Assignment: *GDP Analysis*

By: MIR MUHAMMAD MURTAZA

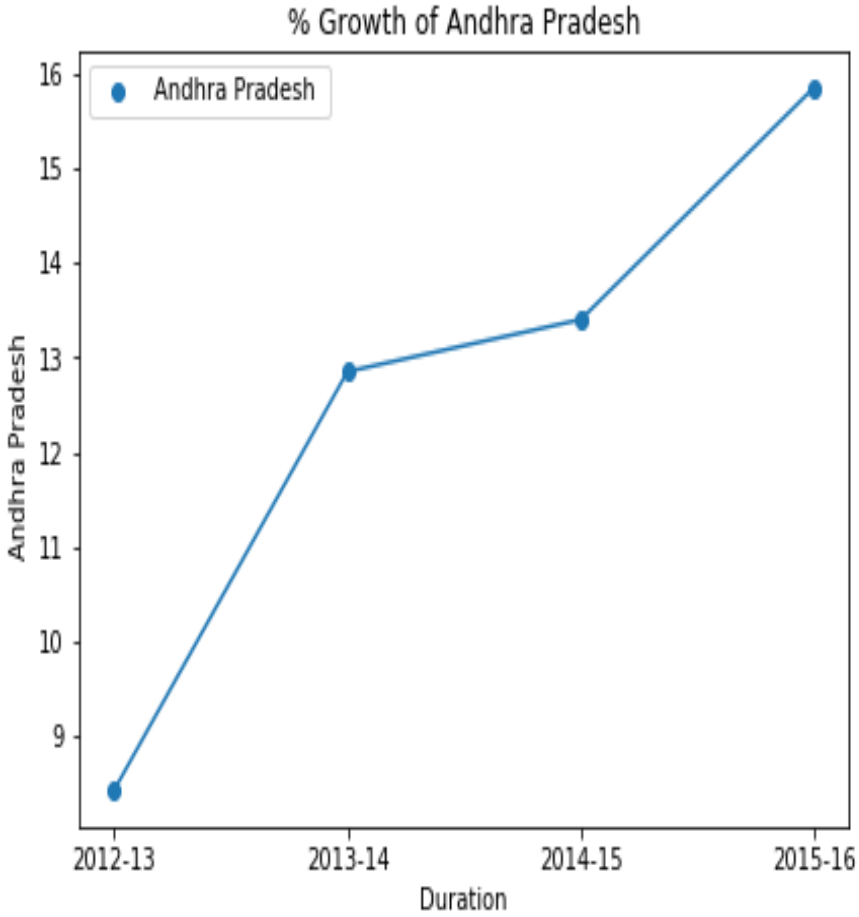
OBJECTIVE

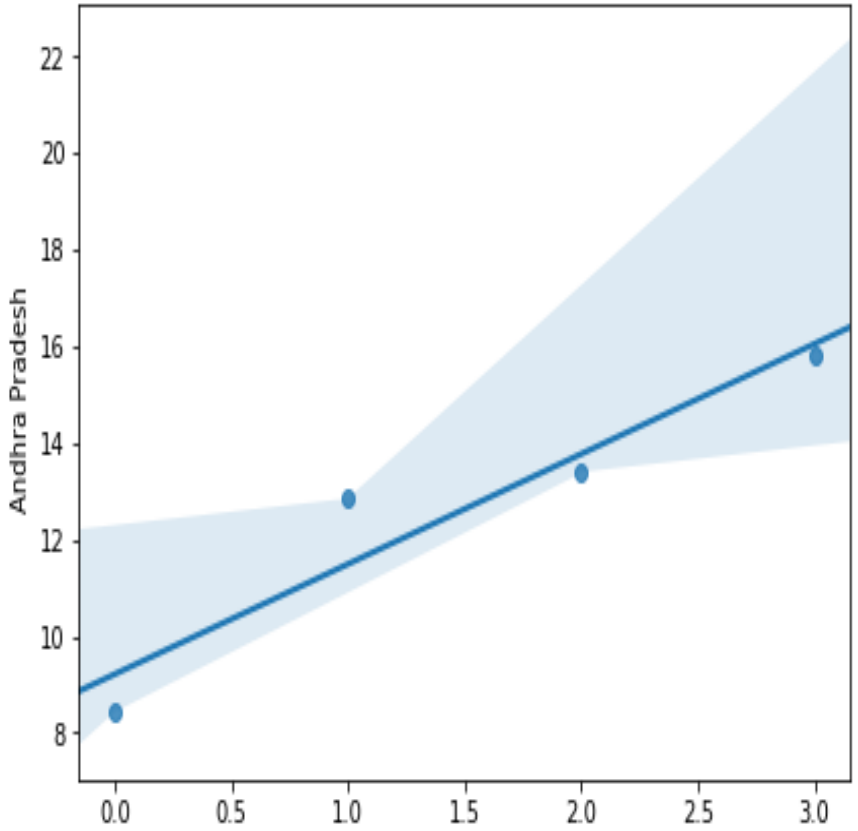
To analyze the GDP of Indian states and recommend ways to improve it.

CONTENTS

- *Overall Trends in Percentage Growth Rate of States*
- *Mean Growth Rate of States*
- *Total GDP of States*
- *GDP Per Capita of States*
- *Percentage Contribution of Different Sectors*
- *Contribution of sub-sectors as a Percentage of GSDP*
- *My Recommendations*
- *Correlation between Percentiles of States and Primary Percentage Contribution*
- *Correlation between various variables and Dropout Rates*
- *Correlation between Per Capita GSDP & Dropout Rates*
- *Correlation between Percentage Contribution of Sectors & Dropout Rates*
- *Correlation between Population & Dropout Rates*
- *My Hypothesis*

Trend in Percentage Growth for Andhra Pradesh

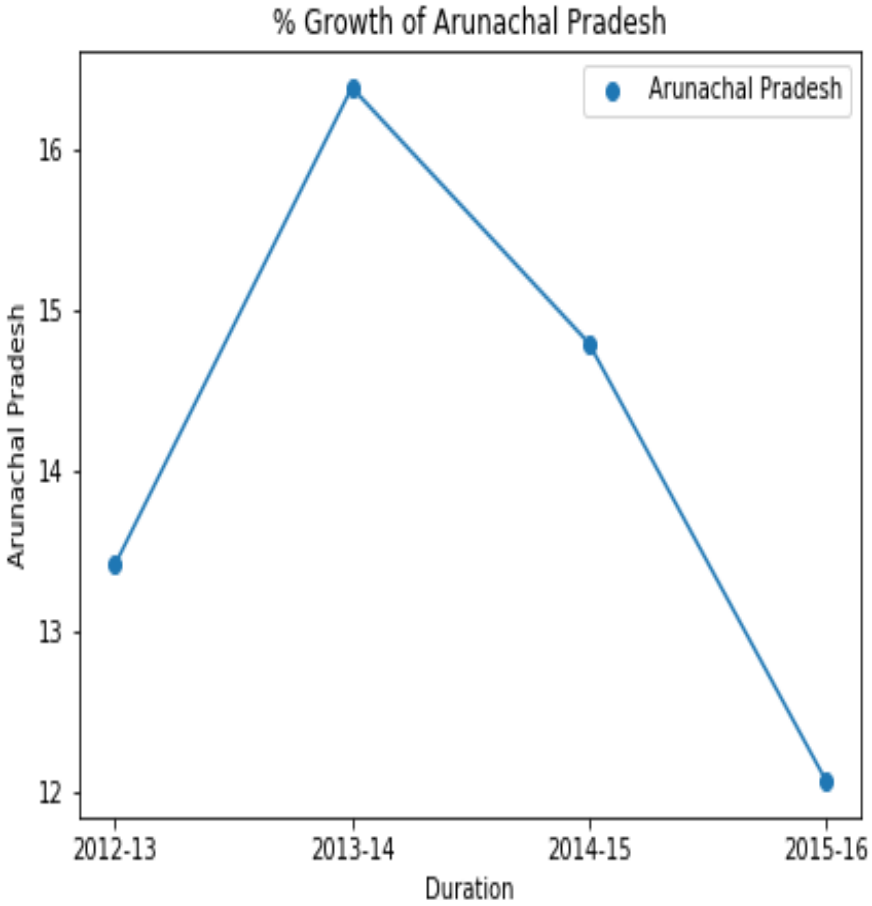


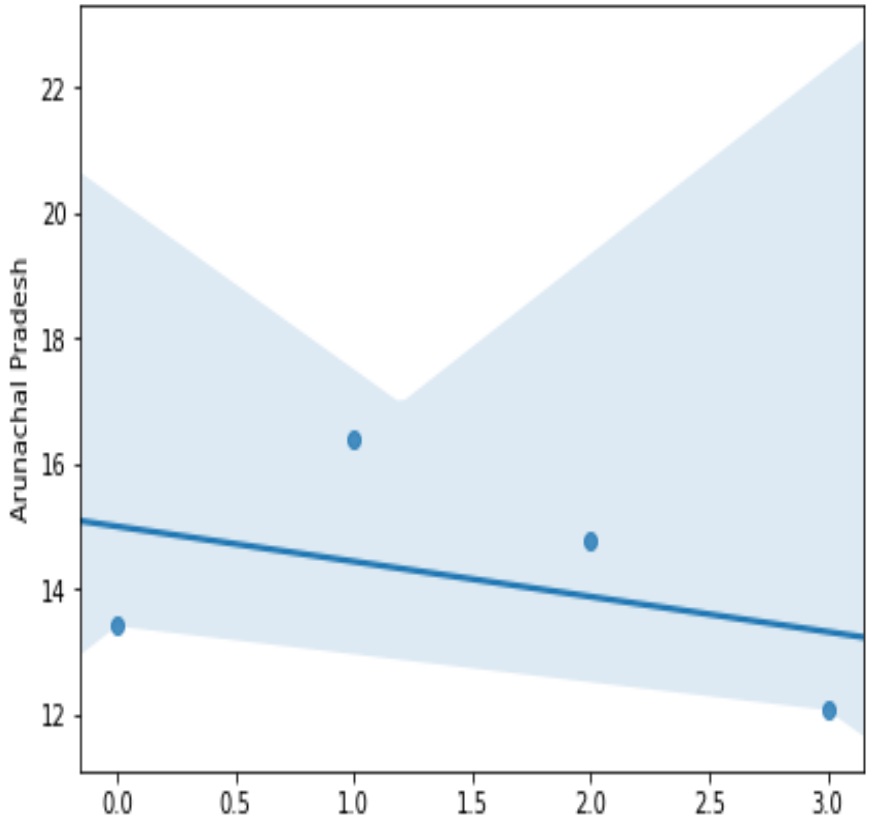


Positive Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Arunachal Pradesh

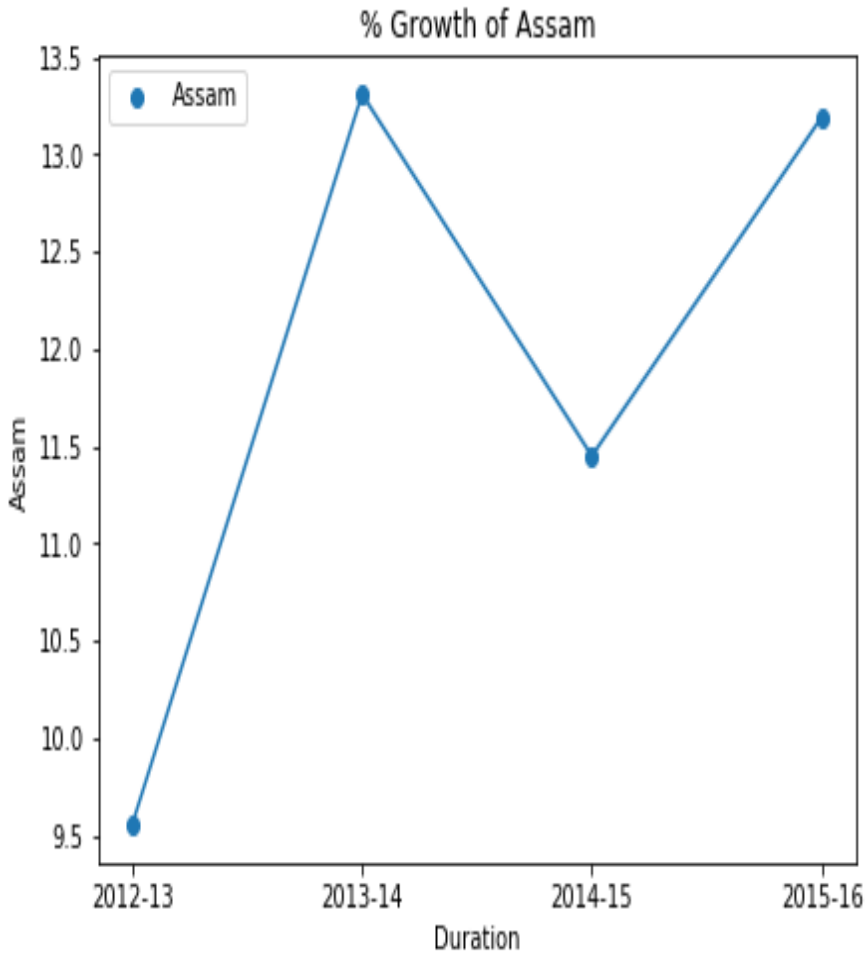


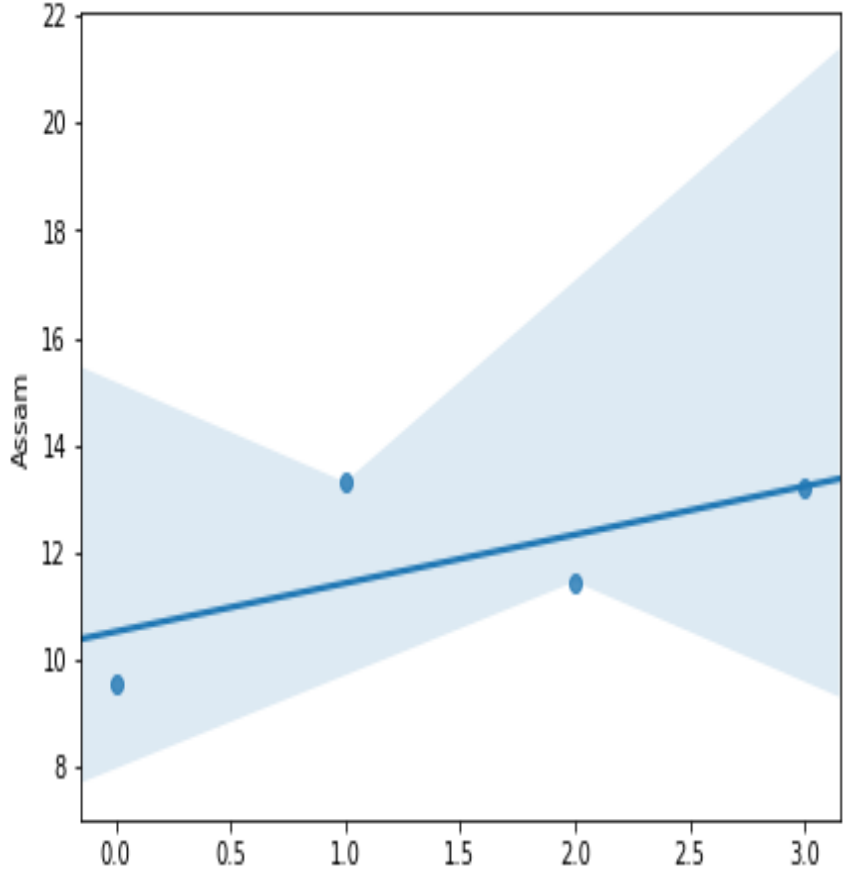


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Assam

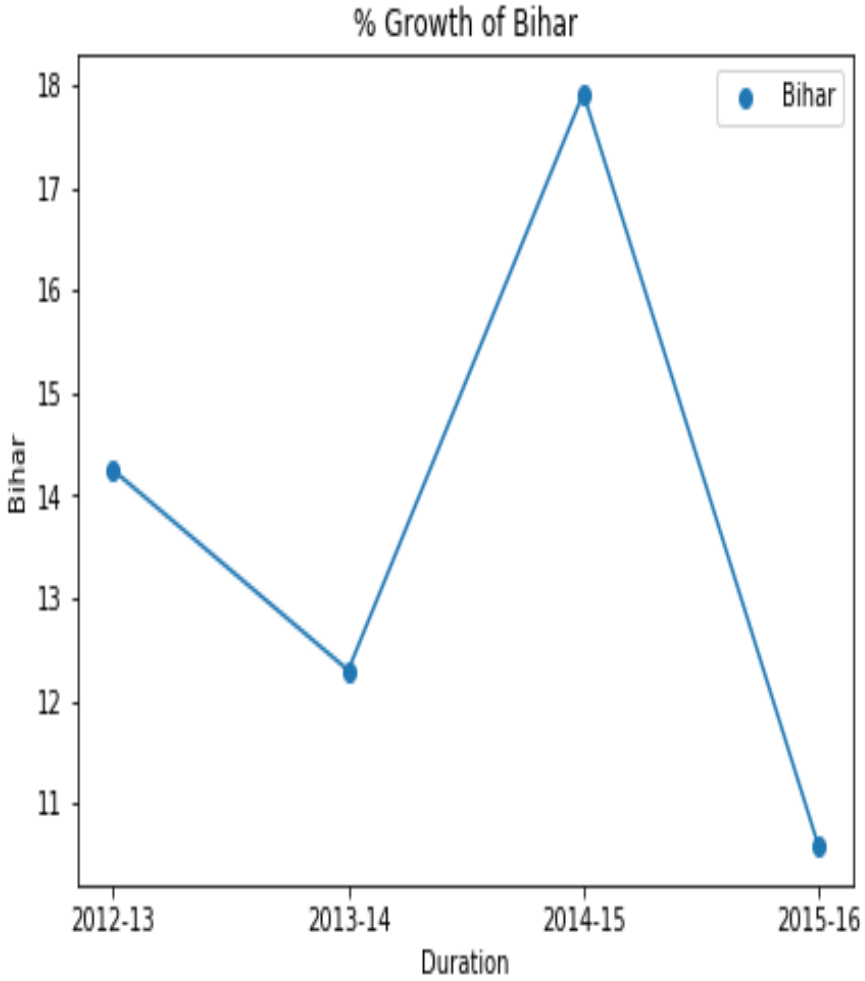


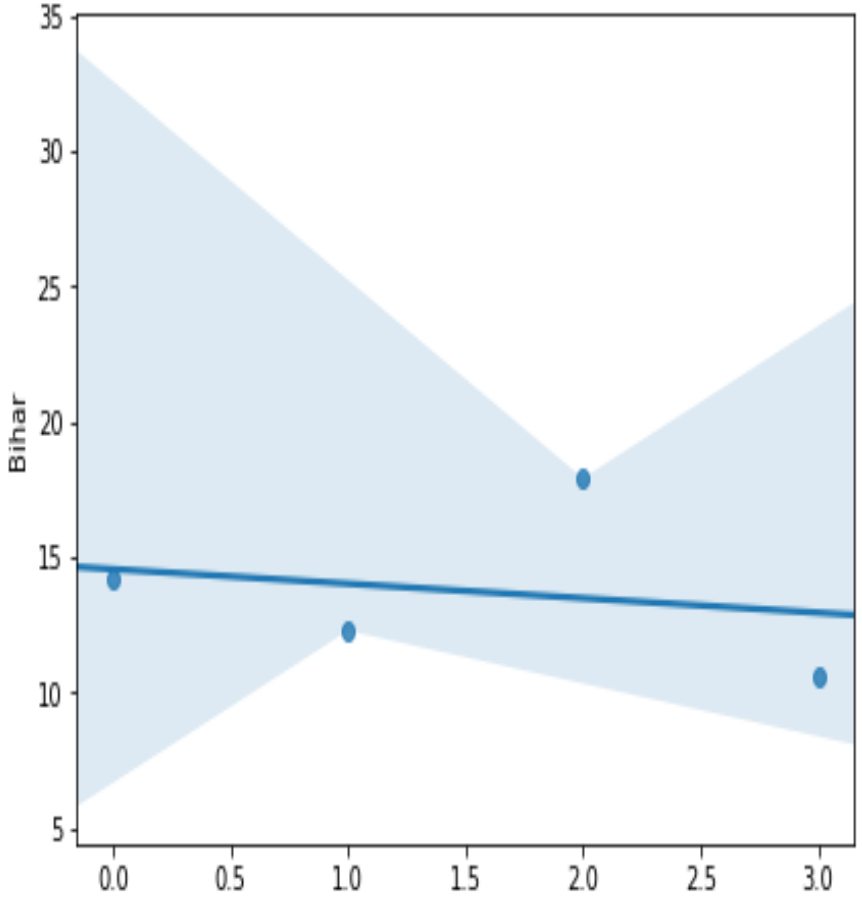


Positive Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Bihar

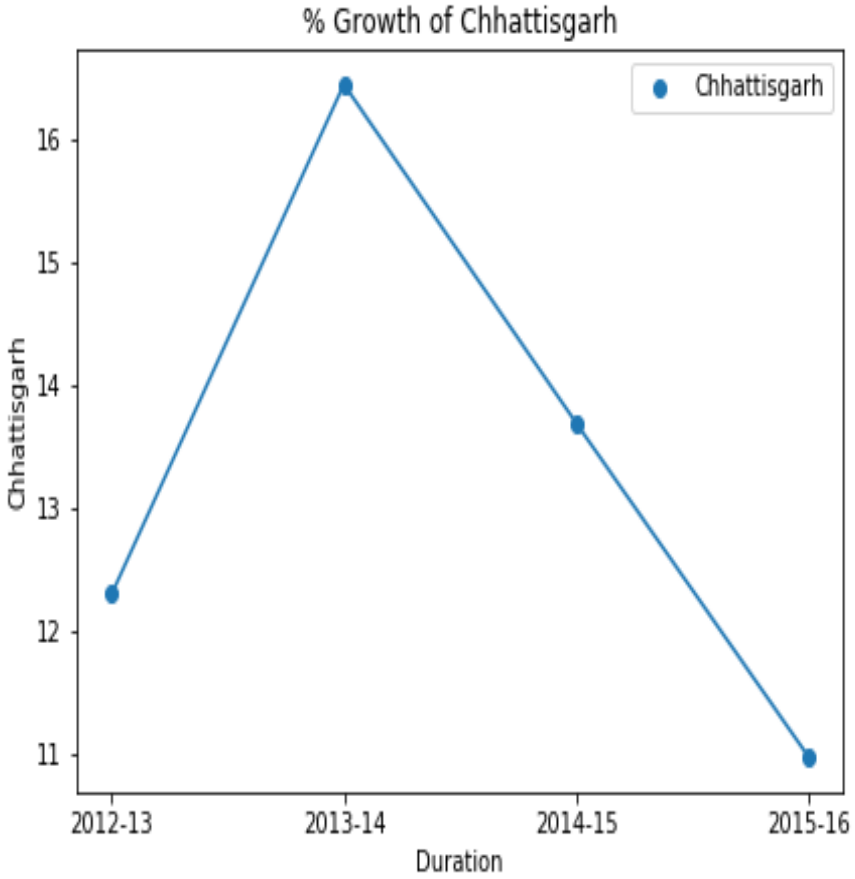


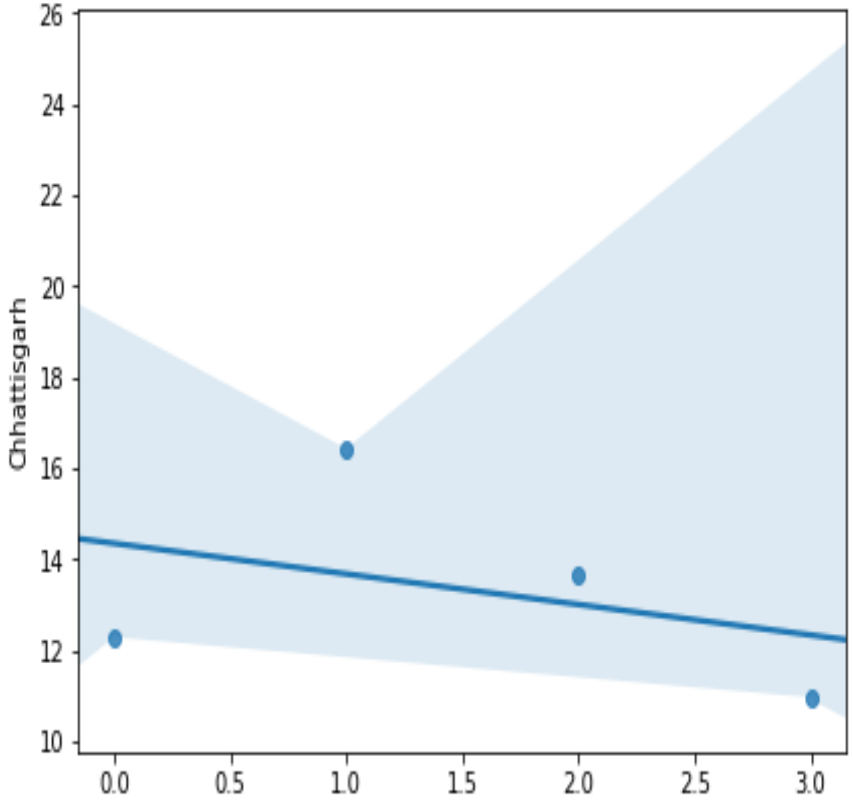


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Chhattisgarh

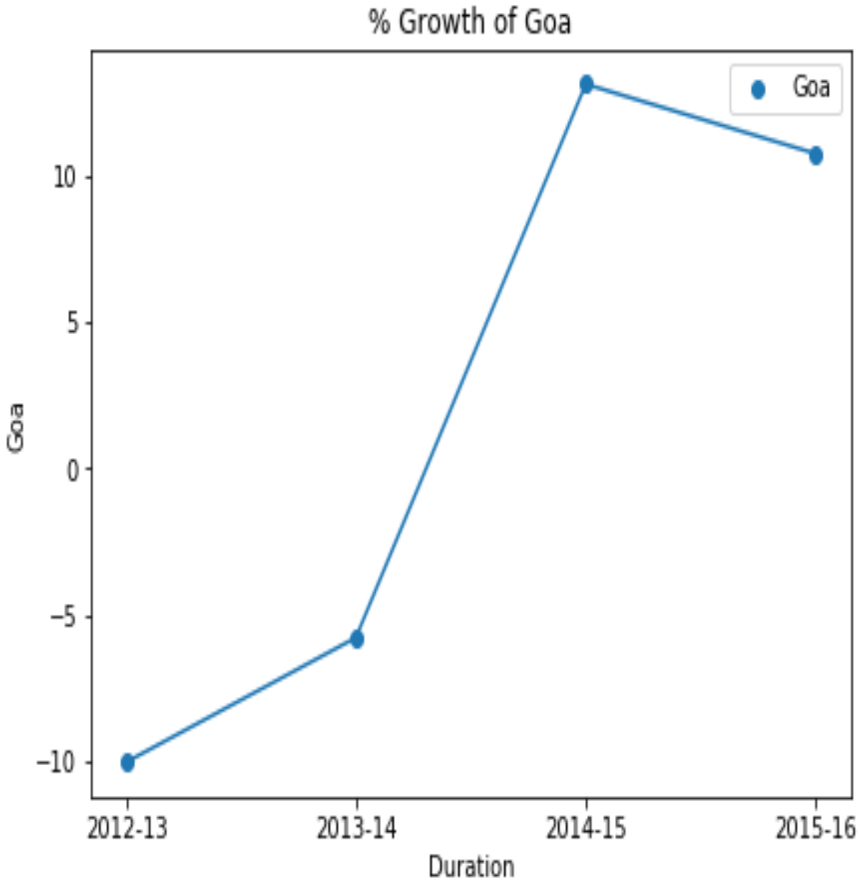


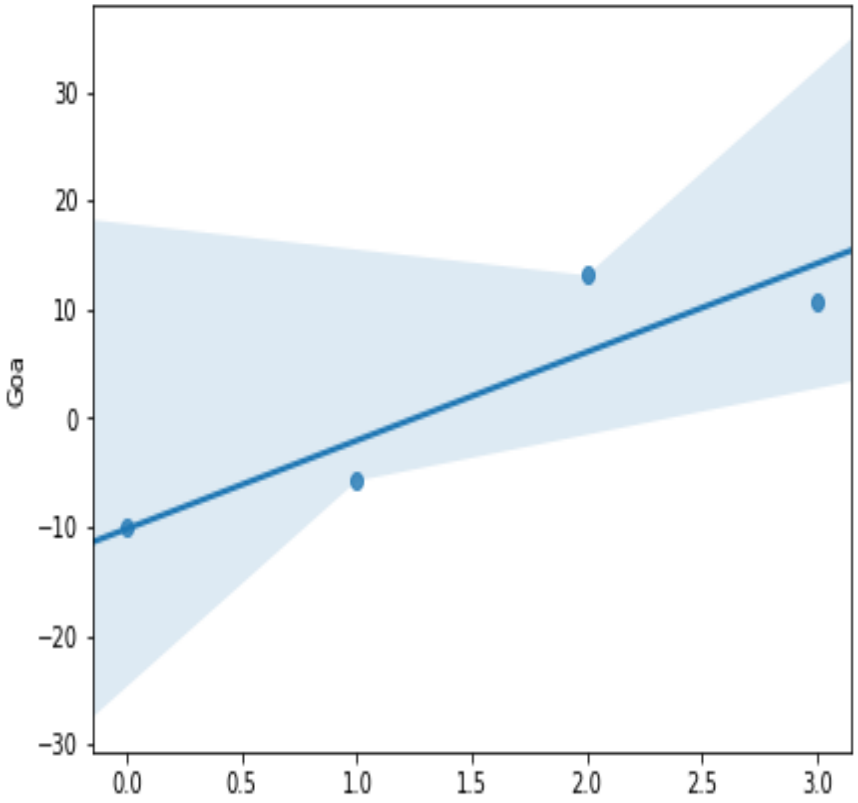


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Goa

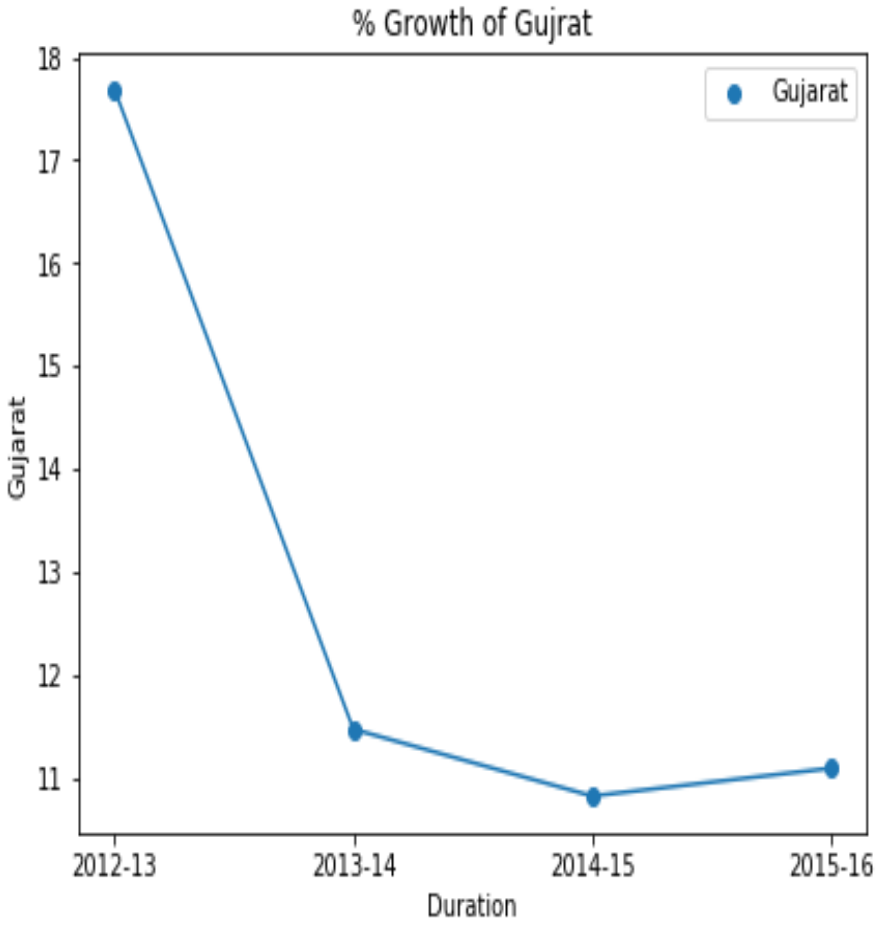


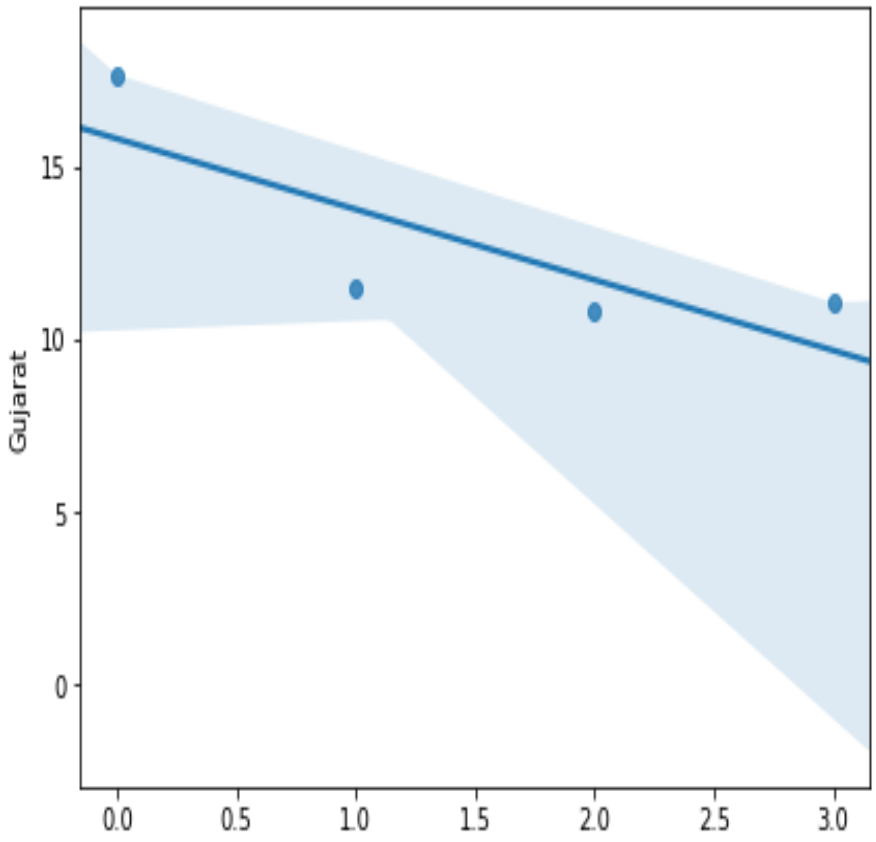


Positive Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Gujarat

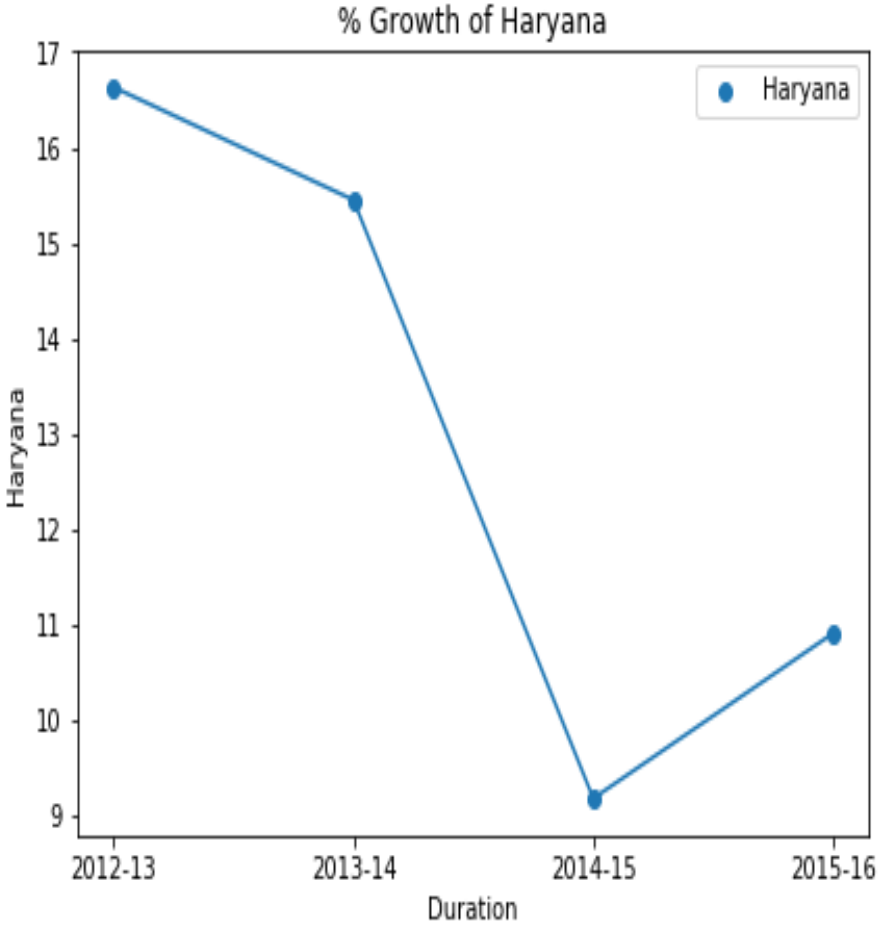


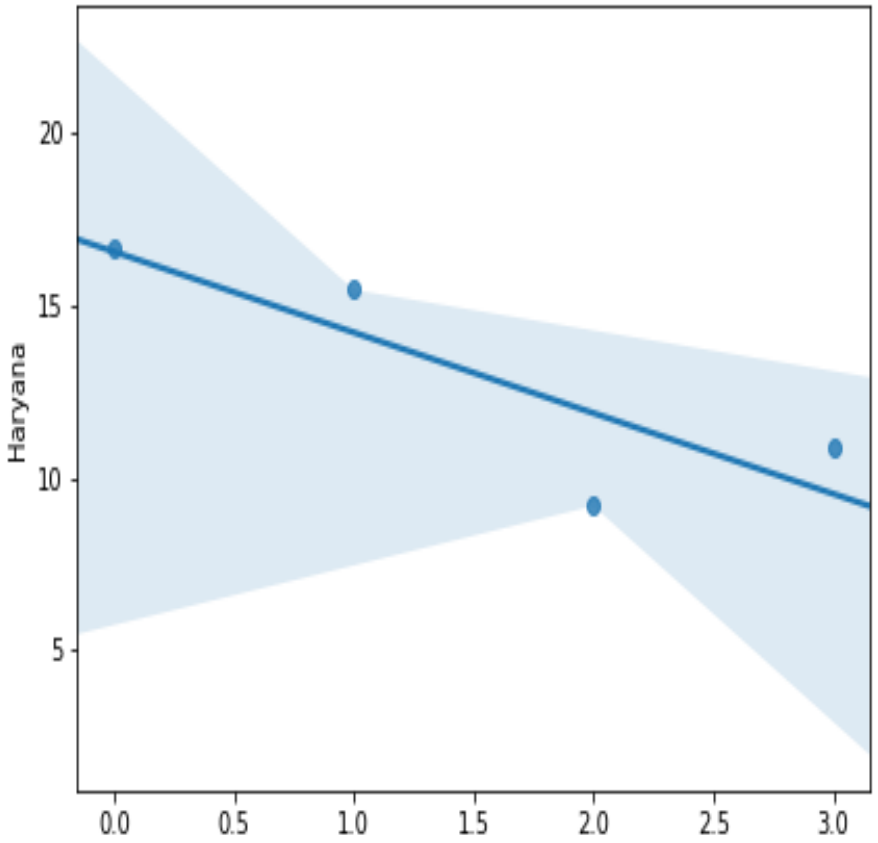


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Haryana

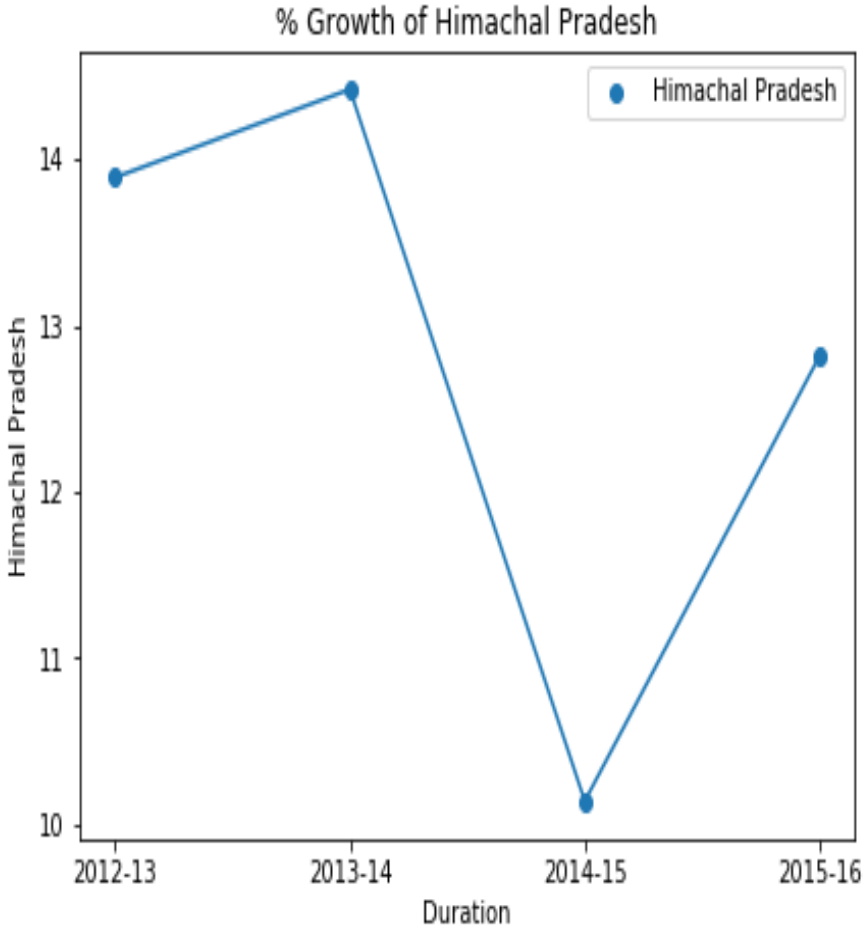


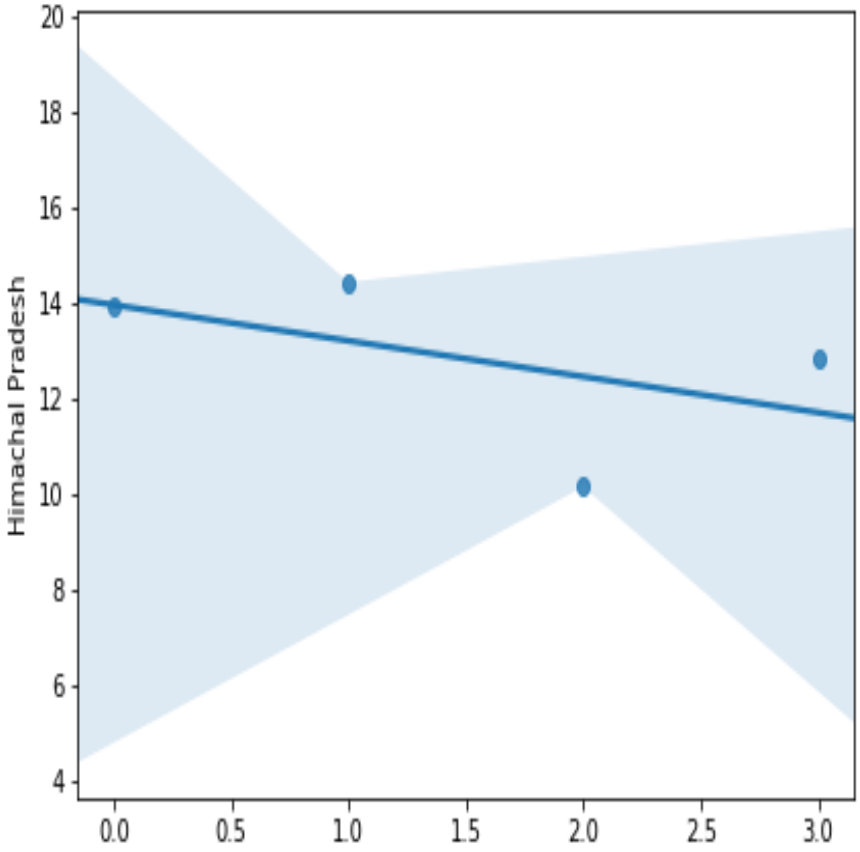


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Himachal Pradesh

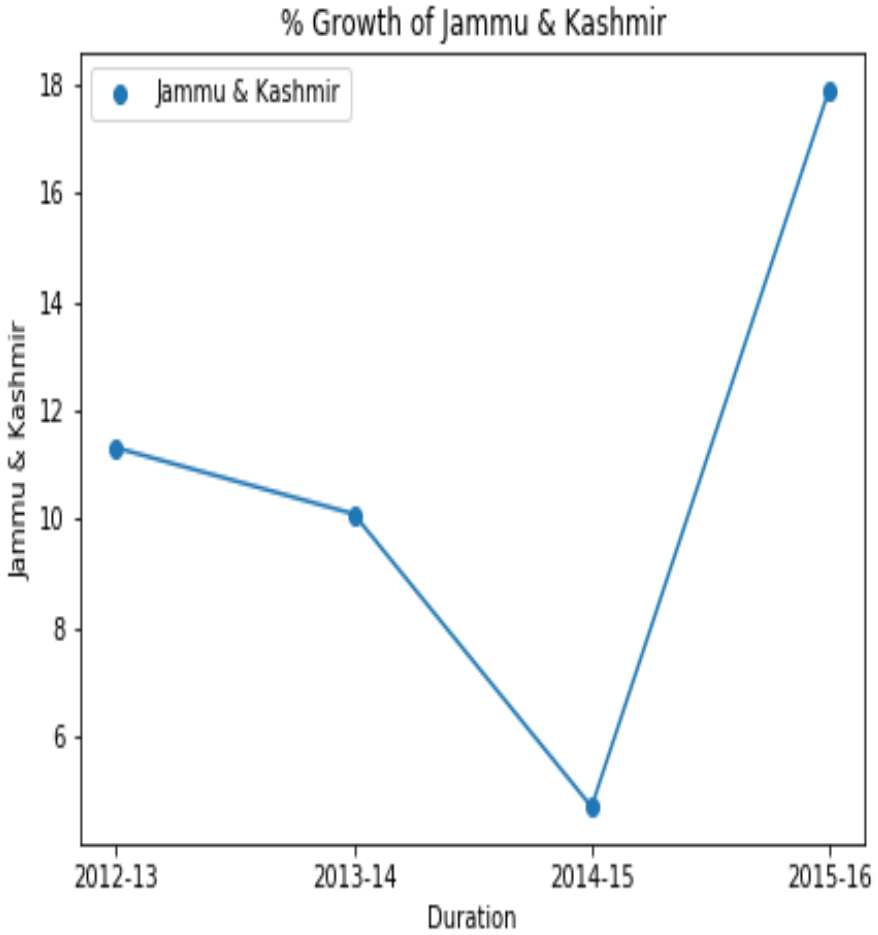


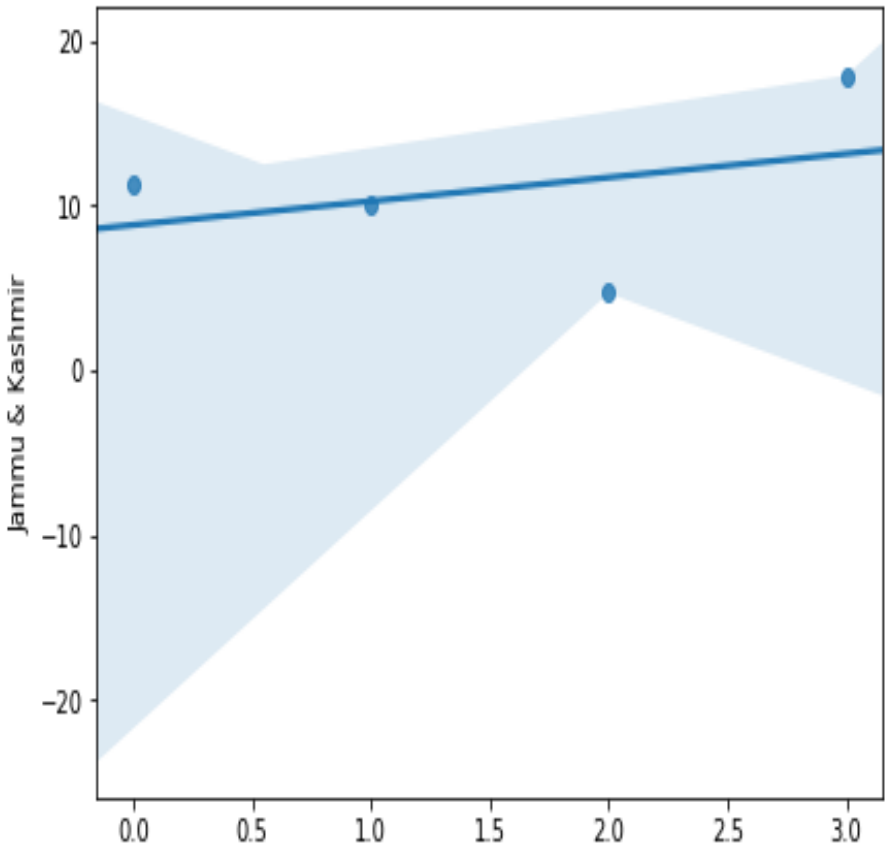


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Jammu & Kashmir

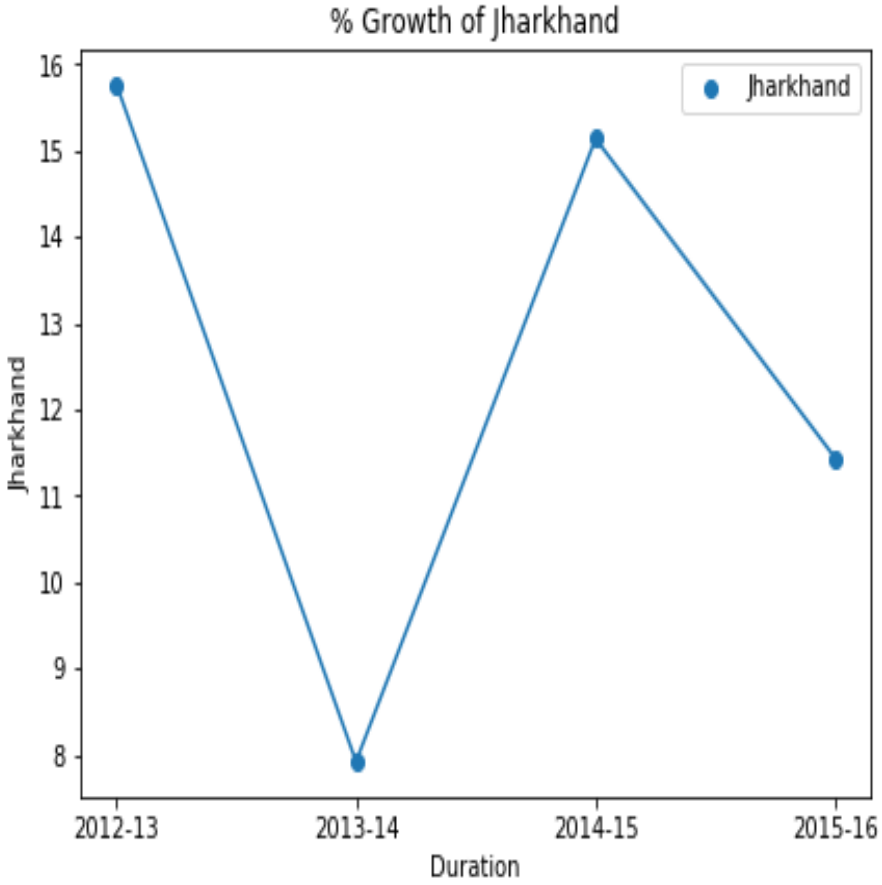


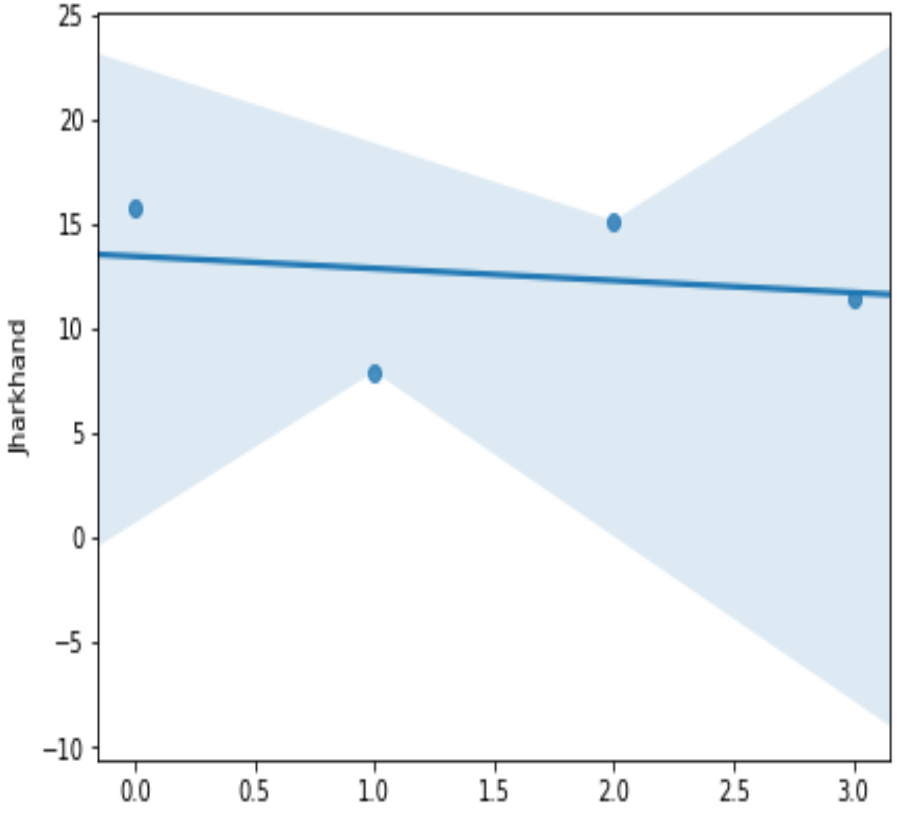


Positive Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Jharkhand

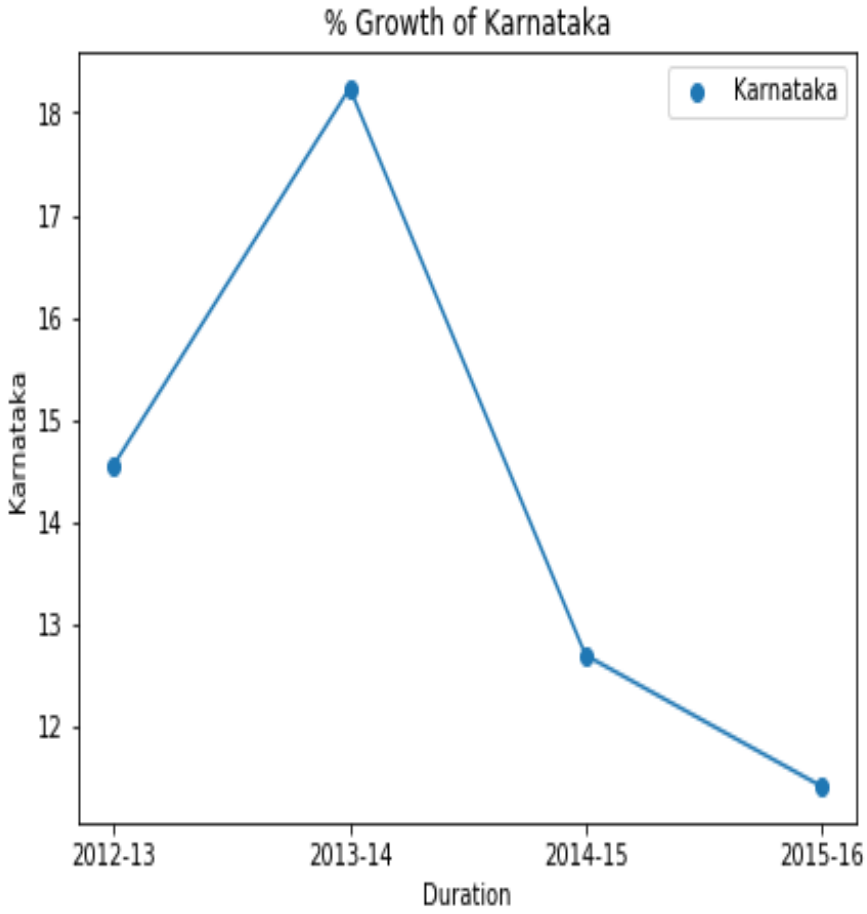


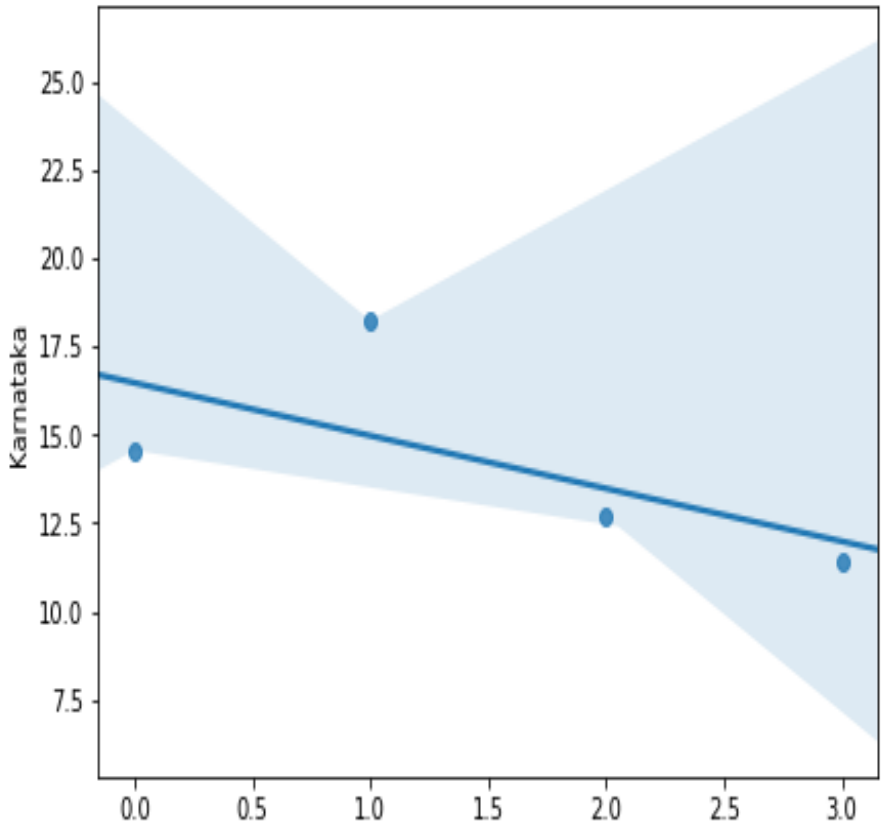


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Karnataka

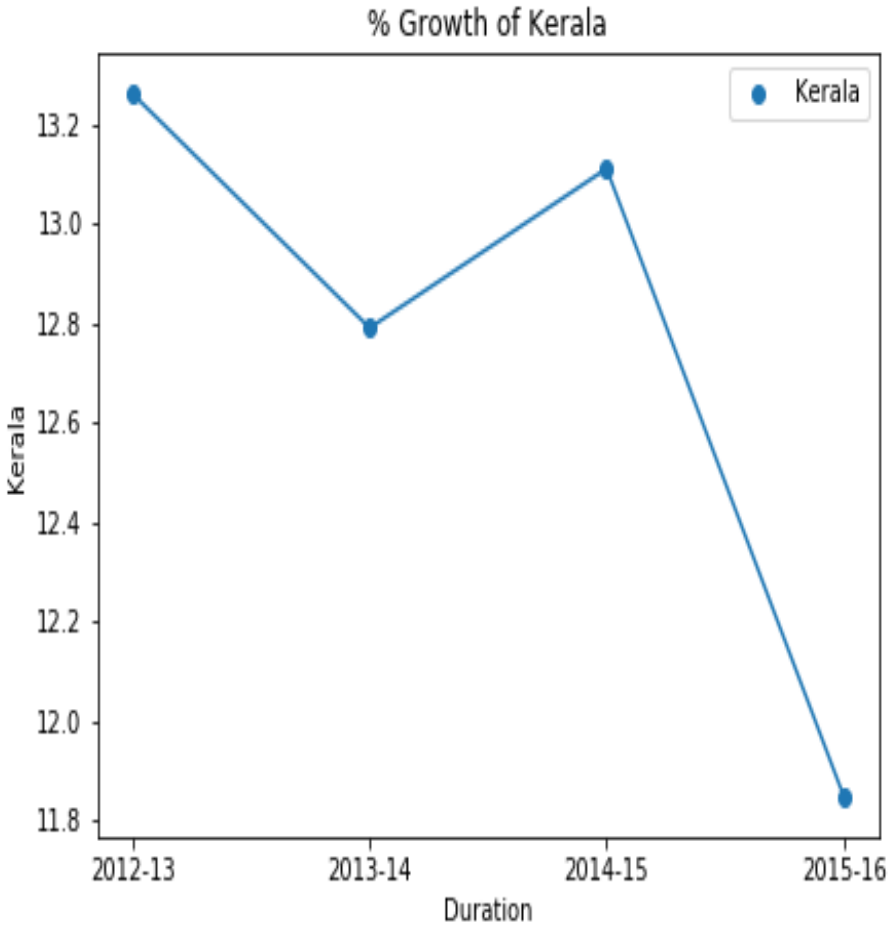


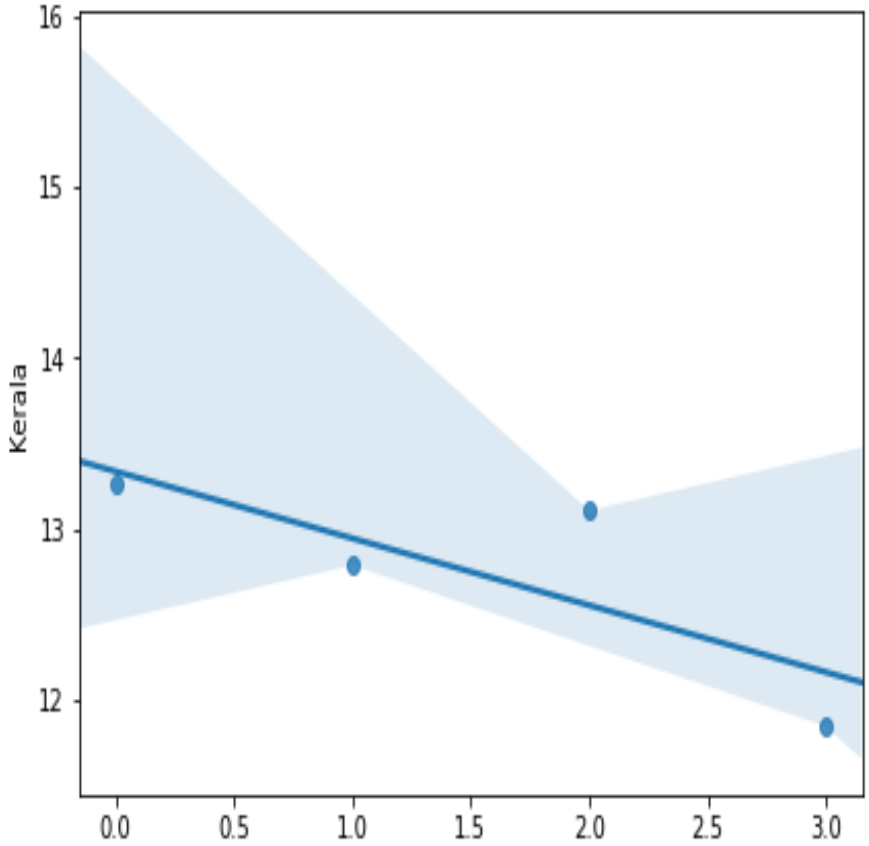


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Kerala

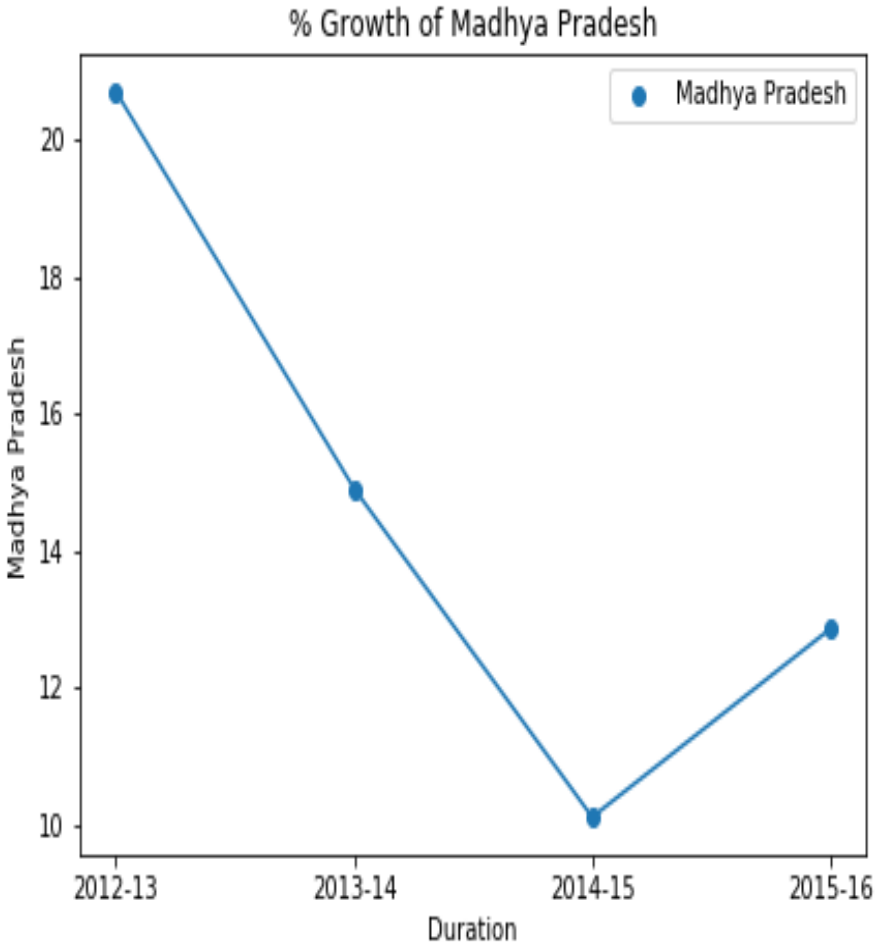


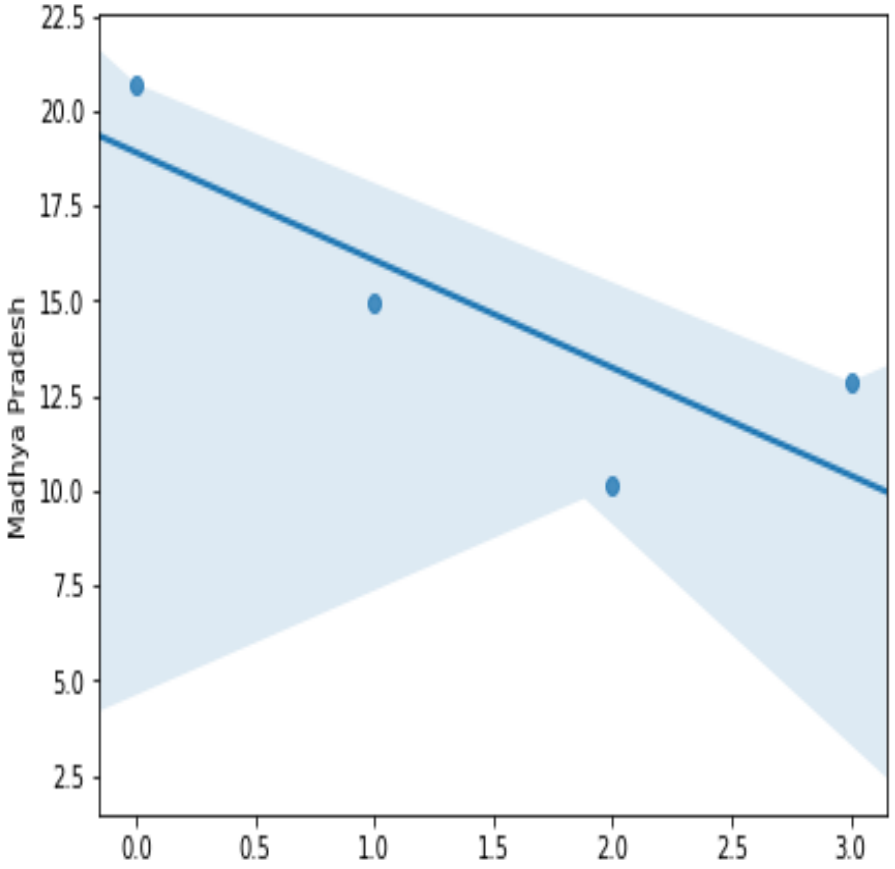


Negative Kerala

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Madhya Pradesh

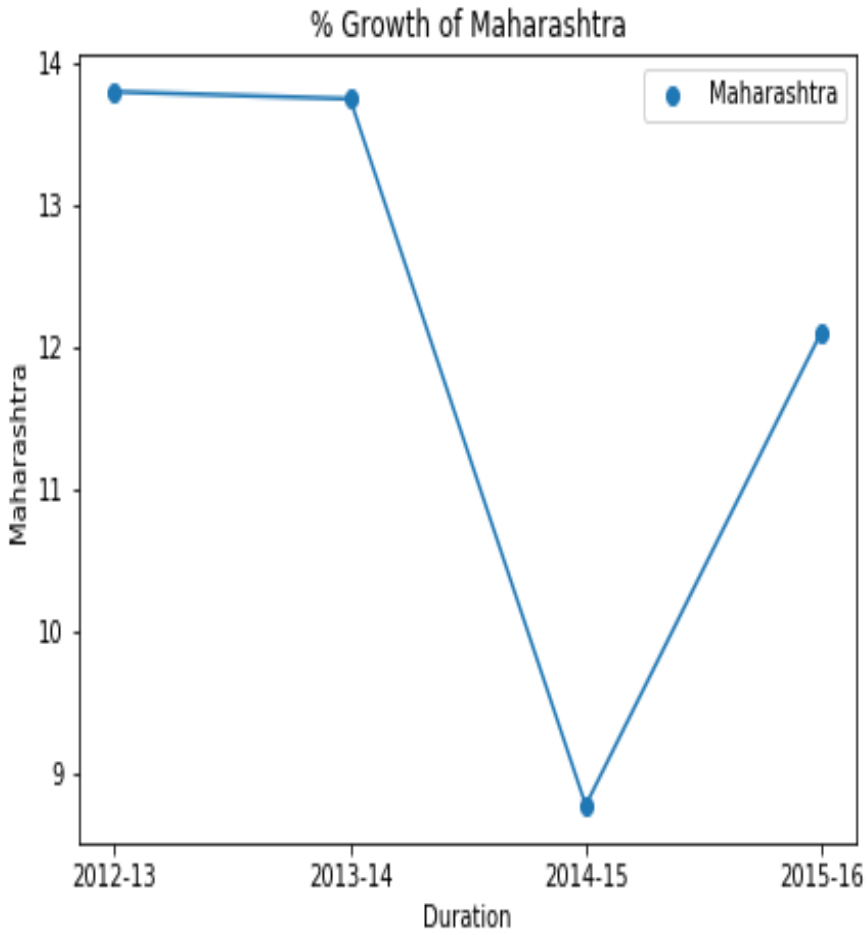


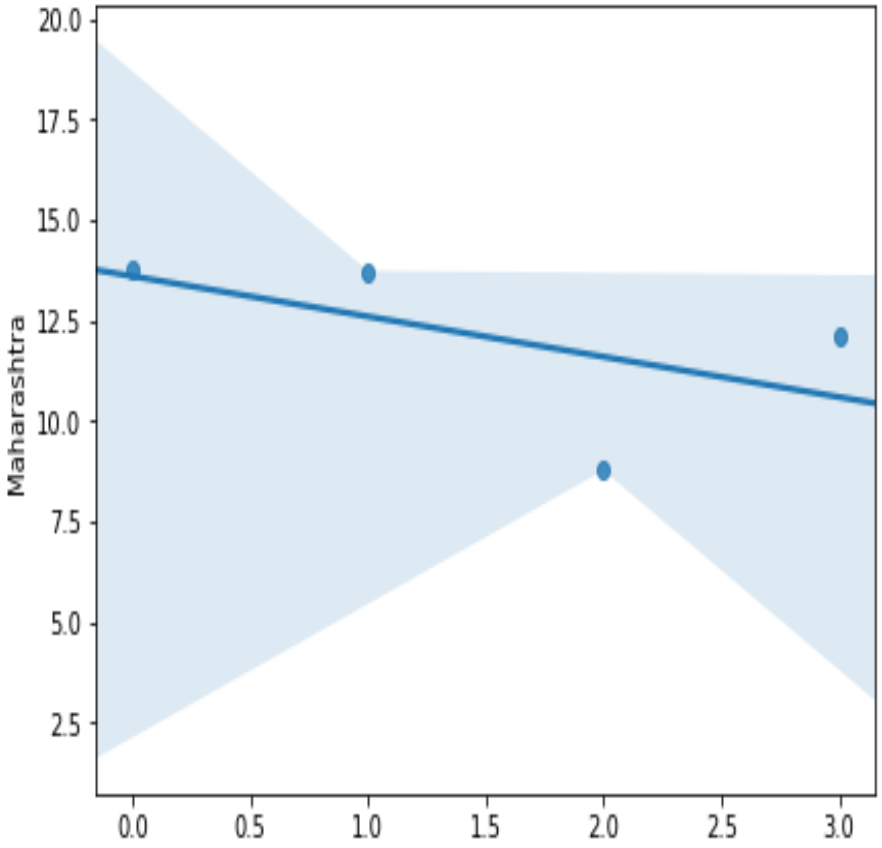


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Maharashtra

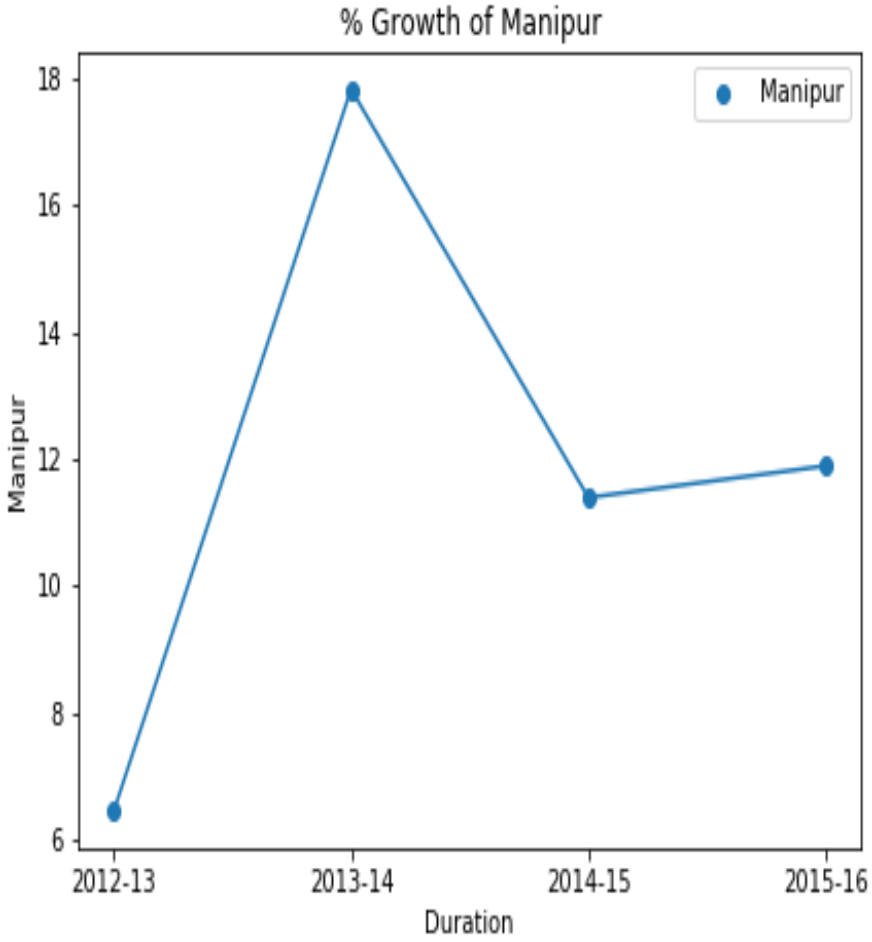


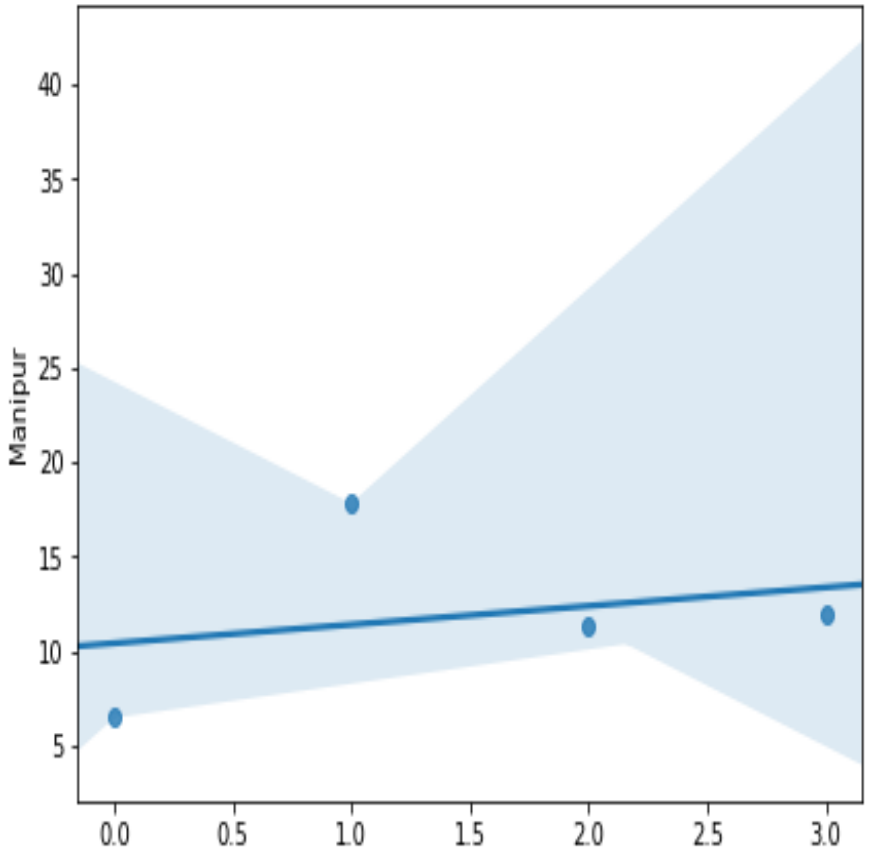


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Manipur

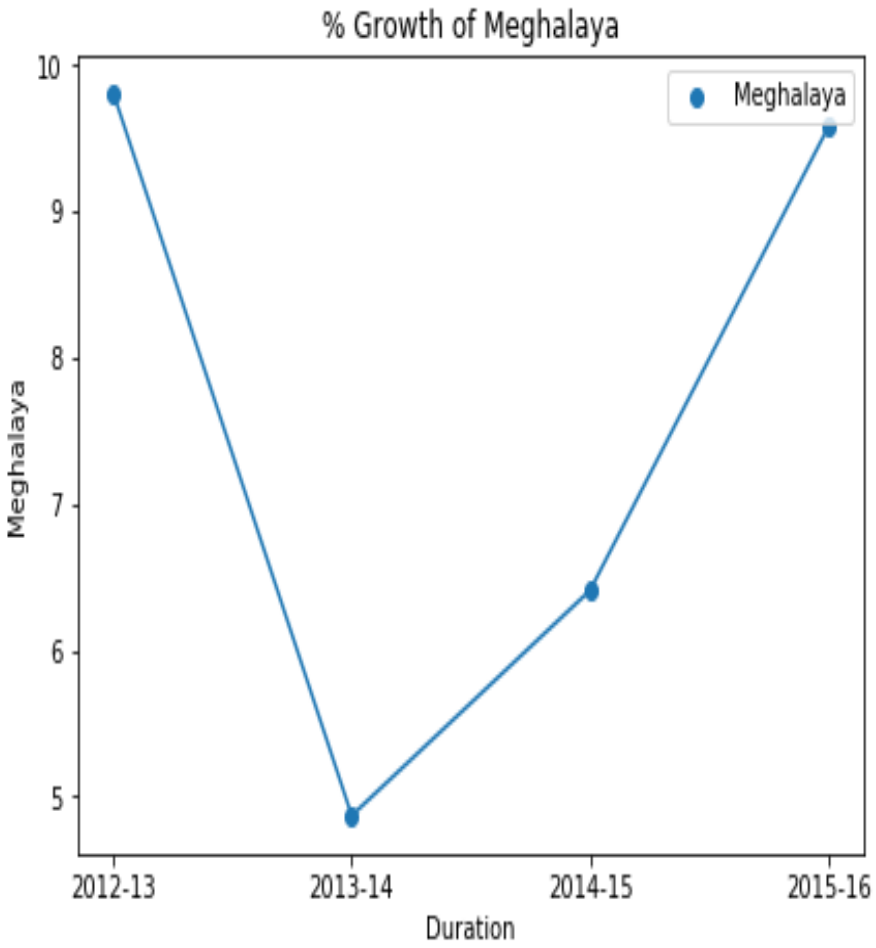


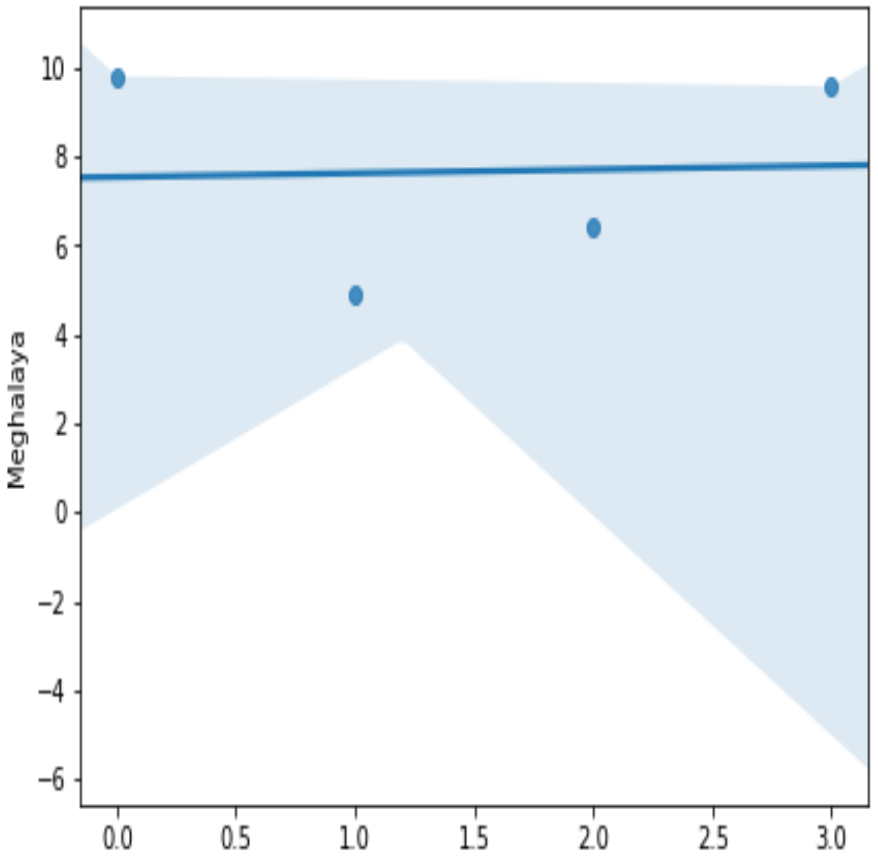


Positive trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Meghalaya

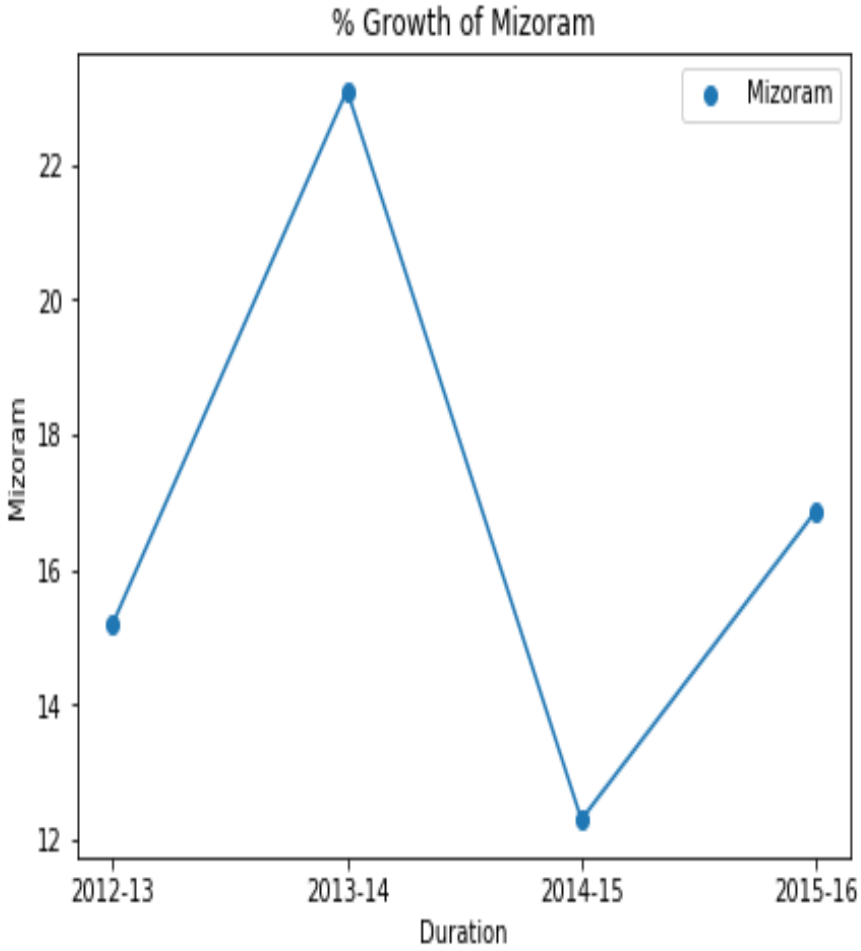


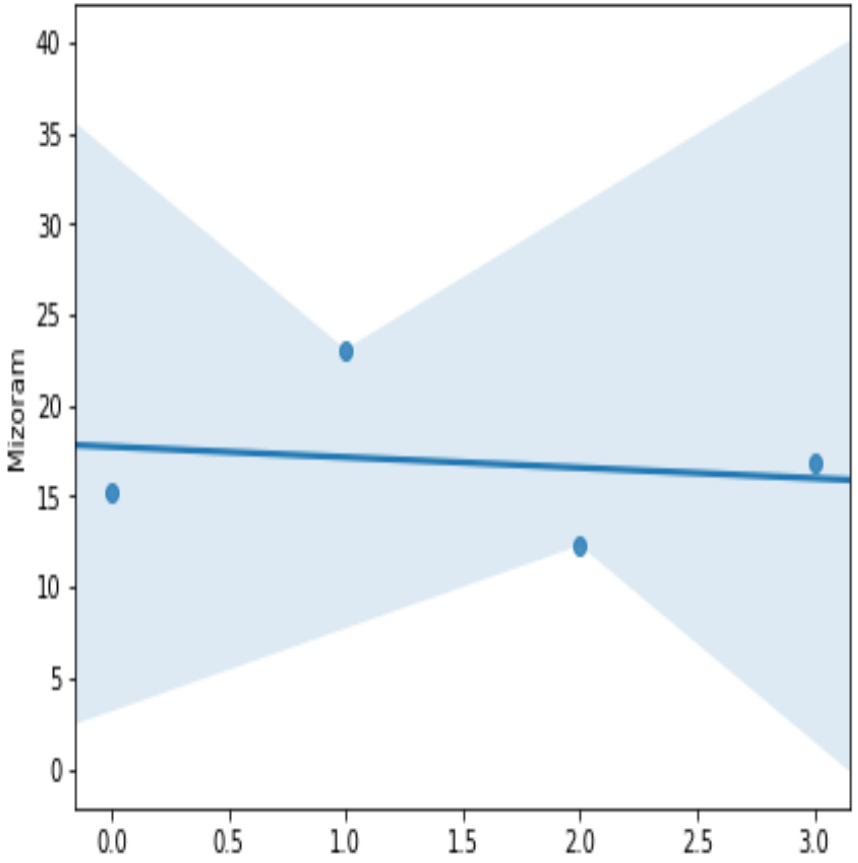


Almost Constant Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Mizoram

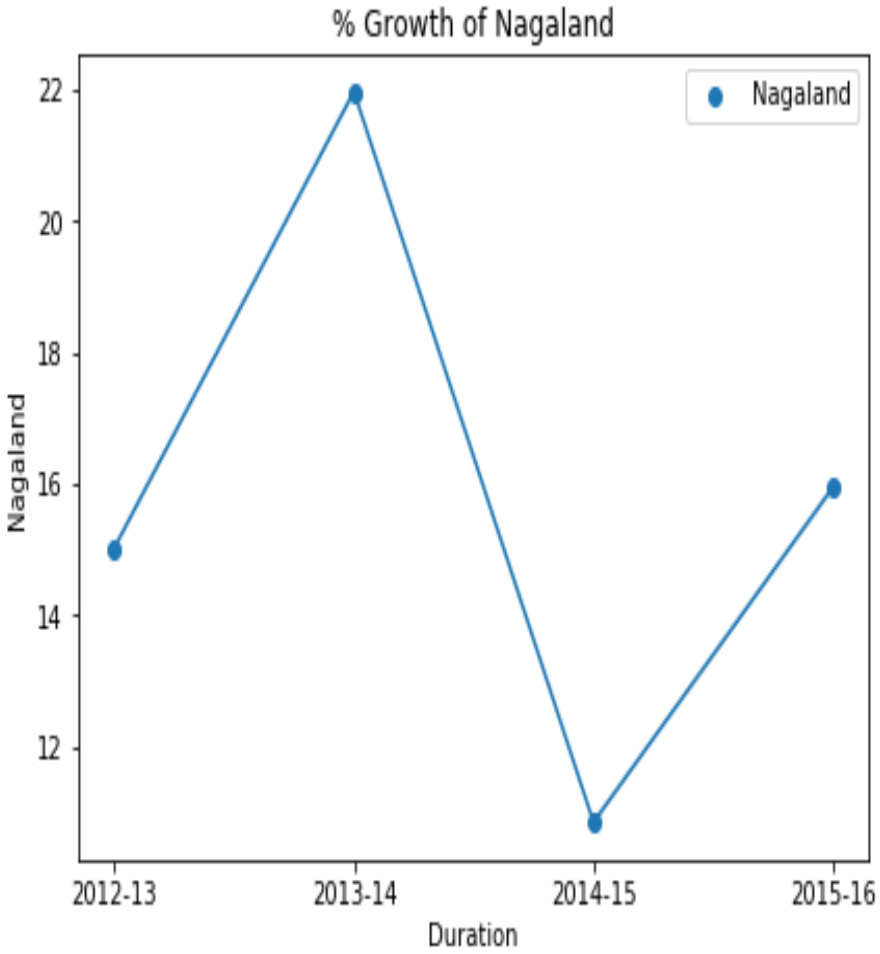


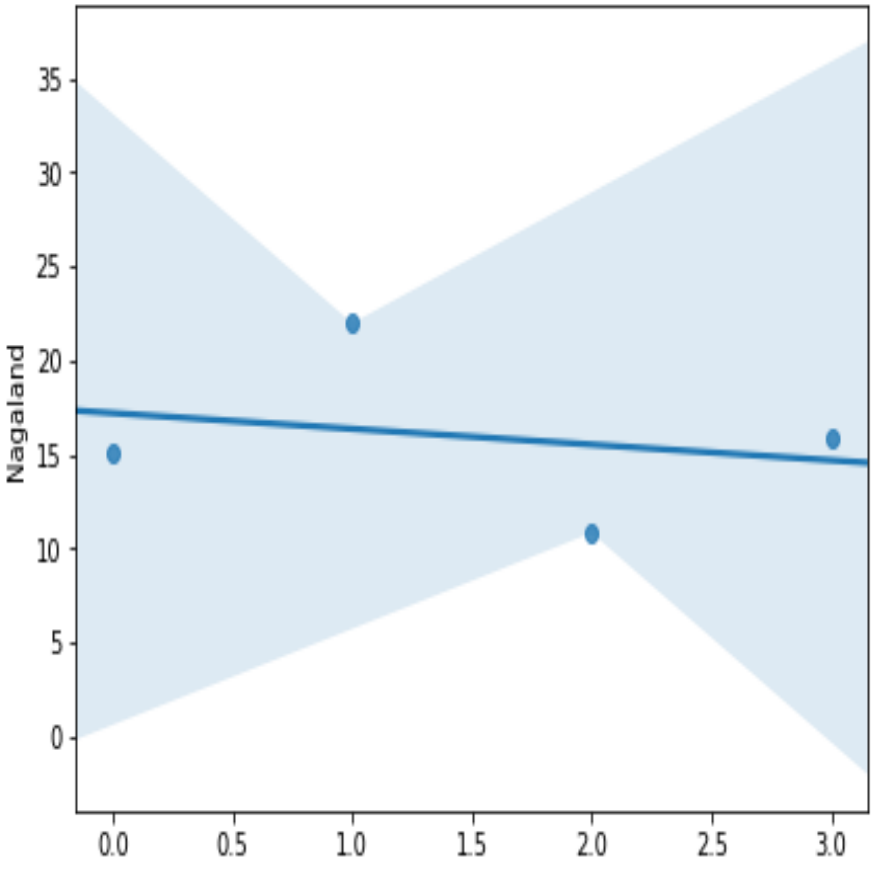


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Nagaland

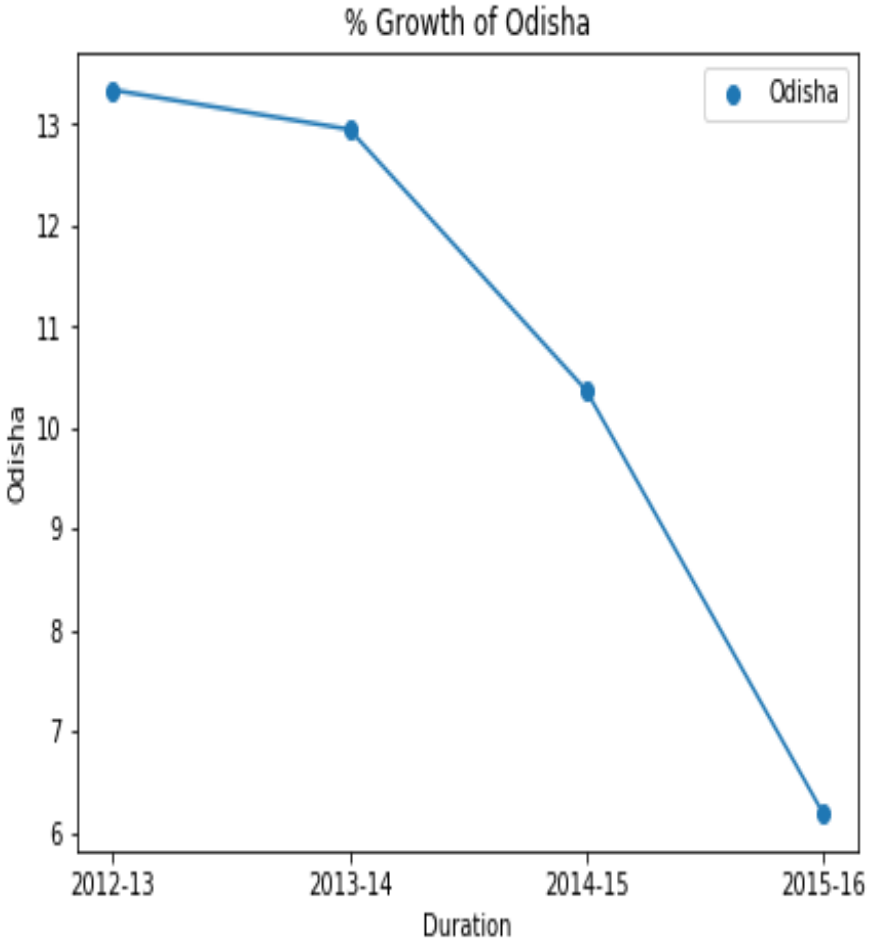


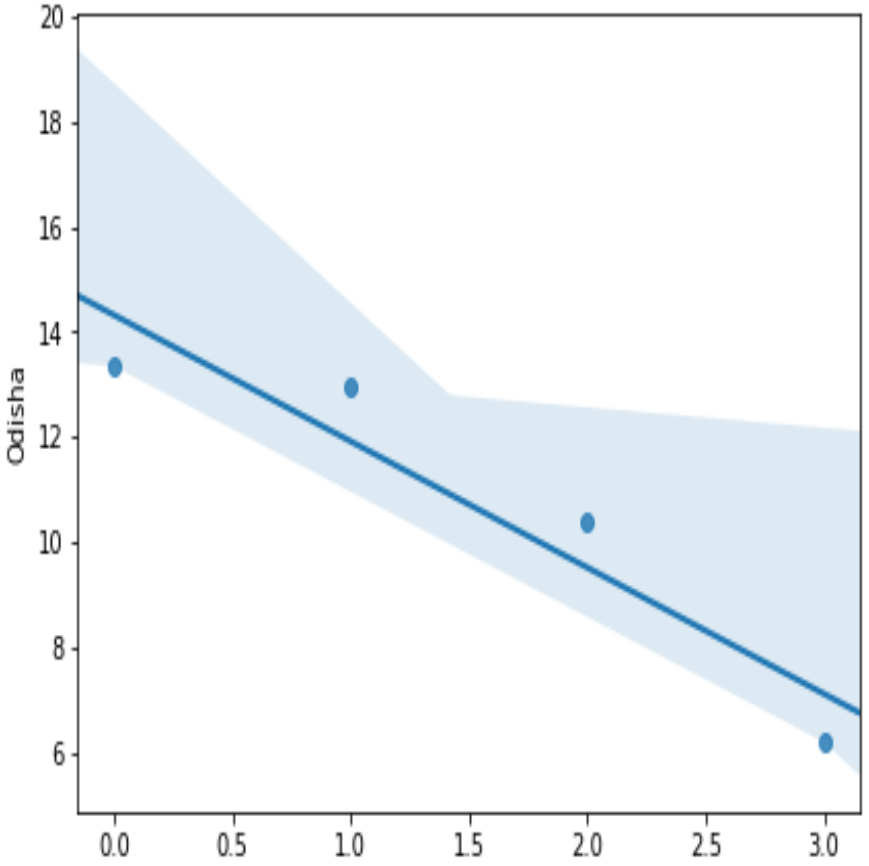


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Odisha

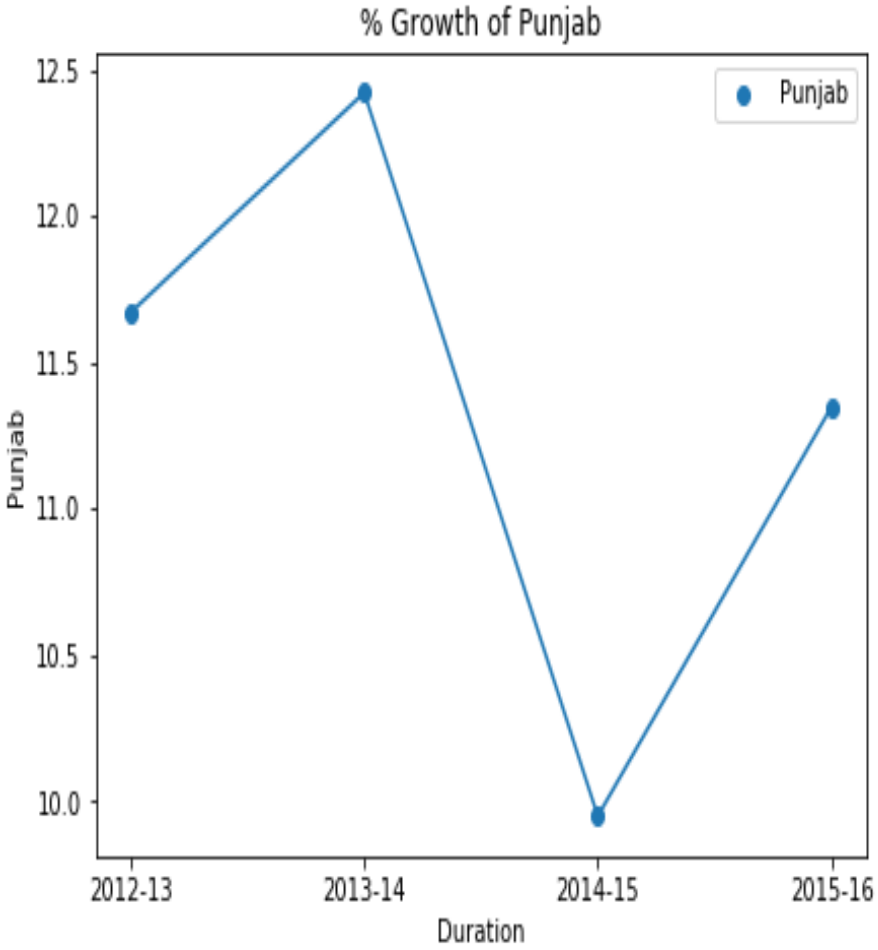


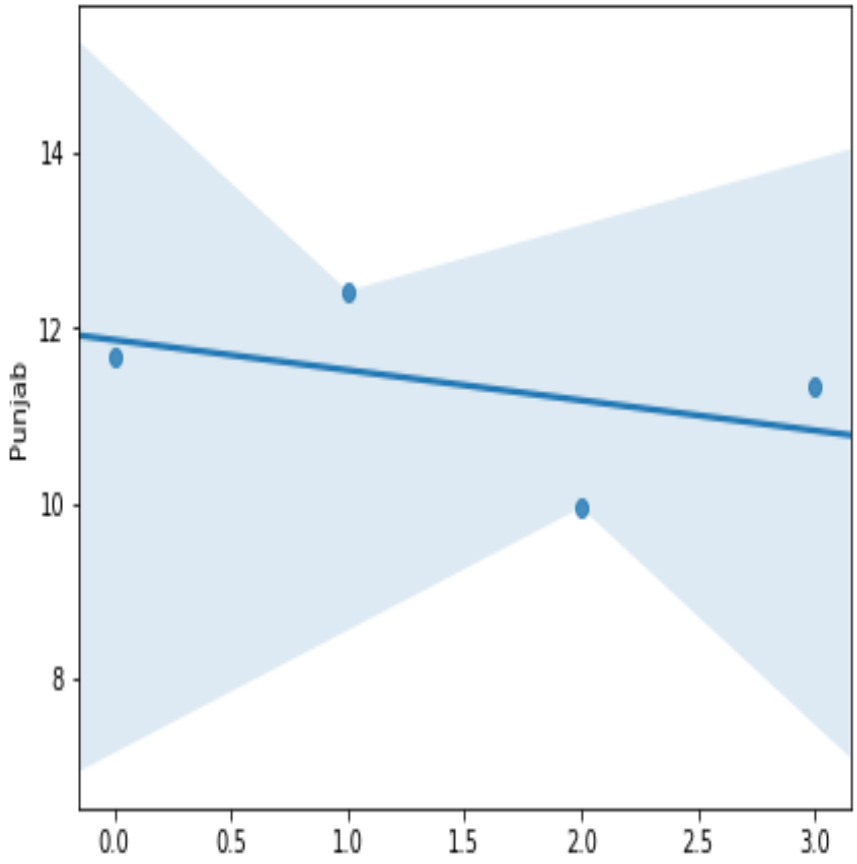


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Punjab

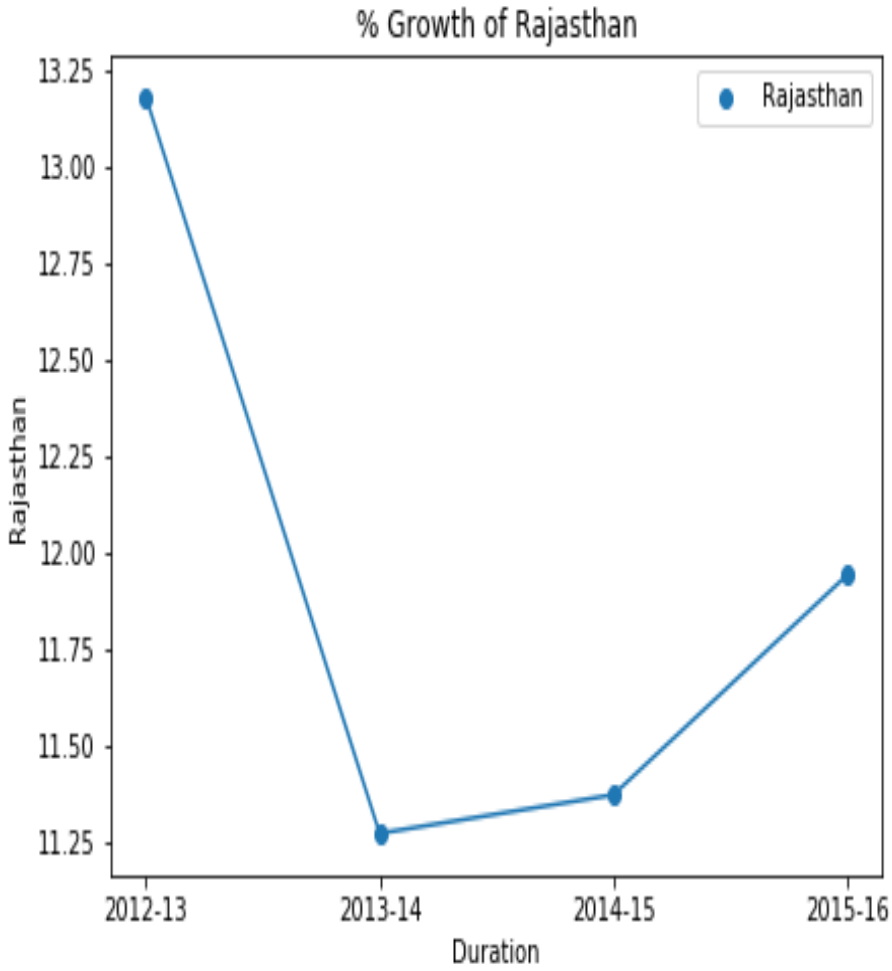


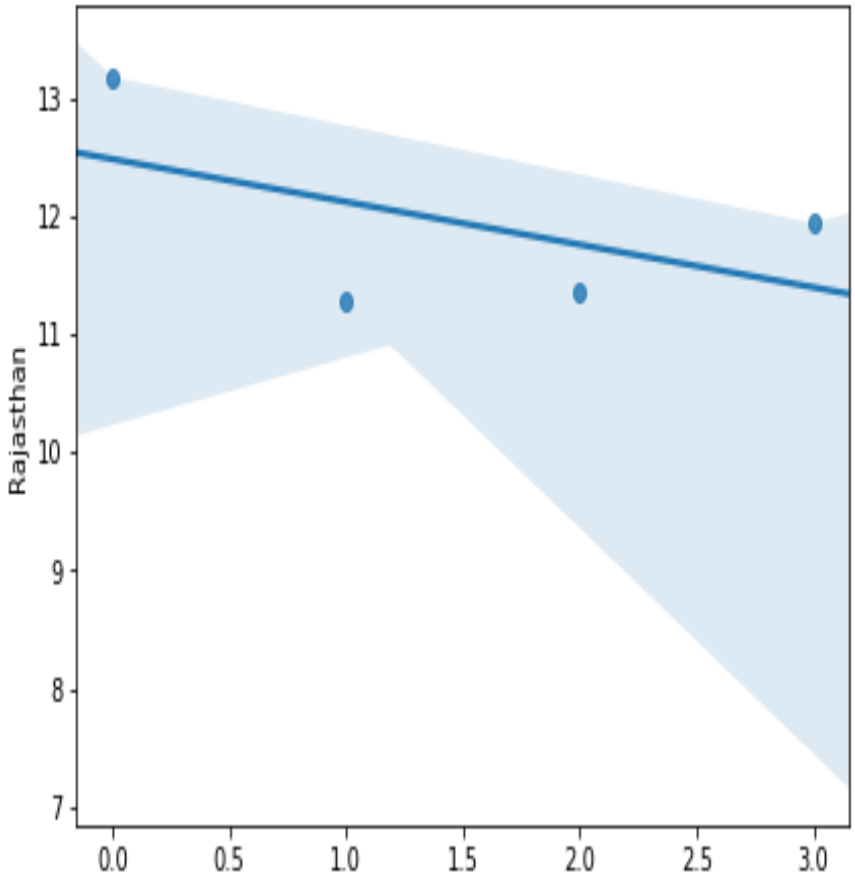


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Rajasthan

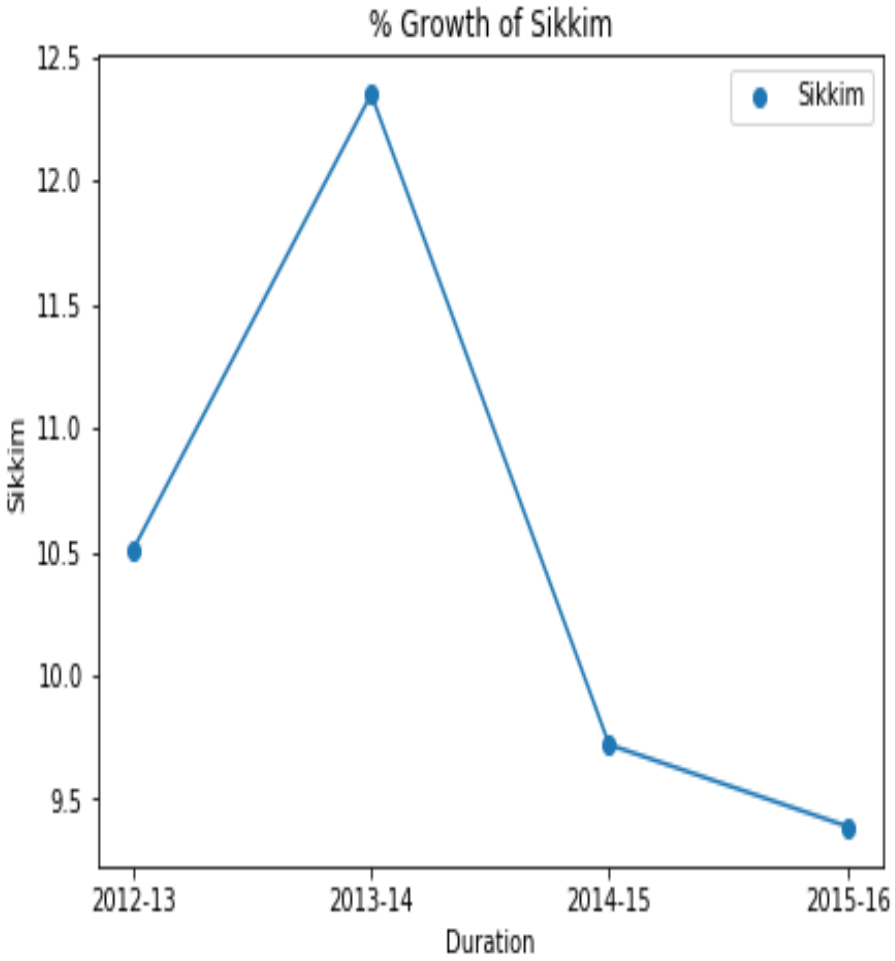


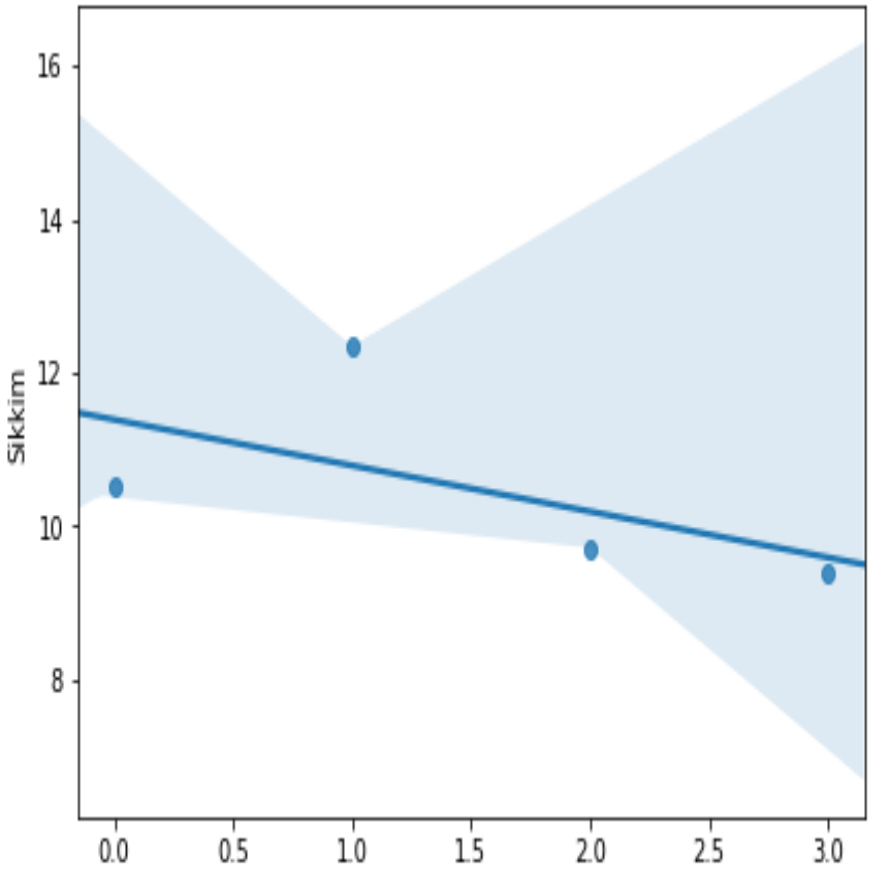


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Sikkim

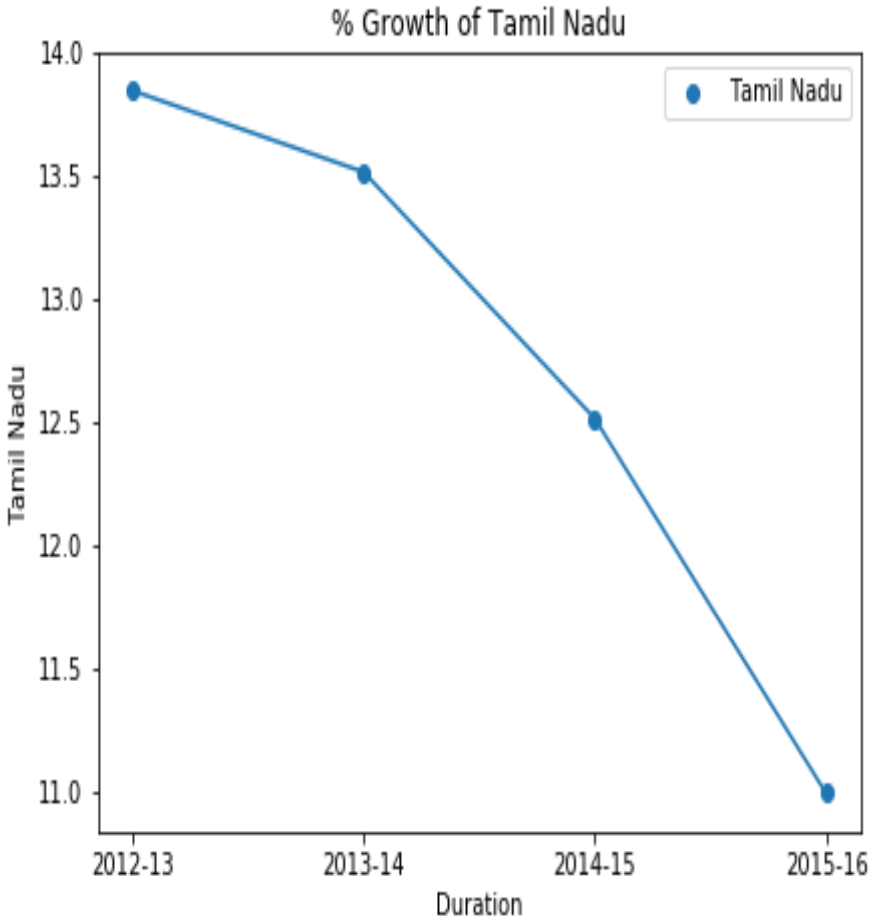


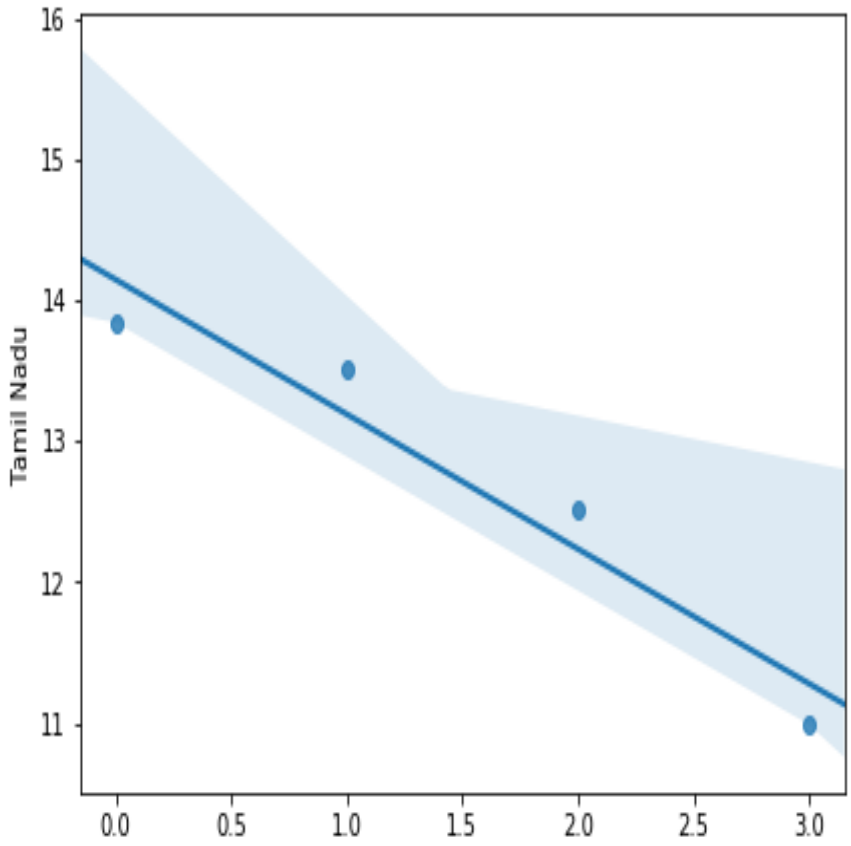


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Tamil Nadu

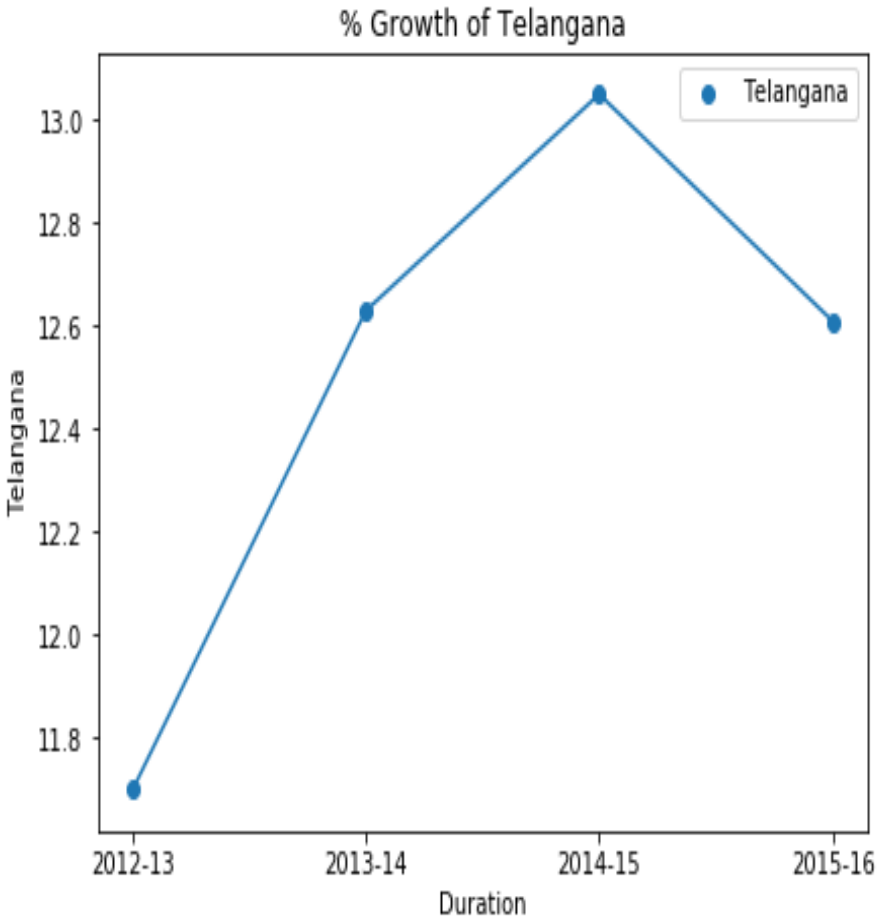


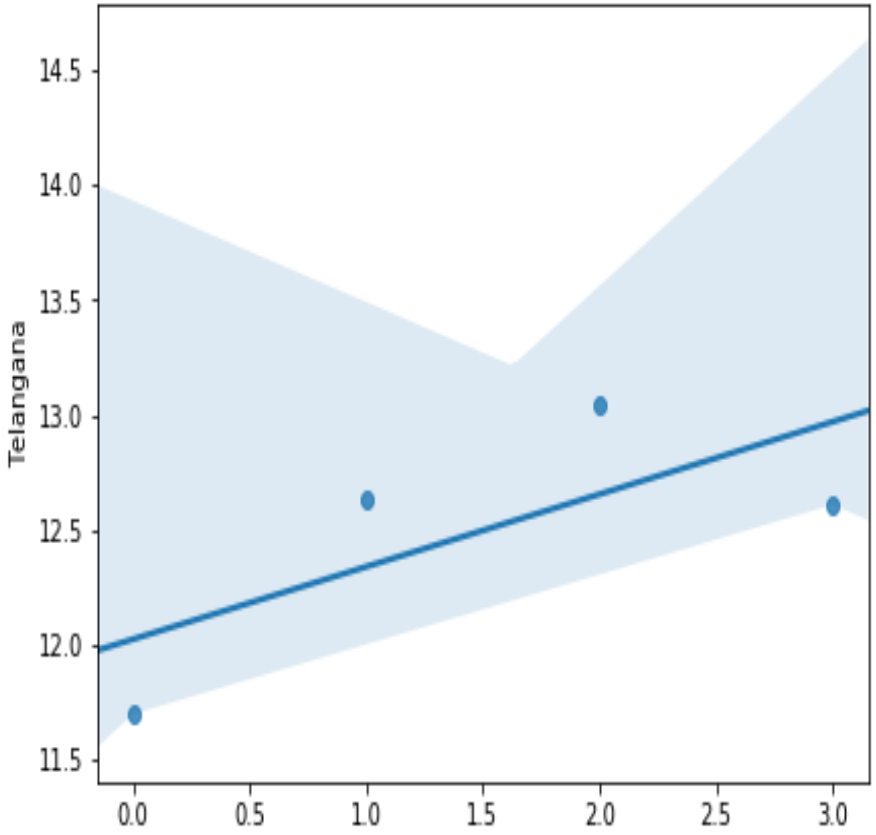


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Telangana

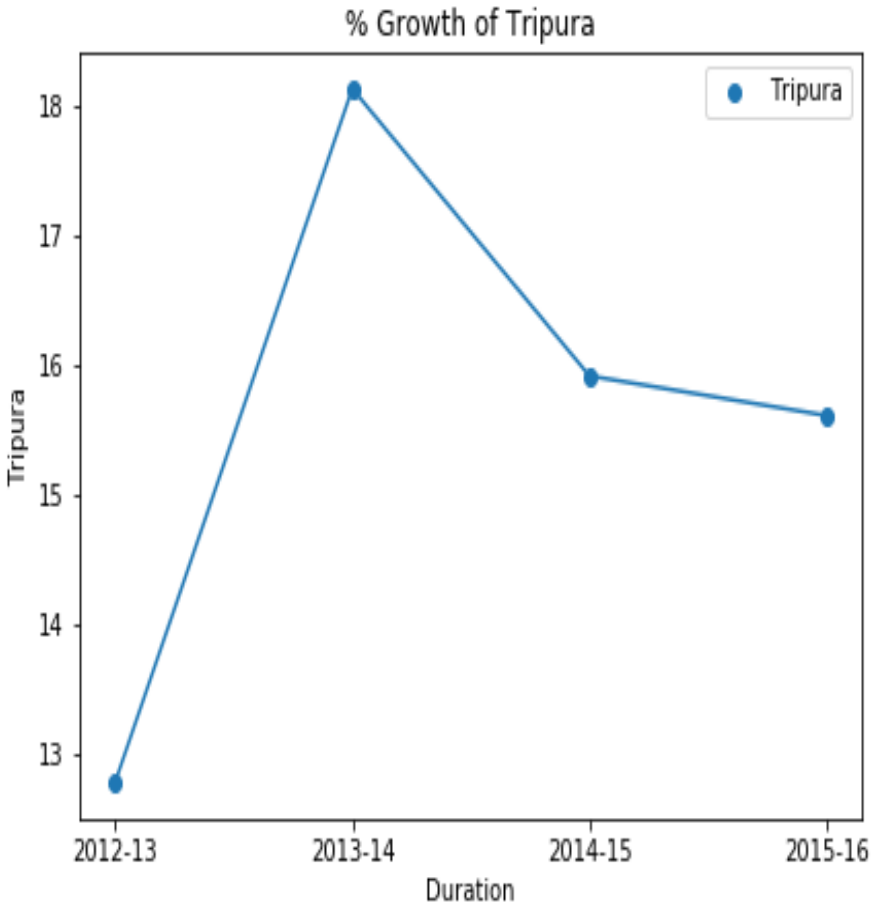


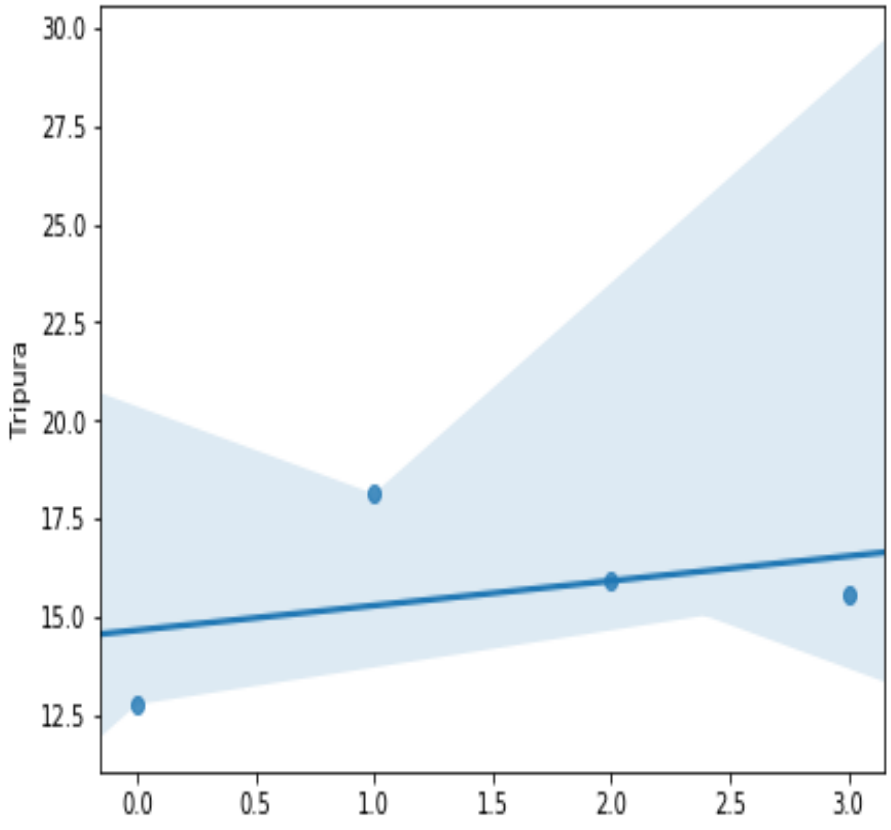


Positive Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Tripura

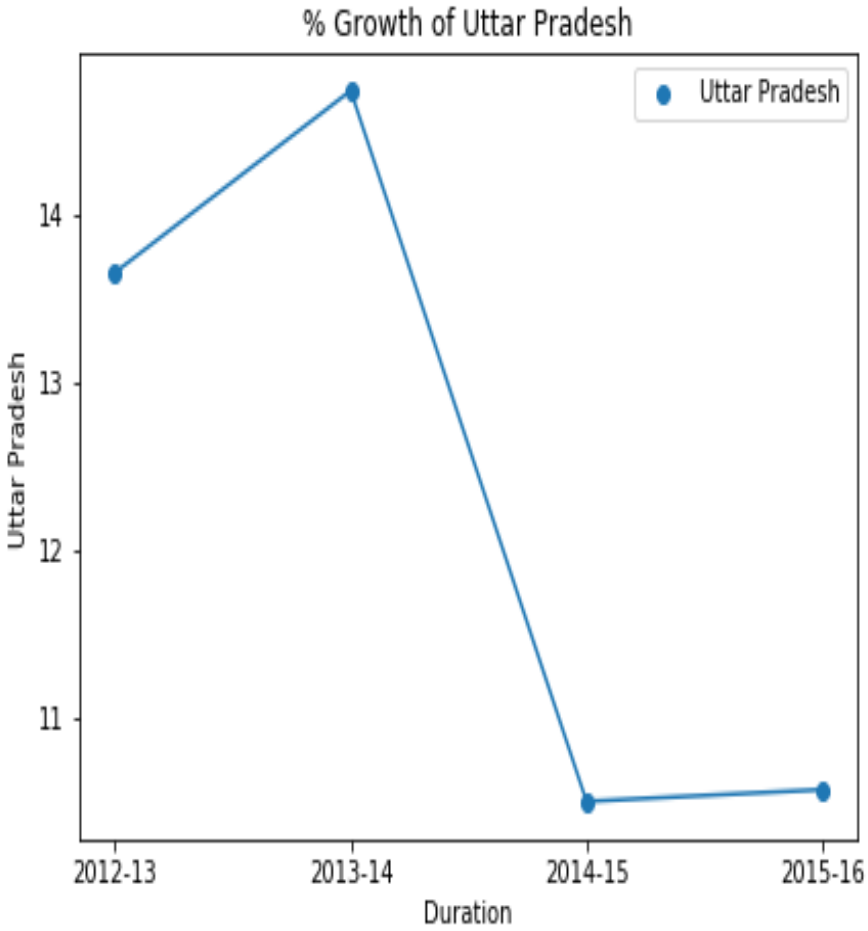


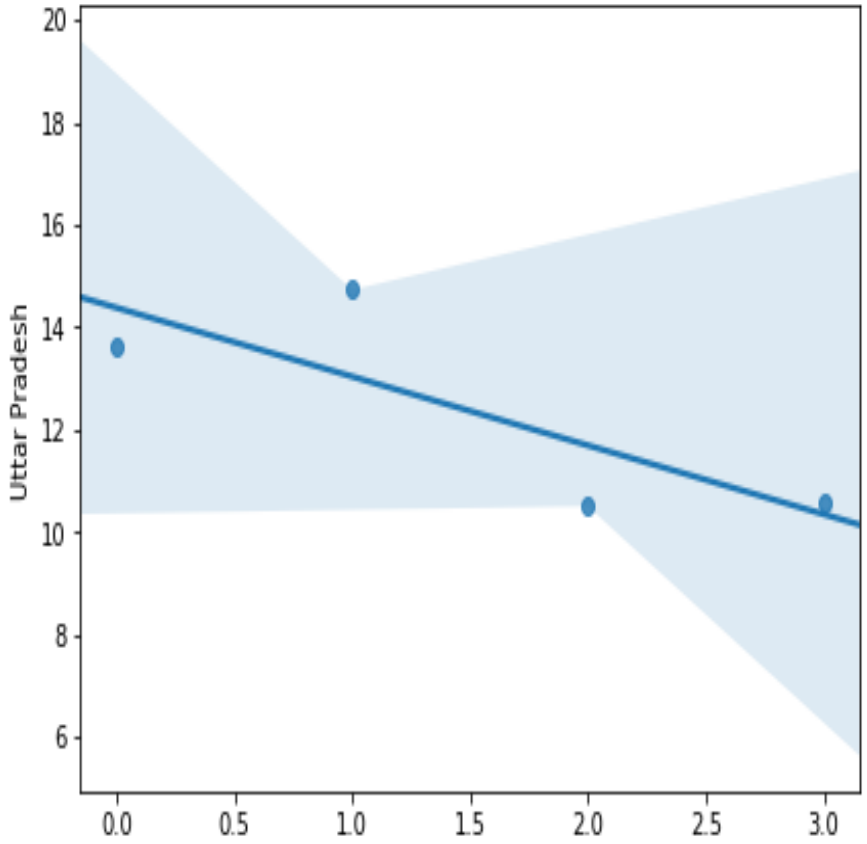


Positive Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Uttar Pradesh

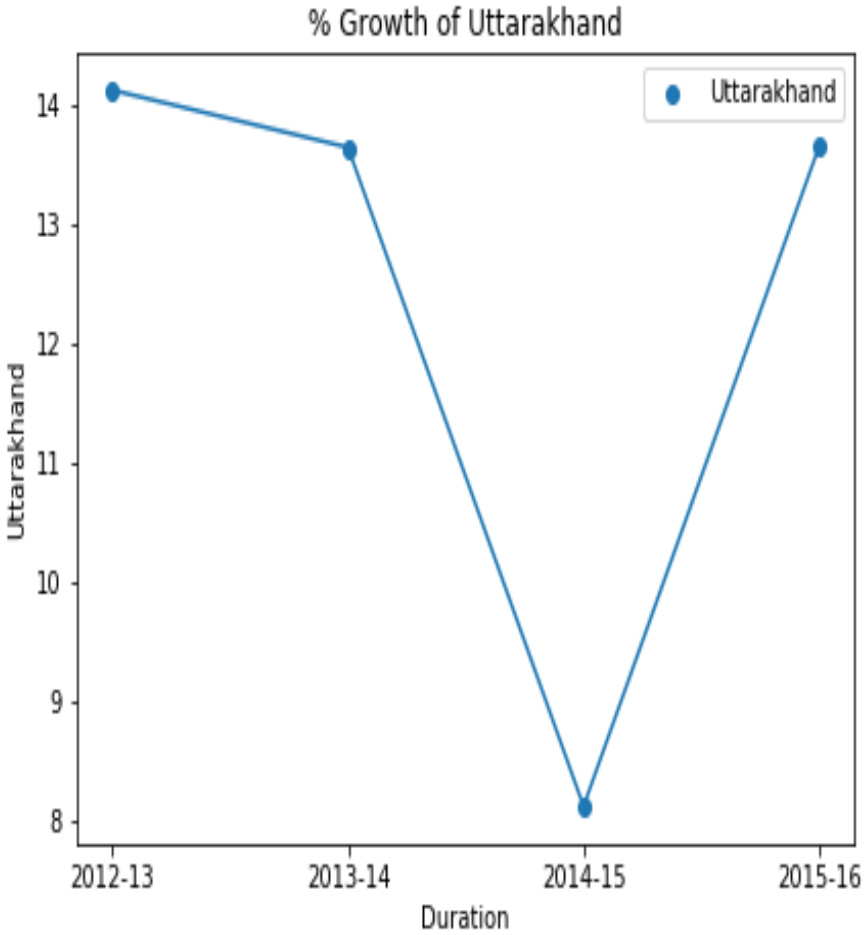


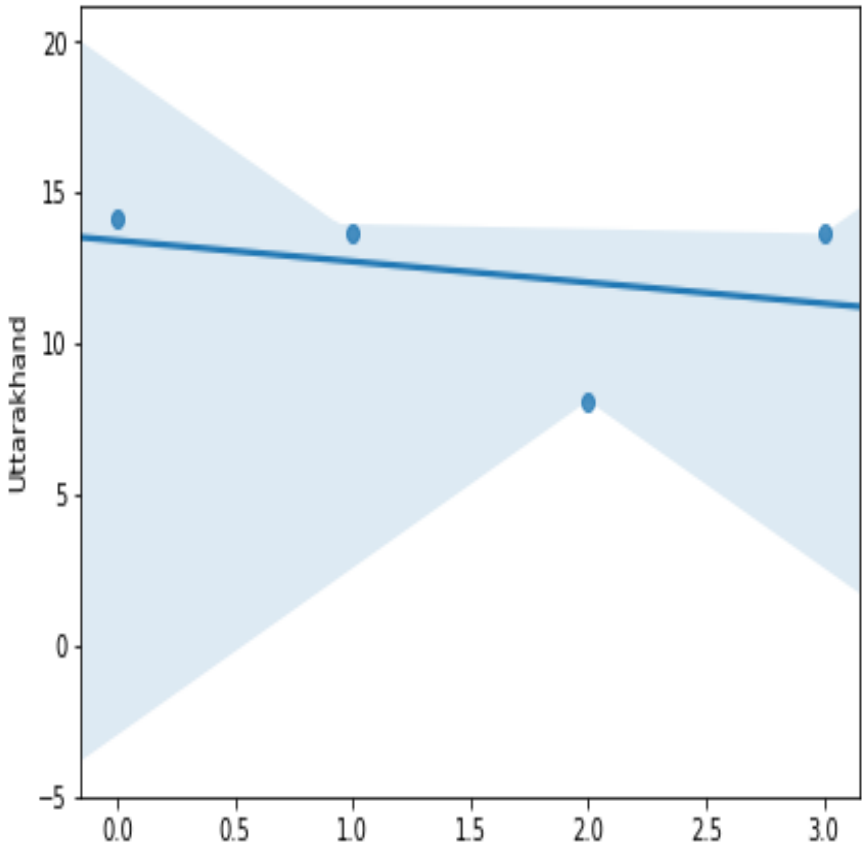


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Trend for Uttarakhand

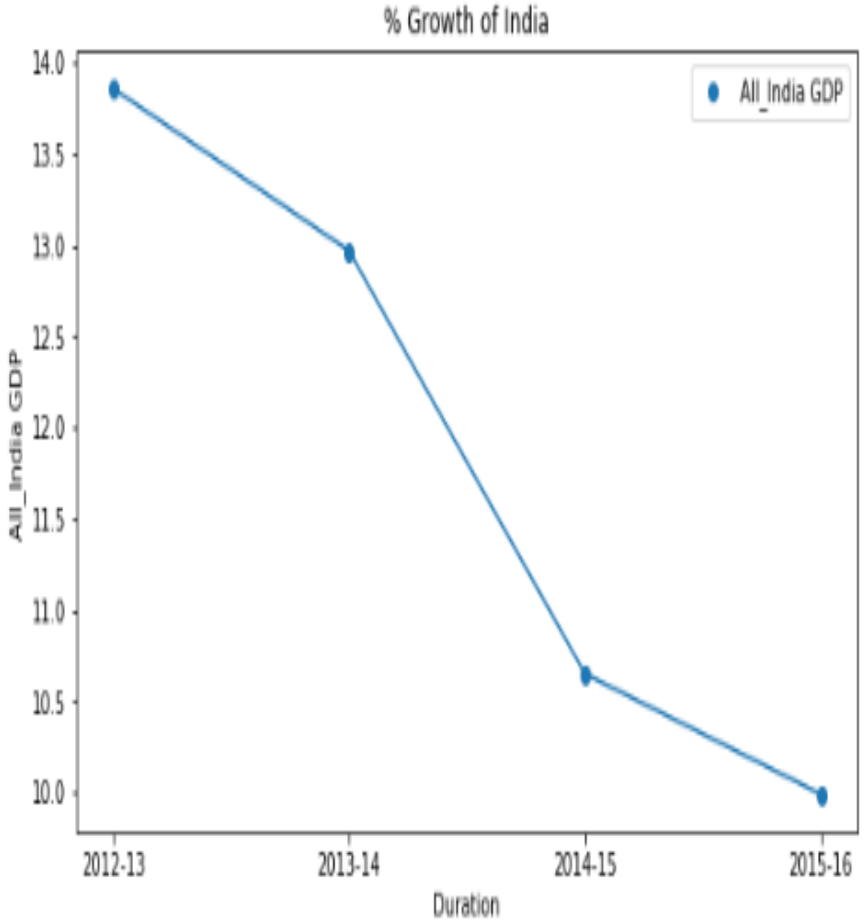


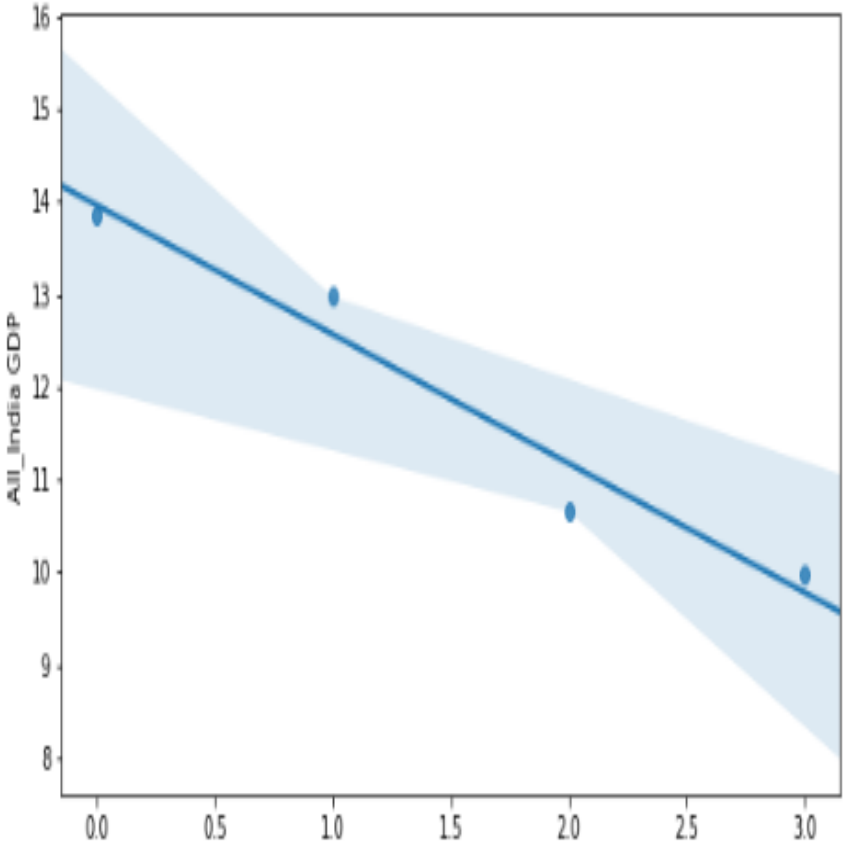


Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Overall Trend for India

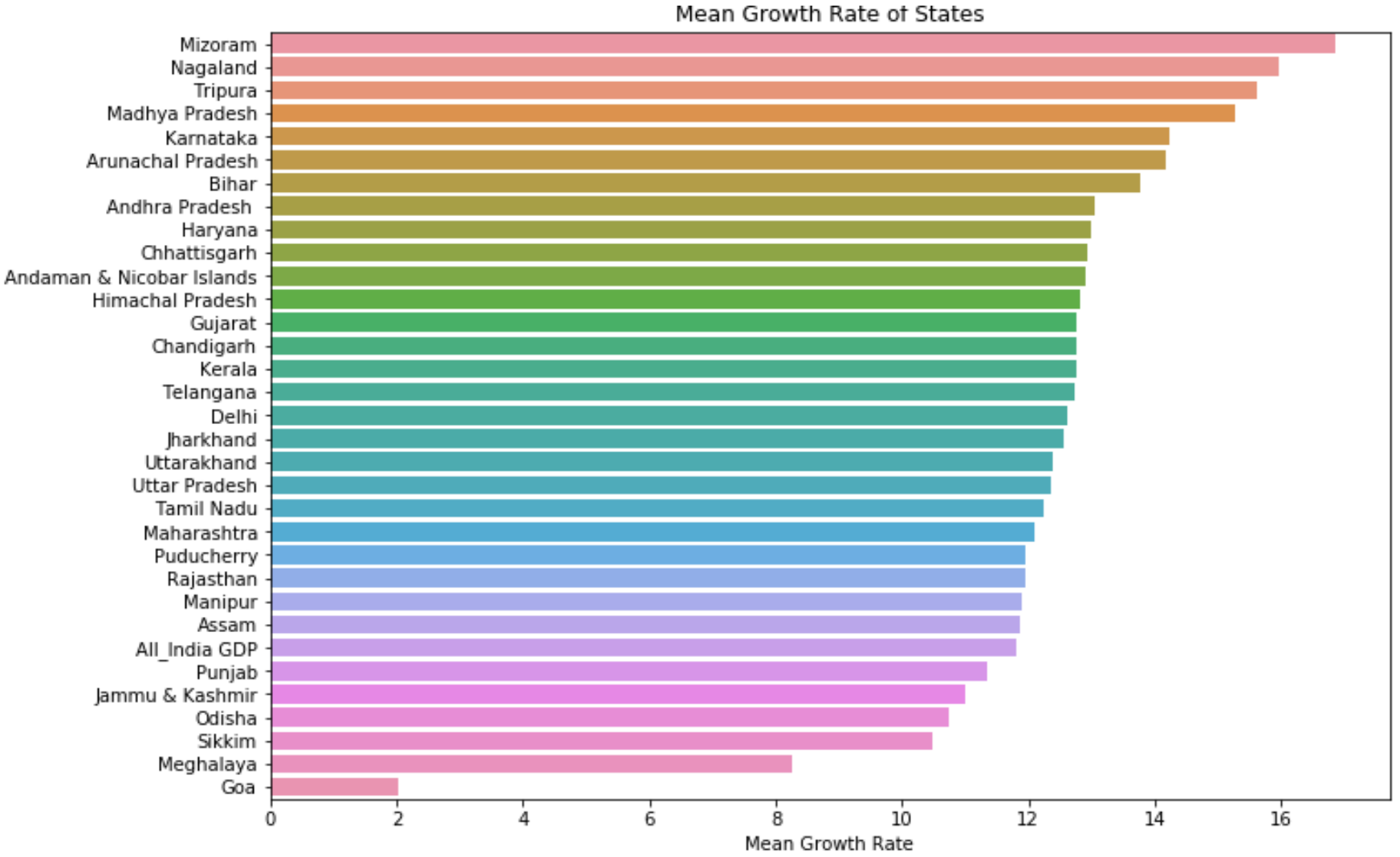




Negative Trend

Note: *Missing values in data are filled by the Mean of the rest of the values.*

Mean Growth Rate of States



Note: *Missing values in data are filled by the Mean of the rest of the values.*

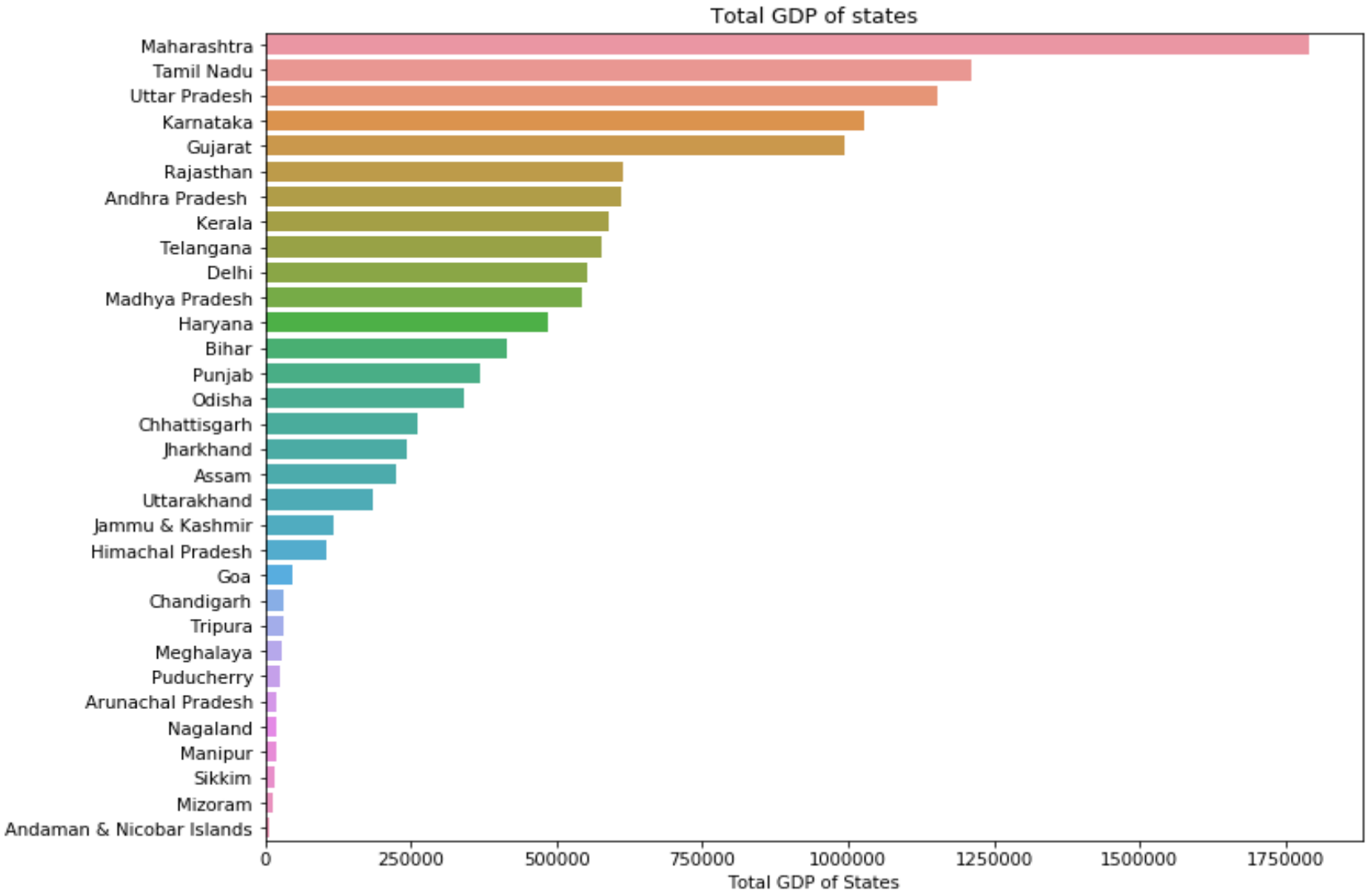
Top 3 Fastest growing states:

- ***Mizoram***
- ***Nagaland***
- ***Tripura***

Bottom 3 Slowest Growing States:

- ***Sikkim***
- ***Meghalaya***
- ***Goa***

Total GDP of States



Note: *Missing values are filled by the method 'forward fill'.*

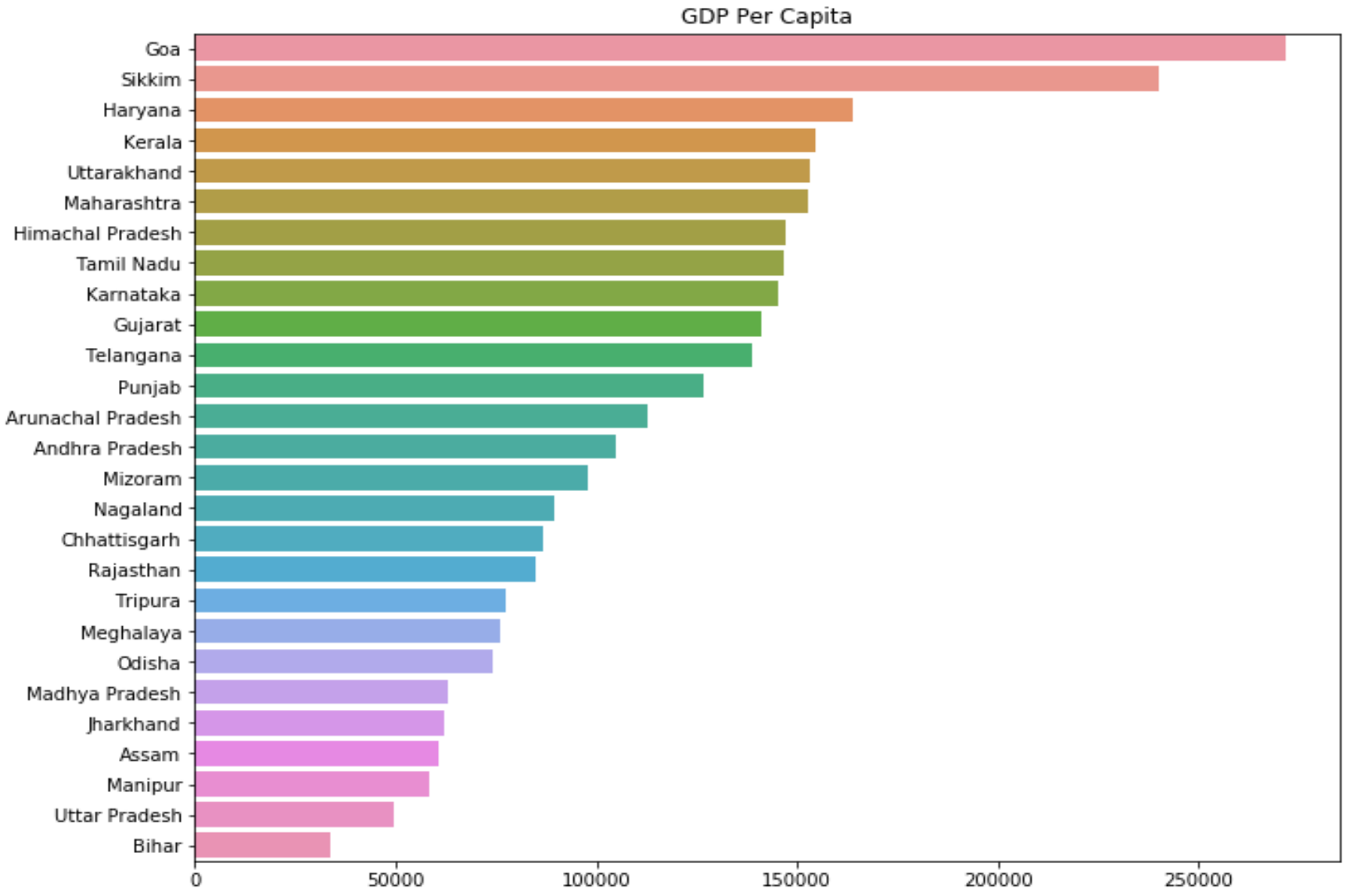
Top 5 States are:

- ***Maharashtra***
- ***Tamil Nadu***
- ***Uttar Pradesh***
- ***Karnataka***
- ***Gujarat***

Bottom 5 States are:

- ***Arunachal Pradesh***
- ***Nagaland***
- ***Manipur***
- ***Sikkim***
- ***Mizoram***

GSDP Per Capita



Top 5 States:

- ***Goa***
- ***Sikkim***
- ***Haryana***
- ***Kerala***
- ***Uttarakhand***

Bottom 5 States:

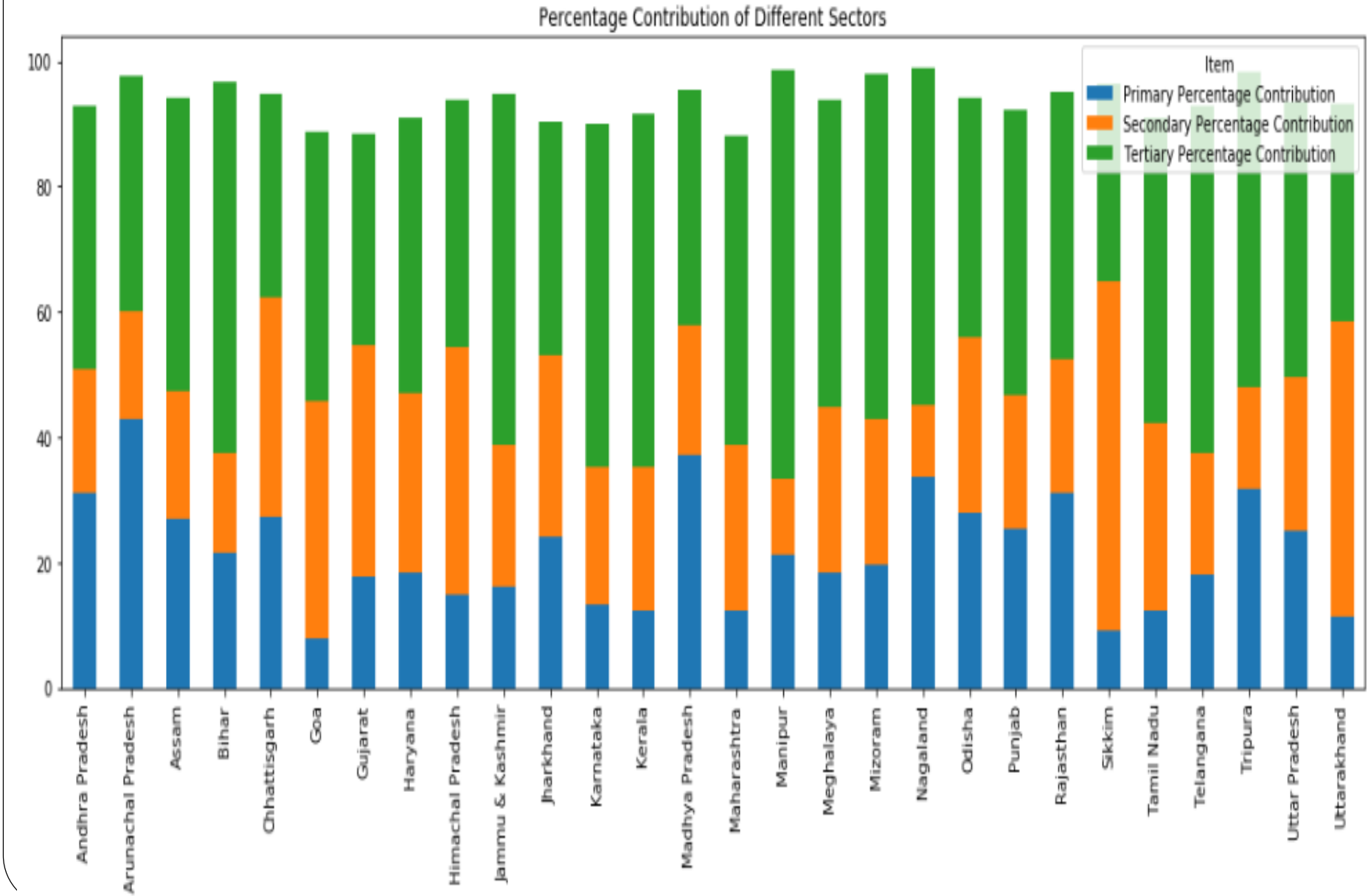
- *Jharkhand*
- *Assam*
- *Manipur*
- *Uttar Pradesh*
- *Bihar*

Some Observations…

- *A state with higher value of Total GDP does not necessarily result in higher Mean Growth.*

- *Same can be said about GDP Per Capita. Higher value of Total GDP does not necessarily result in higher GDP per Capita.*

Percentage Contribution of Different Sectors



Some Observations…

- *More developed states tend to get their major revenue from Tertiary & Secondary sectors with Primary sector contributing the least.*

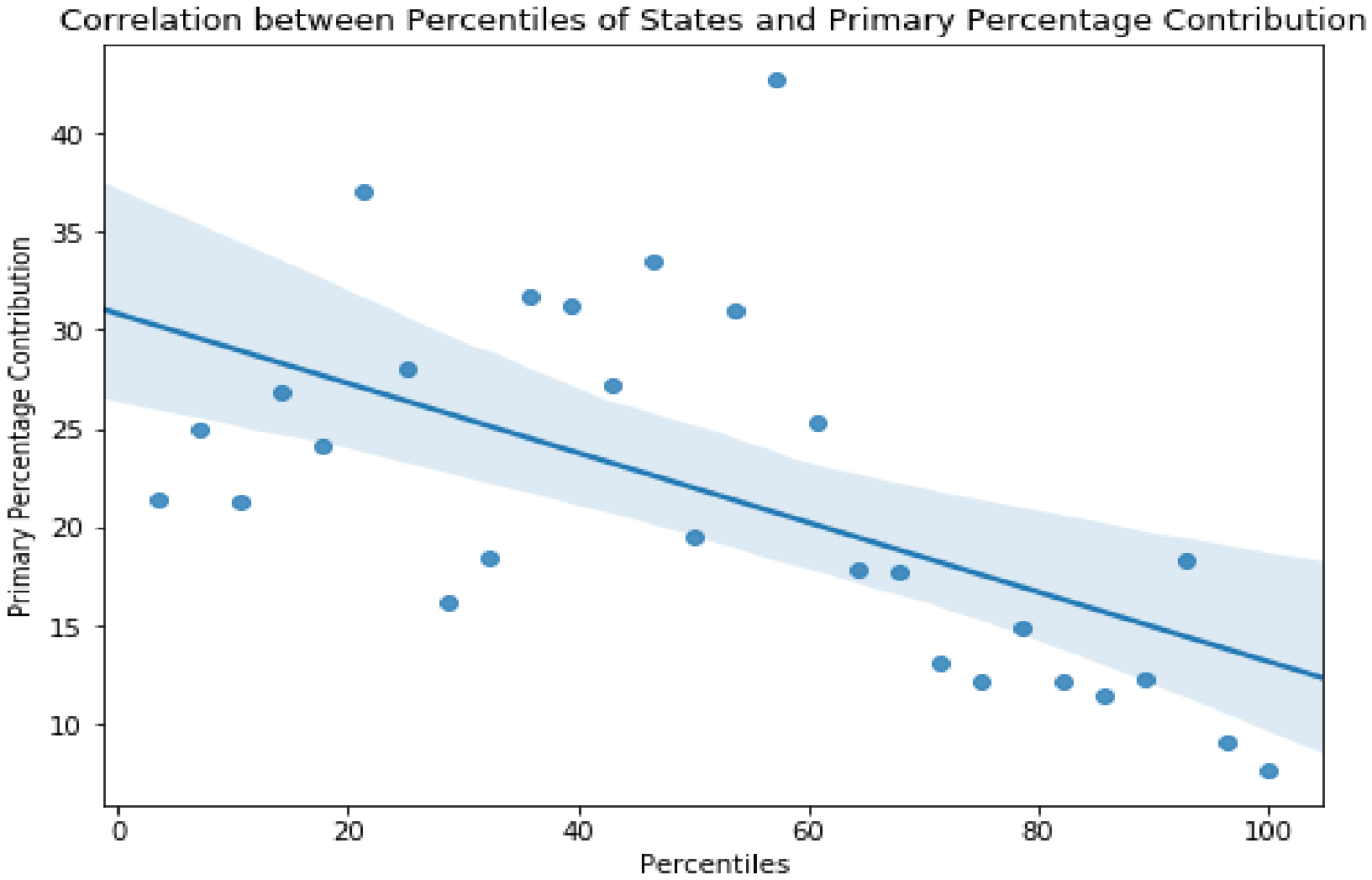
- *Not-so-developed states tend to get their major share of revenue from Tertiary & Primary sectors with Secondary Contributing the least.*

Some Recommendations…

- For better developed States: *Some attention towards Primary sector also to increase the revenue generated.*

- For not-so-developed States: *Concrete efforts towards making Tertiary & Secondary sectors as major revenue generators as this can be adjusted as the characteristic of better developed states.*

Correlation between Percentiles of States and Primary Percentage Contribution

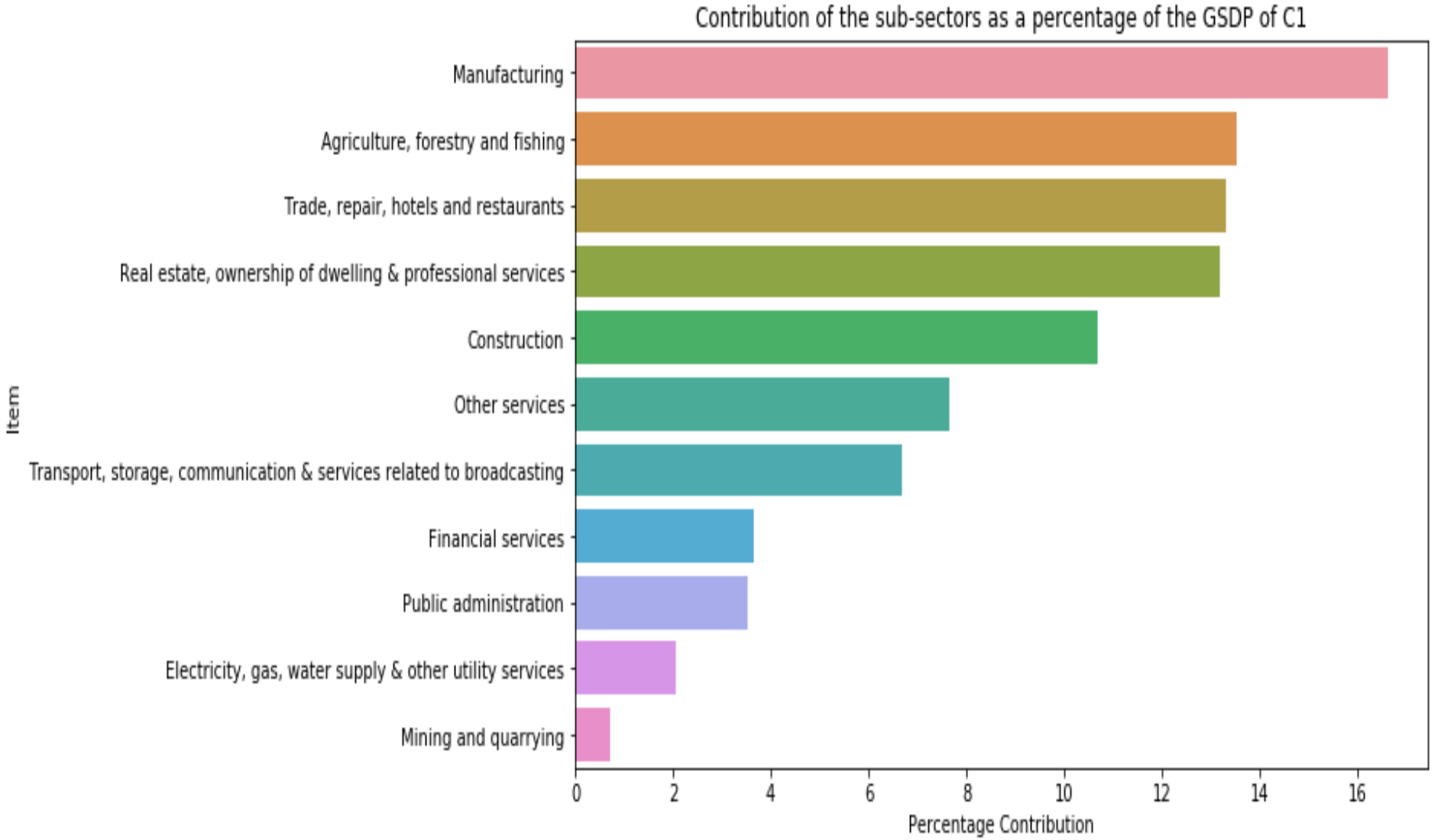


Some Observations…

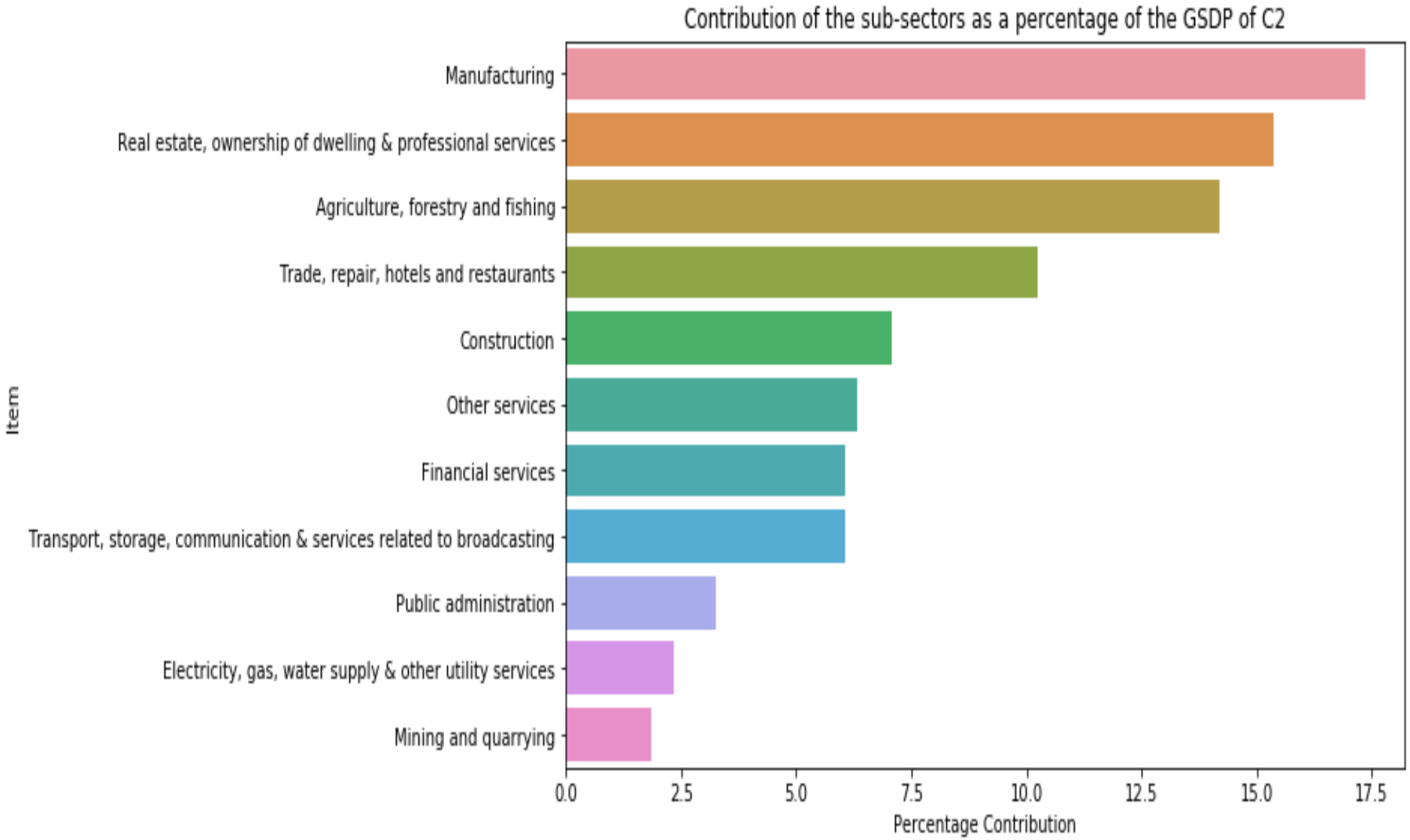
- ***The observation is that as the Percentile (based on the GSDP per capita) increases, the Primary Percentage Contribution decreases.***

- ***This can be due to another observation that Primary sector is one of the major GSDP generators in not-so-developed states. But in more developed states, Primary sector contracts.***

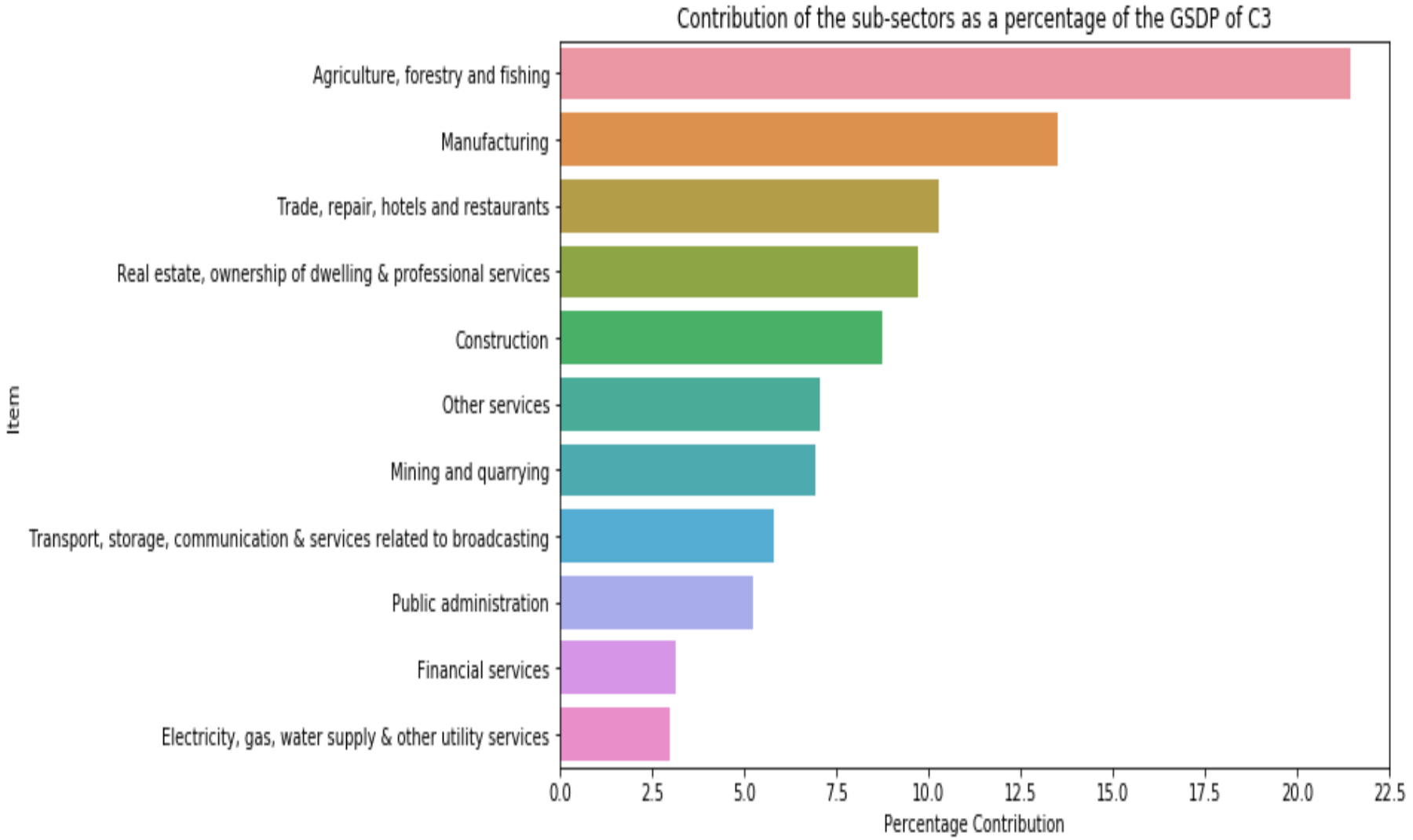
Contribution of the sub-sectors as a percentage of the GSDP of C1



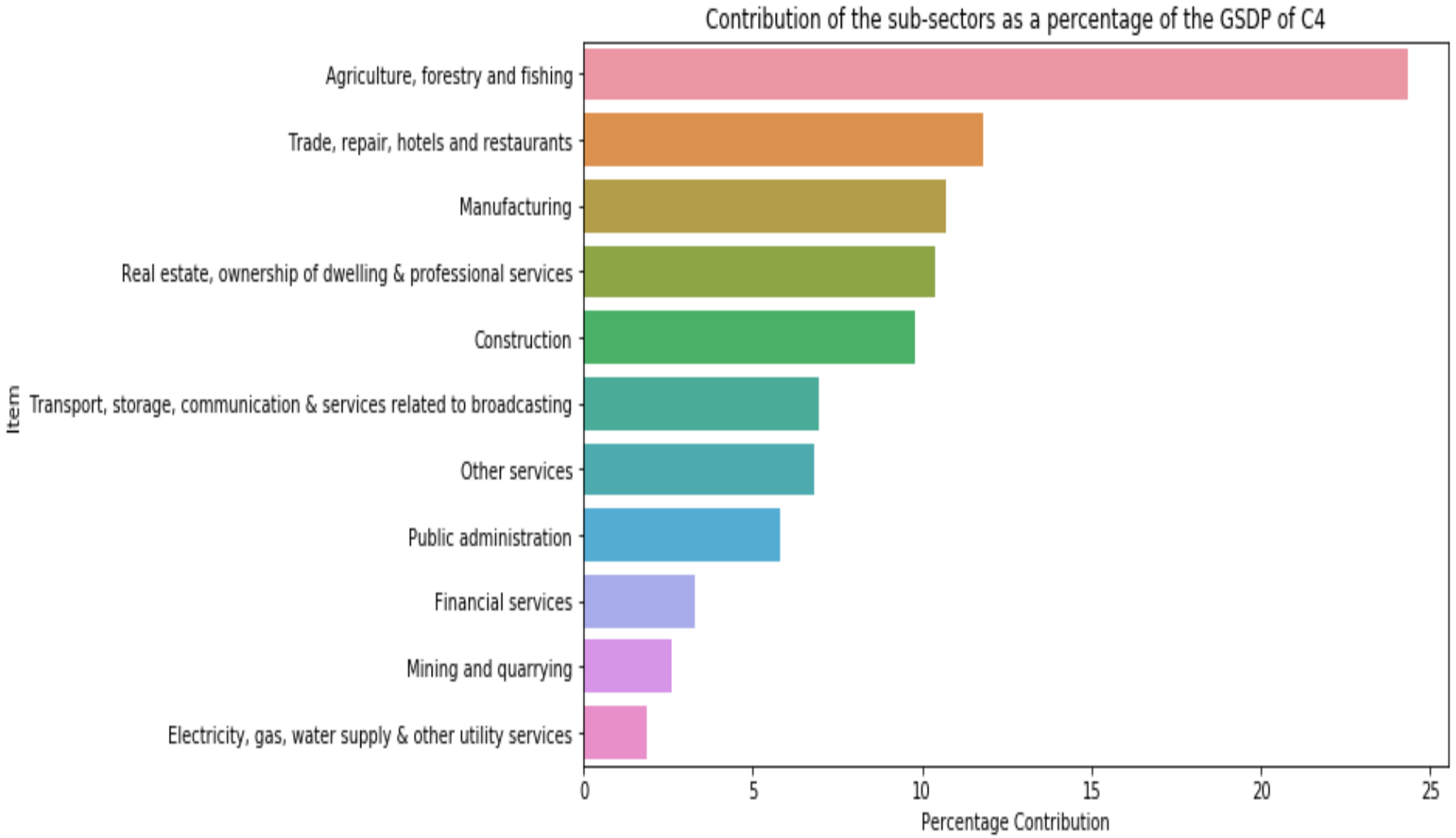
Contribution of the sub-sectors as a percentage of the GSDP of C2



Contribution of the sub-sectors as a percentage of the GSDP of C3



Contribution of the sub-sectors as a percentage of the GSDP of C4



Some Observations…

- *For category C1, GDP generation is a collective effort of multiple top sub-sectors.*
- *For category C2, this collective effort is present to a limited extent.*
- *For category C3, this collective effort diminishes to a large extent.*
- *For category C4, the top sub-sector dominates and other sub-sectors lag far behind.*

My Recommendations…

DIVIDE & CONQUER:

Efforts must be made to divide the responsibilities for GDP generation in a fairly proportionate manner rather than having only a few sub-sectors performing.

With this approach, even if some sub-sector is experiencing loss, then others can compensate for it.

Recommendation for C1:

- *Sub-sectors generating low revenue should also be targeted to make the contribution more balanced among all the sub-sectors. This in turn would generate even a bigger revenue.*

- 'Electricity, gas, water supply & other utility services' *requires attention as the revenue generated from this sector is not reflecting it's widespread use.*

- *Reduce dependency from* 'Agriculture, forestry and fishing' *as it is majorly dependent on weather and climatic conditions thereby introducing uncertainties and promote sub-sectors that are less dependent or completely free from climate and weather.*

Recommendations for C2..

- 'Electricity, gas, water supply & other utility services' *requires attention for the same reason mentioned for C1.*

- *Efforts should be made to promote greater balance in the contribution of different sub-sectors.*

- 'Construction' *sub-sector should be transformed to a greater revenue generator as this sub-sector has the potential to generate even more revenue due to the developing nature of the country.*

Recommendations for C3…

- *The contribution is dominated by the top sub-sector* 'Agriculture, forestry and fishing'. *Efforts should be made to make the contribution a collective effort.*

- *Other sub-sectors that are less dependent or completely independent from climatic conditions should be promoted into becoming top performers.*

- *To concentrate upon* 'Electricity, gas, water supply & other utility services' *for the reasons already mentioned.*

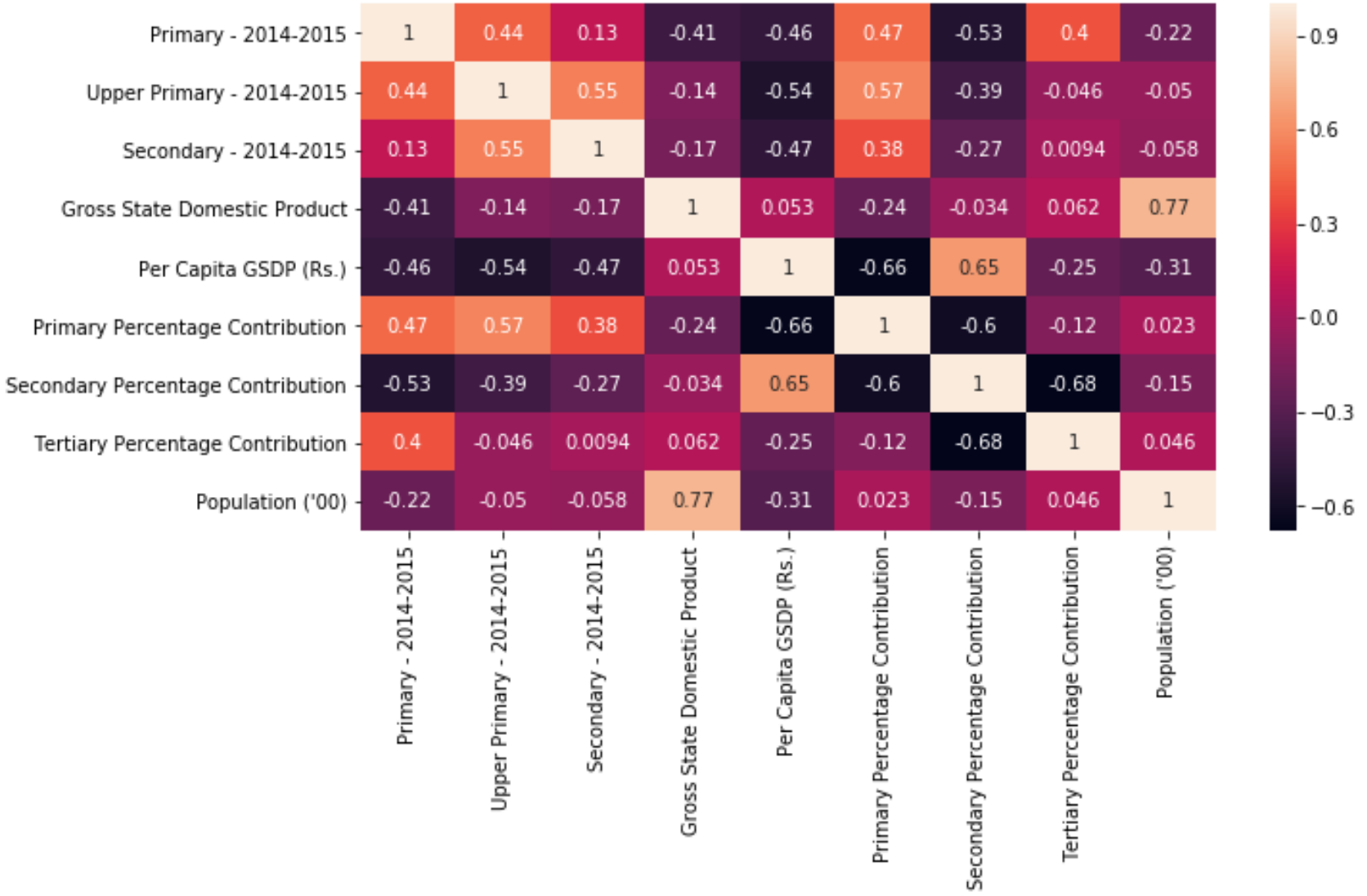
Recommendations for C4…

- *The ill distribution of revenue generation is the most prominent in this category with* 'Agriculture, forestry and fishing' *topping the list. Efforts must be made to make the contribution more balanced.*

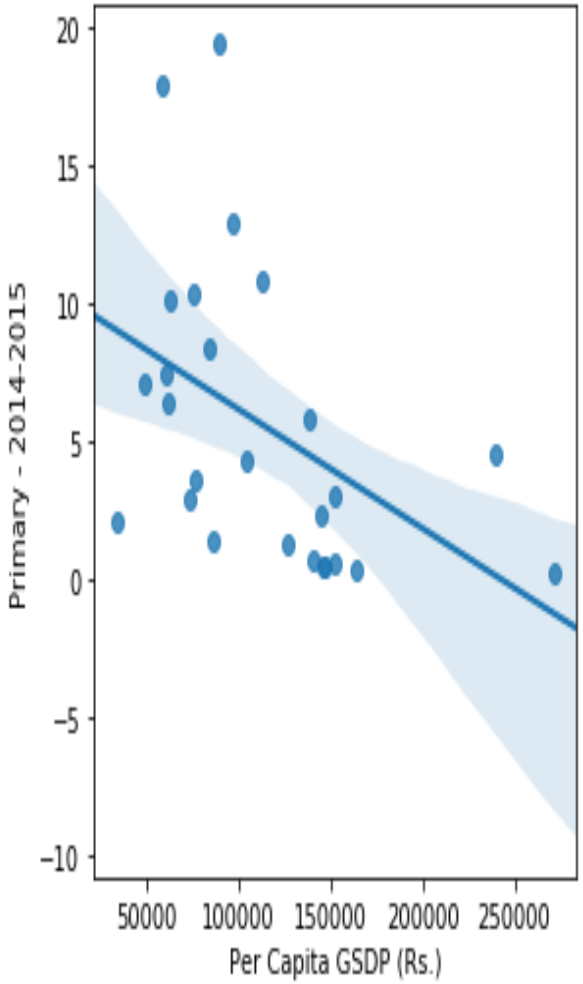
- *Other sub-sectors that are less or not dependent on weather and climate should be promoted for the reasons already stated.*

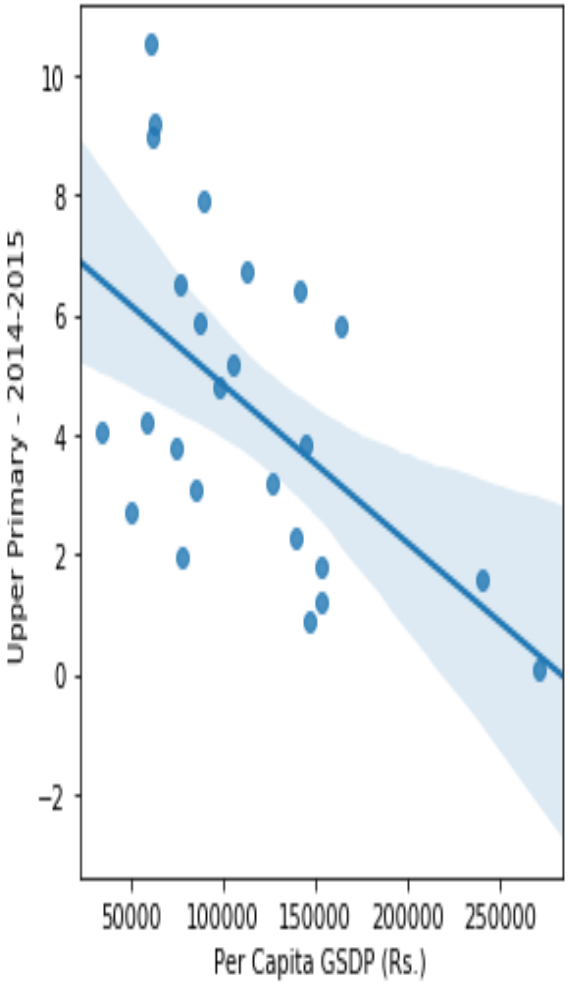
- 'Electricity, gas, water supply & other utility services' *needs attention for the reasons already mentioned.*

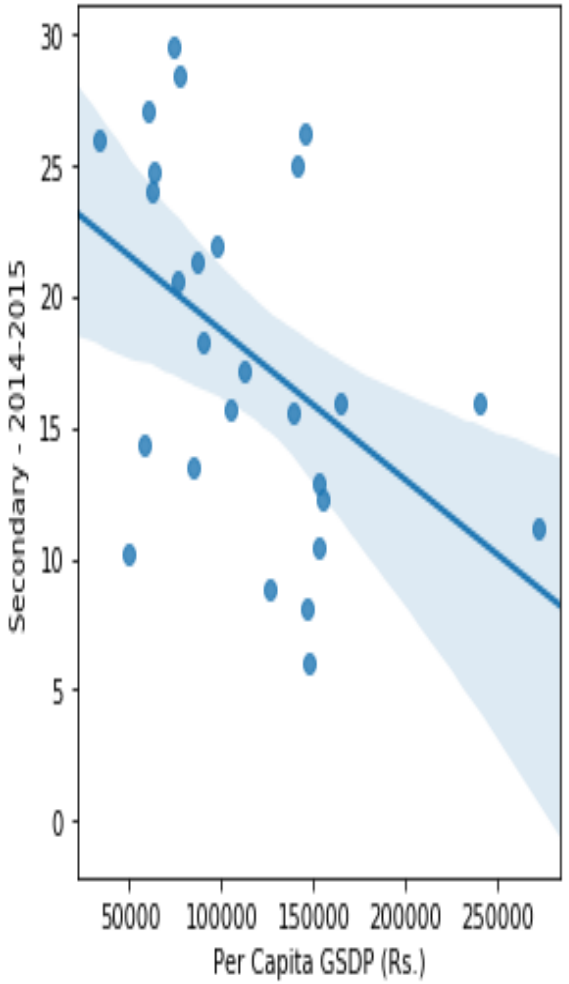
Correlation between various variables and Dropout Rates



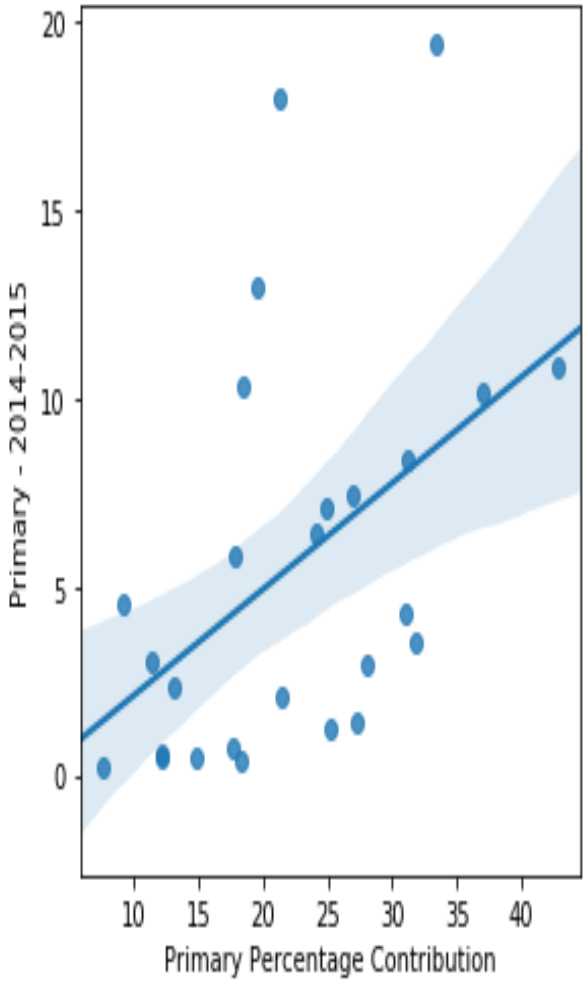
Correlation between Per Capita GSDP & Dropout Rates

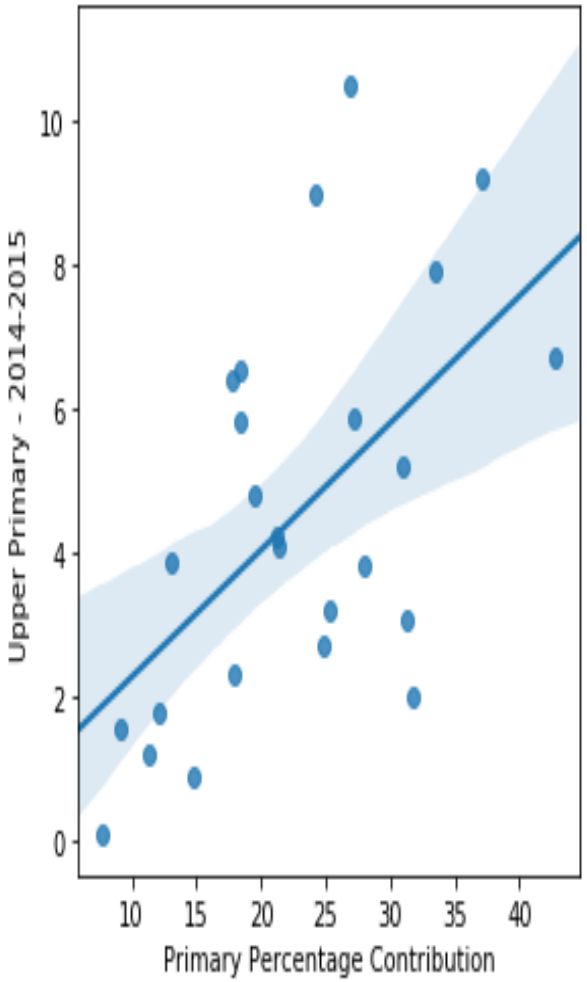


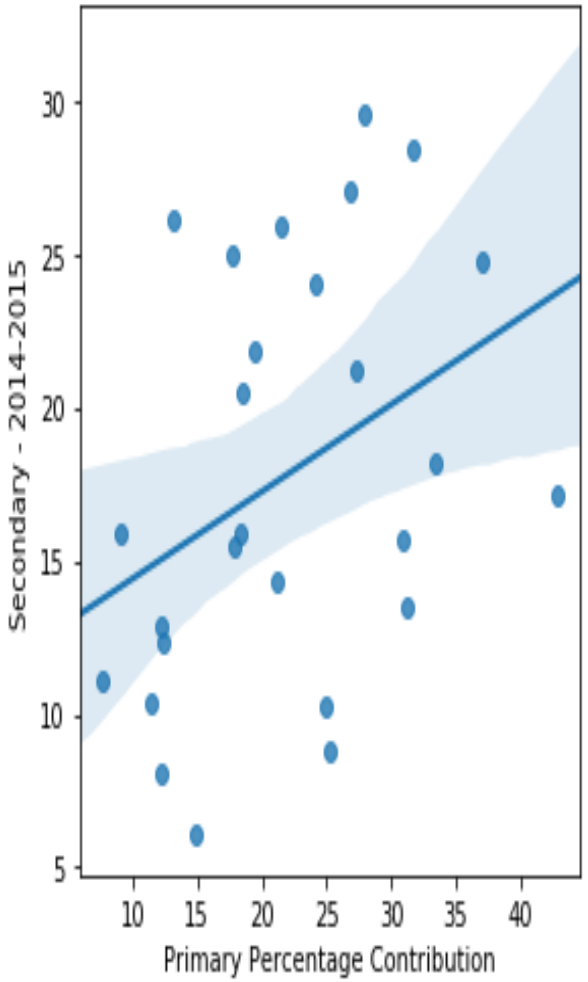




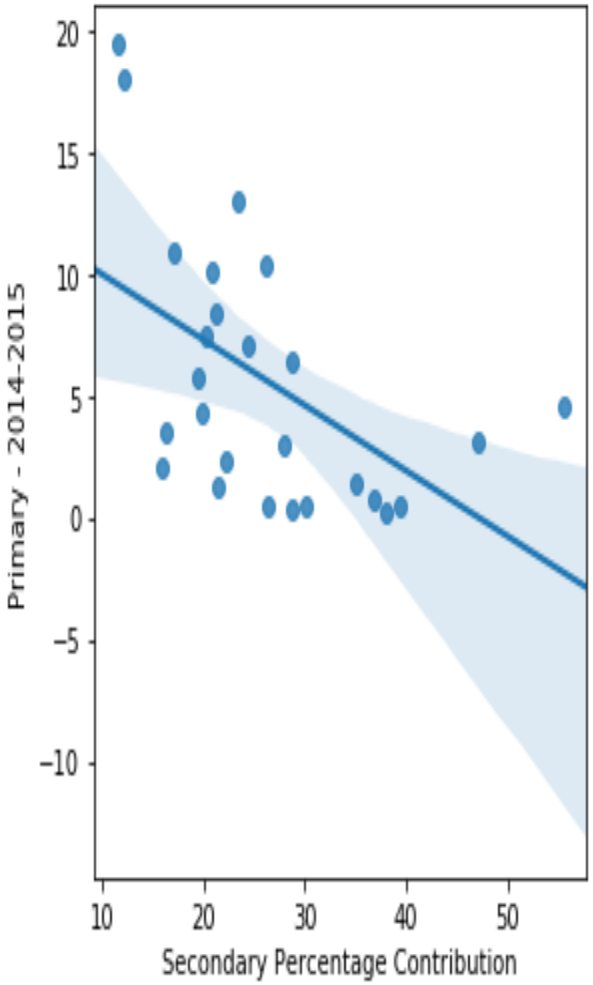
Correlation between Primary Percentage Contribution & Dropout Rates

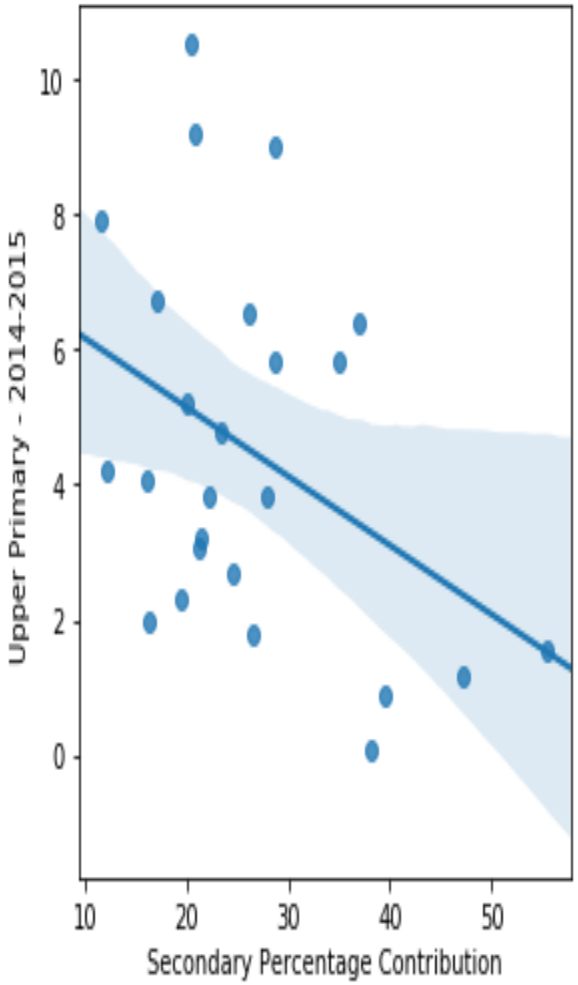


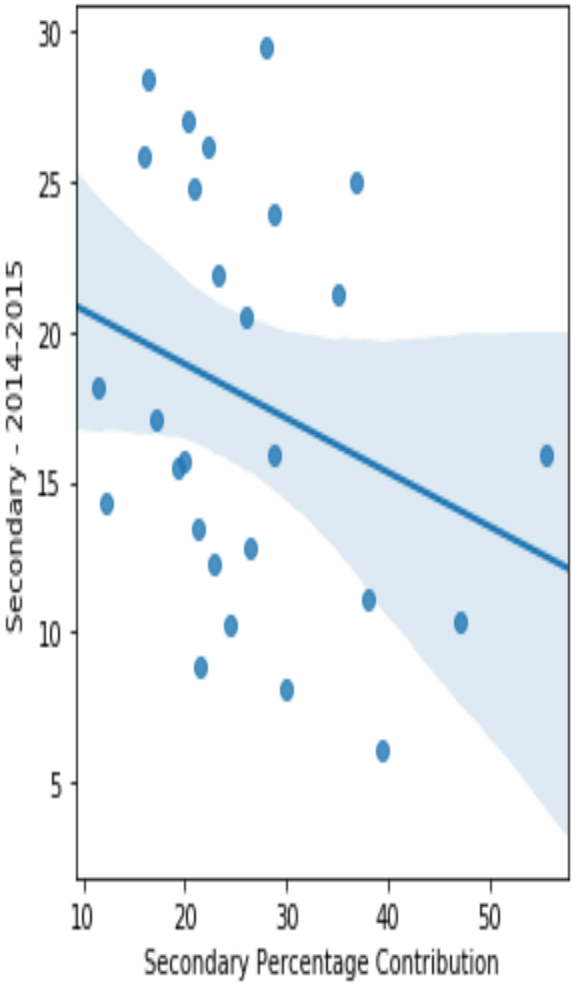




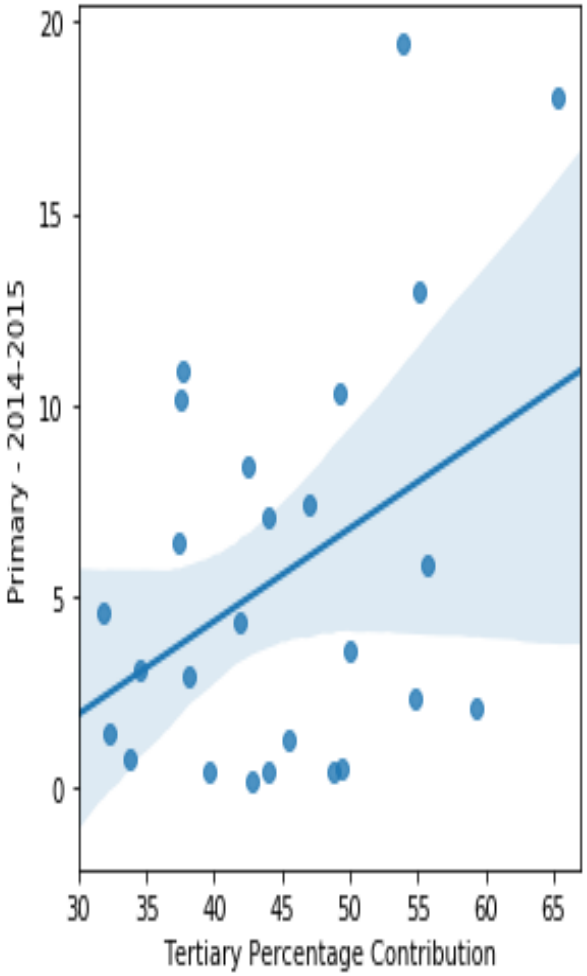
Correlation between Secondary Percentage Contribution & Dropout Rates

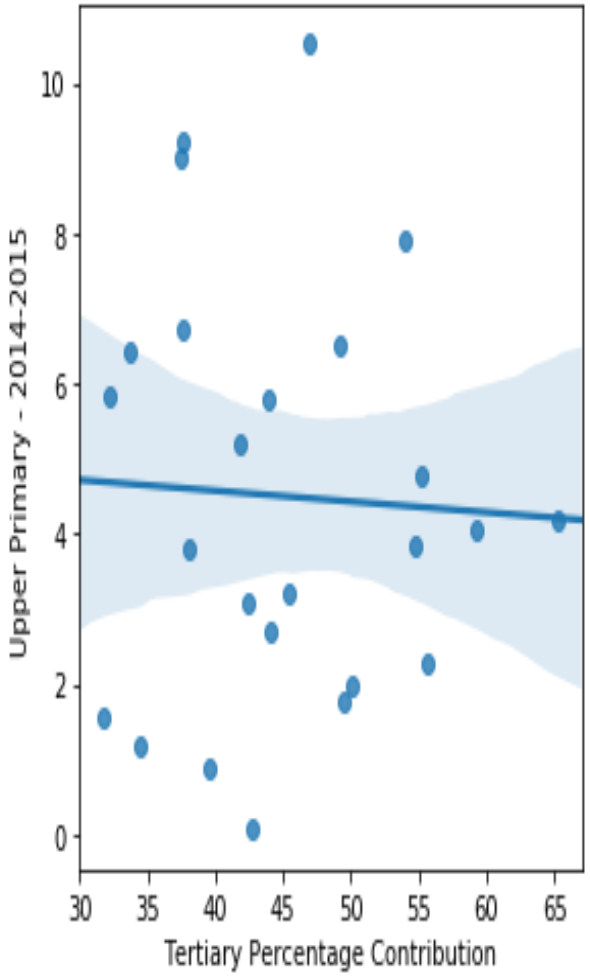


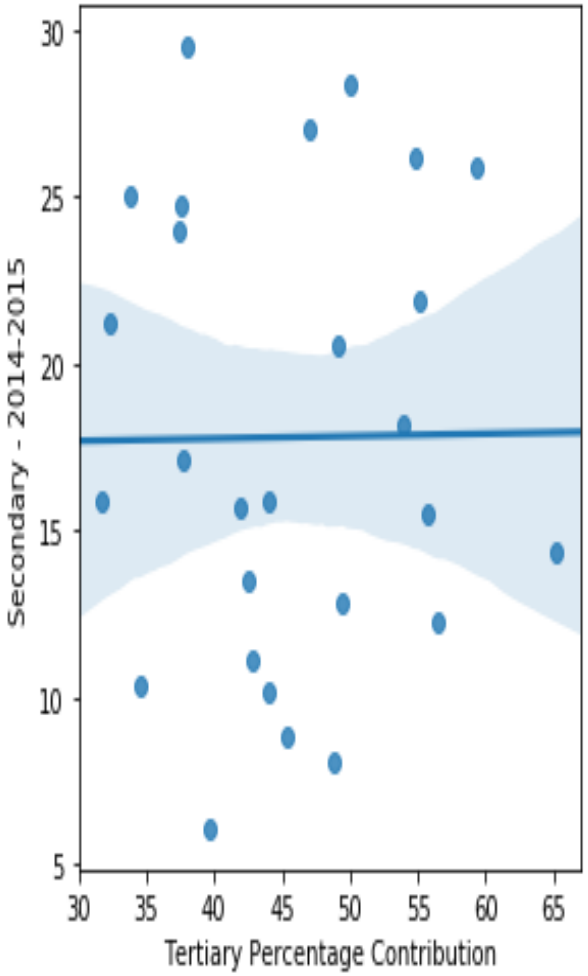




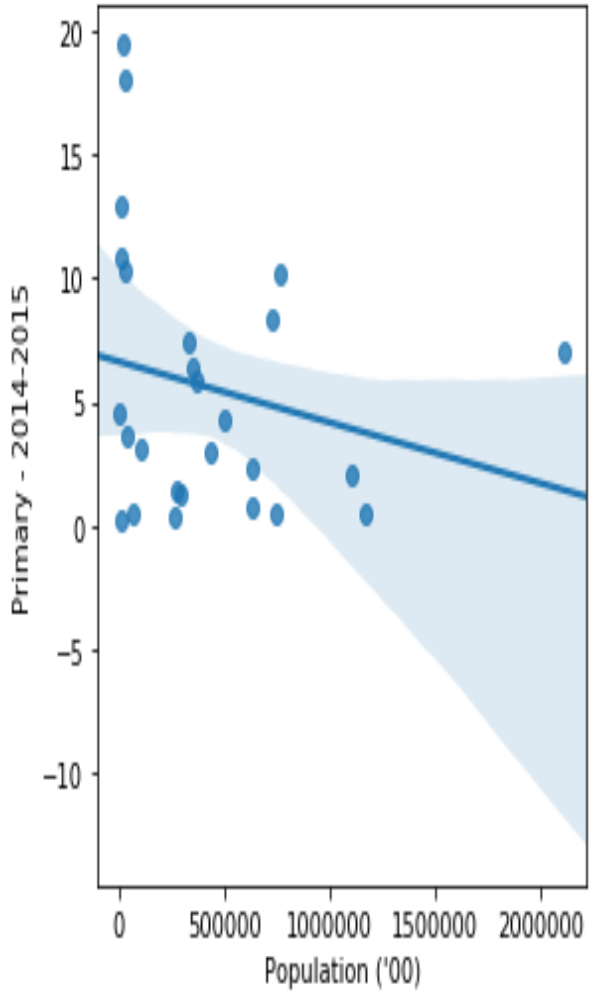
Correlation between Tertiary Percentage Contribution & Dropout Rates

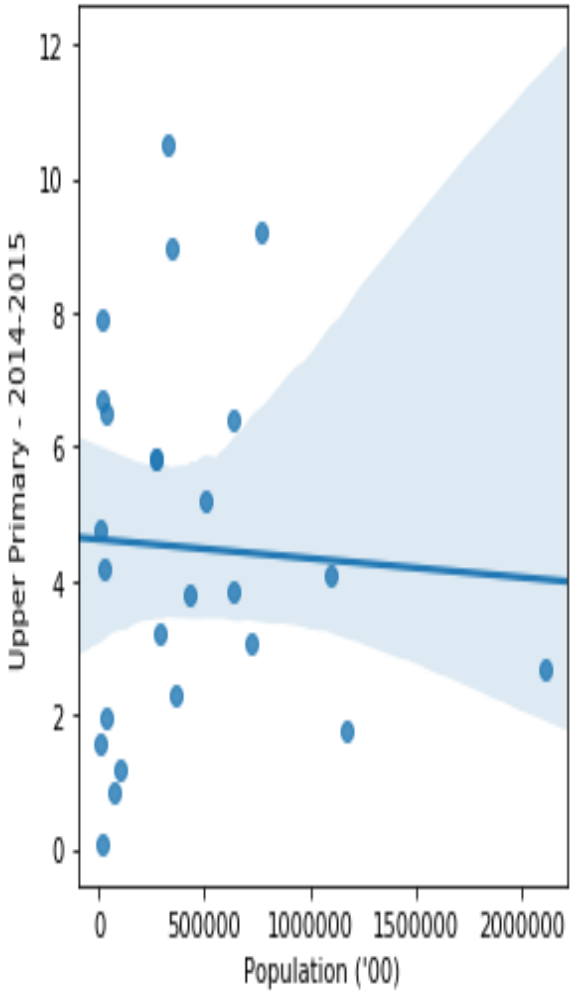


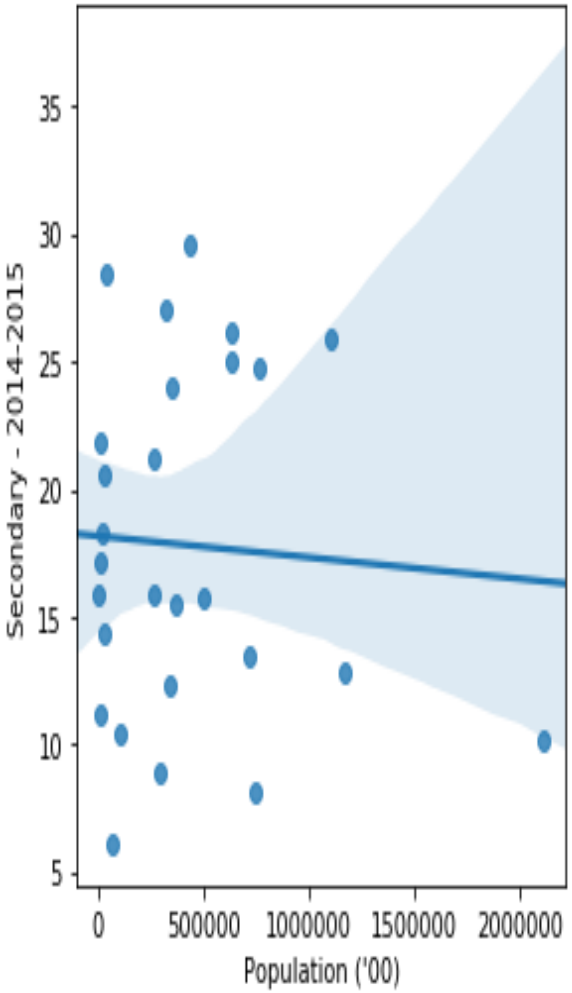




Correlation between Population & Dropout Rates







My Hypothesis…

- *On expected lines, with the increase in Per Capita GSDP, the dropout rates decreases and decrease in Per Capita GSDP leads to increase in Dropout rates. A theory can be that in families that are financially unstable, children tend to leave studies for work to meet the financial needs of the family.*

- ***Primary Percentage Contribution** has a positive correlation with the **Dropout** rates. One possible explanation can be that the Primary Sector comprises mostly of manual labor related to Agriculture, Forestry, Fishing etc. and hence do not require sophisticated qualifications. It was also observed that Primary sector was the second major contributor in the not-so-developed states like Uttar Pradesh, Bihar etc. which have low Per Capita GSDP. All these factors are thereby creating an environment for the children to join these labor tasks.*

Continued….

- ***Secondary Percentage Contribution*** *has a negative correlation with the* ***Dropout*** *rates. One hypothesis that can explain such a phenomenon is that Secondary sector comprises mainly of formal jobs in the field Manufacturing, Electricity etc. that require qualifications and technical skills and hence children cannot be employed in that. These jobs are also better paid thereby minimizing the need for children to leave studies.*

- ***Tertiary Percentage Contribution*** *shows a very unusual behavior with the* ***Dropout*** *rates*

  1. *With respect to* ***Primary Dropout Rate*** ***---> Positive Correlation***

  2. *With respect to* ***Upper Primary Dropout Rate*** ***---> Slight Negative Correlation***

  3. *With respect to* ***Secondary Dropout Rate*** ***---> Virtually No Correlation***

  The reason can be that Tertiary sector seems to have a combination of both formal jobs (that require qualifications) and informal jobs (that require less or no qualifications)

Continued…

- ***Population** has a negative correlation with the **Dropout** rates while logically, it should have been a positive one. One possible explanation can be that increase in population is a real process that increases with time. But as time furthers, countries, including India, also furthers towards more development, infrastructure as well as economic, thereby creating better and formal work opportunities for the people which in turn decreases the dropout rates.*

Thank You !!