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Trends in Own Revenue of Indian States: Is Special Status Justified?

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ABSTRACT

The paper takes up a pertinent issue of Special status that has been granted to 11 states due to various reasons like backwardness and strategic location. Some of the research questions that the paper takes up are: (i) Do these states justify such status as per their performance in own revenue collection? (ii) Does the growth rate of own revenue Special States converge with that of Non-Special States? (iii) Should Special status continue? Using semi-log growth equations and a Convergence Index, the paper demonstrates that Special State revenue has grown at 17.73% per annum while that of non-Special States has grown at 14.37% and all States at 14.48% Annual Compound Growth Rate (ACGR). Hence, Special States' growth story speaks of better performance over the period 1991-2017. They are converging, at a rate of 2.85% per annum, with non-Special States. All growth rates are highly significant which leaves no room for ambiguity about the broad conclusion that Special Status has proved to be justified. Some questions are raised by inter se comparisons between categories like Hill States, North-East States and so on.

Keywords: *Own revenue; State finance; Special status; Public finance; Centre-State relations.*

1.0 Introduction

In this paper we study the trends in 'own revenue of Indian states'. The study is especially designed to enable a comparative study of the pattern of own revenue of Special Category States vs. Non- Special Category States There are 18 Non-Special States and 11 Special States that are being studied. There are certain 'Criteria for Special Category Status'. The National Development Council (NDC), a body of the former Planning Commission, had granted special status. This status is granted to regions that have been in a disadvantaged position for long, in comparison with the rest of the country.

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2.0 Literature Review

The literature on Special status and state's own revenue is scanty in India. However, some studies dealing with these aspects have been discussed below. Rao (2006) observes, "On the policy side reforms in fiscal federalism in developing countries are inextricably intertwined with privatisation, planning and budgeting, reforms in administered price mechanism, various regulations relating to the movement of factors and products, besides the issues discussed in fiscal federalism" (p.1). Hence any attempt to look at the issues in isolation will make the reforms less potent and ineffective. As explained by Nayak and Sathpathy (2017), "the essence of federalism lies in proper division of powers and functions among various levels of government to ensure adequate resources for their functioning". Their paper discusses federal finance in India in the context of discretionary transfers. Umesh (2015) also reiterates that Constitution of India has made elaborate arrangements relating to flow of funds from the Centre to the States in recognition of the fact that financial resources of the States may prove inadequate for undertaking their development activities.

Panda (2009) and Panda (2017) empirically examine the incentive effects of federal transfers on state's own revenue and observe that Central transfers have a dampening effect on states's revenue efforts. Panda (2017) examines the impact of federal transfers on States' tax efforts and expenditure taking into consideration a panel data set of 22 Indian States for the time-period 1980-81 to 2007-08. His results suggest that federal transfers have adverse incentives on budgetary initiatives of States in mobilizing their own tax resources and regulating expenditure. Panda (2009) also suggests that a higher weight should be given to tax effort in the devolution formula and calls for more effective co-ordination among different channels in designing criteria and incentives. The same view is expressed by Dutta and Dutta (2015) who points that while liberal resource transfer from the centre to economically backward states in India has ensured considerable revenue generation to meet expenditure commitments of the states however, greater effort to generate enough resources as per the potential of individual states is important, to ensure long-term fiscal sustainability.

Sucharita (2018) examines the inter-temporal relationship between government expenditures and revenues in India and find long run causality from Government revenue receipts to Government total expenditure. The paper dwells upon the trend in State's own revenue in recent times but does not talk about Special States. Rao and Singh (2007) point that recent commissions have played a greater role in articulating an agenda for fiscal federal reform and that this change has been influenced by broader economic reforms in India. Hence, the question of Special Status need to be examined in the context of 'broader economic reform in India'. Rao and Sen (2011) also observe, " "The review of the experiences of Indian fiscal federalism shows that the incentivising reforms have neither been an unqualified success nor have they been a total failure. There are interesting lessons to be learnt from the experiences for both designing the incentive schemes and implementing them", (p.1). The scheme of Special status is one such scheme which needs to be examined.

2.1 Special category status

Special category status has been granted on the basis of seven parameters given below:

1. Economic and infrastructure backwardness
2. Sizable share of tribal population
3. Low resource base
4. Low population density
5. Hilly and difficult terrain
6. Non-viable nature of the state's finances
7. Strategic location along the borders of the country

On the other hand, there are many 'Benefits for States under SCS':

- Preferential treatment in getting central funds assistance
- Concession on excise duty to attract industries to the state.
- In the case of centrally sponsored schemes and external aid, special category states get it in the ratio of 90% grants and 10% loans, while other states get 30% of their funds as grants.
- These states can avail the benefit of debt swapping and debt relief schemes

A significant 30 per cent of the Centre's gross budget goes to the special category states. Thus, the main research question is that if such a large share of the Central Budget goes to these Special States then is it justifies as per their performance in terms of generation of own revenues by such states.

In 1969 during the 5th Finance Commission the concept of a special category state was first introduced. The aim was to support disadvantaged states with preferential treatment in the form of central assistance and tax breaks. To begin with only three states Assam, Nagaland and Jammu & Kashmir were granted this status. Ever since the initiation eight more have been included. This makes it a total of 11 Special States. The additional states to be added were - Arunachal Pradesh, Himachal Pradesh, Manipur, Meghalaya, Mizoram, Sikkim, Tripura and Uttarakhand.

3.0 Data and Methodology

3.1 Data

The Own State Revenue is measured in value terms. It is measured in current prices and the unit of measure is Rs. billion. The main data source is from Reserve Bank of India. (*Sources*: 'Handbook of Statistics on State Government Finances-2010' and various issues of 'State Finances: A Study of Budgets', Reserve Bank of India.)

The period of study is essentially from 1991-2017. Technically, the data refers to the financial years 1990-91 to 2016-2017. But for empirical purposes we have taken the year-end as the cut-off. In the case of almost all Non-Special States' data is for the whole period. For Chhattisgarh the data is from 2000-01 and for Jharkhand it is from 2001-02. The latest state is Telengana whose data is available only from 2014-15. The time series have been constructed for new states according to the availability of data. The data for the year 2015-16 the data is the revised estimate while for 2016-17 it is the budget estimate. In the case of Uttarakhand the series starts from 2001; Arunachal it is 1995; and Mizoram 1993.

3.2 Methodology

A few basic tools of measurement and analysis have been used. Given below is the main research question.

Research Question 1

Since 30 per cent of Central Budget goes to Special States do these states justify such status as per their performance in terms of generation of own revenues?

3.3 Regression analysis

Here we have applied semi-log growth equations to measure the Instant and Annual Compound Growth rates.

We have regressed the log of each variable with respect the time. Therefore, regression equation can be written as follows in exponential form:

$$Y = e^{\alpha + \beta t} \quad \text{.... (1)}$$

Taking log of both sides and adding an error term;

$$\text{Ln } Y = \alpha + \beta t + \mu t \quad \text{.... (2)}$$

Where Ln Y = natural log of variable Y

α = intercept term

β = slope of the regression equation

t =time (1990-91 to 2016-17)

μt = error term.

3.4 Convergence index

We now form a relative index of growth that straight away gives the comparative picture of growth of Non-Special and Special States in respect of own revenue.

Relative Index of Growth = Ri = Rn/Rs

Rn= Own Revenue of Non-Special States

Rs = Own Revenue of Special States

Further we regress the index over time through a semi-log equation that is takes the log of the relative index as the dependent variable.

$$Ri = e^{\alpha + \beta t} \quad \text{.... (3)}$$

Taking log of both sides and adding an error term;

$$\text{Ln } Ri = \alpha + \beta t + \mu t \quad \text{.... (4)}$$

Where Ln Ri = natural log of variable Y

α = intercept term

β = slope of the regression equation

t =time (1990-91 to 2016-17)

μt = error term.

Here β gives the proportionate growth rate of Non-Special to Special States.

Research Question 2

Does the growth rate of own revenue Special States converge with that of Non- Special States?

Non-Special States have a natural advantage of performing better than the Special States because they do not suffer from certain disadvantages like the Special States do. If by getting the necessary support in the form of special status have the Special States been able to pull up their act? If so then the policy support is justified. Else there should be a debate whether the support should continue. The answer lies in the Convergence Index. If β is <0 then there is convergence. It implies that the special status is justified.

3.5 Growth analysis

The advantage with a semi-log growth equation is that it directly tells us the growth rate. Where

β = instantaneous growth rate.

The Annual Compound Growth Rate is derived as:

ACGR= Anti-Log (β) -1

This gives the growth rate in the whole period under consideration while instantaneous growth rate tells us the growth at a point of time. Several comparisons, in respect of ACGR and Instant Growth Rate, are made while analyzing growth patterns:

1. *Inter se* ranking amongst non-special states in terms of ACGR.
2. *Inter se* ranking amongst special states in terms of ACGR.
3. Comparison of New and Old states amongst Non-Special Status.
4. Comparison of North-East States and Hill States amongst Non-Special Status.
5. Comparison between All States, Non-Special Status and Special.

3.6 Graphical analysis

During this analysis we have derived the Predicted Value of 'Y', obtained from the semi-log growth equation, and compared it with the actual values of Y. The graphs so obtained clarify whether the equation is a good fit. This is indicated by how well the Predicted Y hugs the actual Y curve. This also allows us to observe if there are any abnormal years where the revenues are abnormally high or low. The attempt is to identify and historical accident that might be responsible an aberration in the pattern of revenue flows. This has been done for three categories:

1. All States;
2. Non- Special States;
3. Special States; finally
4. One graph allows us to compare all three trends together.

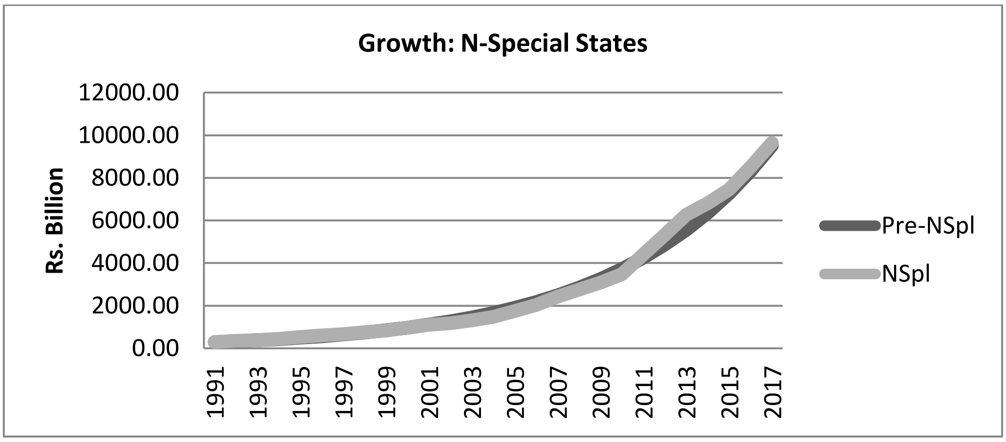
4.0 Results and analysis

Returning to the main question about whether the special status given to 11 states in India is justified, a preliminary graphical analysis is desirable. To begin with we consider the case of non-special states. They are 18 in number and are large states.

4.1 Growth patterns

In the following section we study the broad pattern of growth amongst different categories. Figure 1 clearly shows an exponential growth curve. There is a smooth upward trend and there are no breaks or jumps. There are no extreme values either at the ends of the period or in between. This shows that there was no extreme event that has taken place during this period. This whole period includes Sub-Prime crisis (Global Financial Crisis).

Figure 1: Growth: Non-Special States



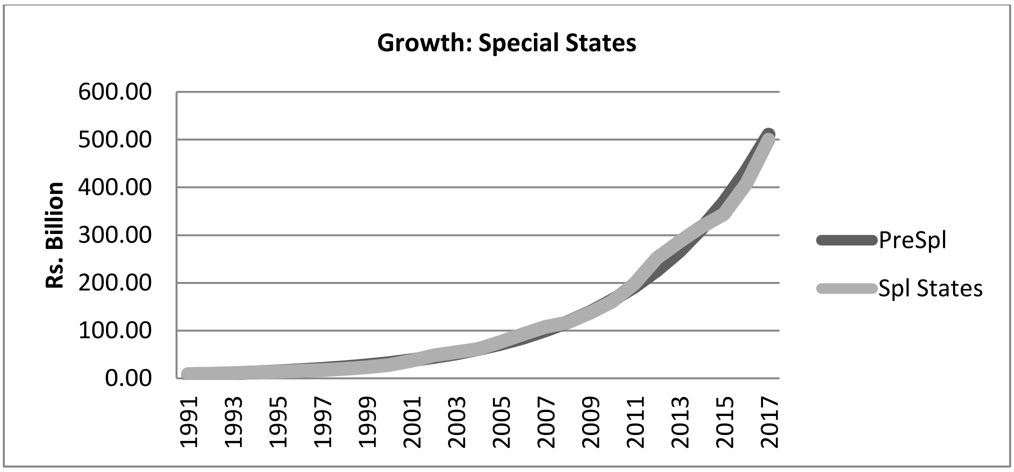
Source: Author's own estimates

The predicted trend closely hugs the actual curve, therefore, it can be said that the growth pattern is smooth and exponential (steep rise). It does not indicate an internal crisis during the whole period 1991-2017. It is steep; hence the growth rate is purportedly high. However, this is a single growth trend. We need to study other evidence as well. The pattern in other states as well as the All India trend in growth also needs to be studied. For this purpose three more graphs are presented:

1. Growth in Special States;
2. Growth in All States; and
3. Comparative Growth.

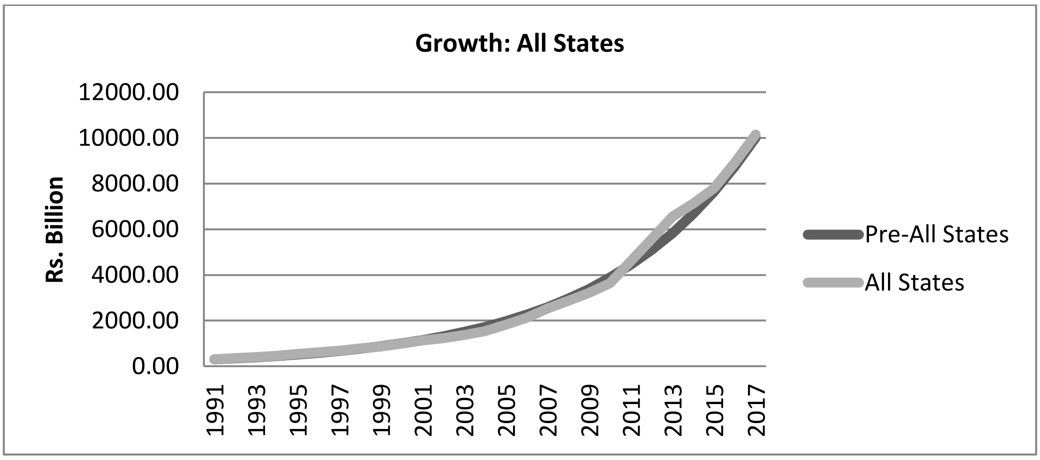
In the graphs (Figure 2 and Figure 3) the basic pattern looks very similar. The predicted trend closely hugs the actual curve, therefore, it can be said that the growth pattern is smooth and exponential (steep rise). It does not indicate an internal crisis during the whole period 1991-2017. The growth patterns of Special and Non-Special states, appears to be very similar in size and shape as well as. But now we need to understand the comparative picture between Special, Non-Special as well as All State.

Figure 2: Growth: Special States



Source: Author's own estimates

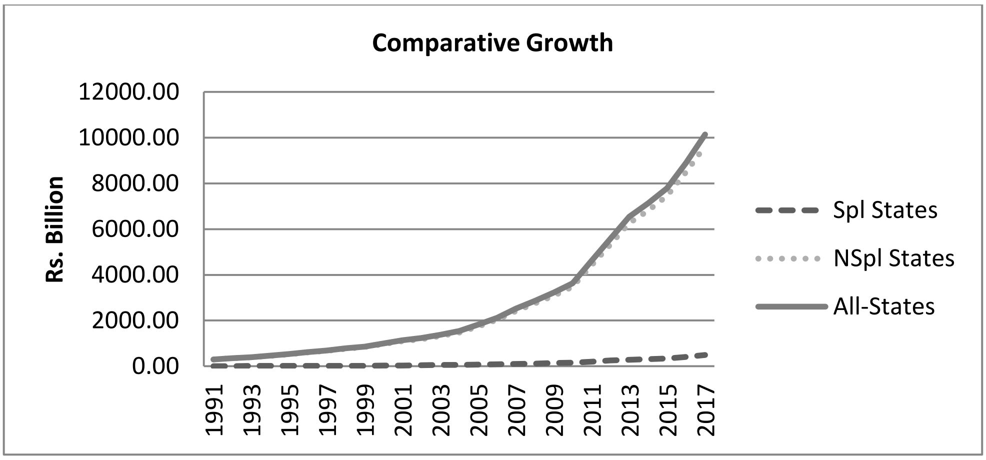
Figure 3: Growth: All States



Source: Author's own estimates

Figure 4 clearly, shows that the pattern of growth is similar between Non-Special as well as All States. Special States have a much lower trajectory. In further analysis the contradiction will clearly show up. Here we clearly come to know that growth pattern may be deceptive if seen in isolation. In a comparative framework is clearly comes out that the *size of 'Non-Special as well as All State'* is much larger than Special States.

Figure 4: Comparative Growth



Source: Author's own estimates

4.2 Growth rates

Out of 18 Non-Special states 9 would form the median. The research question is about how the upper half of states' performs. Chhattisgarh, which is a new State, has the highest growth rate of almost 20% (Table 1). The lowest growth rate is that of Tamil Nadu amongst the upper half. In the lower half the best performance is that of Kerala with almost14% ACGR. The lowest is Telangana with 0.30%. The average growth of the upper half is 14%. That of the lower half is 11%.

The Co-efficient of Variation (CV) of the top half of the Non-Special states is 9.88, whereas the CV of the lower half is 36.78. The ratio of the two CVs is 0.26. This means that the inconsistency in gathering 'Own State Revenue' amongst lower half of states is glaring. These states need to pull up their act. They are not just bringing in less revenue but are extremely inefficient at doing so. The higher performance states are not just better in terms of collecting revenue but are also more consistent and reliable in doing so. This would also necessarily mean that they are administratively efficient in tax collection. They are the states who deserve encouragement and incentives on the revenue collection front. If a state has high CV it means that such states collects less revenue half the number of times while having the same apparatus for collection and same cost of collection. This speaks of administrative inefficiency.

Table 1: Growth Pattern of Own Revenue of Non-Special States in India (in descending order of growth)

Rank	State	Period	Instant Growth (%)	ACGR	P-Value	Rank	State	Period	Instant Growth (%)	Annual Compound Growth Rate	P-Value
1	Chhattisgarh	2001-17	18.0376%	19.7668%	9.891E-12	10	Kerala	1991-2017	13.07%	13.96%	5.9889E-30
2	Odisha	1991-2017	14.8462%	16.0049%	1.2176E-29	11	Maharashtra	1991-2017	12.96%	13.83%	2.5062E-32
3	Goa	1991-2017	14.5435%	15.6543%	6.6943E-29	12	Gujarat	1991-2017	12.96%	13.83%	1.0214E-25
4	Jharkhand	2002-17	14.3000%	15.3730%	3.5357E-13	13	Andhra Pradesh	1991-2017	12.93%	13.80%	3.0351E-20
5	Rajasthan	1991-2017	14.0689%	15.1067%	1.7267E-33	14	Madhya Pradesh	1991-2017	12.34%	13.13%	2.4931E-22
6	Haryana	1991-2017	13.9108%	14.9248%	1.8282E-32	15	Punjab	1991-2017	12.15%	12.92%	4.5935E-29
7	Karnataka	1991-2017	13.8671%	14.8746%	2.1694E-31	16	West Bengal	1991-2017	11.98%	12.73%	1.2832E-24
8	Uttar Pradesh	1991-2017	13.4781%	14.4286%	6.8599E-29	17	Bihar	1991-2017	11.63%	12.33%	3.3410E-15
9	Tamil Nadu	1991-2017	13.1858%	14.0946%	7.3163E-30	18	Telangana	2015-17	0.30%	0.30%	9.0833E-04
	Average		14%				Average		11%		
	Std. Deviation		0.0143				Std. Deviation		0.041		
	CV		9.88				CV		36.78	CV Ratio	0.26

Source: Author's own estimates

4.3 Trends in categories

We now discuss the trends in own revenue of different categories of states. To begin with it is interesting to compare new states with old ones amongst the Non-Special states (Table 2). Chattisgarh has a growth rate of almost 20% and it tops the list. But in the bucket of best three new states Jharkhand has zero and Telangana has only 0.30% ACGR. The average growth rate falls to 6.69%. More importantly the coefficient of variation for all new states amongst Non-Special States is very high and stands at 168.99. This means that new states present a mixed bag. The average growth rate of the old states 15.6% and CV is only 2.7. The CV Ratio is 62.48 as per new to old. This result is very damaging to new states. The older and stable states like Goa, Rajasthan or Orissa have a competitive growth rate of 15-16%, which is a respectable growth.

Table 2: Growth Pattern of Own Revenue of Non-Special States in India (New vs. Old States)

Rank	State	Period	Instant Growth (%)	ACGR	P-Value	Rank	State	Period	Instant Growth (%)	ACGR	P-Value
1	Chhattisgarh	2001-17	18.04%	19.77%	9.891E-12	2	Odisha	1991-2017	14.85%	16.00%	1.2176E-29
4	Jharkhand	2002-17	0.00%	0.00%	3.5357E-13	3	Goa	1991-2017	14.54%	15.65%	6.6943E-29
18	Telangana	2015-17	0.30%	0.30%	0.00090833	5	Rajasthan	1991-2017	14.07%	15.11%	1.7267E-33
	Average		6.69%				Average		15.60%		
	Std. Deviation		0.1033				Std. Deviation		0.0039		
	CV		168.99				CV		2.7046	CV Ratio	62.48

Source: Author's own estimates

Amongst Special states the upper half has a very good rating (Table 3). Arunachal tops with 24.4% and amongst the lower half Manipur tops with 17.06%. Even Assam who has the lowest in this category has a growth of 14.81%. CV of the upper half is 11.29 and that of the lower half is 5.61. The CV ratio is 2.011. This means that the gap in terms of reliability and consistency of tax collection double. Hence, Special States present a health growth along with a consistent pattern of tax collection. But this is not uniform. The upper half is more volatile. This is not very encouraging. Finally, the comparison between North-East and Hill States yield interesting results (Table 4). While it is difficult to classify on such a basis because North-East states are also hills states in part, for political purposes this classification works. The average growth rate of Hill States is 18.41% with a CV of 14.38. The growth rate in NE States is 17.68% and CV is 18.12.

Ri – the convergence index reveals a growth story (Table 5). To begin with it was favouring Non-Special States. The ratio was 34.28 times in favour of Non-Special States. This perhaps represented the natural disadvantage of Special States. The ratio went up to almost 40 times in 1996. However, ever since Ri has been declining. The Predicted Ri has gone down from 39.54 in 1991 to 18.63 in 2017.

Table 3: Growth Pattern of Own Revenue of Special States in India (In Descending Order of Growth)

-	State	Period	Instant Growth Rate (%)	ACGR	P-Value	Rank	State	Period	Instant Growth Rate (%)	ACGR	P-Value
1	Arunachal Pradesh	1995-2017	21.83%	24.40%	3.64E-19	7	Manipur	1991-2017	15.75%	17.06%	4.87E-18
2	Uttarakhand	2001-2017	19.27%	21.25%	1.87E-11	8	Himachal Pradesh	1991-2017	14.86%	16.02%	1.24E-33
3	Sikkim	1991-2017	17.88%	19.57%	3.37E-21	9	Meghalaya	1991-2017	14.11%	15.16%	3.76E-27
4	Mizoram	1993-2017	17.58%	19.22%	2.15E-16	10	Nagaland	1991-2017	13.92%	14.94%	6.16E-23
5	Jammu and Kashmir	1991-2017	16.51%	17.95%	9.91E-31	11	Assam	1991-2017	13.81%	14.81%	6.78E-29
6	Tripura	1991-2017	16.33%	17.73%	2.87E-30		Average		14.49%		
	Average		20.20%				Std. Deviation		0.01		
	Std. Deviation		0.02				CV		5.61		
	CV		11.29				CV Ratio	2.011			

Source: Author's own estimates

Table 4: Growth Pattern of Own Revenue of Special States in India (North-East vs. Hill States)

Rank	State	Period	Instant Growth Rate	ACGR	P-Value	Rank	State	Period	Instant Growth Rate	ACGR	P-Value
1	Arunachal Pradesh	1995-2017	21.83%	24.40%	3.64E-19	2	Uttarakhand	2001-2017	19.2691%	21.25%	1.87E-11
3	Sikkim	1991-2017	17.88%	19.57%	3.37E-21	5	Jammu and Kashmir	1991-2017	16.5072%	17.95%	9.91E-31
4	Mizoram	1993-2017	17.58%	19.22%	2.15E-16	8	Himachal Pradesh	1991-2017	14.8575%	16.02%	1.24E-33
6	Tripura	1991-2017	16.33%	17.73%	2.87E-30		Average			18.41%	
7	Manipur	1991-2017	15.75%	17.06%	4.87E-18		Std. Deviation			0.03	
9	Meghalaya	1991-2017	14.11%	15.16%	3.76E-27		CV			14.38	
10	Nagaland	1991-2017	13.92%	14.94%	6.16E-23		CV Ratio			1.26	
11	Assam	1991-2017	13.81%	14.81%	6.78E-29						
	Average			17.86%							
	Std. Deviation			0.03							
	CV			18.12							

Source: Author's own estimates

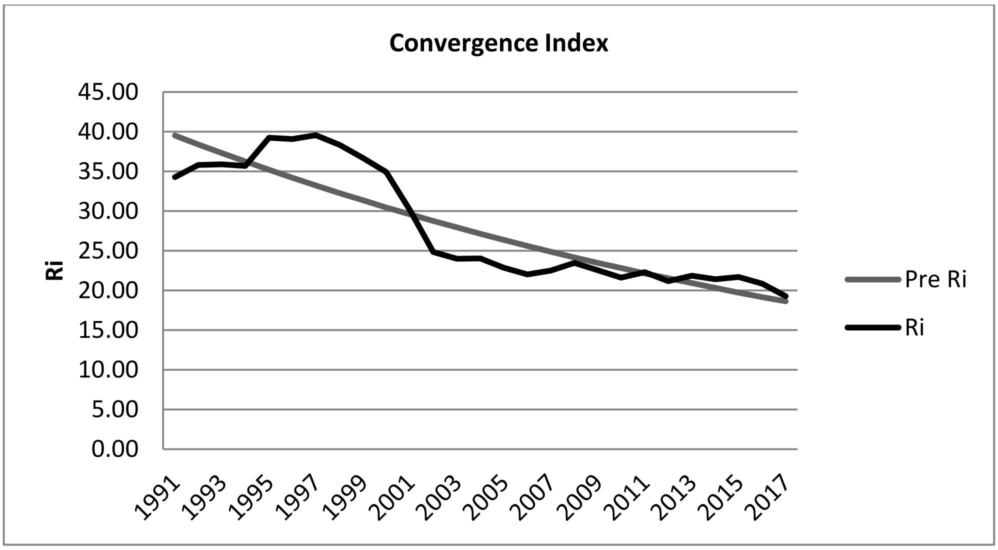
Table 5: Convergence Index: Non Special/ Special

Year	Pre Ri	Ri
1991	39.54	34.28
1992	38.41	35.82
1993	37.31	35.92
1994	36.25	35.70
1995	35.21	39.26
1996	34.21	39.10
1997	33.23	39.57
1998	32.29	38.34
1999	31.36	36.68
2000	30.47	34.92
2001	29.60	30.12
2002	28.76	24.83
2003	27.94	24.02
2004	27.14	24.05
2005	26.36	22.89
2006	25.61	22.01
2007	24.88	22.49
2008	24.17	23.47
2009	23.48	22.55
2010	22.81	21.63
2011	22.16	22.30
2012	21.53	21.17
2013	20.91	21.87
2014	20.32	21.43
2015	19.74	21.69
2016	19.18	20.87
2017	18.63	19.29

Source: Author's own estimates

The decline is more than half. It implies than in, relative terms, the inequalities in own revenue between Non Special and Special states has fallen twice as fast than in the past. This gives a strong justification for the policy of special status. The Special States have lived up to the expectation and have fully responded to the favour extended by the Centre.

Figure 5: Convergence Index



Source: Author's own estimates

5.0 Conclusion

Research Question 3: Should Special Status Continue?

In the concluding part we raise another research question for posterity.

Through an overall comparison it becomes evident that apparently the growth rate of special States is greater. However, if we observe the growth rate of Non-Special States as a whole along with All States then the actual contribution Special States seems rather small (Table 6). The overall growth increases only by 0.11%. Although it must be said that this is statistically significant. Compounded over 1991-2017 this small contribution would also be somewhat sizeable. In any case, it is an unambiguous conclusion that Special States have performed well. Some have grown faster others are slightly slower. The faster growing states amongst Special ones are somewhat unstable as compared to the slower Special states.

While there is a difference amongst Special states as a trend they have done well in terms of mobilizing own revenue. For the initial 6 years the performance of Special states was worsening in relation to Non-Special state. Later it started converging at a rate of almost 3% per cent per annum. This is clearly indicative of a permanent trend.

Table 6: Growth in Own Revenue of States: 1991-20117

	Instant Growth Rate	Annual Compound Growth Rate	P-Value
All States	13.53%	14.48%	2.6906E-33
Non-Special States	13.43%	14.37%	6.8701E-33
Special States	16.32%	17.73%	7.2352E-31

Source: Author's own estimates

The final question therefore, whether a six-year period is sufficient to give a boost to backward and critical states? Could the Special status be withdrawn after that?

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