

# Determinants of Economic Growth in India

Meenu\*

**Abstract – Economic execution has been broadly unique across states in India. This paper endeavors to look at some potential determinants of development across 17 significant states in India during 2004-05 to 2016-17. While speculation information at the state level are not accessible to inspect its effect on development at the state level, the development writing over the course of the years has zeroed in on a few different factors like framework, social area use, urbanization, and monetary incorporation for which state level information are accessible. We inspect these potential determinants in our investigation in this paper utilizing a decent impact board relapse model. In this unique situation, an all around perceived point is that social area use by the public authority has a bidirectional relationship with economic development as in it impacts development just as it is affected by development. A two phase least square methodology utilizing instrument factors has been employed to treat the endogeneity issue. Second, a foundation list has been developed at the state level utilizing head part examination to join a few framework related factors. The outcomes demonstrate that foundation improvement, social area consumption, and monetary incorporation have positive and huge impacts on GSDP and per capita GSDP across states and appear to be significant drivers of development across states in India. Urbanization without help from anyone else is by all accounts negatively affecting development, however it positively affects per capita GSDP.**

**Keywords – Determinants, Economic**

-----X-----

## INTRODUCTION

The Indian economy saw a high development pace of above 8% each year during 2004-2011. The development rate tumbled to around 7% from that point. All in all, India has kept a genuinely sensible development rate in late many years. However, execution of various states in the Indian league has shifted broadly as far as economic and social pointers. States with moderately higher introductory pay have commonly performed better prompting rising imbalance among them on different counts. Per capita pay of low pay states like Bihar and Uttar Pradesh, representing 25% of India's populace, is just 33% of big league salary states like Maharashtra, Haryana and Gujarat.

This paper endeavors to look at the pretended by certain components in clarifying noticed contrasts in development execution by the states in India. Certain arrangements like financial and exchange strategies which are not in the state ward in the Constitution and we don't think about them in this paper. State level investigation likewise experiences specific significant information issues. For instance, state-wise venture information are not accessible and, hence, degree of varieties owing to a significant factor couldn't be broke down. Additionally, exchange and money related strategies are past state locale the Indian constitution. In any case, the development writing over the course

of the years has zeroed in on a few different factors, for example, foundation and social area consumption for which state level information are accessible. We inspect these potential determinants in our investigation in this paper.

## Determinants of economic growth

The determinants of economic development are between related elements affecting the development pace of an economy. There are six main considerations that decide development with four of them been gathered under supply determinants and the other two are productivity and request. The four inventory factors are normal assets, capital merchandise, HR and innovation and they directly affect the worth of good and administrations provided. Economic development estimated by GDP implies the expansion of the development pace of GDP, yet what decides the increment of every part is totally different. Public consumption, capital arrangement, private or public venture, employment rates, trade rates and so forth diversely affect economic development and we should consider that these determinants have various ramifications if the states are created or not. There are likewise socio-political components and occasions that affect the economic progression of a country. There are likewise contrasts among economic and non-economic determinants.

"General" or economic determinants alludes to factors like capital amassing, mechanical advancement, work and "extreme" or non-economic sources alludes to factors like government effectiveness, establishments, political and authoritative frameworks, social and social components, geology and demography.

### Non-economic determinants

We referenced toward the start of the section that "extreme" determinants allude to factors like government productivity, organizations, political and managerial frameworks, social and social variables, topography and demography. tried the job of administration on economic development for 71 created, creating and change nations somewhere in the range of 1996 and 2003. He showed that nations with high administration become quicker contrasted and those with powerless administration. A significant determinant in the writing is the state institutional system. The job of establishments was beginning to be recognized with the fundamental work of Lewis (1955) and a short time later by Ayres (1962) and after the start of the 90s with research done by Mauro (1995), Rodrik (1999), Acemoglu et al. (2002). Rodrik (2000) expressed that five sort of institutional systems (property freedoms, administrative establishments, foundations for macroeconomic adjustment, organizations for social protection and establishments of refereeing) can have an immediate result on development and on different determinants of economic development. Murphy et al. (1993), Mauro (1995) express that defilement will in general have an adverse consequence one development by influencing advancement and other beginning up exercises and may decrease efficiency. On account of advancement, debasement cam restricted the new business people to enter the market. The endeavors that need to pay a major measure of cash for pay-offs will in general decrease their creation and furthermore mutilate their figures.

Not set in stone the effect of debasement on economic development for 22 agricultural nations, previous communist states in the Balkans, East and Central Europe and Asia. The aftereffects of their review showed that debasement had measurable importance and a negative effect on economic development. As opposed to examines in which defilement is seen as an occupant to economic development, there are papers that consider that debasement can be recipient since it can make the economy more proficient and work with for financial backers a way of passing more prohibitive and set up decides thought about that in specific conditions defilement can have a grease impact on development. Political components like political systems, political shakiness, common opportunity, the impression of governmental issues assume additionally a significant part in encouraging economic development and Political insecurity negatively affects organizations and their willness to contribute, can make savagery and insurgency in the

general public and in the end can have genuine results on economic development.

Explored the adverse consequences of higher levels of political unsteadiness on economic development for 169 nations from 1960 to 2004 the channels of transmission through which political flimsiness influences economic development are efficiency, physical and human resources collection Also vote based system might have a little adverse consequence on economic development. Experimental writing is as yet equivocal relating the meaning of majority rules system in encourages economic development. It might impact development. Socio-social factors additionally play a significant part on economic development. Ethnic variety and discontinuity, language, religion, urban standards, convictions are among the sociocultural determinants that might affect economic development Ethnic variety might contrarily affect development by diminishing trust. It can negatively affect instruction (low tutoring), political shakiness, immature monetary framework, high open shortage, immature foundation. The significance of geology on development has been well-informed. After World War II there was a flood in the experimental investigation of geology.) broke down the effect of topography and environmental change in Europe and its strength over the provinces. North-Atlantic and Mediterranean Europe were the innovative focuses of the world after the medieval times finished.

Confirmed that topography can influence in numerous ways economic development Soil quality can impact rural efficiency. Normal assets straightforwardly add to the industrialization of a country by fundamental parts for creation. Environment straightforwardly affects creation and perspectives with respect to utilization. The geography of a district or state can adversely affect transport costs and on correspondence. Also, not least, illnesses can influence medical services, creation and the amassing of human and actual capital.

### OBJECTIVE

1. Study on Economic execution has been generally unique across states in India
2. Study on Determinants of economic development.

### RESEARCH METHODOLOGY

To recognize the vital determinants of economic development (GSDP) at the state level, following practical structure has been assessed –  $GSDP = f$  (Social area use, framework, urbanization, monetary consideration) A proper impact board relapse of the sort given underneath utilizing yearly information for the period 2004-05 to 2016-17 for

the chose factors for the chose states has been assessed.

$$Y_{it} = \alpha + \beta_{sec} X'_{it} + \sum_{i=1}^{17} \beta_{state} S + \varepsilon_{it} \quad (1)$$

Here  $Y_{it}$  is the gross state homegrown item (GSDP), for state in the year t. It is taken in log scale.  $X'_{it}$  is a vector of factors addressing determinants considered:— foundation record; social area consumption as a level of GSDP; portion of metropolitan populace and number of parts of business banks per one lakh populace with the related boundary sec□, S is the state sham and the assessed boundary state□ shows state explicit consequences for development in the particular states contrasted with the reference state. The state with the middle pay (West Bengal) is taken as reference state and dropped from the situation. The capture term □ addresses the state explicit impact of the reference state. As an elective determination to actually look at strength, we rehash the assessment of the above model with Per Capita GSDP as the reliant variable.

### Endogeneity

As theorized in the writing talked about above, social use has a bidirectional relationship with economic development – social consumption impacts development and development additionally impacts social use by the public authority, the presence of conceivable endogeneity can't be precluded. As friendly area use not really settled with the reliant variable, OLS assessors would experience the ill effects of concurrence predisposition. Consequently a Durbin-Wu-Hausman(DWH) test1 (expanded relapse test) for endogeneity was proceeded as proposed by Davidson and MacKinnon (1993). The variable for social area consumption as a level of GSDP was relapsed on the other informative factors of the model and the potential instruments (factors which are emphatically identified with the potential endogenous regressor or however are uncorrelated with the blunder term). The leftover got from the relapse was then utilized as a regressor in Eq. (1). As the coefficient for the remaining term was essentially unique in relation to nothing, endogeneity of the regressor was affirmed. . To treat endogeneity, a two phase least square utilizing instrument factors (2SLS IV) approach is utilized for the assessment of Eq. (1). IV assessors are indeed unique instance of GMM assessors and are a favored decision in the event that the blunder term is homoscedastic and little example size (Baum, Schaffer and Stillman, 2003). The decision of IV technique depended on heteroskedasticity test which affirmed homoskedasticity. Both under identification test (LM trial) of whether condition is recognized or there is no connection of the instruments with the blunder term and the prohibited instruments are significant and the Sargan-Hansen test for over identification of the instruments or the legitimacy of the instrument were completed. Dismissal of the invalid theory for the

under identification (LM test) affirmed that the chose instruments are significant (corresponded with the endogenous regressor or and uncorrelated with the blunder). Inability to dismiss the invalid speculation for the Sargan-Hansen test for over identification affirmed that the instruments are legitimate or they are uncorrelated with the mistake and are effectively prohibited from the assessed condition. In light of the aftereffects of the legitimacy tests, first slack of the endogenous regressor or social area use as a level of GSDP, newborn child death rate IMR and the gross enrolment proportion in upper essential ger\_upper\_primary were utilized as instruments for social area consumption as a level of GSDP.

## DATA AND VARIABLES

### Data sources

For this review, the vast majority of the information have been taken from Handbook of Statistics on Indian States distributed by the RBI. This remembers information for the GSDP (steady cost), per capita GSDP, social area consumption, newborn child death rate, portion of metropolitan populace in absolute populace, number of business bank offices and factors utilized for framework list (see underneath)- per capita power accessibility, introduced limit of force, gross inundated region, gross planted region, public parkways and rail line course length. The populace information has been gotten from the NSDP and per capita NSDP information taken from the above source. Though information on gross enrolment proportions were taken from NITI Aayog Database, telecom thickness per 100 people and space of the states from Statistical Yearbook 2018, CSO, MoSPI, GoI and pinnacle request deficiency from India Energy Portal, NITI Aayog.

### Infrastructure index

Framework alludes to a few factors and, consequently, to stay away from multicollinearity, concentrates by and large favor a foundation file to decide the impact on development (Sahoo and Das, 2009; Mitra et al., 2011 at public level and Nauriyal and Sahoo (2010) at state level). A foundation list has been built by us utilizing head part examination (PCA) to be utilized as regressor in our model. PCA is a multivariate procedure where another variable or part is made as a straight mix of the given arrangement of factors which is unseen or idle. The arrangement of factors used to develop the list are: per capita power accessibility, introduced limit of force, top force request shortfall, level of gross flooded region to net planted region, telecom thickness - admittance to phone per 100 man, street thickness, and rail thickness. The factors for street thickness and rail thickness have been developed utilizing the information for length of absolute streets and rail organization and complete space of the satiates as length of all out streets per 1000

square kilometers and rail route network per 1000 square kilometers individually

**Table 2: Eigenvalues and proportion of the variance explained by the extracted components after PCA**

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	2.3471	0.2159	0.3353	0.3353
Comp2	2.1311	0.9395	0.3044	0.6397
Comp3	1.1917	0.6137	0.1702	0.8100
Comp4	0.5779	0.1833	0.0826	0.8925
Comp5	0.3946	0.1771	0.0564	0.9489
Comp6	0.2175	0.0774	0.0311	0.9800
Comp7	0.1401	-	0.0200	1.0000

**Table 3: Factor loadings of the infrastructure variables**

Variables	Comp1	Comp2	Comp3
Telecom density ( <i>tele density</i> )	0.4621		
Per capita power availability ( <i>per capita power</i> )	0.6100		
Rail density ( <i>rail 1000sqm</i> )		0.6184	
Road density ( <i>nh 100sqkm</i> )		0.5674	
Percentage of gross irrigated to gross sown area ( <i>percntg irrigated</i> )		0.4702	
Installed capacity of power ( <i>installed power</i> )	0.5554		
Peak power demand deficit ( <i>peak demnd deficit</i> )			0.7802

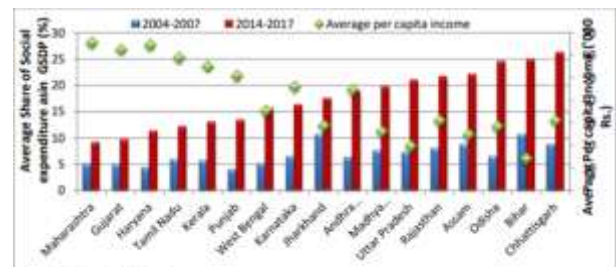
Note: Only factor loadings greater than 0.45 are presented above.

Utilizing PCA, 3 parts were extricated dependent on the eigenvalues which give a proportion of the change of the hidden variables clarified by the parts (Table 2). Parts with eigenvalues more prominent than 1 were held as proposed by the Kaiser Criterion. Part 1 clarified 33.53%, the greatest variety in the basic factor, part 2 30.44% and part 3 another 17.02%. The three parts consequently removed had the option to aggregately clarify 81% of variety. This was trailed by deciding the factor loadings or the connection coefficients between the noticed factors and the basic variables (Table 3). The factor loadings were gotten on turn utilizing the Varimax standard. The three parts were then consolidated to develop a solitary framework record. The factor loadings of factors along these lines got were utilized as loads of individual factors in building the foundation file.

**Social sector expenditure**

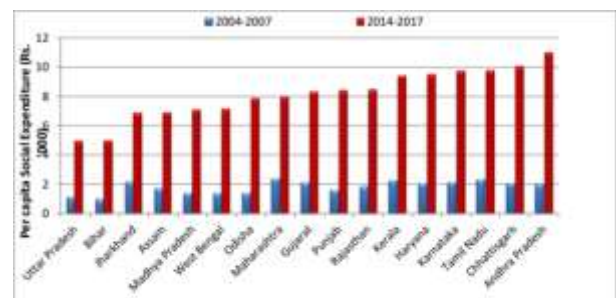
The greater part of the all-out friendly area consumption by states goes to three significant administrations: (a) Education, Sports, Art and Culture, (b) clinical, general wellbeing and family government assistance, and (c) federal retirement aide and government assistance. Other social administrations which are remembered for the consumption list are drinking water supply and sterilization, lodging, metropolitan turn of events, government assistance of

work, SCs, STs, OBCs and catastrophic event and disasters (RBI, 2018). Social area consumption has expanded significantly in every one of the states during the review time frame. Figure 3 shows the normal portion of social area use in GSDP of different states during the underlying 3 years (2004-07) and last 3 years (2014-17) of the review time frame alongside the normal per capita pay during the whole review time frame. The normal expansion in portion of social area use across the states between the two time frames was 10.72%. The most elevated increment was seen in Odisha where the offer expanded from only 6.4% during 2004-07 to 24.6% during 2014-17. The expansion was the most minimal in Maharashtra, where it expanded from 5.1% in the underlying years to only 9.2% in the last years. As apparent from Figure 3, portion of social area consumption has stayed low in the major league salary states when contrasted with center and low pay states during both the underlying and last trienniums.



Source: Authors' calculation  
Note: The average per capita income refers to the whole of the study period.

**Figure 3: Average of share of social sector expenditure in GSDP during initial 3 years (2004-07) and last 3 years (2014-17) of study period.**



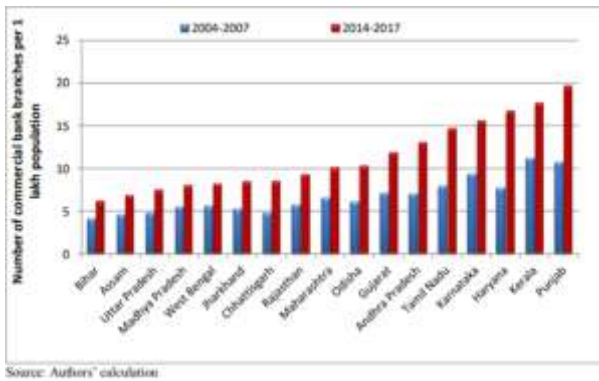
Source: Authors' calculation  
Note: The average per capita income is the average for the whole study period.

**Figure 4: Average of per capita social sector expenditure during initial 3 years (2004-07) and final 3 years (2014-17) of study period.**

Even if share of social sector expenditure is low for high income states, their per capita expenditure level may not be low in absolute terms. This aspect is examined in Figure 4. As this figure reveals, the low income states lag behind the high income or middle income states on social sector on a per capita basis even after increasing the share in GSDP.

**Financial inclusion**

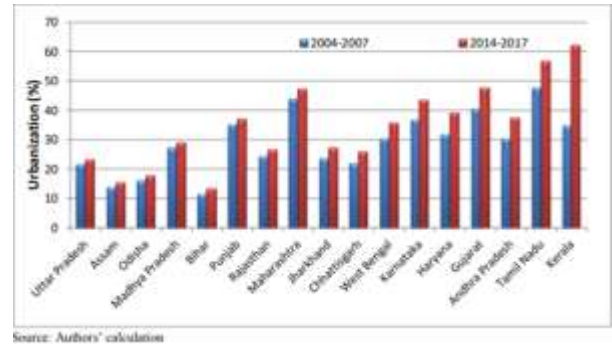
In the observational examinations various pointers for monetary incorporation have been utilized to decide the impact on development. The quantity of business bank offices standardized by populace or region is the most regularly utilized marker to decide the impact of monetary incorporation on development In this review number of business bank offices per one lakh populace has been utilized as a pointer of monetary consideration. During the review time frame there has been an impressive expansion in number of bank offices in every one of the states however in the degree of increment differs across the states (Figure 5). The varieties demonstrate that monetary incorporation has acquired significance at state level however it has not been uniform across the states. On a normal the quantity of branches expanded by 67.6% across the states. There has been 118.3% expansion in numbers in Haryana between the two time frames when contrasted with 46.8% in West Bengal. The expansion in monetary incorporation has been fundamentally seen in the major league salary nations.



**Figure 5: Average number of bank branches per lakh population during 2004-07 and 2014-17.**

**Urbanization**

In this review urbanization has been addressed by portion of metropolitan populace in the absolute populace of the state. During the review time frame some of states experienced considerable urbanization. The normal portion of metropolitan populace across the states expanded from 28.82% during 2004-07 to 34.37% during 2014-17. Figure 6 show the expansion in urbanization between the underlying and last trienniums. Kerala has the most noteworthy urbanization rate with an ascent from 34% to 62% followed by Tamil Nadu which saw an expansion from 48% to 57%. The increment in urbanization stayed under 2 rate focuses in the low pay states like Uttar Pradesh, Assam, Odisha, Madhya Pradesh and Bihar.



**Figure 6. Percentage point change in urbanization between initial (2004-07) and final (2014-17) years of study period.**

**RESULTS**

To decide the drivers of development at the state level, two elective conditions of the model expressed in Section 4.1 have been assessed. The reliant variable is GSDP in condition 1 and per capita GSDP in condition 2. Both GSDP and per capita GSDP are on the log scale. The assessed coefficients and standard mistakes for both the conditions are given in Table 4.

Allow us to think about Equation 1 first. The outcomes uncover the accompanying:

Social area public consumption fundamentally affects GSDP demonstrating that an ascent in friendly area use as a level of GSDP brings about an increment in GSDP. A 1% ascent in friendly area consumption comparative with GSDP has a normal impact of 0.0261 on log of GSDP.

Infrastructure record also decidedly affects log of GSDP with a coefficient of 0.756. Another variable that has a constructive outcome is monetary incorporation as estimated by number of bank offices per lakh of populace. Its coefficient is 0.0465. On the other hand, urbanization rate altogether affects log of state GSDP with a coefficient of 0.0138. State fakers uncover an adverse consequence on the block term which relates to the reference state, i.e., West Bengal. All the state fakers are negative and huge aside from 3 states, e.g., Gujarat, Maharashtra and Tamil Nadu. A negative coefficient infers state explicit components bring down the block terms when contrasted with West Bengal and positive qualities raise it.

Then, we have attempted to investigate determinants of per capita GSDP as opposed to GSDP all things considered. The outcomes given in the last two segments of Table 4 under the heading Equation 2 are exceptionally near those portrayed above with the exception of urbanization which positively affects per capita GSDP.. The impacts of foundation, social area use and monetary consideration appear to be powerful on

development of state economy estimated either by GSDP or per capita GSDP. In general, the outcomes are steady with the writing examined in area 2 before. They build up the ends got at the cross-country level or at the public level by a few creators. As we have talked about before, urbanization need not generally positively affect development. The main review as far as anyone is concerned for different states in India has been Nauriyal and Sahoo (2010) which doesn't mirror the encounters past 2006, the last year of their dataset. Also, they noticed that foundation and wellbeing didn't significantly affect development in their review.

**Table 4: Regression Results on Determinants of GSDP**

	Equation 1: Dependent Variable = Log(GSDP)		Equation 2: Dependent Variable = Log(Per Capita GSDP)	
	Coefficient	Std. Err.	Coefficient	Std. Err.
Share of Social Expenditure in GSDP <sup>a</sup>	0.0261***	0.0030	0.0279***	0.0033
Infrastructure index	0.7560***	0.1088	0.6153***	0.0872
Urbanization	-0.0138***	0.0013	0.0142***	0.0009
Financial inclusion - Offices of commercial bank per lakh population	0.0465***	0.0071	0.0185***	0.0060
<b>State Dummies</b>				
Andhra Pradesh	-0.1768***	0.0510	0.0329	0.0321
Assam	-1.5598***	0.0586	-0.0656*	0.0396
Bihar	-1.1336***	0.0584	-0.7985***	0.0417
Chhattisgarh	-1.6712***	0.0501	-0.1479***	0.0344
Gujarat	0.0252***	0.0537	0.2169***	0.0353
Haryana	-0.9633	0.0571	0.3849***	0.0376
Jharkhand	-1.3965***	0.0481	-0.2098***	0.0334
Karnataka	-0.4050***	0.0492	-0.0359	0.0326
Kerala	-0.5519***	0.0580	0.1956***	0.0437
Madhya Pradesh	-0.6990***	0.0461	-0.3902***	0.0299
Maharashtra	0.8366***	0.0525	0.2921***	0.0342
Odisha	-1.3285***	0.0551	-0.0346	0.0358
Punjab	-1.2487***	0.0721	0.0843	0.0533
Rajasthan	-0.6983***	0.0476	-0.1750***	0.0305
Tamil Nadu	0.1276***	0.0460	0.0009	0.0292
Uttar Pradesh	-0.012	0.0483	-0.5374***	0.0313
Constant	16.9005***	0.0526	9.4273***	0.0366
Reference State <sup>b</sup>	West Bengal		West Bengal	
Under identification test <sup>c</sup> (Anderson canon. corr. LM statistic)	149.20***		104.96***	
Sargan-Hansen Test statistic <sup>d,e</sup> (over identification test of all instruments)	0.409		0.164	
Endogeneity Test <sup>f</sup> (Chi2 value)	15.502***		12.691***	

## CONCLUSION

Examination of determinants of between state GSDP development has been an under explored region in India. Given the economic variety across states, our comprehension of the drivers of development across states should be improved for better arrangement choices. The current review is an endeavor to econometric partner investigates determinants of development across 17 significant states in India during the period 2004-5 to 2016-17 utilizing a decent impact board relapse model. Social area use, foundation, urbanization and monetary consideration have been considered as determinants in this review. Social use by the public authority has a bidirectional relationship with economic development, for example it impacts development just as it is affected by development. To treat endogeneity issue, we have utilized a two phase least square methodology utilizing instrument factors. For thinking about various parts of

framework, we have developed a foundation file utilizing head part investigation. The outcomes show that foundation, social area consumption, and monetary incorporation effectively affect development of both GSDP and per capita GSDP and appear to be significant drivers of development across states in India. While Urbanization is negatively affecting development once different variables are controlled, however it has a positive yet non-critical impact on per capita GSDP. Both positive and adverse consequences of urbanization on economic development have been gotten in cross-country concentrates as well. We might want to cause to notice a fundamental information issue. Between state development investigation is seriously compelled by nonattendance of information on some vital factors like speculation. Consideration should be given to gauge complete capital use information by the states on a similar premise under the direction of the public factual framework. At the point when a few state legislatures are taking on a cutthroat soul for accomplishing higher development rates, nonappearance of fundamental information seriously compels plan of their development strategies. We might note toward the end that more examination should be done on clarifying state level development in India. This is a productive future profession to comprehend the variety of the Indian advancement measure according to different points of view by exploring different avenues regarding elective model particulars, new factors and institutional elements.

## REFERENCES

1. Ahluwalia, M. S. (2000). Economic performance of states in post-reforms period. *Economic and Political weekly*, pp. 1637-164
2. Alam, S., Sultana, A., and Butt, M.S. (2010). Does social expenditures promote economic growth? A multivariate panel Cointegration analysis for Asian countries. *European Journal of Social Sciences*, 14(1), pp. 44-54.
3. Alper, F. O., and Demiral, M. (2016) Public Social Expenditures and Economic Growth: Evidence from Selected OECD Countries. *Research in World Economy* Vol. 7, No. 2, pp. 44-51. <http://dx.doi.org/10.5430/rwe.v7n2p44>
4. Aschauer, D. A. (1989) Is public expenditure productive. *Journal of Monetary Economics*. 23: pp. 177- 200.
5. Barro, Robert J. (1991). Economic growth in a cross section of countries. *Quarterly Journal of Economics* 56, pp. 407-43.

6. Baum, C. F., Schaffer, M. E., and Stillman, S. (2003). Instrumental variables and GMM: Estimation and testing. *The Stata Journal*, 3(1), pp. 1-31.
7. Bertinelli, L., and Black, D. (2004), "Urbanization and Growth", *Journal of Urban Economics*, Vol. 56. Pp. 80-96.
8. Cain, J., Hasan, R., and Mitra, D. (2012). Trade liberalization and poverty reduction: New evidence from Indian states. In J. Bhagwati, & A. Panagariya (Eds.), *India's reforms: How they produced inclusive growth* (pp. 91–169). NY: Oxford University Press.
9. Cali, M., and Menon, C. (2009) Does Urbanisation Affect Rural Poverty? Evidence from Indian Districts. SERC Discussion Paper 14, Spatial Economics Research Centre, the UK.
10. Chattopadhyay, S. K. (2011) Financial Inclusion in India: A case-study of West Bengal. MPRA Paper No. 34269
11. Chen, Mingxing, Hua Zhang, Weidong Liu, and Wenzhong, Zhang (2014). The Global Pattern of Urbanization and Economic Growth: Evidence from the Last Three Decades. *PLOS ONE* 9(8): e103799
12. Das, S., Ghate, C., and Robertson, P. E. (2015) Remoteness, Urbanization, and India's Unbalanced Growth. *World Development*, Vol. 66, pp. 572–587.
13. Davidson R., and MacKinnon J.G. (1993). *Estimation and Inference in Econometrics*. Oxford University Press, New York, 1993.

---

**Corresponding Author**

**Meenu\***

[meenupanghal2218@gmail.com](mailto:meenupanghal2218@gmail.com)