The Determinants of Government Expenditure: Analysis of the Empirical Literature from 1995 To 2016[1]

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Abstract: This study reviewed literature studies on the determinants of government expenditure for the period 1995 to 2016. The research for the studies was conducted on the internet by combining government expenditure and determinants such as economic growth, government revenue, trade openness, poverty, public debt, dependency ratio, population, and urbanisation on the search engine. The finding of the literature provides conflicting results concerning the determinants of government expenditure. The results indicate that the government expenditure relationship with its determinants is significantly positive but in some instances it was found to be negative. The study recommends that future studies use the newly developed econometric techniques on previous studies to see whether they can provide different results.

Keywords: review; literature studies; econometric techniques

JEL Classification: H50

1. Introduction

The factors that are influencing government expenditure growth have been a central concern for economists going back as far as Wagner (1893). The growth of government expenditure has an impact on the economic growth of a country (Cooray, 2009). Mo (2007) suggests that all other government expenditures, except investment, have a negative impact on economic growth. The negative impact of the government expenditure on the economic growth could be detrimental to the economy as it could lead to unemployment and low levels of investment if there is slow growth rate. Many studies have proposed the factors that determine government expenditure as demographic factors such as population growth and urbanisation (Shelton, 2007; Kimakova, 2009); and macro-economic variables such as public debt, and trade openness (Rodrik, 1998; Mahdavi, 2004). According to Meltzer and Richard (1981), income inequality may create demand for more redistribution, thus

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leading to a bigger government. There is a vast literature on the determinants of government expenditure, with different methodologies and techniques used in the studies. Over the years, studies on government expenditure have continued to receive attention globally. Therefore, the objective of this study is to provide an overview of existing knowledge and to review the empirical literature on the determinants of government expenditure in recent years (1995 to 2016). Furthermore, the study will assist with the future research on the determinants of government expenditure.

This paper is divided into four sections, including the introduction. After the introduction, section two of the paper discusses the methodology. Thereafter, section three discusses the results of the relationship between government expenditure and its determinants while section four concludes the study.

2. Methodology

In order to identify the government expenditure-related articles, a search was carried out on the internet. It was found that there are not many studies about the determinants of government expenditure. As a result, a search was done by linking government expenditure and the variables that can be determinants of government expenditure such as economic growth, government revenue, trade openness, poverty, public debt, dependency ratio, population, and urbanisation. The results generated a number of journal articles for the period as far back as 1985 to 2016. Each article was examined and found that some studies were on the effect of the determinants on government expenditure while others were on the causality between the variables and government expenditure. Based on the results, only articles that were published between 1995 and 2016, used econometric techniques, and analysed one or more factors that affect government expenditure were selected. The studies on the causality relationship between government expenditure and its determinants are excluded. Consequently, the results of the studies will be categorised under the following heading: studies on the determinants of government expenditure.

3. The Relationship Between Government Expenditure and its Determinants

The analysis of government expenditure studies will provide an understanding on the factors that have been empirically found to determine government expenditure. Many of the studies had been conducted in the developed countries. However, there are a few studies on the determinants of government expenditure that have been done in developing countries. Many of the studies have empirically tested the theories of government expenditure, such as the Wagner's Law with different results. The reasons for the different results could be due to the country of study, period of the

study, and the estimation techniques (i.e. ordinary least squares, co-integration, error correction models) used.

3.1. Studies on the Determinants of Government Expenditure

The results of the studies are organised in terms of the determinants' effects on government expenditure, the author(s), country, the time period, methodology used, and the findings of the study. The studies have identified income per capita, dependency ratio, population, urbanisation, trade openness, foreign aid, and inflation, among others as the determinants of government expenditure. Table 1 presents some of the literature studies on the determinants of government expenditure.

Table 1. Research on the Determinants of Government Expenditure

Determinant effects on government expenditure	Study	Country and period	Methodology	Findings
Positive relationship	Kolluri *et al.* (2000)	G7 industrialised countries; 1960-1993	The error correction model	National income has an important influence on government expenditure in the short run.
	Islam (2001)	US; 1929 -1996	Johansen-Juselius co-integration and exogeneity tests	There is a long-run equilibrium relationship between the relative size of government spending and per capita income.
	Chang (2002)	South Korea, Taiwan, Thailand, Japan, USA and the UK; 1951-1996	Johansen-Juselius co-integration and error-correction modelling techniques	There is a long-term relationship between income and government spending, except for Thailand.
	Remmer (2004)	Middle- and lower-income countries; 1970 - 1999	OLS with panel-corrected standard errors	The dependence on foreign aid leads to the growth of government expenditure.
	Akitoby *et al.* (2006)	51 developing countries	Error correction framework.	There is support for Wagner's law.

	Nyamongo *et al.* (2007)	South Africa; Oct 1994-June 2004	VAR approach	There is a long-run relationship between government expenditure and revenue.
	Kimakova (2009)	87 developing and developed countries; 1976-2003	Panel data linear regressions	Age dependency and urbanisation are positively related to government size. Trade openness has a positive and significant relationship with government expenditure.
	Lamartina and Zaghini (2010)	23 OECD countries; 1970-2006	Panel co-integration analysis	There is a positive correlation between public spending and per-capita GDP.
	Turan and Karakas (2016)	Turkey and South Korea; 1960-2011 for Turkey and 1970-2011 for South Korea	ARDL approach to co-integration	Per capita GDP has a positive and significant influence on the government size for both countries while trade openness has a positive effect in South Korea.
Negative relationship	Fölster and Henrekson (2001)	Sample of rich countries; 1970-1995	Econometric panel study	There is a negative relationship between government expenditure and economic growth.
	Kimakova (2009)	87 developing and developed countries; 1976-2003	Panel data linear regressions	Population has a negative influence on government expenditure.
	Turan and Karakas (2016)	Turkey and South Korea; 1960-2011 for Turkey and 1970-2011 for South Korea	ARDL approach to co-integration	Per capita GDP has a significant and negative impact for South Korea in the short run. Trade openness has a negative effect on government size in Turkey.

The test for the Wagner's Law has received a considerable attention. Studies have provided evidence that the support of the Wagner's Law differs depending on factors such as country and the methodology used. Fölster and Henrekson (2001), from the sample of rich countries for the period 1970 to 1995, found that there is a negative relationship between government expenditure and economic growth. In a multi-country study, Lamartina and Zaghini (2010) tested Wagner's theory in 23 OECD countries from 1970 to 2006 by using the panel co-integration analysis. The findings of the study indicated that there is a positive correlation between public spending and per capita GDP and the correlation is found to be usually higher in countries with lower per capita GDP. According to the study, this suggests that the catching-up period is characterised by a stronger development of government activities with respect to economies in a more advanced state of development. Chletsos and Kollias (1997) used an error correction approach and found that in Greece, Wagner's Law is valid in the growth of defence expenditure. According to Chletsos and Kollias (1997), it seems that the military expenditures have been influenced by economic growth which has resulted in the allocation of more resources to defence uses. For the US, Islam (2001) used the Johansen-Juselius co-integration and exogeneity tests and found evidence in support of Wagner's Law. Chang (2002) examined the different versions of Wagner's Law for six countries over the period 1951 to 1996 by using Johansen-Juselius co-integration and error-correction modelling techniques. The countries are South Korea, Taiwan, Thailand, Japan, the USA, and the United Kingdom. The study found that there is a long-term relationship between income and government spending in the studied countries, except for Thailand.

Trade openness is another variable that has been identified as a determinant of government expenditure. The effect of trade openness on government expenditure has received considerable attention. Studies such as Rodrik (1998), Kimakova (2009) and Turan and Karakas (2016) have examined the effects of trade openness on government expenditure. In a study of 23 OECD countries, Rodrik (1998) suggests that the relationship between trade openness and government size can be explained by the compensation hypothesis. The dependency of a country on foreign trade increases the volatility on domestic markets brought by the dependence on the development of its trading partners. This creates incentives for the government to provide social security against internationally generated risks. Turan and Karakas (2016) for Turkey and South Korea used the ARDL approach to co-integration and found that trade openness have a positive effect on government size for South Korea, but a negative effect in Turkey. According to them, it is important to choose the appropriate proxy for government size as not all the measures are appropriate to be used in the estimates and to reach robust and consistent results.

Foreign aid plays an important role in developing countries. Remmer (2004) studied the effect of foreign aid on government expenditure in middle- and lower-income countries by using data from 1970 to 1999. The study found that dependence on

foreign aid led to the growth of government expenditure in middle- and lower-income nations. The study further suggests that foreign aid is becoming an important determinant of government size; and that it has a stronger influence on government expenditure than per capita income, population size, trade openness, and age structure.

Regarding the effects of public debt on government expenditure, Mahdavi (2004) found that a higher debt burden is significantly associated with a larger size of the government in 47 developing countries for the period 1972 to 2001. The study also found that external debt changed the composition of spending in favour of interest payments and displacing the share of non-wage goods and services category. The category of public capital expenditure decreased as the debt burden increases. The result suggests that external debt has an important influence in the allocation of the government budget.

In South Africa, Nyamongo *et al.* (2007) investigated the relationship between government expenditure and government revenue. The results of the study indicate that government expenditure and revenue are co-integrated, which implies that in the long-run, government expenditure and revenue are related. The findings of the study have policy implications in the short-and long-run. Firstly in the short-run, rejection of the fiscal synchronisation hypothesis confirms that expenditure decisions are made in isolation from revenue decisions. Secondly, the support of fiscal synchronisation hypothesis in the long-run implies that government expenditure and government revenue decisions are not made in isolation.

In the US, Huang and McDonnell (1997) examined the growth of government expenditure from 1948 to 1990. The results of the study indicate that income per capita, unemployment rate, total government civilian employment, and military spending have a positive and significant relationship with total government expenditure ratio. The rate of openness and the two dependency ratios for the old and youth respectively were found to be insignificant in explaining the growth of government expenditure in the US.

By using the multivariate co-integration techniques, Alm and Embaye (2010) estimated the determinants of real per capita government spending in South Africa for the period 1960 to 2007. The results of the study revealed that per capita government spending, per capita income, the tax share, and the wage rate are co-integrated. This supports the opinion that government spending is not only related to national income and the true cost public service provision as captured by the wage rate but it is also associated with fiscal illusion caused by the budget deficits. The study concludes that both institutional and a-institutional factors explain quite well the relationship between public spending, national income, tax share and wage rate in South Africa. The external conditions such as wars and oil prices are found to play

an important role in explaining the dynamics of government expenditure per capita growth.

The existing literature provides conflicting results concerning the determinants of government expenditure. The findings of the study indicate that the government expenditure relationship with its determinants is significantly positive and negative. The results differ based on the country, methodology used, and proxy of the variables used. Researchers may examine other variables such as interest rates, foreign direct investment, exchange rates, political stability, and corruption as determinants in the future as they have not been studied extensively. Other studies may use the newly developed econometric techniques on previous studies to see whether they can provide different results.

4. Conclusion

The empirical studies conducted on determinants of government expenditure were reviewed. The majority of the studies concluded that economic growth, revenue, urbanisation, and trade openness significantly have a positive effect on government spending. The empirical literature review shows that the relationship between government expenditure and its determinants differs from country, methodology used, and the measure of government expenditure used.

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