GDP Analysis Assignment

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Data I-A Analysis : Key observations

- Which states have been growing consistently fast, and which ones have been struggling?

- India's average growth from 2012-2016 is approx. 11.9%

- States which grew more then 12% in all years such as Mizoram, Tripura, Karnataka, Arunachal Pradesh, Bihar, Chhattisgarh, Kerala are growing consistently fast.

- States such as Odisha, Sikkim, Meghalaya, Goa, Jammu & Kashmir whose average growth is considerably less then national average have been struggling. Especially Goa which has recorded negative growth in two years.

Data I-A Analysis : Key observations

- **Identify the top 5 and the bottom 5 states based on total GDP**

Top 5 states

Tamil Nadu, Uttar Pradesh, Karnataka, Gujarat, Andhra Pradesh

Bottom 5 states

Sikkim, Arunachal Pradesh, Meghalaya, Goa, Jammu & Kashmir

Data I-B Analysis : Key observations

- **Identifying the top 5 and the bottom 5 states based on the GDP per capita.**

Top 5 states

Goa, Sikkim, Haryana, Kerala, Uttarakhand

Bottom 5 states

Jharkhand, Assam, Manipur, Uttar Pradesh, Bihar

- **The ratio of the highest per capita GDP to the lowest per capita GDP.**

8.00

Data I-B Analysis : Key observations

- **Top 3/4/5 sub-sectors that contribute to approximately 80% of the GSDP of each category.**

C1 Category

1) Real estate, ownership of dwelling & professional services

2) Agriculture, forestry and fishing

3) Trade, repair, hotels and restaurants

4) Manufacturing

5) Construction

C2 Category

1) Manufacturing

2) Real estate, ownership of dwelling & professional services

3) Agriculture, forestry and fishing

4) Trade, repair, hotels and restaurants

5) Manufacturing

6) Construction

7) Other services

Data I-B Analysis : Key observations

C3 Category

1) Agriculture, forestry and fishing

2) Manufacturing

3) Trade, repair, hotels and restaurants

4) Real estate, ownership of dwelling & professional services

5) Construction

6) Mining and quarrying

C4 Category

1) Agriculture, forestry and fishing

2) Trade, repair, hotels and restaurants

3) Manufacturing

4) Real estate, ownership of dwelling & professional services

5) Construction

6) Transport, storage, communication & services related to broadcasting

Data I-B Analysis : Key observations

- How does the GDP distribution of the top states (C1) differ from the others?
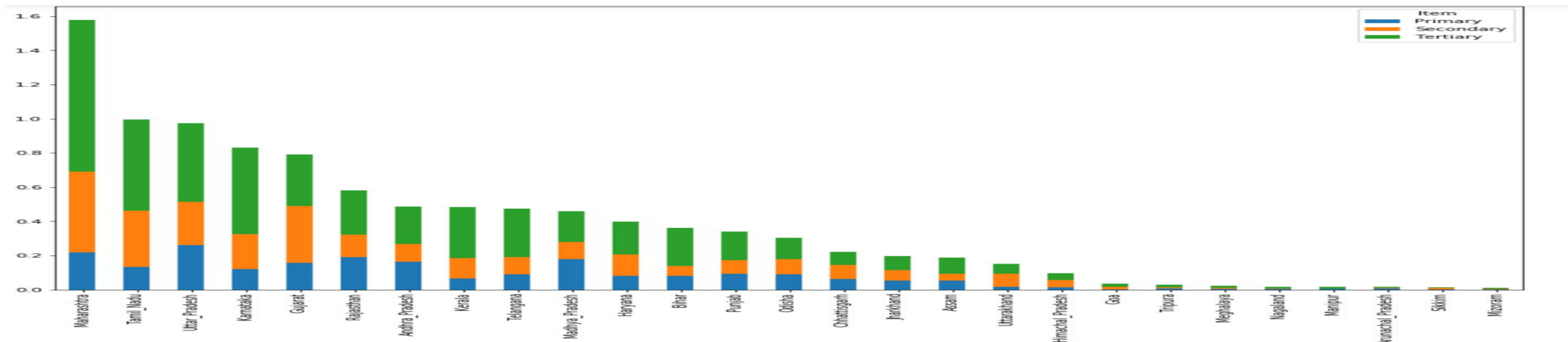
Maharashtra is the state having largest GDP across different states. Its tertiary, secondary sector contributes ~56%, ~30% respectively to its total GDP. Primary sector only contributes meager ~13% to its GDP.

It is noticed across C1 category states, that their secondary, and tertiary sector are very good and contributes significantly to their GDP, as opposed to other category states.

Data I-B Analysis : Key observations

- Which sub-sectors seem to be correlated with high GDP?

Correlation matrix of sub categories with GDP:

```
Item
Agriculture, forestry and fishing                              0.829055
Mining and quarrying                                           0.602516
Primary                                                        0.853509
Manufacturing                                                  0.930547
Electricity, gas, water supply & other utility services        0.904041
Construction                                                   0.900825
Secondary                                                      0.971364
Trade, repair, hotels and restaurants                         0.960385
Transport, storage, communication & services related to broadcasting  0.973724
Financial services                                             0.915435
Real estate, ownership of dwelling & professional services     0.917633
Public administration                                          0.911981
Other services                                                 0.936353
Tertiary                                                       0.984780
```

Sub sectors such as 1) Transport, storage, communication & services related to broadcasting 2) Trade, repair, hotels and restaurants seems to be highly correlated with high GDP

Data I-B Analysis : Key observations

- Which sub-sectors do the various categories need to focus on?

C1 Category

1) Mining and quarrying

2) Electricity, gas, water supply & other utility services

3) Public administration

C2 Category

1) Mining and quarrying

2) Electricity, gas, water supply & other utility services

3) Public administration

Data I-B Analysis : Key observations

- **Which sub-sectors do the various categories need to focus on?**

C3 Category

1) Electricity, gas, water supply & other utility services

2) Financial services

3) Public administration

C4 Category

1) Electricity, gas, water supply & other utility services

2) Mining and quarrying

3) Financial services

Data I-B Analysis : Key observations

- Provide at least two recommendations for each category to improve the per capita GDP.

Overall, there should be a switch to secondary and tertiary industries so that states can improve their GDP along with per capita income. For states to increase their GDP, they should focus on sub categories which are contributing less to state GDP.

Correlation matrix across various sub categories with Per-capita income:

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Item
Agriculture, forestry and fishing                                      -0.185447
Mining and quarrying                                                   -0.191696
Primary                                                                -0.194114
Manufacturing                                                           0.170414
Electricity, gas, water supply & other utility services                0.106333
Construction                                                           -0.024608
Secondary                                                               0.117136
Trade, repair, hotels and restaurants                                   0.030565
Transport, storage, communication & services related to broadcasting    0.001207
Financial services                                                      0.151297
Real estate, ownership of dwelling & professional services              0.138560
Public administration                                                  -0.145539
Other services                                                          0.020578
Tertiary                                                                0.073026
```

Data I-B Analysis : Key observations

C1 Category

Should focus more on Financial services sub category

Should focus more on Electricity, gas, water supply & other utility services subcategory

C2 Category

Should focus more on Financial services sub category

Should focus more on Electricity, gas, water supply & other utility services sub-category

Should remove reliance on Agriculture, forestry and fishing

C3 Category

Should focus more on Financial services sub category

Should focus more on Electricity, gas, water supply & other utility services sub-category

Should remove reliance on Agriculture, forestry and fishing

Data I-B Analysis : Key observations

C4 Category

Should focus more on Financial services sub category

Should focus more on Electricity, gas, water supply & other utility services sub-category

Should remove reliance on Agriculture, forestry and fishing

Part-II: GDP and Education Dropout Rates

Insights from the data

- There is negative correlation between drop out rates and per capita GDP which essentially means more number of drop out students, and it will have negative impact on Per-capita income.

- Upper Primary drop outs have more negative impact on Per-Capita income then Primary, and Secondary.