The Impact of Government Expenditure on Economic Growth

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Abstract

The purpose of this study is to investigate the influence that governmental and other forms of public spending have on the expansion of the nation's economy. GDP, gross national product, and net national income are the three major economic variables that are taken into account in this study to indicate India's economic growth. The research relied on secondary data, which was gathered from the websites of nationally recognised statistics organisations and the Indian government. The collected information on the budget has been arranged according to six heads or sectors, each of which has a unique set of functions. The study was carried out with the assistance of the SPSS programme with a technique known as Simple Linear Regression. According to the findings of the study, there is a meaningful connection between the overall and sectoral expenditures made by the government and each of the macroeconomic indices. The findings of the study lead the researchers to the conclusion that public spending has a significant bearing on the rate of economic expansion inside the nation.

Keywords: ***Government, Expenditure, Economic***

Introduction

Since the beginning of the 1980s, one of the central topics of debate has been the relationship between the level of government spending and its impact on long-term economic development and vice versa. The accepted body of literature, which is predominately empirical in its character, has progressed through two phases. One group of research has investigated the primary factors that contribute to expansion in the public sector. One of the early initiatives that emphasised economic development as the primary factor in determining the expansion of the public sector was Wagner's Law, also known as the "Law of increasing expansion of public and particularly state activities" (Wagner, 1893) Wagner's Law was one of the earliest attempts. Empirical testing of this theory, whether they take the form of a regular regression analysis or an error-correction regression, have given findings that vary significantly from one nation to the next. The second group of research has been conducted with the purpose of evaluating the impacts of the general flow of government services on private decision making and, more specifically, the effects of government expenditure on long-run economic growth. The theory of macroeconomics, particularly the Keynesian school of thought, postulates that increases in government expenditure lead to faster rates of economic expansion. Therefore, the expenditures of the government are considered to be an external force that affects the aggregate production. Empirical research, whether it be in the form of standard regressions or error-correcting regressions, reveals a variety of outcomes in this area. Although each line of inquiry has shed intriguing insight on the phenomenon, the presumed causal mechanism has not been subjected to rigorous empirical pre-testing in any of the cases. Because of at least these three factors, making a decision between the two opposing postulates based only on a priori considerations is extremely challenging: To begin, there is the potential for feedback in macro interactions, which has a tendency to conceal both the direction of causation and the type of it. Second, as was shown in the public expenditure national income nexus, failing to account for omitted variables can give rise to erroneous causal ordering among variables and, in general, produces biassed conclusions. This was proved by the fact that the nexus was established between public spending and national income. Thirdly, if it is assumed that the variables of the system co-integrate with one another, then the error-correction terms will function as an extra source of causality. Indeed, one of the most notable characteristics of co-integrated variables is the fact that the length of any departure from long-run equilibrium has an impact on the ways in which their temporal courses unfold. Therefore, failing to include the error correction terms would constitute a misspecification error and have the potential to introduce bias into the findings. In the setting of trivariate systems, the occurrence of such a result is not improbable. This is due to the fact that the inclusion of a third variable in the system might change the causal inference that is drawn from the more straightforward bivariate system. first looked at the relationship

between government spending and total national revenue as a cause and effect. After that, their study inspired a large number of further research, the findings of which span the entire spectrum from the absence of any correlation between these two variables to the existence of bi-directional causality between them., one of the current causality studies, claimed that variations in the nature of the underlying data, the testing process, and the time period analysed may be able to explain the varying findings. A few years later, added a variety of other aspects that may explain the variance among the findings obtained by different authors. One of these factors, the effect of 'omitted' variables, is one of the components that was added. It has been hypothesised that failing to take into consideration some factors might lead to an incorrect ranking of the variables in terms of their potential causality. This study appears to be the only one that we are aware of that uses a trivariate approach to investigate whether or not there is a causal relationship between the size of the public sector and the GNP. Relatively recently, a variety of additional research have employed the outcomes of the cointegration test, albeit within the framework of a bivariate method, to either verify or invalidate Wagner's Law. This is the only other research that uses an approach that is comparable to ours. This work use multivariate cointegration methods, although it focuses on a different location than previous research has done.

2. LITERATURE REVIEW

(Fouladi, 2010) aims to research the impact that government spending has on GDP and employment in relation to the Iranian economy. The article classifies expenditures into five distinct industries, namely agriculture, gas and oil, construction, industry and minerals, and services. It divides consumption expenditures into two distinct groups—consumption expenditures and investment expenditures—and further divides investment expenditures into five distinct industries. An method known as a computer generated model, or CGE model, has been utilised for the investigation. It is a fundamental tenet of neoclassical production theory that every industry strives to achieve the highest possible level of profitability for itself. Based on the findings, they came to the conclusion that despite the fact that there are certain benefits associated with the rising government consumer spending, it has led to a decrease in output, employment, and investment. In their study (Wu, Tang, and S. Lin, 2010), the authors wanted to investigate whether or not there was a causative connection between the level of government spending and the rate of economic development. To do so, they carried out the panel Granger causality test using data sets from 182 different nations that covered the years 1950 through 2004. The findings lend robust support to both Wagner's rule and the notion that the contribution of government expenditure to economic development is positive, irrespective of the method by which we gauge the relationship between the size of government and economic growth. The findings also demonstrate that there is a reciprocal relationship of causation between the actions of the government and the expansion of the economy across the various subsamples. (Nworji, Okwu, Obiwuru, & Nworji, 2012) focuses solely on the expenditure side of public finance and tries to investigate the relationship between governmental spending and economic growth in Nigeria throughout the period of time spanning 1970-2009. The authors of this study are Nworji, Okwu, Obiwuru, and Nworji. The choice of capital and recurrent government expenditures as the independent variables for the study, with gross domestic product serving as the dependent variable and serving as an indication of economic growth, was made. As a method for conducting the investigation, the Ordinary Least Squares regression model was applied. The findings suggest that there is an inverse connection between the level of government spending in Nigeria and the country's pace of economic expansion, and the research also makes some suggestions for how resources may be distributed more effectively. The purpose of the study that was carried out by Yilgor, Ertugrul, and Celepciolu (2012) was to investigate the connection that exists between public spending and the expansion of the Turkish economy. The present investment and transfer costs have been taken into consideration as the study's independent variables. The gross domestic product (GDP), which is an economic indicator at constant prices, has been used as the study's dependent variable. In order to do the necessary analysis and interpretation, the study made use of both the Augmented Dicky Fuller model and the VAR

model. The findings suggest that there is a considerable connection between the expansion of Turkey's economy and its current, transfer, and total public expenditures. This suggests that there is a one-way causation between the two variables. The purpose of (SRINIVASAN, 2013) is to investigate the connection that exists between public spending and the expansion of the Indian economy. The variables that were considered for use in the analysis were GDP as an indication of economic growth and public spending. In order to determine whether or not the data is stationary, the Johansen's co-integration method and the Vector Error Correction Model, in addition to the Augmented Dicky Fuller, were used as the analytical tools. The findings provide evidence that economic development is the sole cause of an increase in public spending, which lends credence to Wagner's rule and demonstrates the existence of a stable connection between public spending and economic expansion in India over the long term. (Gangal & Gupta, 2013) intends to analyse the influence of public expenditure on economic growth of India from 1998 to 2012 with the ultimate goal of establishing that public expenditure and economic growth of India are independent of each other. This will be accomplished by examining the impact of public expenditure on economic growth of India from 1998 to 2012. In this scenario, total public expenditure (TPE) and gross domestic product (GDP) have been selected as the metrics that will be used to measure the expansion of the economy. The findings of many impulse response functions (IRF) show that there is a positive correlation between GDP and TPE. This conclusion was reached after analysing the data. The Granger causality test reveals, in addition, that increases in public spending will lead to expansions in economic activity. The purpose of the study cited in (Srivastava, 2015) is to investigate the effect that spending on education has on the rate of economic expansion in the states located in northern India. The amount of money that is set aside for a variety of educational endeavours is one of the variables that is being looked at, along with the number of primary school teachers who are currently employed (which is relevant given that their wages contribute to some of the GDP). The GDP itself is the dependent variable. The research was carried out over the course of three years, beginning in 2008 and continuing until 2011, and the co-integration model and the error correction model were utilised for the analysis. According to the findings, the effects of spending in the education sector on the rate of economic growth in the northern states are not uniformly positive or negative. (Mohapatra & Giri, 2016) intends to analyse the influence of the various components of public spending on the economic growth of India throughout a time span ranging from 1980 to 2013. The research was conducted over the course of three decades, from 1980 to 2013. In order to examine the nature of the long-term connection that exists between the variables under consideration and the Vector Error Correction Model, the Autoregressive Distributed Lag model has been utilised. This model has also been utilised to examine the direction in which the chain of events is moving. The findings demonstrate that public spending has a considerable influence on the expansion of the nation's economy, but the effect of non-developmental spending and revenue spending is demonstrated to have a minor bearing on economic growth. The research also shows that there is a one-way chain of causation extending from India's financial investments in infrastructure development to the country's rising GDP. (Maurya & Pratap Singh, 2017) attempts to conduct an empirical investigation on the impact that rising levels of public spending had on the rate of economic expansion in India between the years 1981 and 2012. The total central government spending serves as a proxy for public expenditure, and the wholesale price index is used as an indication of inflation. The GDP serves as the dependent variable in the research, and it is used as an indicator of economic growth. The independent variables include total central government expenditure. The research makes use of the Fully Modified Ordinary Least Square, Dynamic Ordinary Least Square, and Two-stage Least Squares regression approach in order to investigate the short-term and long-term connections that exist between economic expansion, public spending, and price increases. The first discovery lends credence to the Keynesian hypothesis by demonstrating that an expansion of public spending ultimately results in a rise in overall economic growth over the course of time. The second piece of evidence is that economic expansion, in the short run, leads to an increase in public spending,

which, in turn, exerts an inflationary force on the economy. This is shown by the correlation between the two phenomena.

3. RESEARCH METHODOLOGY

According to what was stated in the introduction, the expenditures made by the government have been broken down into many categories, including the operational expenditures, the developmental sector, the education sector, the health sector, the defence sector, the science and technology sector, and the scientific and technological sector. Additionally, the country's Gross Domestic Product (GDP), Gross National Income (GNI), and Net National Income (NNI) are selected as indices of economic growth. The total government expenditure and the six sectoral government expenditures were selected to serve as the study's independent variables. The gross domestic product, gross national income, and net national income were selected to serve as the study's dependent variables. The information required for the study was gathered from several websites maintained by the government, including those of the Ministry of Finance and the Department of Expenditure. It is possible to classify this information as time series data, and it is compiled from annual budgetary forecasts over a span of 10 years. The data that was retrieved provides the annual budgetary projections of 80 departments and ministries of the Indian government. For the purpose of making the study more manageable, these estimates were further categorised into six different sectors.

Objectives Of This Study

1) To determine whether or not there is a correlation between India's total public expenditure and the country's rate of economic development.
2) To create a connection between the various types of public spending in India and the country's overall economic growth.

The following hypotheses have been developed on the basis of each of the goals that have been set up as well as the research that has been done on the existing literature, the vast majority of which has demonstrated the presence of a connection between public spending and the expansion of the economy:

H01 – There is no substantial correlation between the overall level of public spending in India and the country's rate of economic expansion.

H02 – There is a correlation between India's overall public expenditure and the country's rate of economic expansion.

H03 - There is no discernible link between the various categories of public spending in India and the country's overall rate of economic expansion.

H04 - There is a connection between various types of public spending in India and the country's overall rate of economic expansion.

With the use of the macroeconomic indicators GDP, GNI, and NNI, the primary goal of the research is to conduct an analysis of the impact that total public expenditure has on the expansion of the economy of the nation under investigation. To carry out the study, we made use of the SPSS programme and a technique known as straightforward linear regression in order to establish the degree of reliance that the overall public expenditure has on each of the macroeconomic variables. The second goal of the investigation is to examine, with the help of the macroeconomic indicators of GDP, GNI, and NNI, the influence of different types of public spending on the expansion of the economy of the nation under investigation. To perform the study, we made use of the SPSS programme and a technique known as simple linear regression. This allowed us to assess the degree of dependence that each category of spending had on each of the macroeconomic variables.

4. ANALYSIS AND INTERPRETATION

1) In order to draw a connection between the overall amount spent by the government and various measures of economic growth.

Economic Indicator	Model	Normality		Correlation	Durbin Watson	Adjusted R Square	B	t	Sig.
		F-Stat	Sig.						
GDP	(Constant)	.122	.200	.954	1.839	.899	1066201.383	1.066	.317
	Total Expenditure						7.643	8.992	.000

GNI	(Constant)	.122	.200	.954	1.830	.899	1090045.931	1.106	.301
	Total Expenditure						7.529	8.985	.000
NNI	(Constant)	.121	.200	.953	1.827	.898	971094.832	1.096	.305
	Total Expenditure						6.727	8.934	.000

In this particular scenario, GDP, GNI, and NNI will serve as the dependent variables, while total spending will serve as the independent variable. The null hypothesis cannot be rejected since the significance value is more than 0.05 (the p-value is greater than 0.05). As a result, one might reach the conclusion that the data for all of the dependent variables are normal. It is possible to verify that there is not any multicollinearity present in the data since it is possible to see that GDP, GNI, and NNI all have a positive correlation of 95.4%, 95.4%, and 95.3% correspondingly with the total expenditures, and because of this, it is possible to validate that there is not any multicollinearity present. It is possible to deduce from the data shown in the above table that the Durbin Watson values, which are essentially equivalent to 2, are 1.839, 1.830, and 1.827, respectively. As a result, one might draw the conclusion that the data do not contain any instances of autocorrelation. It should also be noted that the values of Adjusted R squared are 0.899, 0.899, and 0.898 respectively. This indicates that the change in total spending can explain 90% of the variance in GDP, GNI, and NNI correspondingly. This can be seen by looking at the figures. It is possible to deduce, based on the findings of the regression analysis, that there is a significant connection between GDP, GNI, and NNI and total spending since the significance value of total expenditure is lower than 0.05 (p-value 0.05). As a consequence, it is possible to state that there is a substantial association between these three variables.

2) In order to demonstrate a connection between various types of public spending in India and the country's overall economic growth.

a) Expenditures in the Health, Educational, and Defence Sectors

Sectoral Expenditures	Economic Indicator	Normality		Sig.
		F- Statistic	Sig.	
Health	GDP	.122	.200	.164
	GNI	.122	.200	.165
	NNI	.121	.200	.164
Education	GDP	.122	.200	.745
	GNI	.122	.200	.750
	NNI	.121	.200	.751
Defence	GDP	.122	.200	.105
	GNI	.122	.200	.106
	NNI	.121	.200	.106

In this particular instance, the GDP, GNI, and NNI are the dependent variables, while the expenditures in the health, education, and defence sectors are the independent variables. The null hypothesis can't be rejected since the significance values are higher than 0.05 (the p-value is bigger than 0.05). As a result, one might reach the conclusion that the data for all of the dependent variables are normal. The results of the regression show that the significance value of sectoral expenditures is more than 0.05 (p-value > 0.05), and as a consequence, it is possible to draw the conclusion that there is no significant association between GDP, GNI, and NNI and the expenditures in the health, education, and defence sectors.

b) Science & Technology Sector Expenditure

Economic Indicator	**Model**	**Normality**		**Correlation**	**Durbin Watson**	**Adjusted R Square**	**B**	**t**	**Sig.**
		F-Stat	**Sig.**						
GDP	(Constant)	.122	.200	.929	2.277	.845	2607229.123	1.481	.177
	S&T Sector Expenditure						440.071	7.072	.000
GNI	(Constant)	.122	.200	.928	2.269	.844	2525529.630	1.453	.184

	S&T Sector Expenditure						433.415	7.055	.000
NNI	(Constant)	.121	.200	.928	2.266	.845	2266367.708	1.460	.182
	S&T Sector Expenditure						387.482	7.063	.000

In this scenario, GDP, GNI, and NNI serve as the dependent variables, while expenditures in the research and technology sector serve as the independent variable. The null hypothesis cannot be rejected since the significance value is more than 0.05 (the p-value is greater than 0.05). As a result, one might reach the conclusion that the data for all of the dependent variables are normal. As a result of the fact that GDP, GNI, and NNI all have a positive correlation of 92.9%, 92.9%, and 92.8%, respectively, with expenditures in the science and technology sector, it is possible to conclude that there is no multicollinearity in the data. This conclusion may be supported by the fact that it is possible to confirm that there is no multicollinearity in the data. It is possible to deduce from the data shown in the above table that the Durbin Watson values are larger than 2, namely 2.277, 2.269, and 2.266 correspondingly. As a result, one might draw the conclusion that the data do not contain any instances of autocorrelation. It should also be noted that the adjusted R squared values are 0.845, 0.844, and 0.845 respectively. This indicates that the change in expenditure in the research and technology sector can explain 85% of the variance in GDP, GNI, and NNI correspondingly. This can be seen by looking at the figures. The results of the regression show that the significance value of spending in the scientific and technology sector is less than 0.05 (p-value 0.05), and as a consequence, it is possible to draw the conclusion that there is a significant association between GDP, GNI, and NNI and expenditure in the research and technology sector.

c) Operational Expenditure

Economic Indicator	**Model**	**Normality**		**Correlation**	**Durbin Watson**	**Adjusted R Square**	**B**	**t**	**Sig.**
		F-Stat	**Sig.**						
GDP	(Constant)	.122	.200	.673	1.896	.385	6231990.440	4.055	.004
	Operational Expenditure						10.799	2.576	.033
GNI	(Constant)	.122	.200	.673	1.892	.385	6179964.796	4.080	.004
	Operational Expenditure						10.635	2.575	.033
NNI	(Constant)	.121	.200	.673	1.891	.385	5517404.174	4.075	.004
	Operational Expenditure						9.505	2.574	.033

In this particular scenario, GDP, GNI, and NNI all serve as dependent variables, whereas operating spending serves as an independent variable. The null hypothesis cannot be rejected since the significance value is more than 0.05 (the p-value is greater than 0.05). As a result, one might reach the conclusion that the data for all of the dependent variables are normal. As a result of the fact that GDP, GNI, and NNI all have a positive correlation of 67.3% with operational expenditures, it is possible to conclude that the data do not contain any instances of multicollinearity. This conclusion may be supported by the observation that multicollinearity is not present. It is possible to deduce from the data shown in the above table that the Durbin Watson values, which are essentially equivalent to 2, are 1.896, 1.892, and 1.891, respectively. As a result, one might draw the conclusion that the data do not contain any instances of autocorrelation. The other thing that can be seen is that each of the adjusted R squared values is 0.385. This indicates that the variance in GDP, GNI, and NNI can be explained by the variation in operational expenditures, which accounts for 39% of the total variation. The results of the regression show that the significance value of operational expenditure is less than 0.05 (p-value 0.05), and as a consequence, it is possible to draw the conclusion that there is a significant association between GDP, GNI, and NNI and

operational expenditure. This conclusion can be drawn since the significance value of operational expenditure is less than 0.05.

d) Developmental Expenditure

Economic Indicator	Model	Normality		Correlation	Durbin Watson	Adjusted R Square	B	t	Sig.
		F-Stat	Sig.						
GDP	(Constant)	.122	.200	.824	1.822	.640	3569202.336	2.256	.054
	Developmental Expenditure						11.509	4.121	.003
GNI	(Constant)	.122	.200	.825	1.826	.641	3552477.983	2.282	.052
	Developmental Expenditure						11.344	4.128	.003
NNI	(Constant)	.121	.200	.824	1.825	.640	3171679.727	2.276	.052
	Developmental Expenditure						10.134	4.119	.003

In this particular instance, the variables that are dependent on the independent variable, which is developmental spending, are GDP, GNI, and NNI. The null hypothesis cannot be rejected since the significance value is more than 0.05 (the p-value is greater than 0.05). As a result, one might reach the conclusion that the data for all of the dependent variables are normal. It is possible to verify that there is not any multicollinearity present in the data since it is possible to see that GDP, GNI, and NNI all have a positive correlation of 82.4%, 82.5%, and 82.4% correspondingly with the developmental expenditure. It is possible to deduce from the data shown in the above table that the Durbin Watson values, which are essentially equivalent to 2, are 1.822, 1.826, and 1.825, respectively. As a result, one might draw the conclusion that the data do not contain any instances of autocorrelation. Additionally, it can be seen that the adjusted R squared values are 0.640, 0.641, and 0.640, respectively. This indicates that the change in developmental spending can explain 64% of the variance in GDP, GNI, and NNI. This is something that can be noticed. The results of the regression show that the significance value of developmental expenditure is less than 0.05 (p-value 0.05), and as a consequence, one may draw the conclusion that there is a significant association between GDP, GNI, and NNI and developmental expenditure. This conclusion can be drawn since the significance value of developmental expenditure is less than 0.05.

CONCLUSIONS

The findings of the study make it abundantly clear that the change in total public expenditure can account for approximately 90 percent of the variation in each of the economic growth indicators, namely GDP, GNI, and NNI, and that there is a significant relationship between total public expenditure and each of the economic growth indicators. Additionally, the results of the study make it clear that total public expenditure is significantly related to each of the economic growth indicators. Additionally, the findings of the studies conducted on the science and technology sector, operational expenditures, and developmental expenditures all point to a strong effect of these sectors on the indicators of macroeconomic growth. As a result, it is reasonable to draw the conclusion that a sizable proportion of the money spent by the government and the public sector makes a considerable contribution to the expansion of the nation's economy. Researchers have the opportunity to explore the impact of various segments of public expenditure, such as expenditure by municipal corporations and expenditure by state governments, on multiple other indicators of economic growth and factors that influence the health of an economy, such as inflation, employment rates, purchasing power parity, and the human development index, and so on for a longer period of time when they use similar budget data. For example, state governments spend money, and municipal corporations spend money.

REFERENCES

[1]Gangal, V., & Gupta , H. (2013). Public Expenditure and Economic Growth A Case Study of India. Global Journal of Management and Business Studies., 6.

[2]Fouladi, M. (2010). The Impact of Government Expenditure on GDP, Employment and Private Investment a CGE Model Approach. Iranian Economic Review, 26
[3]Mainali, P. K. (2012). Government Expenditure and Economic Growth in Nepal. The Economic Journal of Nepal, 70.
[4]Maurya, R., & Pratap Singh, B. (2017). Nexus of Economic Growth and Public Expenditure in India. Indian Journal of Economics and Development , 5.
[5]Mohapatra, G., & Giri, A. (2016). The composition of public expenditure and economic growth in India: Evidence from auto regressive distributed lag approach. Journal of Economic Research, 26.
[6]Nworji, I., Okwu, A., Obiwuru , T., & Nworji, L. (2012). Effects of public expenditure on economic growth in nigeria: a disaggregated time series analysis . International Journal of Management Sciences and Business Research, 15.
[7]Srinivasan. (2013). Causality between Public Expenditure and Economic Growth: The Indian Case. International Journal of Economics and Management, 13.
[8]Srivastava, V. (2015). Effect of Education on Economic growth of Northern Part of India. Journal of Financial Management and Research, 10.
[9]Wu, S.-Y., Tang, J.-H., & S. Lin, E. (2010). The impact of government expenditure on economicgrowth: How sensitive to the level of development? Journal of policy Modelling, 13.
[10] Yilgör, M., Ertugrul, C., & Celepcioğlu, M. (2012). The effect of public expenditure on economic growth: Turkey example. Investment Management and Financial Innovations, 11.