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Keterkaitan antara Kebijakan Fiskal dan Kebebasan Sipil terhadap GDP per Kapita di Indonesia selama tahun 1980-2018

ABSTRAK

Kebijakan fiskal mempunyai kontribusi terhadap tingkat kesejahteraan masyarakat. Banyak temuan empiris menjelaskan keterkaitan antara komponen fiskal dengan per capita income. Selain itu, kebebasan sipil juga menjadi faktor pendorong kehidupan ekonomi masyarakat semakin maju. Dengan demikian, studi ini akan mengestimasi keterkaitan antara kebijakan fiskal dan kebebasan sipil terhadap per capita GDP di Indonesia selama 1980-2018. Model estimasi VAR dan Bayesian VAR dipilih karena relevan dengan estimasi variabel ekonomi yang bersifat a-theoretic. Temuan empiris menunjukkan bahwa tax ratio berkontribusi signifikan menghambat peningkatan per capita GDP, indikator hambatan berkelompok berakibat merusak per capita GDP, tetapi access to justice dapat memberi kesan perbaikan per capita GDP. Dengan demikian, pemerintah Indonesia sepatutnya dapat mendorong alokasi fiskal untuk program strategis dan produktif. Selain itu, pemerintah Indonesia juga seharusnya melindungi dan menjamin kebebasan sipil sesuai peraturan perundang-undangan yang berlaku.

***Kata Kunci**: pengeluaran pemerintah, ratio pajak, hutang luar negeri, indikator kebebasan sipil, GDP per kapita*

JEL Classification: E01, E02, E62, H63

The Relationship between Fiscal Policy and Civil Liberty on Per capita GDP in Indonesia during 1980-2018

ABSTRACT

Fiscal policy has a contribution to community welfare. Many empirical findings explained the relationship between the fiscal component and per capita income. In addition, civil liberty is a driving factor in economic life. Thus, this study estimated the relationship between fiscal policy and civil liberty on Per capita GDP in Indonesia during 1980-2018. The VAR and Bayesian VAR estimation models were selected and relevant to the a-theoretic economic variables. The empirical findings showed that the tax ratio contributed significantly to inhibit the increase in Per capita GDP, barriers to parties resulted in damaging Per capita GDP, but access to justice improved Per capita GDP. Thus, the Indonesian government should be able to encourage fiscal allocations for strategic and productive programs. In addition, the Indonesian government should also protect and guarantee civil liberties in accordance with applicable laws and regulations.

***Key words**: government expenditure, tax ratio, external debt, civil liberty, Per capita GDP*

JEL Classification: E01, E02, E62, H63

INTRODUCTION

Fiscal policy is a driver of economic performance and is influenced by economic and non-economic factors (Baldacci, Hillman, and Kojo, 2004; Canh, 2018; Martinez-Vazquez, et al, 2007). In Indonesia, the role of fiscal policy has become significant after the economic crisis, especially tax and government expenditure (Arin, Braunfels and Doppelhofer, 2019). In theory, the Solow Model (1956) explained that tax and government expenditure have no effect in the long run, but have a transitional impact on output.

Barro (1990) stated that fiscal policy as an endogenous variable can have temporary or permanent effects. Furthermore, the Keynesian theory explains the important role of government in encouraging aggregate demand to achieve full employment. If the economy is below full employment, aggregate demand can be increased by increasing government expenditure or lowering the tax ratio.

This study focused on the relationship between indicators of fiscal policy and Per capita GDP. Several indicators of fiscal policy are government expenditure, tax ratio, and external debt. Thus, the problem formulation is "Did fiscal policy contribute significantly to Per capita GDP in Indonesia during 1980-2018?". Surprisingly, Maipita, Jantan, and Razak (2010) indicated that subsidies and income transfers had a positive impact on Indonesian living standard, even though they had a negative impact on other household sectors and reduced aggregate income.

Arin, Braunfels, and Doppelhofer (2019) found that tax is still the main source of income in the medium and long term in OECD countries. Furthermore, an increase in institutional quality has a positive correlation with the effectiveness of fiscal policy in emerging countries (Canh, 2018).

At the macroeconomic level, economic activity is also influenced by institutional factors such as political stability and democracy. Knutsen (2012) states that democracy is positively correlated with economic growth. Currently, Indonesia is trying to improve its institutional conditions as described by Rock (2017) that the Indonesian government is strengthening state institutions, implementing decentralization, revising political regulations, and reducing separatist movements.

The influence of democracy on economic growth continues to be studied by researchers because democracy can encourage more efficient resource allocation (Tavares and Wacziarg, 2001; Drury, Krieckhaus, and Lusztig, 2006; Narayan and Smith, 2006; Doucouliagos and Ulubaşoğlu, 2008; Younis, et al, 2008; Knutsen, 2012; Amir-ud-Din and Khan, 2017; Bozkurt, Altiner, and Toktaş, 2018).

Furthermore, civil liberty can be reflected in several indicators such as freedom and active participation in democracy, academic freedom, and the achievement of basic needs. Based on the findings, the democratic activity can have positive implications for economic development in developed countries and negative implications in developing countries (Piatek, Szarzec, and Pilc (2013). Democracy can involve many aspects such as property rights, business rules, labor, and market mechanisms which can boost economic productivity (Doucouliagos and Ulubaşoğlu, 2008).

This study estimated the implications of civil liberties indicators on Per capita GDP in Indonesia. According to the World Bank,

civil liberties indicators are access to justice (AJ), basic welfare (BW), civil liberties (CL), freedom of academic and cultural expression (FACE), gender equality (GE), and human right protection (HRP). The detailed descriptions of these indicators can be found in Appendix A.

This study contributed to the existence of the literature in several forms. First, income and expenditure indicators in fiscal policy were used to estimate their effect on Per capita GDP in Indonesia. Second, 11 indicators of civil liberties were selected to measure the implications for Per capita GDP. Third, VAR and Bayesian VAR were applied to estimate the empirical model. Fourth, the policy has implications for optimizing the allocation of external debt for strategic and productive programs, ensuring civil liberties based on statutory regulations, and integrating or synchronizing central and regional government policies with the support of efficient and productive bureaucratic qualities.

After the New Order era, around 1999, democratic activities of Indonesian society were directed at a better level and quality (Rock, 2017; Rosser and Wilson, 2012) so those negative excesses could be reduced (Drury, Krieckhaus, and Lusztig, 2006). These negative excesses include corruption, restrictions on participation and civil liberties, the absence of economic justice, and the absence of legal certainty. The aim of implementing democracy is justice in the economic aspect. In fact, the existence of parties with higher material potential tends to be more influential in politics (Winters, 2013). Thus, the democratic system adopted by many countries in the world is a system of political freedom that encourages economic performance (Piatek, Szarzec and Pilc, 2013).

METHOD

Per capita GDP cannot be achieved if the fiscal policy does not specifically and strongly encourage economic activity and social welfare. In addition, the government must guarantee the freedom to provide access to creativity and innovation so that people can increase their income. Thus, this study estimated the relationship between fiscal policy and civil liberties on Per capita GDP in Indonesia during 1980-2018. Several secondary data were used in the Vector Autoregression (VAR) technique and Granger Causality Test (GCT) estimations.

This study used Per capita GDP (GDPPC), fiscal indicators, and civil liberty indicators data. Fiscal indicators consist of government expenditure (GFCE), tax ratio (TR), and external debt stock (EDS). Meanwhile, civil liberty indicators consist of access to justice (AJ), barriers to parties (BP), basic welfare (BW), civil liberties (CL), civil society participation (CCP), election free and fair (EFF), freedom. of academic and cultural expression (FACE), freedom of association and assembly (FAA), freedom of movement and residence (FMR), gender equality (GE), and human rights protection (HRP). These data were published by the World Bank. The explanation of research variables can be seen in Appendix A.

In theory, Arin, Braunfels, and Doppelhofer (2019) identified two theories describing the relationship between fiscal policy and output (growth). First, the neoclassical growth model explains that in the short run, there were implications for the transition of tax and expenditure on output but in the long run, it was not significant. Second, the endogenous growth model stated that fiscal policy has a significant impact on both transitional and permanent growth.

This study used a causal/a-theoretic approach to estimate the relationship between fiscal policy and civil liberties on Per capita GDP in Indonesia. This study used the VAR estimation (Gujarati, 2003).

The empirical model can be explained by the following equation:

$$GDPPC_t = \alpha_0 + \beta_1 GDPPC_{t-1} + \beta_2 \sum_{j=1}^{k} FP_t + \beta_3 \sum_{j=1}^{k} CL_t + \varepsilon_t \quad (1)$$

$$FP_t = \alpha_0 + \beta_1 \sum_{j=1}^{k} FP_{t-1} + \beta_2 GDPPC_t + \beta_3 \sum_{j=1}^{k} CL_t + \varepsilon_t \quad (2)$$

$$CL_t = \alpha_0 + \beta_1 \sum_{j=1}^{k} CL_{t-1} + \beta_2 GDPPC_t + \beta_3 \sum_{j=1}^{k} FP_t + \varepsilon_t \quad (3)$$

GDPPC stands for Per capita GDP. FP stands for indicators of fiscal policy while CL stands for indicators of civil liberties. Theα_0 is the intercept, while the β is parameter of independent variables, ε is error term, and t is the 1980-2018 period.

The estimation of 1-3 equations used robustness checking with Bayesian VAR (BVAR) as stated by Miranda-Agrippino and Ricco (2018). BVAR is a relevant a-theoretic estimation model in economic analysis.

The causal estimation used was the Granger causality test (GCT). GCT was used to deepen the VAR estimation results on (1) - (3) equations. The basic model of GCT estimation has been explained by Gujarati (2003). Thus, Granger empirical model is as follows:

$$GDPPC_t = \alpha_0 + \beta_1 \sum_{j=1}^{k} FP_t + \beta_2 \sum_{j=1}^{k} CL_t + \varepsilon_t \quad (1)$$

$$FP_t = \alpha_0 + \beta_1 GDPPC_t + \beta_2 \sum_{j=1}^{k} CL_t + \varepsilon_t \quad (2)$$

$$CL_t = \alpha_0 + \beta_1 GDPPC_t + \beta_2 \sum_{j=1}^{k} FP_t + \varepsilon_t \quad (3)$$

The difference in the empirical equation between VAR, BVAR, and GCT lies in the lagged of the dependent variable as the independent variable. GCT does not make the lagged of the dependent variable as the independent variable. Meanwhile, the third equation is an a-theoretic approach.

RESULT AND DISCUSSION

Many scholars have found the relationship between institutional indicators and fiscal policy indicators on economic growth. This study focused on indicators of fiscal policy and indicators of civil liberties. Plümper and Martin (2003) described that countries with high levels of democracy can encourage an increase in per capita income.

This study estimated the relationship between fiscal policy and civil liberty on Per capita GDP in Indonesia during 1980-2018. This study conducted unit root tests (URT) on time series data. The URT used Augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) approaches on the level and 1st difference. The results of the URT can be seen in Table 1. ADF test described that at the level, several variables had stationary, namely HRP (intercept, intercept, and trend), TR, and BW (intercept and trend). Meanwhile, all the variables had stationary at 1st difference. Thus, these variables can be cointegrated in I (1). The results of this unit root test were relevant to the results of the PP test.

Then, the lag length determination was conducted. There are several methods to determine the lag length, such as the Akaike information criterion (AIC) with a value of 10.288 which indicated that lag 1 was the correct lag. In addition, the final prediction error (FPE) and Hannan-Quinn information criterion (HQ) values were 1838.216 and 10.533 respectively which indicated the lag 1.

Table 1. Results of Unit Root Test

Variables	ADF			PP		
	Level		1st Difference	Level		1st Difference
	Intercept	Intercept & Trend	Intercept	Intercept	Intercept & Trend]	Intercept
	2.619	-0.109	-3.880	2.619	-0.355	-3.885
GDPPC	(1.000)	(0.993)	(0.005)***	(1.000)	(0.986)	(0.005)***
	-1.591	-1.434	-5.847	-1.553	-1.378	-5.858
GFCE	(0.477)	(0.834)	(0.000)***	(0.496)	(0.851)	(0.000)***
	-2.373	-2.545	-7.025	-2.298	-2.545	-7.189
EDS	(0.156)	(0.306)	(0.000)***	(0.178)	(0.306)	(0.000)***
	-2.256	-4.410	-9.185	-2.207	-4.235	-13.122
TR	(0.191)	(0.006)***	(0.000)***	(0.207)	(0.009)**	(0.000)***
	-0.980	-1.595	-5.081	-0.980	-1.768	-5.062
AJ	(0.751)	(0.776)	(0.000)***	(0.751)	(0.700)	(0.000)***
	-1.576	-2.392	-3.046	-1.042	-1.775	-3.080
BP	(0.485)	(0.378)	(0.040)**	(0.728)	(0.697)	(0.035)**
	-0.226	-5.473	-7.754	-1.369	-5.872	-15.155
BW	(0.926)	(0.000)***	(0.000)***	(0.587)	(0.000)***	(0.000)***
	-1.023	-2.315	-4.208	-1.002	-1.664	-3.083
CL	(0.735)	(0.416)	(0.002)***	(0.743)	(0.748)	(0.037)**
	-1.109	-2.55	-3.818	-0.808	-1.856	-3.668
CCP	(0.702)	(0.303)	(0.006)***	(0.805)	(0.657)	(0.009)**
	-0.965	-1.533	-6.074	-1.019	-1.763	-6.087
EFF	(0.756)	(0.800)	(0.000)***	(0.737)	(0.703)	(0.000)***
	-1.458	-2.644	-4.193	-1.020	-1.766	-3.184
FACE	(0.543)	(0.264)	(0.002)***	(0.736)	(0.702)	(0.029)**
	-1.561	-1.846	-3.378	-1.210	-1.305	-3.247
FAA	(0.492)	(0.662)	(0.018)**	(0.660)	(0.872)	(0.025)**
	-0.850	-2.088	-6.083	-0.850	-2.131	-6.083
FMR	(0.793)	(0.536)	(0.000)***	(0.793)	(0.513)	(0.000)***
	-0.983	-1.359	-5.551	-0.999	-1.467	-5.544
GE	(0.750)	(0.857)	(0.000)***	(0.744)	(0.824)	(0.000)***
	-3.699	-3.646	-10.247	-3.655	-3.589	-12.273
HRP	(0.008)**	(0.039)**	(0.000)***	(0.009)**	(0.044)**	(0.000)***

Source: Secondary data (processed)

Note: () denotes t-statistics; ***, ** and * are significant levels of 1%, 5% and 10%, respectively.

The relationship analysis between fiscal indicators and civil liberties used VAR because it can describe the causality between variables. The interaction between variables was estimated using the Granger Causality Test (GCT). Piatek, Szarzec, and Pilc (2013) found that economic growth can be determined by the level of political freedom in 25 developing countries during 1990-2008. In addition, economic freedom had a positive implication for economic growth.

The fiscal policy response to economic growth was estimated using a causality approach such as VAR. In particular, Mencinger, Aristovnik, and Verbič (2017) used a smooth transition VAR (STVAR) on EU and OECD countries during 1995-2014 and 1980-2014. Based on the findings, government expenditure can encourage

improvements in domestic economic conditions, especially in crisis conditions.

This study explained in full the relationship between indicators of fiscal policy and indicators of civil liberty on Per capita GDP in Indonesia during 1980-2018. This means, this study explored and extended empirical studies by Piatek, Szarzec, and Pilc (2013) and Mencinger, Aristovnik, and Verbič (2017).

Table 2 shows the results of VAR estimation on the relationship between indicators of fiscal policy and indicators of civil liberty in Indonesia on Per capita GDP (GDPPC) which were determined by lagged of GDPPC, tax ratio (TR), and several indicators of civil liberty such as Access to Justice (AJ) and barriers to parties (BP). The increase in tax ratio and barriers to parties had significant implications for the decline in Per capita GDP in Indonesia, while the increase in access to justice contributed to the increase in Per capita GDP. Furthermore, the adjusted R-square and F-statistics were 99.82% and 12.65.90, respectively, which means the VAR model was correct and robust.

The Per capita GDP influenced a fiscal policy indicator namely external debt stock (EDS). This variable was influenced by lagged of EDS, AJ, civil liberties (CL), freedom of movement and residence (FMR), and gender equality (GE). If Per capita GDP increases, the external debt stock tends to decline. This means, to reduce external debt in Indonesia, Per capita GDP must be at an adequate level. How can this level of Per capita GDP be determined? More in-depth empirical studies such as threshold effect analysis and nonlinear modeling can be carried out. In addition, the CL and GE variables had positive implications on EDS while AJ and FMR had negative implications.

Table 2. Results of VAR Estimation

Variables	GDPPC	GFCE	EDS	TR	AJ	BP	BW	CL
C	-940.078 [-1.719]	9.964 [1.714]	373.057 [4.879]***	-8.509 [-0.387]	0.274 [4.065]***	-0.071 [-0.301]	0.120 [0.880]	-0.170 [-2.215]**
GDPPC (-1)	1.212 [5.137]***							
GFCE (-1)		0.531 [3.094]						
EDS (-1)			0.598 [5.486]***					
TR (-1)				0.119 [0.576]				
AJ (-1)					-0.203 [-2.963]***			
BP (-1)						0.225 [1.241]		
BW (-1)							0.170 [0.567]	
CL (-1)								0.067 [0.747]
CCP (-1)								
EFF (-1)								
FACE (-1)								

Variables	GDPPC	GFCE	EDS	TR	AJ	BP	BW	CL
FAA (-1)								
FMR (-1)								
GE (-1)								
HRP (-1)								
		0.000	-0.026	0.002	-0.000	0.000	0.000	0.000
GDPPC		[0.351]	[-2.165]**	[0.561]	[-1.185]	[0.591]	[2.353]**	[0.364]
	-1.882		-2.782	0.558	0.000	0.001	-0.002	0.004
GFCE	[-0.137]		[-1.102]	[0.969]	[0.038]	[0.157]	[-0.471]	[1.895]
					-0.001			
	-1.214	-0.013		0.059	[-	0.000	0.000	0.000
EDS	[-1.203]	[-1.377]		[1.850]	4.489]***	[0.963]	[0.569]	[1.155]
	-12.049	0.131	0.197		-0.001	0.000	-0.001	-0.000
TR	[-2.361]**	[2.099]**	[0.187]		[-1.263]	[0.179]	[-0.684]	[-0.049]
			-1289.075					
	4229.256	4.930	[-	20.187		-0.900	0.255	0.375
AJ	[2.307]**	[0.348]	5.656]***	[0.427]		[-1.595]	[0.876]	[1.816]
				-16.107				
	-1032.051	-0.500	148.578	[-	-0.081		0.061	0.092
BP	[-2.162]**	[-0.084]	[1.749]	0.762]	[-1.244]		[0.470]	[1.269]
				-12.428				
	179.093	-14.512	205.661	[-	0.215	0.213		-0.059
BW	[0.199]	[-1.369]	[1.326]	0.335]	[1.648]	[0.501]		[-0.374]
				-65.284				
	-2627.941	27.846	537.473	[-	0.445	0.900	-0.152	
CL	[-1.935]	[1.776]	[2.088]**	1.173]	[2.400]**	[1.312]	[-0.386]	
				-18.092		-0.491		
	-838.395	7.068	198.754	[-	-0.051	[-	-0.107	0.001
CCP	[-1.391]	[0.992]	[1.940]	0.734]	[-0.621]	2.082]**	[-0.699]	[0.008]
	318.007	-4.925	-41.569	15.420	0.078	0.196	-0.007	0.035
EFF	[1.324]	[-1.787]	[-0.933]	[1.493]	[2.508]**	[1.925]	[-0.104]	[0.875]
	1991.157	-17.406	-168.988	42.441	0.280	1.050	-0.161	0.278
FACE	[1.895]	[-1.409]	[-0.887]	[0.880]	[1.996]*	[2.450]**	[-0.597]	[1.730]
	-82.180	-10.498	-113.391	26.423	-0.042	-0.011	0.320	0.281
FAA	[-0.116]	[-1.188]	[-0.887]	[0.901]	[-0.408]	[-0.027]	[1.732]	[2.854]**
	20.509	1.934	-83.877	12.169	-0.052	0.08	0.027	0.011
FMR	[0.118]	[0.927]	[-2.821]**	[1.462]	[-2.169]**	[1.001]	[0.579]	[0.338]
				-4.440				
	-64.311	-10.499	255.648	[-	0.151	-0.306	0.090	0.143
GE	[-0.096]	[-1.427]	[2.405]**	0.166]	[1.669]	[-1.065]	[0.564]	[1.403]
				-0.101				
	7.099	-0.873	-4.766	[-	-0.004	-0.032	-0.000	0.022
HRP	[0.101]	[-0.978]	[-0.357]	0.033]	[-0.380]	[-0.928]	[-0.007]	[2.12]**
Adj. R-square	0.9982	0.8911	0.9416	0.7333	0.9977	0.9917	0.9834	0.9990
F-statistics	1265.90***	19.42***	37.30***	7.19*	956.85***	269.87***	134.72***	2246.86***
Obervations	37	37	37	37	37	37	37	37

Source: Authors' estimation

Note: [] denotes t-statistics; ***, ** and * are significant at 1%, 5% and 10%, respectively.

Continued…

Variables	CCP	EFF	FACE	FAA	FMR	GE	HRP
C	-0.453 [-1.769]	-0.178 [-0.370]	0.075 [0.784]	0.167 [1.191]	0.038 [0.065]	0.051 [0.294]	1.540 [1.084]
GDPPC (-1)							
GFCE (-1)							
EDS (-1)							
TR (-1)							
AJ (-1)							
BP (-1)							
BW (-1)							
CL (-1)							
CCP (-1)	.-0.127 [-1.015]						
EFF (-1)		0.220 [1.592]					
FACE (-1)			0.230 [2.569]**				
FAA (-1)				0.304 [2.276]**			
FMR (-1)					0.263 [1.352]		
GE (-1)						-0.036 [-0.214]	
HRP (-1)							0.063 [0.303]
GDPPC	0.000 [3.893]***	-0.000 [-0.648]	-0.000 [-1.133]	-0.000 [-3.608]***	-0.000 [-0.462]	0.000 [0.294]	0.000 [0.046]
GFCE	0.013 [2.736]**	-0.021 [-1.807]	-0.006 [-2.395]**	-0.009 [-2.529]**	0.022 [1.089]	-0.008 [-1.602]	-0.035 [-0.808]
EDS	0.000 [1.223]	-0.000 [-0.478]	0.000 [0.986]	-0.000 [-0.153]	-0.002 [-2.576]**	0.001 [2.314]**	-0.000 [-0.108]
TR	-0.002 [-0.689]	0.008 [1.549]	0.002 [1.494]	0.003 [1.795]	0.004 [0.572]	-0.000 [-0.245]	-0.007 [-0.447]
AJ	-0.279 [-0.483]	2.936 [2.790]**	0.430 [1.855]	0.018 [0.047]	-1.772 [-1.301]	0.439 [1.006]	-0.146 [-0.042]
BP	-0.407 [-2.514]**	0.682 [1.737]	0.197 [2.642]**	-0.007 [-0.051]	0.504 [0.815]	-0.145 [-0.876]	-0.812 [-0.581]
BW	-0.353 [-0.984]	-0.313 [-0.368]	0.043 [0.231]	0.513 [2.008]**	0.835 [0.800]	0.006 [0.017]	-0.324 [-0.126]
CL	-0.016 [-0.031]	0.800 [0.623]	0.446 [1.871]	0.780 [2.328]**	0.484 [0.281]	0.817 [1.757]	7.603 [2.081]**
CCP		0.895 [1.959]*	0.322 [3.586]***	0.501 [4.137]***	0.490 [0.653]	-0.067 [-0.341]	0.524 [0.300]
EFF	0.192 [2.045]**		-0.145 [-4.331]***	-0.121 [-1.866]	0.014 [0.049]	-0.032 [-0.379]	-0.299 [-0.406]
FACE	1.116 [2.934]***	-2.433 [-3.274]***	-0.267 [-2.018]**	-0.571 [-2.073]**	-1.150 [-0.611]	-0.332 [-0.926]	-4.268 [-1.433]
FAA	0.864	-0.895			-0.066	-0.184	-2.407

Variables	CCP	EFF	FACE	FAA	FMR	GE	HRP
	[4.005]***	[-1.516]			[-0.075]	[-0.741]	[-1.163]
	-0.010	0.032	0.046	0.0426		0.162	0.166
FMR	[-0.139]	[0.205]	[1.211]	[0.8848]		[3.387]***	[0.321]
	-0.061	-0.098	-0.253	-0.147	2.015		-2.369
GE	[-0.237]	[-0.177]	[-2.091]	[-0.816]	[2.914]***		[-1.305]
	0.013	-0.041	-0.016	-0.015	0.018	-0.028	
HRP	[0.486]	[-0.639]	[-1.241]	[-0.761]	[0.200]	[-1.075]	
Adj. R-square	0.9975	0.9863	0.9984	0.9963	0.9256	0.9833	0.1919
F-statistics	892.44***	162.40***	1417.13***	605.35***	28.98***	133.84***	1.53
Obervations	37	37	37	37	37	37	37

Source: Authors' estimation

Note: [] denotes t-statistics; ***, ** and * are significant at 1%, 5% and 10%, respectively.

Several indicators of civil liberty had a significant relationship with Per capita GDP namely basic welfare (BW), civil society participation (CCP), and freedom of association and assembly (FAA). An increase in BW and CCP had implications for an increase in Per capita GDP while an increase in FAA had implications for a decrease in Per capita GDP. This means the government can maximize the fulfillment of basic needs and increase public participation in improving community welfare.

This study explored the relationship between indicators of civil liberty and indicators of fiscal policy. Based on the findings, AJ and FMR were determined by EDS negatively while GE was positively influenced. In addition, government expenditure (GFCE) had negative implications on freedom of academic and cultural expression (FACE) and the FAA had a positive contribution to CCP.

The GDP component can also be related to indicators of economic freedom in the long run (Sayari, Sari, and Hammoudeh, 2018). This is positively related to the services sector and industry while negatively related to agriculture. This means the pattern of the relationship between these variables is different in each economic sector. On the other hand, this study only focused on aggregate data behavior namely GDP and indicators of civil liberty. In addition, community life in the past, such as in England, indicated a significant relationship between institutions and liberty, property, and state (Shepherd, 2018).

A low tax ratio during a crisis can control the deteriorating economic conditions. This is inseparable from the contribution of fiscal rule in encouraging fiscal consolidation (Dweck, Vianna, and Barbosa, 2019). Furthermore, Thanh, Hart, and Canh (2020) found that government expenditure in Vietnam tended not to be able to accelerate economic growth and there was a substitution between public spending and private investment. The finding is relevant to this study that there was no significant implication of government expenditure and external debt on Per capita GDP whereas the tax ratio had a significant and negative contribution. This means, an increase in tax ratio will reduce the community welfare.

Variance decomposition (Appendix C) showed that the GDPPC response was due to the shock of the GRCE variable which increased the GDPPC at the beginning to the middle of the period, then decreased until

the end of the period. Shock in the EDS variable increased slightly the GDPPC at the beginning of the period, then decreased in the middle of the period to the end of the period. Shock in the TR variable decreased the GDPPC at the beginning of the period and increased slowly and remained smooth at the end of the period. The AJ shock caused the GDPPC movement which slowly increased and tended to be stable until the end of the period. The shock variable BP caused the GDPPC decreased slowly, then increased slightly, and decreased until the end of the period. Shock BW made the GDPPC movement slightly decreased at the beginning of the period, then slowly increased and stabilized until the end of the period. The CL shock causes the GDPPC to increase and stabilize until the end of the period. GDPPC responded to the CCP shock with a decrease at the beginning of the period and a sharp increase until the end of the period.

Furthermore, GDPPC responded to the EFF shock with a decrease at the beginning of the period and tended to be very stable until the end of the period. FACE shock caused the GDPPC to decrease slightly at the beginning of the period to the middle of the period then experienced a slight increase until the end of the period. Shock FAA caused the GDPPC decreased at the beginning of the period and increased in the middle of the period to the end of the period. FMR shock caused the GDPPC to experience a steady increase from the beginning to the end of the period. Shock GE caused GDPPC to be increased slowly at the beginning of the period to the end of the period. The shock to the HRP variable caused the GDPPC to decrease slowly from the beginning of the period to the end of the period.

Based on the Granger causality test, there was no causality between indicators of fiscal policy (government expenditure, external debt, and tax ratio) on Per capita GDP. This means that the level of public welfare was not significantly supported and driven by fiscal indicators during the study period. The explanation can be seen in Table 3.

On the other hand, the causality was proven in the relationship between the indicators of civil liberty and Per capita GDP. In addition, indicators of fiscal policy had a relationship with indicators of civil liberty.

In general, Per capita GDP had a causality towards indicators of civil liberty such as BP, AJ, CL, CCP, EFF, FACE, FAA, GE, and HE. This condition shows that people with relatively good welfare will be able to take advantage of their rights and obligations in their daily activities at the macro (national) level. Thus, the government should focus on increasing Per capita GDP to establish and fulfill civil liberty.

Fiscal indicators such as government expenditure had a causal effect on indicators of civil liberty. This means the fiscal allocation had significant implications on civil liberty for Indonesian society during the study period.

External debt stock and several indicators of civil liberty had a causality (bidirectional). The civil liberty indicators are BP, CL, CCP, EFF, FACE, FAA, GE, and HRP. This finding described that external debt policy had a significant contribution to civil liberties and vice versa.

Table 3. Summary of Granger Causality Test Results

Fiscal Policy and Per capita GDP	Civil Liberties and Per capita GDP	Fiscal Policy and Civil Liberties
No evidence (no causality)	• GDPPC → BP (sig. at 5%) • GDPPC → AJ (sig. at 1%) • GDPPC → CL (sig. at 1%) • GDPPC → CCP (sig. at 1%) • GDPPC → EFF (sig. at 1%) • GDPPC → FACE (sig. at 1%) • GDPPC → FAA (sig. at 1%) • GDPPC → GE (sig. at 5%) • GDPPC → HE (sig. at 5%)	• GFCE → AJ (sig. at 5%) • GFCE → BP (sig. at 10%) • GFCE → CL (sig. at 5%) • GFCE → CCP (sig. at 5%) • GFCE → EFF (sig. at 5%) • GFCE → FACE (sig. at 5%) • GFCE → FAA (sig. at 5%) • GFCE → GE (sig. at 10%) • EDS → AJ (sig. at 1%) and AJ → EDS (sig. at 10%) • EDS → BP (sig. at 10%) and BP → EDS (sig. at 10%) • EDS → CL (sig. at 1%) and CL → EDS (sig. at 5%) • EDS → CCP (sig. at 1%) and CCP → EDS (sig. at 10%) • EDS → EFF (sig. at 1%) and EFF → EDS (sig. at 5%) • EDS → FACE (sig. at 1%) and FACE → EDS (sig. at 10%) • EDS → FAA (sig. at 1%) and FAA → EDS (sig. at 5%) • EDS → GE (sig. at 5%) • EDS → HRP (sig. at 10%) • TR → AJ (sig. at 5%) and AJ → TR (sig. at 1%) • TR → FMR (sig. at 1%) • BP → TR (sig. at 10%) • BW → TR (sig. at 5%) • CL → TR (sig. at 1%) • CCP → TR (sig. at 1%) • EFF → TR (sig. at 1%) • FACE → TR (sig. at 1%) • FAA → TR (sig. at 1%) • GE → TR (sig. at 5%)

Source: Authors' estimation
Note: the '→' denotes causal (a direction).

The same thing happened to the tax ratio (TR) and several indicators of civil liberties. Bidirectional causality was evident in TR and AJ whereas TR had a unidirectional causality with FMR. Most of the causes were occurring on the indicator of civil liberty on TR. These indicators consist of BP, BW, CL, CCP, EFF, FACE, FAA, and GE. Thus, the government should increase the facilitation and supervision of the civil liberties of the Indonesian people in order to improve and encourage an increase in the tax ratio.

This study conducted robustness checking with Bayesian VAR (BVAR) estimation. BVAR was used in economic and financial analysis (Miranda-Agrippino and Ricco, 2018). BVAR was used to estimate economic theories and does not emphasize hypothesis formulations even though the estimation results can provide robust parameters. In addition, BVAR was correct to estimate empirical models with large dimensions.

Appendix D shows the results of Bayesian VAR (BVAR) estimation on the relationship between fiscal policy and civil liberties on Per capita GDP in Indonesia during 1980-2018. Based on the empirical finding, Per capita GDP was determined by the lagged of GDPPC, EDS, BW, FAA, and HRP. The positive relationship was between Per capita GDP and lagged Per capita GDP and BW had a negative relationship which was determined by EDS, FAA, and HRP. This explains that high basic welfare had a significant increase in the increase in Per capita GDP in Indonesia.

Per capita GDP has a negative implication on external debt stock (EDS). This means, the higher the welfare of society, the government can reduce the level of external debt.

Furthermore, Per capita GDP has a significant influence on several indicators of civil liberty namely BW, CCP, and FAA. BW and CCP were positively determined by Per capita GDP. Thus, the government can encourage the improvement of basic welfare and civil society participation to boost Per capita GDP. Conversely, freedom of association and assembly (FAA) was negatively affected by Per capita GDP. This describes that the higher the welfare, the less freedom of society in the association is.

Furthermore, statistically adjusted R-square and F-statistics showed that the Bayesian VAR model was fit and significant. This means robustness checking in BVAR estimation can explain the study objectives and robust.

CONCLUSION AND POLICY IMPLICATION

Several empirical findings confirmed the relationship between indicators of fiscal policy and indicators of democracy or civil liberty on economic growth. This study estimated the relationship between indicators of fiscal policy and indicators of civil liberty on Per capita GDP in Indonesia during 1980-2018. This study used VAR and Granger Causality estimations.

The VAR estimation described the significant relationship between the tax ratio and Per capita GDP. This condition confirmed that the fiscal policy can be an instrument for measuring community welfare in Indonesia. Barriers to parties as one of the civil liberty indicators is also an obstacle to increasing Per capita GDP. Meanwhile, other civil liberty indicators such as access to justice had a significant contribution to encourage an increase in Per capita GDP. Another finding confirmed that Per capita GDP had a significant influence on external debt stock.

Based on the Granger causality test, fiscal policy and Per capita GDP had no causality. However, causality occurred between civil liberties and Per capita GDP, and fiscal policy and civil liberties.

The Indonesian government can optimize the allocation of external debt for productive national strategic programs, improve public welfare by improving indicators of civil liberties so that people will actively and productively participate in the development and the quality of life in society, politics, and association, including in education. The government also needs to maintain an efficient and productive allocation of state and regional budget expenditures. Integrated policies and efficient bureaucracy across sectors and regions will make it easier to achieve public welfare. Community welfare is expected to reduce the external debt.

REFERENCES

Amir-ud-Din, Rafi and Rana Ejaz Ali Khan. 2017. Democracy, Income Inequality and Economic Growth Nexus: The Case of Pakistan. *Pakistan Journal of Commerce and Social Sciences* 2017, Vol. 11 (1), 205-220.

Arin, K. Peren, Elias Braunfels and Gernot Doppelhofer. 2019. Revisiting the growth effects of fiscal policy: A Bayesian model averaging approach. *Journal of Macroeconomics.* 62, pp. 1-16. doi:10.1016/j.jmacro.2019.103158

Attinasi, Maria Grazia and Alexander Klemm. 2016. The growth impact of discretionary fiscal policy measures. *Journal of Macroeconomics.* 49, pp. 265–279. doi:10.1016/j.jmacro.2016.08.004

Baldacci, E., A.L. Hillman, and N.C. Kojo. 2004. Growth, Governance, and Fiscal Policy Transmission Channels In Low-Income Countries. *European Journal of Political Economy*, Vol. 20 No. 3, pp. 517-549.

Barro, R.J. 1990. Government Spending In A Simple Model Of Endogenous Growth. *J. Polit. Economy* 59 (4), S103–S125.

Bozkurt, Eda, Ali Altiner, and Yılmaz Toktaş. 2018. Democracy and economic growth: evidence from emerging market economies. *Economics, Finance and Politics* Volume 13/14, Spring 2018, p. 15-32 DOI: http://dx.doi.org/10.7827/Turkish Studies.13477.

Canh, Nguyen Phuc. 2018. The effectiveness of fiscal policy: contributions from institutions and external debts. *Journal of Asian Business and Economic Studies*. Vol. 25, No. 1, pp. 50-66.DOI 10.1108/JABES-05-2018-0009

Doucouliagos, Hristos and Ulubaşoğlu, Mehmet Ali. 2008. Democracy and Economic Growth: A Meta-Analysis. *American Journal of Political Science* , Jan., 2008, Vol. 52, No. 1 (Jan., 2008), pp. 61-83.

Drury, Cooper, Jonathan Krieckhaus, and Michael Lusztig. 2006. Corruption, Democracy, and Economic Growth. *International Political Science Review* (2006), Vol 27, No. 2, 121–136.

Dweck, Esther, Matheus Trotta Vianna and Arthur da Cruz Barbosa. 2019. Discussing the role of fiscal policy in a demand-led agent-based growth model. *EconomiA.* Pp. 1-20. doi:10.1016/j.econ.2019.03.004

Gujarati, D.N. 2003. *Basic Econometrics*. Fourth Edition. New York: McGraw-Hill.

Knutsen, Carl Henrik. 2012. Democracy and Economic Growth: A Survey of Arguments and Results. *International Area Studies Review*, December 2012 DOI: 10.1177/2233865912455268.

Maipita, Indra, Mohd. Dan Jantan, and Nor Azam Abdul Razak. (2010). The Impact Of Fiscal Policy Toward Economic Performance And Poverty Rate In Indonesia. *Bulletin of Monetary, Economics and Banking,* Vol. 12, No. 4, pp. 391-424. https://doi.org/10.21098/bemp.v12i4.378

Martinez-Vazquez, J. et al. 2007. Corruption, Fiscal Policy, And Fiscal Management. *J. (Eds), Fighting Corruption in the Public Sector*, pp. 1-10. Emerald Group Publishing Limited.

Mencinger, Jernej, Aleksander Aristovnik, and Miroslav Verbič. 2017. Asymmetric effects of fiscal policy in EU and OECD countries. *Economic Modelling.* 61, pp. 448–461. doi:10.1016/j.econmod.2016.12.023

Miranda-Agrippino, Silvia and Giovanni Ricco. 2018. Bayesian Vector Autoregressions. Oxford Encyclopedia of Economics and Finance, pp. 1-60. http://economics.oxfordre.com.

Narayan, Paresh Khumar and Russell Smith. 2006. Democracy and Economic Growth In China: Evidence From Cointegration And Causality Testing. *Review of Applied Economics*, Vol. 2 No.1, pp. 81-98.

Piatek, Dawid, Katarzyna Szarzec and Michał Pilc. 2013. Economic freedom, democracy and economic growth: a causal investigation in transition countries. *Post-Communist Economies*. Vol. 25, No. 3, pp. 267–288. http://dx.doi.org/10.1080/14631377.2013.813137.

Plümper, Thomas and Christian W. Martin. 2003. Democracy, government spending, and economic growth: A political-economic explanation of the Barro-effect. *Public Choice.* 117, pp. 27–50.

Rock, Michael T. 2017. Indonesia's Centripetal Democracy and Economic Growth. *Journal of Asia Pacific Economy,* 23.1: 156-172.

Rosser, Andrew and Ian Wilson. 2012. Democratic Decentralisation and Pro-poor Policy Reform in Indonesia: The Politics of Health Insurance for the Poor in Jembrana and Tabanan. *Asian Journal of Social Science* , 2012, Vol. 40, No. 5/6, pp. 608-634.

Sayari, Naz, Ramazan Sari and Shawkat Hammoudeh. 2018. The impact of value added components of GDP and FDI on economic freedom in Europe. *Economic Systems,* 42(2), pp. 282–294. doi:10.1016/j.ecosys.2017.03.003

Shepherd, Edward 2018. Liberty, property and the state: The ideology of the institution of English town and country planning. *Progress in Planning.* pp. 1-37. doi:10.1016/j.progress.2018.09.001

Solow, Robert M. 1956. A Contribution to the Theory of Economic Growth. *The Quarterly Journal of Economics*, Vol. 70, No. 1, pp. 65-94.

Tavares, Jose and Romain Wacziarg. 2001. How Democracy Afects Growth. *European Economic Review*, 45, pp. 1341-1378.

Thanh, Su Dinh, Neil Hart and Nguyen Phuc Canh. 2020. Public spending, public governance and economic growth at the Vietnamese provincial level: A disaggregate analysis. *Economic Systems,* pp. 1-20. doi:10.1016/j.ecosys.2020.100780

Winters, Jeffrey A. 2013. Oligarchy and Democracy in Indonesia. *Wealth, Power, and Contemporary Indonesian Politics*, No. 96, pp. 11-33. DOI: 10.5728/indonesia.96.0099.

Youni, Muhammad, et al. 2008. Political Stability and Economic Growth in Asia. *American Journal of Applied Sciences,* 5 (3), pp. 203-208, 2008.