

**PAY COMMISSIONS: FISCAL IMPLICATIONS**  
**(A STUDY CARRIED OUT FOR THE XV FINANCE COMMISSION)**



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## Table of Contents

Table of Contents .....	ii
List of Tables .....	iii
List of Figures .....	iv
List of Acronyms .....	v
Executive Summary .....	vi
INTRODUCTION .....	1
1.1 Introduction.....	1
1.2 Research objectives.....	2
1.3 Background.....	3
BRIEF HISTORY OF PAY COMMISSIONS IN INDIA AND EXPERIENCE OF OTHER COUNTRIES .....	5
2.1 Brief history of Pay Commissions in India .....	5
2.2 Experience of Other countries.....	9
IMPACT OF PREVIOUS PAY COMMISSIONS AND ESTIMATED IMPACT OF 7 <sup>th</sup> CPC ON FISCAL ACCOUNTS OF CENTRAL GOVERNMENT .....	16
3.1 Pay Commissions in India .....	16
3.2 Effects of Pay Commissions on fiscal accounts of Central government over the period 2016-17 to 2025-26 .....	17
3.2.1 Overview of Finances .....	17
3.2.2 Data and Methods.....	19
3.2.3 Impact on fiscal accounts of Central government.....	22
IMPACT OF PREVIOUS PAY COMMISSIONS AND PROJECTED IMPACT OF 7 <sup>th</sup> CPC ON THE FISCAL ACCOUNTS OF THE STATE GOVERNMENTS .....	27
4.1 Overview of State finances.....	27
4.2 Data and Methods.....	30
4.3 Impact on fiscal accounts of State governments .....	32
4.4 Relationship between deficit indicators and Salary and Pension.....	35
SPILL-OVER EFFECTS OF PAY COMMISSION ON PRIVATE SECTOR WAGE GROWTH .....	38
5.1 Background.....	38
5.2 Wage per Employee .....	40
5.3 Regression Analysis .....	41
SUMMARY .....	43
REFERENCES.....	46

## List of Tables

Table 2.1: Experience of civil pay reforms in selected countries.....	13
Table 3.1: Real increase in pay in each pay commission .....	16
Table 3.2: Minimum and Maximum Pay, Pay Commission Recommendations .....	17
Table 3.3: Minimum-Maximum Pension, Pay Commission Recommendations .....	17
Table 3.4: Financial impact of the implementation of the 7th Pay Commission .....	22
Table 3.5: Description of dummy variables used in regression analysis .....	23
Table 3.6: Rate of growth for fiscal variables and GDP estimated using regression model, 1995-96 to 2015-16 .....	24
Table 3.7: Average growth rate of Fiscal variables of Central Government for last 6 years, 2010-11 to 2015-16.....	24
Table 3.8: The financial impact of implementation of Pay commission on Pension and Salary bill, 2016-17 to 2025-26 (Figures are in ₹ billions) based on historical growth rates from 1995 onwards .....	25
Table 3.9: The financial impact of implementation of Pay commission on Pension and Salary bill, 2016-17 to 2025-26 (Figures are in ₹ billions) using growth rates for last 6 years .....	25
Table 4.1: Salary, Pension and Committed expenditure of State government employees as a percentage share of GSDP (2011-12), 2010-11 to 2015-16.....	28
Table 4.2: Salary, Pension and Committed expenditure of State government employees as a percentage share of Revenue Expenditure, 2010-11 to 2015-16.....	28
Table 4.3: Years during which the impact of fifth and 6th CPC was reported on fiscal accounts of State .....	29
Table 4.4: Pay Commission implemented by different States.....	31
Table 4.5: State-wise financial impact of implementation of Pay commission on Pension and Salary bill over the period 2016-17 to 2025-26.....	33
Table 4.6: Results of first order PVAR model based on State level data for fiscal deficit as dependent variable .....	36
Table 4.7: Results of first order PVAR model based on State level data for revenue deficit as dependent variable ..	36
Table 4.8: Results of ARDL model based on data for Central government for fiscal deficit and revenue deficit as dependent variable on salary .....	37
Table 4.9: Results of ARDL model based on data for Central government for fiscal deficit and revenue deficit as dependent variable on pension.....	37
Table 4.10: Results of ARDL model for Central government with fiscal deficit and revenue deficit as dependent variable on committed expenditure.....	37
Table 5.1: Average wage per worker, Annual Survey of Industries 1995-2014 (in ₹) .....	41
Table 5.2: Description of dummy variables used in regression analysis .....	42
Table 5.3: Results obtained from regressing growth rate in wage per employee over time, Annual Survey of Industries 1996-2014.....	42

## List of Figures

Figure 3.1: Salary, Pension and Committed expenditure of Central government employees as a percentage share of GDP (2011-12), 1995-96 to 2015-16.....	18
Figure 3.2: Salary, Pension and Committed expenditure of Central government employees as a percentage share of Revenue Expenditure, 1995-96 to 2015-16.....	18
Figure 3.3: The financial impact of implementation of Pay commission on Fiscal Deficit, 2016-17 and 2017-18, using growth rates for last 6 years.....	26
Figure 4.1: Gross Fiscal deficit of State Governments: Base-Hike scenario, 2016-17 .....	32
Figure 4.2: Gross Fiscal deficit of State Governments: Base-Hike scenario, 2017-18 .....	32
Figure 4.3: State-wise financial impact of implementation of Pay commission on Pension and Salary bill over the period 2018-19 to 2024-25.....	34
Figure 4.4: State-wise financial impact of implementation of Pay commission on Pension and Salary bill over the period 2018-19 to 2024-25.....	34

## List of Acronyms

ARDL	Auto Distributed Lag Model
CAG	Comptroller and Auditor General of India
CPC	Central Pay Commission
DOE	Department of Expenditure
EPWRF	Economic Political Weekly Research Foundation
FRBM	Fiscal Responsibility and Budget Management Act
GDP	Gross Domestic Product
GFD	Gross Fiscal Deficit
GFC	Great Financial Crisis of 2008
GOI	Government of India
GSDP	Gross State Domestic Product
GST	Goods and Services Tax
IFS	International Financial Statistics
LPC	Low Pay Commission
MOF	Ministry of Finance
MOSPI	Ministry of Statistics and Programme Implementation
MTFP	Medium-term Fiscal Policy Statement
NDCR	Non-debt Capital Receipts
OROP	One Rank, One Pension
PRU	Pay Research Unit
PVAR	Panel Vector Autoregression Models
RBI	Reserve Bank of India
RD	Revenue Deficit

## Executive Summary

### Background and Objectives

- The main objective of this study is to estimate impact of implementation of the Seventh Pay Commission on the fiscal accounts of the Centre and State government over the period 2016-17 to 2025-26.
- The study also presents a historical overview of Central and State Pay Commissions in India, their recommendations and impact on economy and fiscal health of the Centre and the States.

### Pay Commission: Guiding Principles and International Experience

- The recommendations of the 1<sup>st</sup> Pay Commission were based on the concept of salary provisions necessary for minimum subsistence requirements. The 2<sup>nd</sup> Pay Commission focused on ensuring efficient functioning of the system by recruiting persons with a minimum qualification. The 3<sup>rd</sup> Pay Commission added three very important concepts of inclusiveness, comprehensibility, and adequacy for pay structure to be sound in nature.
- The 4<sup>th</sup> Pay Commission considered factors such as rational and simple pay structure, motivation to staff, roles based on qualification, etc. Further, the 5<sup>th</sup> Pay Commission, in addition to the principles of equal pay and equal work, considered demand and supply related factors such as productivity and comparability vis-à-vis the private sector as well as the role of the state as a model employer. The 6<sup>th</sup> Pay Commission, however, played down the comparison with private sector as the entities and roles are not similar.
- The 7<sup>th</sup> Pay Commission further emphasizes on the need to attract and retain high quality staff but is also concerned with factors such as long term fiscal sustainability, human resource management reforms. It also highlights the need to motivate the staff and deliberates on factors such as intangible



benefits to facilitate fair comparison with private sector along with the role of the government as a model employer.

- The International Monetary Fund (IMF 2016) documents important lessons about the source of wage pressures as well as the challenges countries faced when addressing these pressures. Their findings are derived from case studies of 20 countries and similar studies carried out by other institutions, such as the World Bank.
- Some of the findings from the study conducted by IMF which are relevant to our study are: 1) Streamlining non-wage compensation improves transparency and fairness of government pay, 2) Robust structural reforms of the compensation structure can facilitate stronger wage bill control while ensuring wages are competitive, equitable and transparent and 3) Compensation reforms can also enhance public service delivery.

### **Trends in Key Fiscal Indicators**

- The trends in key fiscal indicators post-liberalization reveal that the share of revenue deficit as a percentage of GDP consistently increased from 2.5% in 1995-96 to 4.4% in 2002-03. During these years, the gross fiscal deficit was around 5 to 6% of GDP. However, following the implementation of the FRBM Act (2003), the gross fiscal deficit was set for a declining trajectory although it was affected by financial crisis situation during the years 2008-09. Since 2009-10, the gross fiscal deficit as well as revenue deficit fronts have improved and both the deficits have consistently declined in recent years.
- The revenue receipts as a share of GDP was declining during the 1990s, but it shows increments during the 2000s. Since 2010s there is a stagnancy in the revenue receipts to GDP ratio (around 9%). Clearly, the stagnancy in revenue receipts of the Centre can affect the ability to adjust the revenue deficit. The

capital receipt which consists of recoveries of loans and disinvestment by the government has also followed an erratic trend.

- The increase in revenue expenditure to GDP ratio has been consistent for the period 1996-97 to 2002-03. Capital expenditure has been high during this period. The compression in revenue and capital expenditure from 2004-05 and 2005-06 respectively is due to the implementation of FRBM. The effect on revenue expenditure to GDP ratio of implementation of CPC is clearly visible with the effect being more pronounced for 6<sup>th</sup> Pay Commission which coincided with various fiscal stimuli being provided to the economy that was grappling with the global economic slowdown. In fact, there was a 2 percentage point jump in the revenue expenditure to GDP ratio in 2008-09 as compared to a mere 0.5 in 1998-99 when 5<sup>th</sup> CPC was implemented.
- Notably, interest payment is the major component of the revenue expenditure even as the government has been able to cut back the interest payment burden from 35.8 per cent in 1995-96 to 28.7 per cent in 2015-16. The major components of capital expenditure are loans and advances and capital outlay. In recent years, a reversal in the pattern of expenditure on these two components is clearly visible. As of 2015-16, 90 per cent of the total capital expenditure are in the form of capital outlays.

### **Central Pay Commissions: Recommendations and Fiscal Burden**

- The 1<sup>st</sup> Pay Commission in India was constituted in May 1946. The 2<sup>nd</sup> Pay Commission was constituted in August 1957 and gave its report after two years with a financial impact of ₹ 396 million. The recommendations of the 3<sup>rd</sup> Pay Commission amounted to a financial burden of ₹ 1.44 billion for the central government exchequer. The 4<sup>th</sup> Pay Commission was set-up in June 1983, which gave its report in three phases within four years. The proposals of the 4<sup>th</sup> Pay Commission and the 5<sup>th</sup> Pay Commission increased the liabilities of

the government by ₹ 12.8 billion and ₹ 185 billion, respectively (Das 2014). The annual recurring expenditure of 6<sup>th</sup> Pay Commission was ₹ 220 billion whereas the financial impact of 7<sup>th</sup> Pay Commission will be around ₹ 1000 billion.

- Analysis of components of revenue expenditure shows that the 5<sup>th</sup> and 6<sup>th</sup> Pay Commission recommendations are associated with a quantum increase in the ratios of committed liabilities vis-à-vis the GDP. The share of committed expenditure increased to 7.4 in 1998-99 and was 7.6 in 1999-00 while implementing the recommendations of 5<sup>th</sup> Pay Commission. Similarly, the ratio was 6.1 and 6.4 in 2008-09 and 2009-10 for the 6<sup>th</sup> Pay Commission. The peaks are prominent in case of salary as well as pension.

### **The 7<sup>th</sup> Pay Commission: Fiscal Impact on the Centre**

- We forecast fiscal indicators to estimate the fiscal burden imposed by the recommendations of the 7<sup>th</sup> CPC. We present a Base scenario that involves projections for the fiscal profile assuming continuation of the trend in growth rates of various components of revenues and expenditures.
- Further, an Alternate scenario is developed that would adjust the growth in salaries to account for the effect of increase in salary expenditure due to 7<sup>th</sup> CPC recommendations. A comparison of the two scenarios i.e. superimposing the salary expenditure (with 7<sup>th</sup> CPC recommendations) under Alternative scenario on the salary structure (without 7<sup>th</sup> CPC recommendations) of the Base scenario would provide the magnitude of the fiscal effects (assuming other fiscal parameters variables as in Base scenario).
- It may be noted that given the ongoing structural changes in the Indian economy, we observe high errors when growth of key fiscal indicators is projected based on their past values. Therefore, we use estimates of the average annual growth rates on the basis of last 6 years (2010-11 to 2015-16) as these trends are expected to provide a more consistent rate of

increase that is observed post the implementation of the 6<sup>th</sup> Pay Commission recommendations. The year on year growth rate in pension and salary is 9.8% and 8.9%, respectively.

- As per the 7<sup>th</sup> Pay Commission, the recommended increase in pay and allowances is 23.5 per cent whereas the increase in pensions is 23.6 per cent. These increments, in addition to the historical growth rates of other fiscal parameters is used to project the pay and allowance and pensions for 2016-17 and 2017-18. Thereafter, for the years 2018-19 to 2025-26, it is assumed that the pay and allowances as well as pensions will increase at the historical growth rates experienced during 2010-11 to 2015-16. It may be noted that the pay and pension hike recommendations were implemented in 2016-17 and the hike in allowance has been implemented in 2017-18.
- Using the two approaches, the pension bill of the Central government for the next 10 years is estimated to be ₹3603 billion. The Salary expenditure is estimated to be around ₹11516 billion. The change in fiscal deficit to GDP ratio due to the implementation of recommendations of the pay commission could be around 0.5 for 2016-17 and 0.4 for 2017-18. It can be said that the deficit to GDP ratio will increase by 1 point. The findings are in line with other studies which had estimated the effect for previous and 7<sup>th</sup> Pay Commission based on simulations (Ray et. al. 2015; NIPFP, 2016; Mohan, 2008).

### **The 7<sup>th</sup> Pay Commission: Fiscal Impact on the States**

- The implementation of the recommendation of the Pay commission for different States will be either from 2016-17 or 2017-18. Most of the states usually implements the recommendations of the Central Pay Commission whereas some accept the recommendations with variations. However, it may be noted that it is not necessary for the state governments to implement the CPC and some states set up their own Pay Commission for such revisions.

Also, the timing of the setting of Pay Commissions of different States and the year during which they come up with their recommendations might not coincide with that of the CPC. For instance, Kerala, Karnataka and Andhra Pradesh follow their own separate schedule.

- Since there is a lack of information about the actual implementation date of 7<sup>th</sup> CPC and the proposed hike in pay and allowances, we assume that the States would follow the recommendations of the 7<sup>th</sup> CPC. In other words, it is assumed that the states would increase the pay and allowances and pensions by 23.5 per cent and 23.6 per cent, respectively. Given the data availability, 16 States have been identified for the purpose of analyses which includes Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh and Uttarakhand.
- Data for the period 2010-11 to 2015-16 has been used. The trends are studied for the period 2005-06 to 2015-16 to identify the years in which the hike for the 6<sup>th</sup> Pay Commission was implemented. We follow the method applied for estimating the fiscal burden of 7<sup>th</sup> CPC for the Centre. The additional burden of pension will be the highest for Uttar Pradesh (₹ 1106 billion) followed by Andhra Pradesh (₹ 967 billion). The salary burden will be the highest for Maharashtra (₹ 2926 billion) and Andhra Pradesh (₹ 2534 billion).

### **Association between deficit indicators and salary / pension expenditure**

- Panel Vector Auto-regression models (PVARs) have been used to study the association between deficit indicators (fiscal and revenue) and pay and allowance and pension. In PVARs, a multivariate panel regression is fitted with each dependent variable on lags of itself, lags of all other dependent variables and exogenous variables. The estimation uses generalized method of moments (GMM) econometric technique. The dependent variables in the models are fiscal deficit and revenue deficit. The independent variables

include revenue receipts, salary, growth rate in GDP and pension. All the variables are expressed as a ratio of GDP except for growth rate in GDP. We also create a new variable by combining salary and pension expenditure.

- The results for first order PVAR model are based on a panel of 12 States and data covering the period 1995-96 to 2015-16. Two types of models have been fitted. In one model only the variable of interest which is either salary or pension or sum of the two has been considered. In other model, other variables are introduced to obtain adjusted estimates. The salary/GDP ratio is found to be positively and significantly associated with the fiscal deficit. In the models where revenue deficit have been used as the dependent variable, salary/GDP ratio is significant. But, in the complete models, pension is significant at 5 per cent level; combined salary and pension is insignificant.
- Further, Auto-Regressive Distributed Lag (ARDL) model is applied to estimate the effect of salary and pensions on fiscal and revenue deficit of the central government. The estimated long run coefficients from the ARDL model display a positive and significant association between fiscal deficit and salary expenditure. Model 1 and Model 2 coefficients suggest that fiscal deficit to GDP and revenue deficit to GDP increase by 1.56 and 1.25 times for a unit increase in salary to GDP. The pension expenditure has a positive association with revenue deficit but no such observation is associated with fiscal deficit.

### **Spillover effects of Pay Commission on private sector wages**

- Although private sector wages are determined by factors such as business environment and profitability prospects but pay hikes in wages of the government employees is expected to spillover to the private sector. A change could be expected in the level and distribution of wages given the nature of the competition between the two sectors. While there are no specific Pay Commission related studies, but a few studies have examined the association between private and public sector wages.

- We estimate the spillover effect using the Annual Survey of Industries data for the period 1995-2014. ASI is the most important source of industrial statistics of the registered organized manufacturing sector of the economy and extends to the entire country. Of particular interest is the corporate sector which includes Public and Private limited company; Government Department Enterprises and Public Corporation.
- A simple linear regression model is estimated for wage growth under each type of organization with inclusion of time trend and a dummy variable to capture the effect of the Pay Commission recommendations during specific years of implementation. The dummy variables are used for the years 1997 and 1998 for the 5th Pay commission and 2008, 2009 and 2010 for the 6th Pay Commission. Therefore, we used a dummy to study the change in growth rates during these years.
- A graphical analysis of year-on-year growth rates in wages per employee by different type of organization suggests that there is an increase in growth rate during the Pay Commission years. It can be observed that since the implementation of the 5th Pay Commission the gap between the average wage per worker across partnership and unincorporated sectors has remained lower as compared to corporate sector and co-operative societies. The wage differential which was around ₹ 26,000 in 1995 has increased to ₹ 46,000 in 2014. Clearly, the workers in corporate sector and cooperative societies have been better-off.
- The regression results show that the dummy variable for the Pay Commission years are significant for all but the handloom industries. The value of dummy signifies that the increase in the growth rate is the highest for “Others” and Khadi and Village industries. The jump in wage per employee in corporate sector is lower during the implementation of 6th CPC. Nevertheless, this results should be considered along with the fact that wage per employee could

also be affected by external factors which might be difficult to disentangle due to data limitations.

## Major Conclusions

- Revenue expenditure accounts for the bulk of the Central government expenditure and has increased from 78.5 per cent in 1995-96 to 85.9 per cent in 2015-16. The share of capital expenditure has declined from 21.5 in 1995-96 to 14.1 per cent in 2015-16. Interest payment is the major component of the revenue expenditure even as the burden has reduced from 35.8 per cent in 1995-96 to 28.7 per cent in 2015-16. The share of defence expenditure has declined whereas share of subsidies is relatively high. Since 2009-10 there is consistent decline in gross fiscal deficit and revenue deficit. However, since 2010s there is a stagnancy in the revenue receipts to GDP ratio (around 9%). The capital receipt which consists of recoveries of loans and disinvestment by the government has been inconsistent.
- The implementation of the 7<sup>th</sup> CPC recommendations will impose considerable fiscal burden. The additional pension bill for the next 10 years is estimated to be ₹3603 billion. The additional pay and allowances expenditure is estimated to be around ₹11516 billion. The change in fiscal deficit to GDP ratio due to the implementation of recommendations of the pay commission is estimated to be around 0.5 for 2016-17 and 0.4 for 2017-18. The deficit to GDP ratio is estimated to increase by 1 percentage point.
- The additional burden of pension will be the highest for Uttar Pradesh (₹ 1106 billion) followed by Andhra Pradesh (₹ 967 billion). The additional salary burden will be the highest for Maharashtra (₹ 2926 billion) and Andhra Pradesh (₹ 2534 billion). While the salary expenditure for the State government has been declining but interest payments and pensions remain prominent concerns.



- There is a positive and significant impact of salary and pensions on fiscal and revenue deficit of the central government. A similar association is observed for the states where the salary/GDP ratio is found to be positively and significantly associated with the fiscal deficit.
- A graphical analysis of year-on-year growth rates in wages per employee by different type of organization suggests that there is an increase in growth rate during the Pay Commission years. Since the implementation of the 5<sup>th</sup> Pay Commission the gap between the average wage per worker across partnership and unincorporated sectors has remained lower as compared to corporate sector and co-operative societies. The regression results suggests that the Pay Commission years witness significant increase in the wage bills of all the sectors excluding handloom industries.

# 1 INTRODUCTION

## 1.1 Introduction

Revision of pay scales based on the recommendations of the 6<sup>th</sup> CPC had significant impact on the total expenditure of the Union Government as well as the overall fiscal deficit levels. The Report of the 14<sup>th</sup> Finance Commission notes that the pay and allowances of Union Government employees increased more than two-fold between 2007-08 and 2011-12, from Rs.74,647 crore to Rs.166,792 crore due to the implementation of the 6<sup>th</sup> CPC recommendations.

Following the revision of the Pay and Allowances, the total expenditure of the Union Government increased from about 0.9 per cent of GDP in 2007-08 to 1.2 per cent of GDP in 2008-09 and further to about 1.4 per cent of GDP in 2009-10. Similarly, expenditure of the Union Government on pensions increased from 0.5 per cent of GDP in 2007-08 to about 0.9 per cent of GDP in 2009-10. The spike in total expenditure gets moderated in 3 to 4 financial years.

The magnitude of the revision of the Pay and Allowances can have considerable fiscal implications particularly when simultaneous government expenditures are to be incurred in the form of interest payments, other governmental spending as well as spike in oil prices and imports. In fact, some of these expenditures are purely exogenous shocks (such as oil prices). It is worth noting that between 2004-05 and 2009-10, there was a decline in the interest expenditure which helped to reduce the overall expenditure on salary, pensions and interest payments together from 5.67 per cent of GDP to 5.56 per cent.

Following the recommendations of the 6<sup>th</sup> CPC, most States also undertook pay revisions. These revisions were largely carried out between 2009-10 and 2011-12, with significant fiscal expenditure on pay and pensions related arrears. However, with buoyancy in tax revenue along with increased tax devolution, State finances were relatively less affected.

Pay Commissions can impose certain fiscal expenditure requirements but the nature and magnitude of the impact is also dependent on certain other fiscal and economic factors. With uncertainty around the fiscal impact, it is critical to review the fiscal implications of the various Pay Commissions to understand the nature and magnitude of the resulting fiscal imbalances. Therefore, an analysis of the implications of Pay Commissions on the fiscal parameters of the Centre and the States can provide valuable insights regarding the fiscal implications. Besides, it is also worthwhile to understand the spill-over effects of Pay Commission on economy and subsequently on private sector wage growth.

## 1.2 Research objectives

**Broad Objective:** To present an historical overview of central and states pay commissions in India, their recommendations and impact on economy and fiscal health of the Centre and the States.

**Specific Objectives:** The specific objectives are as follows:

- a) To examine the rationale of setting up periodic Pay Commissions and whether paid allowances of government and other entities should not reflect competitive market forces (**Discussed in Chapter 1**)
- b) To present a brief history of Central and State government Pay Commissions and summarize the principles underlying Pay Commission recommendations (**Discussed in Chapter 2**)
- c) To develop a quantitative summary of the Central government and each State government Pay Commission recommendations with focus on changes in wages, salaries, and allowances (**Discussed in Chapter 3 and Chapter 4**)

- d) To analyze the effects of Pay Commissions on fiscal accounts of the Centre and the States. Historical analysis and projections over 2020-25 (**Discussed in Chapter 3 and Chapter 4**)
- e) To quantify the arrears from Pay Commissions, and how they are accounted in the fiscal accounts of the Centre and the States (**Not attempted because data is not available**)
- f) To understand spill-over effects of Pay Commission on wage growth in India (**Discussed in Chapter 5**)

### 1.3 Background

The government specifies recruitment rules to get an efficient and competent workforce. Economic changes- due to national and international conditions – often impact the living conditions of the salaried class. In a consumer economy, the economic value of the salaries can diminish more rapidly. Regular pay structure revisions are critical to attract better talent to public service. The size of the public wage bill is typically an important issue of economic policy. The government at times have limited resources and might be keen on reducing the wage bill burden. One option could be to allow the inflation to erode the real wages. However, these cut in real salaries do not go unnoticed and are likely to impact the motivation and efficiency of the employees.

Clearly, governments are caught in a vicious cycle. The provision of higher wages can leave government with too little resources for other activities. And, the strategy to keep low wages might result in a de-skilled and poorly paid workforce. The society suffers. Social sector services need to be more professional and delivery oriented. The problem is compounded when the salary for skilled personnel in private sector grows at a faster pace. There is a trade-off between compensation and productivity. Therefore reforms should be implemented such that the incentives of the employees are not distorted. Given that the output in the public sector is not marketable it is difficult to estimate the values of these services. The solution could be to compensate public sector

employees at a rate which is comparable (if not equal) to that for equivalent skills which are marketed in the private sector.

Also, there are significant differences in benefits and emoluments of central government and PSU employees. PSUs are set up with different purpose and rationale whereas central government offer a vast and complex range of services. The nature of work and services are therefore not comparable and hence the central government pay structure should be determined on its own merit. Nevertheless, the PSU pay structure should also be reviewed to understand best practices to enhance productivity and accountability.

Also, relativity should be considered. Central government services are more complex and diverse than private sector. Perception of huge pay disparities between central government and private sector – particularly at the senior level exist. The comparisons however also need to account for range of benefits and allowances as well as intangibles such as job security, job stress, work-life balance and prestige in government service. In private sector, cost-to-company of the employee is inextricably linked to performances which often are associated with market conditions and implies uncertainty of tenure. The high packages offered to certain private sector employees is skewed and is not necessarily the industry average. However, there should be scope for offering higher package to government employees for certain demanded skills on a fixed term basis.

To conclude, Civil service reforms are critical for good governance and economic progress. Non-core duties should be offloaded to competitive sector (NGO, private). Right-sizing of government and services are required to make it functional, productive, cost-efficient and service oriented. The reforms should aim at structural changes that strengthen the link between productivity and wage bill, the end product of which should be efficiency in delivery of social services. Moreover, the changes should be commensurate with the fiscal space.

# 2

## BRIEF HISTORY OF PAY COMMISSIONS IN INDIA AND EXPERIENCE OF OTHER COUNTRIES

### 2.1 Brief history of Pay Commissions in India

The 1<sup>st</sup> CPC was established on January, 1946 and it submitted its report in May, 1947 to the interim government of India. It was under the chairmanship of Srinivasa Varadachariar. A departmental Committee was set up separately for deciding the emolument structure for the armed forces. The recommendations of the 1<sup>st</sup> CPC were based on the idea of minimum subsistence. Till the setting up of the first commission the broad principles enunciated by the Islington Commission which was set up in 1912 were being accepted by the government. The 1<sup>st</sup> CPC did not attempt to remedy the social inequalities and pattern of economic distribution. It just focused on the idea of minimum wage being discussed in the country. It did acknowledge the fact that educational qualifications of candidates are important considerations. On the issue of increasing the salaries up to the level being received by private counterparts, the commission believed that the importance of commission will increase with expansion of State activities. Therefore, the remuneration of public service employees need not be lower.

The 2<sup>nd</sup> CPC was set up in August 1957, 10 years after independence. The 2<sup>nd</sup> CPC reiterated the principle on which the salaries have to be determined. It stated that the pay structure and the working conditions of the government employee should be crafted in a way so as to ensure efficient functioning of the system by recruiting persons with a minimum qualification. The Departmental

Pay Committee, set up after the 2<sup>nd</sup> pay Commission was called the Raghuramiah Committee(1960).

The 3<sup>rd</sup> CPC set up in April 1970 gave its report in March 1973. It took almost 3 years to submit the report. The chairman was Raghur Dayal. The 3<sup>rd</sup> CPC added three very important concepts of inclusiveness, comprehensibility, and adequacy for pay structure to be sound in nature. **Inclusiveness** meant that the pay structure and the career pattern adopted for the civil service should be broadly adopted by autonomous quasi- governmental organizations. This was suggested to stop the competitive bidding across various public sector organizations. Inclusiveness according to 3<sup>rd</sup> PC also refers to the desirability of the commission to employ people on long term basis so that they can give their best without worrying about future prospects. The second criterion is that of "**comprehensibility**". This means that the pay scale proper should provide a true and comprehensible picture of the total remuneration given to the Government employee. The third requirement is "**adequacy**". The principle that the pay given to a government employee should be adequate can be examined from two aspects. Firstly, it should be internally adequate. It should take due cognizance of the individual's attributes, such as education, training and skill, as well as of the duties and responsibilities attached to the posts, and should remunerate each post accordingly. It should also be externally adequate which implies that the employees must be able to enjoy a certain standard of living.

The 3<sup>rd</sup> CPC went beyond the idea of minimum subsistence that was adopted by the 1<sup>st</sup> CPC. The commission report says that **"the true test which the government should adopt is to know whether the services are attractive and it retains the people it needs and if these persons are satisfied by that they are getting paid"**. The 3<sup>rd</sup> PC took note of the principle of equal pay for equal work while deciding the pay structure. The 3<sup>rd</sup> PC controversially recommended that military pension be de-linked from military service conditions to conform to civil

pensions. On the basis of the 3<sup>rd</sup> CPC recommendations One Rank, One Pension (OROP) was terminated, the basis of military pensions till then.

The chairman of 4<sup>th</sup> CPC which was set up in 1983 was P N Singhal. There is no such specific requirement in the terms of reference of the 4<sup>th</sup> PC to mention the principles of pay determination. Instead of principles the 4<sup>th</sup> PC mentions a number of factors which have been considered by them:

1. The pay of a post should be such as to attract persons of required qualifications and caliber.
2. The pay should be sufficient and satisfactory enough to motivate the employee for the efficient performance of his duties and responsibilities.
3. The remuneration of the employee should be such as not to make him dissatisfied or generate a feeling of deep-seated unfairness so as to drive him to seeking employment elsewhere.
4. The salary structure should be coherent and should adequately reflect the substantial differences in the nature and responsibilities of the various posts.
5. Structure of emolument should allow the employee to lead simple life at a level or standard considered satisfactory by him.
6. The pay scale may not give rise to a sense of deprivation or frustration in the employee on comparing his lot with his compeers.
7. An assurance to the employee that his emolument will not erode by increases in the cost of living.
8. A pronounced, objective and well-defined policy of promotion can also go a long way in adding to the weight of the pay structure.
9. Pay structure should be simple and rational (plethora of pay grades)



The 5<sup>th</sup> CPC started functioning in 1994. The chairman of 5<sup>th</sup> CPC was Justice S. Ratnavel Pandian. The other members were: Suresh Tendulkar, Professor Delhi school of Economics; and M.K Kaw, Indian Administrative Service. The earlier characteristics such as inclusiveness, comprehensibility and adequacy were considered by 5<sup>th</sup> CPC. In addition, the principles of equal pay and equal work, demand and supply considerations, fair comparison, model employer and productivity has also been used.

In July 2006, the Cabinet approved the 6<sup>th</sup> CPC under Justice B.N. Srikrishna with a timeframe of 18 months. The commission states that **“A comparison of salaries between the public sector and the Government may not be appropriate as it would not be a comparison between similarly placed entities. However, the Commission did study the mechanism by which the salaries of employees of public sector undertakings are determined and the conditions that govern them with the aim of examining if any comparison could be drawn”**.

In 2013, the 7<sup>th</sup> CPC was approved. Justice Ashok Mathur was the head of the commission and the recommendations were accepted and implemented with effect from 2016 onwards. The commission has considered following objectives which the level and structure of compensation should attempt to achieve:

- It is sufficient to attract and retain high quality staff
- It motivates staff to work hard
- It induces other human resource management reforms
- It ensures long term fiscal sustainability
- Intangible benefits should be considered while pay fixation fair comparison with private sector and government as a model employer

Further the Commission maintains that **“a mere comparison of the salaries should not form the benchmark for remuneration, it is to be viewed keeping in mind the uniqueness inherent in the government in terms of security of tenure, assured prospects of financial progression even when no promotional avenues exist, leave and pensionary privileges which are not available to their counterparts in the private/public sector”**.

## 2.2 Experience of Other countries

Although a number of research articles are available on civil pay reforms however very few studies document the working of pay commissions. In late 1970s, UK initiated civil service reforms to reduce excessive bureaucratization and regulations. **Financial management was aligned with departments with direct accountability of managers Privatization was sought to ensure competitive and quality service standards.** The Low Pay Commission (LPC) was setup in 1997 in UK. LPC is an independent body that advises the government on the National Minimum Wage. It is an advisory non-departmental public body of the Department for Business, Innovation and Skills. It was established on a non-statutory basis before being confirmed in legislation by the National Minimum Wage Act 1998. It was designed to tackle the worst extremes of low pay.

The LPC is involved in carrying out extensive research and consultation, and commissioning research projects. It analyses relevant data and actively encourage the Office of National Statistics to establish better estimates of the incidence of low pay. They make visits throughout the UK to meet employers, employees and representative organisations. Surveys of firms in low-paying sectors are also carried out by the LPC. Consulting with employers, workers and their representatives and taking written and oral evidence from a wide range of organisations allow them to make informed recommendations.

It might not be possible to compare their pay recommendations with those of India's pay commission since they submit a report to the government each October making recommendations on the future level of the National Living Wage and National Minimum Wage rates which if accepted are implemented from April of next year. As of 2019 the UK government has accepted the recommendations of LPC. The increase in the National Living Wage (NLW) to 8.21 pounds in April 2019 will ensure a pay rise for the lowest-paid workers that exceed both inflation and average earnings.

The civil pay structure of India, Pakistan, Bangladesh and other neighbouring countries are influenced by the British who controlled these regions. In Pakistan independent pay commissions headed by senior retired civil servants have always fixed the pay scales. The divergence in pay of high paid British officers and low grade local officers resulted in rejection of the 1st CPC's recommendations in 1948-49. The incentive to join public sector was provided by the 2<sup>nd</sup> CPC of 1970. The pay commission of 1972 eventually compressed the 650 pay scales to 22 national pay scales. The subsequent pay commissions of 1977, 1983, 1987, 1991, 1994, 2001 and 2005 have continued with these twenty-two scales with the declared objective of narrowing the gap between the highest paid and the lowest paid. However, this gap remains fixed at 1:9 for the last four salary revisions between 1991 and 2005. This coupled with low real wages, increasing trend towards contract employment, and no motivation to excel makes the government employment least attractive compared to the private sector (Bilquees, 2006). The problem with the revised pay structure is that although nominal increase fluctuates widely but the real wages have continued to decline because of high inflation.

In case of Bangladesh, the pay structure which it inherited at the time of independence was multiplicity of scales. There were as many as 20 different scales. The key considerations while fixing up the minimum wages are: size of

family, basic needs of such families and inflation. In the past cost of diet for an adult person, fuel, clothing and other items have been considered to define the minimum (Obaidullah, 1995). Sultana and Modak (2013) observed that National Pay Scale 1991 and 1997 failed to set a pay structure which was getting the cost of living as well as livelihood of the employees. Clearly, the revised pay in case of Bangladesh is not enough for families to meet their expenditures.

The pay system in China used to be egalitarian. Such a pay structure was helpful in reducing the income gap across different social classes and occupations. However, in 1950's the communist party came with an idea of rank based pay to foster good performance which was clearly against the ideology of socialism. To reduce the wage differential in pay, nation was divided into 11 regions with each having a 30 rank pay scale. The scales reflected the cost of living.

Gradually, China moved to market based reforms and a massive change in the system to fix pay took place. In 1985, a structural salary system was implemented. In 1993, the civil system was completely transformed, with recruitment taking place through exams. It was decided that annual increments and bonuses will be provided on the basis of performance and change in cost of living. The 1993 reforms failed to provide adequate salaries to the employees which led to moon-lighting activities and corruption (Jun Ma, 2011).

Similar concerns of efficiency and market competition are there in New Zealand which gave greater budgetary control to managers (with fixed tenures) to deliver and perform. In late 1980s Canada and Malaysia also graduated toward a customer-oriented quality service delivery mechanism – this allows greater departmental control and flexibility in budgeting.

The wage policies followed by the government in the past have been studied to understand the subsequent impact on the performance of the government. In this context, Lindauer et. al (1988) have studied the government wage policies

in Africa. They report that few African governments had followed a policy that favors low skilled workers, particularly in Nigeria, Senegal and Zambia. Equal rise in wages was provided to all the low skilled workers belonging to different categories. This narrowed the gap between highest and lowest salaries over time. A similar trend was observed in the private sector as well. However, the problems were exacerbated since the employment levels remained unchanged. The problem of low real wages persisted. The low salaries at higher levels resulted in higher attrition rates with many people moving to private sector. This resulted in loss of productivity of lower level staff, with high quality people leaving the organization.

Robinson (1990) has warned against infrequent salary revisions. Annual adjustment of salaries in private sector might lead to discontentment among government sector employees where the salary revisions take place every five years. Also, the purchasing power of salary is greatly eroded because of the time lag in the revision of salaries. The, there are problem of inflationary tendencies as the employees in other sectors might ask for higher pay in wake of the implementation of the pay recommendation in the public sectors.

Chew (1993) has studied the Civil service pay reforms in the Asia-Pacific region. Some of the key findings from his paper are quite relevant even today. Firstly, overstaffing reduces efficiency as the extra staff may be assigned unnecessary duties. Consequently, the productivity of other people who are doing satisfactory work goes down. Secondly, low remuneration could compel the employees to shun public sector jobs.

IMF (2016) documents important lessons about the source of wage pressures as well as the challenges countries faced when addressing these pressures. Their findings are derived from the 20 country cases and studies carried out by other institutions, such as the World Bank. Some of the findings relevant to our study are: 1) Streamlining non-wage compensation improves transparency and

fairness of government pay, 2) Deeper structural reforms of the compensation structure can facilitate stronger wage bill control while ensuring wages are competitive, equitable and transparent and 3) Compensation reforms can also enhance public service delivery.

To conclude, short term fiscal balances are adversely affected with the implementation of the wage bills. Inflationary tendencies are aggravated as the hike in public sector wages are transmitted to private sector. Clearly, effectively managing the wage bill is a challenge given the limited budget of the government. Problems in India will compound in the future as the demand for health care services by the ageing population and education for the young will increase. Effective institutions and policies are required to ensure that increased spending on the wage bill is reflected in the cost effective delivery of quality public services in a fiscally sustainable manner. The methods followed by different countries for fixation of wages are presented in Table 2.1.

**Table 2.1:** Experience of civil pay reforms in selected countries

S.No	Country (Pay Commission)	Scope	Act/Committee	Committee Members	Revision frequency	Logic for setting wages
1	Germany (No)	Civilian Workforce	Collective bargaining	NA	NA	NA
2	Ireland (Yes)	-	Public Service Pay Commission	Commission comprises a Chairperson and seven members, all of whom were appointed by the Minister for Public Expenditure and Reform	-	Comparison with private sector wages and cost of living
3	Netherlands (No)	Civilian Workforce	Collective bargaining between organization and trade unions	NA	Every 2 years	Comparison with private sector and job content
4a	United Kingdom (Yes)	For Private sector	Low Pay Commission (LPC)	LPC consists of nine Low Pay Commissioners who are selected. They are employers, trade unionists and academics.	Annual	To meet the government's target of 60 per cent of median earnings by 2020

S.No	Country (Pay Commission)	Scope	Act/Committee	Committee Members	Revision frequency	Logic for setting wages
4b	United Kingdom (No)	Both public sector civilian and non-civilian employees	Office of Manpower Economics ( Provides an independent secretariat to eight pay review bodies including Armed Forces' Pay Review Body (AFPRB); Review Body on Doctors' and Dentists' Remuneration (DDRB); NHS Pay Review Body (NHSPRB); Prison Service Pay Review Body (PSPRB); School Teachers' Review Body (STRB); Senior Salaries Review Body (SSRB) Police Remuneration Review Body (PRRB); National Crime Agency Remuneration Review Body (NCARRB))	Around 30 civil servants	Annual	Inflation target, regional and local variation in labour market and affordability of recommendations are considered
5	Australia (No)	Both public sector civilian and non-civilian employees	Departments of the government negotiate base salary with respective public sector unions	NA	Atleast 3 years	Should be within agencies budget and maintain community standard
6	US (No)	Civilian Workforce	Federal Employees Pay Comparability Act; President has also the authority for providing alternate plan	Directs the President to establish the Federal Pay Council. Includes representatives of major Federal employee labor unions as members of the Council. Revises administrative provisions.	Annual	Tied to overall pay rates as measured by the Employment Cost Index PREPARED BY Labour Bureau, varies by locality

S.No	Country (Pay Commission)	Scope	Act/Committee	Committee Members	Revision frequency	Logic for setting wages
7	Vietnam (No)	Both public sector civilian and non-civilian employees	Selection and appointment of civil servants, the issues of grade promotion, training, and retirement have been mentioned in the laws and regulations. The minimum wage is regulated by the provisions in the Vietnam Labor Law.	NA	Revised every 5 year for those who hold the highest rank and revised every three years for middle rank officials and every two years for low rank officials.	Public employee payment is corresponded with a national minimum wage for which CPI is used
8	Singapore (No)	Both public sector civilian and non-civilian employees	National Wages Council	It comprises of representatives from the three social partners – the employers, the trade unions and the Government.	Annual	Comparison with private sector and nature of work and performance and qualification
9	Phillipines (No)	Both public sector civilian and non-civilian employees	Salary Standardization Law	NA	Not clearly mentioned will be implemented over 4 years	To make it at par with private sector wages
10	Ghana (Yes)	Both public sector civilian and non-civilian employees	Fair Wages and Salaries Commission	No information	Implemented single spine salary structure over 2010-2014	Link pay and productivity, to reduce pay disparities
11	South Africa (Yes)	Civilian Workforce	Remuneration commission	The Commission is assisted in its task by a full time Secretariat consisting of officials on the establishment of The Presidency.	Annual	Inputs provided by bargaining councils.
12	Kenya (Yes)	Both public sector civilian and non-civilian employees	Salaries and Remuneration Commission	Nomination from the Parliamentary Service Commission, Judicial Service Commission, Senate on behalf of the county Government and the Defence Council.	Every 4 years	A number of factors such as social and economic environment, prevailing rates from market, bargaining agreements, prevailing labour productivity index, etc are considered.



## 3

## IMPACT OF PREVIOUS PAY COMMISSIONS AND ESTIMATED IMPACT OF 7<sup>th</sup> CPC ON FISCAL ACCOUNTS OF CENTRAL GOVERNMENT

### 3.1 Pay Commissions in India

The financial impact of previous pay commissions along with details about their implementation are presented in table 3.1 below. The 1<sup>st</sup> CPC was constituted in May 1946 and the last pay commission (7<sup>th</sup> CPC) came with its recommendations in 2014-15. The real increase recommended in minimum pay by each Central Pay Commission over the existing minimum pay is also presented. The highest real increase was 54 per cent in the 6<sup>th</sup> Pay commission.

**Table 3.1:** Real increase in pay in each pay commission

S.No.	Pay Commission	Financial Impact	Real increase in pay	Increase in per capita NNI
1	2nd CPC (1957-59)	₹ 396 million	14.2%	
2	3rd CPC (1970-73)	₹ 1.44 billion	20.6%	4.1
3	4th CPC (1983-87)	₹ 12.8 billion	27.6%	5.5
4	5th CPC (1994-06)	₹ 185 billion	31.0%	7.1
5	6th CPC (2006-08)	₹ 220 billion	54.0%	8.5
6	7th CPC (2014-15)	₹ 1000 billion	14.3%	4.1

Source: 7th CPC report

Note: Increase in NNI (constant price) is annual increase between implementation of pay commissions. First PC was set up in 1946-47.

Table 3.2 below brings out the trend in pay structure in the government of India over the years. Compression ratio has been taken as a ratio of maximum salary drawn by the Secretary to Government of India to minimum salary drawn by the lowest functionary in the government. A decline in compression ratio is visible.

**Table 3.2:** Minimum and Maximum Pay, Pay Commission Recommendations

CPC	Year	Minimum Pay	Maximum Pay	Compression Ratio
1st CPC	(1946-47)	55	2000	36.4
2nd CPC	(1957-59)	80	3000	37.5
3rd CPC	(1972-73)	196	3500	17.9
4th CPC	(1983-86)	750	8000	10.7
5th CPC	(1994-97)	2550	26000	10.2
6th CPC	(2006-08)	7000	80000	11.4
7th CPC	(2014-15)	18000	225000	12.5

Source: 7<sup>th</sup> CPC report

Table 3.3 below brings out the trend in pension structure. The revised minimum pension in 6<sup>th</sup> PC was ₹3,500. It was 2.26 time the pre-revised pension of ₹1,275. The minimum pension is coming out to be ₹ 9000 as per calculations of 7<sup>th</sup> CPC.

**Table 3.3:** Minimum-Maximum Pension, Pay Commission Recommendations

CPC	Minimum Pension	Maximum Pension	Minimum Family Pension	Maximum Family Pension
4th CPC	375	4,500	375	1,250
5th CPC	1,275	15,000	1,275	9,000
6th CPC	3,500	45,000	3,500	27,000

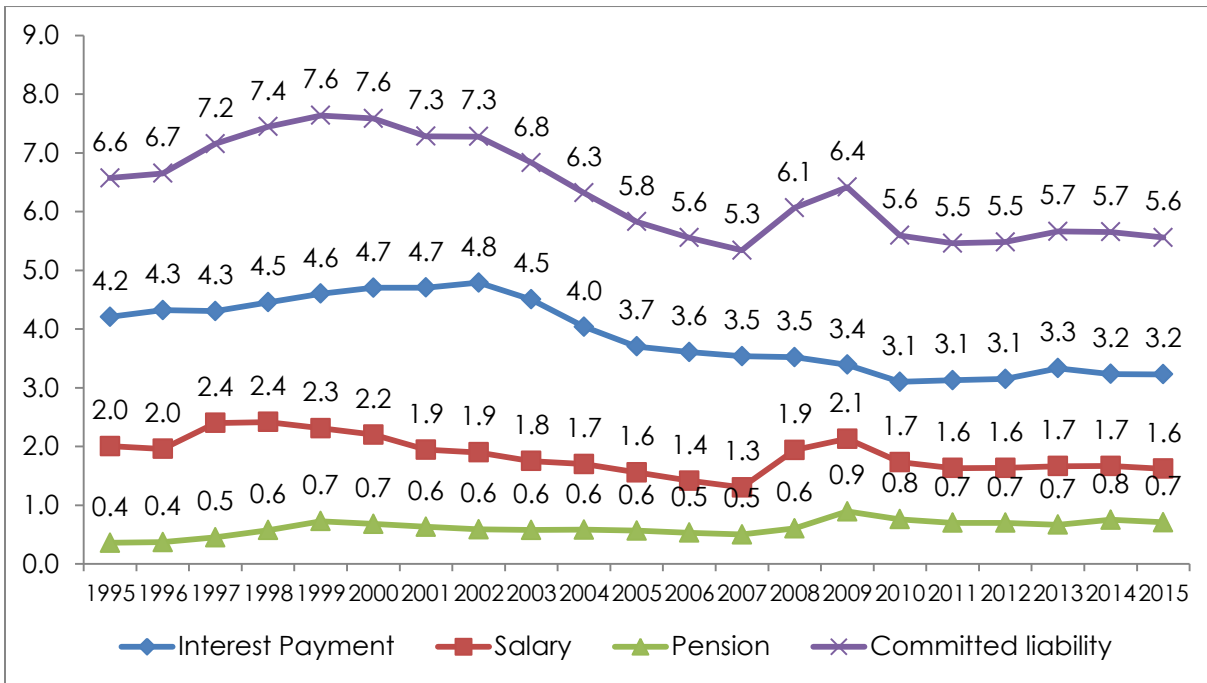
Source: 7<sup>th</sup> CPC report

### 3.2 Effects of Pay Commissions on fiscal accounts of Central government over the period 2016-17 to 2025-26

#### 3.2.1 Overview of Finances

Figure-3.1 shows the share of interest payment, salary, pension and committed expenditure as a percentage of GDP. Interestingly, for the years when the pay commission recommendations have been implemented, a quantum jump in the ratios can be observed. The share of committed expenditure increased to 7.45 in 1998-99 and was 7.64 in 1999-00. Similarly, the ratio was 6.06 and 6.42 in 2008-09 and 2009-10. The peaks are prominent in case of salary as well as pension. The hike in salary and pension tapers off after a couple of years.

**Figure 3.1:** Salary, Pension and Committed expenditure of Central government employees as a percentage share of GDP (2011-12), 1995-96 to 2015-16



**Figure 3.2:** Salary, Pension and Committed expenditure of Central government employees as a percentage share of Revenue Expenditure, 1995-96 to 2015-16

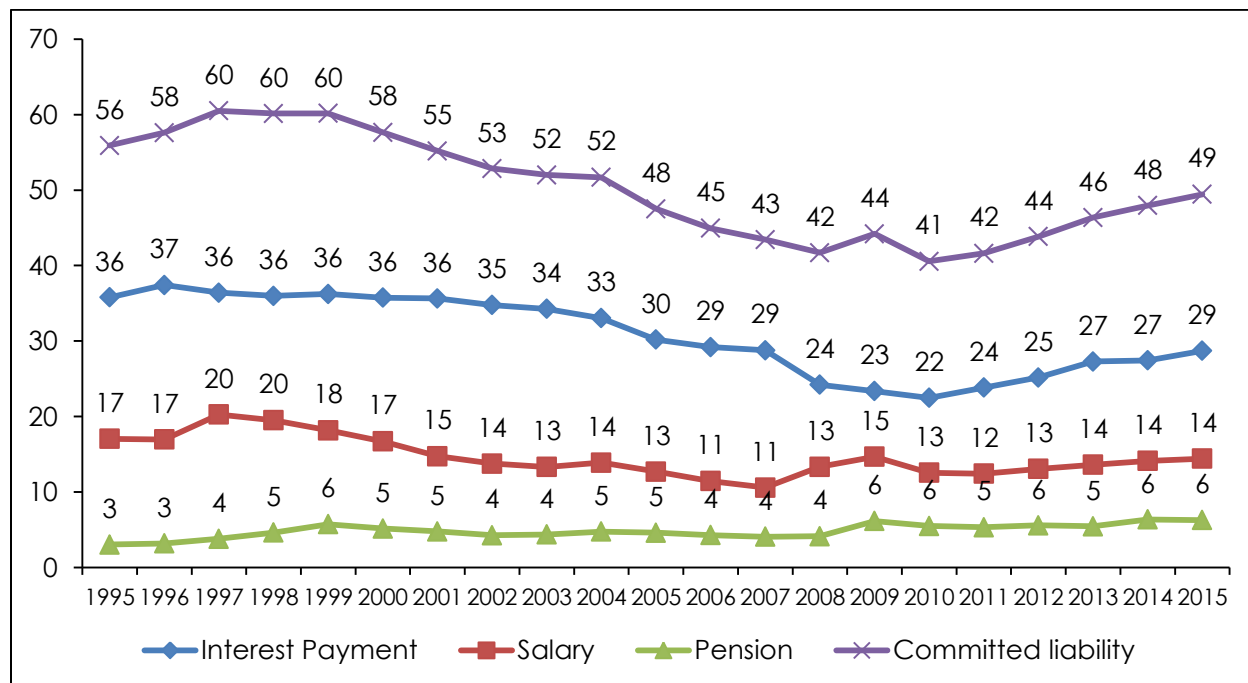


Figure-3.2 shows the share of interest payment, salary, pension and committed expenditure as a percentage of revenue expenditure. The share of committed expenditure increased to 60 per cent in 1997-98. Similarly, the ratio was 44 per cent in 2009-10.

### **3.2.2 Data and Methods**

#### **Data Description**

The data for most of the required variables have been obtained from the EPWRF India Time Series which is an interactive online database for Indian Economy. Data for pay and allowance of civilian employees has been obtained from the Annual Pay and allowance report prepared by Pay Research Unit of the Department of Expenditure, Ministry of Finance. The data for the period 1995-2015 has been collected on key fiscal and macroeconomic indicators including tax revenues, non-tax revenues, salary, pensions, capital expenditure, revenue expenditure, fiscal deficit, revenue deficit and GDP. The period from 1995-2015 has been considered as uninterrupted data series are available for this period.

Separate pay matrix has been prepared by the 7th CPC for civilian employees and defence personnel. The annual reports of the Department of Expenditure only provides the pay and allowance data for the civilian employees and civilian defence personnel. The data for pay and allowance for rest of the defence personnel including army, navy and air force has been obtained from the Expenditure Volume II, Ministry of Defence section of the different editions of the budget documents. The combined figures for pensions of both civilian and defence employees are presented in the EPWRF database. The data for pay and allowance include House Rent allowance, Overtime allowance, Transport allowance, Special Pay allowance, Children education allowance, Reimbursement of Medical Charges, Leave Travel Concession and Other Compensatory allowances. However, the data does not include expenditure on encashment of earned leaves, travelling allowance, bonuses and honorarium.

But, the expenditure on employees of embassies is included in the pay and allowance figures for civilian employees.

## Methods

In order to examine the effect of the recommendations of the 7<sup>th</sup> CPC on the fiscal accounts of the Centre, separate scenarios have been created. Base scenario will involve projections for the fiscal profile assuming continuation of the historical growth rates of various components of revenues and expenditures. The formulas for calculating revenue and fiscal for Centre are as follows:

**Revenue Deficit (Centre)** = Revenue expenditure - Revenue receipts

Where, revenue expenditure is sum of salary, pension, interest payment and other revenue expenditure items. Revenue receipts are sum of non-tax revenues and tax revenues net of State governments share.

**Fiscal Deficit (Centre)** = Total expenditure (revenue and capital)-Total revenue (excluding borrowings)

Here Total revenue is sum of non-tax revenues, tax revenues net of State government's share, recoveries of other loans and other receipts (disinvestment).

In literature, we found two methods which can be used to forecast fiscal indicators: compound annual growth rates and Statistical curve fitting approach (Karnataka 6<sup>th</sup> PC; Rao and Chakraborty, 2006). We estimate annual growth using these two approaches. We estimate trend annual growth rate using semi-log functions using data for the period 1995-2015 in components of total revenue, salary, pension and capital expenditure for creating the projection. The figures for all the variables are at current prices. The GDP figures with base 2011-12 at nominal prices have been used for the purpose of analyses. The formula for obtaining the growth rate is:

$$\ln Y_t = \beta_1 + \beta_2 t + \beta_3 D + \mu_t$$

Where t=1995 to 2015

The regression has been run individually for each of the variables being used to create the projections. Y has been used to represent the fiscal variables and GDP in individual regression equations; t is the time variable and D is dummy variable. Dummy assumes a value of one for the years when the recommendations of previous pay commission were implemented, which are 1997-98, 1998-99, 2008-09 and 2009-10. 100 times the coefficient of time variable ( $\beta_2$ ) will give us the growth rate in the Y variable for absolute change in the time variable. We have also run regression models excluding the dummy variable in case it has been found insignificant to estimate the growth rate.

The economy has undergone a structural change over the years. It can only be expected that the series for the fiscal variables will be different from the trends observed earlier. To rely on past observations might give us a higher error in growth rates from the actual growth rates observed today. Therefore, we also estimate the average annual growth rates on the basis of last 6 years (2010-2015) prior to which the implementation of 6<sup>th</sup> Pay commission had taken place.

In Scenario-1, the effect of increase in salary expenditure due to Pay Commission recommendations has been superimposed on the base scenario to examine the fiscal effects (assuming other variables as in Base Scenario). As per 7<sup>th</sup> CPC, there will be an increase of 23.51 per cent and 23.63 per cent in Pay and allowance; and Pensions in case the recommendations are accepted. We assume these parameters in addition to the historical growth rates to create the fiscal projections for pay and allowance and pensions for 2016-17 and 2017-18. But for future years starting from 2018-19 to 2025-26, we will assume that the pay and allowance and pensions will increase at the historical growth rates. The implementation of the pay commission has taken place over two years. The pay

and pension hike recommendations were implemented in 2016-17 and the hike in allowance has been implemented in 2017-18. Therefore, the effect is spread over two years. We accommodate the increase in components of pay and allowances in the projections for salary accordingly.

**Table 3.4:** Financial impact of the implementation of the 7th Pay Commission

	2016-17 without CPC	2016-17 with CPC	Financial impact	% increase
Pay	244300	283400	39100	16
Allowances				
HRA	12400	29600	17200	138.7
TPTA	9900	9900	0	0
Other Allowances	24300	36400	12100	49.8
Pay and allowance	290900	359300	68400	23.5
Pension	142600	176300	33700	23.6

Source: 7<sup>th</sup> Pay Commission

The ratios of deficits to GDP (revenue, fiscal and primary) have been calculated on the basis of projected figures for the period 2017-18 to 2025-26 for each scenario. The salary burden for the next ten years has been presented for each scenario to assess the burden.

### 3.2.3 Impact on fiscal accounts of Central government

Two scenarios have been created to estimate the effect of implementation of the pay commission recommendations on the fiscal accounts of the Central government. The base scenario has been created by assuming the continuation of the historical growth rates of various components of revenue and capital receipts; and revenue and capital expenditures. Trend annual growth rate using semi-log functions using data for the period 1995-96 to 2015-16 in tax revenues, non-tax revenues, capital receipts, salary, pension, remaining revenue expenditure (excluding pension, interest and salary); and capital expenditure has been used for projection.

The results for the models are presented in table 3.6 below. It is the coefficient of time which is the variable of interest that has been used to create the projections. Dummy variable has been used to capture the effect of pay commission years for salary and pension to segregate the true trend in historical growth rate. In case of other variables, dummy variable has been used to control for the high variability in growth rates for certain years. To elaborate, the growth rate in capital receipts for 2007 and 2009 are 583 and 395, these have been controlled for using a dummy. Details about the dummy variables are presented in the table below. Dummy variable was not used for interest payment, remaining revenue expenditure and GDP. The value for dummy is significant in the models fitted for each variable.

**Table 3.5:** Description of dummy variables used in regression analysis

	<b>Dummy variable used for years</b>	<b>Dummy significant</b>
Total revenue receipt	2010	Yes
Total capital receipt	2003,2007,2009	Yes
Interest Payment	Not used	
Pension	1997,1998; 1999,2008; 2009	Yes
Total salary	1997; 2008; 2009	Yes
Remaining revenue expenditure	Not used	
Capital expenditure	2007	Yes
GDP	Not used	

The total revenues receipts comprising of tax and non-tax revenues are projected to grow at 12 per cent. Capital receipts which include recoveries of loans and other receipts mainly from disinvestment are expected to grow at 7 per cent. After segregating the effect of earlier Pay commission, it has been assumed that the salaries and pension will grow at 11 per cent and 14 per cent respectively. The capital expenditure is assumed to grow at 9 per cent and GDP at 13 per cent. All the variables are significant at 5 per cent significance level except for the coefficient of remaining revenue expenditure.



**Table 3.6:** Rate of growth for fiscal variables and GDP estimated using regression model, 1995-96 to 2015-16

	<b>Total Revenue Receipt</b>	<b>Total Capital Receipt</b>	<b>Interest Payment</b>	<b>Pension</b>	<b>Total Salary</b>	<b>Rem. Revenue Exp.</b>	<b>Capital Exp.</b>	<b>GDP</b>
Trend	0.12	0.07	0.10	0.14	0.11	0.09	0.09	0.13
S.E	0.00	0.02	0.01	0.01	0.02	0.05	0.01	0.01
Dummy	0.18	1.00		0.14	0.18		0.34	
S.E	0.01	0.29		0.06	0.09		0.09	
Constant	6.82	4.54	6.26	3.90	5.27	7.61	5.86	9.03
S.E	0.05	0.38	0.14	0.19	0.41	1.41	0.17	0.20
N	21	21	21	21	21	21	21	21
R-squared	0.98	0.43	0.89	0.86	0.69	0.12	0.71	0.92
D-Watson	1.5	1.9	1.1	1.4	1.2	1.4	1.5	0.9

The average growth in fiscal variables of central government for last 6 years 2010-11 to 2015-16 are presented in table 3.7 below. The standard deviation in growth rate of revenue receipts and capital expenditure is quite high.

**Table 3.7:** Average growth rate of Fiscal variables of Central Government for last 6 years, 2010-11 to 2015-16

<b>Year</b>	<b>Revenue receipts</b>	<b>Capital receipts</b>	<b>Interest Payment</b>	<b>Pension</b>	<b>Salary</b>	<b>Rem. revenue exp.</b>	<b>Revenue Exp.</b>	<b>Capital exp.</b>	<b>GDP</b>
2010	37.6	6.2	9.8	2.2	-2.3	21.6	14.1	39.0	20.2
2011	-4.7	4.7	16.7	6.6	9.1	8.1	10.1	1.3	15.7
2012	17.0	10.9	14.7	13.6	14.0	4.4	8.5	5.2	13.8
2013	15.4	2.2	19.5	7.8	15.0	5.4	10.3	12.5	13.0
2014	8.5	23.0	7.5	25.0	11.0	3.8	6.9	4.8	10.8
2015	8.5	22.3	9.7	3.4	6.9	1.8	4.8	25.9	9.9
<b>Mean</b>	13.7	11.6	13.0	9.8	8.9	7.5	9.1	14.8	13.9
<b>S.Dev</b>	14.0	9.1	4.7	8.5	6.3	7.2	3.2	14.8	3.7

The additional burden over the next 10 years for the Central government using the regression based approach and the average of compounded annual growth rates for the last 6 years is presented in the table 3.8 and 3.9 below. The pension bill for the next 10 years can be around ₹3600 billion. The Salary expenditure could be around ₹10000 to ₹12000 billion.

**Table 3.8:** The financial impact of implementation of Pay commission on Pension and Salary bill, 2016-17 to 2025-26 (Figures are in ₹ billions) based on historical growth rates from 1995 onwards

	Base scenario		Salary hike scenario		Difference	
	Pension	Salary	Pension	Salary	Pension	Salary
<b>2016</b>	1105	2473	1291	3092	185	620
<b>2017</b>	1263	2755	1474	3354	212	598
<b>2018</b>	1442	3071	1684	3737	242	667
<b>2019</b>	1647	3422	1924	4165	276	743
<b>2020</b>	1882	3813	2197	4641	316	828
<b>2021</b>	2149	4249	2510	5172	361	923
<b>2022</b>	2455	4736	2867	5764	412	1028
<b>2023</b>	2804	5277	3275	6423	471	1146
<b>2024</b>	3203	5881	3741	7158	537	1277
<b>2025</b>	3659	6554	4273	7977	614	1423
<b>Extra burden due to implementation of 7<sup>th</sup> PC for 2016-2025</b>					<b>3626</b>	<b>9254</b>

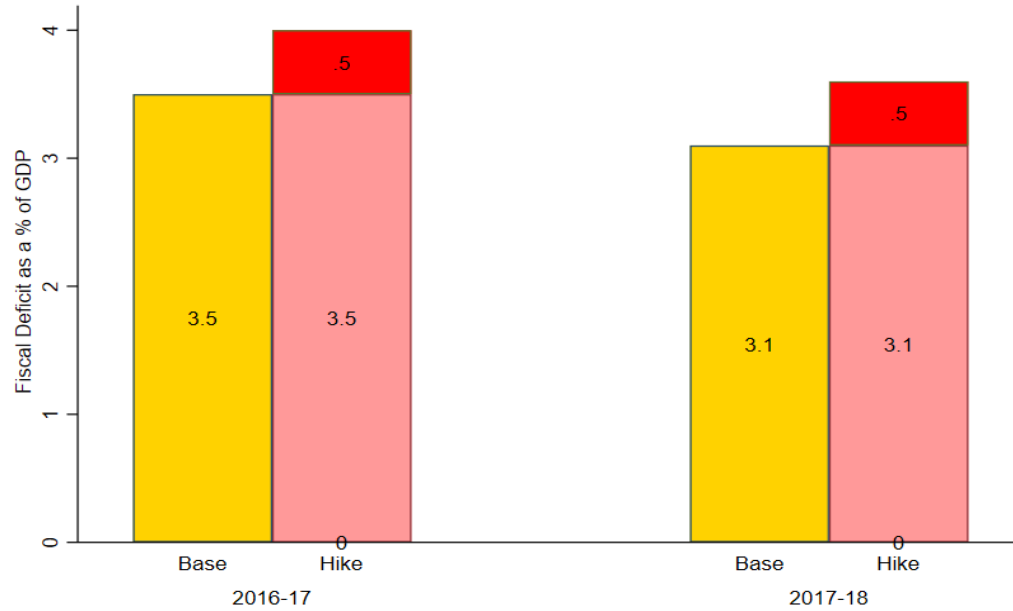
**Table 3.9:** The financial impact of implementation of Pay commission on Pension and Salary bill, 2016-17 to 2025-26 (Figures are in ₹ billions) using growth rates for last 6 years

	Base scenario		Salary hike scenario		Difference	
	Pension	Salary	Pension	Salary	Pension	Salary
<b>2016</b>	1062	2417	1291	3032	229	615
<b>2017</b>	1166	2633	1417	3472	251	839
<b>2018</b>	1280	2869	1555	3783	275	914
<b>2019</b>	1404	3125	1707	4121	302	996
<b>2020</b>	1542	3404	1873	4490	332	1085
<b>2021</b>	1692	3709	2056	4891	364	1182
<b>2022</b>	1857	4040	2257	5328	400	1288
<b>2023</b>	2038	4402	2477	5805	439	1403
<b>2024</b>	2237	4795	2719	6323	482	1528
<b>2025</b>	2456	5224	2984	6889	529	1665
<b>Extra burden due to implementation of 7<sup>th</sup> PC for 2016-2025</b>					<b>3603</b>	<b>11516</b>

The change in fiscal deficit to GDP ratio due to the implementation of recommendations of the pay commission could be around 0.5 for 2016-17 and 0.4 for 2017-18. It can be said that the deficit to GDP ratio will increase by 1

point. The findings are in line with other studies which had estimated the effect for previous and 7<sup>th</sup> Pay commission based on simulations (Ray et. al. 2015; NIPFP, 2016; Mohan, 2008). The results for projection exercise using both the approaches are attached in the appendix.

**Figure 3.3:** The financial impact of implementation of Pay commission on Fiscal Deficit, 2016-17 and 2017-18, using growth rates for last 6 years



## 4

IMPACT OF PREVIOUS PAY COMMISSIONS  
AND PROJECTED IMPACT OF 7<sup>th</sup> CPC ON  
THE FISCAL ACCOUNTS OF THE STATE  
GOVERNMENTS**4.1 Overview of State finances**

Table 4.1 shows the average share of interest payment, salary, pension and committed expenditure as a percentage of GSDP. The proposed hike had been accepted for most of the States prior to 2011-12 (refer to appendix for growth rates in salary and pension). Committed expenditure is defined as sum of interest payment, pension and Salary. The ratio of committed expenditure to GSDP is higher for the States Himachal Pradesh (12.9 per cent), Kerala (8.3 per cent) and Bihar (9.5 per cent). The hypothesis that borrowing for Kerala and Himachal Pradesh will be higher has been validated by higher share of interest payment for these two States which are 2.8 per cent for Himachal Pradesh and 1.8 per cent for Kerala. The expenditure incurred on pension for Himachal Pradesh (3.1 per cent) and Kerala (2.2 per cent) is also higher. The salary to GSDP ratio for most of the States is are 4 per cent to 7 per cent. Also, salaries are higher for Odisha and Uttarakhand .

Table 4.2 shows the average share of interest payment, salary, pension and committed expenditure as a percentage of revenue expenditure. A huge variation in the distribution of percentage share of salary, pension and interest payments is observed across the States. The ratio of committed expenditure to Revenue expenditure is higher for the States Himachal Pradesh (68.2 per cent), Kerala (63.2 per cent) and Uttarakhand (66.8 per cent). The ratio of salary to Revenue expenditure is higher for Uttarakhan (43 per cent), Himachal Pradesh

(37.4 per cent), Maharashtra (37.4) and Kerala (32.3 per cent). The ratio of pension to Revenue expenditure is higher for Himachal Pradesh (16.2 per cent) and Kerala (16.8 per cent). The share of interest payment

**Table 4.1:** Salary, Pension and Committed expenditure of State government employees as a percentage share of GSDP (2011-12), 2010-11 to 2015-16

	Salary	Pension	Interest Payment	Committed exp.
Andhra Pradesh	3.6	1.5	1.5	6.6
Bihar	4.7	3.1	1.8	9.6
Chhattisgarh	4.5	1.3	0.8	6.5
Gujarat	2.6	1.0	1.7	5.3
Haryana	3.1	1.1	1.5	5.7
Himachal	7.3	3.1	2.8	13.2
Jharkhand	3.7	1.6	1.4	6.8
Karnataka	2.1	1.0	1.0	4.1
Kerala	4.2	2.2	1.8	8.2
Madhya Pradesh	4.4	1.4	1.6	7.4
Maharashtra	3.6	0.8	1.3	5.7
Odisha	4.8	2.0	1.1	7.9
Rajasthan	3.8	1.5	1.8	7.0
Tamil Nadu	3.4	1.6	1.3	6.3
Uttar Pradesh	3.8	2.1	2.0	7.9
Uttarakhand	5.0	1.3	1.5	7.8

**Table 4.2:** Salary, Pension and Committed expenditure of State government employees as a percentage share of Revenue Expenditure, 2010-11 to 2015-16

	Salary	Pension	Interest Payment	Committed exp.
Andhra Pradesh	27.3	11.4	11.1	49.8
Bihar	23.9	15.5	9.1	48.5
Chhattisgarh	28.7	8.5	4.8	42.1
Gujarat	26.3	10.4	17.4	54.2
Haryana	28.3	9.8	13.1	51.3
Himachal	37.4	16.2	14.6	68.2
Jharkhand	26.6	11.5	10.2	48.3
Karnataka	19.5	9.2	9.3	37.9
Kerala	32.3	16.8	14.2	63.2
Madhya Pradesh	26.3	8.2	9.3	43.9
Maharashtra	37.4	8.3	13.9	59.6
Odisha	31.2	13.0	7.1	51.3
Rajasthan	27.8	10.7	13.1	51.5
Tamil Nadu	29.5	14.1	11.2	54.8

Uttar Pradesh	21.8	12.1	11.6	45.5
Uttarakhand	43.0	10.7	13.0	66.8

Table 4.3 below presents a list of the years during which the impact of 5th and 6th CPC was reported on fiscal accounts of the selected State. The major impact of 5th CPC was observed prior to 2000 except for Jharkhand and Karnataka. The impact of 6th CPC was observed for most of the States over the period 2009-10 to 2010-11. The recommendation were implemented in case of Madhya Pradesh, Karnataka, Kerala and Jharkand after 2011-12.

**Table 4.3:** Years during which the impact of fifth and 6th CPC was reported on fiscal accounts of State

State	Impact years	
	Fifth Pay Commission	Sixth Pay Commission
Andhra Pradesh	2000-01	2009-10,2010-11
Bihar	1999-00	2009-10 to 2011-12
Chhattisgarh	2001-02	2009-10
Gujarat	1998-99	2009-10,2010-11
Haryana	1998-99	2008-09, 2009-10
Himachal	1999-00; 2000-01	2010-11
Jharkhand	2007-08, 2008-09	2012-13
Karnataka	2007-08, 2008-09	2012-13, 2013-14
Kerala	1999-00	2011-12
Madhya Pradesh	1998-99	2012-13, 2013-14
Maharashtra	1999-00	2009-10
Odisha	1999-00	2008-09
Rajasthan	1998-99	2008-09
Tamil Nadu	1998-99	2008-09, 2009-10, 2010-11
Uttar Pradesh	1997-98	2008-09, 2009-10
Uttarakhand	1999-00	2009-10

Source: Ray et. al. 2015

The growth rate in Salary, pension and interest payment are presented in appendix. The hike in Salary and pension due to implementation of pay commission are observable prior to 2011 in case of most of the States. Notably, the growth rate in interest payments is higher after 2010. For the sake of convenience, the hike during the 5<sup>th</sup> and 6<sup>th</sup> CPC years is highlighted in bold.

## 4.2 Data and Methods

The data for all the fiscal variables and GSDP (2011-12 series) has been taken from EPWRF India Time Series. The data for Salary for the States have been taken from State Finances: A Study of Budgets of 2017-18 and 2018-19. The break-up of components of State budget are depicted in the figure attached in the appendix. The definitions used for calculation of the revenue and fiscal deficit are as follows:

**Revenue Deficit (State)** = Revenue expenditure - Revenue receipts

Where, revenue expenditure is sum of salary, pension, interest payment and other revenue expenditure items. Revenue receipts are sum of non-tax revenues, tax revenues, share in central governments revenue and grants.

**Fiscal Deficit (State)** = Revenue Deficit - Non-debt Capital Receipts + Capital Outlay + Net Lending

The notional dates of implementation of the recommendation of the Pay commission for different States are presented in table. It must be noted here that the State government does not have to accept the recommendation of the Central Pay Commission. However, it is because of social and political pressure that the States end up following these recommendations. But, not all the recommendations are accepted by the States. In some cases it has been observed that the hike has been more generous.

Also, the timing of the setting of Pay Commissions of different States and the year during which they come up with their recommendations might not coincide with that of the Central Pay commission. For instance, Kerala, Karnataka and Andhra Pradesh follow their own separate time table. Given the availability of data, 16 States have been identified for the purpose of analyses which include Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh and Uttarakhand.

**Table 4.4:** Pay Commission implemented by different States

	<b>Pay Commission</b>	<b>Implementation Date (notional)</b>	<b>Month of benefits</b>
1	Arunachal Pradesh	January 01, 2016	May 17
2	Bihar	January 01, 2016	April 17
3	Chhattisgarh Work-charged and Contingency-paid Employees Revision of Pay Rules, 2017	January 01, 2016	July 17
4	Gujarat Civil Services (Revision of Pay) Rules, 2016	January 01, 2016	August 16
5	Jharkhand	January 01, 2016	April 17
6	Madhya Pradesh Pay Revision Rules, 2017	January 01, 2016	July 17
7	Odisha Revised Scales of Pay Rules, 2017	January 01, 2016	September 17
8	Rajasthan Civil Services (Revised Pay) Rules, 2017	January 01, 2016	October 17
9	Tamil Nadu Revised Pay Rules, 2017	January 01, 2016	October 17
10	New Delhi	January 01, 2016	August 16
11	Assam Services (Revision of Pay) Rules, 2017	April 1, 2016	April 17
12	Karnataka Civil Services (Revised Pay) Rules, 2018	July 1, 2017	April 18
13	Fifth Meghalaya Pay Commission	January 1, 2017	December 17
14	Nagaland Services (Revision of Pay) Rules, 2017	June 1, 2017	January 18
15	Tripura State Civil Services (Revised Pay) Rules, 2017	April 1, 2017	June 17

Source: RBI, 2017-18

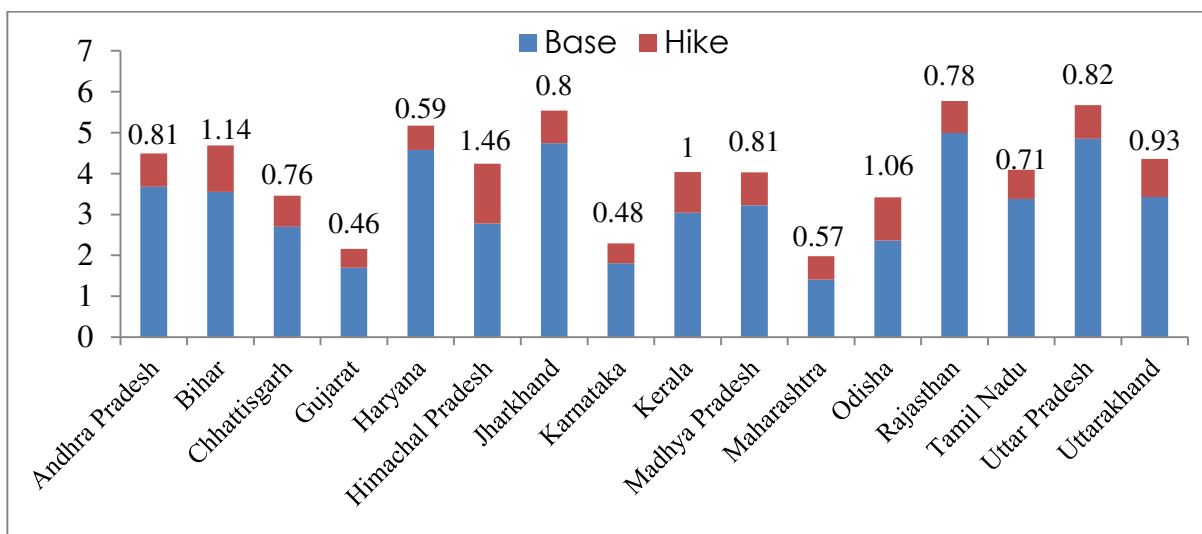
Only the method using the compound annual growth rates has been used for creating the State level projections. Furthermore, the proposed hike in pay and allowance is not clearly mentioned for the different States. Therefore, we are considering only the States for which the recommendations will be implemented in 2016-17. Also, we are projecting the burden for future years assuming that the recommendation of the Central Pay commission will be accepted. Therefore, a hike of 23.51 per cent and 23.63 per cent in Pay and allowance; and Pensions has been assumed. Data for the period 2010-11 to 2015-16 has been used. The trends were studied over the period 2005-06 to 2015-16 to identify the years in which the hike for the 6<sup>th</sup> pay commission was implemented. Of the 16 States, although Karnataka, Andhra Pradesh, Tamil Nadu and Kerala follow a different time table, we are assuming that the recommendations will be implemented in 2016-17 to make a meaningful comparison.



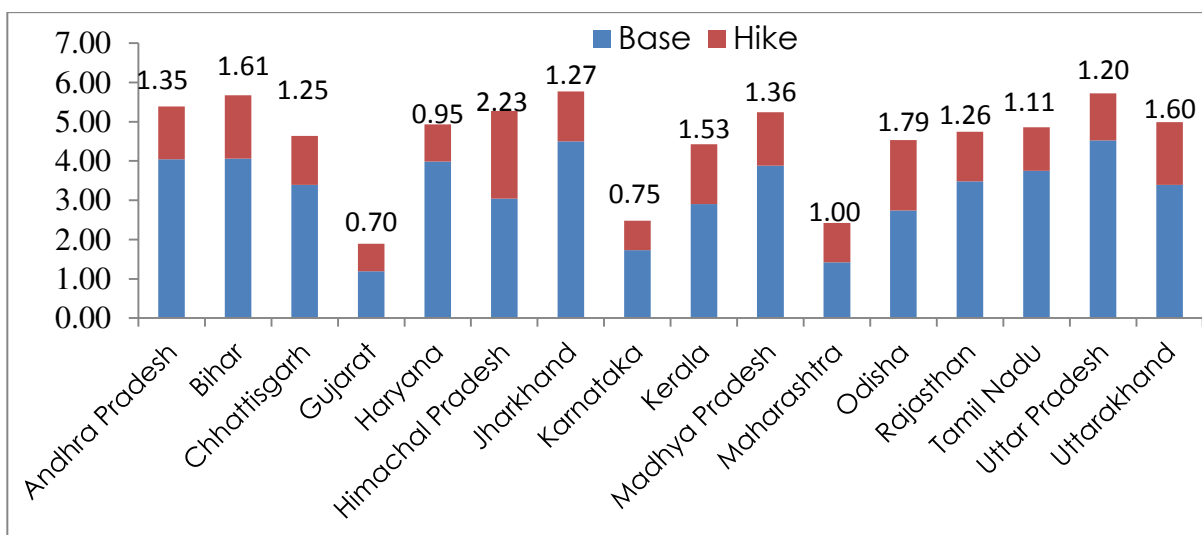
### 4.3 Impact on fiscal accounts of State governments

The results for the projection exercise conducted for different States are presented in the table below. Results in figure 4.1 and 4.2 reveal that the highest effect on fiscal deficit to GSDP will be felt in case of Bihar, Himachal Pradesh, Kerala and Odisha. Also, these are the States for which the share of salary and pension over the last 5 years is comparatively higher.

**Figure 4.1:** Gross Fiscal deficit of State Governments: Base-Hike scenario, 2016-17



**Figure 4.2:** Gross Fiscal deficit of State Governments: Base-Hike scenario, 2017-18



Note: Bars in red represent the projected hike in fiscal deficit due to implementation of 7<sup>th</sup> CPC

The fiscal deficit worsens for all the States. The additional burden over the next 10 years for different States has been presented in the table 4.5 below.

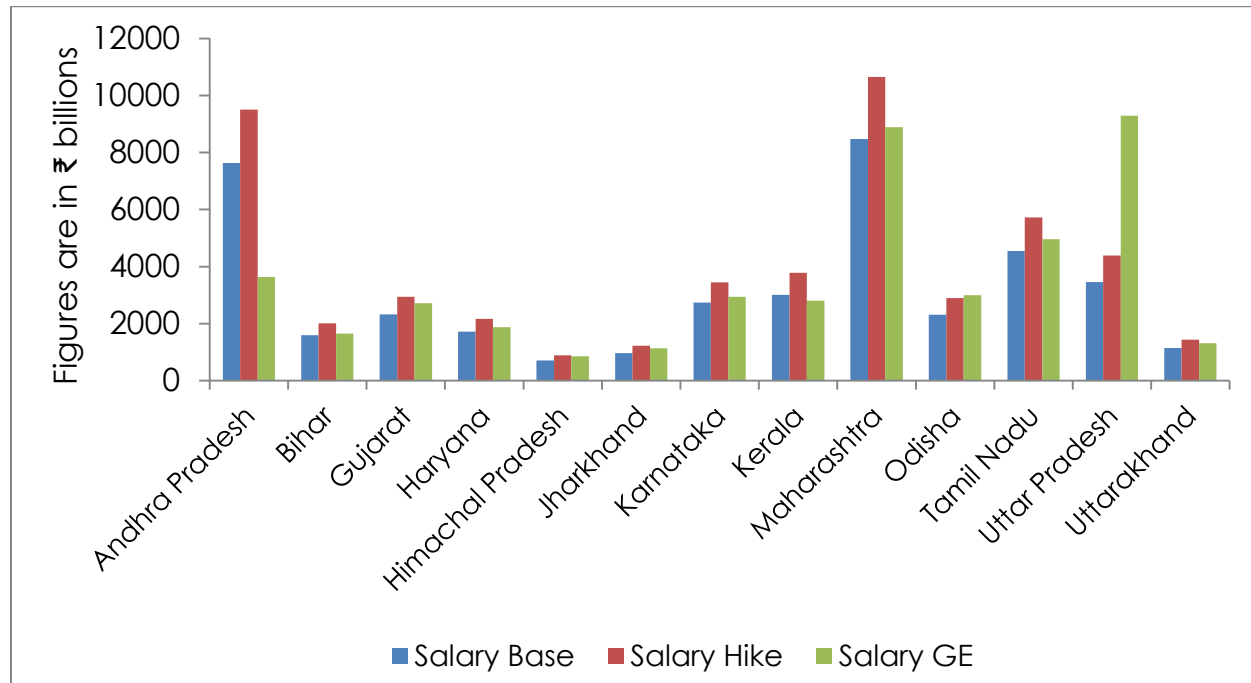
**Table 4.5:** State-wise financial impact of implementation of Pay commission on Pension and Salary bill over the period 2016-17 to 2025-26

		Pension			Salary		
		Base	Hike	Difference	Base	Hike	Difference
1	Andhra Pradesh	4733	5700	967	10584	13118	2534
2	Bihar	2218	2690	472	2218	2787	569
3	Chhattisgarh	655	794	139	1836	2294	459
4	Gujarat	1911	2316	405	3237	4062	825
5	Haryana	1060	1284	224	2390	2990	600
6	Himachal Pradesh	916	1104	188	979	1231	251
7	Jharkhand	747	906	159	1341	1678	337
8	Karnataka	2803	3373	570	3801	4745	944
9	Kerala	2401	2913	512	4174	5213	1038
10	Madhya Pradesh	1906	2296	389	3963	4944	981
11	Maharashtra	2946	3570	624	11760	14686	2926
12	Odisha	1100	1337	237	3198	3989	791
13	Rajasthan	2712	3263	552	5210	6482	1272
14	Tamil Nadu	3068	3732	664	6319	7897	1578
15	Uttar Pradesh	5341	6447	1106	4834	6075	1241
16	Uttarakhand	800	958	158	1588	1983	394

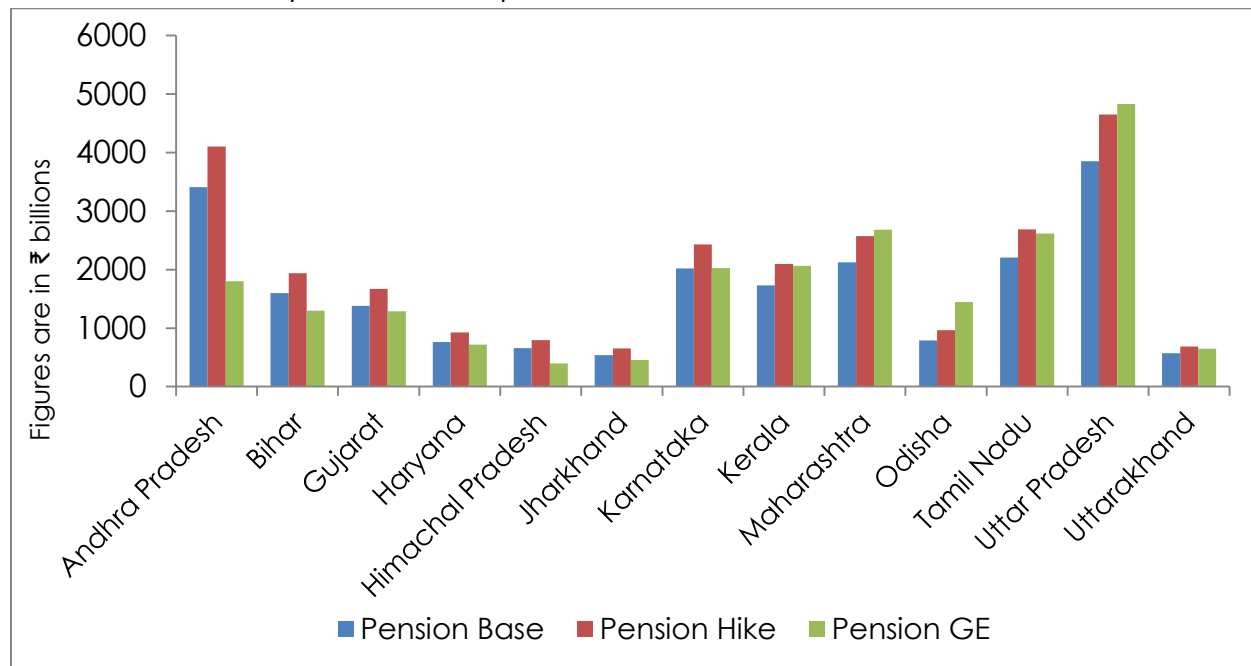
The additional burden of pension will be the highest for Uttar Pradesh (₹ 1106 billion) followed by Andhra Pradesh (₹ 967 billion). The salary burden will be the highest for Maharashtra (₹ 2926 billion) and Andhra Pradesh (₹ 2534 billion). The salaries might not be that worrying for the State government because over the last decade the share has been coming down or remained stagnant. However, interest payment and pension are the main concern for the governments.

The Finance Ministry has shared the projection figures for salary and pension which they received from individual States for the period 2018-19 to 2024-25. The results from our projection exercise are compared in the figures 4.3 and 4.4 below.

**Figure 4.3:** State-wise financial impact of implementation of Pay commission on Pension and Salary bill over the period 2018-19 to 2024-25



**Figure 4.4:** State-wise financial impact of implementation of Pay commission on Pension and Salary bill over the period 2018-19 to 2024-25



Note: The green bars show the data shared by different State governments for the period 2018-19 to 2024-25. Data shown by blue and red bars are own calculations. GE stands for State Government estimates. GE for Andhra does not include Telangana

#### 4.4 Relationship between deficit indicators and Salary and Pension

Panel vector autoregression models (PVARs) have been used to study the association between deficit indicators and “pay and allowance” and “pension”. In PVARs, a multivariate panel regression is fitted with each dependent variable on lags of itself, lags of all other dependent variables and exogenous variables. The dependent variables in the models are fiscal deficit and revenue deficit. The independent variables include revenue receipts, salary, growth rate in GDP and pension. All the variables have been taken as a ratio of GDP except for growth rate in GDP. A new variable was generated by combining salary and pension. Panel VAR can be represented by

$$Y_{it} = Y_{it-1}A_1 + Y_{it-2}A_2 + \dots Y_{it-p}A_p + X_{it}B + \mu_{it} + e_{it}$$

Where  $i$  is from  $1, 2, \dots, N$  and  $t$  from  $1, 2, \dots, T$ .

The parameters in the equation can be estimated jointly with the fixed effects or independently of the fixed effects after some transformation, using equation-by-equation ordinary least squares. There are a number of steps and validation checks to be done before estimation. Based on model selection criteria, first order VAR seems suitable for this exercise. In these models lags are used as instruments to overcome the problem of correlation of error term with independent variables. We have used GMM style estimation.

The results for first order PVAR model based on a panel of 12 States are presented in table 4.6 below. Two types of models have been fitted. In one model only the variable of interest which is either salary or pension or sum of the two has been considered. In other model, a number of variables have been introduced to obtain unbiased estimates. In the models where fiscal deficit have been used as the dependent variable, salary/GDP ratio is significant. However, in the complete models, pension is significant at 10 per cent level and combined salary and pension is not significant.

**Table 4.6:** Results of first order PVAR model based on State level data for fiscal deficit as dependent variable

	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Fiscal Deficit/GDP	0.56(0.11)***	0.21(0.21)	0.61(0.43)	0.51(0.35)	0.62(0.13)***	0.44(0.3)
Salary/GDP	0.46(0.23)**	0.71(0.42)*				
Revenue Receipts/GDP		-0.57(0.43)		-0.32(0.52)		-0.62(0.47)
Growth rate		-0.04(0.03)		-0.05(0.04)		-0.06(0.04)
Capital Expenditure/GDP		0.29(0.23)		0.07(0.3)		0.4(0.3)
Pension/GDP			-0.48(2.97)	-1.01(0.54)*		
Salary and Pension/GDP					0.47(0.45)	0.37(0.46)

In the models where revenue deficit have been used as the dependent variable, salary/GDP ratio is significant. But, in the complete models, pension is significant at 5 per cent level; combined salary and pension are not significant.

**Table 4.7:** Results of first order PVAR model based on State level data for revenue deficit as dependent variable

	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Revenue deficit/GDP	0.58(0.1)***	0.38(0.13)***	0.61(0.16)***	0.41(0.18)**	0.61(0.13)***	0.55(0.12)***
Salary/GDP	0.82(0.3)***	0.73(0.35)**				
Revenue Receipts/GDP		-0.3(0.29)		-0.57(0.31)*		-0.45(0.21)**
Growth rate		-0.04(0.02)**		-0.08(0.02)		-0.06(0.02)**
Capital Expenditure/GDP		-0.05(0.12)		-0.04(0.12)		0.06(0.13)
Pension/GDP			-1.8(1.61)	-1.22(0.37)***		
Salary and Pension/GDP					1.01(0.68)	0.35(0.29)

In addition to panel VAR models, Auto distributed lag model (ARDL) have been used to estimate the effect of salary on fiscal and revenue deficit. The estimated long run coefficients from the ARDL model display a robust positive association of ratio of fiscal deficit to GDP with salary to GDP. Model 1 and Model 2 coefficients suggest that fiscal deficit to GDP and revenue deficit to GDP increase by 1.56 and 0.22 for a unit increase in salary to GDP. The effect of pension to GDP ratio on revenue deficit is more pronounced.

**Table 4.8:** Results of ARDL model based on data for Central government for fiscal deficit and revenue deficit as dependent variable on salary

	<b>Model1 (Fiscal deficit/GDP)</b>	<b>Model 2(Revenue deficit/GDP)</b>
Fiscal Deficit/GDP (-1)	0.58(0.13)***	
Revenue Deficit/GDP (-1)		0.7(0.09)***
Capital Expenditure/GDP	-0.34(0.19)	-0.58(0.17)***
Capital Expenditure/GDP (-1)		0.22(0.16)
Salary/GDP	1.56(0.54)**	1.25(0.42)**
Revenue receipts/GDP	-0.38(0.2)*	-0.31(0.17)**
Revenue receipts /GDP (-1)	1.05(0.19)***	1.16(0.15)***
Growth rate	-0.17(0.06)***	-0.19(0.05)***
Growth rate(-1)	-0.08(0.06)	-0.15(0.05)**
Constant	-0.05(0.03)	-0.06(0.02)*
Trend	0(0)	0(0)

**Table 4.9:** Results of ARDL model based on data for Central government for fiscal deficit and revenue deficit as dependent variable on pension

	<b>Model1 (Fiscal deficit/GDP)</b>	<b>Model 2(Revenue deficit/GDP)</b>
Fiscal Deficit/GDP (-1)	0.55(0.2)**	
Revenue Deficit/GDP (-1)		0.52(0.15)***
Capital Expenditure/GDP	-0.23(0.23)	-0.41(0.19)*
Pension/GDP	2.66(1.85)	2.94(1.38)*
Revenue receipts/GDP	-0.62(0.23)**	-0.45(0.19)**
Revenue receipts /GDP (-1)	0.97(0.25)*	1.08(0.18)***
Growth rate	-0.2(0.07)**	-0.2(0.05)***
Growth rate(-1)		-0.14(0.06)**
Constant	0(0.03)	-0.02(0.02)
Trend	0(0)**	0(0)*

**Table 4.10:** Results of ARDL model for Central government with fiscal deficit and revenue deficit as dependent variable on committed expenditure

	<b>Model1 (Fiscal deficit/GDP)</b>	<b>Model 2(Revenue deficit/GDP)</b>
Fiscal Deficit/GDP (-1)	0.5(0.14)***	
Revenue Deficit/GDP (-1)		0.63(0.1)***
Capital Expenditure/GDP	-0.3(0.19)	-0.54(0.17)***
Capital Expenditure/GDP(-1)		0.22(0.16)
Combined salary and Pension/GDP	1.21(0.41)**	0.92(0.31)**
Revenue receipts/GDP	-0.42(0.2)*	-0.33(0.17)*
Revenue receipts /GDP (-1)	0.99(0.19)***	1.12(0.15)***
Growth rate	-0.17(0.05)**	-0.19(0.05)***
Growth rate(-1)	-0.08(0.06)	-0.16(0.05)**
Constant	-0.03(0.03)	-0.05(0.02)**
Trend	0(0)	0(0)

# 5

## SPILL-OVER EFFECTS OF PAY COMMISSION ON PRIVATE SECTOR WAGE GROWTH

### 5.1 Background

The effect of increase in wages accepted by public sector as recommended by pay commission on corporate wages has largely been neglected by research in past decades. It is true that the wages in corporate sector are determined by a host of factors including the business environment, profitability prospects and so on. However, huge hike in public wage is expected to spillover to private sector. A change could be expected in the level and distribution of wages. It is the competition between the two sectors which could determine the extent of spillover effect. If substantial job market opportunities exist in the public sector and the pay and allowance are better than private sector employees might vouch for such opportunities. In such a scenario, private employers may face difficulties in the hiring process or have to cope with high quit rates among existing employees. To bring down the attrition rate the private sector is left with no choice but to increase the wages to prevent their workers from moving to public sector. Particularly, those employees who are working at higher levels and are skilled will be better off as private sector will pay more to retain them.

In case of India, we could not locate a single study which has studied the spillover effect on private sector wages. However, there are a number of studies which study the association between private and public sector wages (Glinskaya and Lokshin, 2005; Madheswaran and Shroff, 2000; Lakshmanasamy and Ramasamy, 1999; Madheswaran, 1998; Duraiswamy and Duraiswamy,

1995). There was a study commissioned to IIM Ahmadabad by 7th CPC. But the focus of the study was to provide comparative analysis of emoluments in the government sector as compared to central public sector undertakings and private sector in India. They report that the government is paying higher salaries compared to the private sector, particularly in initial years, for jobs at the lower levels of skill-requirement and hierarchy. Salary in government is relatively lower compared to the private sector, particularly in later years, for some highly skilled jobs. Furthermore, the compensation system in place in private sector is more dynamic as compared to the public sector.

Another study which we could identify was done by Glinskaya and Lokshin (2005). In this study, using the data for 1993-94 and 1999-2000 from India Employment and Unemployment surveys, wage differentials between the public and private sectors as well as workers' decisions to join a particular sector have been studied. They report that the difference between public sector workers and workers in the formal-private and informal-casual sectors is positive and high. Also, they found a considerable increase in wage differential over time.

To estimate the spillover effect, we have used the Annual Survey of Industries data for the period 1995-2014. The Annual Survey of Industries (ASI) is the most important source of industrial statistics of the registered organised manufacturing sector of the economy and extends to the entire country. The details about the type of organization are attached in the appendix. Of particular interest is the corporate sector which includes Public and Private limited company; Government Department Enterprises and Public Corporation. Model for each type of organization has been estimated as follows:

$$Y_t = \beta_1 + \beta_2 t + \beta_3 D + \mu_t$$

Where Y is the growth rate in wage per employee and D is a dummy variable to capture the increase in growth rate during the Pay Commission years. The



Wages are defined in ASI as to include all remuneration capable of being expressed in monetary terms and also paid more or less regularly in each pay period to workers as compensation for work done during the accounting year. The benefits of the 5<sup>th</sup> CPC were mostly distributed in 1997 and 1998 and of 6<sup>th</sup> CPC in 2008, 2009 and 2010. Therefore, we used a dummy to study the change in growth rates during these years.

## 5.2 Wage per Employee

The average wage per worker for each type of organization for the period 1995-2014 are presented in table 5.1 below. The average wage per employee was in 1995-96 ₹ 43,771 in corporate sector and ₹ 39,313 in co-operative societies. The average wage in partnership and unincorporated sectors is ₹ 17,049 and 17,525 respectively. It can be observed that since the implementation of the 5<sup>th</sup> CPC the gap between the average wage per worker across partnership and unincorporated sectors has remained lower as compared to corporate sector and co-operative societies. The wage differential which was around 26,000/- in 1995 is approximately 46,000/- today. Clearly, the workers in corporate sector and cooperative societies have been better-off.

Also, there is too much variation in wage per employee across khadi and village; and handloom industries and “Others”. A drop in wage per employee around the great financial crisis of 2008 is apparent. Notably, the growth rate were lower during the period 2013-14 owing to higher volatility in rupee, hike in interest rate in previous year and slow credit growth. Moreover, the wage per employee in individual proprietorship has also stagnated.

**Table 5.1:** Average wage per worker, Annual Survey of Industries 1995-2014 (in ₹)

Year	Ind. Proprietorship	Joint Family HUF	Partnership	Unincorporated Enterprises	Corporate Sector	Co-operative Societies	Khadi & Village Industries	Handloom Industries	Others
1995	18375	18667	17049	17525	43771	39313			25169
1996	15299	16484	17148	16608	47783	38359			26389
1997	16367	18958	17384	17185	47226	36007			33621
1998	21560	20214	21509	21473	49938	45026	40072	28734	30904
1999	19886	24722	22651	21919	55199	46649	50948	33925	28217
2000	21809	24537	25141	24104	58574	50255	54892	45623	32317
2001	22758	23338	25720	24732	59561	53172	51846	35631	37760
2002	21918	26033	26203	24812	58933	49593	52143	33269	32940
2003	22375	25067	27644	25787	62062	50567	47375	35644	29484
2004	24541	25918	29324	27603	62809	53598	40522	18510	35094
2005	25667	28923	31761	29546	64397	58073	41667	35000	36071
2006	28662	29625	34827	32496	64360	60025	23418	73808	149050
2007	29423	34977	37305	34305	70188	68696	27896	52400	194303
2008	36066	36496	40925	39080	79939	70748	37024	75667	102556
2009	40545	42706	44923	43282	88395	80646	36114	75856	54887
2010	47035	51530	53722	51184	100306	101265	58070	26437	99632
2011	51004	56066	59623	56452	111629	109548	76899	37160	81171
2012	59999	72705	68867	65678	127098	124854	55087	82842	78408
2013	67379	73989	73164	71057	140629	134407	51004	100712	58856
2014	73847	83435	86328	81423	127783	58960	73843	149398	107440

### 5.3 Regression Analysis

Dummy variable has been introduced for years 1997-98, 1998-99, 2008-09, 2009-10 and 2010-11. Details about the dummy variables used for each variable are presented in the table 5.2 below. The value for dummy is significant in the models fitted for each of the organizations except handloom.

**Table 5.2:** Description of dummy variables used in regression analysis

	Years for which dummy variable used	Dummy is significant for Pay commission years
Individual Proprietorship	1998; 2008	Yes
Joint Family HUF	1999; 2009; 2010	Yes
Partnership	1998; 2010	Yes
Unincorporated Enterprises	1998; 2008; 2010	Yes
Corporate Sector	1999; 2008; 2010	Yes
Co-operative Societies	1998; 2010	Yes
Khadi & Village Industries	1998; 2008; 2010	Yes
Handloom Industries	2008	No
Others	1997; 2010	Yes

The regression results (table 5.3) show that the dummy variable for the pay commission years is significant except for handloom industries. The value of dummy signifies that the jump in growth rate has been the highest for “Others” followed by Khadi and Village industries. The jump in wage per employee in corporate sector is lower. There is a caveat to this analysis. The jump in wage per employee could be affected by external factors as well. It might be difficult to disentangle the effect of the two.

**Table 5.3:** Results obtained from regressing growth rate in wage per employee over time, Annual Survey of Industries 1996-2014

	N	Year	S.E	Dummy	S.E
Individual Proprietorship	19	0.9***	0.3	23.7***	5.4
Joint Family HUF	19	0.7*	0.4	12.6**	5.7
Partnership	19	0.5***	0.2	15.0***	2.8
Unincorporated Enterprises	19	0.6**	0.2	12.1***	2.9
Corporate Sector	18	0.5**	0.2	6.3**	2.5
Co-operative Societies	18	0.7***	0.2	20.7***	3.8
Khadi & Village Industries	16	0.6	1.3	43.6**	18.6
Handloom Industries	16	2.5	3.0	18.5	57.6
Others	18	0.8	1.4	56.3**	24.3

Note: Data not available for Khadi & Village Industries and Handloom Industries for 1995, 1996 and 1997. Value for 2014 has been treated as outlier for Corporate sector and co-operative societies.

# 6 SUMMARY

The main objective of this study was to estimate the effect of implementation of the recommendations of the Seventh Pay Commission on the fiscal accounts of the Centre government and State governments over the period 2016-17 to 2025-26. To do this the changes in the fiscal capacity and the major patterns in expenditure of the Central government for the period 1995-16 to 2015-16, with a focus on changes observed during the years when 5<sup>th</sup> and 6<sup>th</sup> Pay Commissions were implemented, have been documented. The historical growth rates for the key fiscal variables which are used to estimate the revenue and fiscal deficit have been calculated. Certain key trends emerge when the budgetary item of the Centre government are analyzed. The recommendations of the pay commissions are implemented immediately by the Central government. However, the State governments implement the recommendations with a lag of two to three years.

With the implementation of the 5<sup>th</sup> Pay Commission, the GFD to GDP ratio jumped to 5.8 per cent in 1997-98 from 4.8 per cent in 1996-97. It was 6.5 per cent in 1998-99. During the implementation of the Sixth Pay commission, the Great Financial Crises had occurred. The fiscal deficit did overshoot from 2.6 to 6.2 per cent of GDP. It might not be solely due to pay commission awards. Although no clear evidence of moderation in capital expenditure or other items of remaining revenue expenditure are visible during the implementation of 5<sup>th</sup> Pay Commission. Growth in capital expenditure was negative in 2008-09.

There are other patterns as well. With the onset of the great financial crisis the fiscal deficit deteriorated but since 2009-10, the situation can be said to be under control. The ratio of revenue receipts to GDP has stagnated over the

decades. Also, the proportion of revenue expenditure to GDP has increase but that of capital has been decreasing. A look at the expenditure elasticity reveals that the government expenditure has not kept pace with increase in the growth rate of GDP. Over time the spending by the government has been decreasing. During the pay commission the elasticity of expenditure is high. These results need to be interpreted carefully as very observations were available to calculate the elasticity. The share of committed expenditure to revenue expenditure is still very high. Clearly, either the government needs to find alternate sources for revenue generation or cut back on unnecessary expenditure to expand its fiscal space.

In case of State governments, significant change in fiscal deficit is observable. This study has also made an attempt to understand the trends and patterns in the fiscal profile of the State governments over the recent period. Few observations clearly stand out. Firstly, average value of gross fiscal deficit to GSDP is relatively higher for Himachal Pradesh, Kerala, Haryana, Rajasthan and Uttar Pradesh. The borrowings are relatively higher in case of Kerala and Haryana. Interest payment, salary and capital expenditure in case of Kerala and Himachal Pradesh is higher. Capital expenditure is very low across all the States and bulk of the expenditure is being incurred on revenue items.

There are wide variation in own tax revenue generation across States with Gujarat, Karnataka and Kerala clearly standing out in revenue mobilization. However, total tax revenue as a share of GSDP is lower across these States. The share of committed expenditure to revenue receipts and revenue expenditure indicates Kerala is quite comfortable in meeting its obligations even for a huge hike in liabilities. The increase in interest payment across the States over the last 4-5 years is a worrying trend. Although, it might be difficult to pinpoint the exact reason but this could be due to additional borrowing limit prescribed by 14<sup>th</sup> Finance Commission. The expenditure switching and moderation in capital

expenditure have been observed for some of the States. Increase in interest payments during pay commission years is also visible. But there are States which just let the GFD to overshoot such as Odisha, Rajasthan, Haryana and Chhattisgarh.

The additional burden over the next 10 years for the Central government using the regression based approach and the average of compounded annual growth rates for the last 6 years indicate that the pension bill for the next 10 years can around ₹3600 billion. The Salary expenditure varies under the two scenarios. It could be around ₹10000 to ₹12000 billion. The change in GFD to GDP ratio due to the implementation of recommendations of the 7<sup>th</sup> Pay Commission could be around 0.5 for 2016-17 and 0.4 for 2017-18. It can be said that the deficit to GDP ratio will increase by 1 point. The findings are in line with other studies which had estimated the effect for previous and 7<sup>th</sup> Pay commission based on simulations (Ray et. al. 2015; NIPFP, 2016; Mohan, 2008). However, the rise in GFD will vary for States and will lie in the range of 1.2 for Gujarat to 3.7 in case of Himachal Pradesh.

The fiscal deficit worsens for all the States. The additional burden of pension will be the highest for Uttar Pradesh (₹ 1106 billion) followed by Andhra Pradesh (₹ 967 billion). The salary burden will be the highest for Maharashtra (₹ 2926 billion) and Andhra Pradesh (₹ 2534 billion). The salaries might not be that worrying for the State government because over the last decade the share has been coming down or remained stagnant. However, interest payment and pension are the main concern for the governments.

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## Appendix

Table 2.1: Experience of civil pay reforms in selected countries.....	3
Figure 2.1: Components of the Central Government's Budget .....	6
Figure 2.2: Components of the State Budget .....	7
Table 3.1: Central Government budgetary Items (per cent of GDP (2011-12) at current market prices), 1995-96 to 2015-16 .....	8
Table 3.2 Composition of Central government's total Revenue receipts and growth rate over the period 1995-96 to 2015-16 .....	9
Table 3.3: Composition of tax REVENUES of the Central government, 1995-2015 .....	10
Table 3.4: Growth rate of components of tax revenue of Central government, 1995-2015 .....	10
Table 3.5: Composition of non-tax revenue of the Central government, 1995-2015 .....	11
Table 3.6: Growth rate, components of non-tax revenue, Central government, 1995-2015 .....	11
Table 3.7: Structure of Central government's revenue and capital expenditure over the period 1995-96 to 2015-16.....	12
Table 3.8: Expenditure elasticity of various components, 1995-96 to 2015-16 .....	12
Table 3.9 Growth rate of Interest Payment, Pension, Salary and committed expenditure, 1995-96 to 2015-16.....	13
Figure 3.1: Percentage Share of committed expenditure to revenue budget of Central government over the period 1995-96 to 2015-16.....	13
Table 3.10: Fiscal Profile of Central Government: The Base Scenario .....	14
Table 3.11: Fiscal Profile of Central Government: Scenario 1 .....	14
Table 3.12: Fiscal Profile of Central Government: The Base Scenario using growth rates for last 6 years .....	14
Table 3.13: Fiscal Profile of Central Government: Scenario-1 using growth rates for last 6 years .....	15
Table 4.1: Average of State Government budgetary Items (per cent of GSDP (2011-12) at current market prices), 2010-11 to 2015-16 .....	16
Table 4.2: Composition of State Government's Tax Revenues over the period 2010-11 to 2015-16 .....	16
Figure 4.1: Composition of total expenditure, India States, 2010-11 to 2015-16 .....	17
Figure 4.2: Composition of revenue expenditure, India States, 2010-11 to 2015-16 .....	17
Table 4.3a: Growth rate in Salary, 1995-96 to 2005-06 .....	18
Table 4.3b: Growth rate in Salary, 2005-06 to 2015-16 .....	18
Table 4.4a: Growth rate in Pensions, 1995-96 to 2005-06.....	19
Table 4.4b: Growth rate in Pensions, 2005-06 to 2015-16.....	19
Table 4.5a: Growth rate in Interest payments, 1995-96 to 2005-06.....	20
Table 4.5b: Growth rate in Interest payments, 2005-06 to 2015-16.....	20
Table 4.6a: Growth rate in fiscal deficit, 1995-96 to 2005-06 .....	21
Table 4.6b: Growth rate in fiscal deficit, 2005-06 to 2015-16.....	21
Figure 4.3: Composition of Capital expenditure, India States, 2010-11 to 2015-16 .....	22
Table 4.7: Growth rate in Capital outlay and Net lending, 2010-11 to 2015-16 .....	22
Table 4.8: Average percentage Share of committed expenditure to revenue budget of State Government over the period 2010-11 to 2015-16 .....	23
Figure 5.1: Growth rate in wages per employee, Individual Proprietorship, Annual Survey of industries, 1995-2014	24

Figure 5.2: Growth rate in wages per employee, Joint Family HUF, Annual Survey of industries, 1995-2014 .....	24
Figure 5.3: Growth rate in wages per employee, Partnership, Annual Survey of industries, 1995-2014 .....	25
Figure 5.4: Growth rate in wages per employee, Unincorporated enterprises, Annual Survey of industries, 1995-2014.....	25
Figure 5.5: Growth rate in wages per employee, Corporate Sector, Annual Survey of industries, 1995-2014.....	26
Figure 5.6: Growth rate in wages per employee, Co-operative Societies, Annual Survey of industries, 1995-2014 ....	26
Figure 5.7: Growth rate in wages per employee, Khadi and Village industries, Annual Survey of industries, 1995-2014.....	27
Figure 5.8: Growth rate in wages per employee, Handloom industries, Annual Survey of industries, 1995-2014.....	27
Figure 5.9: Growth rate in wages per employee, Others, Annual Survey of industries, 1995-2014 .....	28
Appendix Tables .....	29
Table A1: Description of type of organization, Annual Survey of Industries .....	29
Table A2: Fiscal Profile of State Governments: Base and Hike scenario, Andhra Pradesh .....	30
Table A3: Fiscal Profile of State Governments: Base and Hike scenario, Bihar .....	30
Table A4: Fiscal Profile of State Governments: Base and Hike scenario, Chhattisgarh .....	31
Table A5: Fiscal Profile of State Governments: Base and Hike scenario, Gujarat .....	31
Table A6: Fiscal Profile of State Governments: Base and Hike scenario, Haryana .....	32
Table A7: Fiscal Profile of State Governments: Base and Hike scenario, Himachal Pradesh.....	32
Table A8: Fiscal Profile of State Governments: Base and Hike scenario, Jharkhand .....	33
Table A9: Fiscal Profile of State Governments: Base and Hike scenario, Karnataka .....	33
Table A10: Fiscal Profile of State Governments: Base and Hike scenario, Kerala .....	34
Table A11: Fiscal Profile of State Governments: Base and Hike scenario, Madhya Pradesh .....	34
Table A12: Fiscal Profile of State Governments: Base and Hike scenario, Maharashtra .....	35
Table A13: Fiscal Profile of State Governments: Base and Hike scenario, Odisha .....	35
Table A14: Fiscal Profile of State Governments: Base and Hike scenario, Rajasthan.....	36
Table A15: Fiscal Profile of State Governments: Base and Hike scenario, Tamil Nadu .....	36
Table A16: Fiscal Profile of State Governments: Base and Hike scenario, Uttar Pradesh .....	37
Table A17: Fiscal Profile of State Governments: Base and Hike scenario, Uttarakhand .....	37
Figure A1: Growth rate in revenue receipts, Central government, 1995-2015 .....	38
Figure A2: Growth rate in capital receipts, Central government, 1995-2015 .....	38
Figure A3: Growth rate in interest payments, Central government, 1995-2015 .....	39
Figure A4: Growth rate in salary, Central government, 1995-2015 .....	39
Figure A5: Growth rate in pension, Central government, 1995-2015 .....	40
Figure A6: Growth rate in remaining revenue expenditure, Central government, 1995-2015.....	40
Figure A7: Growth rate in capital expenditure, Central government, 1995-2015.....	41
Figure A8: Growth rate in GDP, Central government, 1995-2015.....	41
Figure A9: Components of Expenditure, Andhra Pradesh, 1996-97 to 2015-16 .....	42
Figure A10: Components of Expenditure, Bihar, 1996-97 to 2015-16.....	44
Figure A11: Components of Expenditure, Chhattisgarh, 2001-02 to 2015-16 .....	46
Figure A12: Components of Expenditure, Gujarat, 1996-97 to 2015-16.....	48
Figure A13: Components of Expenditure, Haryana, 1996-97 to 2015-16.....	50

Figure A14: Components of Expenditure, Himachal Pradesh, 1996-97 to 2015-16 .....	52
Figure A15: Components of Expenditure, Jharkhand, 2002-03 to 2015-16 .....	54
Figure A16: Components of Expenditure, Karnataka, 1996-97 to 2015-16.....	56
Figure A17: Components of Expenditure, Kerala, 1996-97 to 2015-16 .....	58
Figure A18: Components of Expenditure, Maharashtra, 1996-97 to 2015-16 .....	60
Figure A19: Components of Expenditure, Madhya Pradesh, 1996-97 to 2015-16 .....	62
Figure A20: Components of Expenditure, Odisha, 1996-97 to 2015-16.....	64
Figure A21: Components of Expenditure, Rajasthan, 1997-98 to 2015-16 .....	66
Figure A22: Components of Expenditure, Tamil Nadu, 1996-97 to 2015-16.....	68
Figure A23: Components of Expenditure, Uttar Pradesh, 1996-97 to 2015-16.....	70
Figure A24: Components of Expenditure, Uttarakhand, 2002-03 to 2015-16.....	72

**Table 2.1: Experience of civil pay reforms in selected countries**

<b>S.No.</b>	<b>Author and Year</b>	<b>Title</b>	<b>Objective</b>	<b>Finding</b>
1	Faiz Bilques (2006)	Civil Servants' Salary Structure	The paper looks at the trends in nominal and real salaries of the Federal Government employees over the period 1990-2006. It examines the structural defects in the existing salary structure and the anomalies in the allowances structure	The erosion of real salaries particularly of the higher grades and the very low nominal salaries of all grades compared to the non-government sector. The indexation of salaries to the inflation rate was granted only once in the eighties.
2	Sultana and Modak (2010)	Comparison Between Public And Private Pay Structures In Bangladesh	To make a comparison between public and private wage structure in Bangladesh	In Govt. organizations low job satisfaction is a regular practice. Low status and low working conditions result in bad performance in govt-sector. This has reduced the government's strength in recruiting the best and efficiency manpower. In private sectors little attention was given to minimize the differential of salary between the highest and the lowest grades. The bureaucratic system allows the civil servants to acquire huge wealth through corruption.
3	Jun Ma (2011)	How are they paid? A study of civil service pay in China	This study provides compare civil service pay reform between China and other developing countries.	The study finds that the actual salary of Chinese civil servants is comparatively low. But their total remuneration is comparatively higher because they are compensated with various welfare benefits and subsidies, which do not appear on their pay slips. Such a pay system distorts the behavior of civil servants and gives rise to organizational corruption
4	IMF (2016)	Managing Government Compensation And Employment—Institutions, Policies, And Reform	This paper discusses the institutions and policies needed to effectively manage government compensation and employment levels, and the reform challenges faced by	Some of the findings are: 1) Streamlining non-wage compensation improves transparency and fairness of government pay, 2) Deeper structural reforms of the compensation structure can facilitate stronger wage bill control

S.N o.	Author and Year	Title	Objective	Finding
		Challenges	policymakers.	while ensuring wages are competitive, equitable and transparent and 3) Compensation reforms can also enhance public service delivery.
5	Poon et. al (2009)	The Reform of the Civil Service System as Viet Nam moves into the Middle - Income Country Category	The purpose of this policy discussion paper on civil service reform is therefore to analyse and identify options for the reform of civil servant management and development in the next 10 years, as Vietnam moves into the middle income country category.	This policy discussion paper draws on comparative lessons from other countries and proposes that the reform of the Vietnamese civil service in the next 10 years should be based on an integrated human resource management and development framework that is underpinned by the principles of merit, performance and objectivity.
6	Filmer and Lindauer (2001)	Does Indonesia Have a Low-Pay Civil Service?	Filmer and Lindauer systematically analyze the relationship between government and private compensation levels using data from two large household surveys	The results suggest that government workers with a high school education or less, representing three-quarters of the civil service, earn a pay premium over their private sector counterparts. Civil servants with more than a high school education earn less than they would in the private sector.
7	Ayee (2001)	Civil Service Reform in Ghana: A Case Study of Contemporary Reform Problems in Africa	The article evaluates Ghana's Civil Service Reform Programme (CSRP), which was intended to make the civil service a "value for money" institution	The Ghanaian CSRP has demonstrated that certain factors are lead to successful implementation of reform. They include securing political and administrative leadership for change, enhancing policy development capacity, improved human resource and financial management systems, establishing efficiency and quality management programmes, harnessing information technology and mobilizing external and internal advice

**Figure 2.1: Components of the Central Government's Budget**

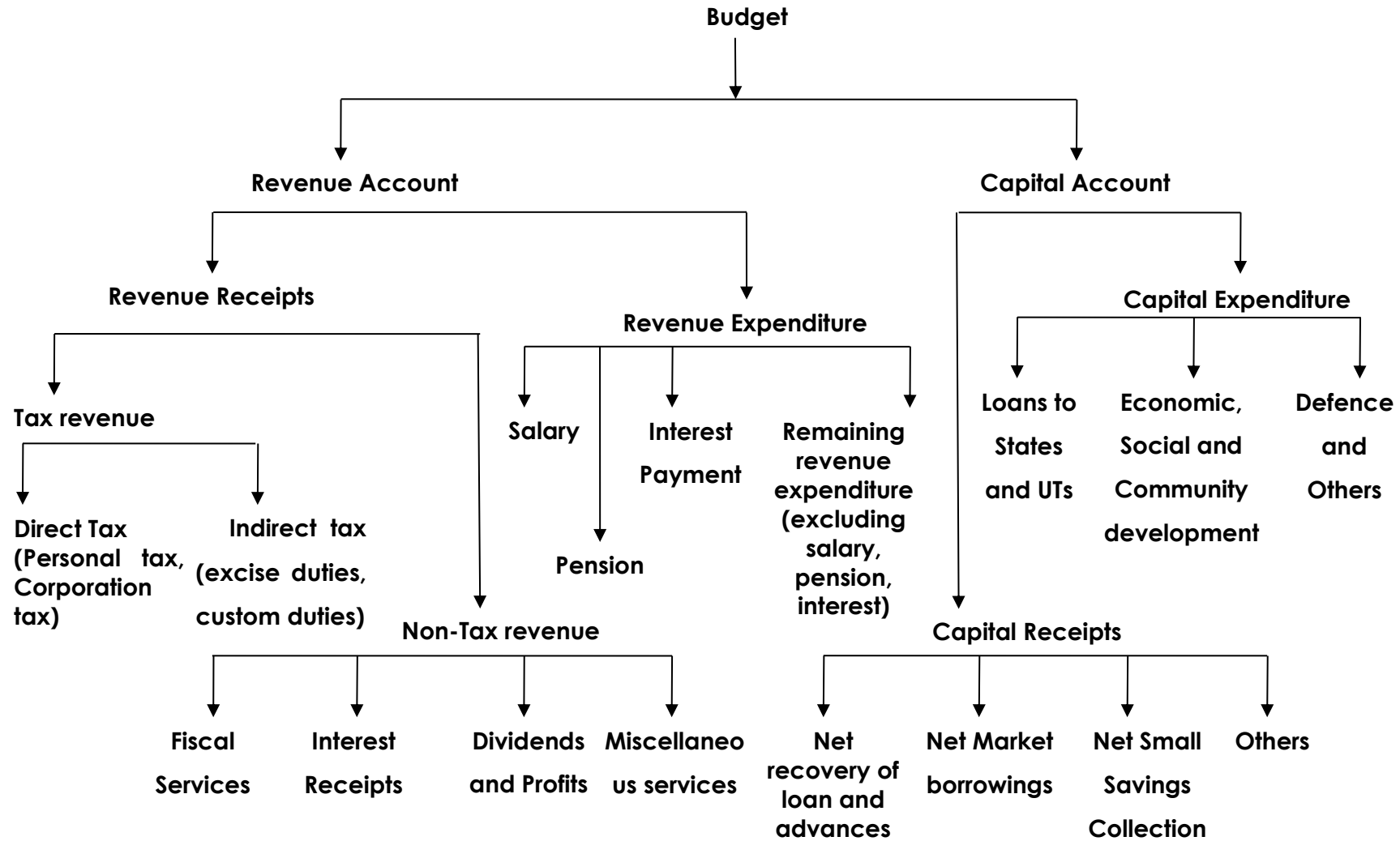
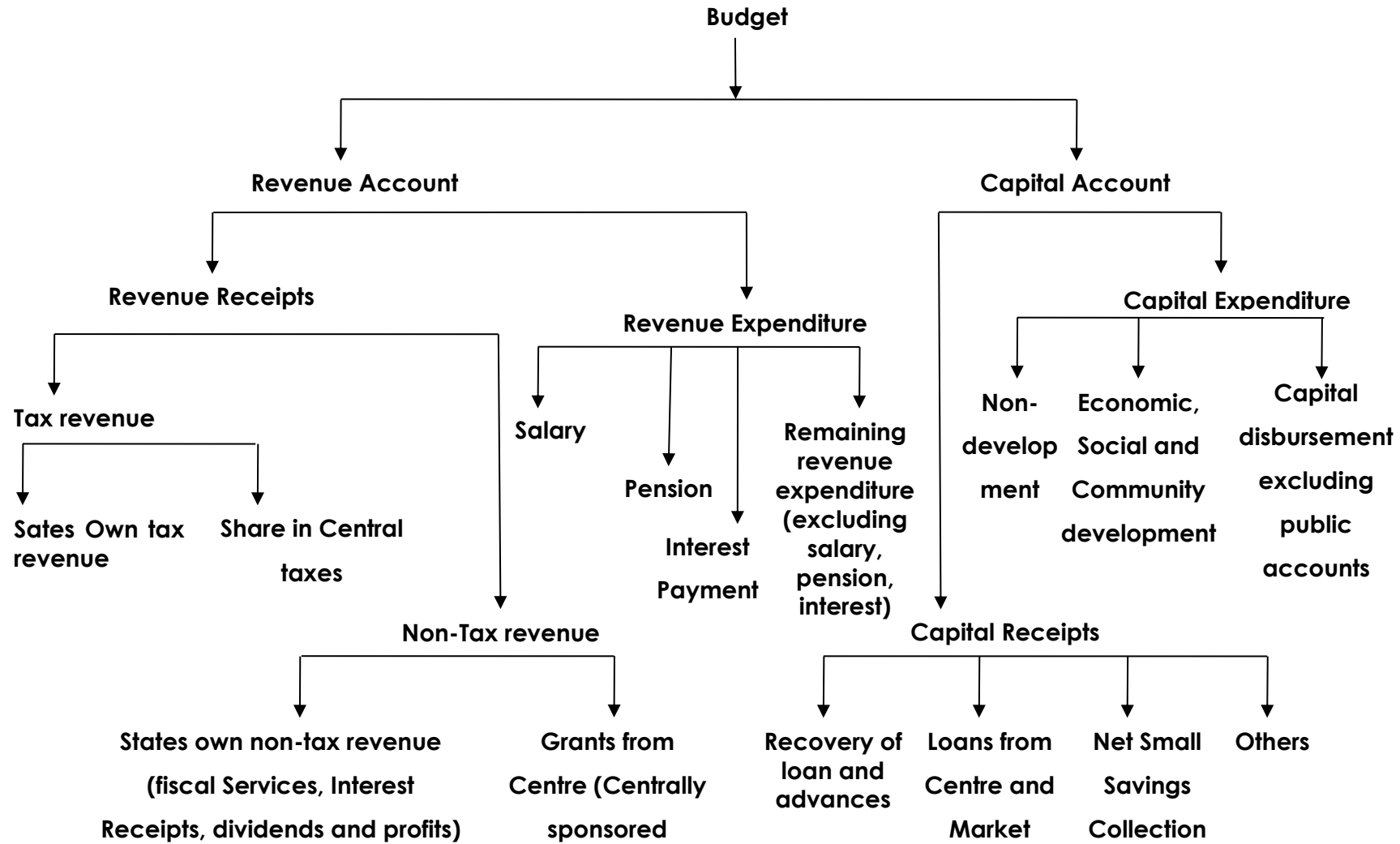


Figure 2.2: Components of the State Budget





## Chapter 3

**Table 3.1: Central Government budgetary Items (per cent of GDP (2011-12) at current market prices), 1995-96 to 2015-16**

<b>Year</b>	<b>Revenue Expenditure</b>	<b>Capital Expenditure</b>	<b>Revenue receipts</b>	<b>Capital receipts</b>	<b>Gross Fiscal Deficit</b>	<b>Revenue Deficit</b>
1995	11.8	3.2	9.3	0.6	5.1	2.5
1996	11.5	3.1	9.2	0.6	4.8	2.4
1997	11.8	3.4	8.8	0.6	5.8	3.0
1998	12.4	3.6	8.5	0.9	6.5	3.8
1999	12.7	2.5	9.3	0.6	5.3	3.4
2000	13.2	2.3	9.1	0.7	5.6	4.0
2001	13.2	2.7	8.8	0.9	6.2	4.4
2002	13.8	3.0	9.4	1.5	5.9	4.4
2003	13.1	4.0	9.6	3.1	4.5	3.6
2004	12.2	3.6	9.7	2.1	4.0	2.5
2005	12.3	1.9	9.7	0.3	4.1	2.6
2006	12.4	1.7	10.4	0.2	3.4	1.9
2007	12.3	2.4	11.2	0.9	2.6	1.1
2008	14.5	1.7	9.9	0.1	6.2	4.6
2009	14.5	1.8	9.1	0.5	6.7	5.4
2010	13.8	2.1	10.4	0.5	4.9	3.3
2011	13.1	1.8	8.6	0.4	5.9	4.5
2012	12.5	1.7	8.8	0.4	4.9	3.7
2013	12.2	1.7	9.0	0.4	4.5	3.2
2014	11.8	1.6	8.8	0.4	4.1	2.9
2015	11.2	1.8	8.7	0.5	3.9	2.5

**Table 3.2 Composition of Central government's total Revenue receipts and growth rate over the period 1995-96 to 2015-16**

	Percentage of total revenue receipts			Growth rate		
	Direct tax (net)	Indirect tax	Non-tax revenue	Direct tax (net)	Indire ct tax	Non-tax revenue
1995	20.2	54.2	25.6	21.1	21.6	19.3
1996	20.1	54.1	25.8	13.9	14.5	15.6
1997	20.3	51.2	28.5	7.1	0.3	17.3
1998	21.5	48.5	30.0	18.2	5.9	17.3
1999	22.8	47.8	29.3	29.0	19.7	18.7
2000	25.8	45.2	29.0	19.8	0.2	5.1
2001	23.7	42.6	33.7	-3.9	-1.4	21.1
2002	26.7	42.0	31.3	29.2	12.9	6.7
2003	29.0	41.8	29.1	24.3	13.9	6.3
2004	31.4	42.1	26.5	25.3	16.7	5.7
2005	34.8	43.1	22.1	25.8	16.1	-5.4
2006	39.1	41.8	19.2	40.6	21.3	8.3
2007	42.7	38.4	18.9	36.4	14.6	23.0
2008	45.9	36.1	17.9	7.2	-6.2	-5.3
2009	47.4	32.3	20.3	9.5	-5.3	19.9
2010	39.8	32.5	27.7	15.4	38.6	88.0
2011	45.7	38.1	16.2	9.5	11.7	-44.3
2012	45.1	39.3	15.6	15.5	20.5	12.9
2013	44.9	35.5	19.6	14.9	4.3	44.8
2014	45.4	36.6	18.0	9.8	12.0	-0.6
2015	37.6	41.4	21.0	-10.2	22.7	27.0

**Table 3.3: Composition of tax revenues of the Central government, 1995-2015**

	Share of direct taxes (net)		Share of indirect taxes	
	Personal income tax	Corporation tax	Excise duties (net)	Customs duties
1995	19.4	74.0	37.2	59.9
1996	18.6	73.2	34.3	62.7
1997	13.2	73.7	37.2	58.7
1998	17.9	76.4	39.4	56.1
1999	22.0	74.1	40.2	55.8
2000	47.9	50.7	57.2	39.3
2001	46.3	52.7	63.5	33.0
2002	45.1	55.0	64.4	32.9
2003	40.2	59.7	63.6	31.3
2004	36.9	62.8	59.9	32.4
2005	37.5	62.3	57.9	31.2
2006	36.9	62.9	51.1	34.6
2007	37.4	62.5	46.2	36.2
2008	35.1	64.8	41.9	35.5
2009	34.8	65.1	45.6	32.6
2010	32.7	66.7	43.0	38.1
2011	34.4	66.2	40.6	36.9
2012	35.4	64.4	40.9	33.6
2013	37.2	62.7	38.3	33.6
2014	37.6	62.2	38.1	31.8
2015	38.4	61.4	44.6	26.1

**Table 3.4: Growth rate of components of tax revenue of Central government, 1995-2015**

	Personal income tax	Corporation tax	Excise duties (net)	Customs duties
1995	24.5	19.3	5.3	33.5
1996	9.2	12.6	5.8	19.8
1997	-23.9	7.8	8.7	-6.2
1998	60.5	22.5	12.0	1.2
1999	58.5	25.1	22.3	19.1
2000	160.3	-18.0	42.4	-29.4
2001	-7.0	-0.2	9.5	-17.0
2002	25.7	34.9	14.5	12.6
2003	10.7	34.9	12.6	8.4
2004	15.2	31.9	10.0	20.9
2005	27.6	24.7	12.2	11.6
2006	38.6	41.9	6.9	34.7
2007	38.0	35.6	3.8	20.0
2008	0.5	11.2	-14.9	-8.2
2009	8.7	10.0	3.1	-13.0
2010	8.4	18.3	30.6	62.1
2011	15.4	8.7	5.4	8.2
2012	18.8	12.4	21.5	9.7
2013	20.6	11.8	-2.3	4.5
2014	11.2	9.0	11.4	5.7
2015	-8.3	-11.4	43.4	0.7

**Table 3.5: Composition of non-tax revenue of the Central government, 1995-2015**

	<b>Fiscal Services</b>	<b>Interest Receipts</b>	<b>Dividends and Profits</b>	<b>Misc.Services</b>
1994	2.9	66.9	11.5	18.8
1995	1.9	65.3	11.5	21.2
1996	1.3	67.9	11.8	19.0
1997	0.7	66.2	13.6	19.5
1998	0.6	67.1	16.9	15.4
1999	0.7	63.7	18.0	17.7
2000	0.4	58.6	24.3	16.6
2001	0.5	52.4	25.5	21.5
2002	0.4	52.0	29.4	18.2
2003	0.4	50.2	27.5	21.9
2004	0.4	39.9	28.3	31.5
2005	1.1	28.7	33.1	37.1
2006	0.1	27.1	35.2	37.6
2007	0.1	20.6	33.7	45.6
2008	0.1	21.4	39.8	38.7
2009	0.1	18.7	43.2	38.0
2010	0.0	9.0	22.0	69.0
2011	0.1	16.6	41.6	41.7
2012	0.6	15.1	39.1	45.2
2013	0.4	11.0	45.5	43.1
2014	0.7	12.0	45.4	41.9
2015	0.3	10.1	44.6	45.0

**Table 3.6: Growth rate, components of non-tax revenue, Central government, 1995-2015**

	<b>Fiscal Services</b>	<b>Interest Receipts</b>	<b>Dividends and Profits</b>	<b>Misc.Services</b>
1995	-19.8	16.6	19.6	34.8
1996	-24.2	20.0	18.7	3.8
1997	-35.5	14.6	34.4	20.2
1998	1.5	18.8	46.4	-7.5
1999	35.4	12.7	26.0	36.1
2000	-32.7	-3.2	42.1	-0.9
2001	44.9	8.3	27.4	56.6
2002	-23.5	5.9	22.8	-9.8
2003	22.3	2.4	-0.3	27.6
2004	-13.4	-16.0	8.4	52.3
2005	196.6	-32.0	11.0	11.3
2006	-90.9	2.2	15.2	9.9
2007	11.5	-6.5	17.7	49.1
2008	-32.2	-1.6	11.9	-19.5
2009	91.5	5.2	30.2	17.6
2010	-25.7	-9.4	-4.5	241.4
2011	53.6	2.6	5.5	-66.4
2012	509.3	2.5	6.2	22.4
2013	12.5	5.3	68.2	38.1
2014	57.7	8.9	-0.7	-3.3
2015	-54.8	6.6	24.8	36.6

**Table 3.7: Structure of Central government's revenue and capital expenditure over the period 1995-96 to 2015-16**

Year	Revenue exp.	of which			Capital exp. (7+8)	of which		Total exp. (2+6)
		Defence exp.	Interest payments	Subsidies		Loans and advances	Capital outlay	
1	2	3	4	5	6	7	8	9
1995-96	78.5	13.5	35.8	9.1	21.5	63.3	36.7	100
1996-97	79.1	13.2	37.4	9.8	20.9	66.3	33.7	100
1997-98	77.7	14.5	36.4	10.3	22.3	66.1	33.9	100
1998-99	77.5	13.8	36.0	10.9	22.5	70.0	30.0	100
1999-00	83.6	14.1	36.2	9.8	16.4	50.9	49.1	100
2000-01	85.3	13.4	35.7	9.7	14.7	48.2	51.8	100
2001-02	83.2	12.6	35.6	10.4	16.8	56.3	43.7	100
2002-03	82.0	12.0	34.8	12.9	18.0	42.5	39.0	100
2003-04	76.8	11.9	34.3	12.2	23.2	26.4	31.3	100
2004-05	77.1	11.4	33.0	12.0	22.7	25.5	46.2	100
2005-06	86.9	11.0	30.2	10.8	13.1	17.1	82.9	100
2006-07	88.2	10.0	29.2	11.1	11.8	12.4	87.6	100
2007-08	83.4	9.1	28.8	11.9	16.6	9.6	90.4	100
2008-09	89.8	9.2	24.2	16.3	10.2	15.6	84.4	100
2009-10	89.0	9.9	23.4	15.5	11.0	13.9	86.1	100
2010-11	86.9	8.8	22.5	16.7	13.1	16.0	84.0	100
2011-12	87.8	9.0	23.8	19.0	12.2	13.1	86.9	100
2012-13	88.2	8.9	25.2	20.7	11.8	12.5	87.5	100
2013-14	88.0	9.1	27.3	18.6	12.0	10.2	89.8	100
2014-15	88.2	9.3	27.4	17.6	11.8	14.9	85.1	100
2015-16	85.9	9.5	28.7	17.2	14.1	10.4	89.6	100

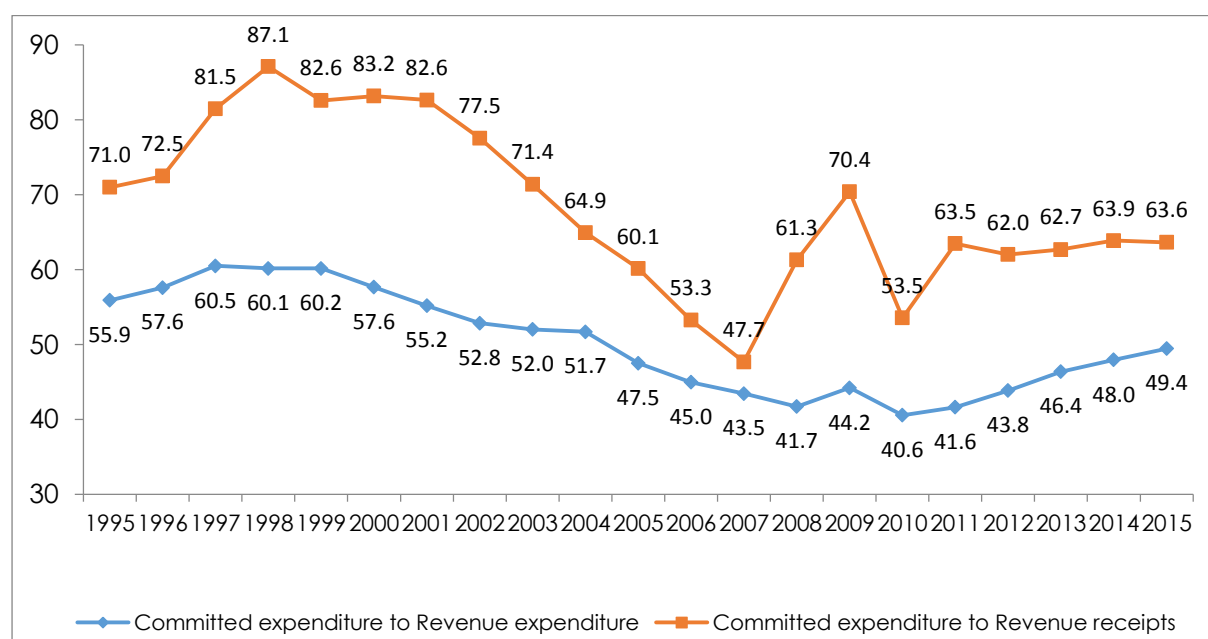
**Table 3.8: Expenditure elasticity of various components, 1995-96 to 2015-16**

	1995-96 to 1998-99	1999-00 to 2007-08	2008-09 to 2010-11	2011-12 to 2015-16
Total Expenditure	1.167	0.869	0.935	0.704
Revenue expenditure	1.137	0.904	0.838	0.663
Capital expenditure	1.305	0.700	1.754	0.966
Revenue expenditure excluding pension	1.083	0.916	0.781	0.663
Revenue expenditure excluding salary	1.010	0.981	0.876	0.619
Revenue expenditure excluding salary and pension	0.956	1.002	0.819	0.591

**Table 3.9 Growth rate of Interest Payment, Pension, Salary and committed expenditure, 1995-96 to 2015-16**

	Interest Payment	Pension	Salary	Committed expenditure
1996	18.8	19.1	13.0	17.1
1997	10.4	35.1	35.6	19.2
1998	18.7	46.2	15.5	19.3
1999	15.9	42.1	7.2	15.1
2000	10.0	0.7	2.6	6.9
2001	8.2	0.4	-4.4	3.9
2002	9.6	0.4	5.0	7.6
2003	5.3	9.7	3.4	5.2
2004	2.3	15.1	10.7	5.5
2005	4.5	10.7	4.5	5.1
2006	13.3	9.1	5.5	10.8
2007	13.8	9.8	6.9	11.7
2008	12.4	35.8	68.1	28.2
2009	10.9	70.5	26.4	21.8
2010	9.8	2.2	-2.3	4.7
2011	16.7	6.6	9.1	13.0
2012	14.7	13.6	14.0	14.3
2013	19.5	7.8	15.0	16.7
2014	7.5	25.0	11.0	10.6
2015	9.7	3.4	6.9	8.1

**Figure 3.1: Percentage Share of committed expenditure to revenue budget of Central government over the period 1995-96 to 2015-16**



Note: Revenue receipt is sum of direct tax and non tax revenue

**Table 3.10: Fiscal Profile of Central Government: The Base Scenario**

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Revenue receipts	8.7	8.6	8.6	8.5	8.4	8.4	8.3	8.3	8.2	8.1
Capital receipts	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
Revenue Expenditure	10.9	10.6	10.2	9.9	9.6	9.3	9.0	8.8	8.5	8.3
Interest Payment	3.1	3.0	3.0	2.9	2.8	2.7	2.6	2.6	2.5	2.4
Pension	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
Salary	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4
Capital expenditure	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3	1.2	1.2
Revenue Deficit	2.2	1.9	1.7	1.4	1.2	1.0	0.7	0.5	0.3	0.3
Fiscal Deficit	3.5	3.2	2.9	2.6	2.3	2.0	1.8	1.5	1.3	1.3

**Table 3.11: Fiscal Profile of Central Government: Scenario 1**

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Revenue receipts	8.7	8.6	8.6	8.5	8.4	8.4	8.3	8.3	8.2	8.1
Capital receipts	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
Revenue Expenditure	11.4	11.0	10.7	10.4	10.1	9.8	9.5	9.2	9.0	8.7
Interest Payment	3.1	3.0	3.0	2.9	2.8	2.7	2.6	2.6	2.5	2.4
Pension	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Salary	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7
Capital expenditure	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3	1.2	1.2
Revenue Deficit	2.7	2.4	2.1	1.9	1.6	1.4	1.2	1.0	0.8	0.6
Fiscal Deficit	4.0	3.7	3.3	3.0	2.8	2.5	2.2	2.0	1.7	1.5

**Table 3.12: Fiscal Profile of Central Government: The Base Scenario using growth rates for last 6 years**

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Revenue receipts	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.6	8.6	8.6
Capital receipts	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Revenue Expenditure	10.8	10.4	10.0	9.6	9.2	8.9	8.6	8.3	8.0	7.7
Interest Payment	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.0	3.0	3.0
Pension	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
Salary	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.0

Capital expenditure	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0
Revenue Deficit	2.1	1.7	1.3	0.9	0.6	0.2	-0.1	-0.4	-0.6	-0.9
Fiscal Deficit	3.5	3.1	2.7	2.4	2.0	1.7	1.4	1.2	0.9	0.7

**Table 3.13: Fiscal Profile of Central Government: Scenario-1 using growth rates for last 6 years**

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Revenue receipts	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.6	8.6	8.6
Capital receipts	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Revenue Expenditure	11.3	10.9	10.5	10.1	9.7	9.4	9.0	8.7	8.4	8.1
Interest Payment	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.0	3.0	3.0
Pension	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6
Salary	1.9	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4	1.3
Capital expenditure	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0
Revenue Deficit	2.6	2.2	1.8	1.4	1.0	0.7	0.4	0.1	-0.2	-0.5
Fiscal Deficit	4.0	3.6	3.2	2.9	2.5	2.2	1.9	1.6	1.3	1.1



## Chapter 4

**Table 4.1: Average of State Government budgetary Items (per cent of GSDP (2011-12) at current market prices), 2010-11 to 2015-16**

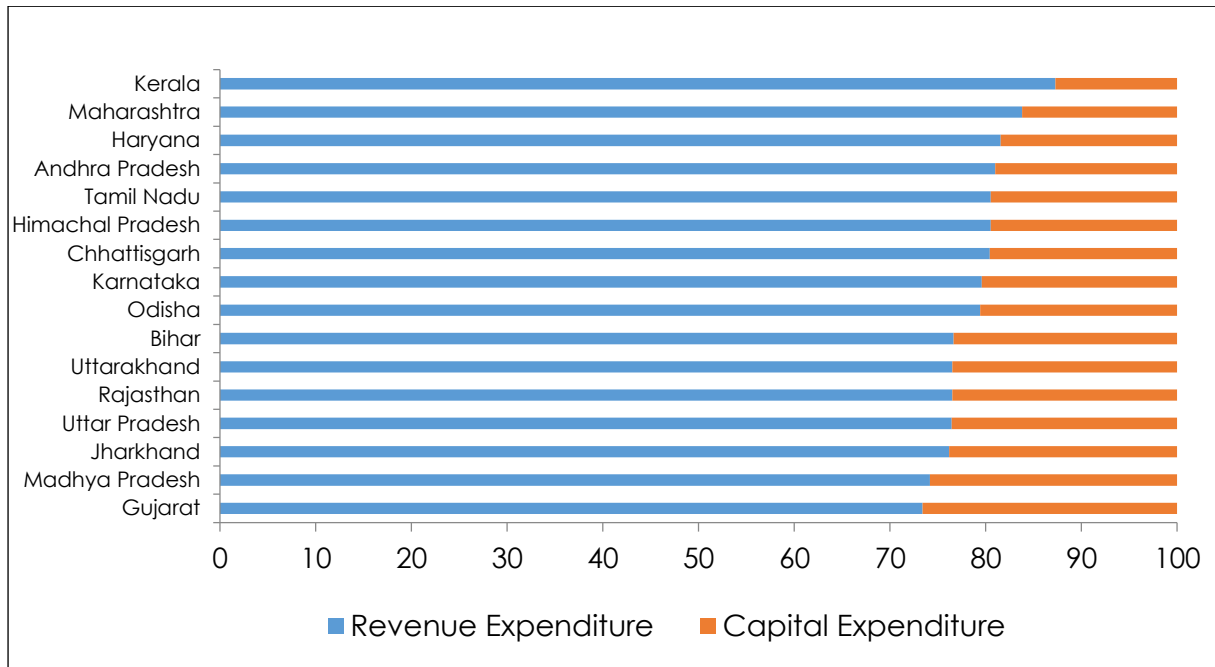
State	Revenue Exp.	Capital Net lending-	Outlay + NDCR	Revenue receipts	GFD	RD
Andhra Pradesh	13.5		2.3	13.1	2.7	0.5
Bihar	20.2		4.9	22.3	2.8	-2.2
Chhattisgarh	15.8		2.7	16.5	2.0	-0.7
Gujarat	9.5		2.6	10.0	2.1	-0.5
Haryana	11.1		2.0	9.7	3.4	1.4
Himachal	19.2		2.7	18.7	3.2	0.5
Jharkhand	14.0		3.4	15.0	2.5	-1.0
Karnataka	11.1		2.3	11.4	2.0	-0.3
Kerala	13.3		1.3	11.1	3.5	2.3
Madhya Pradesh	17.0		4.1	18.8	2.3	-1.8
Maharashtra	9.6		1.2	9.4	1.5	0.2
Odisha	15.8		3.2	17.9	1.0	-2.1
Rajasthan	14.0		3.5	13.9	3.5	0.0
Tamil Nadu	11.6		2.0	11.3	2.3	0.3
Uttar Pradesh	17.4		4.3	18.6	3.1	-1.2
Uttarakhand	11.8		2.5	12.0	2.3	-0.2

**Table 4.2: Composition of State Government's Tax Revenues over the period 2010-11 to 2015-16**

	% of revenue receipts				Growth rate			
	Own Tax Revenue	% in Centr al Tax	Non -tax	Grants from Centre	Own Tax Revenue	% in Cen tral Tax	Non -tax	Grants from Centre
Andhra Pradesh	54.4	19.2	13.2	13.3	12.1	18.4	13.2	45.4
Bihar	26.8	51.3	2.0	19.9	21.2	15.7	19.0	16.5
Chhattisgarh	41.7	25.9	14.3	18.1	13.8	26.8	6.5	17.2
Gujarat	68.7	12.7	9.2	9.4	11.8	19.7	16.2	17.6
Haryana	67.4	9.4	12.7	10.5	13.1	20.2	7.8	20.1
Himachal	30.5	14.9	10.6	44.1	13.0	16.5	3.9	17.0
Jharkhand	32.2	33.7	14.1	20.0	14.0	22.2	14.0	14.0
Karnataka	67.2	16.3	4.9	11.5	14.5	21.9	10.2	17.4
Kerala	63.6	15.7	10.5	10.2	12.5	21.2	35.1	37.5
Madhya Pradesh	42.0	30.4	10.4	17.1	13.6	21.1	10.3	16.4
Maharashtra	71.0	11.7	7.2	10.0	11.2	21.1	10.6	11.0
Odisha	33.9	31.2	15.7	19.2	15.1	18.3	13.6	17.9
Rajasthan	44.0	25.3	15.6	15.1	15.6	17.4	14.0	32.4

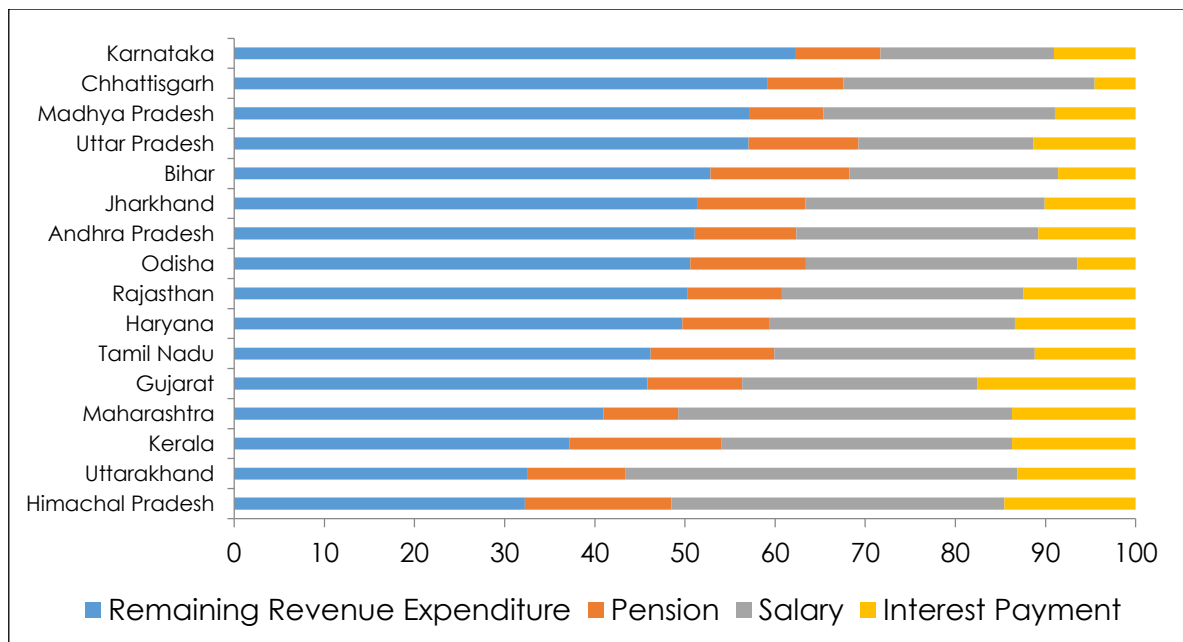
Tamil Nadu	67.4	14.8	7.1	10.7	11.4	13.4	15.2	28.7
Uttar Pradesh	38.7	37.9	9.4	13.9	14.6	16.5	16.5	17.1
Uttarakhand	41.9	21.2	7.5	29.4	16.4	17.3	17.0	7.4

**Figure 4.1: Composition of total expenditure, India States, 2010-11 to 2015-16**



**Figure 4.2: Composition of revenue expenditure, India States, 2010-11 to 2015-16**

16



**Table 4.3a: Growth rate in Salary, 1995-96 to 2005-06**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Andhra Pradesh	11.8	13.0	24.5	12.3	<b>19.6</b>	2.3	-0.8	7.6	1.2	16.4
Bihar	5.6	12.7	16.7	<b>25.7</b>	6.6	-26.0	-3.8	-1.0	-0.3	15.5
Chhattisgarh						<b>130.0</b>	1.7	5.7	2.1	1.7
Gujarat	3.5	15.0	<b>37.3</b>	-0.4	5.3	3.6	6.5	3.6	0.7	5.5
Haryana	16.7	14.4	<b>47.9</b>	-2.8	2.3	8.7	8.1	-0.4	9.9	8.2
Himachal	14.3	19.8	<b>34.1</b>	<b>11.8</b>	6.7	11.5	9.9	4.2	2.3	13.1
Jharkhand							-5.2	54.6	12.8	16.9
Karnataka	15.7	17.2	13.2	20.1	1.2	8.6	-1.8	7.7	3.9	6.7
Kerala	17.4	8.6	16.0	<b>38.4</b>	-0.1	-6.5	11.3	8.2	5.5	4.8
Madhya Pradesh	11.6	12.6	<b>34.3</b>	8.9	-14.2	-18.0	7.6	-6.1	24.3	-2.6
Maharashtra	12.5	13.3	10.4	<b>44.6</b>	13.0	1.6	0.1	6.1	5.4	10.3
Odisha	22.9	27.4	9.8	<b>21.0</b>	1.7	-1.8	5.2	1.9	1.8	6.8
Rajasthan		9.9	<b>39.5</b>	6.5	1.2	3.9	-0.3	8.8	5.8	12.1
Tamil Nadu	16.5	15.4	<b>34.4</b>	11.1	-0.5	0.1	-3.4	-0.2	6.8	5.6
Uttar Pradesh	14.9	<b>29.2</b>	5.9	10.4	9.5	-9.8	6.2	8.7	4.8	7.5
Uttarakhand						11.7	10.4	12.7	2.1	15.9

**Table 4.3b: Growth rate in Salary, 2005-06 to 2015-16**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Andhra Pradesh	16.2	9.0	9.8	<b>21.9</b>	<b>34.6</b>	14.4	-3.9	<b>25.5</b>	19.8	18.3
Bihar	4.0	7.5	<b>17.5</b>	<b>27.1</b>	9.2	<b>18.5</b>	11.8	4.4	4.0	4.0
Chhattisgarh	16.9	18.8	<b>23.6</b>	<b>5</b>	42.5	16.1	3.4	<b>18.9</b>	9.4	8.6
Gujarat	3.4	<b>9</b>	6.7	<b>18.4</b>	<b>54.8</b>	10.0	6.8	10.0	2.2	5.3
Haryana	7.8	11.0	<b>42.1</b>	<b>30.9</b>	14.6	0.8	10.6	6.3	<b>17.8</b>	9.0
Himachal	11.6	12.4	10.3	<b>18.6</b>	<b>29.7</b>	3.2	<b>15.2</b>	7.0	6.5	-2.1
Jharkhand	0.0	<b>17.0</b>	<b>32.6</b>	<b>38.0</b>	-0.4	15.3	3.0	5.0	12.6	7.9
Karnataka	11.0	<b>28.5</b>	<b>18.1</b>	3.7	7.7	4.1	<b>39.3</b>	10.8	10.8	8.9
Kerala	<b>17.4</b>	16.9	<b>17.8</b>	8.2	12.9	<b>45.3</b>	7.8	11.7	10.6	9.9
Madhya Pradesh	5.0	10.1	<b>22.5</b>	<b>24.1</b>	<b>25.3</b>	13.5	7.5	13.3	15.7	2.9
Maharashtra	6.2	13.8	<b>16.5</b>	<b>28.5</b>	1.8	8.9	<b>17.3</b>	12.0	4.0	7.5
Odisha	6.5	15.2	<b>40.4</b>	<b>23.7</b>	15.9	0.4	8.1	11.1	<b>20.4</b>	13.1
Rajasthan	7.0	9.6	<b>46.4</b>	<b>19.9</b>	3.8	8.8	11.0	<b>17.1</b>	14.6	10.1
Tamil Nadu	19.1	13.7	<b>31.6</b>	<b>21.8</b>	<b>22.3</b>	12.5	3.0	15.4	16.4	0.2
Uttar Pradesh	9.0	<b>13.4</b>	<b>2</b>	<b>39.8</b>	8.8	24.7	6.7	3.2	8.6	5.6

Uttarakhand **64.4** 11.4 13.0 **70.6** -3.3 **28.8** 10.4 8.3 13.1 9.0

**Table 4.4a: Growth rate in Pensions, 1995-96 to 2005-06**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Andhra Pradesh	12.4	13.4	20.6	20.7	<b>43.5</b>	-2.4	1.8	2.6	24.4	6.0
Bihar	26.4	7.7	<b>35.4</b>	<b>39.0</b>	15.6	8.1	14.5	7.9	5.6	5.6
Chhattisgarh						<b>1745.9</b>	-14.6	16.8	17.1	-13.6
Gujarat	33.1	25.1	<b>62.3</b>	21.8	-4.5	4.4	5.7	9.2	9.1	11.1
Haryana	46.7	5.6	<b>106.1</b>	10.7	-2.8	15.1	13.5	2.7	17.8	14.5
Himachal	22.6	30.8	34.4	<b>100.2</b>	-12.1	13.2	10.7	8.7	10.9	13.4
Jharkhand							44.5	20.6	2.5	-16.5
Karnataka	28.3	12.9	20.1	<b>58.4</b>	2.8	3.7	8.0	7.2	13.5	3.7
Kerala	5.1	21.1	26.4	<b>56.7</b>	6.7	-4.7	24.2	5.5	8.0	10.0
Madhya Pradesh	29.2	10.3	<b>51.9</b>	4.6	-19.5	5.0	7.1	10.6	11.1	17.1
Maharashtra	30.9	16.4	3.7	<b>66.8</b>	<b>33.5</b>	22.0	-2.4	4.3	9.0	15.9
Odisha	30.0	25.4	<b>50.0</b>	<b>44.8</b>	20.9	20.6	2.6	12.5	8.8	6.3
Rajasthan	31.0	21.6	<b>47.6</b>	<b>52.0</b>	26.6	-0.4	-0.1	9.4	-11.7	1.5
Tamil Nadu	36.0	20.2	<b>31.4</b>	<b>58.9</b>	8.9	4.2	9.0	-1.4	19.0	14.3
Uttar Pradesh	23.6	17.8	<b>68.6</b>	16.0	5.0	10.6	15.0	5.4	22.8	12.1
Uttarakhand						406.5	411.4	110.0	25.2	28.0

**Table 4.4b: Growth rate in Pensions, 2005-06 to 2015-16**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Andhra Pradesh	<b>29.8</b>	22.7	8.4	14.9	<b>51.6</b>	15.6	8.8	13.2	3.7	<b>37.3</b>
Bihar	1.7	11.7	<b>24.7</b>	24.1	<b>42.3</b>	<b>27.1</b>	7.1	13.4	<b>19.6</b>	4.5
Chhattisgarh	<b>35.3</b>	9.6	<b>36.0</b>	32.6	<b>46.7</b>	3.7	28.5	14.1	<b>18.1</b>	8.3
Gujarat	14.0	<b>24.3</b>	-0.6	<b>52.3</b>	<b>28.1</b>	6.3	17.1	14.9	11.1	8.5
Haryana	13.6	10.6	<b>24.4</b>	<b>48.1</b>	<b>29.4</b>	3.6	13.5	14.7	10.4	17.6
Himachal	<b>36.1</b>	4.1	21.6	16.9	<b>56.1</b>	5.3	23.9	3.9	2.1	<b>31.6</b>
Jharkhand	2.1	-9.8	<b>57.8</b>	<b>53.1</b>	6.2	<b>25.5</b>	<b>27.6</b>	18.9	-0.6	15.2
Karnataka	11.6	<b>29.8</b>	26.9	-17.1	19.4	<b>33.6</b>	<b>33.0</b>	26.6	10.6	11.2
Kerala	15.1	<b>49.5</b>	-4.8	0.4	<b>22.6</b>	<b>50.9</b>	1.9	12.5	12.9	16.1
Madhya Pradesh	12.5	12.1	<b>23.9</b>	<b>26.5</b>	<b>22.4</b>	16.5	12.7	19.9	15.3	14.4
Maharashtra	6.4	18.3	<b>22.9</b>	<b>19.0</b>	<b>44.9</b>	18.2	9.2	13.1	9.9	7.6
Odisha	10.9	<b>21.3</b>	15.2	<b>58.2</b>	<b>22.2</b>	18.2	13.5	10.3	8.1	-1.1
Rajasthan	<b>28.2</b>	21.2	<b>29.6</b>	<b>47.1</b>	5.4	14.9	15.8	13.8	<b>23.4</b>	12.8
Tamil Nadu	<b>21.8</b>	10.8	<b>28.5</b>	8.4	<b>40.3</b>	7.0	4.5	12.9	16.7	5.2
Uttar Pradesh	21.5	<b>26.5</b>	12.9	<b>59.9</b>	13.9	12.0	<b>26.9</b>	8.9	14.3	8.3
Uttarakhand	16.3	18.2	<b>33.0</b>	<b>26.4</b>	9.0	-0.6	20.3	<b>56.0</b>	15.1	7.2

**Table 4.5a: Growth rate in Interest payments, 1995-96 to 2005-06**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Andhra Pradesh	20.3	17.1	22.8	17.3	<b>22.3</b>	20.9	33.7	11.8	3.4	-1.2
Bihar	-15.0	8.4	21.9	<b>52.8</b>	-17.0	15.9	16.8	3.3	4.5	5.0
Chhattisgarh						<b>143.8</b>	15.4	30.1	9.3	-16.5
Gujarat	21.2	17.0	<b>20.0</b>	24.2	11.5	34.3	17.7	17.3	4.7	1.1
Haryana	28.8	14.6	<b>21.5</b>	36.2	9.9	8.9	19.8	8.6	5.8	-6.0
Himachal	9.7	18.9	<b>33.9</b>	<b>19.9</b>	33.6	30.5	12.5	25.7	11.4	-4.8
Jharkhand							20.0	4.7	-22.1	-6.8
Karnataka	15.3	15.4	16.0	24.5	18.6	12.4	22.7	12.7	2.3	-0.8
Kerala	19.4	16.6	12.5	<b>35.0</b>	15.6	10.3	18.4	12.9	8.5	5.2
Madhya Pradesh	18.8	20.6	<b>10.5</b>	16.6	12.7	-6.5	11.0	28.1	14.2	-6.5
Maharashtra	19.1	18.6	26.5	<b>33.0</b>	7.0	23.1	10.9	16.9	7.7	4.1
Odisha	16.2	19.7	14.9	<b>-16.6</b>	84.8	24.0	1.8	-0.9	16.5	11.0
Rajasthan	25.9	22.1	<b>18.3</b>	26.0	18.2	16.1	10.9	11.1	8.3	0.7
Tamil Nadu	14.1	19.5	<b>20.3</b>	27.8	15.2	12.5	17.6	13.7	1.2	-4.1
Uttar Pradesh	22.1	<b>15.5</b>	17.6	18.8	13.8	10.3	-14.1	43.4	17.3	-23.4
Uttarakhand						416.1	10.1	8.0	36.6	-1.0

**Table 4.5b: Growth rate in Interest payments, 2005-06 to 2015-16**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Andhra Pradesh	3.9	4.2	6.2	10.6	8.5	9.2	10.4	<b>10.7</b>	<b>18.0</b>	<b>14.3</b>
Bihar	-6.4	8.5	1.2	-1.8	<b>17.2</b>	-0.4	2.9	<b>23.3</b>	12.3	<b>15.8</b>
Chhattisgarh	6.7	11.2	-5.5	1.6	9.5	-0.4	-3.3	<b>17.1</b>	<b>23.2</b>	<b>29.2</b>
Gujarat	<b>12.8</b>	8.0	5.3	9.0	12.1	<b>13.6</b>	11.2	9.6	<b>12.1</b>	9.1
Haryana	7.9	3.6	-0.3	17.0	<b>21.3</b>	<b>20.6</b>	18.6	<b>23.3</b>	18.4	19.6
Himachal	6.8	2.0	<b>11.2</b>	3.3	-0.3	9.2	<b>11.3</b>	4.7	<b>14.8</b>	10.7
Jharkhand	8.0	<b>154.9</b>	7.8	4.6	-3.4	4.9	5.5	9.3	<b>12.0</b>	<b>13.3</b>
Karnataka	12.5	6.4	0.6	<b>15.0</b>	8.2	7.5	12.7	<b>14.7</b>	<b>20.0</b>	14.3
Kerala	10.3	3.3	7.6	13.6	7.5	10.6	<b>14.5</b>	<b>14.7</b>	<b>18.2</b>	13.7
Madhya Pradesh	<b>17.7</b>	4.0	0.0	6.3	13.4	5.0	5.2	<b>14.7</b>	10.6	<b>14.4</b>
Maharashtra	<b>24.7</b>	4.7	0.8	<b>14.7</b>	10.9	11.9	9.0	11.2	<b>13.0</b>	7.5
Odisha	-13.8	-0.6	-8.8	<b>5.3</b>	0.6	-15.8	<b>9.0</b>	2.9	-2.7	<b>19.0</b>
Rajasthan	<b>9.4</b>	4.2	4.7	8.8	8.9	7.1	5.7	8.7	<b>15.4</b>	<b>14.8</b>
Tamil Nadu	<b>20.8</b>	10.5	-2.0	11.8	19.1	11.7	15.0	<b>21.6</b>	17.3	<b>19.5</b>
Uttar Pradesh	<b>15.2</b>	3.3	5.1	5.4	<b>18.6</b>	8.9	9.3	2.9	8.3	<b>13.7</b>
Uttarakhand	<b>19.4</b>	13.7	8.4	12.7	10.6	<b>19.6</b>	18.1	-1.6	17.0	<b>23.5</b>

**Table 4.6a: Growth rate in fiscal deficit, 1995-96 to 2005-06**

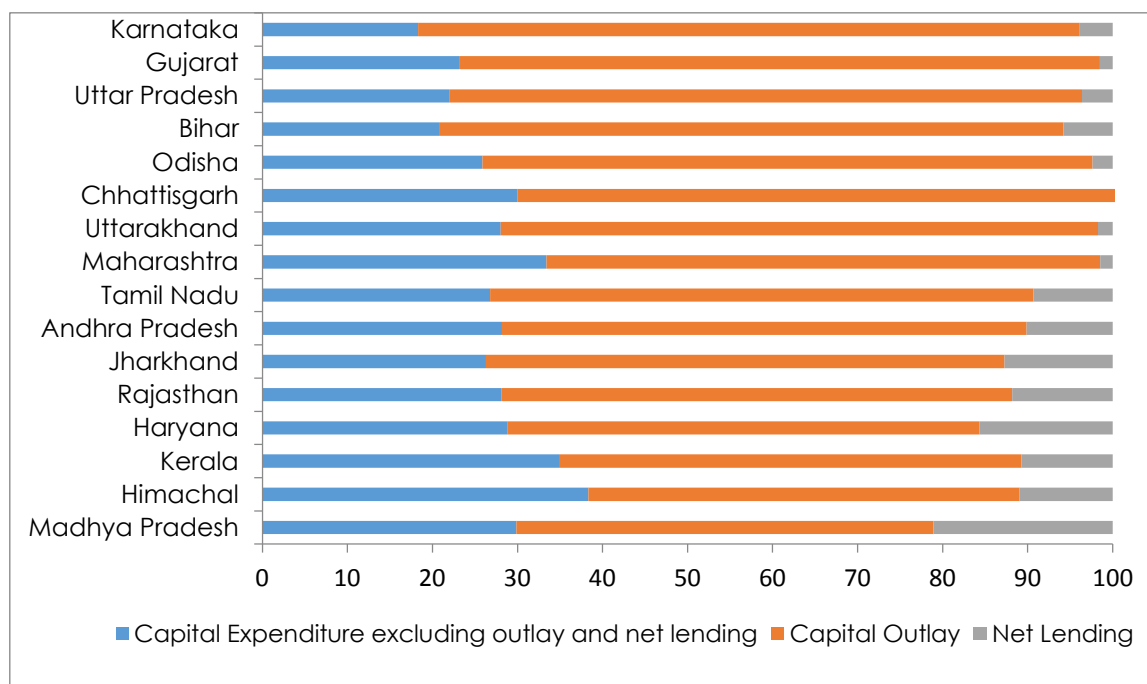
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Andhra Pradesh	16.3	-13.6	135.0	-12.8	<b>46.8</b>	-8.0	13.4	-2.3	9.9	1.3
Bihar	-43.3	10.4	142.2	<b>156.6</b>	-20.0	-17.9	22.5	-16.4	-69.8	198.0
Chhattisgarh						<b>-2360.3</b>	-8.3	126.4	-44.1	-65.4
Gujarat	35.1	34.6	<b>77.0</b>	20.9	17.6	-18.5	-6.6	50.7	-5.1	-27.9
Haryana	11.5	2.5	<b>98.7</b>	-4.8	6.2	21.0	-46.3	99.4	-58.9	-76.3
Himachal	9.8	110.2	<b>38.2</b>	-88.6	872.2	-18.1	54.9	1.8	-24.1	-60.2
Jharkhand							33.2	-24.2	119.9	34.8
Karnataka	33.4	-17.2	93.4	37.4	-1.3	39.1	-10.0	-14.8	-20.0	2.4
Kerala	18.5	56.4	24.7	<b>50.7</b>	-14.5	-15.7	52.8	10.9	-19.6	-6.0
MP	18.0	-5.5	<b>126.8</b>	-5.2	-30.7	34.6	11.3	80.3	-11.4	-29.6
Maharashtra	19.3	30.1	15.8	<b>56.8</b>	-23.3	21.4	31.1	25.5	3.9	-5.3
Odisha	14.7	12.5	61.7	<b>28.5</b>	-11.2	19.2	-29.0	26.9	-61.8	-79.7
Rajasthan	-2.6	1.8	<b>101.9</b>	4.1	-19.6	33.3	6.4	20.5	-16.6	-16.2
TN	94.6	-13.2	<b>125.1</b>	12.7	-5.7	-6.6	42.3	-17.1	-0.4	-59.6
UP	36.0	<b>27.2</b>	53.5	-4.6	-8.3	-2.8	-4.1	75.3	-21.9	-22.5
Uttarakhand						210.7	109.3	58.2	54.2	-13.5

**Table 4.6b: Growth rate in fiscal deficit, 2005-06 to 2015-16**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Andhra Pradesh	-32.0	55.7	41.2	<b>12.9</b>	<b>-15.8</b>	30.6	13.7	3.0	128.3	-2.0
Bihar	-18.4	-43.5	<b>46.9</b>	<b>9</b>	-24.4	<b>48.6</b>	10.7	27.6	33.9	7.9
Chhattisgarh	-107.9	-481.8	<b>699.7</b>	<b>71.1</b>	122.7	303.4	6	<b>89.7</b>	60.0	-32.5
Gujarat	-9.9	<b>-15.5</b>	118.8	<b>45.2</b>	<b>-0.6</b>	-26.9	49.7	11.7	-0.6	25.6
Haryana	-512.5	-207.3	<b>418.8</b>	<b>54.0</b>	-28.1	-1.6	45.0	-19.8	<b>51.6</b>	150.0
Himachal	27.8	-40.1	313.1	<b>22.2</b>	<b>-34.3</b>	-10.5	<b>81.5</b>	34.9	4.6	-48.4
Jharkhand	6.9	<b>18.2</b>	<b>-39.7</b>	<b>52.6</b>	171.9	-60.3	77.6	-34.8	9	75.8
Karnataka	27.2	<b>13.7</b>	<b>63.8</b>	24.6	-1.8	15.1	<b>17.8</b>	17.9	14.4	-2.0
Kerala	<b>-8.6</b>	59.6	<b>4.0</b>	24.0	-1.8	<b>65.6</b>	17.2	12.9	10.0	-4.4
MP	-39.7	1.1	<b>59.2</b>	<b>39.7</b>	<b>-15.0</b>	9.5	63.4	4.8	15.0	24.0
Maharashtra	-34.5	-124.4	<b>596.4</b>	<b>86.9</b>	-27.9	5.9	-31.2	<b>89.3</b>	22.3	-10.9
Odisha	-397.0	60.8	<b>125.2</b>	<b>6</b>	-70.8	192.9	-98.9	67392.0	<b>18.1</b>	28.9
Rajasthan	-22.9	-14.1	<b>104.6</b>	<b>47.6</b>	-60.0	-12.2	6	78.1	25.1	231.9
Tamil Nadu	75.7	-6.8	<b>131.9</b>	<b>38.1</b>	<b>41.1</b>	3.8	-4.4	24.5	32.0	20.1
Uttar Pradesh	-4.6	<b>43.5</b>	<b>48.7</b>	<b>-8.9</b>	-7.7	-10.5	24.6	23.1	37.3	79.8
Uttarakhand	<b>-52.8</b>	96.8	5.8	<b>51.5</b>	-34.4	<b>-3.5</b>	-9.9	66.3	119.9	5.2

**Figure 4.3: Composition of Capital expenditure, India States, 2010-11 to 2015-**

**16**



**Table 4.7: Growth rate in Capital outlay and Net lending, 2010-11 to 2015-16**

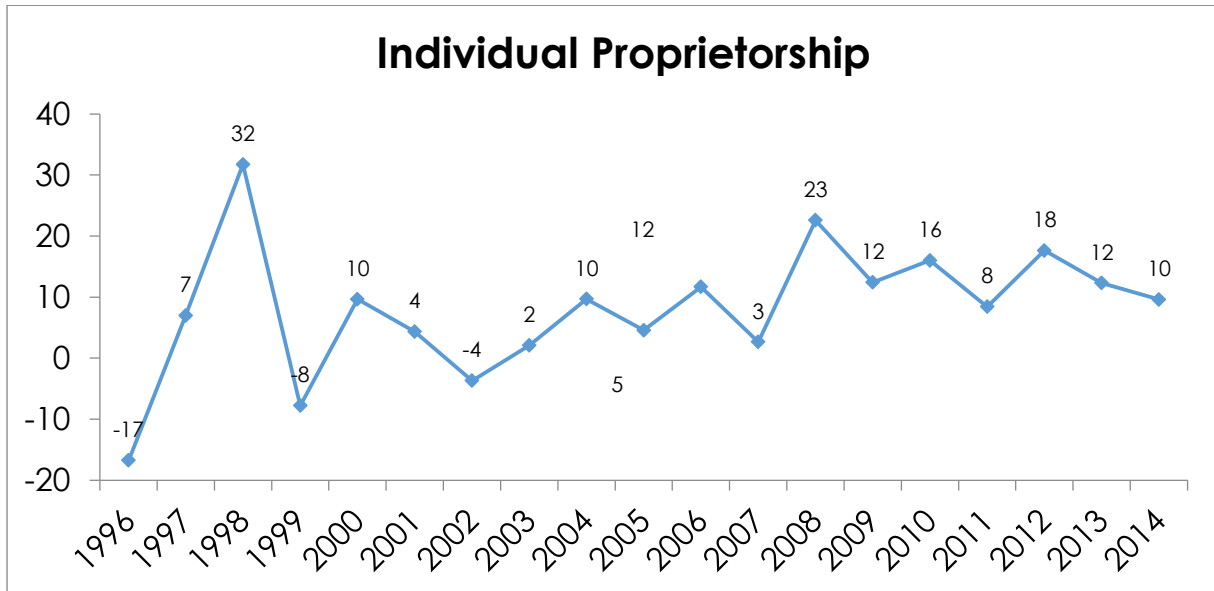
	Capital Outlay	Net Lending
Andhra Pradesh	20.9	-98.1
Bihar	22.5	-75.0
Chhattisgarh	23.3	-807.8
Gujarat	22.0	-81.3
Haryana	17.8	459.5
Himachal	10.6	41.8
Jharkhand	16.8	242.5
Karnataka	9.3	-14.4
Kerala	20.6	5.7
Madhya Pradesh	15.1	4.4
Maharashtra	5.2	23.3
Odisha	33.0	31.7
Rajasthan	33.6	-2626.0
Tamil Nadu	9.7	19.9
Uttar Pradesh	27.6	120.0
Uttarakhand	20.3	-233.3

**Table 4.8: Average percentage Share of committed expenditure to revenue budget of State Government over the period 2010-11 to 2015-16**

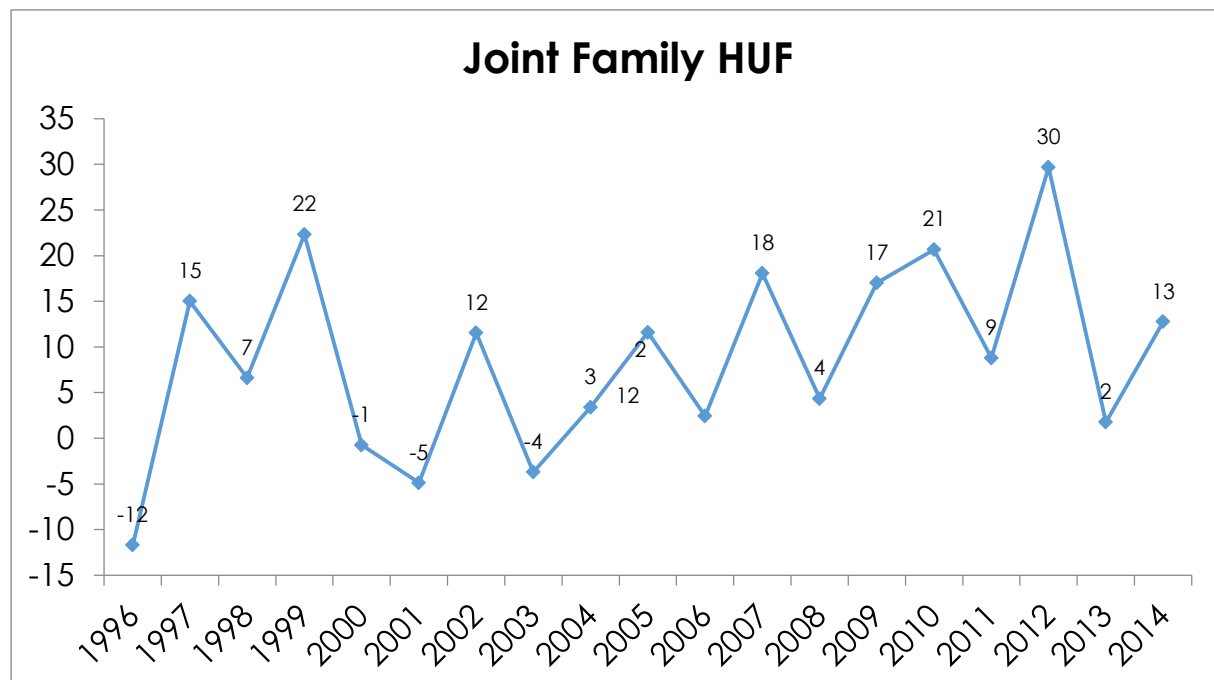
<b>State/Share of</b>	<b>Revenue expenditure</b>	<b>Revenue receipts</b>	<b>Gap</b>
Andhra Pradesh	48.9	50.2	1.3
Bihar	47.2	42.7	-4.5
Chhattisgarh	40.8	39.0	-1.8
Gujarat	54.2	51.3	-2.8
Haryana	50.3	57.5	7.3
Himachal	67.8	69.9	2.2
Jharkhand	48.7	45.5	-3.1
Karnataka	37.8	36.9	-0.8
Kerala	62.8	75.7	13.0
Madhya Pradesh	42.8	38.7	-4.1
Maharashtra	59.0	60.5	1.4
Odisha	49.4	43.6	-5.8
Rajasthan	49.8	49.6	-0.2
Tamil Nadu	53.8	55.1	1.3
Uttar Pradesh	42.9	40.1	-2.8
Uttarakhand	67.5	65.9	-1.6



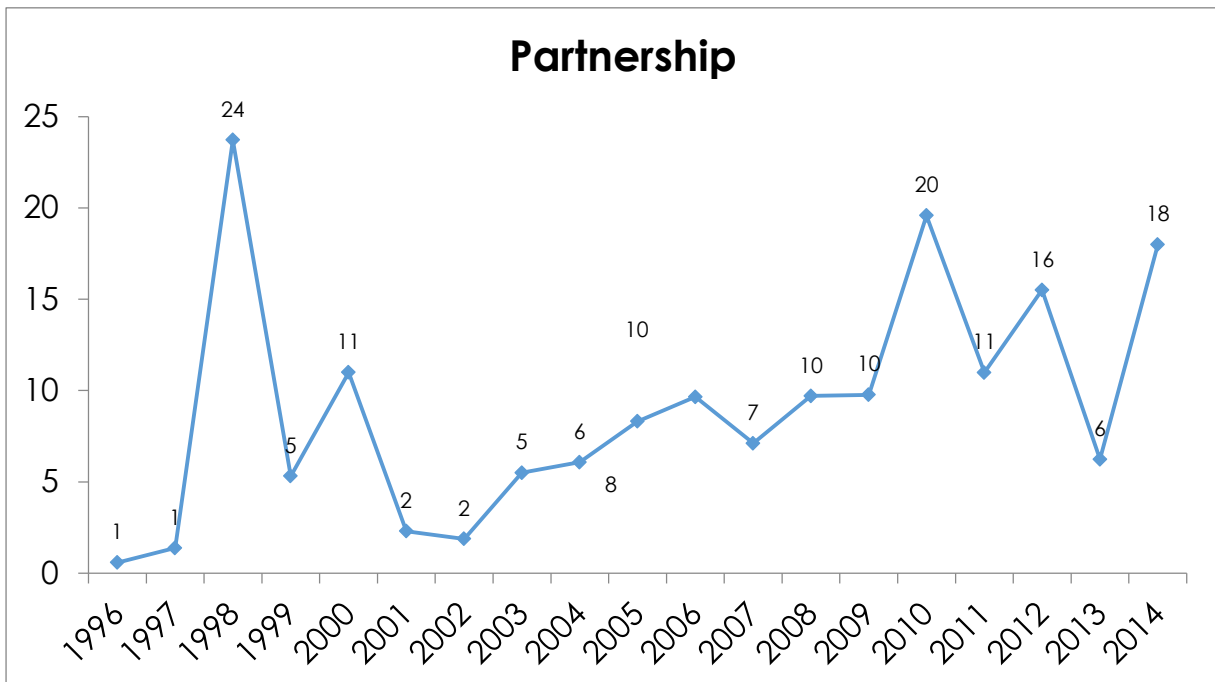
**Figure 5.1: Growth rate in wages per employee, Individual Proprietorship, Annual Survey of industries, 1995-2014**



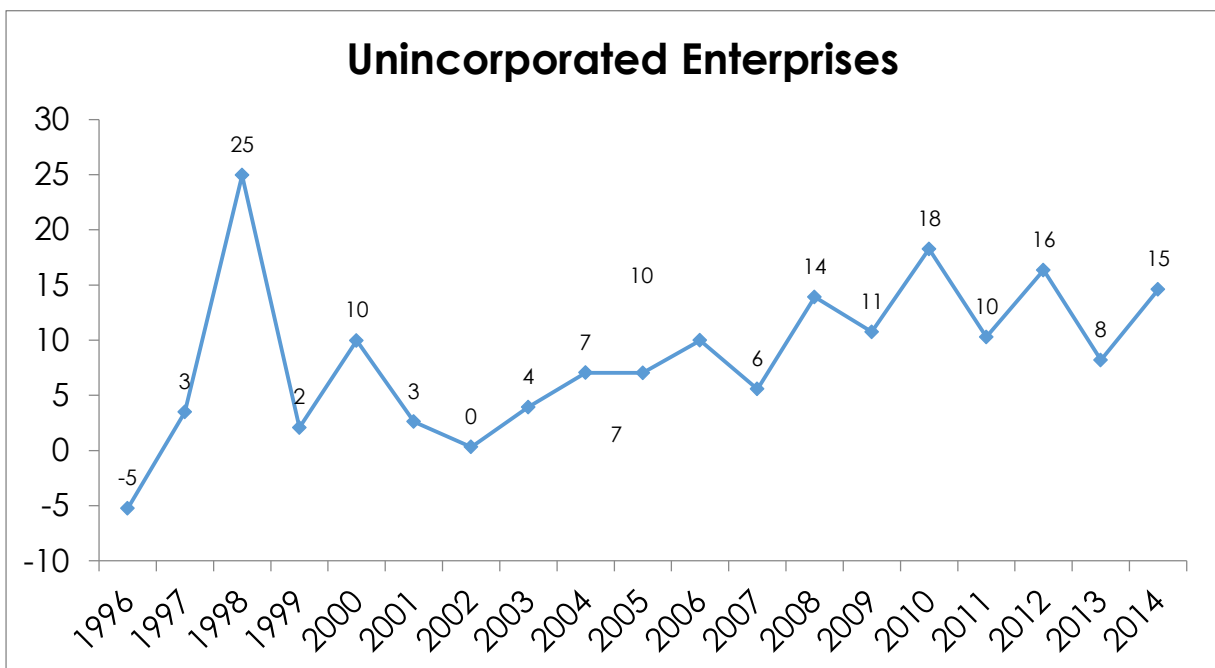
**Figure 5.2: Growth rate in wages per employee, Joint Family HUF, Annual Survey of industries, 1995-2014**



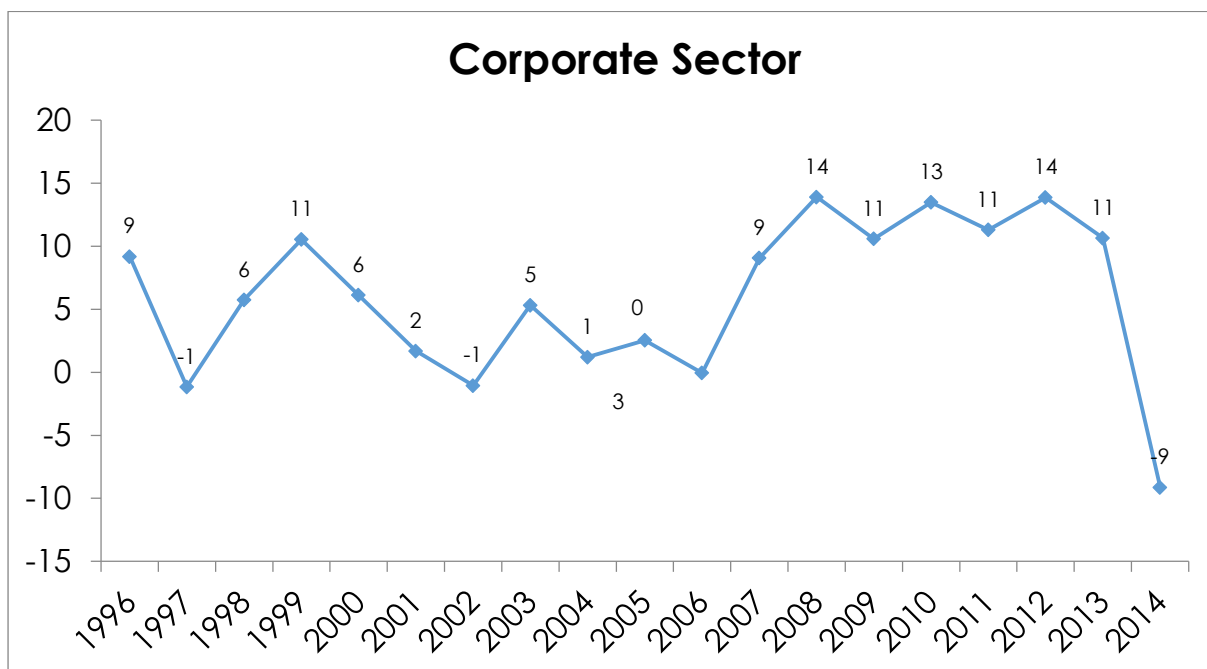
**Figure 5.3: Growth rate in wages per employee, Partnership, Annual Survey of industries, 1995-2014**



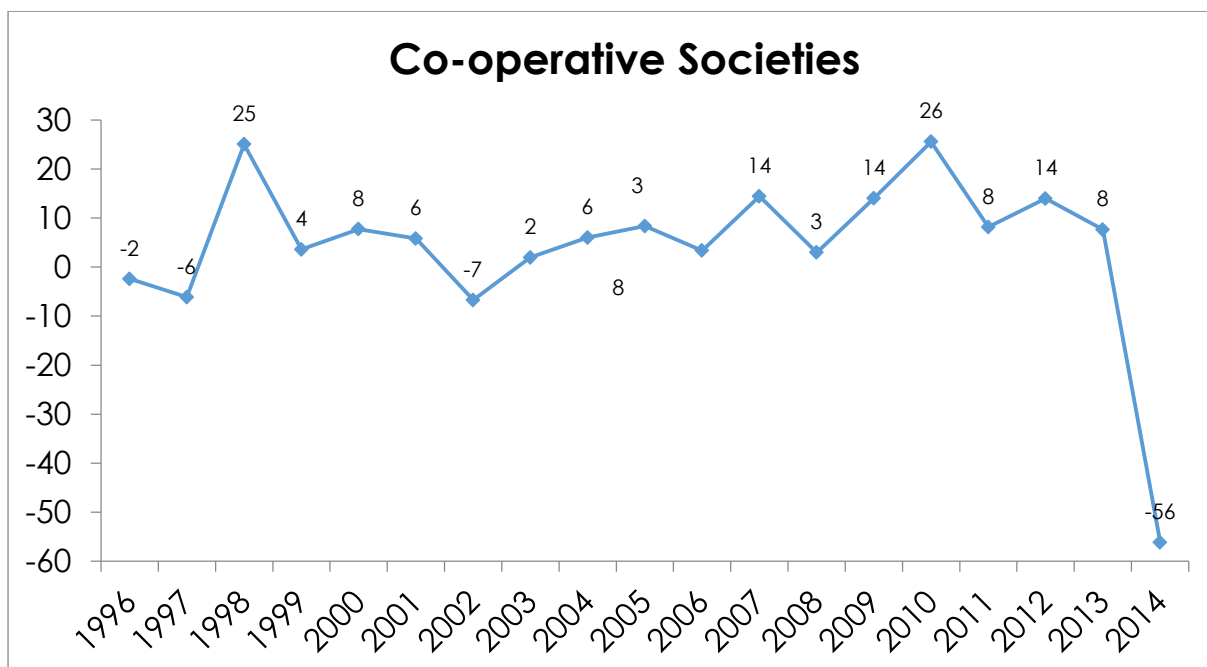
**Figure 5.4: Growth rate in wages per employee, Unincorporated enterprises, Annual Survey of industries, 1995-2014**



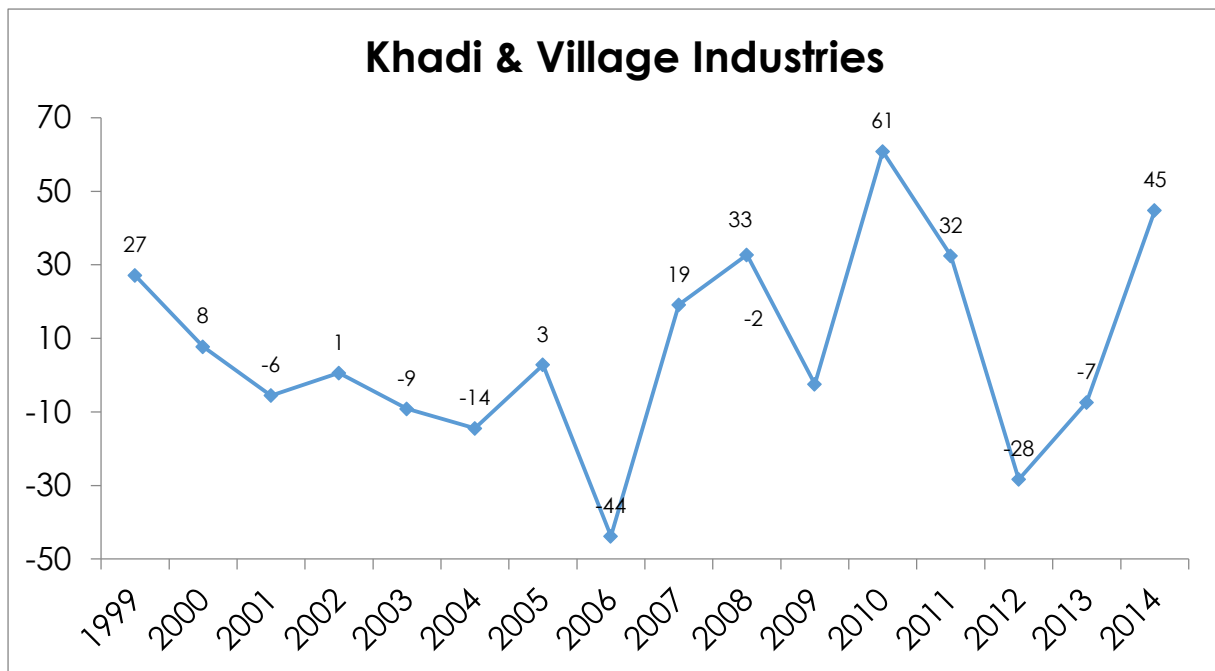
**Figure 5.5: Growth rate in wages per employee, Corporate Sector, Annual Survey of industries, 1995-2014**



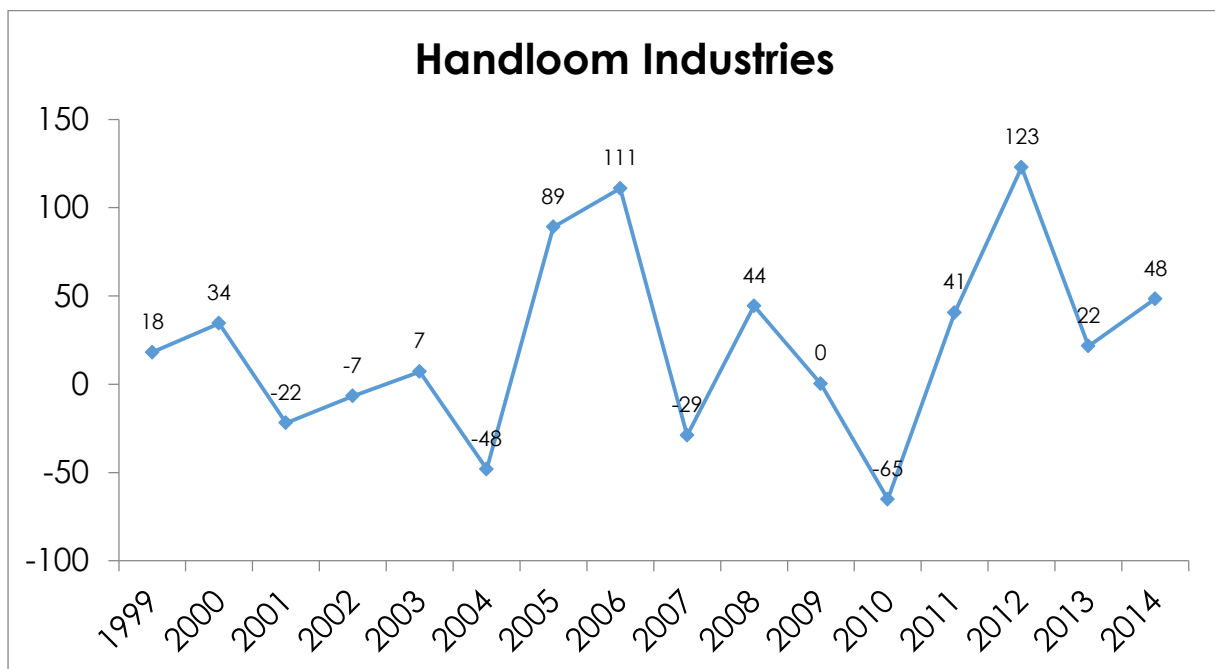
**Figure 5.6: Growth rate in wages per employee, Co-operative Societies, Annual Survey of industries, 1995-2014**



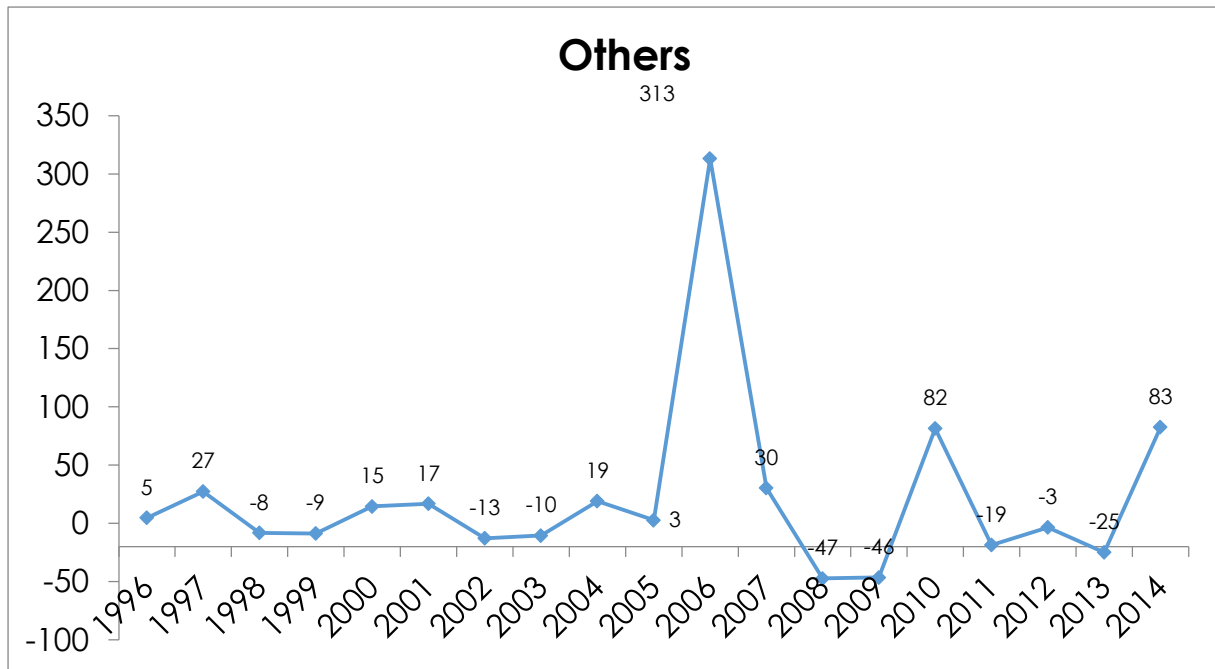
**Figure 5.7: Growth rate in wages per employee, Khadi and Village industries, Annual Survey of industries, 1995-2014**



**Figure 5.8: Growth rate in wages per employee, Handloom industries, Annual Survey of industries, 1995-2014**



**Figure 5.9: Growth rate in wages per employee, Others, Annual Survey of industries, 1995-2014**



## Appendix Tables

**Table A1: Description of type of organization, Annual Survey of Industries**

<b>S.No.</b>	<b>Definition</b>
<b>1</b>	<b>Proprietary</b> Here, an individual is the sole owner of the enterprise
<b>2</b>	<b>Partnership</b> It means relation between persons who have agreed to share the profits of a business carried on by all or any one of them acting for all.
<b>3</b>	<b>Limited Liability Partnership (LLP)</b> It is an alternative corporate business form that gives the benefits of limited liability of a company and the flexibility of a partnership. It can continue its existence irrespective of changes in partners. It is capable of entering into contracts and holding property in its own name. It is a separate legal entity, is liable to the full extent of its assets but liability of the partners is limited to their agreed contribution in the LLP. Further, no partner is liable on account of the independent or un-authorized actions of other partners, thus individual partners are shielded from joint liability created by another partner's wrongful business decisions or misconduct.
<b>4</b>	<b>Government Company-Public</b> It is a company where paid-up share capital of the appropriate Government (Central/ State/ Local) is not less than 51% and number of shareholders is at least 7 and no upper limit for number of shareholders.
<b>5</b>	<b>Government Company-Private</b> It is a company where paid-up share capital of the appropriate Government (Central/ State/ Local) is not less than 51% and number of shareholders (including the Government) is at least 1 and maximum number of shareholders is 200.
<b>6</b>	<b>Non-Government Company-Public</b> It is a company where paid-up share capital of the appropriate Government (Central/ State/ Local) is less than 51% and number of shareholders is at least 7 and no upper limit for number of shareholders.
<b>7</b>	<b>Non-Government Company-Private</b> It is a company where paid-up share capital of the appropriate Government (Central/ State/ Local) is less than 51% and number of shareholders is at least 1 and maximum number of shareholders is 200.
<b>8</b>	<b>Co-operative society</b> It is a society formed through the co-operation of a number of persons (members of the society) to benefit the members. The funds are raised by members' contributions/ investments, and the members share the profits. The government or government agency can also be a member or shareholder of a registered co-operative society but this fact cannot render the society into a public sector enterprise for the purpose of the survey.
<b>9</b>	<b>Others</b> These are the enterprises not falling under any of the above categories.

**Note: Others include Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc**

**Table A2: Fiscal Profile of State Governments: Base and Hike scenario, Andhra Pradesh**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.14	0.15	0.01	0.02	0.04	0.03	3.68
Base	2017	0.15	0.16	0.01	0.02	0.04	0.02	4.04
Base	2018	0.15	0.17	0.01	0.02	0.04	0.02	4.51
Base	2019	0.15	0.19	0.01	0.02	0.04	0.02	5.09
Base	2020	0.16	0.2	0.01	0.02	0.04	0.02	5.79
Base	2021	0.16	0.21	0.01	0.02	0.04	0.01	6.63
Base	2022	0.17	0.23	0.01	0.02	0.04	0.01	7.6
Base	2023	0.17	0.24	0.01	0.02	0.04	0.01	8.73
Base	2024	0.17	0.26	0.01	0.02	0.05	0.01	10.02
Base	2025	0.18	0.28	0.01	0.02	0.05	0.01	11.49
Hike	2016	0.14	0.16	0.01	0.02	0.04	0.03	4.49
Hike	2017	0.15	0.18	0.01	0.02	0.05	0.02	5.39
Hike	2018	0.15	0.19	0.01	0.02	0.05	0.02	5.88
Hike	2019	0.15	0.2	0.01	0.02	0.05	0.02	6.49
Hike	2020	0.16	0.21	0.01	0.02	0.05	0.02	7.22
Hike	2021	0.16	0.23	0.01	0.02	0.05	0.01	8.09
Hike	2022	0.17	0.24	0.01	0.02	0.05	0.01	9.09
Hike	2023	0.17	0.26	0.01	0.02	0.06	0.01	10.25
Hike	2024	0.17	0.28	0.01	0.03	0.06	0.01	11.57
Hike	2025	0.18	0.3	0.01	0.03	0.06	0.01	13.07

**Table A3: Fiscal Profile of State Governments: Base and Hike scenario, Bihar**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.26	0.23	0.02	0.03	0.04	0.07	3.73
Base	2017	0.27	0.24	0.02	0.03	0.04	0.07	4.41
Base	2018	0.28	0.25	0.02	0.03	0.04	0.08	5.2
Base	2019	0.29	0.27	0.02	0.03	0.04	0.08	6.13
Base	2020	0.29	0.28	0.02	0.03	0.03	0.09	7.2
Base	2021	0.3	0.3	0.02	0.03	0.03	0.09	8.41
Base	2022	0.31	0.31	0.02	0.03	0.03	0.1	9.8
Base	2023	0.32	0.33	0.02	0.03	0.03	0.1	11.37
Base	2024	0.33	0.36	0.02	0.03	0.03	0.11	13.13
Base	2025	0.34	0.38	0.02	0.03	0.03	0.12	15.12
Hike	2016	0.26	0.24	0.02	0.04	0.04	0.07	4.87
Hike	2017	0.27	0.26	0.02	0.04	0.05	0.07	6.06
Hike	2018	0.28	0.27	0.02	0.04	0.05	0.08	6.82
Hike	2019	0.29	0.28	0.02	0.04	0.04	0.08	7.72
Hike	2020	0.29	0.3	0.02	0.04	0.04	0.09	8.75
Hike	2021	0.3	0.31	0.02	0.04	0.04	0.09	9.95
Hike	2022	0.31	0.33	0.02	0.04	0.04	0.1	11.3
Hike	2023	0.32	0.35	0.02	0.04	0.04	0.1	12.85
Hike	2024	0.33	0.37	0.02	0.04	0.04	0.11	14.59
Hike	2025	0.34	0.39	0.02	0.04	0.03	0.12	16.55

**Table A4: Fiscal Profile of State Governments: Base and Hike scenario, Chhattisgarh**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.18	0.17	0.01	0.01	0.04	0.03	2.7
Base	2017	0.18	0.18	0.01	0.01	0.04	0.04	3.39
Base	2018	0.18	0.18	0.01	0.01	0.04	0.04	4.16
Base	2019	0.18	0.19	0.01	0.01	0.03	0.04	5.02
Base	2020	0.18	0.2	0.01	0.01	0.03	0.04	5.96
Base	2021	0.18	0.2	0.01	0.01	0.03	0.05	7
Base	2022	0.18	0.21	0.01	0.01	0.03	0.05	8.14
Base	2023	0.18	0.22	0.01	0.01	0.03	0.06	9.39
Base	2024	0.18	0.23	0.01	0.01	0.03	0.06	10.75
Base	2025	0.18	0.24	0.01	0.01	0.03	0.07	12.23
Hike	2016	0.18	0.18	0.01	0.02	0.04	0.03	3.47
Hike	2017	0.18	0.19	0.01	0.02	0.05	0.04	4.64
Hike	2018	0.18	0.19	0.01	0.01	0.05	0.04	5.35
Hike	2019	0.18	0.2	0.01	0.01	0.04	0.04	6.15
Hike	2020	0.18	0.21	0.01	0.01	0.04	0.04	7.05
Hike	2021	0.18	0.21	0.01	0.01	0.04	0.05	8.04
Hike	2022	0.18	0.22	0.01	0.01	0.04	0.05	9.13
Hike	2023	0.18	0.23	0.01	0.01	0.04	0.06	10.34
Hike	2024	0.18	0.24	0.01	0.01	0.03	0.06	11.66
Hike	2025	0.18	0.25	0.01	0.01	0.03	0.07	13.1

**Table A5: Fiscal Profile of State Governments: Base and Hike scenario, Gujarat**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.09	0.09	0.02	0.01	0.02	0.02	1.7
Base	2017	0.09	0.09	0.02	0.01	0.02	0.02	1.19
Base	2018	0.09	0.08	0.01	0.01	0.02	0.02	0.72
Base	2019	0.09	0.08	0.01	0.01	0.02	0.02	0.27
Base	2020	0.09	0.08	0.01	0.01	0.02	0.02	-0.15
Base	2021	0.09	0.07	0.01	0.01	0.01	0.01	-0.54
Base	2022	0.09	0.07	0.01	0.01	0.01	0.01	-0.91
Base	2023	0.09	0.07	0.01	0.01	0.01	0.01	-1.25
Base	2024	0.09	0.07	0.01	0.01	0.01	0.01	-1.58
Base	2025	0.09	0.06	0.01	0.01	0.01	0.01	-1.88
Hike	2016	0.09	0.09	0.02	0.01	0.02	0.02	2.16
Hike	2017	0.09	0.09	0.02	0.01	0.02	0.02	1.89
Hike	2018	0.09	0.09	0.01	0.01	0.02	0.02	1.38
Hike	2019	0.09	0.09	0.01	0.01	0.02	0.02	0.9
Hike	2020	0.09	0.08	0.01	0.01	0.02	0.02	0.45
Hike	2021	0.09	0.08	0.01	0.01	0.02	0.01	0.03
Hike	2022	0.09	0.08	0.01	0.01	0.02	0.01	-0.36
Hike	2023	0.09	0.07	0.01	0.01	0.02	0.01	-0.73
Hike	2024	0.09	0.07	0.01	0.01	0.02	0.01	-1.08
Hike	2025	0.09	0.07	0.01	0.01	0.01	0.01	-1.41



**Table A6: Fiscal Profile of State Governments: Base and Hike scenario, Haryana**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.1	0.13	0.02	0.01	0.03	0.02	4.58
Base	2017	0.1	0.13	0.02	0.01	0.03	0.01	3.98
Base	2018	0.1	0.13	0.02	0.01	0.03	0	3.98
Base	2019	0.1	0.14	0.02	0.01	0.03	0	4.27
Base	2020	0.1	0.14	0.02	0.01	0.02	0	4.71
Base	2021	0.1	0.15	0.02	0.01	0.02	0	5.24
Base	2022	0.1	0.16	0.03	0.01	0.02	0	5.84
Base	2023	0.1	0.16	0.03	0.01	0.02	0	6.49
Base	2024	0.1	0.17	0.03	0.01	0.02	0	7.2
Base	2025	0.1	0.18	0.03	0.01	0.02	0	7.97
Hike	2016	0.1	0.13	0.02	0.01	0.03	0.02	5.17
Hike	2017	0.1	0.14	0.02	0.01	0.03	0.01	4.93
Hike	2018	0.1	0.14	0.02	0.01	0.03	0	4.9
Hike	2019	0.1	0.15	0.02	0.01	0.03	0	5.16
Hike	2020	0.1	0.15	0.02	0.01	0.03	0	5.57
Hike	2021	0.1	0.16	0.02	0.01	0.03	0	6.07
Hike	2022	0.1	0.16	0.03	0.01	0.03	0	6.64
Hike	2023	0.1	0.17	0.03	0.01	0.03	0	7.27
Hike	2024	0.1	0.18	0.03	0.01	0.03	0	7.96
Hike	2025	0.1	0.18	0.03	0.01	0.03	0	8.7

**Table A7: Fiscal Profile of State Governments: Base and Hike scenario, Himachal Pradesh**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.21	0.2	0.03	0.04	0.06	0.04	2.78
Base	2017	0.21	0.2	0.03	0.04	0.06	0.04	3.04
Base	2018	0.22	0.21	0.03	0.04	0.05	0.04	3.37
Base	2019	0.22	0.21	0.03	0.04	0.05	0.05	3.77
Base	2020	0.22	0.21	0.03	0.04	0.05	0.05	4.25
Base	2021	0.23	0.22	0.03	0.04	0.04	0.05	4.81
Base	2022	0.23	0.23	0.03	0.04	0.04	0.06	5.46
Base	2023	0.23	0.23	0.03	0.04	0.04	0.06	6.19
Base	2024	0.23	0.24	0.02	0.04	0.04	0.07	7.01
Base	2025	0.24	0.25	0.02	0.05	0.04	0.07	7.93
Hike	2016	0.21	0.21	0.03	0.04	0.07	0.04	4.24
Hike	2017	0.21	0.23	0.03	0.04	0.07	0.04	5.27
Hike	2018	0.22	0.23	0.03	0.04	0.07	0.04	5.55
Hike	2019	0.22	0.23	0.03	0.05	0.06	0.05	5.9
Hike	2020	0.22	0.24	0.03	0.05	0.06	0.05	6.33
Hike	2021	0.23	0.24	0.03	0.05	0.06	0.05	6.85
Hike	2022	0.23	0.25	0.03	0.05	0.05	0.06	7.45
Hike	2023	0.23	0.25	0.03	0.05	0.05	0.06	8.15
Hike	2024	0.23	0.26	0.02	0.05	0.05	0.07	8.94
Hike	2025	0.24	0.27	0.02	0.06	0.05	0.07	9.84

**Table A8: Fiscal Profile of State Governments: Base and Hike scenario, Jharkhand**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.18	0.16	0.01	0.02	0.04	0.07	4.74
Base	2017	0.19	0.17	0.01	0.02	0.03	0.07	4.5
Base	2018	0.2	0.17	0.01	0.02	0.03	0.07	4.26
Base	2019	0.21	0.18	0.01	0.02	0.03	0.07	4.01
Base	2020	0.22	0.19	0.01	0.02	0.03	0.07	3.77
Base	2021	0.23	0.19	0.01	0.02	0.03	0.07	3.53
Base	2022	0.24	0.2	0.01	0.02	0.03	0.07	3.3
Base	2023	0.25	0.21	0.01	0.02	0.03	0.07	3.06
Base	2024	0.26	0.22	0.01	0.02	0.03	0.07	2.83
Base	2025	0.27	0.23	0.01	0.02	0.03	0.07	2.6
Hike	2016	0.18	0.17	0.01	0.02	0.04	0.07	5.54
Hike	2017	0.19	0.18	0.01	0.02	0.04	0.07	5.77
Hike	2018	0.2	0.19	0.01	0.02	0.04	0.07	5.51
Hike	2019	0.21	0.19	0.01	0.02	0.04	0.07	5.26
Hike	2020	0.22	0.2	0.01	0.02	0.04	0.07	5.01
Hike	2021	0.23	0.21	0.01	0.02	0.04	0.07	4.76
Hike	2022	0.24	0.21	0.01	0.02	0.04	0.07	4.51
Hike	2023	0.25	0.22	0.01	0.02	0.04	0.07	4.27
Hike	2024	0.26	0.23	0.01	0.02	0.04	0.07	4.03
Hike	2025	0.27	0.24	0.01	0.02	0.04	0.07	3.79

**Table A9: Fiscal Profile of State Governments: Base and Hike scenario, Karnataka**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.12	0.12	0.01	0.01	0.02	0.02	1.96
Base	2017	0.12	0.12	0.01	0.01	0.02	0.02	2.05
Base	2018	0.12	0.13	0.01	0.01	0.02	0.02	2.15
Base	2019	0.13	0.13	0.01	0.02	0.02	0.02	2.28
Base	2020	0.13	0.14	0.01	0.02	0.02	0.02	2.43
Base	2021	0.13	0.14	0.01	0.02	0.02	0.02	2.6
Base	2022	0.13	0.15	0.01	0.02	0.02	0.01	2.8
Base	2023	0.14	0.15	0.01	0.02	0.02	0.01	3.03
Base	2024	0.14	0.16	0.01	0.02	0.02	0.01	3.28
Base	2025	0.14	0.17	0.01	0.03	0.02	0.01	3.56
Hike	2016	0.12	0.12	0.01	0.01	0.02	0.02	2.44
Hike	2017	0.12	0.13	0.01	0.02	0.03	0.02	2.83
Hike	2018	0.12	0.14	0.01	0.02	0.03	0.02	2.97
Hike	2019	0.13	0.14	0.01	0.02	0.03	0.02	3.13
Hike	2020	0.13	0.15	0.01	0.02	0.03	0.02	3.31
Hike	2021	0.13	0.15	0.01	0.02	0.03	0.02	3.52
Hike	2022	0.13	0.16	0.01	0.02	0.03	0.01	3.76

Hike	2023	0.14	0.16	0.01	0.03	0.03	0.01	4.03
Hike	2024	0.14	0.17	0.01	0.03	0.03	0.01	4.32
Hike	2025	0.14	0.18	0.01	0.03	0.03	0.01	4.65

**Table A10: Fiscal Profile of State Governments: Base and Hike scenario, Kerala**

Scenario	Year	Revenue receipts/GSDP	Revenue Exp./GSDP	Interest Paymnt./GSDP	Pension/GSDP	Salary/GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.13	0.15	0.02	0.02	0.04	0.02	3.47
Base	2017	0.13	0.16	0.02	0.03	0.05	0.02	3.78
Base	2018	0.14	0.16	0.02	0.03	0.05	0.02	4.12
Base	2019	0.15	0.17	0.02	0.03	0.05	0.02	4.48
Base	2020	0.15	0.18	0.02	0.03	0.05	0.02	4.88
Base	2021	0.16	0.19	0.02	0.03	0.05	0.02	5.31
Base	2022	0.16	0.2	0.02	0.03	0.06	0.02	5.78
Base	2023	0.17	0.21	0.02	0.04	0.06	0.02	6.29
Base	2024	0.18	0.23	0.02	0.04	0.06	0.02	6.85
Base	2025	0.19	0.24	0.02	0.04	0.06	0.02	7.45
Hike	2016	0.13	0.16	0.02	0.03	0.05	0.02	4.47
Hike	2017	0.13	0.17	0.02	0.03	0.06	0.02	5.41
Hike	2018	0.14	0.18	0.02	0.03	0.06	0.02	5.81
Hike	2019	0.15	0.19	0.02	0.03	0.06	0.02	6.25
Hike	2020	0.15	0.2	0.02	0.04	0.06	0.02	6.72
Hike	2021	0.16	0.21	0.02	0.04	0.07	0.02	7.24
Hike	2022	0.16	0.22	0.02	0.04	0.07	0.02	7.79
Hike	2023	0.17	0.23	0.02	0.04	0.07	0.02	8.39
Hike	2024	0.18	0.25	0.02	0.05	0.07	0.02	9.04
Hike	2025	0.19	0.26	0.02	0.05	0.08	0.02	9.74

**Table A11: Fiscal Profile of State Governments: Base and Hike scenario, Madhya Pradesh**

Scenario	Year	Revenue receipts/GSDP	Revenue Exp./GSDP	Interest Paymnt./GSDP	Pension/GSDP	Salary/GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.21	0.2	0.02	0.02	0.04	0.04	3.22
Base	2017	0.21	0.21	0.01	0.02	0.04	0.04	3.88
Base	2018	0.22	0.22	0.01	0.02	0.04	0.04	4.64
Base	2019	0.23	0.24	0.01	0.02	0.04	0.04	5.52
Base	2020	0.23	0.25	0.01	0.02	0.04	0.04	6.51
Base	2021	0.24	0.27	0.01	0.02	0.04	0.05	7.64
Base	2022	0.25	0.29	0.01	0.02	0.04	0.05	8.92
Base	2023	0.26	0.31	0.01	0.02	0.04	0.05	10.36
Base	2024	0.27	0.34	0.01	0.02	0.04	0.05	11.99
Base	2025	0.27	0.36	0.01	0.02	0.04	0.05	13.81
Hike	2016	0.21	0.21	0.02	0.02	0.05	0.04	4.03
Hike	2017	0.21	0.22	0.01	0.02	0.05	0.04	5.24
Hike	2018	0.22	0.24	0.01	0.02	0.05	0.04	6
Hike	2019	0.23	0.25	0.01	0.02	0.05	0.04	6.88
Hike	2020	0.23	0.27	0.01	0.02	0.05	0.04	7.87
Hike	2021	0.24	0.29	0.01	0.02	0.05	0.05	9.01
Hike	2022	0.25	0.31	0.01	0.02	0.05	0.05	10.29
Hike	2023	0.26	0.33	0.01	0.02	0.05	0.05	11.73
Hike	2024	0.27	0.35	0.01	0.02	0.05	0.05	13.36

Hike 2025 0.27 0.38 0.01 0.03 0.05 0.05 15.19

**Table A12: Fiscal Profile of State Governments: Base and Hike scenario, Maharashtra**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.09	0.1	0.01	0.01	0.03	0.01	1.41
Base	2017	0.09	0.1	0.01	0.01	0.03	0.01	1.42
Base	2018	0.09	0.1	0.01	0.01	0.03	0.01	1.44
Base	2019	0.09	0.1	0.01	0.01	0.03	0.01	1.47
Base	2020	0.09	0.1	0.01	0.01	0.03	0.01	1.51
Base	2021	0.09	0.1	0.01	0.01	0.03	0.01	1.55
Base	2022	0.09	0.1	0.01	0.01	0.03	0.01	1.61
Base	2023	0.09	0.1	0.01	0.01	0.03	0.01	1.68
Base	2024	0.09	0.1	0.01	0.01	0.03	0.01	1.76
Base	2025	0.09	0.11	0.01	0.01	0.03	0.01	1.85
Hike	2016	0.09	0.1	0.01	0.01	0.04	0.01	1.98
Hike	2017	0.09	0.11	0.01	0.01	0.04	0.01	2.42
Hike	2018	0.09	0.11	0.01	0.01	0.04	0.01	2.42
Hike	2019	0.09	0.11	0.01	0.01	0.04	0.01	2.44
Hike	2020	0.09	0.11	0.01	0.01	0.04	0.01	2.46
Hike	2021	0.09	0.11	0.01	0.01	0.04	0.01	2.49
Hike	2022	0.09	0.11	0.01	0.01	0.04	0.01	2.54
Hike	2023	0.09	0.11	0.01	0.01	0.04	0.01	2.59
Hike	2024	0.09	0.11	0.01	0.01	0.04	0.01	2.66
Hike	2025	0.09	0.11	0.01	0.01	0.04	0.01	2.74

**Table A13: Fiscal Profile of State Governments: Base and Hike scenario, Odisha**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.22	0.18	0.01	0.02	0.05	0.06	2.36
Base	2017	0.24	0.19	0.01	0.02	0.05	0.07	2.74
Base	2018	0.25	0.2	0.01	0.02	0.05	0.09	3.31
Base	2019	0.27	0.21	0.01	0.02	0.05	0.11	4.11
Base	2020	0.29	0.22	0.01	0.02	0.05	0.13	5.2
Base	2021	0.31	0.22	0.01	0.02	0.06	0.15	6.63
Base	2022	0.33	0.23	0.01	0.02	0.06	0.18	8.49
Base	2023	0.35	0.25	0.01	0.02	0.06	0.22	10.86
Base	2024	0.38	0.26	0.01	0.02	0.06	0.26	13.85
Base	2025	0.4	0.27	0.01	0.02	0.06	0.31	17.6
Hike	2016	0.22	0.19	0.01	0.02	0.06	0.06	3.43
Hike	2017	0.24	0.21	0.01	0.02	0.07	0.07	4.53
Hike	2018	0.25	0.22	0.01	0.02	0.07	0.09	5.11
Hike	2019	0.27	0.22	0.01	0.02	0.07	0.11	5.92
Hike	2020	0.29	0.23	0.01	0.02	0.07	0.13	7.02
Hike	2021	0.31	0.24	0.01	0.02	0.07	0.15	8.46
Hike	2022	0.33	0.25	0.01	0.02	0.07	0.18	10.32
Hike	2023	0.35	0.26	0.01	0.02	0.07	0.22	12.7
Hike	2024	0.38	0.28	0.01	0.02	0.07	0.26	15.7

Hike	2025	0.4	0.29	0.01	0.02	0.07	0.31	19.46
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**Table A14: Fiscal Profile of State Governments: Base and Hike scenario, Rajasthan**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.15	0.16	0.02	0.02	0.04	0.04	4.99
Base	2017	0.15	0.17	0.02	0.02	0.04	0.02	3.48
Base	2018	0.16	0.18	0.02	0.02	0.04	0.01	3.24
Base	2019	0.16	0.2	0.02	0.02	0.04	0	3.62
Base	2020	0.17	0.21	0.01	0.02	0.04	0	4.36
Base	2021	0.17	0.22	0.01	0.02	0.03	0	5.33
Base	2022	0.18	0.24	0.01	0.02	0.03	0	6.52
Base	2023	0.18	0.26	0.01	0.02	0.03	0	7.91
Base	2024	0.18	0.28	0.01	0.02	0.03	0	9.51
Base	2025	0.19	0.3	0.01	0.02	0.03	0	11.33
Hike	2016	0.15	0.17	0.02	0.02	0.04	0.04	5.77
Hike	2017	0.15	0.19	0.02	0.02	0.05	0.02	4.75
Hike	2018	0.16	0.2	0.02	0.02	0.05	0.01	4.49
Hike	2019	0.16	0.21	0.02	0.02	0.04	0	4.87
Hike	2020	0.17	0.22	0.01	0.02	0.04	0	5.6
Hike	2021	0.17	0.24	0.01	0.02	0.04	0	6.57
Hike	2022	0.18	0.25	0.01	0.02	0.04	0	7.75
Hike	2023	0.18	0.27	0.01	0.02	0.04	0	9.13
Hike	2024	0.18	0.29	0.01	0.02	0.04	0	10.72
Hike	2025	0.19	0.32	0.01	0.02	0.04	0	12.54

**Table A15: Fiscal Profile of State Governments: Base and Hike scenario, Tamil Nadu**

Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.11	0.12	0.02	0.02	0.03	0.02	3.38
Base	2017	0.11	0.13	0.02	0.01	0.03	0.02	3.75
Base	2018	0.11	0.13	0.02	0.01	0.03	0.02	4.14
Base	2019	0.11	0.13	0.02	0.01	0.03	0.02	4.57
Base	2020	0.11	0.14	0.02	0.01	0.03	0.02	5.02
Base	2021	0.1	0.14	0.02	0.01	0.03	0.02	5.51
Base	2022	0.1	0.15	0.02	0.01	0.03	0.02	6.02
Base	2023	0.1	0.15	0.02	0.01	0.03	0.02	6.58
Base	2024	0.1	0.16	0.02	0.01	0.03	0.02	7.16
Base	2025	0.1	0.16	0.02	0.01	0.03	0.02	7.79
Hike	2016	0.11	0.13	0.02	0.02	0.04	0.02	4.09
Hike	2017	0.11	0.14	0.02	0.02	0.04	0.02	4.86
Hike	2018	0.11	0.14	0.02	0.02	0.04	0.02	5.08
Hike	2019	0.11	0.15	0.02	0.02	0.04	0.02	5.35
Hike	2020	0.11	0.15	0.02	0.02	0.04	0.01	5.66
Hike	2021	0.1	0.15	0.02	0.02	0.04	0.01	6.03
Hike	2022	0.1	0.16	0.02	0.02	0.03	0.01	6.79
Hike	2023	0.1	0.16	0.02	0.02	0.03	0.01	7.21

Hike	2024	0.1	0.17	0.02	0.02	0.03	0.01	7.68
Hike	2025	0.1	0.17	0.02	0.01	0.03	0.01	8.21

**Table A16: Fiscal Profile of State Governments: Base and Hike scenario, Uttar Pradesh**

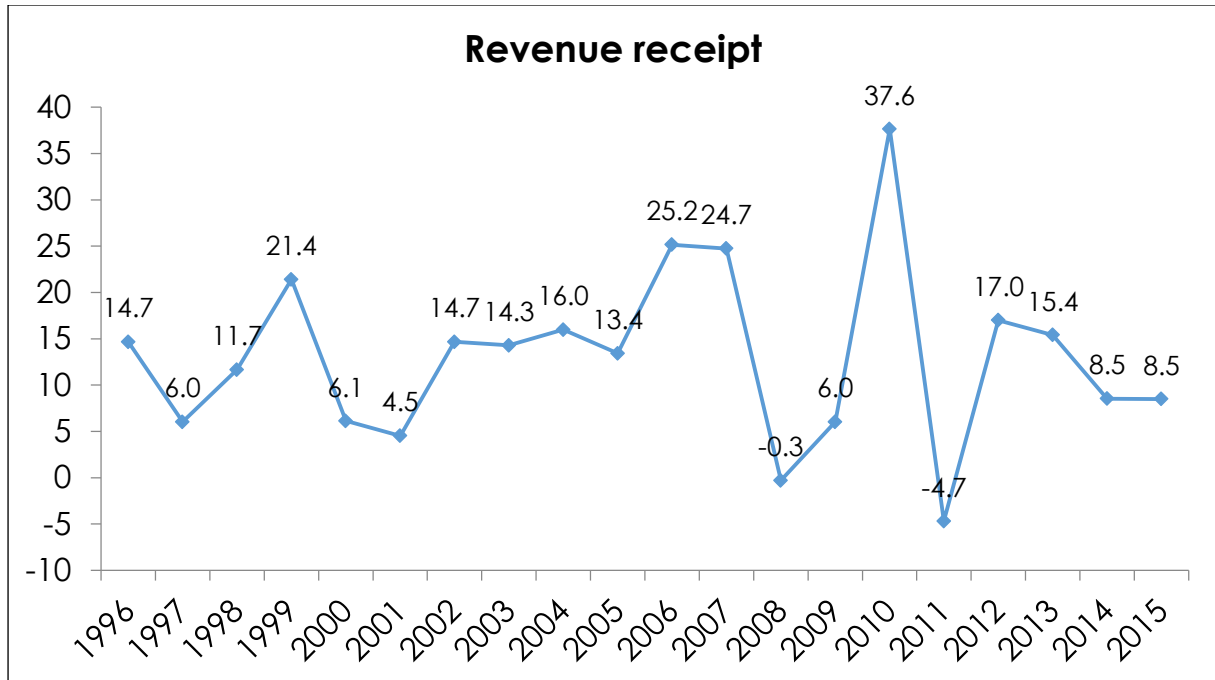
Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.21	0.19	0.02	0.02	0.03	0.06	4.68
Base	2017	0.22	0.2	0.02	0.02	0.02	0.06	4.21
Base	2018	0.22	0.2	0.02	0.02	0.02	0.06	3.81
Base	2019	0.23	0.21	0.02	0.02	0.02	0.06	3.48
Base	2020	0.24	0.22	0.02	0.02	0.02	0.05	3.21
Base	2021	0.25	0.23	0.02	0.02	0.02	0.05	3.01
Base	2022	0.26	0.23	0.02	0.02	0.01	0.05	2.88
Base	2023	0.26	0.24	0.01	0.02	0.01	0.05	2.81
Base	2024	0.27	0.26	0.01	0.03	0.01	0.05	2.8
Base	2025	0.28	0.27	0.01	0.03	0.01	0.04	2.87
Hike	2016	0.21	0.2	0.02	0.03	0.03	0.06	5.51
Hike	2017	0.22	0.21	0.02	0.03	0.03	0.06	5.37
Hike	2018	0.22	0.22	0.02	0.03	0.03	0.06	4.91
Hike	2019	0.23	0.22	0.02	0.03	0.02	0.06	4.51
Hike	2020	0.24	0.23	0.02	0.03	0.02	0.05	4.19
Hike	2021	0.25	0.24	0.02	0.03	0.02	0.05	3.95
Hike	2022	0.26	0.24	0.02	0.03	0.02	0.05	3.77
Hike	2023	0.26	0.25	0.01	0.03	0.02	0.05	3.67
Hike	2024	0.27	0.26	0.01	0.03	0.01	0.05	3.64
Hike	2025	0.28	0.28	0.01	0.03	0.01	0.04	3.68

**Table A17: Fiscal Profile of State Governments: Base and Hike scenario, Uttarakhand**

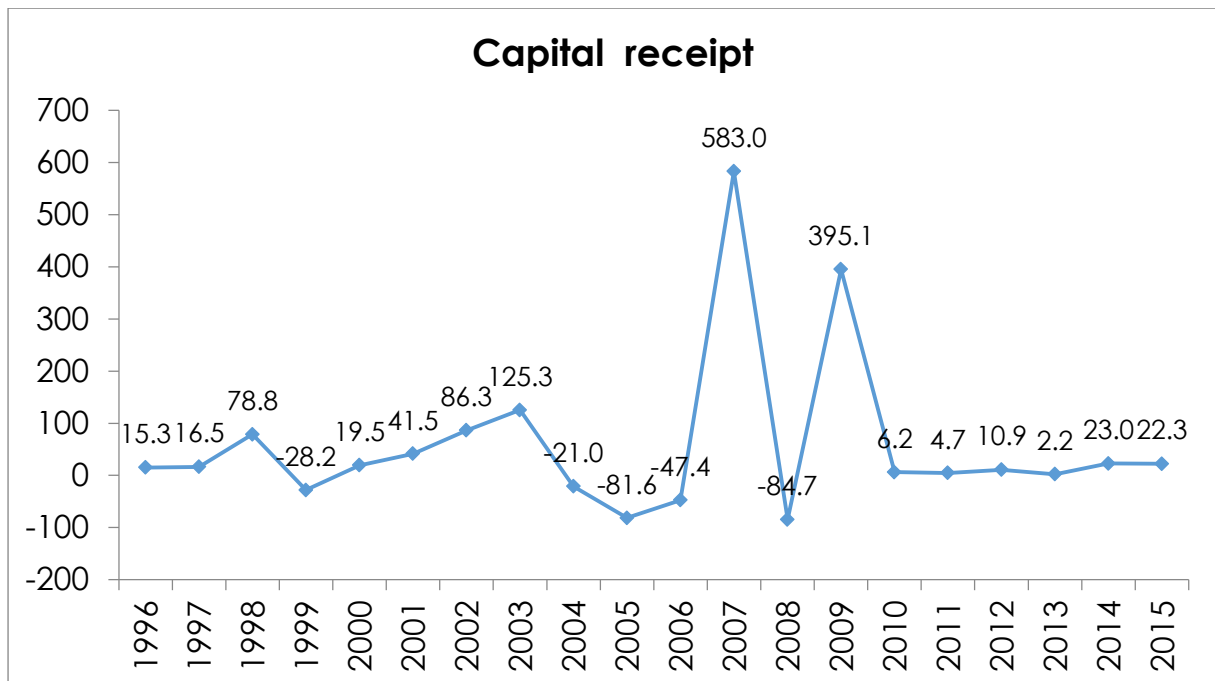
Scenario	Year	Revenue receipts /GSDP	Revenue Exp. /GSDP	Interest Paymnt. /GSDP	Pension/GSDP	Salary /GSDP	CO+NL-NDCR/GSDP	Fiscal def/GSDP
Base	2016	0.13	0.14	0.02	0.02	0.05	0.02	3.43
Base	2017	0.13	0.14	0.02	0.02	0.05	0.02	3.39
Base	2018	0.13	0.14	0.02	0.02	0.05	0.02	3.37
Base	2019	0.13	0.14	0.02	0.02	0.05	0.02	3.36
Base	2020	0.14	0.15	0.02	0.02	0.05	0.02	3.38
Base	2021	0.14	0.15	0.02	0.02	0.05	0.02	3.41
Base	2022	0.14	0.16	0.02	0.02	0.04	0.02	3.46
Base	2023	0.15	0.16	0.02	0.02	0.04	0.02	3.53
Base	2024	0.15	0.17	0.02	0.03	0.04	0.02	3.63
Base	2025	0.15	0.17	0.02	0.03	0.04	0.02	3.75
Hike	2016	0.12	0.14	0.02	0.02	0.06	0.02	4.36
Hike	2017	0.13	0.15	0.02	0.02	0.06	0.02	4.99
Hike	2018	0.13	0.16	0.02	0.02	0.06	0.02	4.97
Hike	2019	0.13	0.16	0.02	0.02	0.06	0.02	4.96
Hike	2020	0.14	0.16	0.02	0.02	0.06	0.02	4.98
Hike	2021	0.14	0.17	0.02	0.03	0.06	0.02	5.01
Hike	2022	0.14	0.17	0.02	0.03	0.06	0.02	5.07

Hike	2023	0.15	0.18	0.02	0.03	0.06	0.02	5.16
Hike	2024	0.15	0.18	0.02	0.03	0.05	0.02	5.26
Hike	2025	0.15	0.19	0.02	0.03	0.05	0.02	5.4

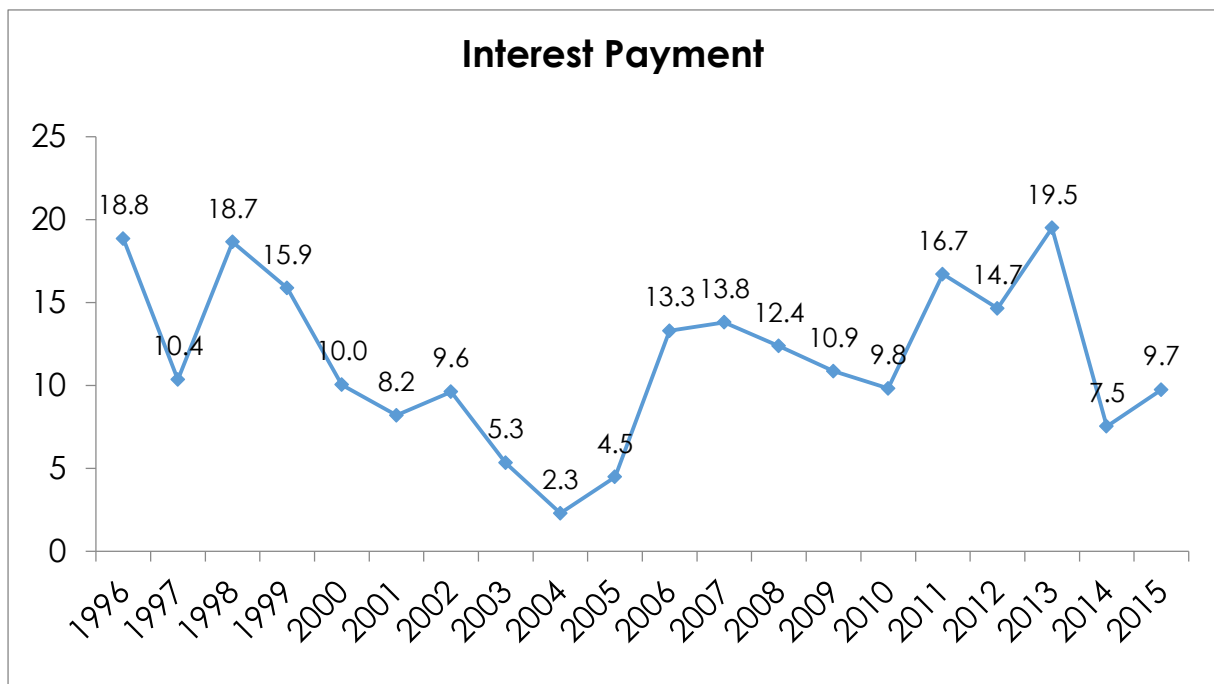
**Figure A1: Growth rate in revenue receipts, Central government, 1995-2015**



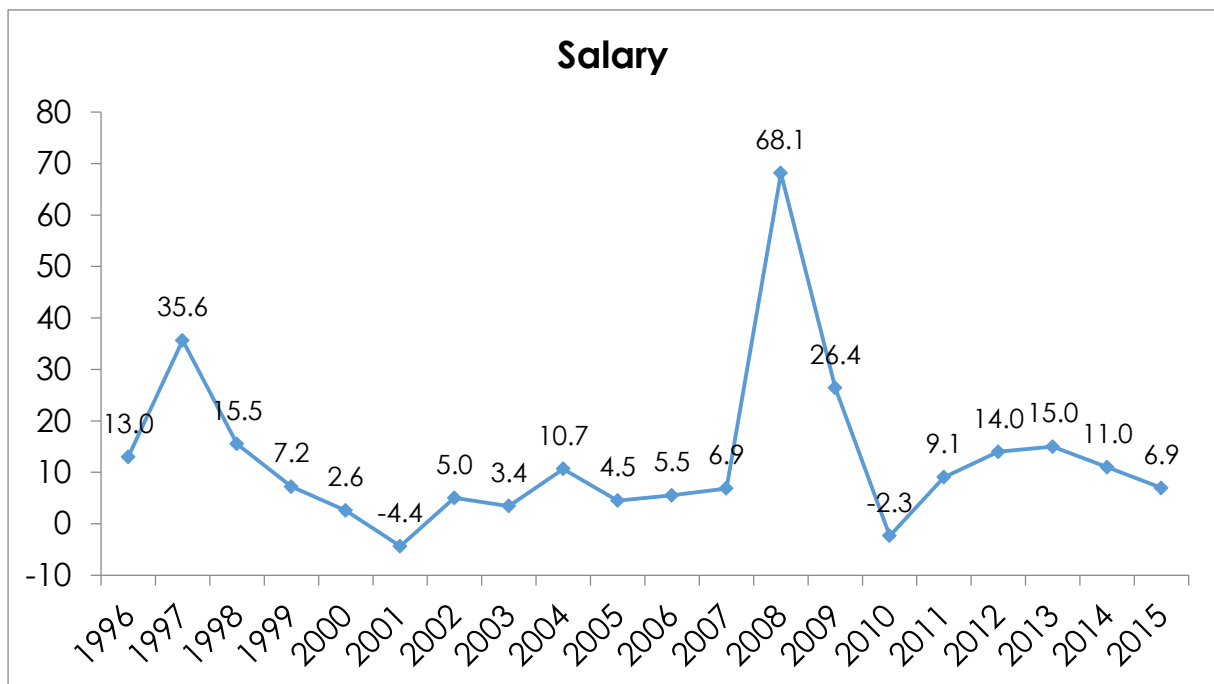
**Figure A2: Growth rate in capital receipts, Central government, 1995-2015**



**Figure A3: Growth rate in interest payments, Central government, 1995-2015**

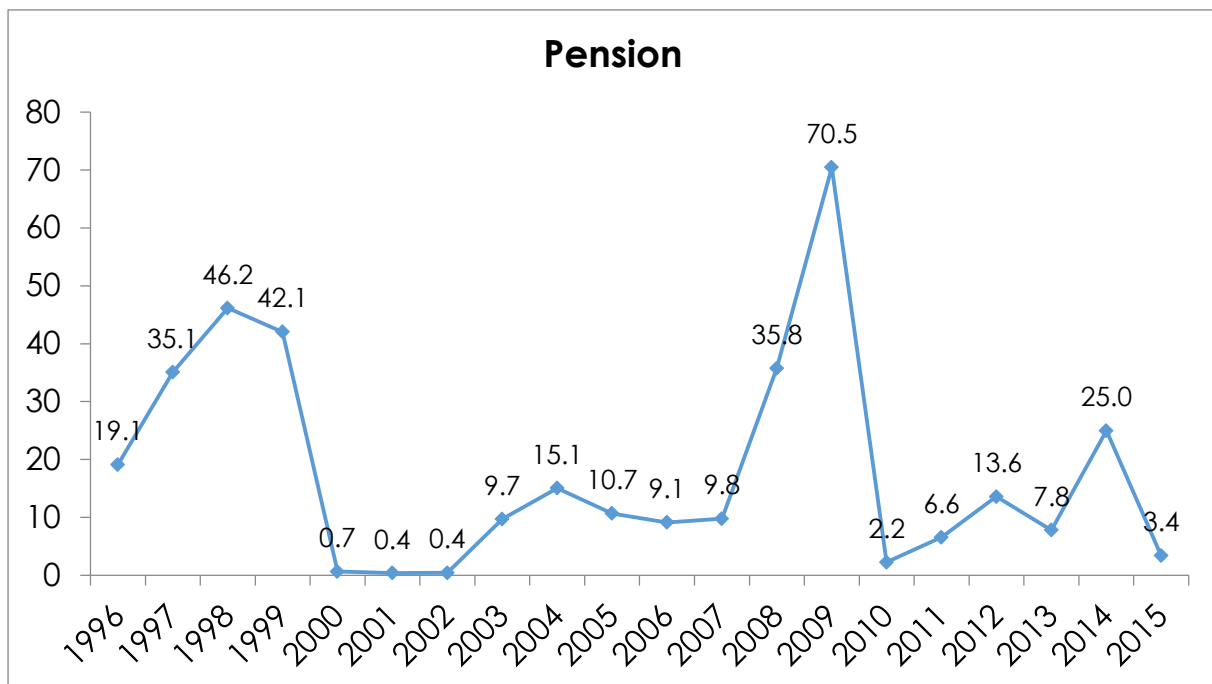


**Figure A4: Growth rate in salary, Central government, 1995-2015**

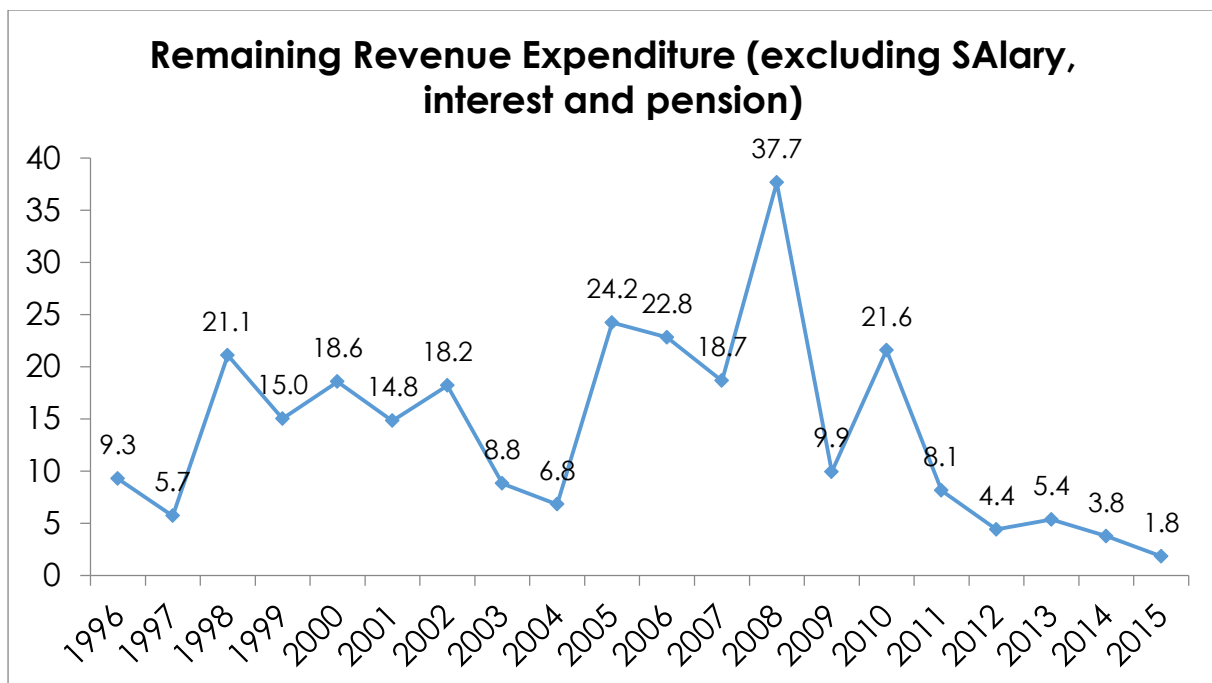




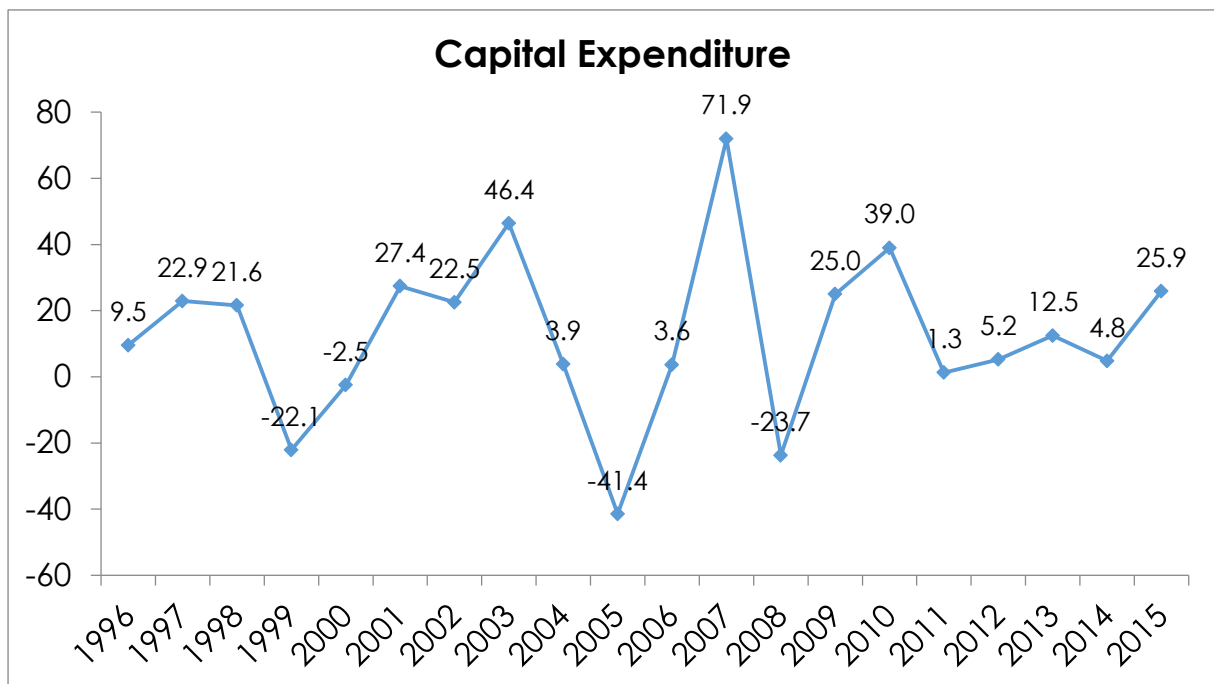
**Figure A5: Growth rate in pension, Central government, 1995-2015**



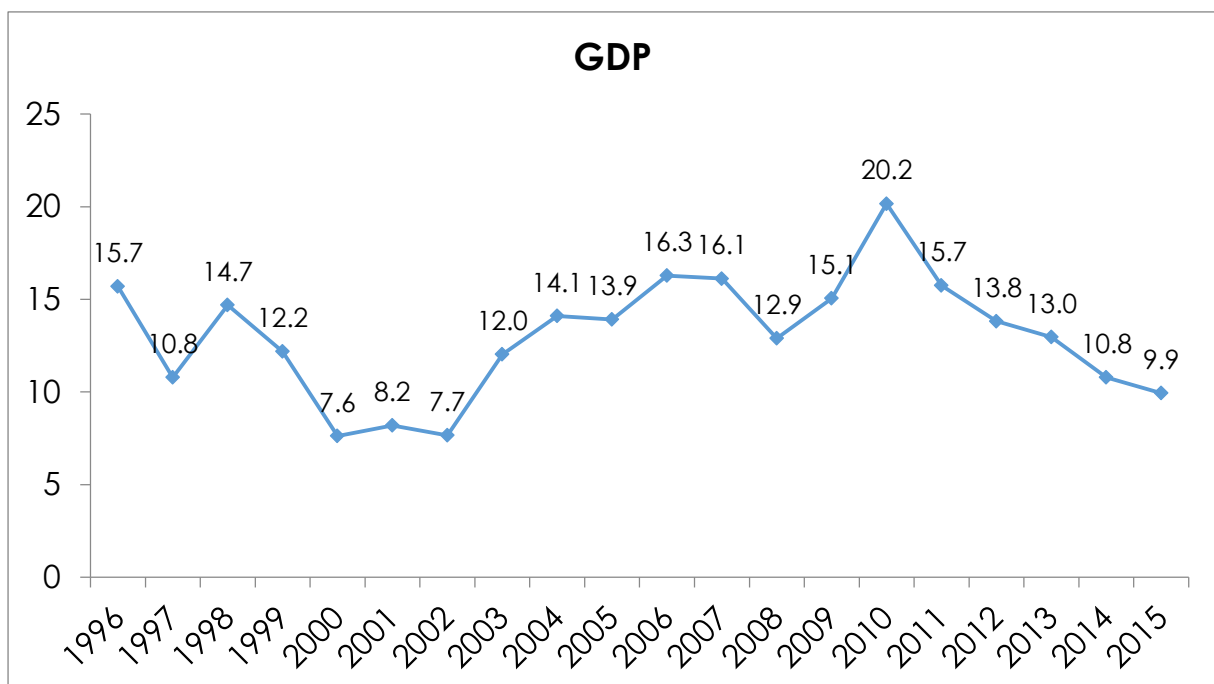
**Figure A6: Growth rate in remaining revenue expenditure, Central government, 1995-2015**



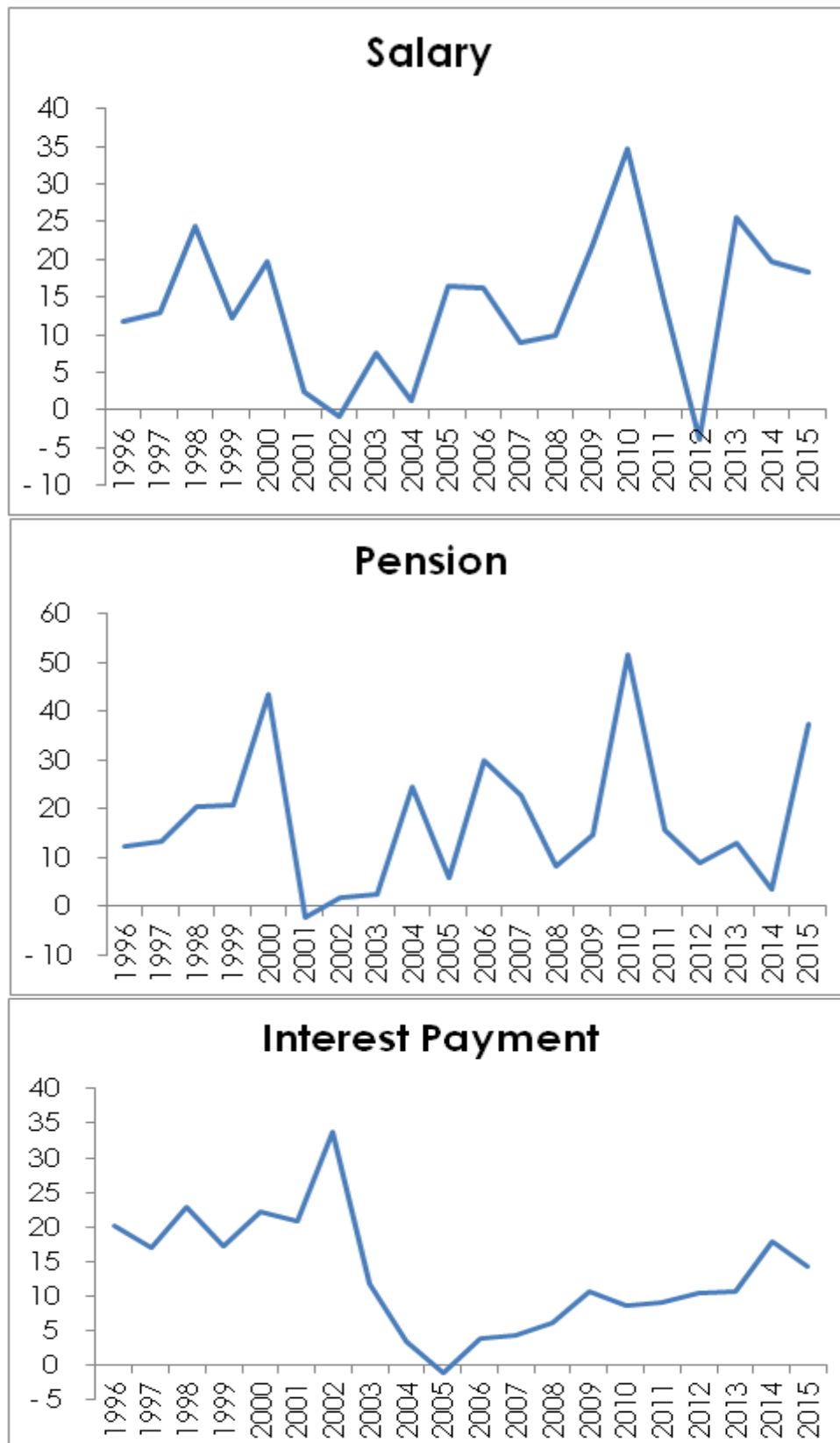
**Figure A7: Growth rate in capital expenditure, Central government, 1995-2015**

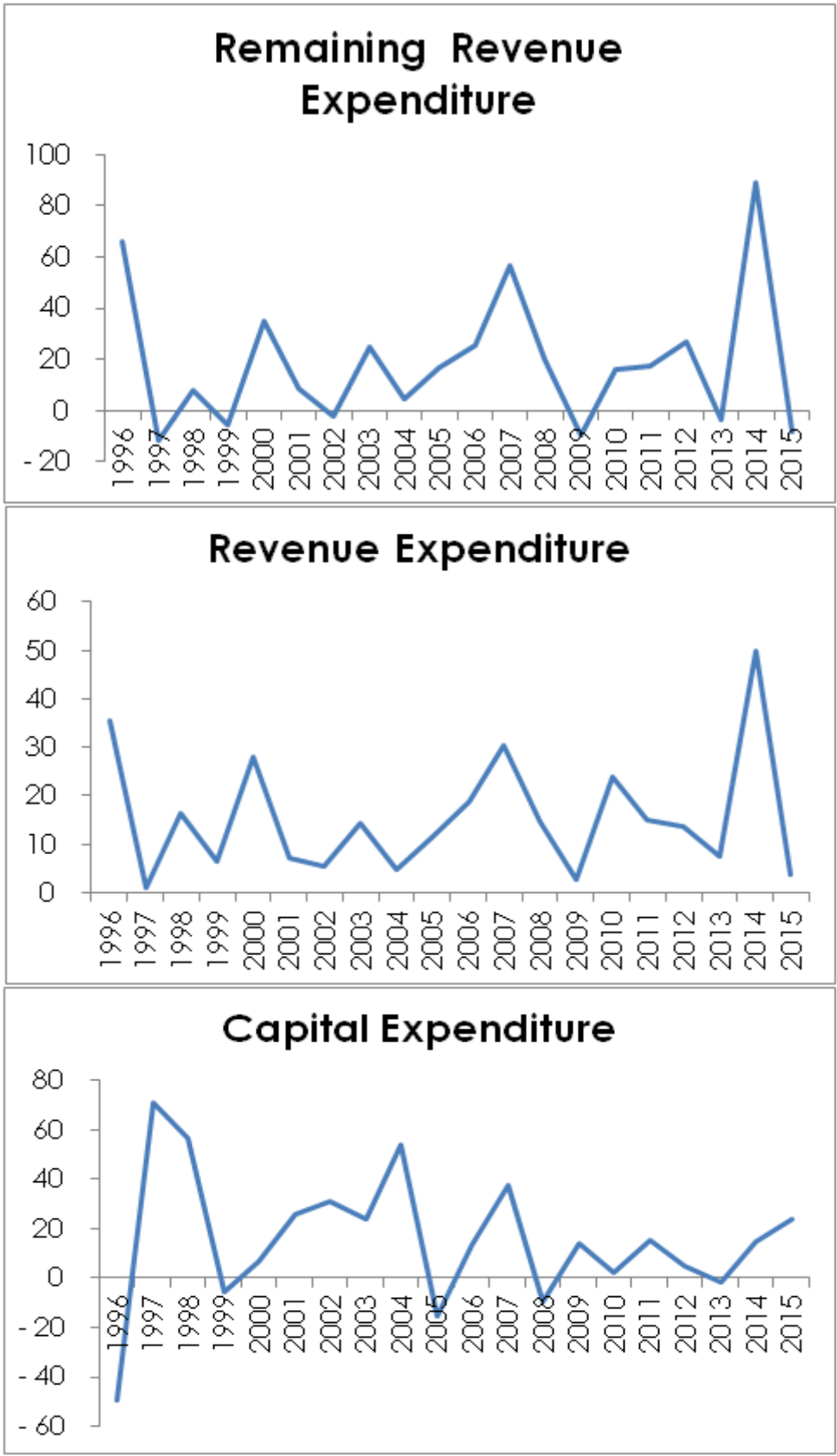


**Figure A8: Growth rate in GDP, Central government, 1995-2015**

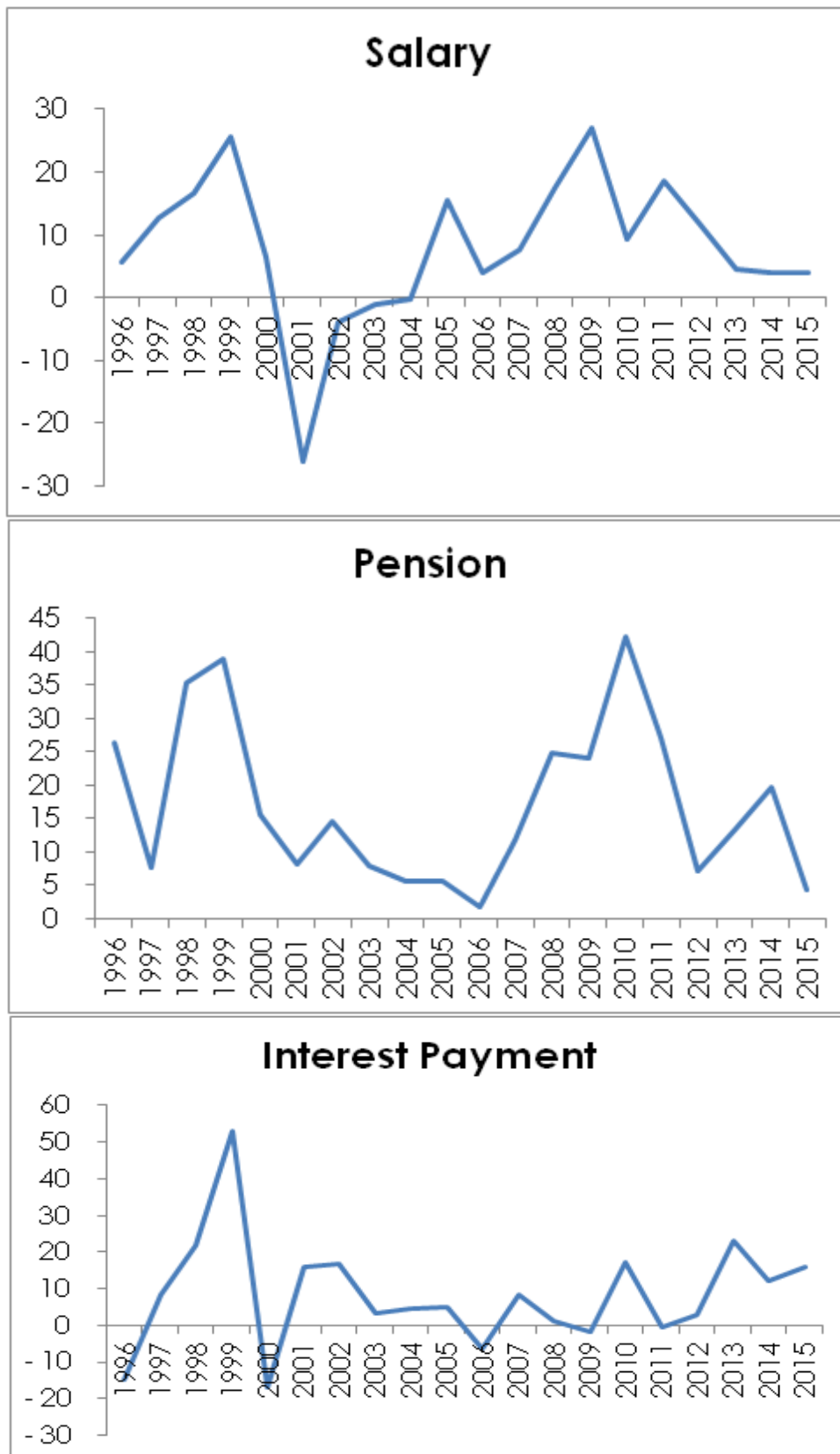


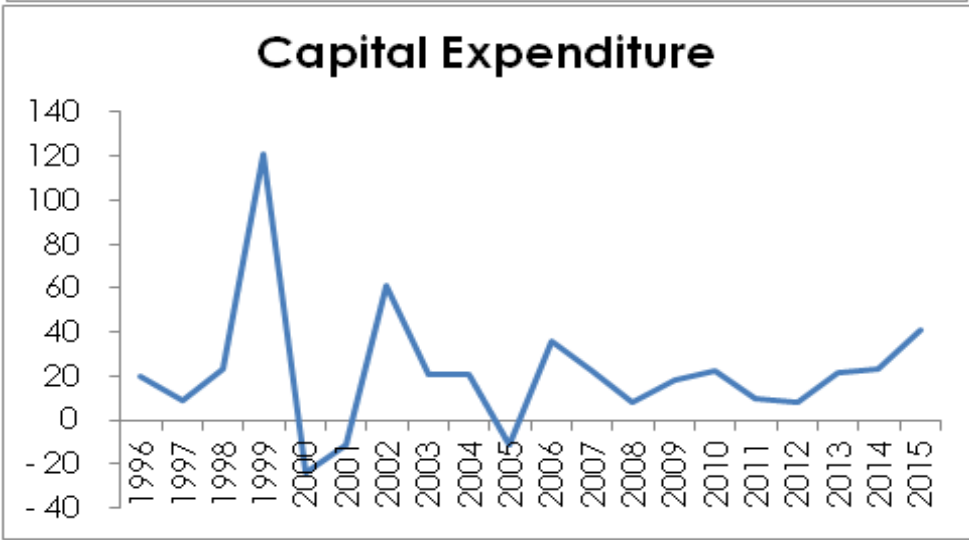
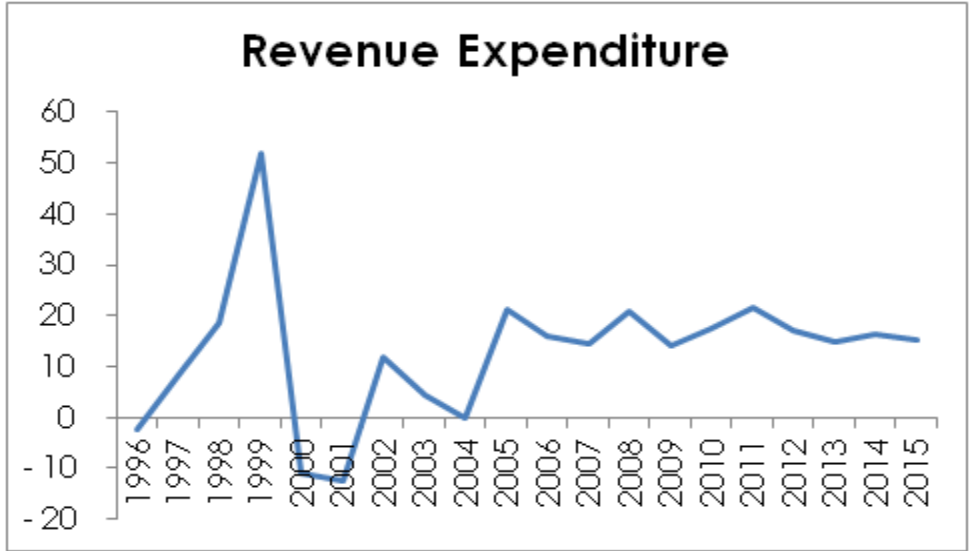
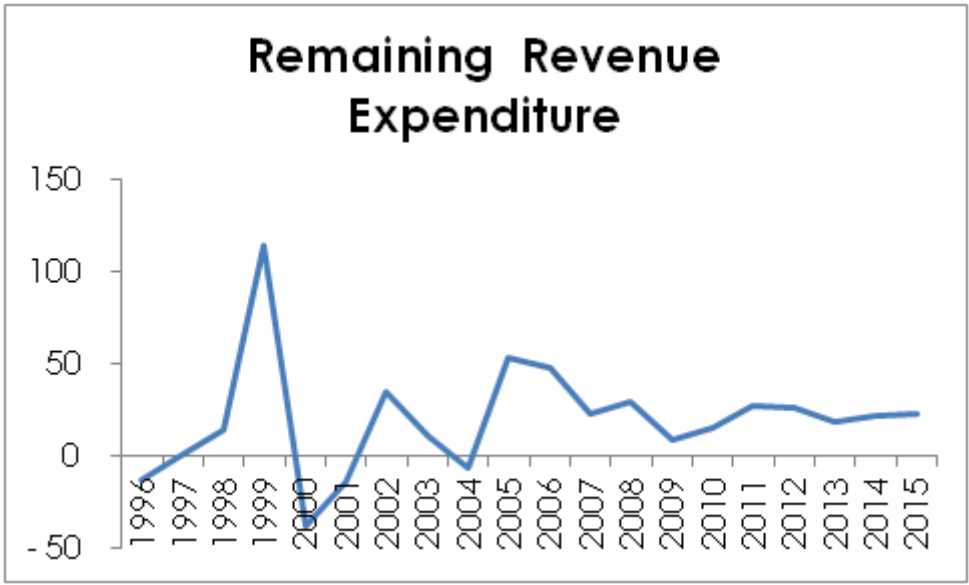
**Figure A9: Components of Expenditure, Andhra Pradesh, 1996-97 to 2015-16**



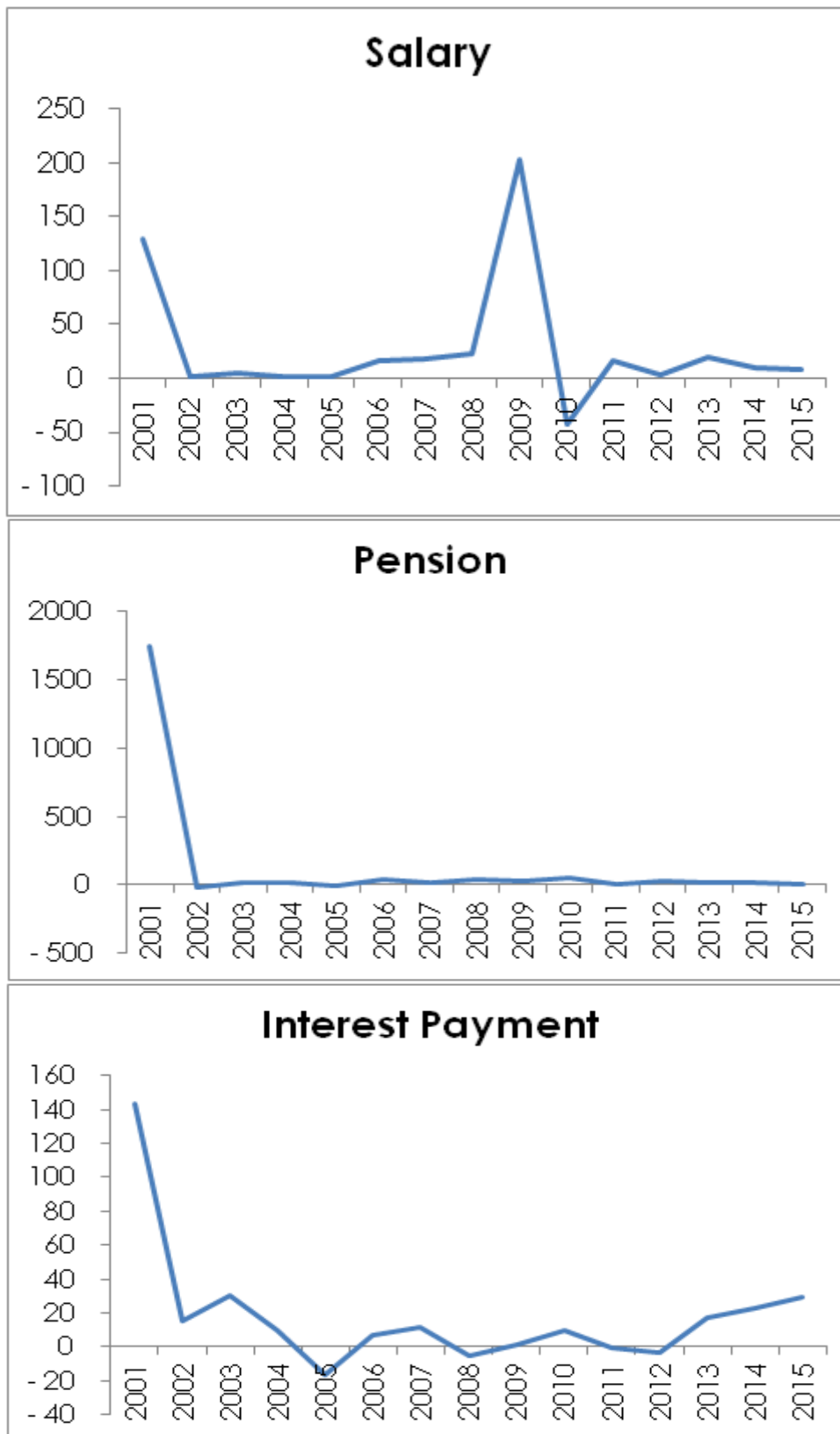


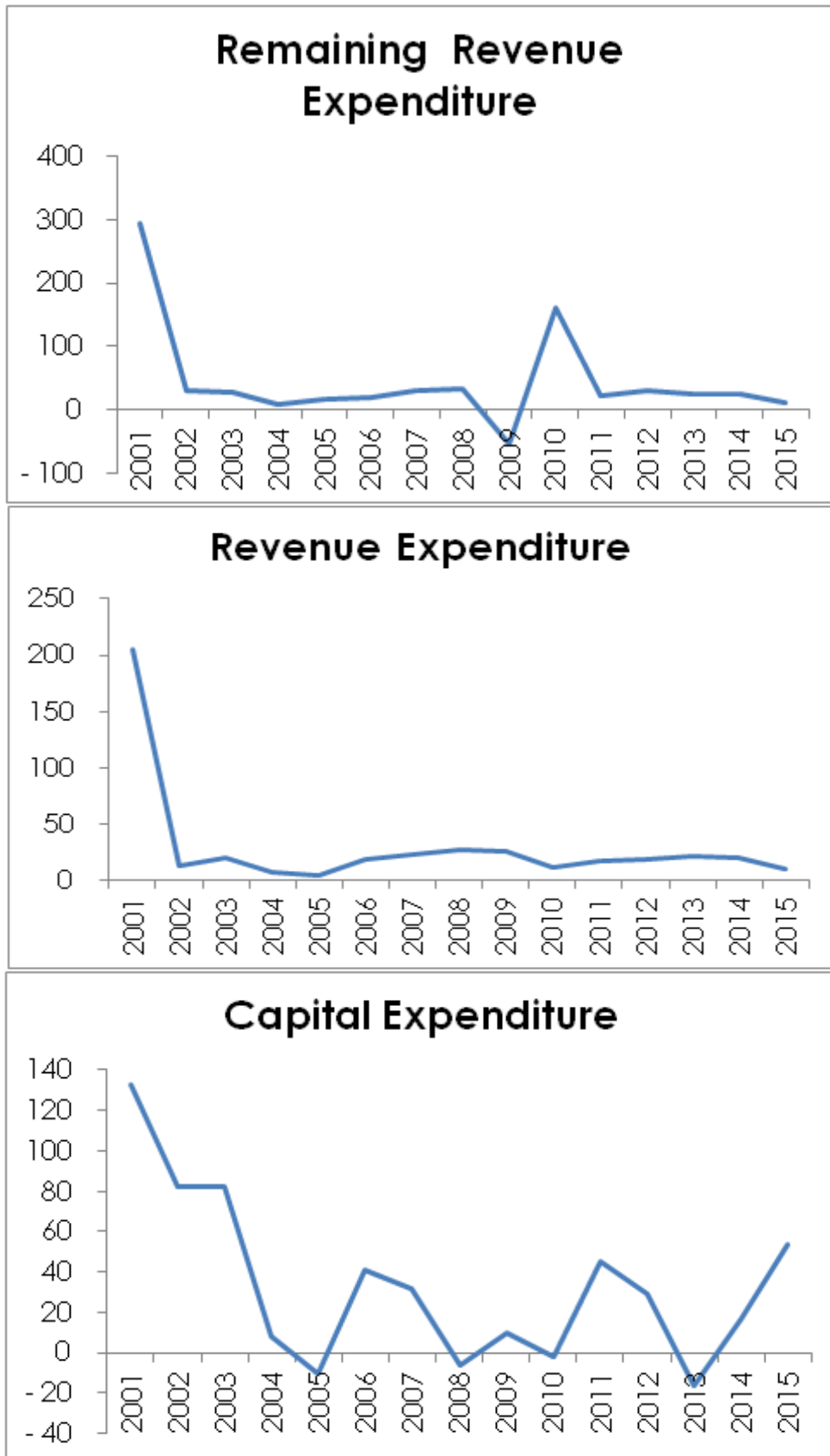
**Figure A10: Components of Expenditure, Bihar, 1996-97 to 2015-16**





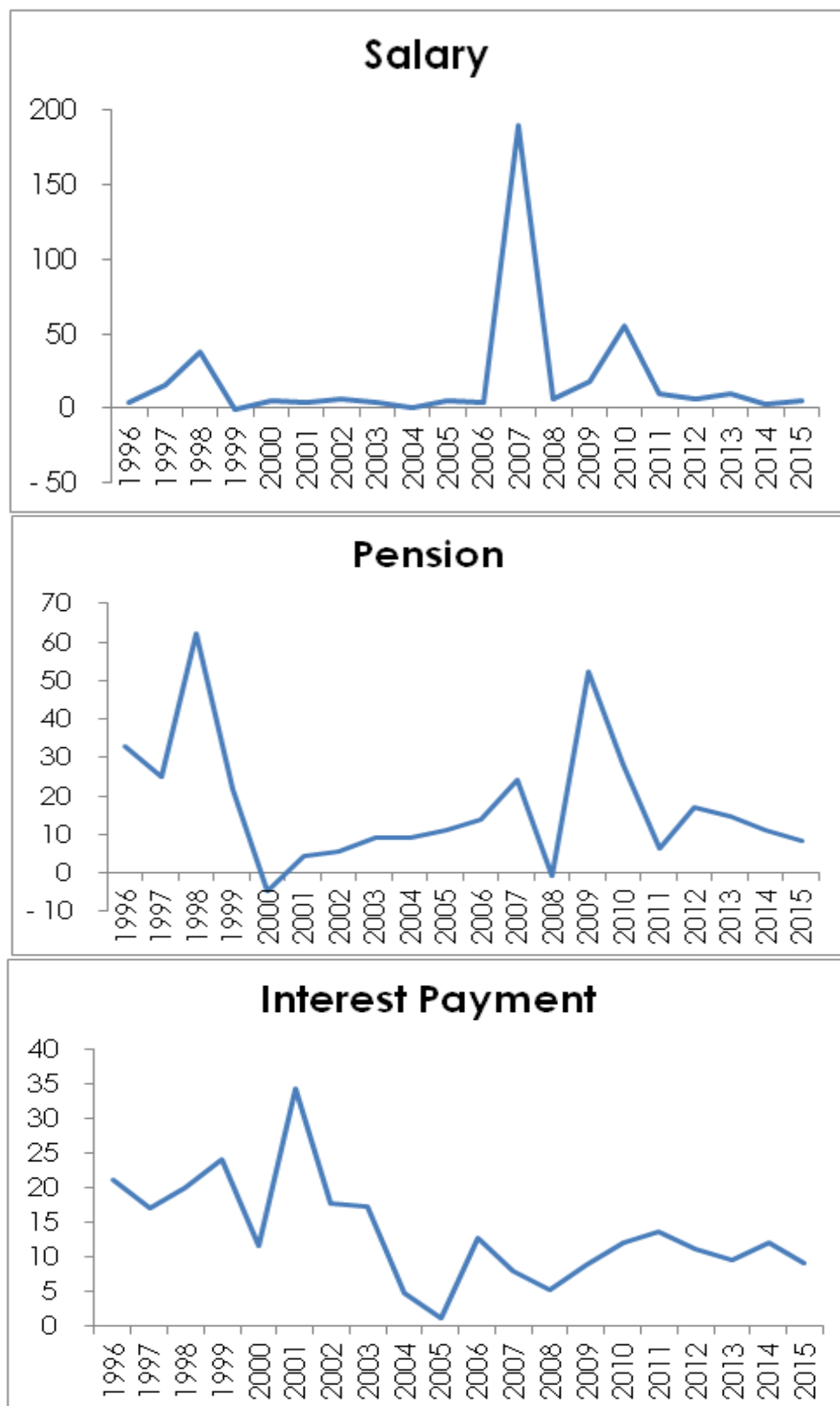
**Figure A11: Components of Expenditure, Chhattisgarh, 2001-02 to 2015-16**

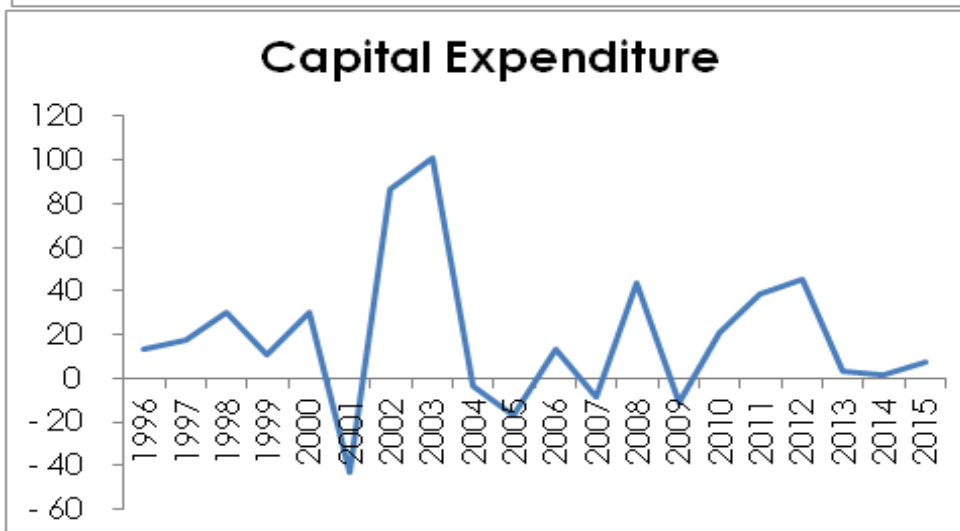
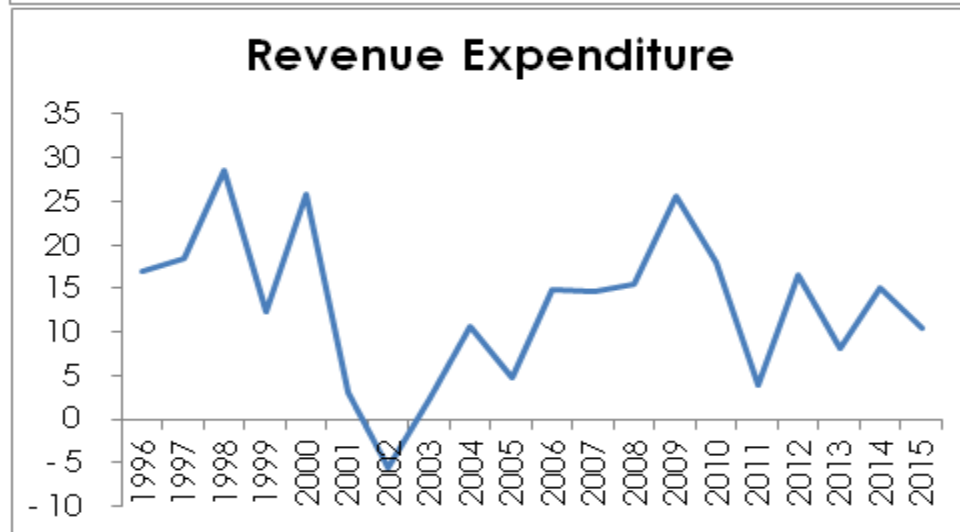
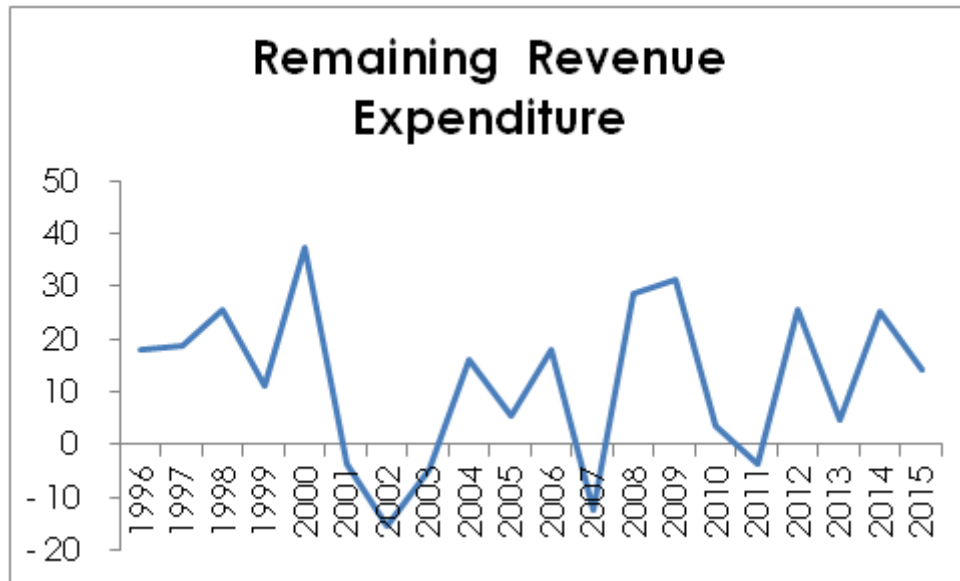




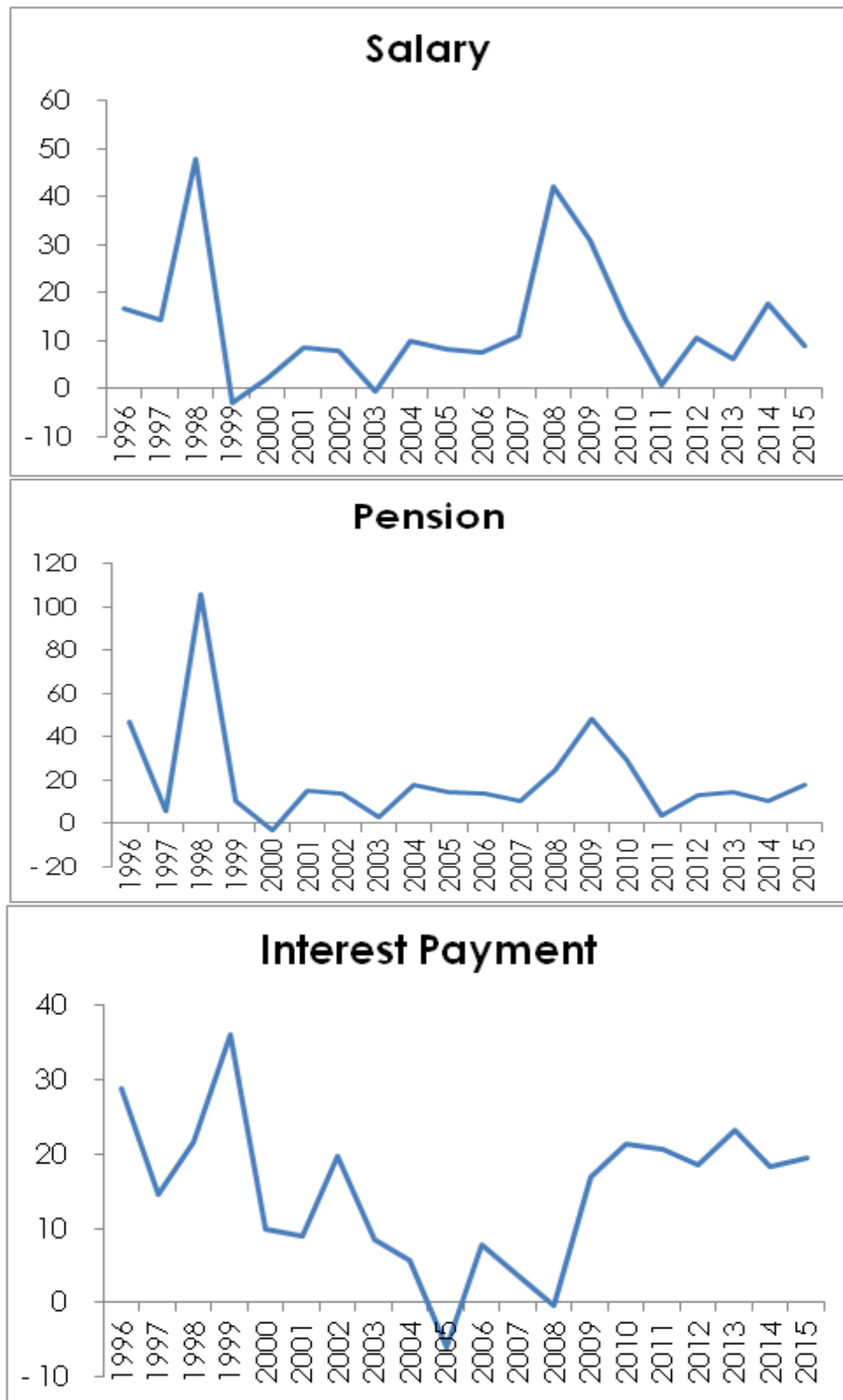


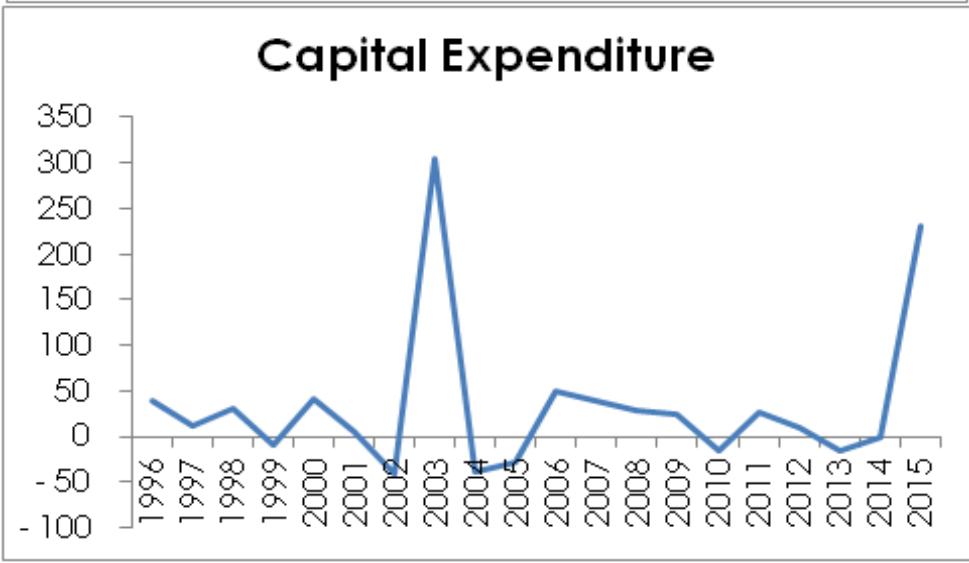
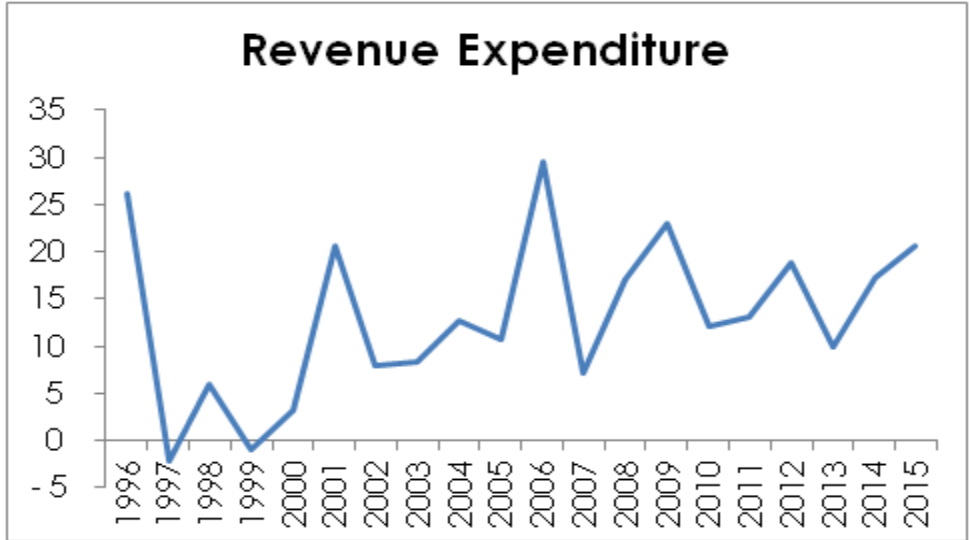
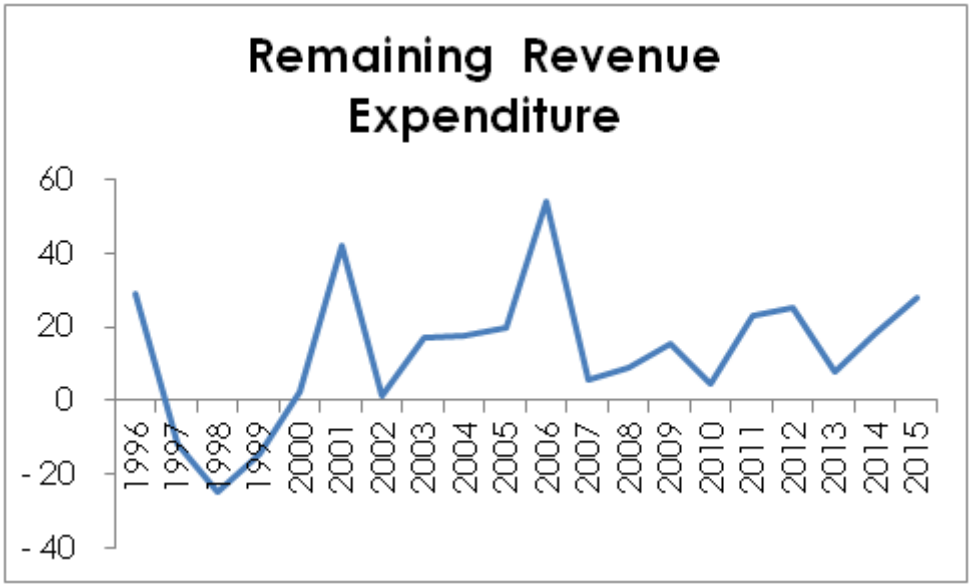
**Figure A12: Components of Expenditure, Gujarat, 1996-97 to 2015-16**





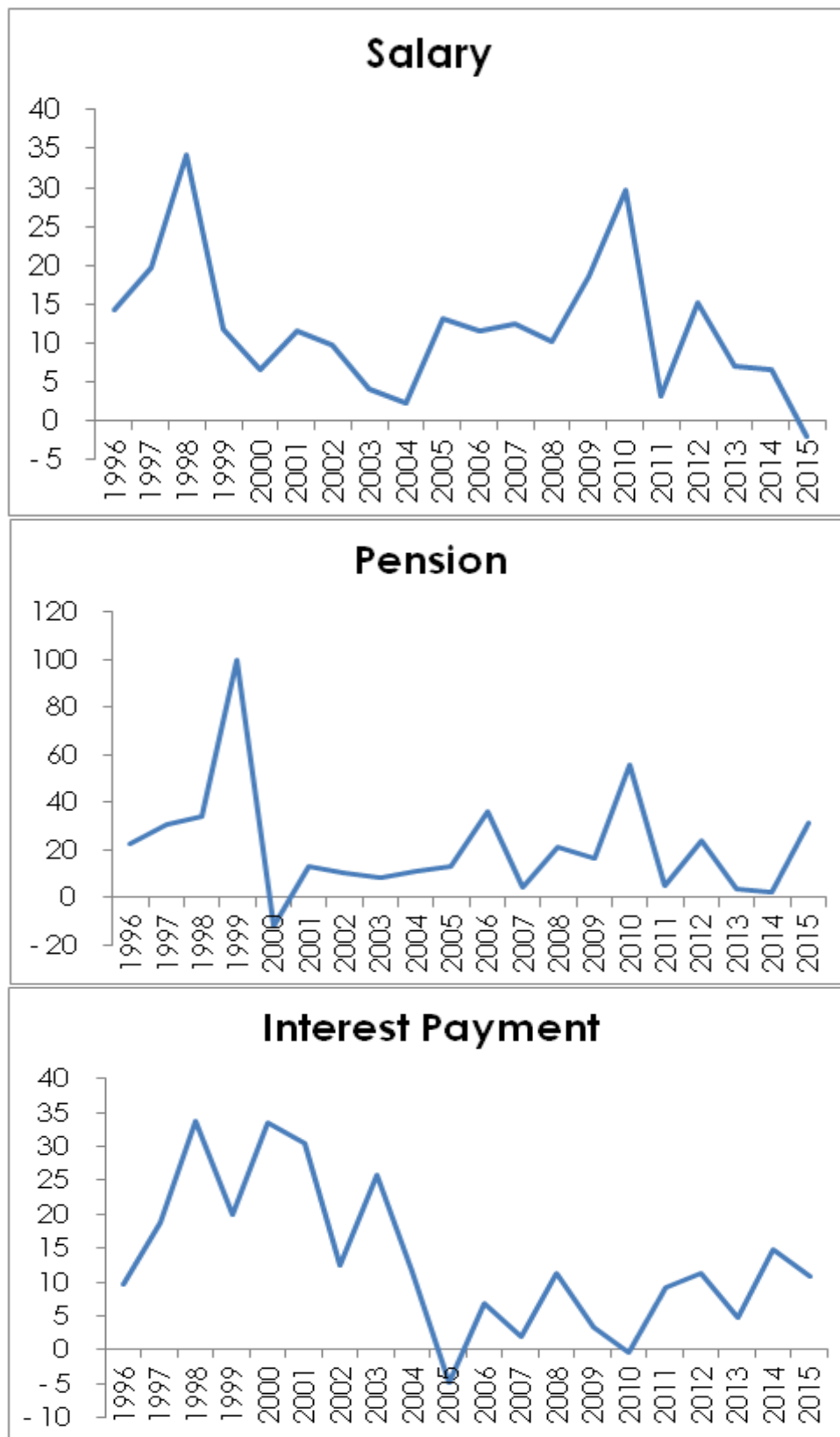
**Figure A13: Components of Expenditure, Haryana, 1996-97 to 2015-16**

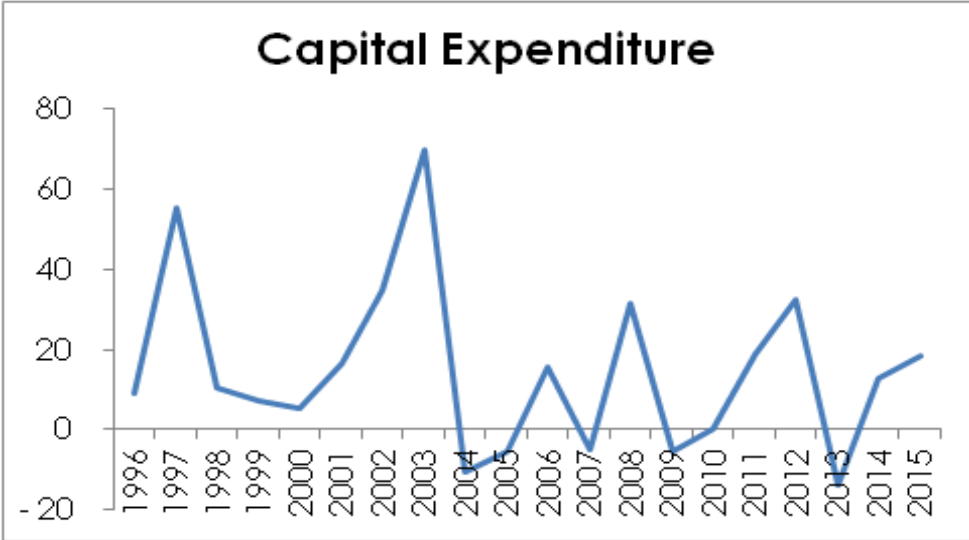
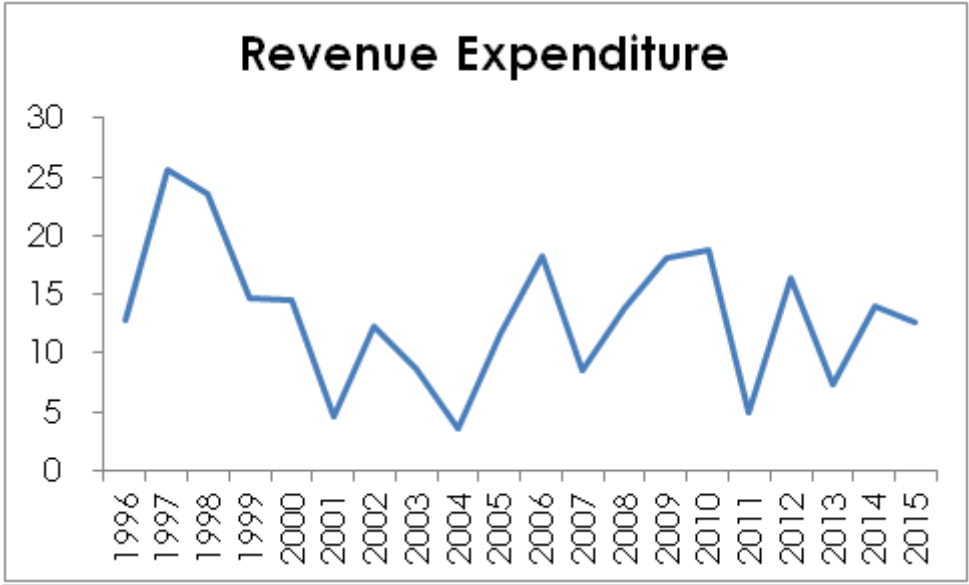
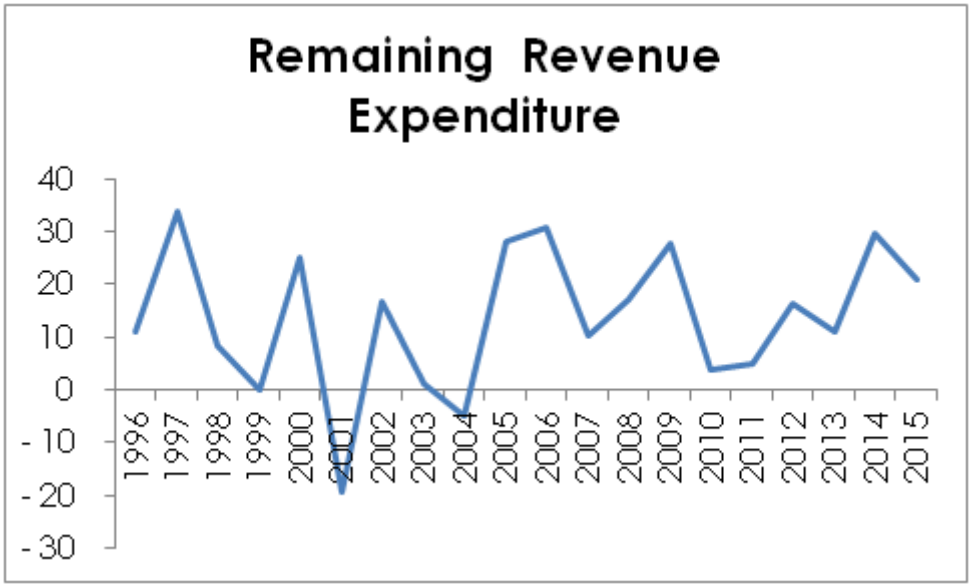




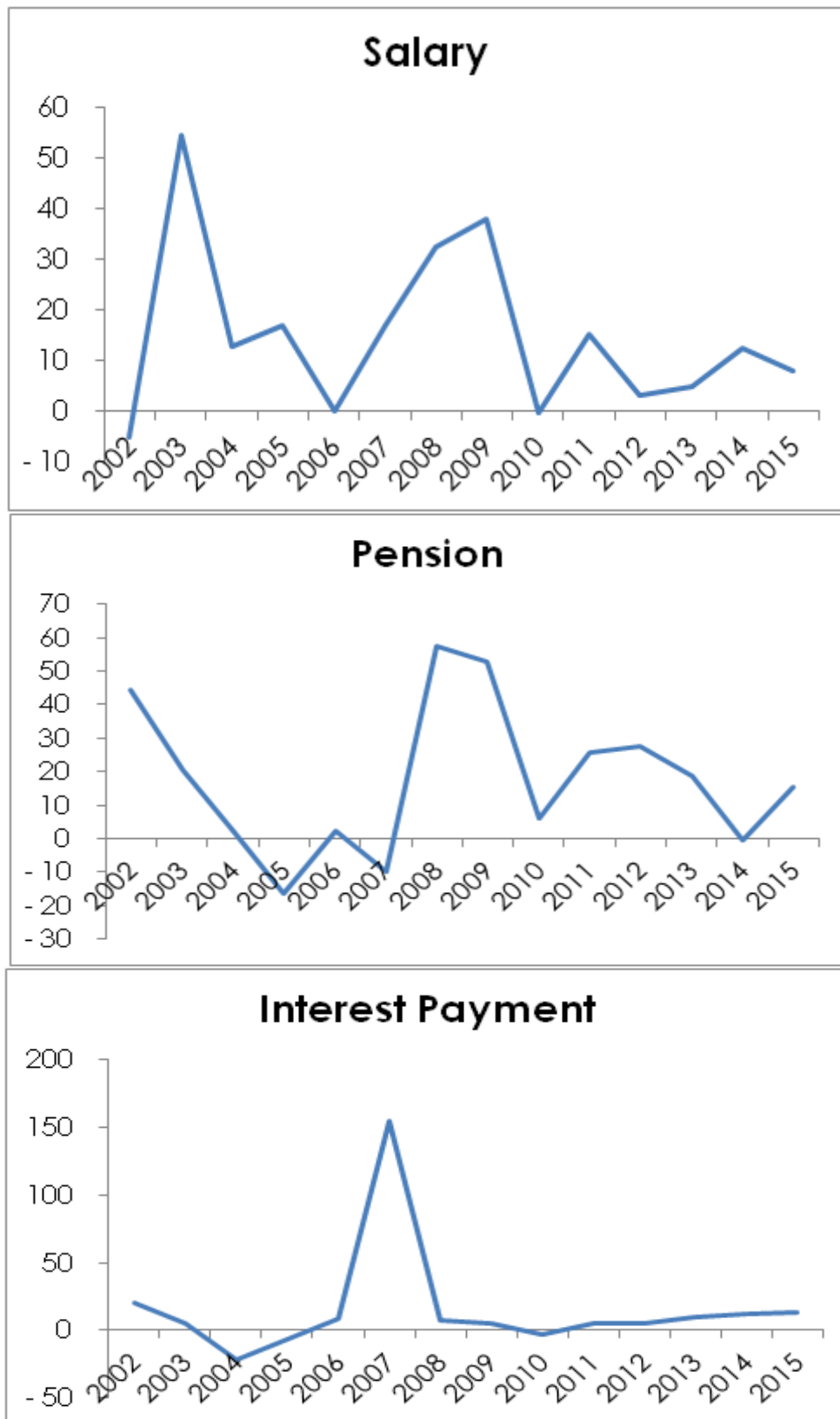
**Figure A14: Components of Expenditure, Himachal Pradesh, 1996-97 to 2015-**

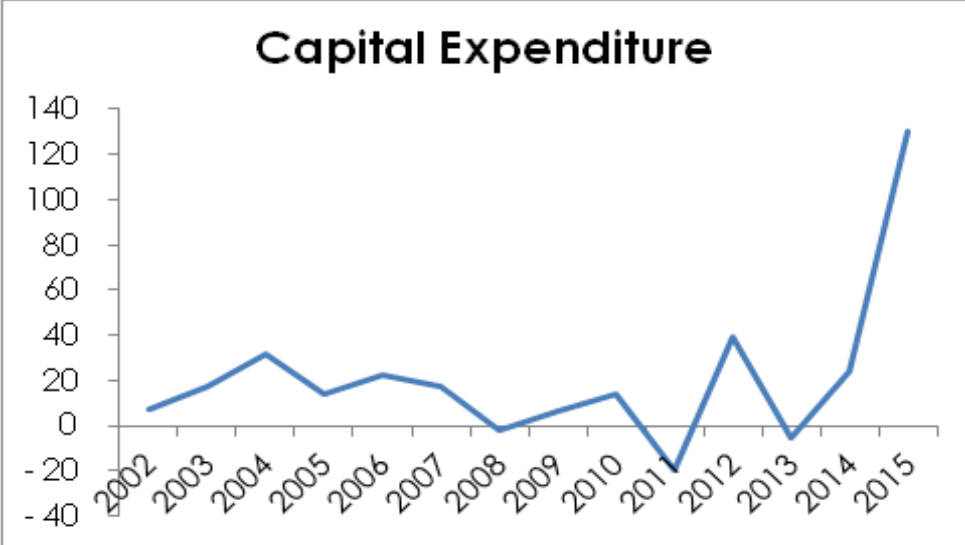
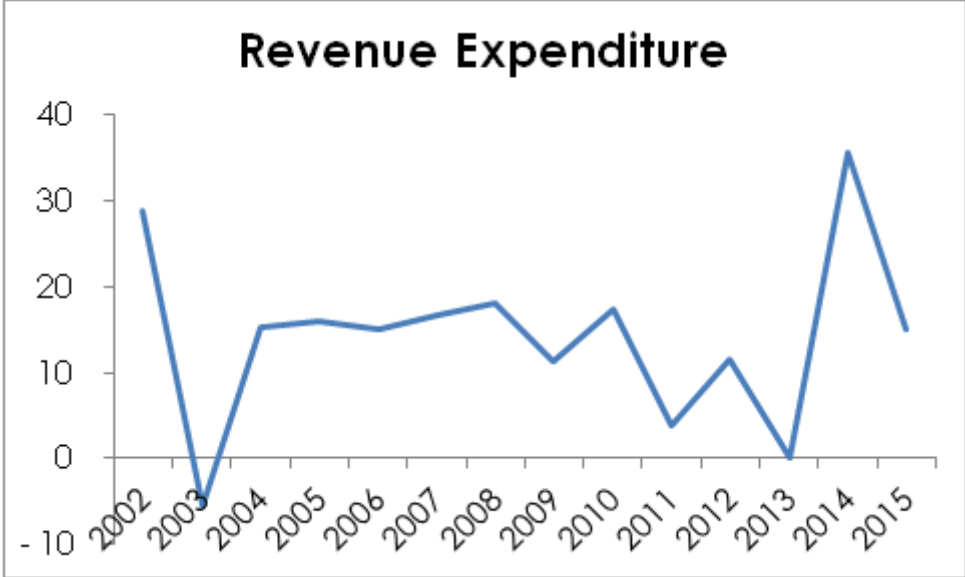
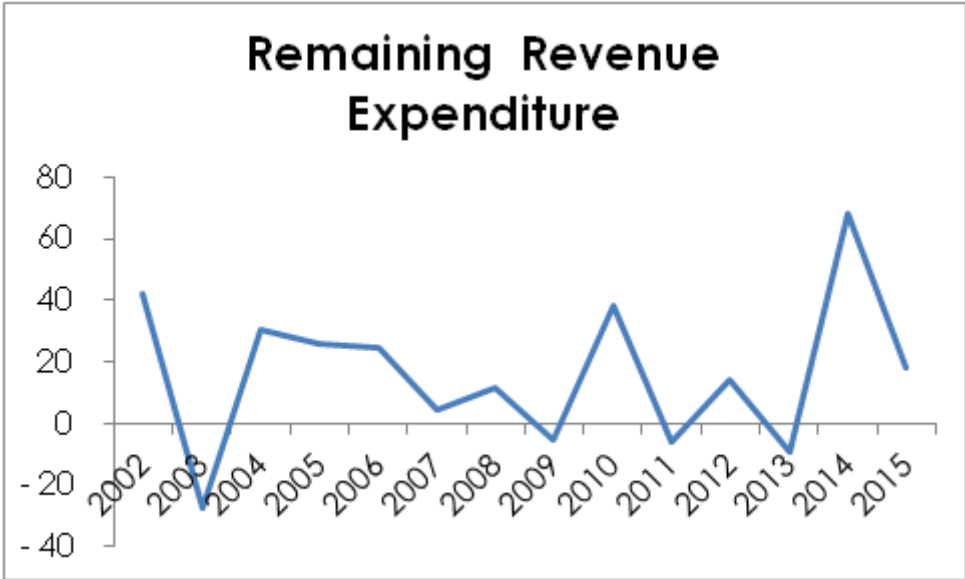
16





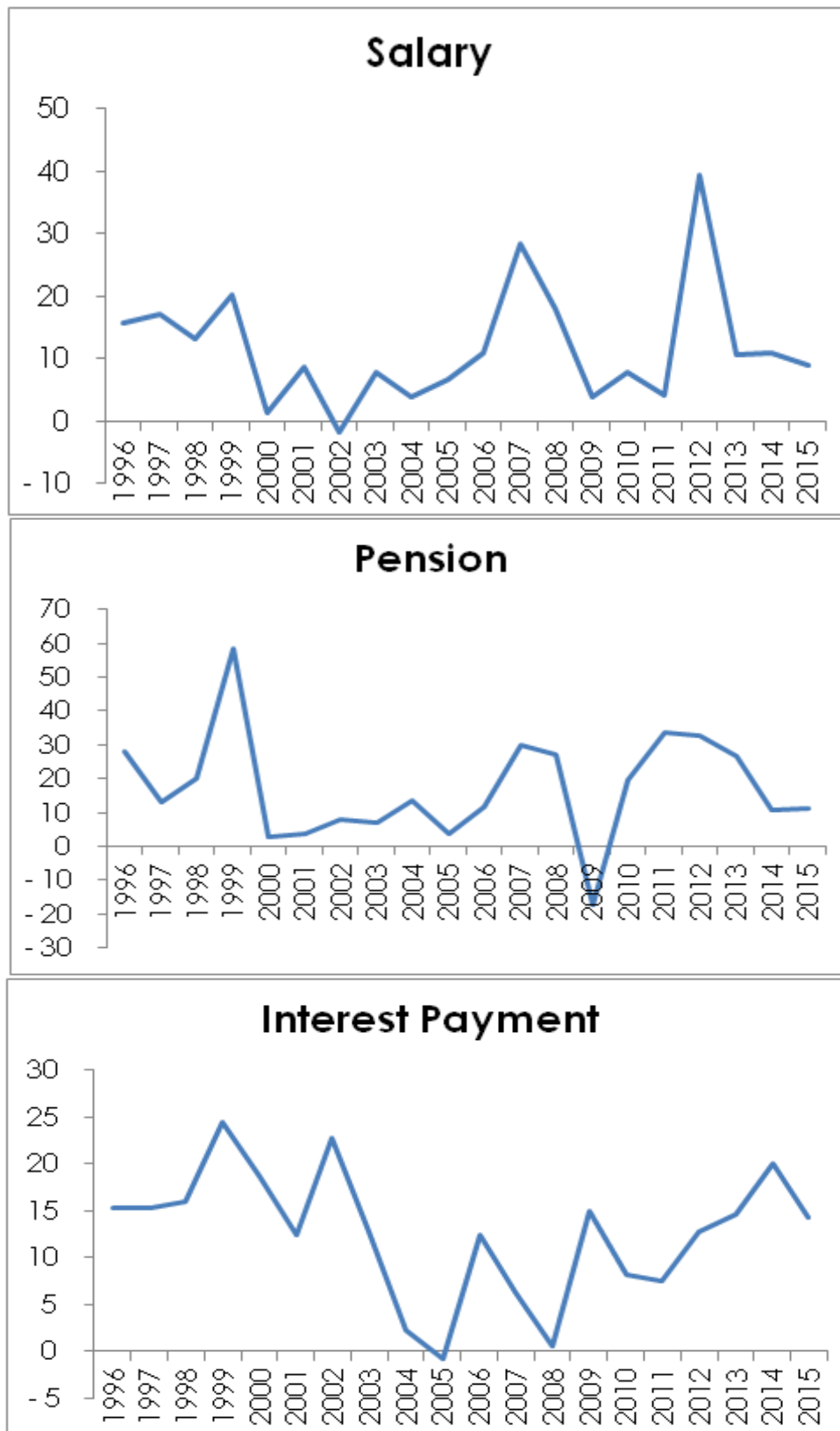
**Figure A15: Components of Expenditure, Jharkhand, 2002-03 to 2015-16**

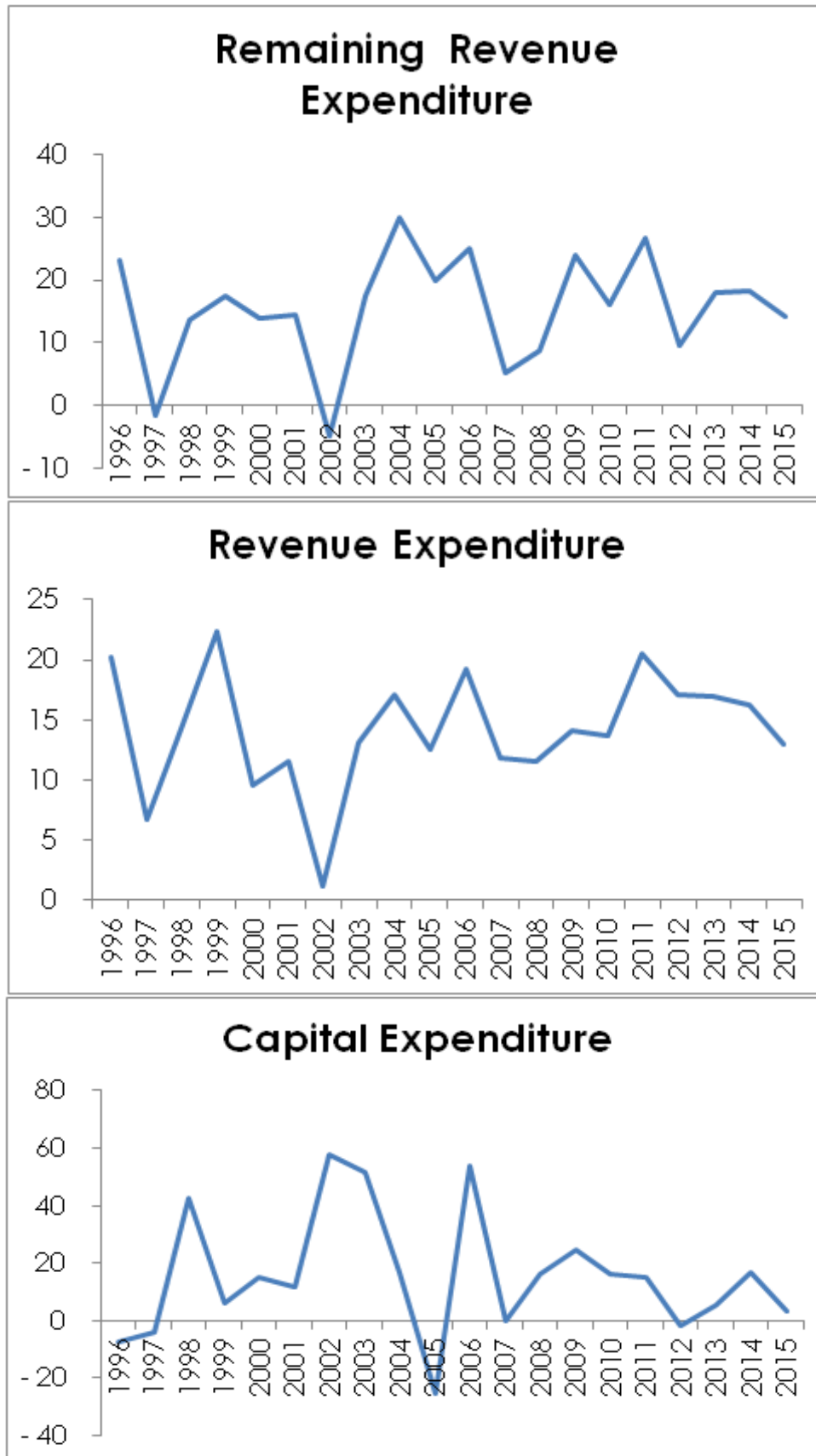




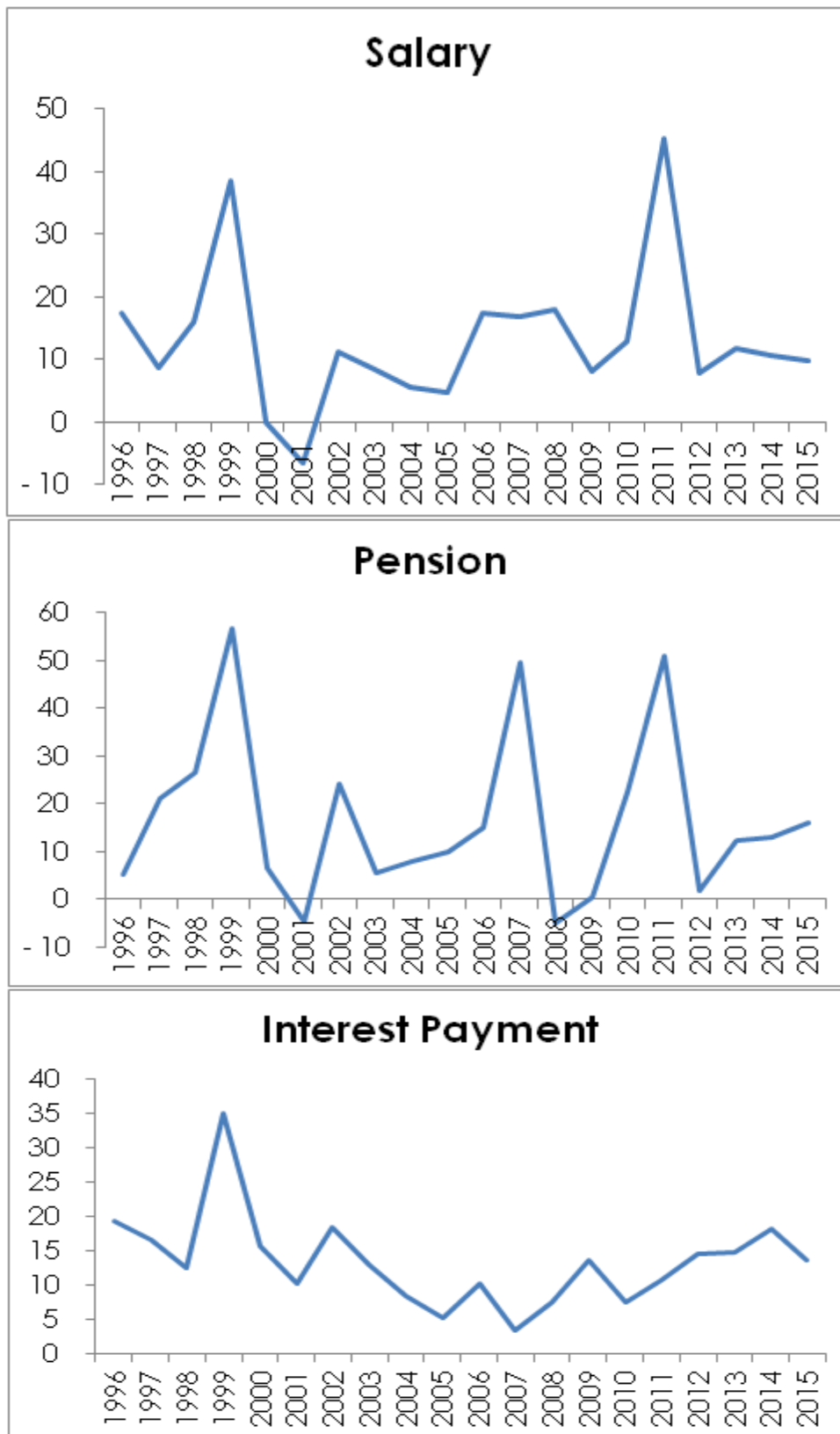


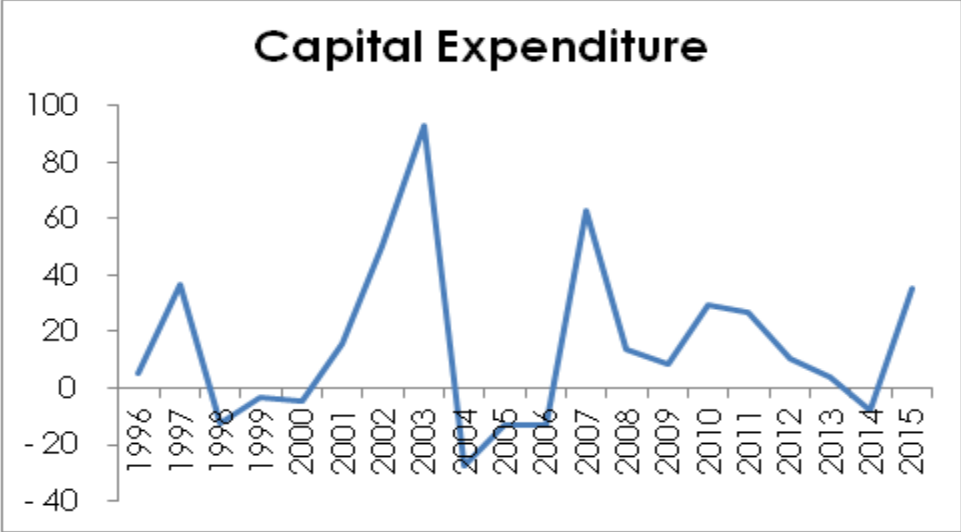
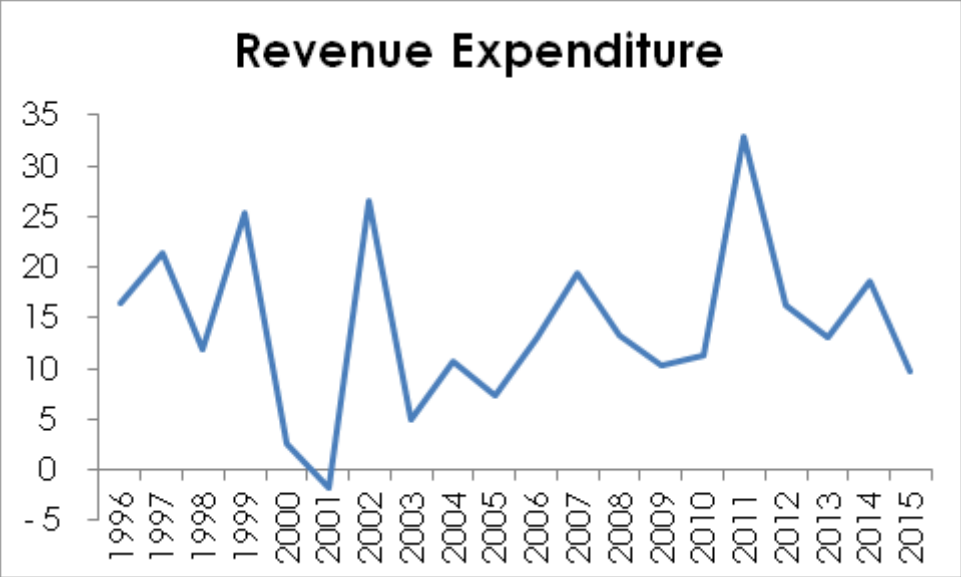
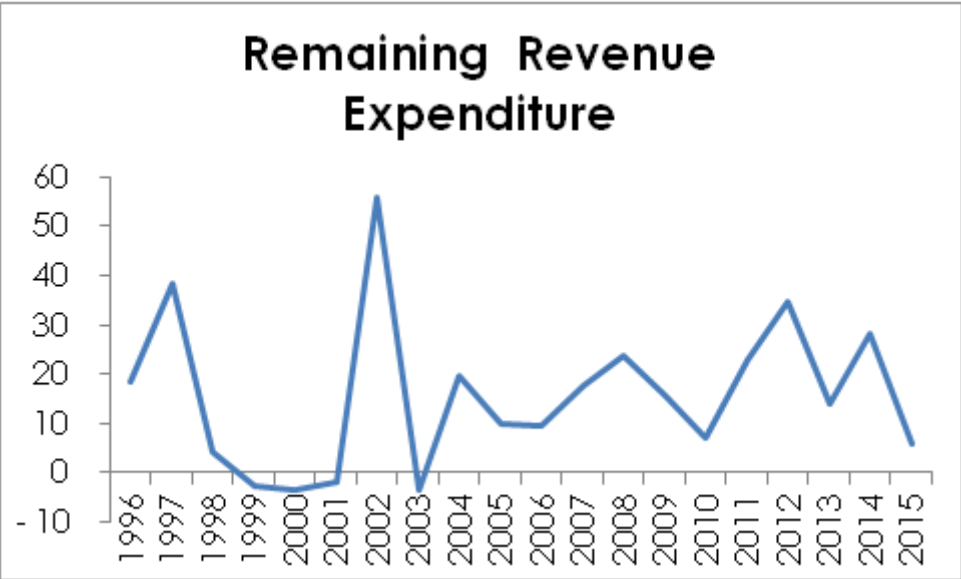
**Figure A16: Components of Expenditure, Karnataka, 1996-97 to 2015-16**



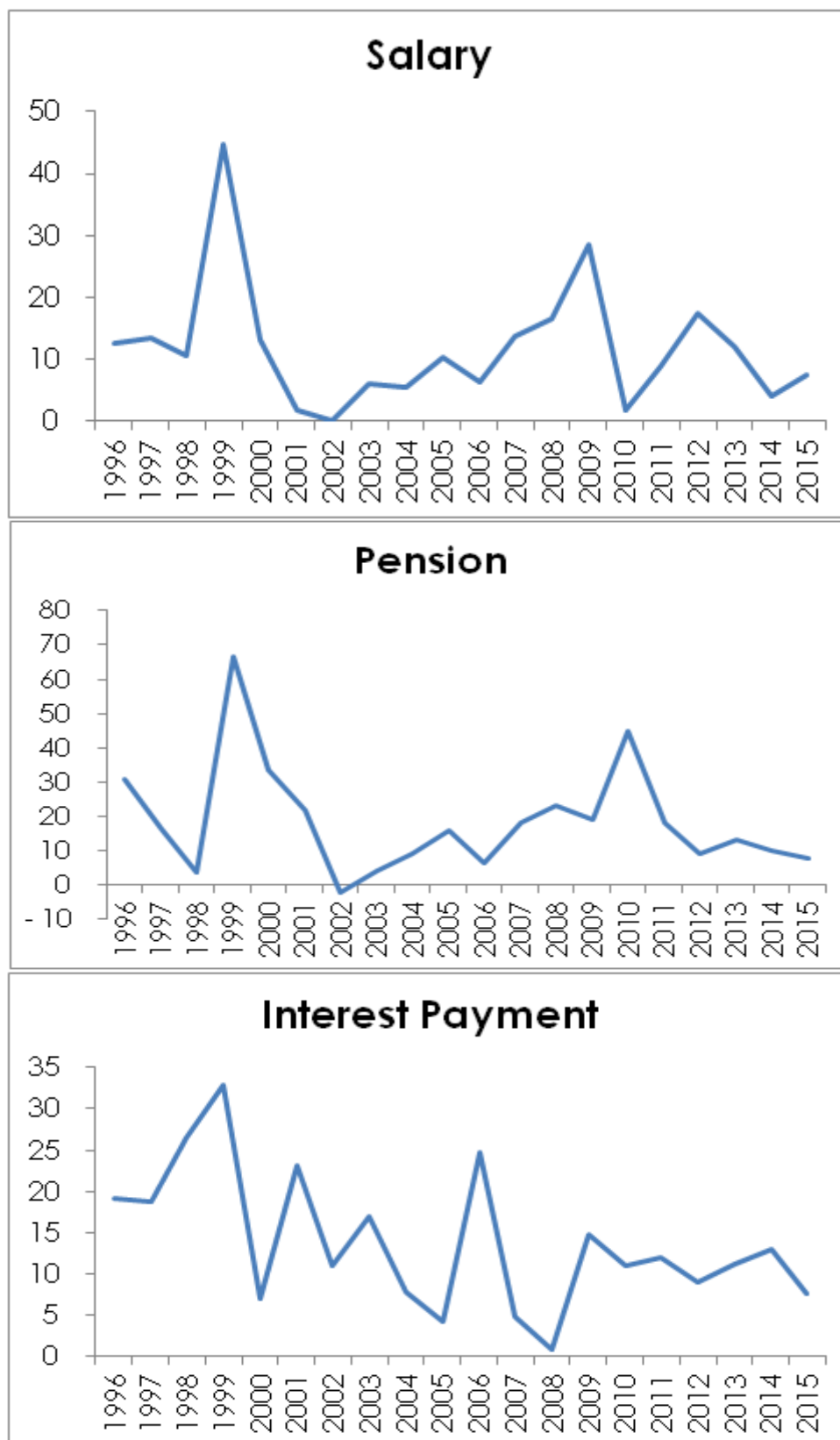


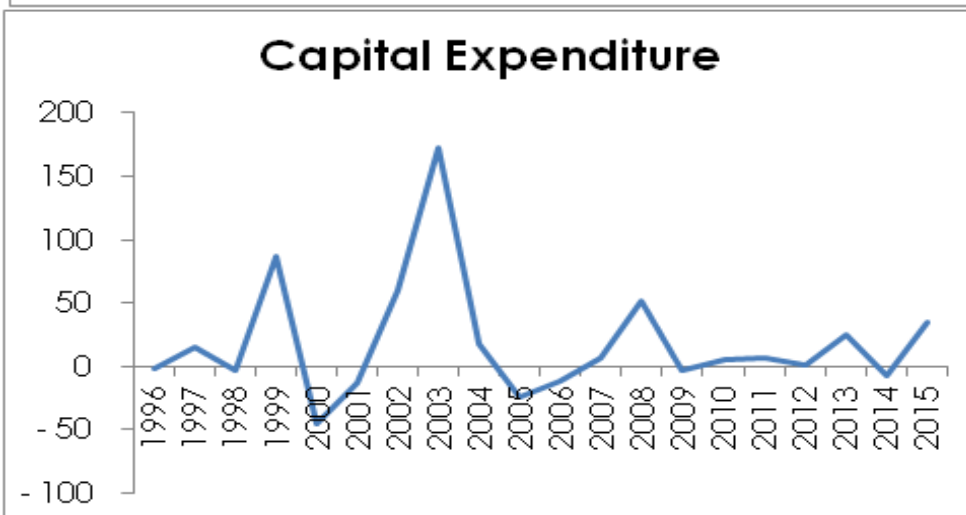
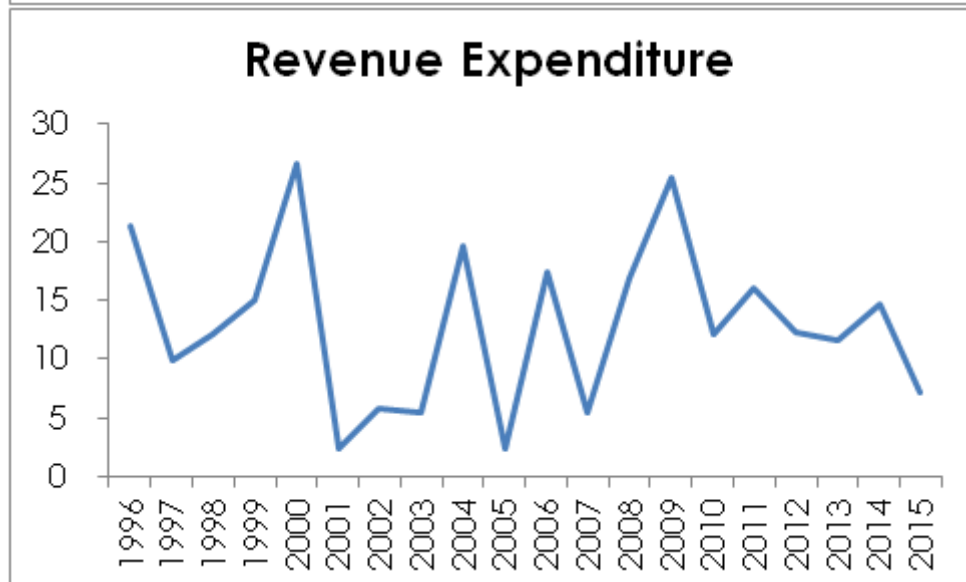
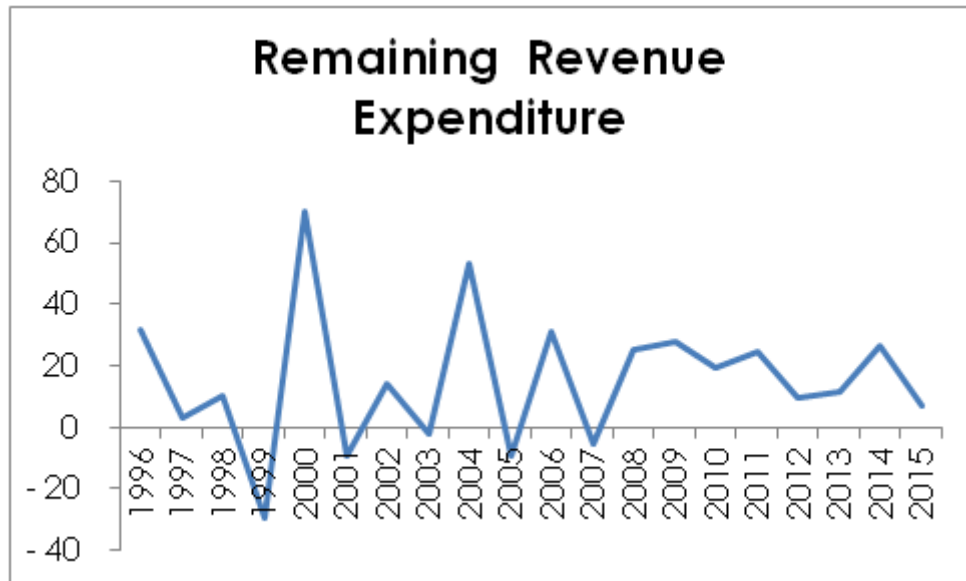
**Figure A17: Components of Expenditure, Kerala, 1996-97 to 2015-16**





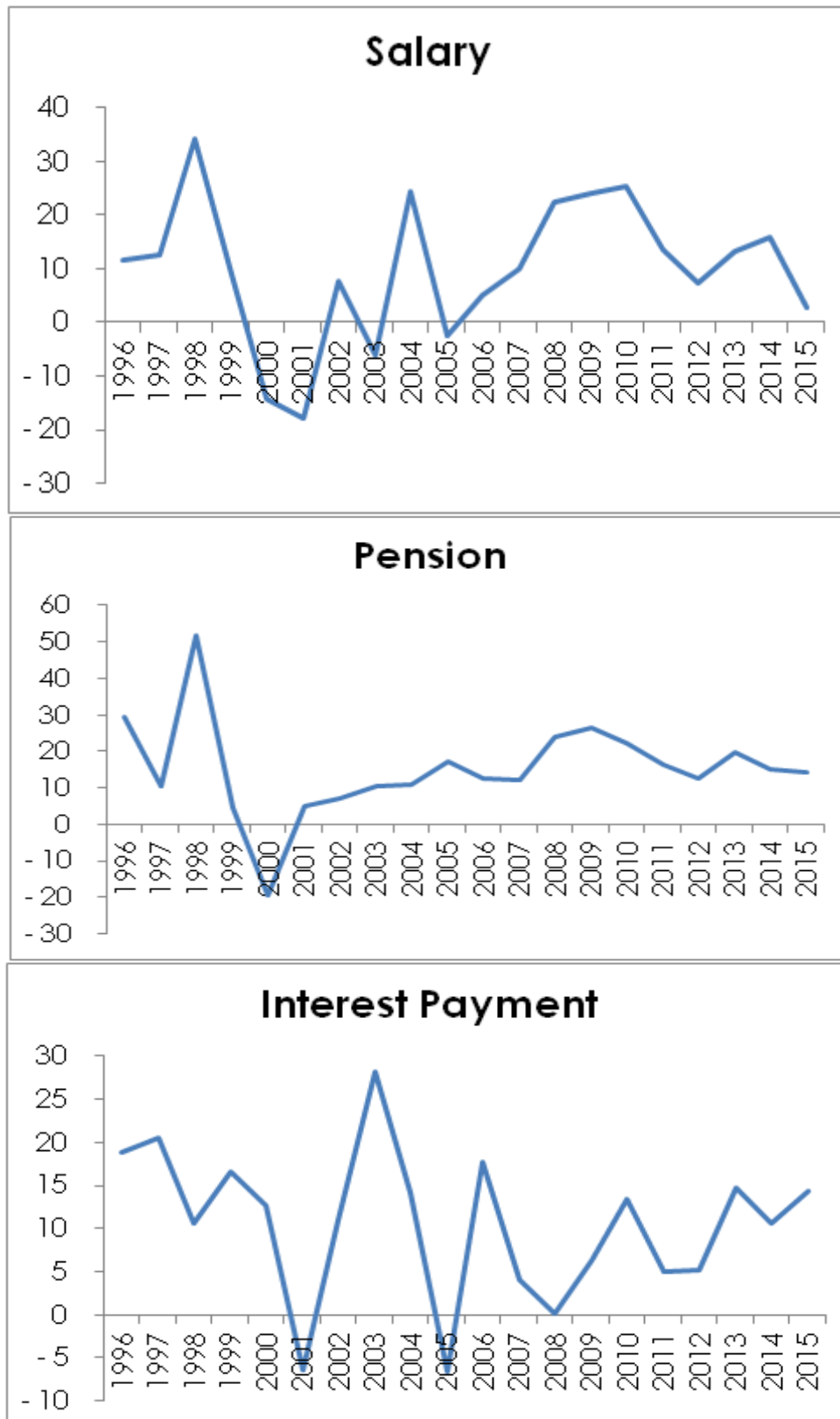
**Figure A18: Components of Expenditure, Maharashtra, 1996-97 to 2015-16**

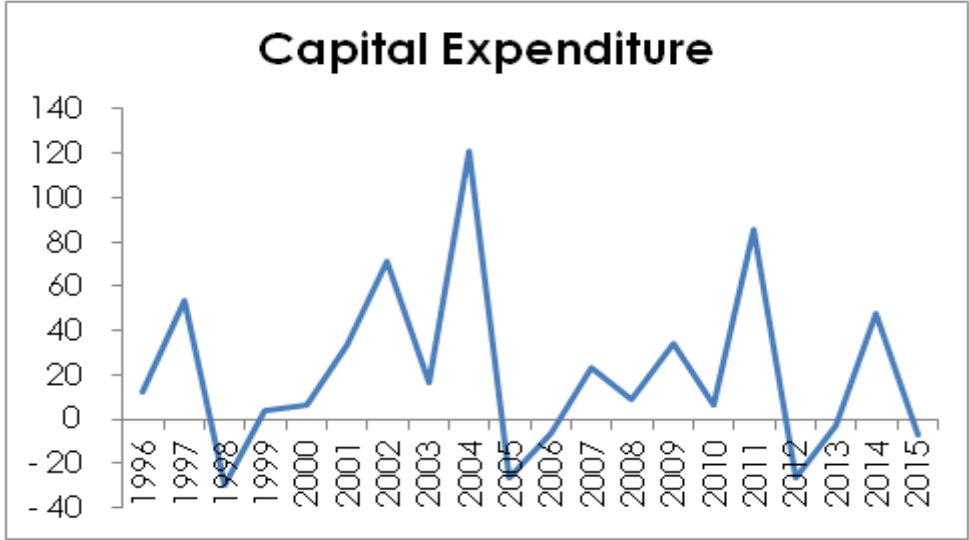
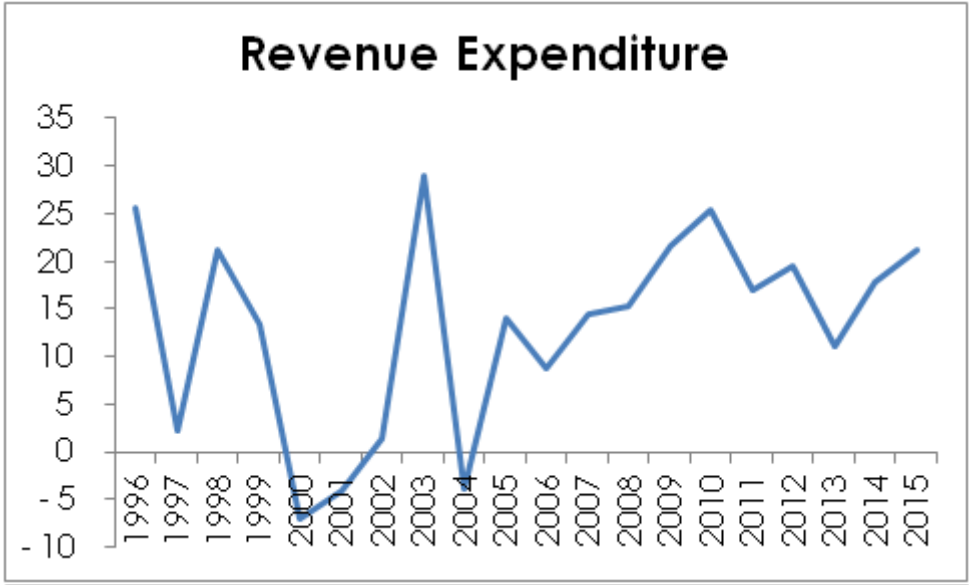
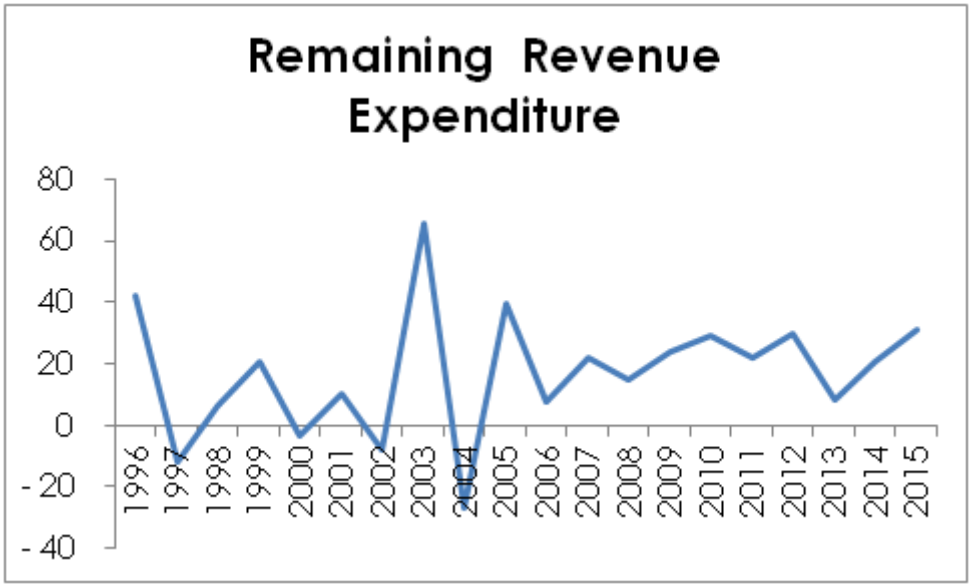




**Figure A19: Components of Expenditure, Madhya Pradesh, 1996-97 to 2015-**

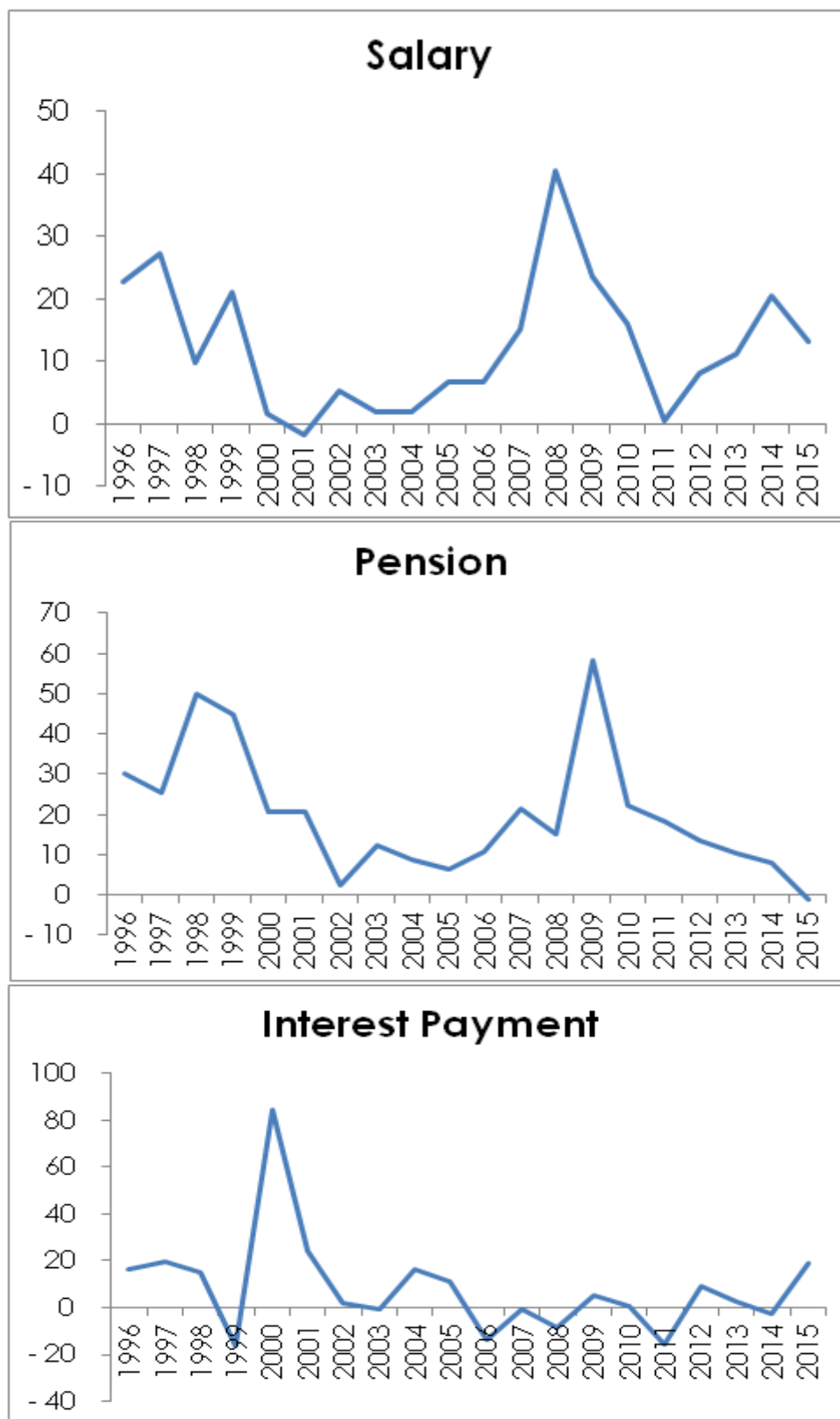
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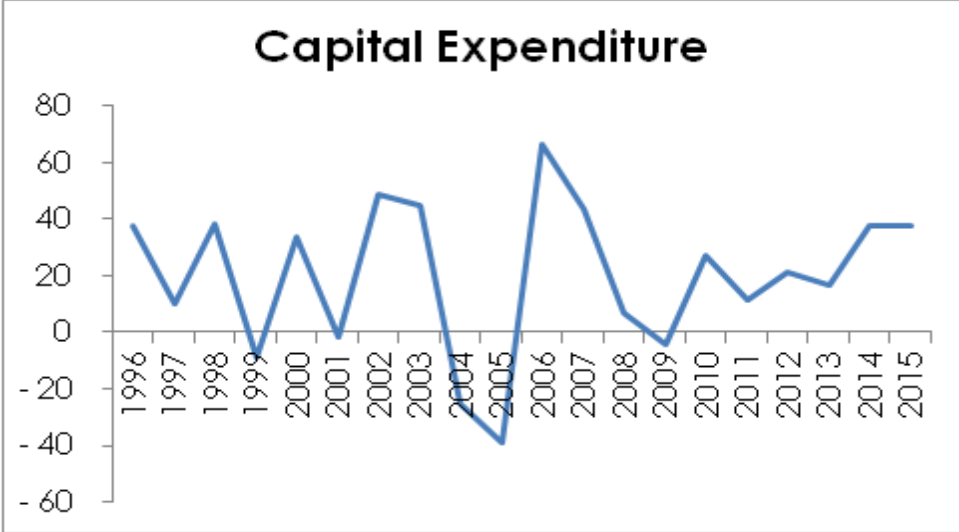
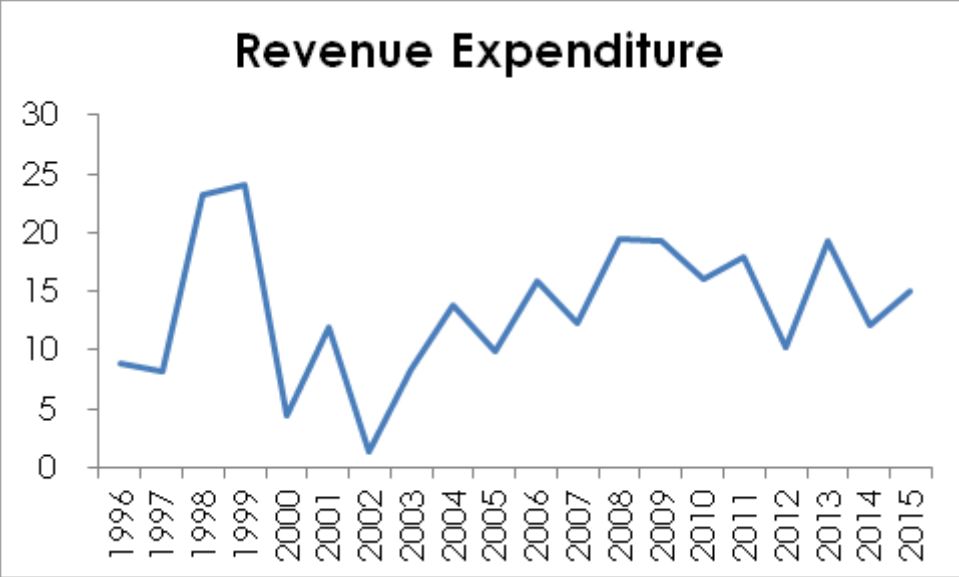
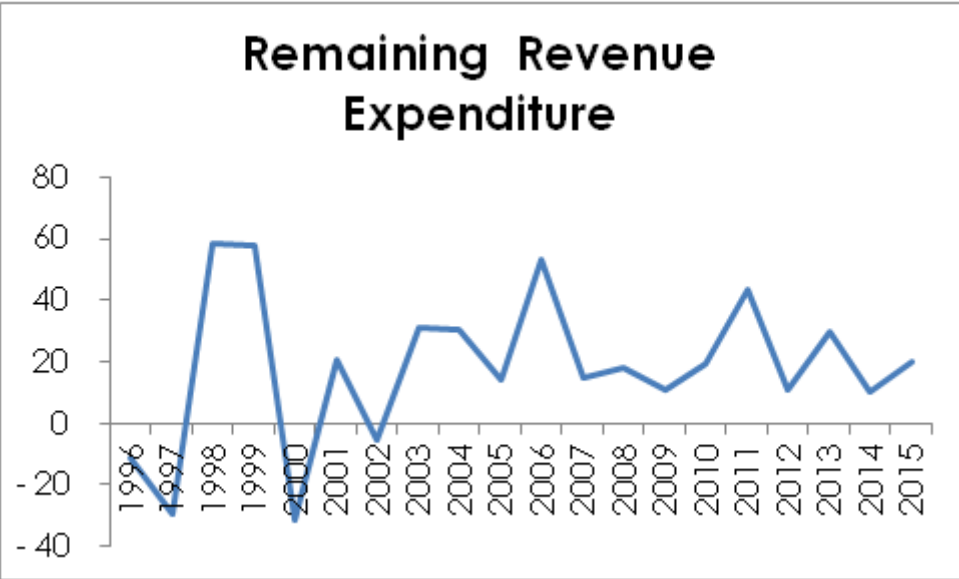




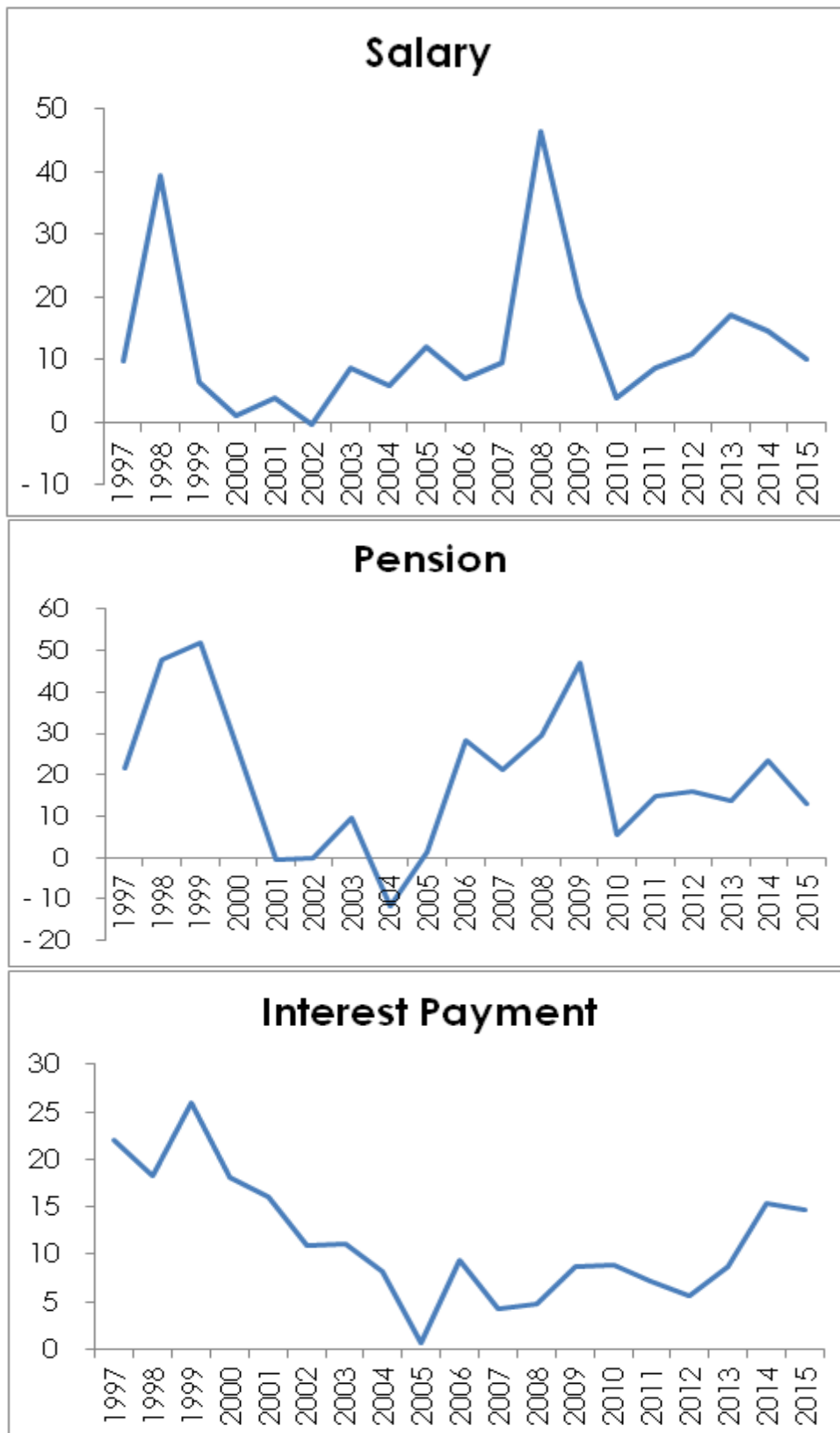


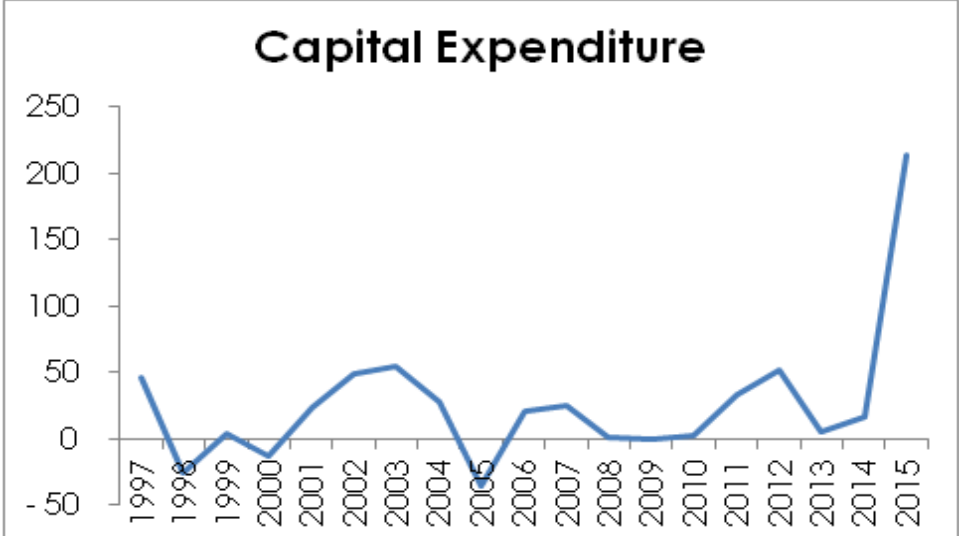
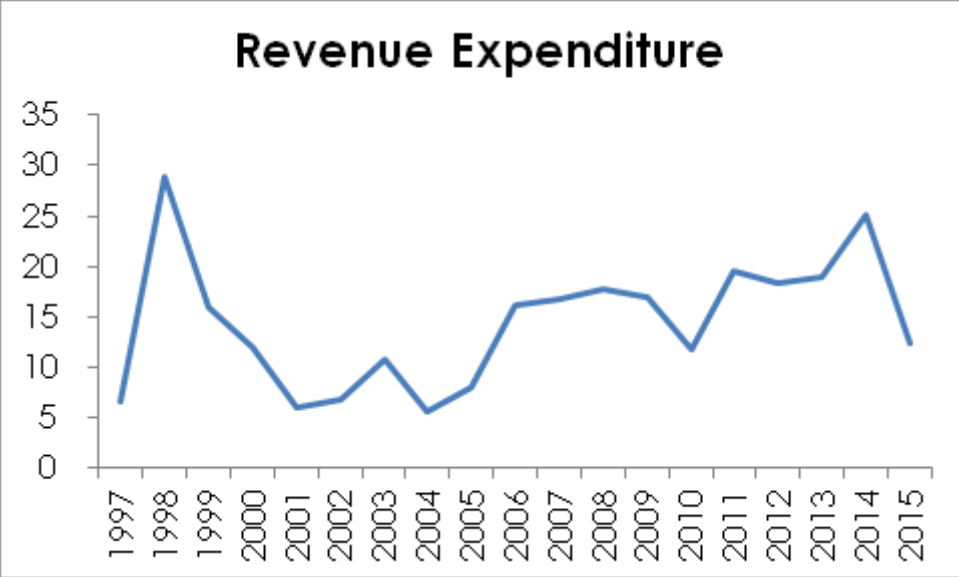
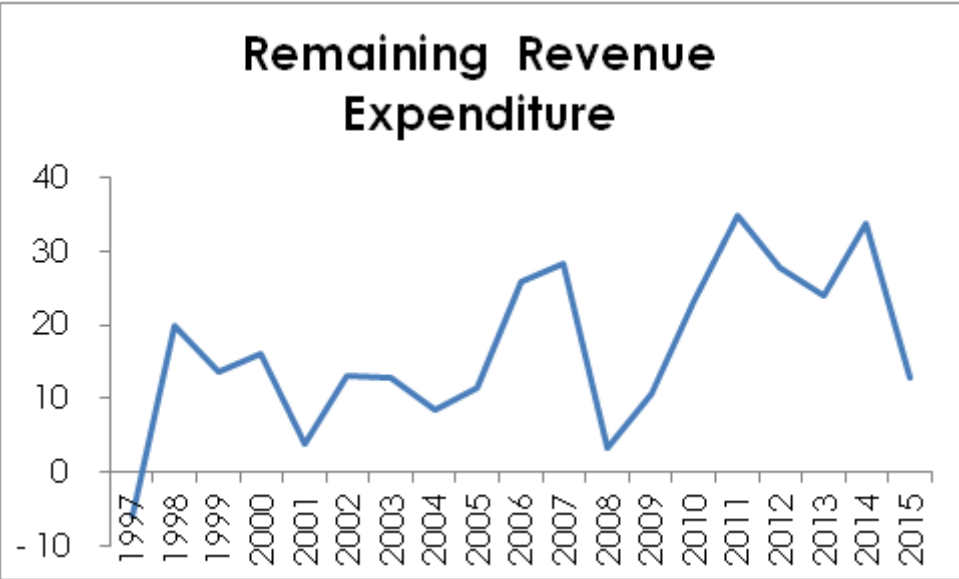
**Figure A20: Components of Expenditure, Odisha, 1996-97 to 2015-16**



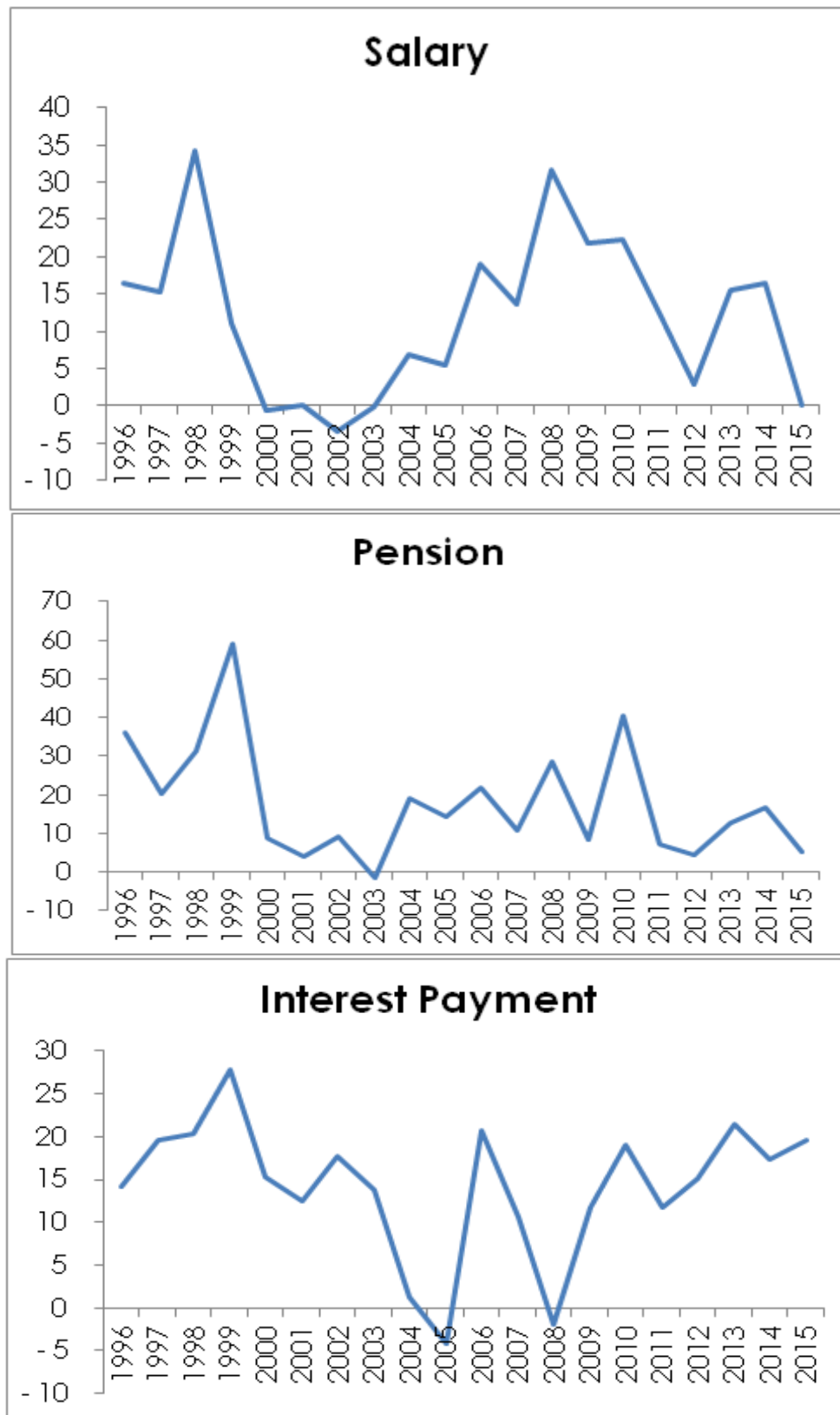


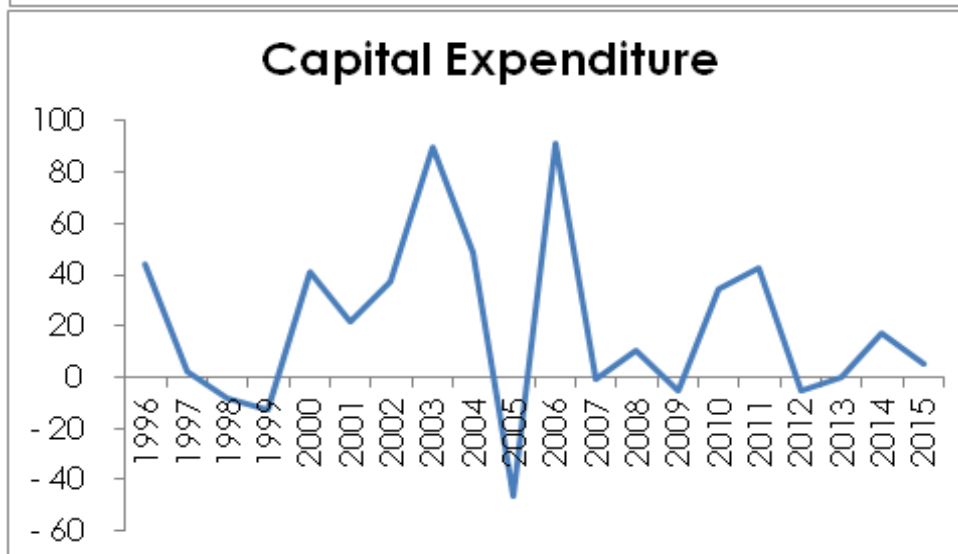
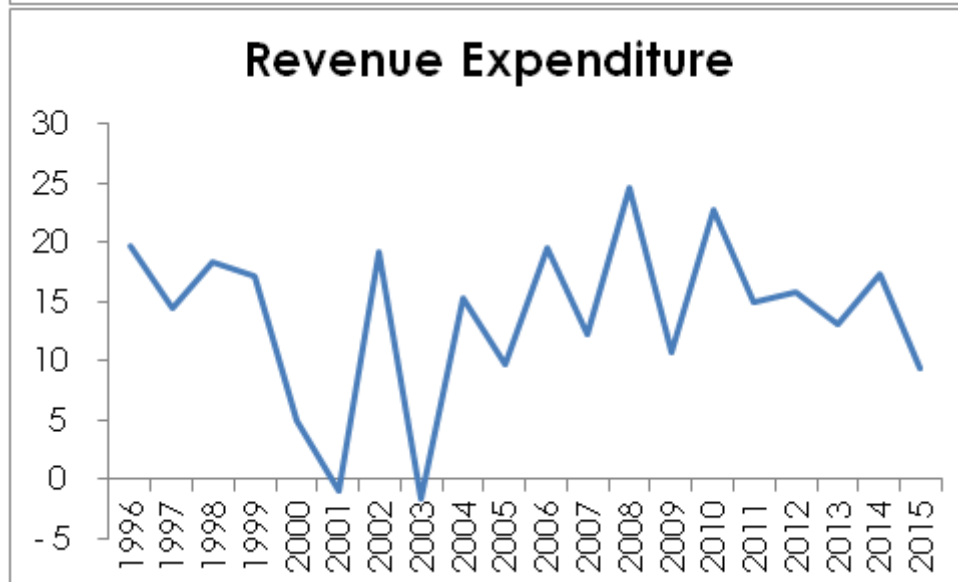
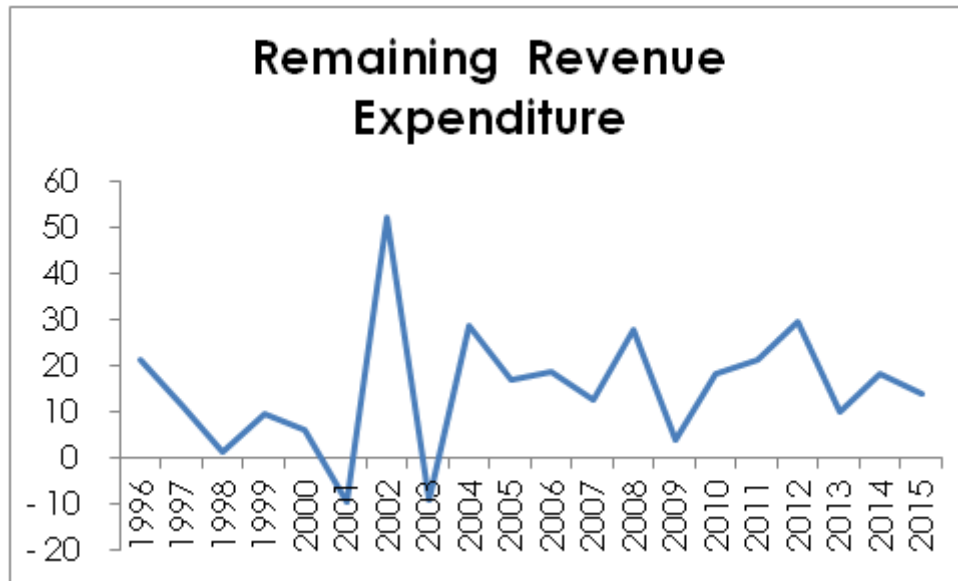
**Figure A21: Components of Expenditure, Rajasthan, 1997-98 to 2015-16**



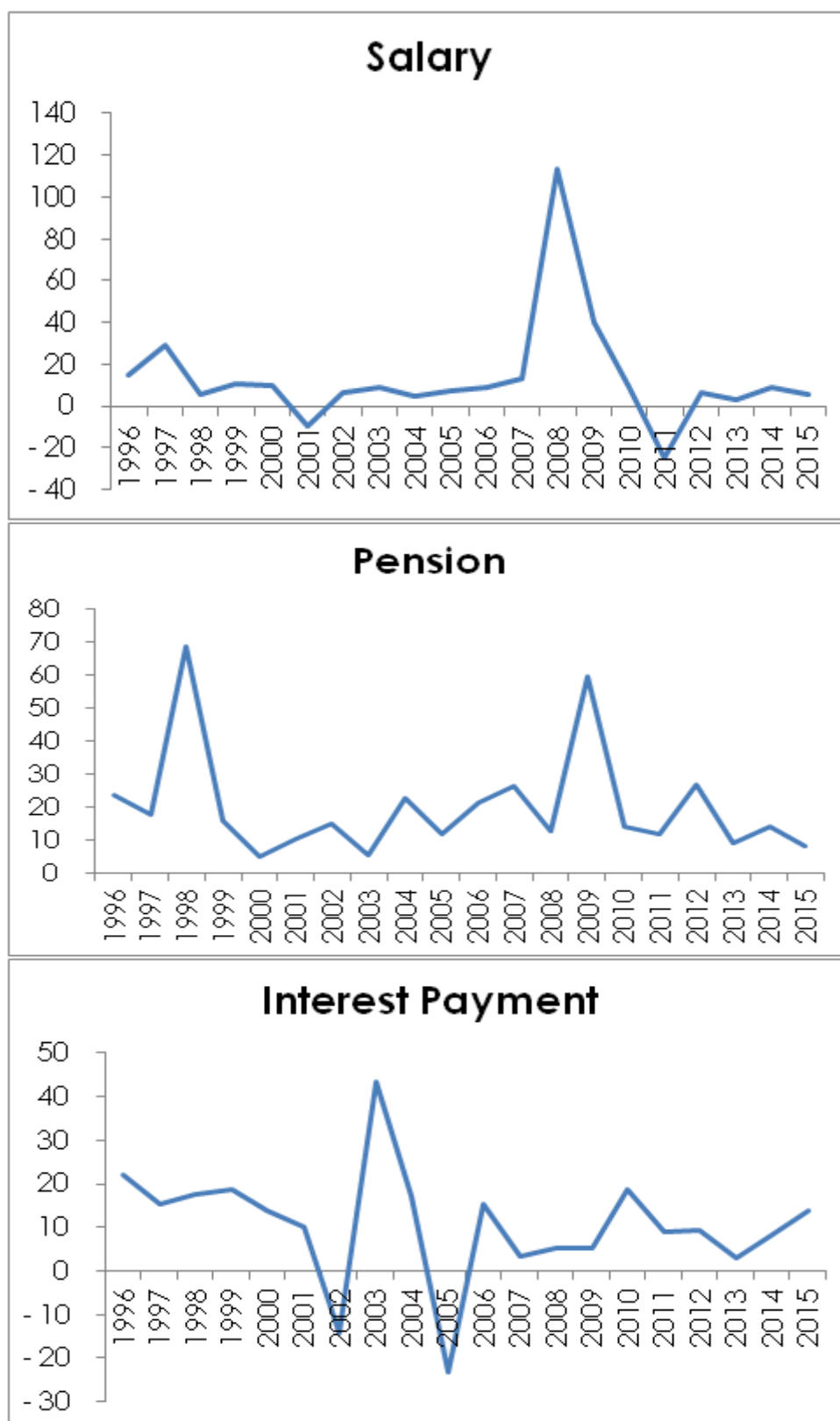


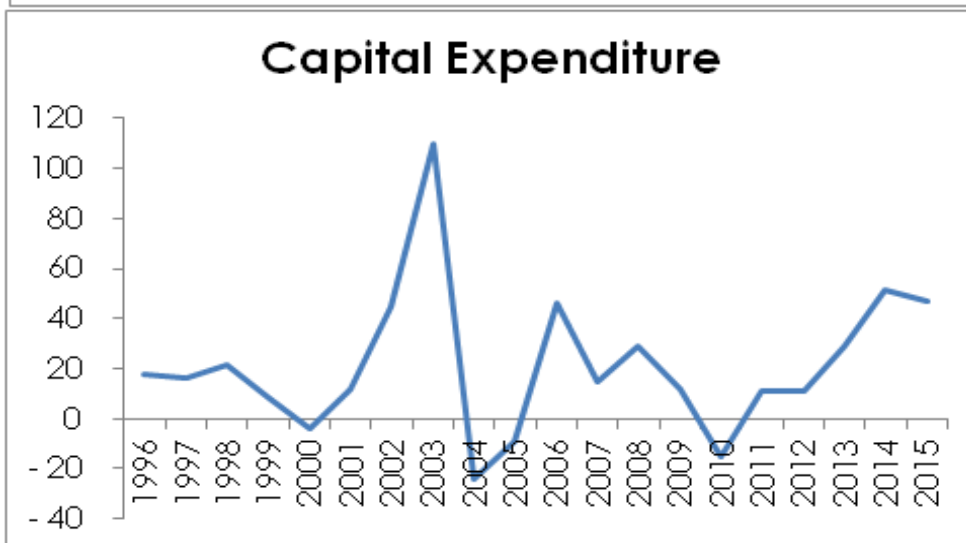
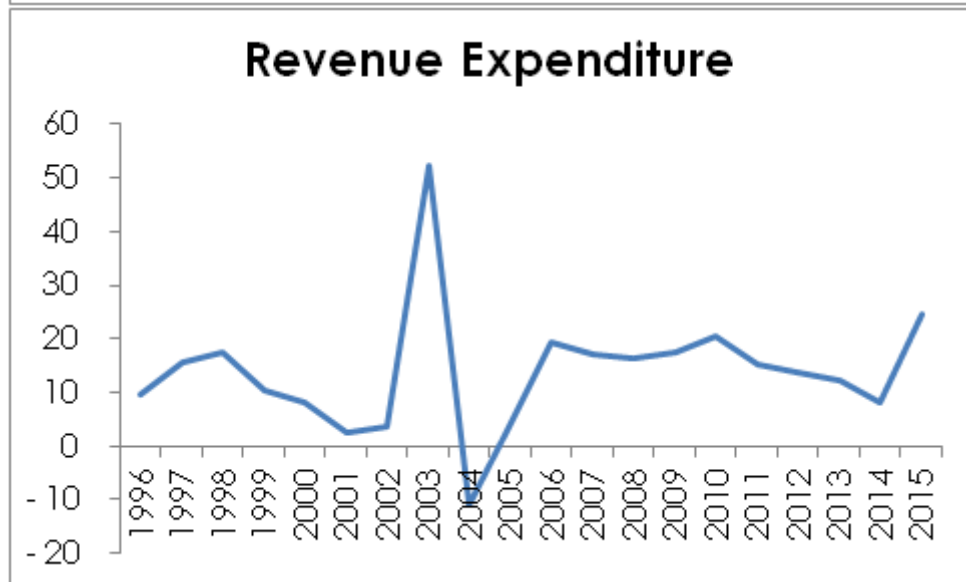
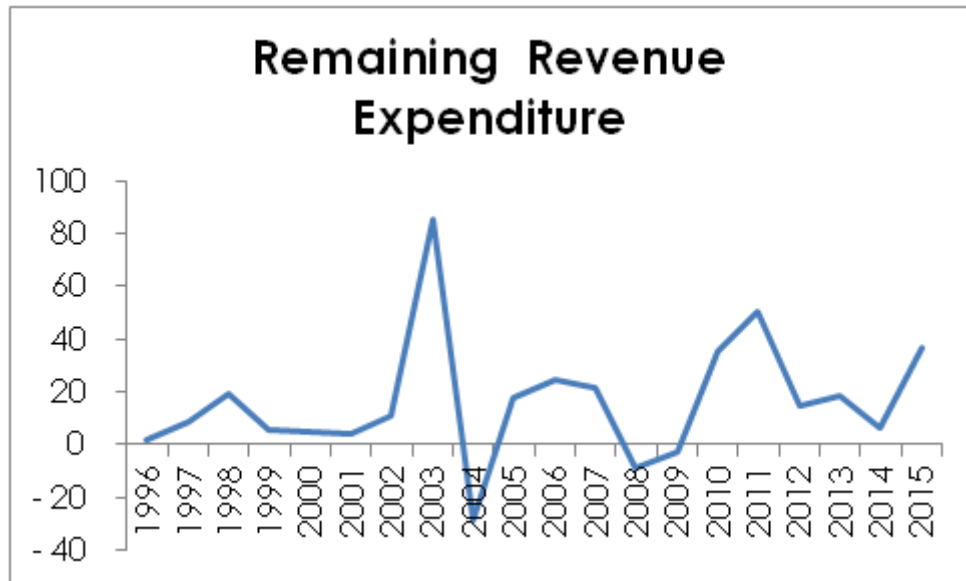
**Figure A22: Components of Expenditure, Tamil Nadu, 1996-97 to 2015-16**





**Figure A23: Components of Expenditure, Uttar Pradesh, 1996-97 to 2015-16**







**Figure A24: Components of Expenditure, Uttarakhand, 2002-03 to 2015-16**

