy variables in order to determine changes in the effectiveness of fiscal policy from time to time.

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APPENDIX

Table-1. VECM Result

Vector Error Correction Estimates

Date: 01/09/20 Time: 00:05

Sample (adjusted): 2000Q2 2019Q4

Included observations: 79 after adjustments

Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1				
DPDBIND(-1)	1.000000				
DPPJK(-1)	-1500.544				
	(184.259)				
	[-8.14368]				
DIHK(-1)	9793.530				
	(996.847)				
	[9.82451]				
DKONP(-1)	-1.203291				
	(0.87068)				
	[-1.38202]				
DBIRATE(-1)	-1049.777				
	(5635.00)				
	[-0.18630]				
C	-50.78148				
Error Correction:	D(DPDBIND)	D(DPPJK)	D(DIHK)	D(DKONP)	D(DBIRATE)
CointEq1	0.168979	0.000389	-0.000137	0.190223	3.41E-07
	(0.05911)	(0.00019)	(1.2E-05)	(0.06224)	(1.7E-06)
	[2.85856]	[2.03109]	[-11.4959]	[3.05631]	[0.19740]
D(DPDBIND(-1))	-1.053915	5.74E-05	0.000104	-0.205464	1.46E-06
	(0.14577)	(0.00047)	(2.9E-05)	(0.15348)	(4.3E-06)
	[-7.23012]	[0.12162]	[3.55709]	[-1.33873]	[0.34307]
D(DPDBIND(-2))	-0.833739	-0.000424	0.000114	-0.115570	2.27E-06
	(0.16642)	(0.00054)	(3.3E-05)	(0.17522)	(4.9E-06)
	[-5.00980]	[-0.78709]	[3.41143]	[-0.65956]	[0.46623]
D(DPDBIND(-3))	-0.525466	-0.001212	0.000139	-0.183996	3.84E-06
	(0.18706)	(0.00061)	(3.8E-05)	(0.19695)	(5.5E-06)
	[-2.80913]	[-2.00061]	[3.71067]	[-0.93423]	[0.70248]
D(DPPJK(-1))	292.8838	-0.311127	-0.159652	228.8284	0.001082
	(81.0259)	(0.26246)	(0.01628)	(85.3109)	(0.00237)
	[3.61469]	[-1.18542]	[-9.80923]	[2.68229]	[0.45662]
D(DPPJK(-2))	270.3564	-0.482617	-0.121604	143.9489	-9.91E-05
	(66.6857)	(0.21601)	(0.01340)	(70.2124)	(0.00195)
	[4.05419]	[-2.23423]	[-9.07820]	[2.05019]	[-0.05085]
D(DPPJK(-3))	193.0492	-0.732596	-0.080619	18.96648	2.78E-05
	(47.3755)	(0.15346)	(0.00952)	(49.8809)	(0.00139)
	[4.07488]	[-4.77386]	[-8.47165]	[0.38024]	[0.02005]
D(DIHK(-1))	-1050.481	-1.695794	0.272182	-881.0784	-0.006040
	(534.207)	(1.73042)	(0.10731)	(562.459)	(0.01562)
	[-1.96643]	[-0.97999]	[2.53650]	[-1.56648]	[-0.38672]
D(DIHK(-2))	-193.8912	-0.815034	0.246233	-462.8980	-0.006227
	(445.079)	(1.44171)	(0.08940)	(468.617)	(0.01301)
	[-0.43563]	[-0.56532]	[2.75419]	[-0.98780]	[-0.47849]
D(DIHK(-3))	292.7572	-1.118393	0.267913	457.4578	-0.004237
	(334.271)	(1.08278)	(0.06714)	(351.949)	(0.00977)
	[0.87581]	[-1.03289]	[3.99007]	[1.29979]	[-0.43350]
D(DKONP(-1))	-0.404512	-0.000104	-0.000107	-0.986312	-1.40E-06
	(0.11591)	(0.00038)	(2.3E-05)	(0.12204)	(3.4E-06)
	[-3.48986]	[-0.27592]	[-4.57475]	[-8.08185]	[-0.41344]
D(DKONP(-2))	-0.748888	0.000630	-0.000108	-0.898957	-1.65E-06

	(0.15161)	(0.00049)	(3.0E-05)	(0.15963)	(4.4E-06)
	[-4.93954]	[1.28303]	[-3.54197]	[-5.63155]	[-0.37264]
D(DKONP(-3))	-0.481558	0.001156	-8.47E-05	-0.756443	-2.19E-06
	(0.13131)	(0.00043)	(2.6E-05)	(0.13825)	(3.8E-06)
	[-3.66745]	[2.71687]	[-3.21238]	[-5.47156]	[-0.57076]
D(DBIRATE(-1))	6917.851	16.79360	-0.113899	3731.707	-0.040428
	(4157.58)	(13.4673)	(0.83513)	(4377.45)	(0.12156)
	[1.66391]	[1.24699]	[-0.13638]	[0.85248]	[-0.33256]
D(DBIRATE(-2))	268.4761	0.866331	0.215400	1740.938	0.034536
	(2647.26)	(8.57508)	(0.53175)	(2787.26)	(0.07740)
	[0.10142]	[0.10103]	[0.40507]	[0.62461]	[0.44618]
D(DBIRATE(-3))	-1313.034	0.554303	-0.224656	-2463.501	0.150147
	(2202.57)	(7.13461)	(0.44243)	(2319.05)	(0.06440)
	[-0.59614]	[0.07769]	[-0.50778]	[-1.06229]	[2.33145]
C	-2251.949	-1.887534	0.338597	81.93741	-0.013373
	(2865.38)	(9.28161)	(0.57557)	(3016.91)	(0.08378)
	[-0.78592]	[-0.20336]	[0.58828]	[0.02716]	[-0.15962]
R-squared	0.733899	0.733143	0.858451	0.834450	0.147051
Adj. R-squared	0.665227	0.664277	0.821922	0.791728	-0.073064
Sum sq. resids	3.79E+10	397799.7	1529.716	4.20E+10	32.41209
S.E. equation	24728.34	80.10072	4.967175	26036.08	0.723032
F-statistic	10.68711	10.64590	23.50061	19.53184	0.668064
Log likelihood	-901.6655	-448.8043	-229.1500	-905.7366	-76.90494
Akaike AIC	23.25735	11.79251	6.231646	23.36042	2.377340
Schwarz SC	23.76723	12.30239	6.741527	23.87030	2.887222
Mean dependent	-881.1772	-0.264684	-0.005823	914.5696	0.012405
S.D. dependent	42738.56	138.2439	11.77075	57050.54	0.697983
Determinant resid covariance (dof adj.)		1.84E+22			
Determinant resid covariance		5.48E+21			