



A STUDY OF STATE FINANCES

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Vision Management Unit
Andhra Pradesh State Development Planning Society
Planning Department
Government of Andhra Pradesh

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I. Correlation between GSDP Growth, Taxes and State Finances

Gross State Domestic Product or GSDP is the sum of the monetary value of final goods and services produced in a country during a given period (say a year). GSDP is composed of goods and services produced for sale in the market as well as some non-market production, such as defense or education services provided by the government. These goods and services are counted only if they consumed by the end user. In other words, intermediate consumption or inputs are excluded from GSDP calculation. Further, GSDP counts all output generated within the borders of a state only, implying that it does not count the value of inter-state transfers, imports and exports.

Gross State Domestic Product is thus, a measure of economic activity of a State in terms of size.

The Government needs to have a source of revenue for it to support itself and discharge its functions. One of the ways by which State Governments earn revenue is by levying tax on economic activity. A State's revenue increases when economic activity in a State (or GSDP) goes up, because then not only does the base value on which tax is levied (such as profits, salaries etc) increases but also the number of taxpayers (because setting up of new businesses, additional employment generation etc) goes up. Therefore, it is in the interest of the State to provide impetus to economic activity.

Studies by Besley and Persson (2011, 2013, 2014a, 2014b) and the International Monetary Fund (IMF) find that the tax capacity of a country provides a stable and elastic source of revenue for the government to finance its activities. Additionally, a government with a developed tax system has a larger stake and more productive role to play in the economy by having more resources at its disposal. The revenues raised by a State by its economic activity are measured by an internationally accepted metric called the ratio of tax to GDP.

The Organization for Economic Cooperation and Development (OECD) publishes Revenue Statistics for all OECD member countries annually, with detailed internationally comparable data on tax revenues as a percentage of GDP. The report is robust in the sense that it talks about different structures of government and different levels of government in these countries. The 2016 Edition of the Revenue Statistics Report studies the movement in tax-to-GDP ratio of 32 countries of the World from 1965 to 2015. It reports that in 2015, the tax-to-GDP ratio of OECD countries as a whole was 34.3%, as against 34.2% in 2014 and 33.8% in 2013. Denmark had the highest tax-to-GDP ratio of 46.6%, while Mexico had the lowest at 17.4%. Though the highest, tax-GDP for Denmark declined by 3 percentage points in 2015 due to fall in revenues from tax on profits. Conversely, though the lowest, tax-GDP for Mexico showed the largest increase of 2.3 percentage points in 2015, explained by an increase in tax rates on earnings and consumption. Five countries, Turkey, Estonia, Slovak Republic, Greece and Hungary showed a tax-GDP improvement of more than 1% over one year. At the upper end of the scale are developed economies like Austria, Belgium, Denmark, Finland, France, Italy and Sweden which were found to have a tax-to-GDP ratio of more than 40%. Mexico is the only countries with tax-GDP of less than 20%, accompanied by USA, Korea, Ireland, Latvia and Turkey at the lower end of the scale with tax-GDP of less than 30%.

Some key observations that come out of this report are:

- a) Tax-GDP is not quite as constant as one might have thought. It is possible to see a variance as large as 3 percentage points YoY.
- b) It is possible to improve tax-GDP by 4% to 6% points over a period of 5-7 years. Turkey is a case in point here that has achieved a tax-GDP improvement from 24% to 30% between 2007 and 2015. So are Greece and Mexico.
- c) Decline in tax-GDP may be caused due to an unusually high GDP expansion. This was seen in the case of Ireland in 2015, where tax-GDP declined by 5.1% points in one year.

The Global Competitiveness Index (GCI), which is computed by the World Economic Forum, has one of its pillars as Macroeconomic Environment. Under this pillar, an attempt is made to assess economic stability of a country, considering it as an important factor for businesses to flourish. An attempt is made herein to correlate OECD Revenue Statistics Report and GCI. We have selected 3 countries, namely Mexico, Latvia and Turkey, that appear at the bottom of the tax-GDP analysis in the OECD report. The GCI ranks of these 3 countries are Latvia (rank 49), Mexico (rank 51) and Turkey (rank 55). India's GCI rank is 39 (2016-17), better than that of all these countries. However, when it comes to tax-GDP, *India lags behind all three by nearly 10%, 0.8%, and 15.4% respectively*. Further, India performs poorly on the pillars sub-indicators as well.

Box 1: India's Macroeconomic Environment, according to GCI 2016-17.

Upon taking a closer look at the parameters that the GCI report studies, one finds that India's macroeconomic environment ranks the lowest among the cohort, at a difference of 53 places from Latvia, 24 places from Mexico and 21 places from Turkey (see Table 1.1). The pillar studies the following sub-indicators:

Table 1.1: 3rd Pillar of GCI 2016-17 with detailed rankings for each sub-indicator

3rd Pillar: Macroeconomic Environment (overall rank out of 138 countries)	India (rank 75/138)	Latvia (rank 24/138)	Mexico (rank 51/138)	Turkey (rank 54/138)
Govt. Budget Balance (% GDP)	119	34	91	23
Gross National Savings (% GDP)	15	66	73	94
Inflation (annual % change)	101	46	1	121
Govt. Debt (% GDP)	98	35	80	27
Country Credit Rating (best)	47	38	34	68

From a *State's* public finance perspective, of all the macroeconomic indicators mentioned above, it makes sense to pay attention to three, namely budget balance, debt, and the credit rating parameters.

Budget balance is the same as fiscal deficit. Running fiscal deficits limits the state's potential to react to changes in the business cycle quickly. Consequently, firms are not able to function efficiently, nor does competitiveness flourish in the economy. India lags 96 places behind Turkey, and 21 places behind Mexico in terms of its budget balance.

India ranks low on Debt as a % of GDP, lagging almost 60 positions behind Turkey on this parameter. The government cannot provide services efficiently if it must keep paying off its past debts. High leverage has an adverse impact on credit rating of an economy, especially if there is a deterioration in the quality of the underlying asset, which in this case is the quantum and stability of the economy (implying GSDP) and revenue flows of the Government, among other things.

Let us expand our discussion to include Finance, so that now we talk about GSDP, taxes and Finances all together. In our first draft of this report, we established a basic correlation among the aforesaid three concepts, stating in the simplest form that all three are positively correlated. We stated thereafter that quantifying the extent of correlation was a subject of independent study. In this draft, we try to quantify this correlation.

Before we start, an important clarification needs to be made. Finance has two elements, revenue and borrowings. Revenues grow as GDP grows, for the simple reason that taxes are levied as a percent of economic activity / user fee is charged as new services are provided by the government. Borrowings however, are external in nature. They do not grow organically as GDP expands. The Government must *decide* to borrow. What is true is that when GDP grows, the capacity of the Government to borrow also grows. Therefore, keeping in mind both these points, we have, for our study, taken a conscious call to equate government revenue with finance. This shall also imply that government spending equals government revenue.

Our analysis yielded that there were broadly two paths that we could take to approach this problem. The first was to look for a *multiple* that could be used as a proxy to estimate how much State Finances would improve when GDP grew.

Researchers have tried examining many such proxies, some of which are worth mentioning just to demonstrate how complex this problem is. One such proxy for finances is government spending. This is because theoretically speaking, the government cannot spend more than it earns. Therefore, government revenue equals government spend. Nijkamp and Poot¹ in their paper of 2002, examined 93 important / recognized studies on the relationship between government revenue and its impact on GDP only to find

¹ Nijkamp, P. and Poot, J. (2002). "Meta-analysis of the impact of fiscal policies on long-run growth," *Tinbergen Institute Discussion Paper*, 02-028/30

that about 17% of the publications under scrutiny found that an increase in government size had a positive impact on growth. Marta Pascual Sáez and Santiago Álvarez García (2006) found that government spending and economic growth can be related positively or negatively, depending on factors like the countries included in the sample, the period of estimation and the variables which reflect the size of the public sector. This led them to conclude that “government spending is positively related with economic growth [only] in the European countries”. In their paper, Roger Kormendi and Philip Meguire (1985) found that after a point, an increase in government spending negatively affects economic growth.

Thus, literature surrounding the relationship between government spending and economic growth has proved inconclusive.

Since the first approach failed to lead us to our desired goal, we decided to look for *alternatives metrics, preferably internationally recognized*, make relevant calculations and see if any trends were emerging to take us to a conclusion.

Using the Global Competitiveness report as our basis, we selected 22 countries that are ranked above and below India in ascending order. These economies are a good mix of developed, emerging economies and developing economies. We then came up with a new metrics, Government Revenue-to-GDP, in addition to tax-GDP. Comparing the levels of government revenues across countries, as a share of GDP or per capita, provides an indication of the importance of the public sector in the economy in terms of available financial resources. Table 1.2 lists some of the countries whose GCI rank is close to that of India’s rank, along with their tax-to-GDP ratios and government revenues as a percentage of their respective GDPs.

Table 1.2: Countries with GCI Rank close to India’s Rank

GCI Rank (2016-17)	Countries	Tax-GDP (2015-16)	Government Revenue (% GDP, 2015-16)	Per Capita Govt. Revenue (in Thousands, USD)
23	Ireland	23.6	27.6	16.5
31	Czech Republic	33.5	41.4	7.1
32	Spain	33.8	38.6	9.7
33	Chile	20.7	24.1	3.0
34	Thailand	16.5	22.4	1.2
35	Lithuania	4.8	34.2	4.8
36	Poland	32.1*	39.0	4.5

37	Azerbaijan	15.6	33.9	1.3
38	Kuwait	-	55.9	15.5
39	India	16.6	20.4	0.3
40	Malta	27.8	39.7	9.3
41	Indonesia	10.7	14.9	0.5
42	Panama	-	20.4	0.1
43	Russia	10.6	31.8	2.7
44	Italy	43.3	47.8	14.05
45	Mauritius	-	21.9	2.0
46	Portugal	34.5	44.0	8.3
47	South Africa	27.5	29.6	1.4
48	Bahrain	-	18.2	4.3
49	Latvia	29.0	35.8	4.9
50	Bulgaria	-	35.0	2.4
51	Mexico	17.4	23.7	1.9
55	Turkey	30.0	34.4	2.6

Source: [National Accounts at a Glance](#), OECD Data 2015 and IMF World Economic Outlook, April 2017. Tax-GDP Ratios for non-OECD countries from [World Bank](#) (*Tax-GDP figures only available for FY 2014-15 with OEC).

When we studied the results of this table, we deduced -

1. Countries like Czech Republic, Poland, Spain, Turkey and Italy have the highest tax-GDP and the highest Revenue-GDP (both >30%) . Thus, a positive relation is established between tax, revenue and finance.
2. Countries like Lithuania and Russia have the lowest tax-GDP (4.8%, 10.7%) but a high revenue-GDP of more than 30%
3. India's tax-GDP and Revenue-GDP are one of the lowest in this list (<20%). India ranks 18 out of the 23 countries on this list.
4. Indonesia has the lowest tax-GDP and lowest Revenue-GDP (10.7%, 14.9%)

The Directorate-General for Economic and Financial Affairs, EC (2008)² cites a 2003 study that found that the maximum stabilizing size of the government revenue is lower for smaller, open economies (about 35% of GDP) as compared to that of somewhat larger open economies (about 40%) in Europe. This is established by the data presented in Table 1.2 and 1.3 about the country-specific share of government revenue in the respective national GDPs.

What came to light by performing the analysis in Table 2 was that the relationship between GDP and Finance goes well beyond the numbers. Research has identified that in addition to the macroeconomic factors we have discussed thus far, trade openness and degree of market integration, business and political cycles, demographics like dependency ratio, budget institutions, taxpayer/voter preferences, and the structure of government play an important role in determining government revenue. It is for this reason that both our methodologies failed to throw up a one-size-fit-all formula / proxy / multiple. **This makes for a very strong case for any country to examine its environment and systems uniquely, and chart the course for strengthening Public Finance Systems and Management.**

Our discussion so far has talked about National-level GDP, Budgets and taxes across the world. Let us now steer our study to the sub-national level. At the sub-national level, the State has a limited role to play when it comes to influencing macroeconomic stability. Having said this, the metrics that we have worked with in the earlier part of the discussion may all be analyzed at the sub-national level. This makes for an apple-to-apple comparison and it is expected that the reader shall be able to draw meaningful conclusions from both together. Additionally, there are other metrics that we measure fiscal performance of State. We shall introduce these into the study as we go along.

We start with reverting to GCI Study as our base. Our first analysis begins with a comparative of Andhra Pradesh with nations that have a tax-GDP like that of Andhra Pradesh, assuming that Andhra Pradesh is a country. Andhra Pradesh's tax-GDP has been computed at 7.04% for 2016-17 (See Table 1.4). Table 1.3 takes us through the country list.

Table 1.3: Countries with tax-GDP ratio similar to Andhra Pradesh

GCI Rank 2016-17	Country	Tax-GDP ratio (2015-16)	Per Capita Govt. Revenue (in Thousands, USD)	Govt. Revenue (% GDP, 2015-16)
29	Saudi Arabia	5.3	5.26	25.05
N.A.	Angola	5.7	1.06	27.32
N.A.	Republic of Congo	5.9	0.58	29.62

² European Commission, Directorate-General for Economic and Financial Affairs (2008). "Public finances in EMU-2008"

127	Nigeria	6.1	0.21	7.59
76	Iran	6.1	0.78	16.17
N.A.	Sudan	6.3	0.23	11.03
N.A.	Afghanistan	6.4	0.15	25.04
138	Yemen	7.1	0.16	12.90
87	Algeria	7.7	1.27	30.77
89	Cambodia	8.0	0.22	18.846
N.A.	Guinea	8.2	0.12	19.32
106	Bangladesh	8.5	0.12	9.92
N.A.	Haiti	9.4	0.15	19.38
108	Gabon	10.3	1.64	21.16
132	Sierra Leone	10.5	0.11	15.16
42	Panama	10.6	2.68	20.44
97	Bhutan	10.7	0.72	28.80

Tax-to-GDP ratios ([source](#)), and General Govt. Revenue rounded off to two decimal places ([source](#)). Per Capita Revenue calculated using 2016 exchange rates ([source](#)). The GCI Ranks are available for only those countries where the survey has been successfully administered.

It is very clear that Andhra Pradesh's tax:GDP compares with countries that lag far behind it in its GCI Rank of 36. Andhra Pradesh has been put in the same bracket with countries like Yemen (Rank 138), Sierre Leone (Rank 132), Nigeria (Rank 127), Bangladesh (Rank 106) and Bhutan (Rank 97). On the flip side, two countries - Saudi Arabia (Rank 29) is the only country with a tax-GDP of 5.3%, which is lower than Andhra Pradesh. Many countries in this list have a GCI Rank NA since they do not even participate in the Study.

Moving to what Revenue-GDP looks like. Andhra Pradesh's Revenue-GDP has been computed at 18.96% for 2016-17 (See Table 1.4). This compares closest with Cambodia which is ranked 89 on the GCI list, and Guinea and Haiti which are unranked. A very interesting observation here is that Algeria (Rank 87) has tax-GDP of 7.7 which is close to that of Andhra Pradesh but a high Revenue-GDP of 30.77%. Saudi Arabia has a low tax-GDP of 5.3% but a high Revenue-GDP of 25.05%. Sierra Leone has a tax-GDP of 10.5% but a Revenue-GDP of 15.16%. Table 1.4 illustrates how Andhra Pradesh's finances, worth about \$ 19,951 million in 2016-17, are much larger than those of Afghanistan and Yemen, even though it has a tax-GDP that lies somewhere in the middle of both these nations.

Putting the two tables together, we conclude that the equation isn't as straightforward. Countries with a high tax-GDP tend to have high Revenue-GDP but this is not always true. The two tables above make it clear that we cannot confidently conclude that there is a direct and positive relationship between tax-to-GDP ratio and the amount that the govt. earns (both as a % of GDP and in per-capita terms). Countries performing poorly with respect to the former may not necessarily perform as poorly in terms of the latter. What it enables us to conclude that there are other factors that have an important part to play here. Especially one that is the Revenue earning model of the State.

The next analysis compares Andhra Pradesh with peer States in India. For this part of this analysis, GDP takes the form of GSDP or Gross State Domestic Product. Finance herein implies the size of the budget, and takes into account borrowings. The metric Revenue-GDP now takes the form of Budget-GSDP. Tax-GSDP has been computed for a three-year period. Budget-GSDP has been computed for the latest financial year 2016-17.

Table 1.4: State-Wise Tax-GSDP Ratios and Finance.

State	Tax: GSDP (2014-15)	Tax: GSDP (2015-16)	Tax: GSDP (2016-17)	Finance (Size of State Budget 2016-17)	Budget: GSDP (2016-17)
Kerala	9.10%	8.97%	9.33%	INR 103,986 cr	15.94%
Chhattisgarh	8.50%	6.79%	8.62%	INR 70,596 cr	25.07%
Telangana	9.70%	7.97%	7.66%	INR 112,653 cr	16.79%
Karnataka	10.20%	7.47%	7.38%	INR 164,104 cr	15.08%
Haryana	6.80%	7.20%	7.34%	INR 88,714 cr	16.21%
Andhra Pradesh	7.20%	6.54%	7.04%	INR 132,731 cr	18.96%
Tamil Nadu	9.40%	7.47%	6.98%	INR 172,851 cr	12.91%
Rajasthan	7.00%	6.77%	6.95%	INR 171,340 cr	22.85%
Punjab	7.80%	6.97%	6.72%	INR 86,387 cr	19.01%
Madhya Pradesh	7.70%	6.76%	6.52%	INR 158,594 cr	22.22%
Gujarat	7.10%	6.52%	6.43%	INR 151,852 cr	13.88%
Maharashtra	7.20%	6.33%	6.05%	INR 270,585 cr	12.28%

1. Tax: GSDP has been calculated by taking the ratio of State Own Tax Revenue to GSDP

2. For 2014-15, calculations have been made based on BE taken from RBI's Study of Budgets

3. For 2015-16 & 2016-17, figures have been taken from respective State Budget documents, respective Socio Economic Surveys of States, RBI Study of Budgets 2014-15 & 2015-16, IBEF reports and PRS reports.

According to our analysis of State Budgets 2016-17 (RE), Kerala has the highest tax: GSDP ratio of 9.33%, followed by Chhattisgarh at 8.62% and Jammu & Kashmir at 8.54%. Andhra Pradesh stands at 7th position with a tax-to-GSDP ratio of 7.04%. Table 1.4 illustrates tax-to-GSDP of some Indian states. Some observations -

1. As observed earlier, tax-GSDP shows considerable variance in values over 2015, 2016 & 2017.
2. Chhattisgarh is the only State with tax-GSDP and Budget-GSDP higher than Andhra Pradesh.
3. Telangana, Karnataka and Kerala have a higher tax-GSDP than Andhra Pradesh but a lower Budget-GSDP
4. Tamil Nadu, Gujarat and Maharashtra have a lower tax-GSDP and a lower Budget-GSDP than Andhra Pradesh.
5. Rajasthan and Madhya Pradesh have a lower tax-GSDP than Andhra Pradesh but a higher Budget-GSDP
6. Amongst the 12 States, the size of Andhra Pradesh's budget is 7th largest.

Let us consider the composition of revenue receipts by state for 2016-17.

Table 1.5: State-wise composition of Revenue Receipts

State	Own Tax Revenues (% of GSDP) 2016-17	Own Non-Tax Revenue (%GSDP) 2016-17	Central Sources (Share in Central Taxes + Grants in Aid) (%GSDP) 2016-17	Total Capital Receipts (%GSDP) 2016-17
Kerala	INR 44,548 cr (7%)	INR 10,057 cr (7%)	INR 26,015 cr (4%)	INR 23,366 cr (4%)
Chhattisgarh	INR 22,734 cr (8%)	INR 7,520 cr (3%)	INR 32,531 cr (12%)	INR 7,810 cr (3%)
Telangana	INR 50,156 cr (7%)	INR 8,510 cr (1%)	INR 28,434 cr (4%)	INR 25,583 cr (4%)
Karnataka	INR 82,211 cr (8%)	INR 7,099 cr (1%)	INR 43,558 cr (4%)	INR 31,237 cr (3%)

Haryana (BE)	INR 40,199.51 cr (7%)	INR 8,308.45 cr (2%)	INR 14,447.57 cr (3%)	INR 25,759.01 cr (5%)
Andhra Pradesh	INR 49,282 cr (7%)	INR 4,500 cr (1%)	INR 53,927 cr (8%)	INR 25,022 cr (4%)
Tamil Nadu (BE)	INR 90,691.87 cr (7%)	INR 9,723.95 cr (1%)	INR 47,759.27 cr (4%)	INR 39,441.5 cr (3%)
Rajasthan (BE)	INR 53,300.01 cr (7%)	INR 14,084.06 cr (2%)	INR 55,866.5 cr (7%)	INR 32,090.24 cr* (4%)
Punjab (BE)	INR 30,547.35 cr (7%)	INR 3,807.14 cr (1%)	INR 15,826.5 cr (3%)	INR 35,414.31 cr (8%)
Madhya Pradesh	INR 44,135 cr (6%)	INR 10,410 cr (1%)	INR 71,505 cr (10%)	INR 29,893 cr (4%)
Gujarat (BE)	INR 71,369.88 cr (7%)	INR 12,428.04 cr (1%)	INR 32,568.06 cr (3%)	INR 30,026 cr (3%)
Maharashtra	INR 137,230 cr (6%)	INR 16,619 cr (1%)	INR 66,162 cr (3%)	INR 50,573 cr (2%)

* Rajasthan's Total Capital Receipts are excluding the contribution of Uday Scheme.

Budget Estimates from RBI's Study of State Budgets. Other figures from PRS Budget Analyses.

The table brings out the following-

1. Own-tax revenue-GSDP for all 12 States is similar, ranging between 6-8%. Andhra Pradesh stands at 7%
2. Own-Non-Tax Revenue is highest for Kerala at 7%. Andhra Pradesh stands at a mere 1%
3. Chhattisgarh is enjoying the highest share in Central taxes and grant-in-aid at 12%. Andhra Pradesh is third best at 8%, after Madhya Pradesh which stands at 10%. Together 3 States share in 1/3rd of India's share in funds from the Centre.
4. Capital receipts as a percentage of GSDP are the highest for Punjab at 8%. For all other States, it is the same at 4-5%

The conclusion from the table above is that Andhra Pradesh needs to focus on Own-Non-tax revenue sources.

Our observations up to now have shown how there are certain exogenous factors that influence the relationship between GDP, taxes and Finance. In this part, we delve further into the discussion on one of the many parameters - structure of the economy.

The State economy can be classified into three broad sectors, namely, agriculture, industry and services. Whereas industry and services are taxed at different rates under various State and Central statutes, agricultural incomes are not subject to direct taxes. In fact, agriculture is subsidized by the State due to the provision of input subsidies on fertilizers, pesticides etc. This implies three things –

- i) For a State which is predominantly agrarian, if GSDP expands, and it is mainly due to agriculture, it may not lead to a proportionate increase in direct tax revenue, represented under the head *Share in Central Taxes*.
- ii) For a State which is predominantly agrarian, if GSDP expands, and it is mainly due to agriculture, it may lead to increase in public expenditure because increase in agri input subsidies.
- iii) If GSDP expands, an increase in indirect tax revenue (i.e. State's Own Tax revenue) should happen, driven by increase in consumption expenditure on goods and services.

Keeping these in mind, the table below maps share of three sectors of different State economies with their tax-to-GSDP ratios:

Table 1.6: Sectoral share in State Economies

State	Share of Agriculture in the economy (2016-17)	Share of Industry in the economy (2016-17)	Share of Services in the economy (2016-17)	Tax: GSDP (2016-17)	Finance: GSDP (2016-17)
Goa*	5%	32%	63%	-	-
Maharashtra	12%	34%	54%	6.05%	12.28%
Kerala	12%	26%	62%	9.33%	15.94%
Karnataka	13%	24%	63%	7.38%	15.08%
Telangana	15%	22%	63%	7.66%	16.79%
Chhattisgarh	15%	49%	36%	8.62%	25.07%
Haryana	18%	31%	52%	7.34%	16.21%

Rajasthan	20%	31%	50%	6.95%	22.85%
Tamil Nadu [^]	21%	34%	45%	6.98%	12.91%
Gujarat	22%	36%	42%	6.43%	13.88%
Punjab [#]	27%	23%	50%	6.72%	19.01%
Uttar Pradesh [^]	28%	24%	48%	8.30%	27.97%
Andhra Pradesh	32%	22%	46%	7.04%	18.96%
Madhya Pradesh	37%	21%	42%	6.52%	22.22%

*Sectoral shares are for the year 2013-14 [^] Sectoral shares are for the year 2014-15 # Sectoral shares are for the year 2015-16

1. Tax: GSDP has been calculated from respective State Budgets
2. Sectoral shares have been taken from latest available Economic surveys

Few pertinent observations may be made from this table:

I. In 2016-17, Kerala had the highest tax: GSDP of 9.33%, which is 2.29% ahead of Andhra Pradesh. Kerala's finances, on the other hand, formed a lower share of their GSDP as compared to that of AP (a difference of about 3%).

*If Andhra Pradesh improves its tax: GSDP by 2.29%, it will **gain INR 17,598 crores** in tax revenues (cal on projected GSDP 2017-18 of INR 768,467 cr for Andhra Pradesh)*

II. Uttar Pradesh & Punjab have an economic structural composition that is most like Andhra Pradesh. Their tax: GSDP ratio stands at 8.3% & 6.97% respectively. Their corresponding budgets also form a larger percentage of their GSDP, as compared to Andhra Pradesh. Uttar Pradesh's tax-to-GSDP ratio is higher than Andhra Pradesh by 1.1%, and its finance-to-GSDP ratio is higher by 9.01%.

*If Andhra Pradesh improves its tax: GSDP by 1.1%, it will **gain INR 8,453 crores** in tax revenues (cal on projected GSDP 2017-18 of INR 768,467 cr for Andhra Pradesh).*

*For Andhra Pradesh to improve its finance: GSDP ratio by 9.01%, it will **need to add INR 69,239 crores** to its budget (calculated on projected GSDP 2017-18 of INR 768,467 crores for AP).*

III. 3/5 States that make the top 5 lists in terms of highest Tax: GSDP in India have a structure such that services sector contributes more than 60% to the GSDP. The States are Kerala, Telangana & Karnataka.

IV. 7/15 States have a structure with more than 30% GSDP contribution coming from Industry.

V. Maharashtra, Goa, Haryana & Rajasthan are 4 /15 states displaying more than 30% share in Industry and more than 50% share in Services.

II. Has last year's growth has been reflected in this year's finances?

Conceptually speaking, last year's growth will be reflected in last year's finances itself, and not in next year's finances. As explained earlier, growth in GSDP will reflect by way of growth in revenues & finances. The table below plots the growth in GSDP over the last 2 years and compares it with the growth in revenues.

Table 2.1: AP's GSDP and Revenue Growth from 2014-15 to 2016-17.

Particulars	2014-15	2015-16	2016-17
GSDP (constant prices)	441,741 crore	490,134 crore	547,021 crore
Growth in GSDP (cons. prices)	-	10.95%	11.61%
Revenue (Tax + Non Tax)	3,736,812 lakh*	4,484,174 lakh	5,378,232 lakh
Growth in revenue	-	20%	20%

*represents 10 months

2014-15 Revenue = Accts; GSDP = SRE

2015-16 Revenue = Accts; GSDP = FRE

2016-17 Revenue = RE; GSDP = AE

On the face of it,

State tax and non - tax revenues have grown at a much higher rate of 20% than State GDP which is around 11.30%. This can imply 3 things -

- Industry & service sectors of the economy are growing faster than agriculture
- Respective State revenue departments have been able to put in place strategies, processes and systems to increase revenues
- Consumption expenditure has increased as compared to previous years

Digging deeper,

How is it that growth in revenue for 2 consecutive years is 20%? There doesn't seem to be any alignment or relation between growth in GDP and growth in Revenues. Departments have been known to set revenue targets for successive years. The basis of target setting is percentage growth over and above the previous year. When this happens, it implies that the probable reasons for year on year increase in revenues, as pointed out in points a) b) and c) above, hold little value. It is a business-as-usual approach, and there are no real scientifically calculated targets for increasing State revenues.

A constant revenue growth further implies that the loss to ex-chequer due to a low to GDP will never be recovered. India & AP are the fastest growing economies / economic regions in the World today and will continue to be so for the next 35 years. If GDP grows between 8-11% p.a and tax revenues grow at 20% p.a,

assuming that there is no structural change in the economy (i.e. share of agriculture, industry and services does not change), the Dept is growing its revenues by 9% p.a. only. This 9% is actually even lower than the last 5 year revenue growth targets that hover anywhere between 15-30%!

Lastly, Andhra Pradesh's non-tax revenues are declining (see Table 2.2). This needs to be considered. If the Government is partnering with private enterprise to lead the way in the State's growth, then why should state non-tax revenues decline?

Let us look at a further breakdown of Revenue & Finance -

Table 2.2: AP's Revenue and Finance Particulars

Particulars	2015-16	2016-17
Total Revenue (Tax + Non Tax)	4,484,174 lakh	5,378,232 lakh
- Tax revenue	3,992,174	4,928,232
- Non - tax revenue	492,000	450,000
Finance	1,49,60,100 lakh	1,35,59,001 lakh

Source: AP State Budget 2017-18

The total finance availed by the State has declined in 2016-17 over 2015-16 by 10.33%. Even though total revenue receipts of the State have improved, capital receipts of the State have reduced drastically on account of repayment of floating Debt by the State. This has had a positive impact on fiscal deficit which has been reigned in to 3.06% in FY 2016-17.

In totum, in the year 2016-17, it doesn't seem like last year's growth has been reflected in last year's finances. A co correlation cannot be drawn between GDP growth and tax collections if targets are set unscientifically. Further, the State finances have contracted in its attempt to fall in line with FRBM.

III. Different States' Growth Rates and their Status of Fiscal Parameters

Fiscal Deficit is the excess of total expenditure over total receipts of the government. This gap is filled by borrowings, and leads to an increase in total liabilities of the government. The Fourteenth Finance Commission recommended that the fiscal deficit of all states be anchored at an annual limit of 3 per cent of GSDP for the award period (2015-16 to 2019-20). Relaxations have, however, been given to state governments for additional borrowings, provided they met some criteria of fiscal prudence. These criteria can be broadly categorized into a) necessary conditions; and b) sufficient conditions.

- Necessary Condition (NC): Availing additional borrowing is contingent upon the state recording a zero-revenue deficit in the year for which the borrowing limit has to be fixed and in the immediately preceding year.

- Sufficient Conditions (SCs): An additional borrowing limit of 0.25 per cent each is allowed if:

- I) SC-I: states' debt-GSDP ratio is less than or equal to 25 per cent in the preceding year,
- II) SC-II: interest payment/revenue receipts (IP/RR) is less than or equal to 10 per cent in the preceding year.

States meeting one or both above SCs are allowed a relaxation in their fiscal deficit targets by 0.25/0.5 per cent of GSDP provided they meet NC. AP does not meet either any of the SCs nor the NC to be eligible for relaxations available to states who have anchored their fiscal deficits to 3% of GSDP (AP was not among the seventeen states³ which satisfied the NC and at least one of the SCs, to become eligible for additional borrowing in 2016-17. Telangana, however, was).

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Fiscal Deficit	21,863 cr	31,830 cr	19,169 cr	17,818 cr	18,856 cr	28,364 cr
Fiscal Deficit as a % of GSDP	3.58%	2.9%	2.60%	3.03%	3.28%	1.42%

Primary deficit indicates the extent to which the government needs to borrow to meet its expenditures, other than the interest payments. A low or a zero-primary deficit (like that of Maharashtra at 0.6%) implies that the government is able to meet all its expenditures with the revenues earned by it. When we look at

³ Fiscal Position of State Governments, RBI.

https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/OSF2016_12051728F3E926CFFB4520A027AC753ACF469A.PDF

Primary deficit and fiscal deficit together, it signifies the extent to which interest commitments (on earlier loans) have forced the govt. to borrow (the difference between the two should tell us the extent of borrowing undertaken to service interest costs). Telangana's position on this indicator at 2% indicates the higher borrowing requirements of the state to finance its operations, exclusive of interest payments.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Primary deficit [^]	6,390 cr	14,690 cr	9,550 cr	6,750 cr	9,410 cr	3,070 cr
Primary Deficit as a % of GSDP	1.1%	1.3%	1.14%	1.14%	2.0%	1.3%

Revenue Deficit is the excess of revenue expenditure over revenue receipts. A revenue deficit implies that the government needs to borrow to finance its expenses *which do not create capital assets*.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Revenue Deficit [^]	4,140 cr	9,480 cr	-1,000 cr (Surplus)	1,0810 cr	-60 cr (Surplus)	9,290 cr
Revenue Deficit as a % of GSDP	1.2%	0.4%	-0.44%	1.64%	-	0.27%

A low revenue deficit may be taken as an indicator of the efficient revenue structuring and efficient tax collection systems.

Debt-to-GSDP ratio indicates how levered the State is in terms of size of the economy, and is used to assess the borrowing capacity of the State. A low debt-to-GSDP ratio indicates an economy that produces and sells goods and services has sufficient revenues of its own to perform its works as well as pay back debts without incurring further debt. Andhra Pradesh has the highest Debt-GDP ratio amongst the states under study. Maharashtra, at 16.2%, has a 12.3% lower debt-GSDP ratio than AP.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Debt: GSDP	28.5%	19.23%	24.9%	26.8%	-	16.2%

In addition to a high debt-GSDP ratio, AP also must pay attention to increasing its tax-GSDP ratio which opens space for the govt. to spend more on public schemes and welfare measures without borrowing heavily from the market (and thereby increasing the fiscal deficit).

Interest Payments as a share of:

- Revenue Expenditure indicates the fiscal space the State has left after meeting its loan servicing obligations to spend on day to day functioning
- Revenue Receipts indicates the extent of State revenues utilized to service borrowings

In both cases, a lower figure is considered desirable.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Interest payment /Revenue expenditure	10.1	11.9	9.4	13.3	9.0	12.6
Interest payment /Revenue receipts	10.6	12.7	9.3	15.3	9.0	13.2

Andhra Pradesh can look to do better on this parameter, like Karnataka and Telangana. It is pertinent to mention that the State has repaid a significant portion of its borrowings last year, bringing down outside debt. This is expected to bring down interest costs. What the State should look at further, is refinancing its obligations.

Average rate of interest is used to assess how costly the state's debt is, on average, and is useful for making decisions relating to financing. A lower figure is considered desirable.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Average rate of interest (Interest / Borrowings)	16.16%	-	6.06%	6.91%	-	11.90%

Own Revenue/Revenue Expenditure indicates the State's ability to finance its expenditures through own tax revenues. It is used to understand if the State is actually having to borrow to meet its obligations arising from non-capital nature transactions, and is considered a sign of efficient govt functioning. A higher value of this ratio is considered desirable. Among the states considered for comparison on major fiscal parameters above, AP seems to be least able to finance its revenue expenditure by way of its tax revenues. Whereas AP can finance only a little over half its revenue spending from its tax revenues (53.2%), Maharashtra is able to finance up to nearly 70%, with Karnataka not far behind at 69.4%. Boosting tax collection in the state could help improve AP's ability to finance its spending.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Own Revenue/ Revenue Exp	53.2	64.6	69.4	59.6	68.5	69.9

Development (and Non-Development) Expenditure as a share of Aggregate Disbursement indicates amount of productive (and unproductive) expenditure designed to directly promote economic growth and social development. Obviously, a higher share of development expenditure in aggregate disbursement is desirable. Looking at amounts that the different states productively spend on developmental activity and the amounts they spend on non-development (or unproductive) activity, Telangana spends its state finances the most productively amongst the current cohort. Overall, the indicator makes a case for rationalizing the state's spending to make it more productive.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Development expenditure / Aggregate disbursement [^]	67.8	61.0	69.9	52.8	75.8	63.4
Non-Development expenditure / Aggregate disbursement [^]	28.5	28.0	22.8	36.7	21.4	31.5

Gross Transfers as a share of Aggregate Disbursement indicates the amount transferred as development funds to be spent on (social) development activities as a proportion of total spending.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Gross Transfers/ Aggregate Disbursements [^]	36.9	25.3	27.0	24.9	26.2	21.9

Of the aggregate disbursements of the state, the share transferred as developmental funds for social development activities is highest (at nearly 37%) for Andhra Pradesh. This signifies the State's need to rationalize its spending. Andhra Pradesh has a poverty of only 9%. Its social sector spending should not be so high. The State should take a careful look at this indicator.

Committed and Pension Expenditures as a share of Revenue Expenditure.

Committed Expenditure as a share of Revenue Expenditure indicates the amount spent on interest payments, salaries and wages, pensions and subsidies out of total spent by the state. Pension Expenditure as a share of Revenue Expenditure, on the other hand, indicates the amount spent on pensions alone, out of total spent by the state. In both cases, a lower figure is considered desirable.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Committed expenditure / Revenue expenditure^	26.0	30.5	24.6	33.8	25.9	32.1
Pension / Rev expenditure^	10.3	13.5	9.3	15.4	8.8	8.2

Rationalizing state spending is important because of the costs that must be borne of interest payments, wages and salaries, pensions, subsidies etc. Currently, AP spends about 26% of its revenue expenditure for all its interest payments, pensions, wages and salaries, subsidies etc. Out of this, about 10.1% of its total expenditure involves repaying loans, while the interest payments are only able to finance 10.6% of its total receipts. Pensions alone account for 10.3% of its revenue expenditure. Meanwhile, states like Maharashtra spent a little under 8% of their revenue expenditure on pensions. Additional fiscal space is tough to squeeze from these indices considering how wages, salaries, pensions and subsidies are socially charged issues. However, it would bode well for the govt. to look for ways to tighten its spending on these parameters.

Capital Expenditure as a share of Total Expenditure indicates investment in capital stock by the state with the view to spur economic activity in the state. A higher value is considered better for boosting economic activity in the state.

Particulars	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Capital expenditure/ Total expenditure	9.48%	12.23%	17.87%	9.58%	22.49%	11.15

III. Different States' Growth Rates and their Status of Fiscal Parameters

Numbers are for FY 2015-16

Particular	Definition	Andhra Pradesh	Tamil Nadu	Karnataka	Kerala	Telangana	Maharashtra
Per capita income at current prices		107,532	143,547	148,485	116,006 (2014-15)	140,683	147,399
GSDP (size) at current prices		609,934 cr	1,158,931 cr	1,022,729 cr	591,198 cr	583,117 cr	2,001,223 cr
GSDP growth rate at current prices		15.85%	10.99%	9.66%	11.85%	11.7%	12.82%
GSDP growth rate at constant prices		10.95%	8.79%	6.20%	8.10%	9.20%	8.50%

Fiscal Deficit	It is the excess of total expenditure over total receipts. This gap is filled by borrowings, and leads to an increase in total liabilities of the govt.	21,863 cr	31,830 cr	19,169 cr	17,818 cr	18,856 cr	28,364 cr
Fiscal Deficit as a % of GSDP		3.58%	2.9%	2.60%	3.03%	3.28%	1.42%
Revenue Deficit [^]	It is the excess of revenue expenditure over revenue receipts. A revenue deficit implies that the government needs to borrow to finance its expenses <i>which</i>	4,140 cr	9,480 cr	-1,000 cr (Surplus)	1,0810 cr	-60 cr (Surplus)	9,290 cr

	<i>do not create capital assets.</i>						
Revenue Deficit as a % of GSDP		1.2%	0.4%	-0.44%	1.64%	-	0.27%
Primary deficit [^]	<p>It is simply the fiscal deficit minus interest payments.</p> <p>Also defined as the difference between current government spending on goods and services and total current revenue from all types of taxes net of transfer payments.</p>	6,390 cr	14,690 cr	9,550 cr	6,750 cr	9,410 cr	3,070 cr
Primary Deficit as a % of GSDP		1.1%	1.3%	1.14%	1.14%	2.0%	1.3%

Tax : GSDP	Indicates ratio of tax collected compared to GSDP. Used in tax policy making, to study the efficiency of taxes, systems, and address the problem of budget deficits.	7.2%	9.4%	10.2%	9.1%	9.7%	7.2%
Debt : GSDP	Indicates how levered the State is in terms of size of the economy. Used to assess the borrowing capacity of the State.	28.5%	19.23%	24.9%	26.8%	-	16.2%
Average rate of interest (Interest / Borrowings)	Used to assess how costly is the State's debt on average. Used to make	16.16%	-	6.06%	6.91%	-	11.90%

	financing decisions. Lower is better.						
Own Revenue / Revenue Exp	Indicates States' ability to finance its expenditures through own tax revenues. Used to understand if the State is having to borrow to meet its obligations arising from non-capital nature transactions. Sign of efficient govt functioning. Higher is better.	53.2	64.6	69.4	59.6	68.5	69.9
Development expenditure /	Indicates amount of	67.8	61.0	69.9	52.8	75.8	63.4

Aggregate disbursement [^]	productive expenditure designed to directly promote economic growth and social development. Higher is better.						
Non-Development expenditure / Aggregate disbursement [^]	Indicates the amount of unproductive (or non-development) expenditure as a proportion of the total amount of spending of the state. Lower is better.	28.5	28.0	22.8	36.7	21.4	31.5
Interest payment	Indicates the fiscal space the	10.1	11.9	9.4	13.3	9.0	12.6

/Revenue expenditure	State has to spend on day to day functions. Lower is better.						
Interest payment /Revenue receipts	Indicates extent of State revenues utilized to service borrowings. Lower is better.	10.6	12.7	9.3	15.3	9.0	13.2
Committed expenditure to Revenue expenditure^	Indicates the amount spent on interest payments, salaries and wages, pensions and subsidies out of total spent by the state. Lower is better.	26.0	30.5	24.6	33.8	25.9	32.1
Pension / Rev expenditure^	Indicates the amount spent on pensions	10.3	13.5	9.3	15.4	8.8	8.2

	alone, out of total spent by the state. Lower is better.						
Capital expenditure: Total expenditure	Indicates investment in capital stock by the state with the view to spur economic activity in the state. Higher is better.	9.48%	12,23%	17.87%	9.58%	22.49%	11.15
Gross Transfers/ Aggregate Disbursements^	Indicates the amount transferred as development funds to be spent on (social) development activities as a	36.9	25.3	27.0	24.9	26.2	21.9

	proportion of total spending.						
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Figures have been calculated by referring to State Budget documents, State Economic Surveys, RBI fiscal indicator reports, PRS reports, IBEF reports & CSO data

^ State Finances: A Study of Budgets 2016-17, Reserve Bank of India, Table II.6 & Statement 1_RE 2015-16

** Re-Computed for AP as per Accounts 2015-16 published in AP Budget 2017-18*

IV. Reasons for Telangana being better in Finances.

On the face,

As on financial year ended March 31, 2017, the finances of Andhra Pradesh are actually better than that of Telangana.

- I. Size of total receipts for Andhra Pradesh stands at INR 135,590 cr while that of Telangana are INR 112,653 crores (2016-17 (BE)). This is 20.36% larger than Telangana.
- II. In 2016-17 (BE), Telangana had a fiscal deficit of 3.5% whereas Andhra Pradesh reported a Fiscal Deficit of 3.06%
- III. In 2016-17 (BE), Telangana reported a revenue surplus of 0.03% whereas Andhra Pradesh reported a revenue deficit of 0.73%

Digging deeper,

Let us compare the two states based on some more macro-economic and fiscal indicators:

Numbers are for FY 2016-17

Particulars	Telangana		Andhra Pradesh	
	Value / Share	Growth %	Share	Growth %
Per capita income (current prices)	Rs. 158,360		Rs. 122,376	
GSDP (at current prices)	Rs. 583,117 cr		Rs. 609,934 cr	
Finance (Size of Budget)	Rs. 112,653 cr		Rs. 135,590 cr	
GSDP (Share & real growth rate)	100%	9.2%	100%	11.61%
Agriculture	15%	12.1%	27.88%	14.03%

Industry	22%	7.5%	26.21%	10.05%
Services	63%	8.2%	45.90%	10.16%
Debt : GSDP	17.6%		27.6%	
Particulars	Telangana		Andhra Pradesh	
Development expenditure / Aggregate disbursement	78.4 %		67.6 %	
Non Development expenditure / Aggregate disbursement	19.2 %		29.3 %	
^Capital expenditure / Total expenditure	22.49 %		9.48 %	
Committed expenditure / Revenue expenditure	22.2 %		31.8 %	
Pension / Revenue expenditure	8.9 %		14.1 %	

All numbers have been reported for 2016-17 (AE/BE)

^Ratios calculated using 2015-16 numbers

The fiscal indicators laid out above indicate that Telangana is better than Andhra Pradesh on all indicators. This is a cause of concern, reason being that even though our finances are 20% stronger than Telangana, but the capacity of the State to raise funds in the future is low.

Let us look at a few indicators and understand what they imply:

- 1) Agriculture sector of AP stands at 28% which is almost double of Telangana that stands at 14%. Agriculture doesn't contribute to the Tax Revenue of a State. However, income from agriculture when spent fuels demand for manufactured goods and services.
- 2) Services sector contributed 18% more to Telangana's economy as compared to Andhra Pradesh. Telangana's service sector is very strong, supported by its capital city Hyderabad. In the year 2015-16, Hyderabad alone had a per capita income of INR 299,997. No city in Andhra Pradesh has a per capita income as high as this.
- 3) Telangana spends 10.8% more of its aggregate disbursement (or finances) on development expenditures. Expenditure on capital, social and others, is an investment in the future of the State and its people. It causes a virtuous cycle to set in, wherein expenditure on better infrastructure attracts better investment, this better investment is serviced by better social capital, this better social capital earns higher income and in turn demands better goods, services & infrastructure, this higher income gets pumped back into high quality asset and capital creation.
- 4) Telangana's non- development expenses as well as committed expenses are 10.1% and 9.6% respectively less than AP. Additionally, its pension expenses is 5.2% less than AP.
- 5) Telangana spends 13% more of its revenue expenditure on Capex creation as compared to AP
- 6) Telangana's outstanding borrowings as a percent of GSDP are 10% less than AP. This contributes to a reduction in servicing cost as well as committed expenditure.

Thus, **macro-economic and fiscal indicators of the two states reveal that Telangana as an economy is more robust as compared to Andhra Pradesh.**

Not only that, it also brings to light the bigger problem of **Andhra Pradesh being stretched in terms of its capacity to raise finance.** In the first part of this paper, we discussed how a larger economy can raise more finance. At present, Andhra Pradesh has a higher GSDP than Telangana. However, because of its good performance on many other fiscal indicators, Telangana has the potential to raise more finances in the future as compared to Andhra Pradesh.

Conclusion

This paper has discussed, among other things, the State of Andhra Pradesh Finances. The State of Andhra Pradesh has a Vision 2029, with three milestones - to be one amongst the best three States by 2022, a developed State by 2029 and a global investment destination by 2050. In keeping with this goal, the State of Andhra Pradesh has experienced Double Digit Growth in real terms, growing at 10.95% in 2015-16 and 11.61% in 2016-17. Its GSDP has expanded from INR 441, 741 crores in 2014-15 to INR 547, 021 crores. As observed in the study, the revenues of the State have been growing at 20% year on year. Overall State Budget has expanded, and the State has been successful in exercising fiscal control.

As we move ahead from here, the State's aspiration of 2029 can be met when all its sectors and departments come together to deliver in confluence. The Department of Finance, Andhra Pradesh seeks to contribute the best it can towards realizing the State's vision. In essence, this take the Department down the road of Fiscal and Public Financial Management and Reforms.

In keeping with this desire, we would like to take the first step and introduce a key concept in Public Financial Management that the Department might find meaningful. This is tax buoyancy.

Tax buoyancy is an important indicator of the efficiency and responsiveness of tax revenue mobilisation to GDP growth. It is calculated as a ratio of percentage growth in tax revenues to growth in nominal GDP for a given year. Tax is said to be buoyant if the gross tax revenues increase more than proportionately in response to a rise in GDP figures. The International Monetary Fund (IMF), in a report titled "How Buoyant is the Tax System?" reported long and short-term buoyancy figures for emerging market economies. Out of these, Table A below lists the countries whose GCI Rank is close to India's rank.

Table A: Buoyancy Rates for countries with GCI Ranks close to India's Rank.

GCI Rank (2016-17)	Countries	Long run Buoyancy	Short run Buoyancy	Speed of Adjustment
23	Ireland	0.911	1.045	-0.365
31	Czech Republic	1.016	1.230	-0.660
32	Spain	0.491	1.396	-0.056
33	Chile*	1.157	1.939	-0.579
34	Thailand*	1.208	1.780	-0.371
35	Lithuania	N.A.	N.A.	N.A.
36	Poland*	1.071	2.205	-0.661

37	Azerbaijan*	0.981	1.459	-0.354
38	Kuwait*	0.958	1.997	-0.469
39	India	1.104	1.668	-0.669
40	Malta	N.A.	N.A.	N.A.
41	Indonesia	1.109	0.998	-0.491
42	Panama	N.A.	N.A.	N.A.
43	Russian Federation*	1.109	1.326	-0.394
44	Italy	0.807	0.593	-0.170
45	Mauritius	N.A.	N.A.	N.A.
46	Portugal	1.295	1.993	-0.308
47	South Africa*	1.072	1.610	-0.434
48	Bahrain	N.A.	N.A.	N.A.
49	Latvia	N.A.	N.A.	N.A.
50	Bulgaria	N.A.	N.A.	N.A.
51	Mexico*	1.001	0.624	-0.481
55	Turkey*	1.176	1.554	-0.931

* Emerging Market Economies. Data from IMF 2001.

India is among the emerging market economies which according to the report, has not only the Corporate Income Tax (CIT) Buoyancy but also the Total Government Spending buoyancy to work as output stabilizers during bad times. For the advanced countries, on the other hand, this effect is attributed to only CIT buoyancy. Further, as the report states, "Because tax revenue tends to remain constant, as a share of GDP, over the long run, an implication of our findings is that permanent increases in the ratio of spending-to-GDP that do not affect improve structural condition or human capital should be accompanied by reform aimed at mobilizing revenues, to avoid a permanent deterioration in the fiscal balance."

The table below lists the state-wise tax buoyancy rates for 2015-16 and 2016-17 using the state's own tax revenues and tax revenues received from the centre.

Table B: State-Wise tax-buoyancy rates for F.Y. 2016-17

State	Growth in Tax Revenue* (%)	Growth in Nominal GSDP (%)	Tax Buoyancy
Kerala	15.65	10.86	1.44
Chhattisgarh	26.69	11.26	2.37
Telangana	24.23	13.67	1.77
Karnataka	11.49	5.97	1.92
Haryana	14.72	12.82	1.15
Andhra Pradesh	22.24	14.65	1.52
Tamil Nadu	5.59	10.40	0.54
Rajasthan	14.04	13.41	1.05
Punjab	8.29	11.10	0.75
Madhya Pradesh	14.74	17.74	0.83
Gujarat	6.71	10.03	0.67
Maharashtra	10.49	10.09	1.04

Data from Economic Surveys, RBI Study of State Budgets, State Budget Documents and Budget Speeches.

* Includes state's own tax revenues and state's share in central taxes.

States with higher tax buoyancy figures as compared to Andhra Pradesh could be said to have a comparatively more efficient and responsive tax revenue mobilization with respect to their respective nominal GSDPs. Generally, a tax buoyancy figure of more than one is said to have a salubrious impact on the fiscal deficit ratios. A 2014 IMF study⁴ of 34 OECD nations found that about half of the States that could improve their deficit ratios had long-term tax buoyancy figures above one.

Drawing from above, the Department of Finance may commence the process of Strengthening Public Financial Management by considering efficient and responsive revenue structuring and management.

⁴ <http://www.thehindubusinessline.com/economy/tax-buoyancy-improves-thanks-to-indirect-levy/article9466851.ece>

About the Vision Management Unit

Government of Andhra Pradesh established a Vision Management Unit for strategic management of vision programmes and projects to coordinate actions among all concerned stakeholders from within the government and outside private sector and civil society players in terms of planning, implementation and monitoring. Apart from integrating various vision initiatives and interventions into the annual planning and budgeting processes of the GoAP, the VMU will also monitor and publish periodicals and thematic studies on the transformation areas identified in the vision to provide an integrated picture of vision achievements.

The Vision Management Unit under the Planning Department GoAP is a bright and vibrant team of young professionals from diverse backgrounds who together work on data, targets, performance indicators, global studies, best practices and global standards to prepare recommendations for the Government Departments to achieve the set target of Vision 2029.

Our Office

Sunrise Andhra Pradesh Vision 2029

Vision Management Unit, Andhra Pradesh State Development Planning Society,

Planning Department, Government of Andhra Pradesh,

517-522, 5th floor, Kalanjali Building, M.G. Road, Vijayawada, Andhra Pradesh – 520010

You can reach us at:

<http://apvision.ap.gov.in/vmu.html>

comm-expplg@ap.gov.in