An Empirical Analysis of the Revenue and Economic Impact of Value Added Tax in Manipur

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Abstract: As in any other states of India, Value Added Tax (VAT) was introduced into the taxation system of Manipur from July, 2005. Studies found VAT to be a major revenue contributor in most Indian States. The question is whether implementation of VAT in Manipur achieves these objectives. The existing few literatures failed to give a clear picture of the impact of VAT on the revenue of the state. Keeping this in view, the present study is an attempt to evaluate the impact of VAT on the economy of the state, particularly the revenue aspects. The extent of the revenue gain of VAT is found to be impressive as compared to the previous sales tax it replaced. The aggregate VAT to GSDP (Gross State Domestic Product) ratio shows an increase from 1.7 per cent in the year 2005-2010 to 2.5 per cent during the years 2010- 2015. The share of VAT revenue in the GDP of the State was also found to exceed the share of the predecessor Sales Tax revenue on an average by about 1.3 per cent of the all India average figure it is not particularly impressive.

Key Words: Sales Tax, Cascading Effect, Value Added Tax, Own Tax Revenue, Goods and Service Tax

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I. INTRODUCTION

Value Added Tax (VAT) has been considered one of the most important tax reforms. No fiscal innovation has ever spread so widely so rapidly or been so successfully adopted in such a wide variety of countries as VAT (Bird & Gendron, 2007). One of the key reasons why countries introduced VAT into their taxation system is the revenue raising capacity of VAT. The impressive performance of VAT in other countries prompted India to introduce VAT into her taxation system. After various rounds of discussions and consultations with the states, India finally introduced VAT on a national basis with effect from April, 2005. The rationale behind the introduction of VAT is the advantages inherent in the tax (as compared to pre-existing sales tax regime) like reduction of evasion, expanding tax base, mobilization of revenue and removal of tax cascading by way of input tax set off, removal of multiplicity of taxes etc. The introduction of VAT in India from April, 2005 was considered very important as it have tremendous positive effect on the economy of the country.

Revenue mobilization is the key for any economic development, the objective of any tax system. Of the various objectives associated with VAT, the main interest in the tax may be attributed to its potential of raising substantial amount of revenue due to its inbuilt mechanism to minimize evasion and enhance transparency in tax related activities. As far as revenue generation is concerned VAT is considered more productive than the sales tax it replaces. The review of studies conducted on VAT of various Indian States found VAT to be a major revenue contributor and has important revenue implications. VAT was found to contribute a significant proportion to state's own tax revenue in most Indian States. The growth rate of revenue mobilized from tax has sharply increased after its introduction. Several studies indicate that tax revenue has increased significantly after the implementation of VAT in the country. The important question which arises is whether the introduction of VAT in Manipur has fulfilled this most important attribute. Therefore, determining the revenue implications of Value Added Tax in the state is clearly of considerable importance. The present study is an attempt to assess the revenue impact of VAT adoptions in the state of Manipur.

Value Added Tax in Manipur

Manipur is a special category state located in the North-Eastern corner of India having a total geographical area of 22,327 sq. km. constituting 0.7 percent of the total land surface of India and a population of 28.56 lakhs (2011 Census) which constitutes nearly 0.24 per cent of the total population of the country.

As part of the reforms in indirect tax system in the country, Manipur introduced VAT from 1st July, 2005, to increase public revenue as well as to reduce tax evasion and simplify the procedure of tax collection. The pre-existing general sales tax laws were replaced with the Value Added Tax Act, 2004 and associated VAT rules. As in many other states, introduction of VAT in the state has been considered an important breakthrough in reforming its indirect tax system. Revenue through imposition of VAT is collected by the Department of Taxes, under the administrative control of Finance Department, Government of Manipur.

II. LITERATURE REVIEW

Nepram (2011) described the various drawbacks of sales tax system like double taxation, tax competition, multiplicity of rates etc., which necessitates reforming of the sales tax system and replacing it with a more scientific tax like VAT. The study using panel data analysis found that the adoption of VAT led to higher revenue generation. It was found that the percentage of Sales tax/VAT to NSDP ratio shows substantial increase after the implementation of VAT. The study also observed that richer states have benefitted more from the tax. The contribution of VAT revenue to own tax revenue of these states is about 60 percent. On the other hand states whose dependence on central transfer is higher, have lesser/lower VAT revenue collections. The study concluded that with VAT successfully in place the adoption of Goods and Service Tax can move ahead, thereby helping in correcting the weaknesses of the VAT system.

Deshmukh (2012) stated that revenue growth is an important aspect to study the success of VAT in Maharashtra. The study analysed the economic impact of VAT on the state and its efficiency from the revenue point of view over a period of six years. It was found that the major contributor to the state's own tax revenue was Value Added Tax (VAT) with (55.53 percent), Stamps & Registration fees (19.24 percent), State Excise Duties (7.89 percent), Electricity Duties (6.38 percent), etc. The share of VAT in sales tax gross revenue receipts of the state has increased from 52.2 percent in 2001-02 to 67.07 percent during 2009-10. VAT has increased the tax revenue of the state and proved to be user friendly and also reduced transaction cost and simplified paper work. The study concluded that the contribution of VAT has increased more than any other source of tax revenue in the state in the period under study.

Lalarukh and Chowdhury (2013) studied the relationship between Value Added Tax (VAT) and the Gross Domestic Product (GDP) of Bangladesh and investigated how VAT contributes to the economic growth of the country. The study revealed that VAT is positively related with GDP and it increases the revenue of the government. They also bring out the various problems associated with Bangladesh VAT. It was found that Bangladesh VAT is regressive in nature and thus higher income groups enjoy fewer tax burdens as compared to the lower income groups. The efficiency of the tax system is also eroded due to widespread exemptions and multiplicity of tax rates. They suggested uniformity of tax rates, initiatives to bring more dealers under VAT and modernization of collection mechanism to ensure the success of VAT in the country. The study concluded that VAT can be used as an effective tool for revenue generation.

Hassan (2015) examined the various existing literatures and empirical studies on the relationship between VAT revenue and the economic growth. The study also empirically evaluates the performances of VAT revenue in the economic growth of Pakistan. It was found that VAT revenue has a strong positive impact on the economic growth of the country. One per cent increase in the VAT revenue growth is found to cause a 0.24 per cent raise in the growth of GDP. As found in the study the VAT efficiency and C- efficiency ratio is not just low but is also in declining trend, so the study suggested taking up measures to increase VAT revenue to balance the government budgets. Revenue performance of VAT is not satisfactory due to the fact that the existing VAT laws have many defects like wide exemptions, low rates, zero ratings, large scale evasions and low compliance etc.

Oyinpreye and Joshua (2016) empirically investigated the relationship between VAT, government total revenue and GDP of Nigeria to assess the impact of VAT on the revenue and economic growth of the country. The study found that there is a long run significant positive relationship between VAT and each of GDP and total revenue of the government of Nigeria during the study period. The result indicates that expanding the tax base by bringing more goods and services under the tax will cause an upward surge on the economic growth of the country. The study suggested giving more attention to VAT as it is an important tool for better revenue generation and growth of country's economy. The study among other things recommended the application of information technology in all tax offices of Nigeria for uniformity and consistency to avoid tax evasion. The study concluded that Value Added Tax has the potential of inducing economic growth in the country with its potential to increase efficiency in mobilizing revenue for the government.

Objective of the Study

The aims of the present study are two-fold.

- To contribute to the literature by providing empirical evidence from a special category state like Manipur.
- To evaluate the revenue performance of VAT and its impact on the economic growth of Manipur by virtue of its contribution to the GDP of the state.

Statement of the Problem

While the performance of VAT as a source of revenue in the states of India is found to be encouraging, no systematic study has been carried out to ascertain the true impact of VAT on the revenue or the economy of the state of Manipur in particular. No enquiry as to the extent to which Value Added Tax contributes to the economic growth of the state has been carried out so far. The study will show the efficiency gain or loss associated with VAT and the impact of VAT on the government revenue and the economic growth of the state . Hence, a thorough study on the revenue impact of VAT and its contribution to the economic growth of the state is relevant and significant.

Hypothesis

 H_1 : There is significant relationship between Value Added Tax and total revenue of the State of Manipur. H_1 : There is significant relationship between Value Added Tax and the Gross State Domestic Product of Manipur.

III. METHODOLOGY

This study is purely based on secondary data, which have been collected from various publication of Reserve Bank of India, finance accounts of the government of Manipur and various books and journal relating to VAT. The figures relating to State Government Revenue are obtained from *Handbook of Statistics on State Government Finances 2010* and *State Finances: A Study of Budget*, and the data relating to that of Gross Domestic Product (GDP) from *Handbook of Statistics on Indian States (2016-17.* The period under study is from 2005-06 to 2014-15. Arithmetic mean and tax ratios were used in the study to ascertain performances of VAT over the years. The tax ratios of other north eastern states were also used for comparative purposes. The VAT 'efficiency ratio' has been used as an indicator of the performance of the tax. Correlation test was also done to ascertain the relationship between Value Added Tax and the Government Total revenue and also with that of the Gross State Domestic Product.

IV. Revenue Impact of VAT in Manipur: Data Analysis and Findings

Though the performance of a tax cannot be gauged by just the revenue it raises but it must also be assessed in terms of the efficiency and fairness with which it raises that revenue and the costs incurred by government and taxpayer in doing so, revenue needs are often a key concern in the introduction of VAT (Ebrill, Keen, Bodin, & Summers, 2001). Growth of revenue is the most important aspect to judge the success of implementing VAT. Revenue being an important aspect to study the success or otherwise of a tax system, the present section of the study is an attempt to analyze the trends of tax revenue in Manipur, with focus on the changes in the level and composition of tax revenue since the introduction of VAT in the state. The likely impact of VAT on the government revenue has been a major consideration in deciding the adoption of VAT in Manipur. It is therefore, necessary that we look into this aspect in order to understand the success or otherwise of VAT introduction in the state.

| Table 1.1 Growth in Value Added Tax Revenue of Manipur (Rs.Lakh) | | | | | | | | |
|--|--------|------------------------------|-------------|--|--|--|--|--|
| Year | VAT | Annual Growth of VAT Revenue | Growth Rate | | | | | |
| 2004-05 | 5473 | - | - | | | | | |
| 2005-06 | 7117 | 1644 | 30.04 | | | | | |
| 2006-07 | 9664 | 2547 | 35.79 | | | | | |
| 2007-08 | 12075 | 2411 | 24.95 | | | | | |
| 2008-09 | 14,138 | 2063 | 17.08 | | | | | |
| 2009-10 | 16,328 | 2190 | 15.49 | | | | | |
| 2010-11 | 22,757 | 6429 | 39.37 | | | | | |
| 2011-12 | 29,692 | 6935 | 30.47 | | | | | |
| 2012-13 | 25,852 | -3840 | -12.93 | | | | | |
| 2013-14 | 39,574 | 13722 | 53.08 | | | | | |
| 2014-15 | 43333 | 3759 | 9.50 | | | | | |

Source: Estimated from Handbook of Statistics on State Government Finances (2010) & State Finances: A study of Budget (2010-11 to 2016-17)

Despite the apprehension that there might be loss of revenue in the initial years of VAT adoption, revenue implication of VAT in the state is found to be positive. As is evident from Table 1.1 given above, VAT has started yielding positive results right from the initial stage. The revenue yield of VAT has been on the rise

over the years. The VAT revenue shows a growth from Rs. 5473 lakhs in 2004-05(when sales tax system was followed) to Rs. 7117 lakhs in 2005-06 in the first year of VAT adoption i.e. a growth by about 30.04 percent over sales tax. Except in the year 2012-13 where the growth rate was reduced by about 12 percent as compare to the preceding year, all subsequent years after implementation of VAT witnesses growth in the VAT revenue. The highest been the year 2013-14, where the growth rate is 53.08 percent. VAT has been a major contributor of revenue for the government of Manipur right from its birth. The trend in sales tax/VAT of Manipur which shows an upward trend is presented graphically in Figure 1.1.

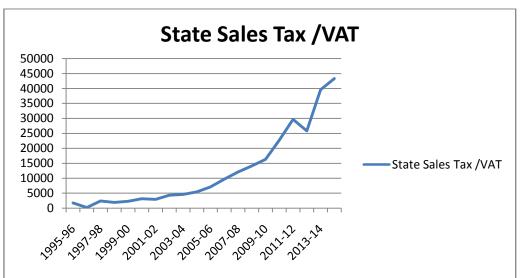


Figure: 1.1 Trend of Sales Tax/VAT Revenue of Manipur

| Table 1.2 Sales Tax/VAT as Percentages of Revenue of Manipur | | | | | | | | |
|--|--|---|---|--|-------------------------|--|--|--|
| Year | Sales Tax(VAT)/ Total Revenue | Sales Tax (VAT)/Total Tax Revenue | Sales Tax (VAT)/State's Own Tax Revenue | Sales Tax (VAT)/Taxes on Commodities & services | Sales Tax (VAT)/GSDP | | | |
| 1995-00 | 2.0 | 5.5 | 57.9 | 78.6 | 0.6 | | | |
| 2000-05 | 3.1 | 15.3 | 64.7 | 83.0 | 1.0 | | | |
| 2005-10 | 3.6 | 18.3 | 81.3 | 93.2 | 1.7 | | | |
| 2010-15 | 4.9 | 19.2 | 82.4 | 89.1 | 2.5 | | | |

Average revenue difference (in per cent of GDP) between VAT & Sales Tax = 1.3 Source: Estimated from *RBI's Handbook of Statistics on State Government Finances (2010), State Finances: A study of Budget (2010-11 to 2016-17)*

A look at Table 1.2 will give an idea about the contribution of VAT to various heads of state's revenue. The aggregate Sales Tax/VAT to Total Tax Revenue of the state went up from 3.6 per cent in 2005-10 to 4.9 per cent in 2010-15, the highest in the five years period starting from 1995-00(when sales tax was in existence) to 2010-15. The tax contribution towards state's tax revenue also increases from 18.3 per cent in 2005-10 to 19.2 per cent in 2010-15. VAT has the largest share with an aggregate of about 91 per cent of the state's taxes on Commodities and Services. This high proportion of sales tax/VAT in the composition of Taxes on Commodities and Services also mean that the revenue from other sources like state excise, taxes on vehicle, taxes on goods and passengers, entertainment taxes etc. are low. The proportion of VAT as percentage of State's own tax revenue is also pretty high with an aggregate share of about 81 per cent in the first 10 years after its adoption. As is evident from the table, VAT has been a major source of revenue since its initial adoption. The contribution of VAT revenue to the total tax revenue shows an upward trend. In the year 2014-15, the tax generates 21.2 per cent of total tax revenue and 83.8 per cent of State's own tax revenue as against 16.3 per cent and 74.9 per cent in 2005-06 respectively. This means that the State's reliance on the tax as a source of revenue has increased after implementation of VAT (Nepram, 2011). Clearly VAT is a major source of revenue wherever it has been adopted (Ebrill, Keen, Bodin, & Summers, 2001). The increases in the share of VAT in the revenue of the state (as observed in Table 1.2) suggest the superiority of VAT over the previous sales tax.

The aggregate VAT to GSDP (Gross State Domestic Product) ratio as given in Table 1.2 shows an increase from 1.7 per cent in the year 2005-2010 to 2.5 per cent during the years 2010- 2015. The difference between the average revenue (as per cent of GSDP) raised by VAT in its ten years of implementation in the state

and the average revenue generated by the predecessor Sales Tax in the ten years period prior to implementation of VAT is 1.3 per cent (Table 1.2). This indicates that the share of VAT revenue in the GDP of the State exceeds the share of the predecessor Sales Tax revenue on an average by about 1.3 per cent of the Gross State Domestic Product. The extent of the revenue gain of VAT is impressive as compared to the previous sales tax it replaced. Though the VAT to GSDP ratio of the state witnesses upward trends, when we compared the same figure with that of the all India average figure it is not particularly impressive. The country's aggregate VAT to GDP ratio during the year 2005-2009 (as shown in Nepram, 2011) is 3.1 per cent and that of VAT to total revenue receipt during the same period is 24 per cent. Whereas the state VAT to GSDP ratio during the corresponding period is just 1.6 per cent and that of VAT to total revenue ratio is only 3.4 per cent which is comparatively much lower to the performances of the country as a whole.

| Table. 1.3 VAT/Total Tax Revenue Ratio of North Eastern States | | | | | | | | |
|--|---------|-----------|-------|-----------|---------|----------|--------|---------|
| Year | Manipur | Arunachal | Assam | Meghalaya | Mizoram | Nagaland | Sikkim | Tripura |
| | _ | Pradesh | | | | - | | _ |
| 2005-10 | 3.6 | 2.7 | 14.2 | 5.0 | 2.5 | 3.3 | 1.8 | 7.0 |
| 2010-15 | 4.9 | 3.1 | 18.4 | 9.7 | 3.4 | 3.9 | 5.0 | 10.2 |
| Aggregate | 4.2 | 2.9 | 16.3 | 7.3 | 3.0 | 3.6 | 3.4 | 8.6 |

Source: Estimated from *RBI's Handbook of Statistics on State Government Finances (2010), State Finances: A study of Budget (2010-11 to 2016-17)*

| Table. 1.4 VAT/GSDP Ratio of North Eastern States | | | | | | | | |
|---|---------|----------------------|-------|-----------|---------|----------|--------|---------|
| Year | Manipur | Arunachal Pradesh | Assam | Meghalaya | Mizoram | Nagaland | Sikkim | Tripura |
| 2005-10 | 1.7 | 1.6 | 3.0 | 1.2 | 1.4 | 1.2 | 1.5 | 2.3 |
| 2010-15 | 2.5 | 1.6 | 3.9 | 2.7 | 1.8 | 1.5 | 1.8 | 3.1 |
| Aggregate | 2.1 | 1.6 | 3.4 | 2.0 | 1.6 | 1.4 | 1.6 | 2.7 |

Source: Estimated from *RBI's Handbook of Statistics on State Government Finances (2010), State Finances: A study of Budget (2010-11 to 2016-17) & Handbook of Statistics on Indian States (2016-17)*

The aggregate VAT/Total Tax Revenue Ratio and VAT/GSDP ratio of five years period starting from 2005-10 to 2010-15 of the North Eastern States is given in Table 1.3 and Table 1.4. The performances of all North Eastern States are much lower as compared to that of the country's performances both in terms of VAT to GDP ratio and VAT to Total Revenue receipt. Among the North Eastern States, Assam witnessed the highest VAT/GSDP ratio with an aggregate of 3.4 per cent, while Nagaland witnessed the lowest with 1.4 per cent. Manipur is in the third place with 2.1 per cent, next to Tripura whose ratio is 2.7 percent. This figures revealed that Manipur performs better than most North Eastern States in terms of VAT/GSDP ratio. The tax ratio of Manipur is more than the average tax ratio of the north eastern states.

The "efficiency ratio, "defined as the ratio of VAT revenues to GDP divided by the standard rate (expressed as a percentage), has been widely used as a summary indicator of the performance of the VAT and as a useful gauge of the extent to which the VAT bears uniformly upon a broad base. (Ebrill, Keen, Bodin, & Summers, 2001). It indicates the percentage of GDP collected by each percentage point of the standard VAT rate (Hassan, 2015). The VAT efficiency ratio of Manipur was 9.9 percent in the first year of implementation. It then increases to 19.9 per cent in the year 2011-12 but it declined to 15.1 per cent in the following year i.e. the year 2012-13. But the following year shows an increase to 20.4 per cent. The average VAT efficiency ratio of the state in the last 10 years under study is 16 per cent.

Correlation of VAT with Total Revenue and GSDP

| Table 1.5 Correlation of VAT with Total Revenue and GSDP | | | | | | | | |
|--|---------------|---------|--|--|--|--|--|--|
| | Total Revenue | GSDP | | | | | | |
| VAT | 0.965** | 0.970** | | | | | | |

Source: Computed from RBI's Handbook of Statistics on State Government Finances (2010), State Finances: A study of Budget (2010-11 to 2016-17) & Handbook of Statistics on Indian States (2016-17)

*. Correlation is significant at the 0.01 level (2-tailed)

Inspection of the bivariate correlation of VAT with Total Revenue and GSDP revealed that the correlation results were as expected related positively. Thus the correlation result confirmed the hypotheses of significant relationship of Value Added Tax with Total Revenue and also with that of Gross State Domestic

Product. As illustrated in Table 1.5 Value Added Tax is highly correlated with both total revenue (r = 0.965, p = 0.000) and Gross State Domestic Product (r = 0.970, p = 0.000).

V. CONCLUSION

VAT was introduced with the objective of addressing the various problems associated with the then existing sales tax system. It has proves to be an important tool for generating revenue for the state. Though study of only the revenue aspect cannot be used as an evidence to claim that VAT provides all the textbook benefits of its introduction, it would be safe to say that the adoption of VAT in the state was a success. VAT has been a major source of State's Revenue. No doubt VAT has been the most important tax of the state, but, it is not free from flaws. Despite all these drawbacks, VAT certainly has its positivity. As noted earlier, the performance of VAT is more than just a matter of the revenue it yields (Ebrill, Keen, Bodin, & Summers, 2001), its efficiency therefore has to studied along with the cost incurred by the government in raising the revenue, known as administrative cost, cost incurred by the tax payer called as the compliance cost, the fairness with which the tax is raised, the impact of the tax on the trade etc. The fact that VAT raises more revenue than the sales tax it replaced does not necessarily make VAT a desirable tax. Thus, to understand fully the impact of the tax system and gauged its success in the state, further research and studies of these wider aspects of the tax system is essential. Irrespective of the view one takes on this wider issue, however determining the revenue implications of the tax is clearly of considerable importance (Ebrill, Keen, Bodin, & Summers, 2001). There is no denying the fact that, VAT as an innovation in the system of taxation has made radical impact on the revenue of the state. Access to a more efficient tax instrument would be necessary to optimize the tax ratio. The deficiencies of the VAT system are the primary focus of the newly implemented Goods and Service Tax system (GST). The introduction of GST is likely to have significant impact on the revenue and economy of the state. Further studies of the impact and performances of the newly introduced tax system are considered relevant and essential. It is expected that the findings of the present study will be helpful in further studies of the implications of both the Value Added Tax System and the Goods and Service Tax System in the state.

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| | Appendices | | | | | | | | | |
|-----------|--|-----------|-----------|-------------|---------------|------------|--|--|--|--|
| | Appendix-I VAT as Percentage of Revenue and GSDP | | | | | | | | | |
| | | VAT/Total | VAT/Total | VAT/Own | VAT/Taxes on | VAT | | | | |
| Year | VAT/SGDP | Revenue | Tax | Tax Revenue | Commodities & | Efficiency | | | | |
| | | | Revenue | | services | Ratio | | | | |
| 2005-06 | 1.2 | 3.0 | 16.3 | 75.0 | 90.3 | 9.9 | | | | |
| 2006-07 | 1.6 | 3.4 | 17.3 | 79.5 | 92.6 | 12.6 | | | | |
| 2007-08 | 1.8 | 3.4 | 17.3 | 81.9 | 93.6 | 14.2 | | | | |
| 2008-09 | 1.9 | 3.7 | 18.8 | 83.1 | 93.9 | 15.3 | | | | |
| 2009-10 | 2.0 | 4.2 | 20.6 | 83.3 | 94.2 | 15.8 | | | | |
| 2010-11 | 2.5 4.2 | | 18.1 | 85.2 | 93.5 | 18.4 | | | | |
| 2011-12 | 2.7 | 5.3 | 19.5 | 80.7 | 87.1 | 19.9 | | | | |
| 2012-13 | 2.0 | 3.8 | 15.7 | 77.7 | 85.5 | 15.1 | | | | |
| 2013-14 | 2.8 | 5.4 | 20.7 | 83.7 | 90.2 | 20.4 | | | | |
| 2014-15 | 2.4 | 5.4 | 21.2 | 83.8 | 89.5 | 17.8 | | | | |
| Aggregate | 2.1 | 4.2 | 18.5 | 81.4 | 91.0 | 16.0 | | | | |

Source: Estimated from *RBI's Handbook of Statistics on State Government Finances (2010), State Finances: A study of Budget (2010-11 to 2016-17) & Handbook of Statistics on Indian States (2016-17)*

| | Appendix-II VAT/GSDP Ratio of North Eastern States of India | | | | | | | | | |
|---------|---|----------------------|-------|-----------|---------|----------|--------|---------|--|--|
| Year | Manipur | Arunachal Pradesh | Assam | Meghalaya | Mizoram | Nagaland | Sikkim | Tripura | | |
| 2005-06 | 1.24 | 1.27 | 2.43 | 0.50 | 1.40 | 1.17 | 2.05 | 2.07 | | |
| 2006-07 | 1.57 | 1.50 | 2.39 | 2.10 | 1.63 | 1.17 | 1.24 | 2.14 | | |
| 2007-08 | 1.78 | 1.60 | 3.21 | 0.89 | 1.63 | 1.17 | 1.03 | 2.25 | | |
| 2008-09 | 1.91 | 1.86 | 3.33 | 1.07 | 1.23 | 1.22 | 0.81 | 2.32 | | |
| 2009-10 | 1.98 | 1.74 | 3.35 | 1.54 | 1.24 | 1.26 | 1.85 | 2.43 | | |
| 2010-11 | 2.49 | 1.86 | 3.50 | 1.58 | 1.64 | 1.42 | 1.81 | 2.49 | | |
| 2011-12 | 2.68 | 2.01 | 4.11 | 2.46 | 2.06 | 1.67 | 1.28 | 3.34 | | |
| 2012-13 | 2.04 | 1.37 | 4.11 | 2.88 | 1.59 | 1.64 | 1.90 | 3.36 | | |
| 2013-14 | 2.76 | 1.65 | 3.94 | 2.70 | 1.78 | 1.41 | 2.14 | 3.12 | | |
| 2014-15 | 2.40 | 1.25 | 3.71 | 2.62 | 1.74 | 1.46 | 1.67 | 3.06 | | |

Source: Estimated from *RBI's Handbook of Statistics on State Government Finances (2010), State Finances: A study of Budget (2010-11 to 2016-17) & Handbook of Statistics on Indian States (2016-17)*

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