



The Relationship between Government Spending and Economic Growth Revisited

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ABSTRACT

This study aims to analyze and verify the relationship between government spending and economic growth. This relationship has been a hot topic for debate among economists, with plenty of research done and being done upon it. This particular study uses panel data from 34 provinces in Indonesia during the 2014-2018 period. During this time, Indonesia's government allocated significant amount of its annual budget towards infrastructure. The estimated econometric test result using the Granger Causality Test did not find support for the effect of economic growth on government spending. Conversely, government spending has a significant effect on economic growth. This study provides support for Keynesian economic system, where government spending is used as a policy instrument to encourage economic growth in a nation.

Keywords: Government Spending, Economic Growth, Keynes, Wagner

JEL Classifications: B22, Q01, Q12

1. INTRODUCTION

The ultimate goal of any economic development process is welfare. With that in mind, two schools of thought had been put forward to attempt such a goal: Classical economics and Keynesian economics. From a Classical standpoint, the increase in economic activity relies on supply-side activities. Increase the supply of goods and the "free market" will respond in kind in a positive manner. On the other hand, from a Keynesian perspective, the economy is driven by the demand side (demand dominates). This demand is caused by 4 macro-economic actors, namely: households, companies, government and foreign countries. The main emphasis, however, is on the government guiding growth by fiscal policy making. This shows the important role of government in economic development (Katz and Robbins, 2018).

During the reform era, the Indonesian government's role importance was manifested by changes in the management system of local governments. In line with the enactment of Law No.32 of 2004 concerning Regional Government and Law Number

33 of 2004 concerning Central and Regional Financial Balance which itself is a revision of Law Number 22 of 1999 concerning Regional Government and Law Number 25 of 1999 concerning Central and Regional Financial Balance. The revision of the Law was carried out due to difficulties in coordination between the Provincial and Regency/City governments due to the absence of a clear hierarchical relationship between Province and Regency/City as was stated in Law Number 22 of 1999. The enactment of these two laws has given broad authority to the Regency/City regions to regulate and manage their own area according to the needs and capabilities of the area. With this delegation of responsibilities, it was hoped that the effectiveness and efficiency of regional government functions can be improved. The increasing role of local government autonomy is directed to encourage economic growth by increasing government spending.

The first scholar who described the unidirectional relationship between levels of development and government coverage was Adolph Wagner in 1893, known as the "Law of increasing public activity". This view considers the role of the public sector to be

largely determined by the economic performance of a region. Most of our empirical research supports this law. More recent research has applied many modern econometric methodologies to time series data. Pahlavani et al. (2011) finds support for Wagner's law for the Iranian case. Meanwhile, Tang (2010) found a two-way relationship between national income and government spending for development in Malaysia. These findings supports Keynesian's and Wagner's view while Abdullah and Maamor (2009) found a two-way relationship for four of the five versions of Wagner's Law. Verma and Arora (2010) found no relationship between estimated variables in the first half of the analysis period and found a significant relationship in the second half instead. The difference between the method of Wagner's Law and the time period is proven to provide different conclusions from the relationship between variables. Keynes's opinion--which has been mentioned earlier--contradicts the law known as Wagner's Law written by Adolf Wagner in the 19th century.

Keynes believes that economic growth is driven by government spending, while Wagner believes that economic growth is the main cause of public sector growth. The various empirical studies that have been conducted partly support the Keynesian view, while others support Wagner's view. Nyasha and Odhiambo (2019) divide the causal relationship into four types: (1) The supply-leading response or the government expenditure-led growth (also known as the Keynesian view); (2) The demand-driven response or the growth led government expenditure view (also known as Wagner's Law); (3) The bi-directional causality or feedback response; and (4) No causality or the independent view (also known as the neutrality view). This opens a research gap to contribute to the debate, so that research problems are directed at the relationship between public sector spending and economic growth in Indonesia. Theoretical aspect of this relationship has been discussed in Magazzino (2015).

2. LITERATURE REVIEW

The debate about the relationship between government spending and economic growth has been ambiguous. There are relatively many theoretical and empirical literature reviews to test the validity of Wagner's or Keynesian public expenditure laws. Some empirical studies support Wagner's law over the Keynesian hypothesis, while others support the Keynesian hypothesis. While several other studies show causality between government spending and economic growth, they simultaneously support both Wagner's law and the Keynesian hypothesis.

Bağdigen and Çetintaş (2004) did not find a causal relationship between national income and public expenditure in the case of Turkey. In addition, the study of Rauf et al. (2012) show that there is no causal relationship (cause and effect) between national income and public spending, and public expenditure and national income in Pakistan. In addition, the study of Ray and Ray (2012) shows no short-term causality between economic growth and government spending in India, which means it does not support Wagner's law or the Keynesian hypothesis.

On the other hand, studies by Kalam and Aziz (2009) in Bangladesh and Rahman et al. (2010) in Pakistan found a causal

relationship (cause and effect) between national income and public spending (in accordance to Wagner's law). Grullón (2012) study in the Dominican Republic and Salih (2012) study in Sudan support Wagner's law as well. In contrast, Magazzino (2010) study in Italy confirms the validity of the Keynesian hypothesis for government spending. In addition, the study of Ayo et al. (2011) in Nigeria show a two-way causal relationship between government spending and economic growth, both in the short and long term.

Ifa and Guetat (2018) examined the impact of government spending on education on the increase in GDP per capita in Tunisia and Morocco for the period 1980-2015 using the Auto-Regressive Distributive Lags (ARDL) approach. The results show that government spending on education has a positive and significant impact on GDP per capita of both countries, but is more intensive in Morocco. Eideh (2015) conducted a study on the causal relationship between public spending and GDP growth in the Palestinian Territories during the 1994 and 2013 period with the Engle-Granger co-integration test. The study results show that public expenditure and GDP have causal effects on each other, and validate the occurrence of Wagner's Law in Palestine's case.

Alimi (2014) conducted a study in three countries in Africa (Nigeria, Ghana and South Africa) by examining the causal relationship between government spending and national income during the period 1970 and 2012 using the Johansen-Fisher Panel Co-integration Test. The study results indicate a long-term relationship between government spending and national income for Ghana as predicted by Wagner, thus showing that government spending is not an important factor in long-term economic growth in Nigeria and South Africa. Al-Shatti (2014) conducted a study in Jordan in the period 1993-2013 to examine the relationship between government spending and economic growth using the multiple regression approach (OLS). The results showed that government spending in the short and long term had no significant effect on economic growth in Jordan. Srinivasan (2013) examines the causal relationship between government spending (public spending) and economic growth in India, using a co-integration approach and an error correction model. This analysis was carried out in the period of 1973-2012. The study indicates a long-run equilibrium relationship between government spending (public spending) and economic growth in the short and long term, which support Wagner's law. Facchini and Seghezza (2018) highlighted composition of public spending has different effect on growth.

3. EMPIRICAL METHODS

This study is to test, in an empirical manner, the effect of government spending (expenditure) on economic growth in Indonesia, using panel data (pooled data) with observations on 34 provinces during the 2014-2018 time period. The use of pooled data as Lamartina and Zaghini (2011) addresses the problem of spurious regression which can be caused by data that is not stationary (Gujarati, 2004). Research variables include local government spending with GDP growth as the dependent variable.

Following the advocates of the supply-leading response or the government expenditure-led growth (also known as the Keynesian view), this study adopts the following model:

$$GROWTH_{it} = \alpha_0 + \alpha_1 GOV_SPEND_{it} + \varepsilon_t \quad (1)$$

$GROWTH_{it}$ represents the percentage of Gross Domestic Product growth in 34 provinces of Indonesia. This variable is used to capture the level of development in each provinces in Indonesia. In this case GOV_SPEND_{it} represents values of government expenditure in each provinces in Indonesia under the period 2014-2018 and is used to capture the intensity of government policy.

The ε_{it} represents error term and consequently α_0 and α_1 are the coefficients to be estimated. The α_1 is expected to have positive sign ($\alpha_1 > 0$) since government expenditure is positively correlated with economic performance measured by economic growth. In other words, an increase in government expenditure is expected to lead to more productive activities in the economy, thus leading to a certain percentage increase in GDP.

Engel Granger Causality Method is used by implementing following equation to be estimated:

$$GOV_SPEND = a_0 + \sum_{i=1}^m b_i GOV_SPEND_{t-1} + \sum_{j=1}^n c_j GROWTH_{t-j} + \varepsilon_{it} \quad (2)$$

$$GROWTH_{it} = d_0 + \sum_{i=1}^m d_i GROWTH_{t-1} + \sum_{j=1}^n e_j GOV_SPEND_{t-j} + \varepsilon_{it} \quad (3)$$

4. EMPIRICAL RESULT

Estimation results can be found in the following Table 1. Based on probability value, the research fail to reject the null hypothesis that economic growth does not (Granger) cause government expenditure at 5% level of significance. On the contrary, there is not enough evident to reject the null hypothesis that government spending does not (Granger) cause economic growth. In other words, the causality in this particular case runs from government expenditure towards economic growth. Thus this research supports the Keynesian view (The supply-leading response or the government expenditure-led growth).

Table 1: Granger CAUSALITY test

Pairwise granger causality tests			
Date: 04/25/20 Time: 09:31			
Sample: 2014 2018			
Lags: 2			
Null hypothesis:	Obs	F-Statistic	Prob.
GROWTH does not Granger Cause LOG(GOVT_SPEND)	102	324.123	0,043390
LOG(GOVT_SPEND) does not Granger Cause GROWTH		0,391081625	0,677386

Source: Eviews

The fact that government expenditure has grown at an impressive pace over the last decade provides support for the government expenditure value as predictor for GDP growth in Indonesia. The findings support the Keynesian view or government expenditure-led growth. This finding is not in line with Lamartina and Zaghini (2011), who concluded that low income/developing economies tend to support Wagner’s law. On the other hand, Cavicchioli and Pistori (2016) and Afonso and Alves (2017) provide support for Wagner’s Law in the case of developed economy. Several other studies that are in line with these findings include studies in developing countries by Ifa and Guetat (2018), for the case of Tunisia and Morocco, Kurniawati (2018) for the case of Indonesia and Sanchez-Juarez et al. (2016) in the case of Mexico. In addition, the study in more developed countries by Magazzino (2010) in western part or Europe confirms the validity of the Keynesian hypothesis, in line with Wang et al. (2016) for the case of eastern part of Europe.

Other studies that are not in line with these findings and are more supportive of Wagner’s law includes: Magazzino (2012), Diaz-Fuentes and Revuelta (2013), Iniguez-Montiel (2010), and Kamasa and Ofori-Abebrese (2015). The study of Eideh (2015) in Palestine which concluded that GDP has a causal effect on government or public spending. In addition, Alimi (2014) study in three African countries (Nigeria, Ghana and South Africa) concluded that government spending is not an important factor in long-term economic growth in Africa, especially in Nigeria and South Africa. Next is the study by Srinivasan (2013) in India which concluded that there is an equilibrium relationship between government spending and economic growth in the short term. Other studies that do not agree with these findings include the study of Ayo et al. (2011) in Nigeria, Ul Husnain (2011), Udo and Effiong (2014), Ismal (2011) and Govindaraju et al. (2011) who concluded that there is a two-way causal relationship between government spending and economic growth, both in the short and long term. Other studies that are not in line with these findings include Al-Shatti (2014) in Jordan who concluded that government spending in the short and long term has no significant effect on economic growth. In addition, the study of Rauf et al. (2012) in Pakistan, a study by Ray and Ray (2012) in India and Ghosh (2012) which concluded that there is no causal relationship between economic growth and government spending in Pakistan and India. That is, these three studies do not support the Keynesian hypothesis or Wagner’s law.

Government spending/expenditure on infrastructure experienced a significant increasing trend during the 2014-2018 period. The allocation of government spending for infrastructure plays a strategic role and continues to be increased, with the hope of increasing competitiveness, encouraging economic growth, creating equitable distribution of the national and regional economy, and increasing people’s welfare inclusively. For this reason, a policy is needed to increase the quantity and quality of government spending in productive sectors to accelerate the national economy and equitable development between regions in Indonesia.

Government spending/expenditure on infrastructure have become a priority in central and local government spending in the 2014-

2018 period. The Jokowi administration's policy is to reduce subsidy spending and divert it to productive capital expenditures, especially for funding infrastructure development in various regions in Indonesia. Nationally, the budget for infrastructure funding in the 2015 State Budget is IDR 256.1 trillion. In 2018, the infrastructure sector received a budget allocation of IDR 415 trillion, or an increase of 62% compared to 2015. The same thing also happened to some regions in Indonesia. In the 2014-2018 period, provincial government spending on infrastructure increased by an average of 6.55% per year.

5. CONCLUSION AND POLICY IMPLICATIONS

The study shed light on relationship between government expenditure and economic growth in Indonesia where government expenditure play an important role as an engine of growth. The increase in government spending for the 2014-2018 period on physical infrastructure, especially roads, has increased Indonesia's competitiveness index in terms of connectivity and road quality by a significant margin. These gradual improvements have begun to be felt directly by the people in various regions. This means that as a fiscal policy instrument, government spending (government expenditure budget) in the APBN and APBD, when implemented in an effective, efficient, and sustainable manner, can be a driving force to maintain stability of domestic and regional economic growth. Thus, it will impact upon the distribution of economic benefits between regions and nationally.

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