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Impact of National Income on Government Development And Non-Development Expenditure in India

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ABSTRACT

This paper attempts to examine the impact of National Income (Gross Domestic Product) on Government Development and Non-development Expenditure in India. Cross-sectional relationship is expected between year-wise National Income (Gross Domestic Product) at constant prices and Government Development and Non-development expenditure in India, for the study years 1980 to 2011. Cross-sectional analysis of data from 32 years during 1980 to 2011 of India showed significant association between year-wise number of National Income (Gross Domestic Product) at constant prices and Government Development and Non-development Expenditure. In this paper, we have found out that National Income (Gross Domestic Product) at constant prices has positive influence on Government Development and Non-development expenditure in India.

KEYWORDS : National Income, GDP, Development Expenditure, Non-development Expenditure.

1. INTRODUCTION

The relationship between National Income and Government Development and Non-development Expenditure has attracted the interest of many economists and policy makers after globalization and liberalization, because in most of the developed and developing countries the size of Government Expenditure has expanded. Thus, it is very important for an economy to investigate if there is any long run relationship between these two variables National Income and Government Expenditure and identify the direction of causality. Wagner hypothesis suggests that Government Expenditure plays no crucial role in economic growth i.e. increase in National Income, and thus cannot be used as a policy instrument. In Keynesian view, government spending is an important policy variable, which can be used by the government authorities in order to influence economic growth of the economy.

Wagner (1883) predicted that economic growth i.e. increase in National Income, would increase Government Expenditure. Thus, the causality according to Wagner's law is running from economic growth i.e. increase in National Income to increase in Government Expenditure. On the other side, Keynesian hypothesis support that the causality is running from Government Expenditure to Economic Growth i.e. increase in National Income, which is in contrast with Wagner's law.

Interest for the Wagner hypothesis attracted the attention of many economists after the translation of the original work of Wagner by Cooke (1958), however the interest had declined at the end of 1970s. Although, the increased Government Expenditure in most countries, new development of econometric techniques, and the last translation of Wagner's work by Biehl (1998) attracted again the interest of many policy makers and economists.

Our study period is 1980 to 2011. After New Economic Reforms in India in 1990-91 due to Globalization and Liberalization many changes have occurred and National Income and Government Development and Non-development Expenditure have expanded. Therefore investigation of impact of increase in National Income on Government Development and Non-development Expenditure is very important.

The remaining of the paper is organised into nine sections including earlier introduction. Section two presents theoretical foundation of the study, Section three describes the objectives of study, Section four is about hypotheses, and Section five describes and reports the data, methodology and model specification. Section six, is about sources of data, Section seven, reviews of earlier theoretical and empirical literatures The empirical findings are reported in Section eight , Section nine presents conclusion with some observations.

2 THEORETICAL FOUNDATION

National Income determines the welfare and standard of living of the people. Higher the National Income, higher the Government Expenditure on public utilities in any country. Different Economist have different feelings about study of impact of National Income on Government expenditure. We have discussed some major theories as follows.

The mercantilists gave an important idea on fiscal principles which were that people should "be taxed according to the benefits they received from the state. Since the state had to protect the nation, the expenditure required for the same was only to come from taxation.

The classical approach to the subject of government expenditure was based on the assumption that government is merely an agent for the people and has to spend the people's money directly and sparingly. This approach was based on assumption of non-interference by the Government and therefore there was no need for theory of government expenditure.

Wagner expounded that the "Law of increasing expansion of public and particularly state activities" which is referred to as the "Law of increasing expansion of fiscal requirements". The Law suggests that the share of the public sector in the economy will rise as economic growth proceeds, owing to the intensification of existing activities and extension of new activities. According to Wagner, social progress has led to increasing state activity with resultant increase in government expenditure.

The phenomenon of government expenditure growth has been subject for researchers to find out what causes expansion of government expenditure. Wagner (1883) introduces a model that government expenditures are endogenous to National Income , i.e. economic development. It means that increase in National Income. In the economy also causes public sector expenditures to expand.

Wagner's law and the Keynesian theory present two opposite perceptions in terms of the relationship between government expenditure and growth in community output. While according to Wagner's approach causality runs from growth in community output to government expenditure, the Keynesian approach assumes that causality output to government expenditure, growth in community output in times of recessions.

3 OBJECTIVES OF THE STUDY

The main objective of this paper is to study that what is the effect of increase in National Income on Government Development and Non-development expenditure in India. We want to empirically determine the relationship of National Income (GDP) at constant prices and Government Development and Non-development expenditure in India during the period 1980 to 2011.

4 HYPOTHESES OF THE STUDY

The present paper aims at determining empirical relationship of National Income (GDP) at constant prices and Government Development and Non-development expenditure in India. We have the following important hypotheses:

(1) Increase in National Income (GDP) has increased Government Development expenditure in India.
(2) Increase in National Income (GDP) has increased Government Non-development expenditure in India.

(3) Increase in National Income (GDP) has increased Total Government Development and Non-development expenditure in India.

5 METHODOLOGY OF ANALYSIS

In this paper, empirical analysis is undertaken with a view to establish cross -sectional relationship between National Income (GDP) and Government Development and Non-development expenditure in India for the study year 1980 to 2011 by using computer software (E-views). This has been carried out with the help of year-wise secondary data.

For this purpose, the statistical regression models analysis have been adopted. This paper has been designed so as to examine the hypotheses as mentioned earlier in this study.

Here, statistical regression is employed as a tool for the analysis of relationship between the variables which we are predominantly concerned with. The dependent variables in this model is the year-wise Government Development and Non-development expenditure (in Rs. Crores) over 32 years in India. On the other hand, the independent variable is National Income (GDP) at constant prices.

Largely, in all the Indian study, we are concerned with a cross- sectional analysis for the study years 1980 to 2011.

In our empirical results and analysis, we have strong contention that level of National Income (GDP) would be positively and statistically strongly related with year-wise Government Development and Non-development expenditure in India.

We have estimated a two variable model as mentioned above and then fitted double natural logarithmic (log) equations below with the corresponding statistical values of students t-statistics, R2,R2, F-value ,D-W Statistics and the regression coefficients.

6. SOURCES OF DATA

The sources of data are exclusively built on secondary survey. The required statistical information (secondary data) would be collected from various sources, and has been used for analysis purpose, and those are from the following sources:

(1) Reserve Bank of India (RBI), CSO.
(2) Economic and Financial statistics Review (Reserve Bank of India)
(3) Indian Economic Survey (Fiscal and Real Sector), the Ministry of Finance, "Government of India" New Delhi.

And also data collected from other reliable sources.

7 REVIEW OF LITERATURE

Many studies have been carried out in India and abroad which are of greater significance. Among a few significant studies on impact of National Income (GDP) on Government Non-development expenditure mention may be of following works:

Muhlis Bagdigen & Hakan Cetintas (2001) expounded that in most countries, data based on government expenditure as a fraction of national output show that public sector has an inevitable trend of growth in the long run (Scully, 1989). Turkey is one of these countries. Her government expenditures as a fraction of national output show that public sector has an inevitable trend of growth in the long run. Turkey is one of these countries. Her government expenditures have been expanding for decades.

Jodylyn m. Quijano and Dante R. Garcia (2004) It was found that short run changes in real GDP have significant positive effects on government spending and that about 1.38 percent of the discrepancy between the actual and the long run, or equilibrium value of real GDP is eliminated or corrected each year.

Using stepwise multiple regression analysis, private investment, degree of openness and people power movement were identified as significant factors affecting government spending. On the other hand, factors like private investment, supply of revenue total outstanding of public debt, degree of openness, political stability, globalization and the commencement of the World Trade Organization were found to be statistically significant affecting economic growth.

Though this is not an exhaustive survey of the literature that has gone into this area, we feel that it does provide analytical framework for enabling us to undertake the present study.

8 RETSULS AND DISCUSSION

By fitting the double natural logarithmic (Log) relationship as mentioned earlier in this chapter to the cross -sectional data of National Income (GDP) and Government Development and Non-development expenditure in India for the study years 1980 to 2011. In this study year-wise total number of National Income is independent variables and Government Development and Non-development expenditure dependent variable, we have obtained the following results in below by examining the relationship.

8.1 TWO VARIABLE REGRESSION MODEL

Regression estimates as mentioned earlier in this chapter for this aspect covering period from 1980 to 2011is presented with both dependent and independent variables in natural logarithmic (Log) below one after another

8.1.1 Dependent Variable: Development Expenditure (DEP)

Independent Variable National Income (GDP):
Model: Log DEP = a + b1 Log GDP + Log DEP t-1 + u1
Where DEP stands for Total number of Development Expenditure year-wise and GDP stands for Total number of National Income (Gross Domestic Product) year-wise. And u1 stands for error terms.

Regression results: (For 1980 to 2011 data)
Log DEP = -2.0011 + 0.5328 log GDP + 0.7251 log DEP t-1 + u1
(0.806) (0.1920)*
R2 = 0.99 R2 = 0.99 F = 2148 DW = 1.66
* Significant at 5% level of significance

The above regression results supports the fact that the relationship between National Income (GDP) and Development Expenditure is significant and positive as shown by the student's t-values attached to it. The slope signifies that for the study years 1980 to 2011, year-wise number National Income (GDP) has positive influence on the determination of Development Expenditure year-wise. Coefficient of "National Income (GDP)" also indicates that for Rs. 1crore change in the "National Income (GDP)", the "Development Expenditure" would change by Rs. 0.5328crores. R2 is significant which shows that year-wise number of "National Income (GDP)" is an important factor and explains 99% of variations in Development Expenditure. F-value is highly significant which show positive relationship between the variables for the whole result. Thus, National Income (GDP) actually has positively influenced Development Expenditure. D-W statistics indicates some presence of auto-correlation among the residuals.

From the above analysis, we can conclude that the National Income is significant and has positive relationship with Development Expenditure in India. This regression results confirms to our hypothesis as stated earlier in this paper.

8.1.2 Dependent Variable: Non-development Expenditure

Independent Variable: National Income (GDP)
Model: Log NDEP = a + b2 log GDP + Log NDEP t-1 + u2
Regression Results: (For 1980 to 2011 data)
Log NDEP = -0.4054 + 0.1587 log GDP + 0.9098 log NDEP t-1 + u2
(0.5109) (0.1061)*
R2 = 0.99 R2 = 0.99 F = 7862.34 DW = 1.736
* Significant at 5% level of significance

The above regression results supports the hypothesis that National Income in India is statistically significant at 5 % level of significance and has positive influence on the determination of Non-development Expenditure during the study years 1980 to 2011. Regression coefficients of "GDP" indicate that for Rs. 1crore change in the "GDP" would change "NDEP" by Rs. 0.1587crores. The R2 is significant which indicates that the independent variable (GDP) explains 99% variation on the determination of Non-development Expenditure during the study years. F-Value is also significant which suggests positive relationship between the variables for the whole results. D-W statistics value is significant and it indicates some presence of auto-correlation among the residuals.

The analysis of these results confirms our hypothesis as stated earlier in the paper. This result also implies that the National Income (GDP) has the highest bearing on determination of Non-development Expenditure in India.

8.1.3 Dependent Variable: Total Government Expenditure (TGE)
Independent Variable: National Income (GDP)
Model: Log TGE = a +b3 log (GDP) + Log TGE t-1 + u3
Regression Results: (For 1980 to 2011 data)
Log TGE = -0.9364 + 0.2976 log GDP + 0.8453 log TGE t-1 + u3
(0.4119) (0.1001) (0.0488)*
R2 = 0.99 R2 = 0.99 F = 10497 DW = 1.67
* Significant at 5% level of significance

The regression result presented above supports the hypothesis that the National Income (GDP) in India is statistically significant and has positive influence on the determination of Total Government Expenditure (TGE) during the study period of 1980 to 2011. Regression coefficient is significant at 5% level of significance and it indicate that for Rs. 1 crore change in the level of National Income (GDP) variable, the changes in the Total Government Expenditure (TGE) would change by Rs. 0.2976 crores. The R2 is very high which suggests that the independent variable explains 99 % influence / variation on the determination of Total Government Expenditure (TGE). F-value is significant means that there is a positive relationship between the variables. D.W statistics is 1.67 which confirm to some extent of presence of auto-correlation among residuals.

From the above analysis, we conclude that the National Income (GDP) is significant and has positive relationship on the determination of Total Government Expenditure (TGE) in India. This regression results confirms to our hypothesis that Increase in National Income (GDP) has increased Total Government Development and Non-development expenditure in India as mentioned earlier in the paper.

9 CONCLUDING REMARKS

Our results of Regression analysis reveal that National Income (GDP) in India has significant and positive influence on the determination of Government Development and Non-development expenditure for the study years 1980 to 2011. Our analysis supports our hypotheses as stated in the paper. And it is also true that the rate of Government Development and Non-development expenditure is related to National Income (GDP) in India. This analysis leads us to the conclusion that there is an impact of National Income on Government Development and Non-development expenditure

REFERENCES

1. Wagner A(1883) "Increasing expansion of public and state activities". Germany, n. p.2. | 2. Muhlis Bagdigen and Hakan Cetintas (2001), "Causality between expenditure and Economic Growth: The Turkish Case" Journal of Economic and Social Research Volume 6(1), PP53-72. | 3. Jodylyn M. Quijano and Dante R. Garcia (2004), "causality and determinants of government spending and economic growth: The Philippine Experience 1980 – 2004" Journal of Economic and Social Research Volume 9(1) PP43-62. | 4. Danglason G. Omotor (2004), "An analysis of Federal Government of Nigeria: Implications for Natural Development" Department of Economics, Delta State University, Abraka, Nigeria E-mail: yomotor@yahoo.com. | 5. Biehl, D. 1998, "Wagner's Law: An Introduction to and a Translation of the Last Version of Adolph Wagner's Text of 1911", Public Finance, vol. 53, pp. 102-111. | 6. Cooke, N. 1958, Three Extracts on Public Finance by Adolph Wagner Translated from German, Macmillan & Co. Ltd, London. | 7. Mann, A.J. 1980, "Wagner's law: an econometric test for Mexico 1926-1976", National Tax Journal, vol. 33, pp. 189-201. | 8. Demirbas, S. 1999, "Co-integration Analysis-Causality Testing and Wagner's Law: The Case of Turkey, 1950-1990", Discussion Papers in Economics, Department of Economics, University of Leicester, UK. | 9. Henrekson, M. 1993, "Wagner's Law -A spurious relationship", Public Finance, vol. 48, pp. 406-415. | 10. Islam, A.M. 2001, "Wagner's Law revisited: Cointegration and exogeneity tests for the USA", Applied Economics Letters, vol. 8, pp. 509-515.