Conclusion and Policy Implications

The study analyzed the structure, composition and long-term trend in government expenditure of Rajasthan for the period 1970-71 to 2013-14. Primary objectives of the study were: (i) to find out causality between government expenditure and Net State Domestic Product of Rajasthan economy; and (ii) relative contribution of different determinants of government expenditure. The study tested important hypothesis of the association between government expenditure and economic growth in Rajasthan during 1970-71 to 2013-14. Keynesian theory of public expenditure and different versions of Wagner’s Law of public expenditure were empirically tested.

Analysis of government expenditure and revenue of Rajasthan for 1970-71 to 2013-14 showed that there were different phases in the overall movement of different components of capital and revenue expenditure and income. It was observed that both expenditure and revenue of the state of Rajasthan moved in tandem with the macroeconomic scenario of the country at large during the period of the study. Although government expenditure is a broad term, it is comprised of different components carrying varied connotations. From the perspective of political economy, the relative share of expenditure under different heads of account is important and it was found that capital expenditure on economic services has been on the decline while social service has been on the rise. It is indicative of the fact the state government’s capacity to generate income from productive activities would fall in the long run.
Expenditure on revenue accounts has substantially increased over the years, particularly after the implementation of the V Pay commission (2005) in the state. There has been a significant shift in the structure of government debt over the years and the interest payment as a percentage of revenue expenditure has substantially increased accounting for 25% of the total revenue expenditure of the state economy of Rajasthan until the first half of the 2000s. It can, therefore, be briefly concluded that the expenditure, revenue and debt of government of Rajasthan have turned favorable from a growth promotion viewpoint in the first half of 2010.

It was found that there was cointegration or rather co-movements between government expenditure and economic growth measured in terms of NSDP in real terms in Rajasthan during 1970-71 to 2013-14. Different mathematical formulations of Wagner’s Law empirically tested the association between government expenditure and NSDP. Peacock and Wiseman’s versions used government expenditure and NSDP in real price while Gupta’s version used per capita government expenditure and per capita NSDP. Guffman’s version used government consumption expenditure as the dependent variable and NSDP as the independent variable. Differences in the specifications of dependent and independent variables make generalizations about the association between government expenditure and NSDP rather cumbersome. However, it can be broadly concluded that government expenditure moves in tandem with NSDP in the long run. In other words, there exists a synchronized and co-movement between government expenditure and economic growth in the economy of Rajasthan for the period 1970-71 to 2013-14. Its policy implication is that government intervention is an inevitable factor in the performance of the economy which is supportive of the Keynesian theory of public expenditure.
Musgrave and Musgrave and Mann used the ratio of government expenditure to NSDP (in real price) as the dependent variable and NSDP and per capita NSDP as independent variables. These versions of Wagner’s Law found that there was no long-run relationship between government expenditure and NSDP or the economic growth in Rajasthan. The advantage of specifying government expenditure as ratio of NSDP is that it is not the absolute size of government expenditure per se but government expenditure in relation to the size of NSDP, which is the determining factor of NSDP. Although the Musgrave and Musgrave and Mann versions of Wagner’s Law are superior in terms of its mathematical formulation as compared to other four variants of Wagner’s Law, the results of the regression of Musgrave and Musgrave and Mann versions showed that there was no long-run relationship between ratio of government expenditure to NSDP and per capita NSDP. In other words, government expenditure has no significant influence on the economic performance of Rajasthan. Its policy implication is that even if government expands, there is no assurance that it would manifest in economic growth or economic growth is not driven by the intervention of the government. To an extent, Musgrave and Musgrave and Mann versions do support the withdrawal of the government from economic activity or it goes against the very grain of Keynesian proposition.

In the association between government expenditure and economic growth, causality matters. Causality implies the cause and effect relationship between variables on different sides of the equation. From a policy perspective, the cause and effect relation assumes significance. The analysis showed that there was long run as well as short run causality between government expenditure and NSDP. The causality runs from government expenditure to NSDP in the long run and from NSDP to government expenditure in the short run. Its implication is that economic
performance enables the government to expand more in the short run while the government expenditure drives economic growth in the long run. The economy of Rajasthan followed Wagner’s Law in the short run and the Keynesian theory of public expenditure in the long run. The study found that Gupta’s version of Wagner’s Law did not work in the state of Rajasthan as there was no causality between per capita government expenditure and Per capita NSDP both in the long run and short run. In the short run, the association between government expenditure and per capita NSDP showed a different relationship (Guffman’s version). There existed a bi-directional causality between government expenditure and per capita NSDP in the short run while government expenditure influences per capita NSDP in the long run. It amounts to saying that Keynesian theory of public expenditure works in the long run in Rajasthan. There was unidirectional causality from NSDP to government consumption expenditure in the long run while there was no such causality between these two variables in the short run. It shows that Pryor’s version of Wagner’s Law does not work in the economy of Rajasthan in the short run. Conversely, as observed in the case of the relationship, there was no causality between the relative size of government expenditure and economic growth in Rajasthan during the period under study and it can be concluded that Musgrave and Musgrave and Mann versions of Wagner’s Law did not work in Rajasthan. Analysis of unknown break in the regression on government expenditure and NSDP of Rajasthan in different versions of Wagner’s Law showed that there was a common break point in the year 1980. It is indicative of the fact that there was a structural shift in the long run association between government expenditure and NSDP. An important reason for the shift is the substantial hike in capital expenditure in 1980-81 periods. From an abysmally small share of capital expenditure of 19% prior to 1980-
81, it has substantially increased to 55% in 1980-81. In the following years too, the capital expenditure of Rajasthan remained high (See Appendix Table 4.1). We have already pointed out elsewhere that there is a positive association between economic growth the capital expenditure in Rajasthan. The shift in NSDP and government expenditure took place because of the increase in the share of capital expenditure in 1980-81. Capital expenditure further leads to higher irrigation and more Agriculture growth further supplemented to higher manufacturing and industrial growth. Capital expenditure on Agriculture heads at current prices in 1974-75 was 81 Crore and increased to 151 crores in 1980-81. It was observed that the causality runs from public expenditure to economic growth in Rajasthan in the long run. The findings of the study are in conformity with the Keynesian school of thought government expenditures leads to higher rate of economic growth. Reasons for the positive association between government expenditure and economic growth are: (i) impact of accelerator and multiplier effect of government expenditure is much higher than the private investment; (ii) government expenditure attracts private investment in the productive sector because capital investment by the state in productive sectors like agriculture and industry attracts small capital or petty commodity producers such as small and marginal farmers, Micro, Small, Medium Enterprises (MSME) to the sector. It is worth mentioning here that there is no causality between government expenditure and economic growth in the short run. It further confirms that government expenditure in the infrastructure sector causes long term growth in the economy. To a great extent, it caution against the withdrawal of the state from economic activities. Primarily, government spending on infrastructure leads to higher growth and it could be reasons for the association between government expenditure and economic growth.
However, generalization of the observed statistical relationship calls for further detailed analysis on accelerator and multiplier effect of government expenditure and it is outside the purview of the present study.

The association between government expenditure and government revenue was statistically tested. Important conclusions derived from the analysis are: (i) **there is causality from government revenue to government expenditure in the short run as well as in the long run.** It means, if the government increases or decreases its revenue, it would lead to a proportionate or corresponding change in government expenditure (see Table 5.27); (ii) **there is no causality from government expenditure to government revenue in the short run as well as in the long run.** It implies that even if the government increases its expenditure, it does not ensure a proportionate change in the revenue of the government or tax collection. Analysis of unknown break in the association between tax revenue and government expenditure showed that there was a break in the association between two variables under consideration in the year 1980. **Its implication is that there could be a structural shift in the long run relationship between government spending and tax revenue by 1980.** There is a co-movement of variables in the long run and the government expenditure caused government revenue in Rajasthan or the causality ran from expenditure to revenue. The causal relationship between tax revenue and government expenditure is indicative of the theoretical postulate that the increased expenditure will improve the tax buoyancy of the state of Rajasthan through its multiplier effect on economic growth. The finding further confirms that the Keynesian theory of government expenditure which harps against the downsizing of the government in economic sphere.

Analysis of pre and post economic reform periods showed that there was the substantial difference in the long run association between
government expenditure and economic growth in Rajasthan during the two phases of study. In the pre-reform phase (1970-71 to 1991-92), there was no cointegration between government expenditure and NSDP of Rajasthan. Its implication was that there had been no long-run equilibrium relationship between government spending and economic growth in the pre-reform phase. However, there were co-movements of variables under consideration in the short run during that period. In order to find out the co-movements of variables in the short run, Vector Autoregressive Model (VAR) was employed and found that there were short run relationships between government expenditure and NSDP in Rajasthan. The statistically observed relationship confirmed that government expenditure impacted on the NSDP. It can be concluded that the Keynesian Hypothesis was valid for Rajasthan economy during the pre-reform period (1970-71 to 1991-1992). The association between government expenditure and NSDP are different during the post-reform period. Conversely, the post-reform analysis of the relationship between government expenditure and NSDP indicated that there was a co-integration between these two variables in the long run in Rajasthan. It means that there exists a long-run equilibrium relationship between government expenditure and NSDP in Rajasthan during the period 1992-93 to 2013-14. Its implication was that government of Rajasthan resorted to alternative sources for government spending rather than the accelerator and multiplier effect tricked up and down from growth momentum generated with NSDP during the period. It was on account of the fact that the government of Rajasthan had given more emphasis to spending rather than its sources of borrowing or financing of spending. The observation is in conformity with the development paradigm of the government of India since the early 1990s. Analysis of the period into pre-economic reform phase and post-economic reform phase showed that the causality between government expenditure and economic
growth in the post economic reform phase (after 1991) as compared to pre-economic reform phase. As part of neo-liberal economic policies, both central and state governments have increased their spending on growth driving infrastructure as compared to the pre-economic reform phase. It could be primary reasons for the observed strength in the association between government expenditure and economic growth in the post-reform phase. Rate of growth in public expenditure in the pre and post economic reform periods indicate that there is a higher growth in government expenditure in the post-reform period although the government spending is discriminatory by sectors in characters.

Tax revenue is one of the major determinants of government expenditure in the state of Rajasthan while the association between government expenditure and the NSDP is found relatively weak. However, there is a derived relationship between NSDP, tax revenue and government expenditure, which is indicative of the fact that changes in NSDP cause changes in government revenue. It, in turn, leads to changes in government expenditure. Moreover, different components of government expenditure are directly and positively associated with government tax revenue. There is a positive and significant association between government expenditure, tax revenue and public debt with the current level of government expenditure. It is indicative of the fact that a reduction in tax revenue, which if not supplemented with the commensurate increase in public debt, would leave the direct effect on government spending. If government expenditure is financed through borrowing, it may augment government’s spending in initial years, but pull down the economy’s financial maneuverability in the long run. It is suggestive of the fact that if government expenditure is financed through borrowing, in the next two following years, the accelerator and multiplier effect of the government spending would leave the government with
relatively better growth prospects in the short run, but it would invariably drag the economy down in the long run as revealed by the Impulse Response Function (IRF). If the government of Rajasthan wishes to give a tilt to its economic growth, the possible means to expend more on capital as well as revenue expenditure. It is because private capital is inadequate to take a substantial leap forward in the sphere of economic activity. In this context, state government should increase the expenditure to develop both productive as well as service sector for the development of the economy of Rajasthan. It is on account of the fact that capital expenditure expands income and employment generating capacity of the economy while spending on welfare activities give a boost to effective demand of the economy. In the above analysis, the observed relationship between government expenditure and NSDP prove that the Keynesian principle does work in the state of Rajasthan.

8.1. Conclusion

The present study has undertaken to examine the causality between public expenditure and economic growth further investigated that the causality runs from growth to public expenditure. This shows that growth is the cause of public expenditure in Rajasthan. The study recommended that the government should increase the expenditure on transportation, infrastructure, education and other social and economic services so that the government expenditure can lead to the growth of the state. Pre and post-reform analysis of the study concluded that government interventions during the pre-reform period were causing growth whereas after reform period public expenditure is not leading the growth.

Most importantly, the study has found that the tax revenue determinant was causing significantly to public expenditure of Rajasthan, indicated
that public expenditure is highly contributed by tax revenue sources of Rajasthan. As compare to other states of India, Rajasthan is a low-income state, where increasing taxes for enhancing revenue sources is not a good idea. Therefore, the study recommends re-shuffling the tax system and policy formation for resource generation by which economy can lead to the growth.

To put it in its nutshell, the study proved that government spending was the most powerful fiscal weapon in the armory of the government of Rajasthan to activate the regional economy. To a great extent, deficit financing or spending by borrowing is recommended to give the fresh lease of life to the regional economy of Rajasthan is connected to the international sphere of production and exchange after the integration of the Indian economy with the world market more effectively since the introduction of economic reforms in 1991. Further, India’s signing up with the World Trade Organization on April 15, 1994, which came into being on January 1, 1995, replacing its predecessor, GATT. It is the order of the international economy to be under recession periodically after an interval of 5-6 years since the early 1990s further, the phase of slow down. The study recommends more active intervention by the government in the economics of state of Rajasthan as tax revenue is the primary determinant of government expenditure. For the widening and deepening of resource mobilization for government spending, opening up of new spaces for resource mobilization for government expenditure is essential. To cut the story short, given the present scenario and very fragile size of private capital, expanding the activity of the government is recommended to be an important driver of economic growth in Rajasthan.

**8.2 Policy Implications**
The causality between government expenditure and economic growth clearly indicated that there exist well-defined limitations for the private capital, particularly at the state level to pull up economic growth. On the contrary, government expenditure still holds the key for accelerating economic growth in the state of Rajasthan. An important policy implication emerging from the study is that the private capital expenditure has not yet emerged as an important variable to stimulate growth in the economy. It implies that the government has to find ways to spend more on economic growth to promote economic growth. Decline in the spending in the primary production sector, especially agriculture has to be corrected to stimulate economic growth in the state for two reasons: (i) it is rather less likely that the agriculture sector would attract private investment without complementary and substantial growth in government spending on the sector; (ii) In a state like Rajasthan, government spending in agriculture assumes special significance because more than 70% of the rural households depend on agriculture for their livelihood. Given the financial constraints to channel large funds into the development activities, government has to explore newer and fresher avenues of tax collection which could be possible only from the booming sectors like real estate, health and education. Resorting to traditional material production sectors like agriculture and allied sector, manufacturing and mining and quarrying do not suggest a prudent decision especially in the light of looming large intermittent economic crisis which is again linked to the ups and down in the international market.

8.3. Limitations of the study

The Present study is primarily based on the secondary data of government expenditure, Net State Domestic Product, government revenue, public debt, Grants-in-aids etc for the period of 1970-71 to 2013-14 which may
be considered as less time span and the results of the analysis may be more accurate if the time period of the study will be longer. The present study only included macroeconomic variables for the state finance of Rajasthan as the determinants of government expenditure, but there may be others determinants of government expenditure such as demographic determinants, Political determinants etc. The inclusion of these determinants for the analysis may improve the results of the analysis because of the unavailability of the data of these determinants of government could not include in the present study. The present study analyzed the sectors specific government expenditure for Rajasthan state, but within sectors there are different categories of government expenditure, which could not include in the analysis of the study, due to the unavailability of the data and inclusion of these categories may lead to the way of deep and more focused results for the analysis.

8.4. Future Research Scope

The study has attempted to analyze the relationship as well as the causality between government expenditure and NSDP of Rajasthan state for period 1970-71 to 2013-14. The analysis of the study indicates that there are some other research issues which have not been undertaken in the present study. The Major Future Research can be done on the followings research areas or issues:

8.4.1. The analysis of government expenditure on different sub-categories of Economic, Social and general services expenditure can be analyzed along with the Net State Domestic Product of the state.

8.4.2. The study found that the Tax revenue is the major determinants of government expenditure in Rajasthan state during Reference period. The analysis can be undertaken with the inclusion of other determinants of
government expenditure such as Social, Demographic and Political
determinants of government expenditure.

8.4.3. The welfare approach of public expenditure given by Jagdish
Bhagwati and Amritya Sen and Supported by Arvind Pangadiya could not
be included as further research issues of this research area.

8.4.4. The political approach of public expenditure can also be included in
the further research of public expenditure and economic growth
association.

8.4.5. Central and State fund Disbursement can also be analyzed and can
also be estimate the impact of it on the growth performance of the state.

******