

Focus of study
Effect of Gross State Domestic Product on school
dropout rate.

Jay

Purpose

- National Institution for Transforming India or NITI Ayog is responsible for making recommendations to the federal government about state specific planning and policy making.
- As a data scientist working for NITI, I have the task of analyzing GSDP, Per Capita GSDP, School dropout rate and make recommendations

Hypothesis

- The North Eastern states provide opportunities for development in primary and secondary sectors, this will improve GDP and there by curtail the dropout rates in the region

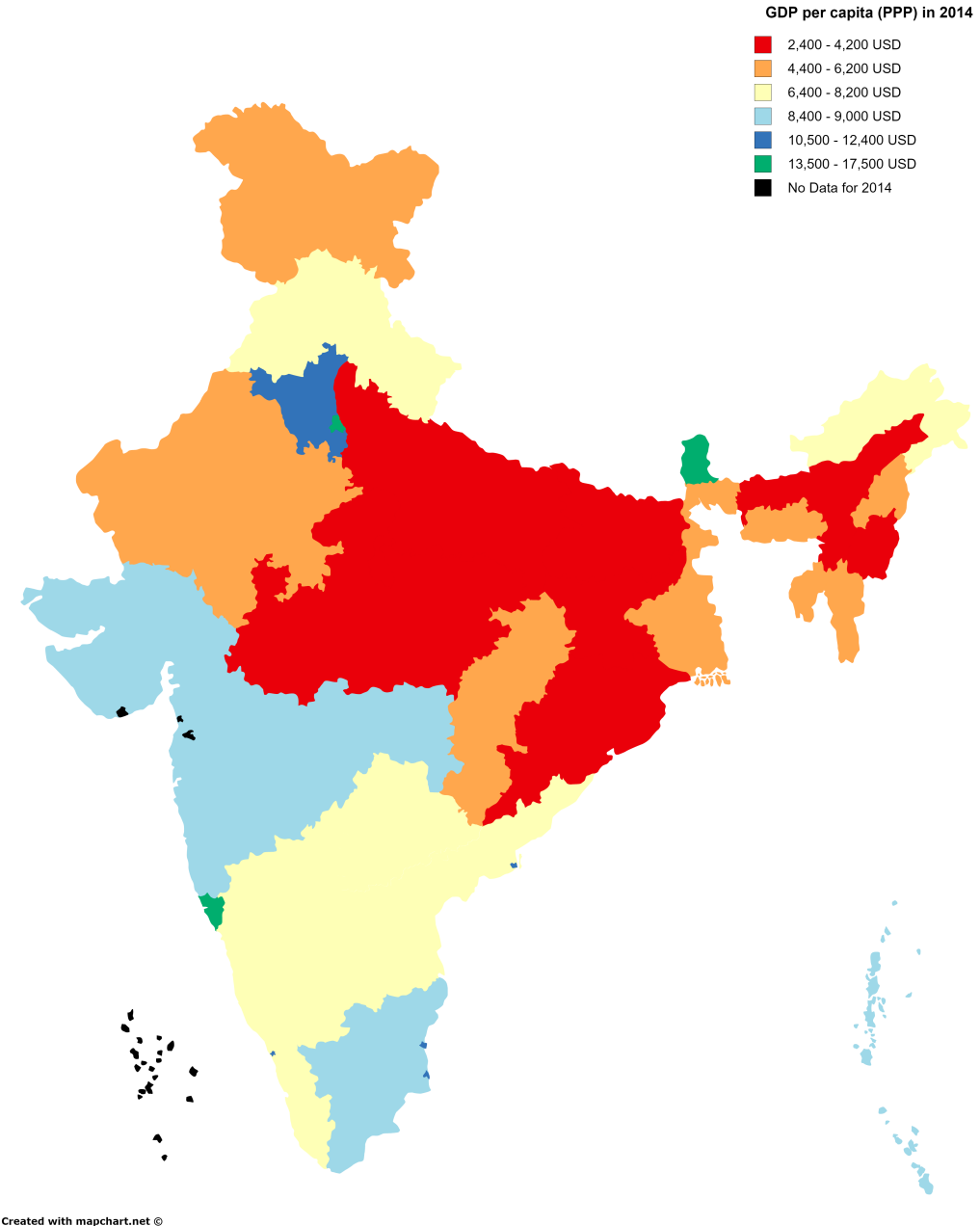
Just sayin:

- Make it mandatory for states to gather and report data in all areas, gaps mean skewed results.
- 2015-16 India was at 11th position in the world in terms of total GDP; 139th position in terms of per capita GDP at \$1717=Rs. 123,005.88 (today's rate)
- 2019: India is at the 145th position with the per-capita at \$2,199=Rs157,459.40(today's rate)
- (ref., <http://statisticstimes.com/economy/gdp-capita-of-india.php>)
- Also to note is that some of the poorest countries in the world may actually appear poorer than they really are if we only consider their official GDP figures. If a large percentage of the workforce is employed in the informal sector, then their incomes will not be reflected in the nation's GDP. As a result, the nation's GDP will appear smaller than it would be if all economic activity were included.

Date Analyze

- GDP for the years 2011-17
- GSDP (classified by sectors and subsectors states and union territories).
- Student dropout rate

Ref., <https://data.gov.in/>



Recommendations

- Improve opportunities for establishing sub sectors from tertiary sectors in the North Easter regions .

(4/5 states posting positive growth are in the NE but have a lower GDP

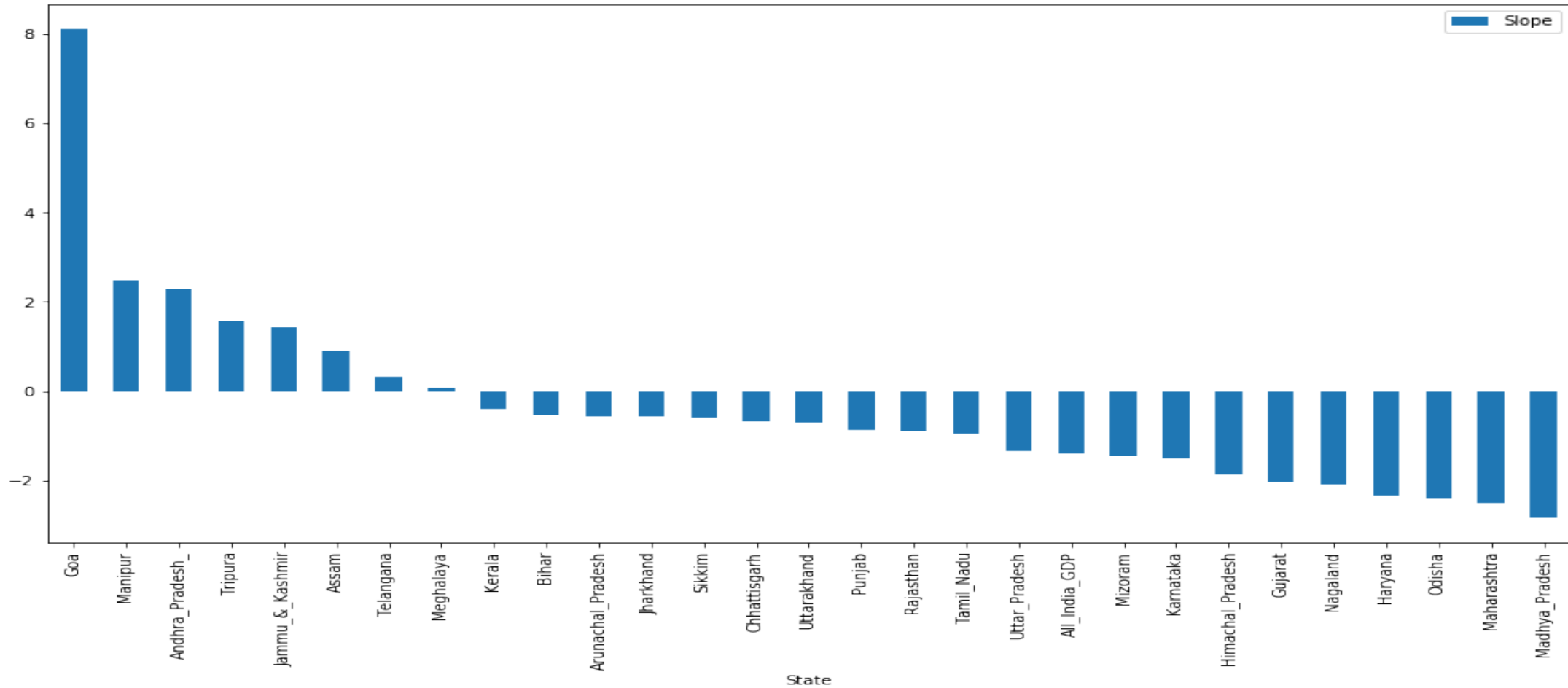
- Incentives to encourage small family size: dropout rate is seen mostly in states that have lower per –capita GSDP even with states with high GDP and posting positive growth rates

Part I A: State GDP thru 2016

Growth 2012

- There was a consistent and rapid decline in growth rates for most of the states in the country , this is reflected in the All India growth rate which also declined at a rate of 1.4%
- Most states that provide a large scope for development are in the North-East.
- Goa, the richest state in the country and also the largest tourist destination posts a huge jump from -10.02 in 2012 to 10.75 in 2016

States by growth rate : 2012-2016



States by growth rate 2012-2016

Overview

- Goa beats all the other states in growth rate. This is because it's GDP for 2012-2013 was extremely low (-10.02).
- Goa is followed by Manipur, AP and Tripura for posting positive growth.
- Only 8/28 states posted a positive trend.
- Telangana the newest state (happens to be my home state) posts a positive trend

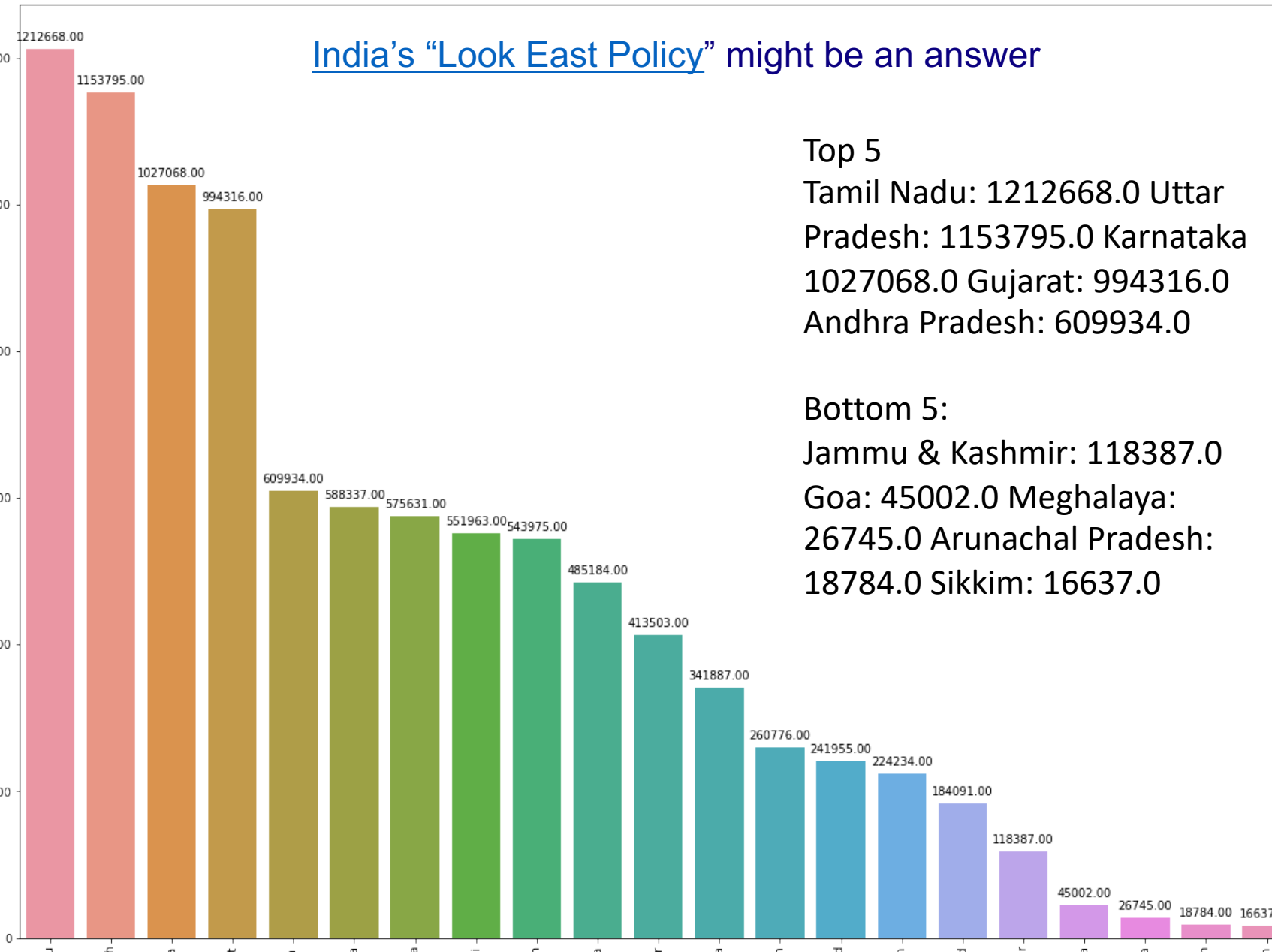
GDP of the states for the year 2015-16:

Overview

- Goa “the richest state” in the country shows up the bottom of the list, the ban on mining which is one of the top primary sectors might have caused the glitch and also sent a ripple effect across it’s service sub-sector causing a dip in the GSDP.
- Delhi has the highest GSDP, most of it coming from the Tertiary sector. Delhi’s posts allocates the highest amount to education

Trends in Total GDP of the states for the year 2015-16:

India's "Look East Policy" might be an answer



Top 5

Tamil Nadu: 1212668.0
Uttar Pradesh: 1153795.0
Karnataka: 1027068.0
Gujarat: 994316.0
Andhra Pradesh: 609934.0

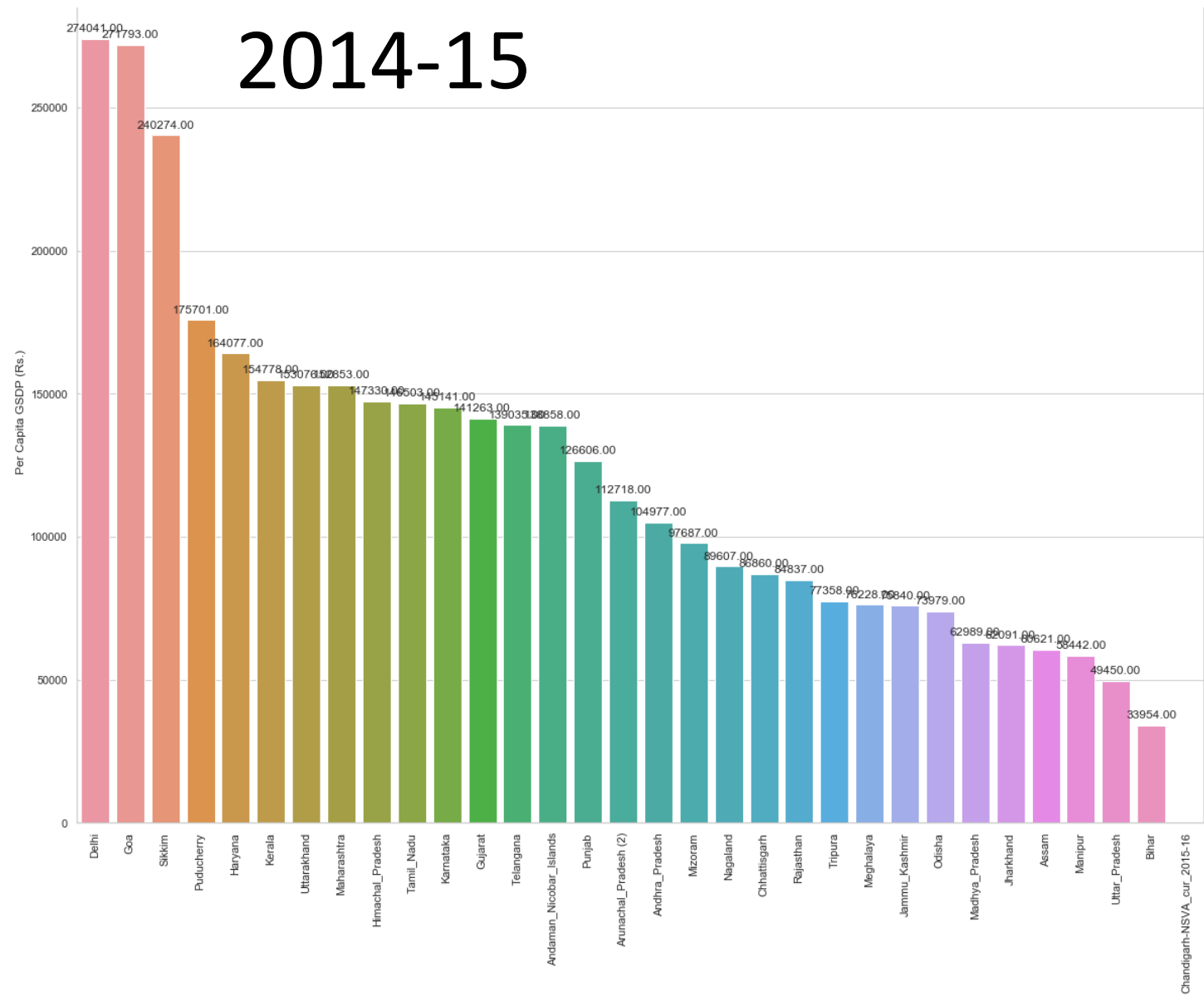
Bottom 5:

Jammu & Kashmir: 118387.0
Goa: 45002.0
Meghalaya: 26745.0
Arunachal Pradesh: 18784.0
Sikkim: 16637.0

overview

- It is surprising that 3 of the top five states are from the southern region though Kerala with its 100% literacy is not among them.
- Another surprising fact is that Goa being a tourist destination is among the bottom five.
- It comes as not a surprise that 4 of the 5 bottom states are from North and North East for low GDP, given the terrain and weak transportation network with the rest of the nation.

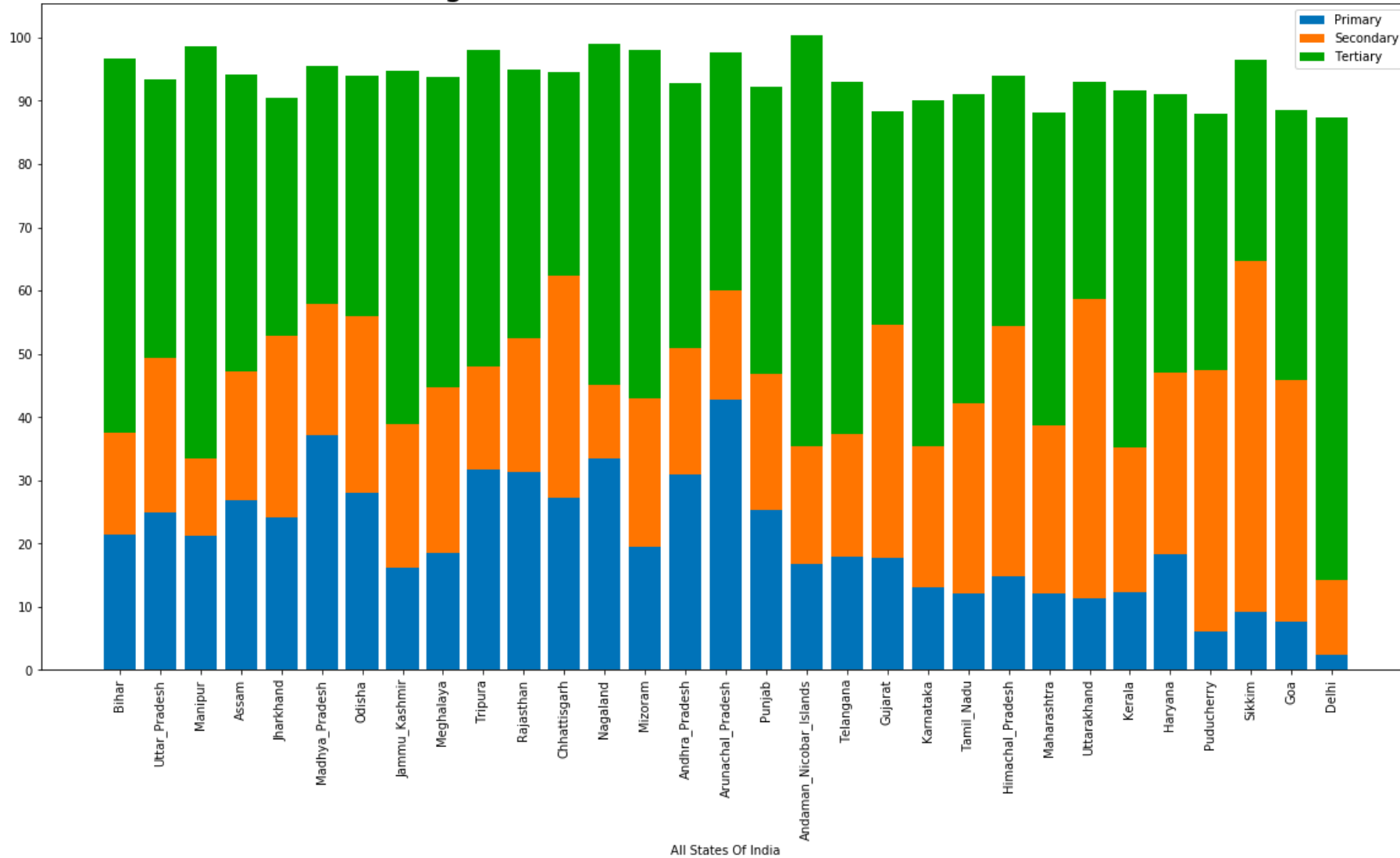
Trends in Per capita GSDP 2014-15



Observations

Bottom 5 sates	State Per Capita GSDP (Crores):
Assam	60,621
Manipur	58442
Uttar_Pradesh	49450
Bihar	33954
Jharkhand	62091
Top5 sates	State Per Capita GSDP (Crores):
Delhi	274041
Goa	271793
Sikkim	240274
Puducherry	175701
Haryana	164077

Percentage Contribution of Each sector to Total GSDP



Overview

- States with higher per capita and the one that post higher growth rate tend to have more share of their GSDP from the tertiary sector.
- Except for Arunachal Pradesh most states have major chunk of their GDP coming from the tertiary sector as well

States percentile ranking by Per Capita GDP

Top 15 percentile

Category	Per Capita GSDP (Rs.)
Delhi	274041
Goa	271793
Sikkim	240274
Puducherry	175701
Haryana	164077
Kerala	154778

Category	Per Capita GSDP (Rs.)
Uttarakhand	153076
Maharashtra	152853
Himachal_Pradesh	147330
Tamil_Nadu	146503
Karnataka	145141
Gujarat	141263
Telangana	139035
Andaman_Nicobar_Islands	138858
Punjab	126606
Arunachal_Pradesh	112718

Category	Per Capita GSDP (Rs.)
Andhra_Pradesh	104977
Mizoram	97687
Nagaland	89607
Chhattisgarh	86860
Rajasthan	84837
Tripura	77358
Meghalaya	76228
Jammu_Kashmir	75840
Odisha	73979
Madhya_Pradesh	62989

Category	Per Capita GSDP (Rs.)
Jharkhand	62091
Assam	60621
Manipur	58442
Uttar_Pradesh	49450
Bihar	33954

Sub-Sectors contributing to about 80% of the GSDP

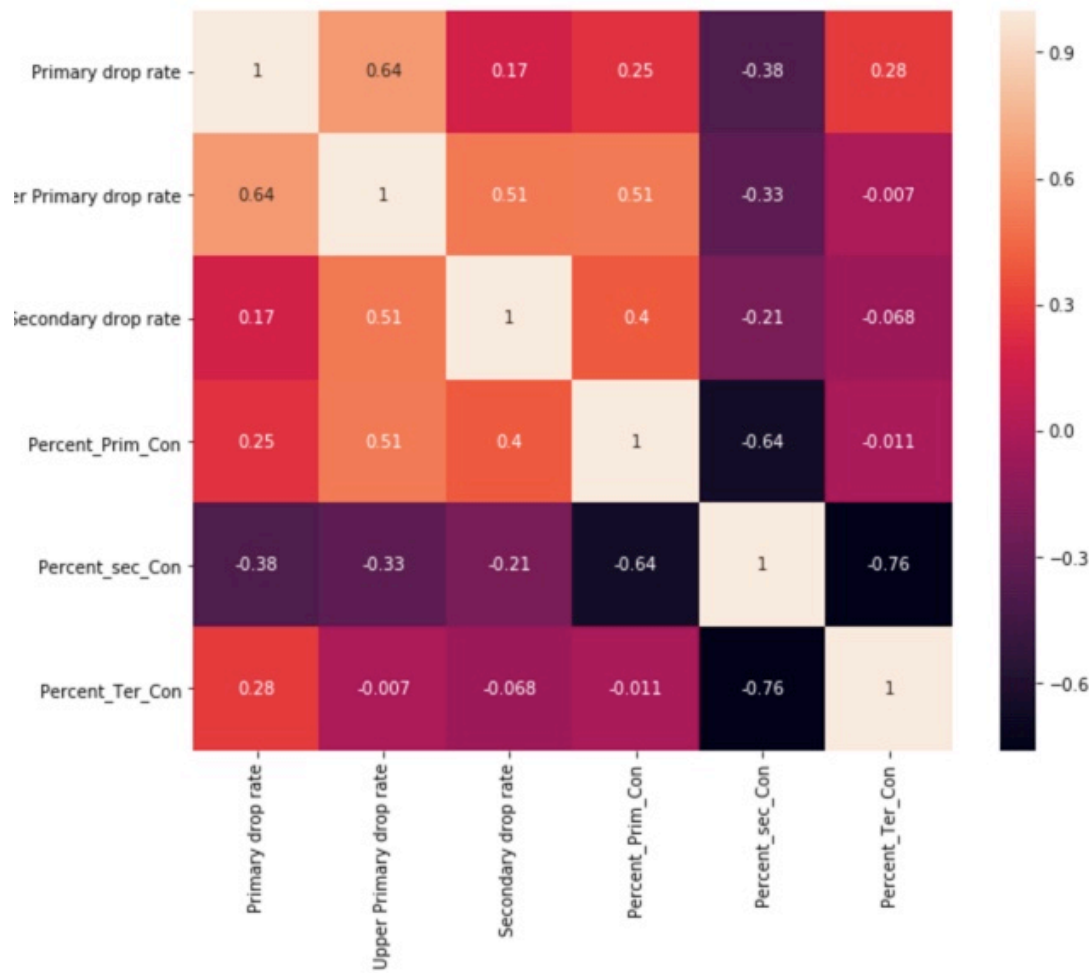
- PRIMARY: Agriculture, forestry and fishing Mining and quarrying,
- SECONDARY: Manufacturing, Electricity, gas, water supply & other utility services, Construction,
- TERTIARY: Trade, repair, hotels and restaurants Transport, storage, communication & services related to broadcasting Financial services Real estate, ownership of dwelling & professional services
- C1=80.88021567035683,
- C2=82.49825209036005,
- C3=80.59415590302252
- C4=78.4171110569786

Part 2

	Primary drop rate	Upper Primary drop rate	Secondary drop rate	Percent_Prim_Con	Percent_sec_Con	Percent_Ter_Con
Primary drop rate	100.000000	64.314448	17.051997	25.475048	-38.356988	28.414880
Upper Primary drop rate	64.314448	100.000000	50.791671	51.364946	-32.905512	-0.700774
Secondary drop rate	17.051997	50.791671	100.000000	39.653832	-20.632979	-6.766942
Percent_Prim_Con	25.475048	51.364946	39.653832	100.000000	-64.268470	-1.095150
Percent_sec_Con	-38.356988	-32.905512	-20.632979	-64.268470	100.000000	-75.904648
Percent_Ter_Con	28.414880	-0.700774	-6.766942	-1.095150	-75.904648	100.000000

Overview

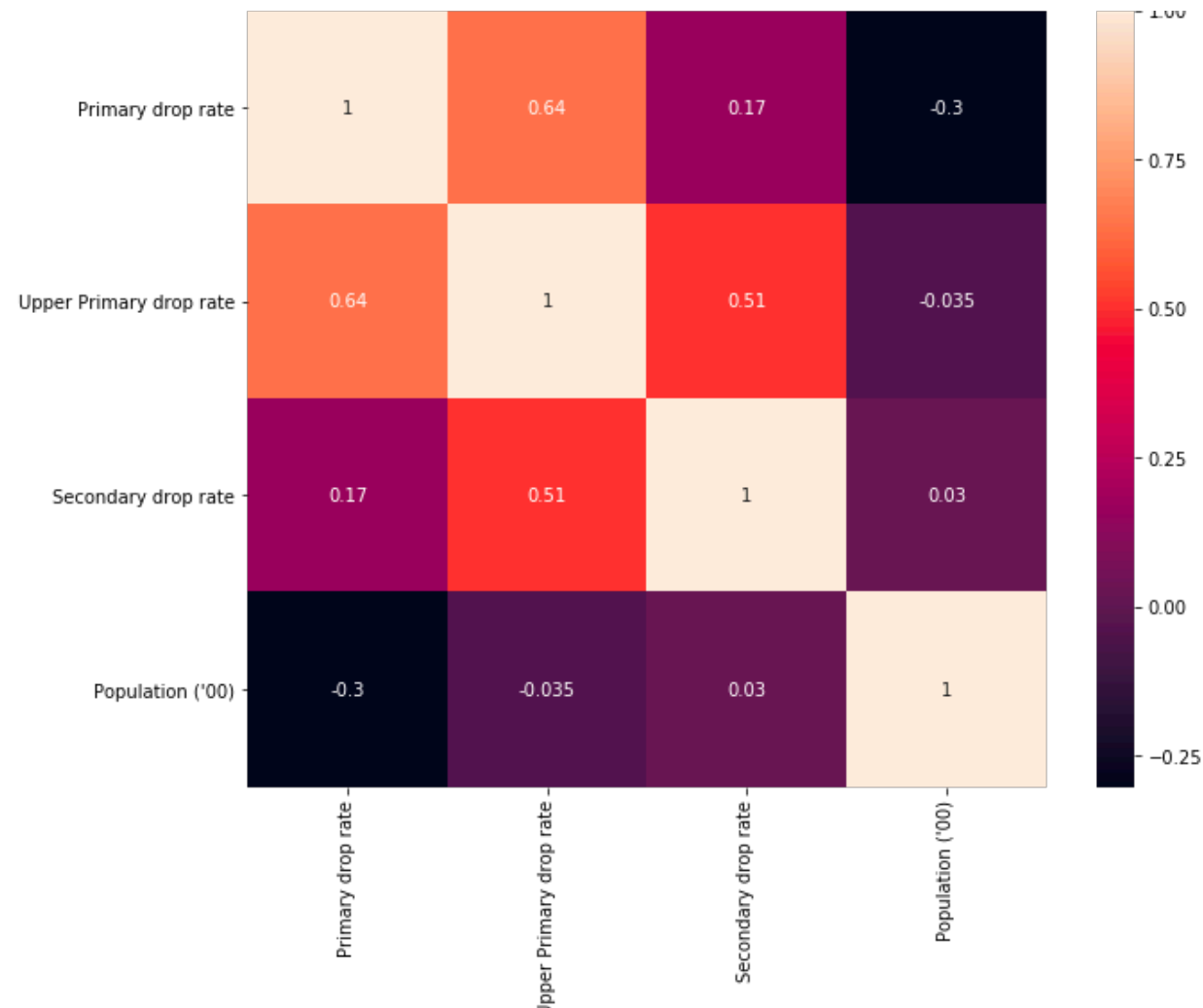
- States that have higher dependency on Primary sector like agriculture have higher dropout rates across all the levels of education this might be due to little hands helping out in the fields in the rural areas
- States that invest heavily in Tertiary sector reduced their secondary dropout rates by 76%
- States that are heavy on secondary sector reduce the dropout rates drastically



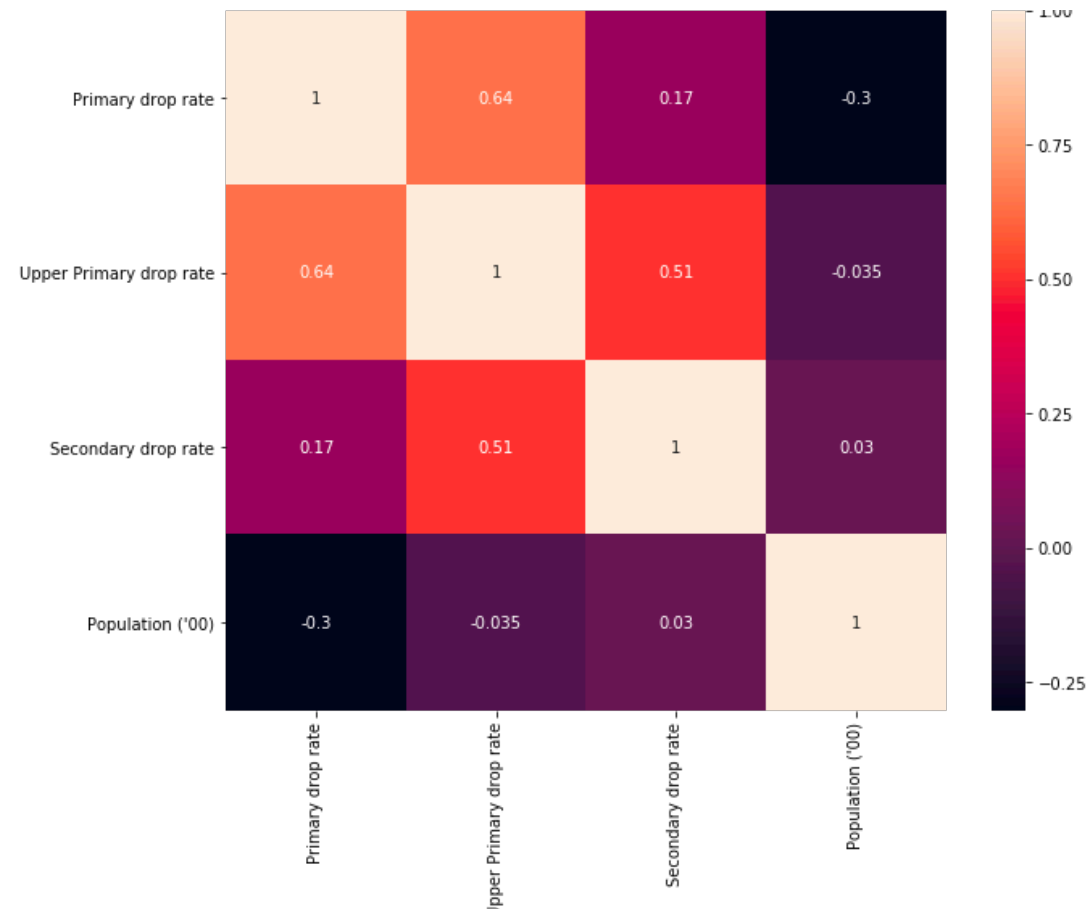
	Primary drop rate	Upper Primary drop rate	Secondary drop rate	Population ('00)
Primary drop rate	100.000000	64.314448	17.051997	-30.106945
Upper Primary drop rate	64.314448	100.000000	50.791671	-3.471508
Secondary drop rate	17.051997	50.791671	100.000000	3.046649
Population ('00)	-30.106945	-3.471508	3.046649	100.000000

overview

Population ‘seems’ to be making the primary dropout rate go up by almost 30%. However we don’t see too much of correlation between upper primary and secondary dropout rates. This probably means kids that drop out at primary level stay out of schools altogether. Parents with large families might be pulling kids out of school once they are old enough to work



	Primary drop rate	Upper Primary drop rate	Secondary drop rate	Per Capita GSDP (Rs.)
Primary drop rate	100.000000	64.314448	17.051997	-54.064288
Upper Primary drop rate	64.314448	100.000000	50.791671	-61.531368
Secondary drop rate	17.051997	50.791671	100.000000	-48.789654
Per Capita GSDP (Rs.)	-54.064288	-61.531368	-48.789654	100.000000



Overview

- There is a clear indication that as the per capita increases the dropout rate decreases
- Biggest to gain is will be the kids in the upper primary