



Has Punjab Lost Number One Position in Level of Development?

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ABSTRACT

The ranking of states on the basis of per capita state domestic product does not give a correct picture of their relative level of development. To get the correct picture one has to look beneath the state domestic product figures at the actual level of consumption and standard of living of the people. The comparison on that basis clearly shows that Punjab is at the top of all Indian states. Even the seven states that have a higher per capita state domestic product than Punjab rank below it in terms of per capita consumption of non-durable goods, proportion of households owning/using important durable consumer goods, proportion of households owning pucca houses and enjoying other living facilities. On the basis of composite index that includes all these goods, Punjab is at the top rank and Gujarat at the bottom rank of the set of eight states compared. Even Maharashtra, the state with highest per capita state domestic product, is at the bottom with sixth rank.

Key words: Indicator of development, Per capita state domestic product, Rank

JEL Classification: O1, O5, O11

INTRODUCTION

Punjab is alleged to have lost number one position among Indian states in level of development. Its lower per capita state domestic product compared to many other states of India is cited as the sure proof of its lost first position among the states of India. At present, seven other major states of India have a higher per capita state domestic product than Punjab. These states includes Maharashtra, Gujarat, Haryana, Himachal

Pradesh, Uttrakhand, Kerala and Tamil Nadu.

The main burden of analysis and empirical evidence presented in this paper is that per capita state domestic product is not a reliable indicator of level of development. The level of development of a country/state is indicated by the per capita amount of goods and services available to its people, i.e. over which people of a country/state have command in terms of purchasing power. Of course, a handy proxy used for this purpose, in national and international comparisons, is per capita income. But the limitations of this proxy to correctly quantify the per capita amount of

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goods and services available to people of a country/state being known and sole reliance on it as an indicator of level of development is seriously discouraged.

The per capita state domestic product used to rank level of development of Indian states is not even per capita income of people of a state because it does not include income accruing to them from outside the state sources, both domestic and foreign.

In view of the serious limitations of per capita state domestic product as a proxy for the per capita amount of goods and services available to people of a state, one has to look beneath the per capita state domestic figures to correctly measure its level of development. Only a direct comparison of per capita amount of goods and services available to people of various states can correctly reveal their relative level of development.

The analysis and empirical evidence presented in this paper shows that in terms of command over material goods and services per capita, Punjab is at the top of the Indian states including the seven mentioned above that have a higher per capita domestic product than Punjab. The impression of Punjab, having lost number one position in level of development among states of India is, therefore, the product of using a faulty indicator of level of development. The main limitations of per capita state domestic product as an indicator of level of development are outlined in section one, ranking of Punjab on the basis of per capita consumption of non-durable goods is evaluated in section two and on the basis of durable consumer goods, housing condition

and facilities in sections three and four. The composite ranking of Punjab on the basis of these three components of goods and services consumed/used by people is evaluated that is followed by conclusions.

Limitations of Per Capita State Domestic Product as Indicator of Development

The per capita state domestic product is not an accurate indicator of the per capita amount of material goods and services over which people of a state has command. Its limitations as an indicator of level of development are briefly outlined below. Firstly, per capita state domestic product is not the per capita income of people of a state; because it does not include the net income accruing to households of a state from outside the state sources, both national as well as foreign. For example, the sizable amount of foreign remittances received by people of Kerala and Punjab etc. are not included in state domestic product; though these very much determine the amount of goods and services over which households of these states have a command and can consume. The extent of distortion produced by this omission can be gauged from the amount of foreign remittances received by people of these two states. According to NSSO 64th round survey (that gives the latest state wise information on foreign remittances) households in Kerala and Punjab received foreign remittances to the tune of ₹6668 crore and ₹2116 crore respectively in the year 2007-08 (Chinmay, 2011). In view of the considerable inter-state variation in net income received by households from outside the state sources (both domestic and foreign) use of per capita state domestic product as a

proxy of per capita income can result in quite misleading ranking of state. The states like Kerala, Punjab etc. will get a lower ranking compared to their real level of development.

Another factor that reduces the accuracy of per capita state domestic product as an indicator of level of development is the considerable inter-state variation in the nature, size and structure of non-monetised economic activities whose output does not pass through the market their output being self-consumed. The income generated by non-monetised economic activities is estimated through various adhoc imputation procedures that reduce their sharp comparability across the states and over time. A similar distortion is produced by the nature, size and structure of informal sector economic activities. Although, the output of informal sector units is duly sold and purchased, but scanty information is available on their exact quantum; since informal sector units do not maintain any accounts of inputs used and output produced (Research Foundation, 2009). The income generated by informal sector units is estimated through various indirect procedures that reduce their sharp comparability across the states. On account of these two measurement problems per capita state domestic product loses some of its sharpness in truly reflecting the inter-state variation in level of development.

In addition to these empirical measurement problems, there is a serious conceptual flaw in using per capita state domestic product or per capita income as the sole indicator of differences in the level of development. The basic assumption in inter-state comparisons of per capita state

domestic product is that product mix across the states is the same or at least quite similar. This assumption implies that the proportion and quality of various goods and services being produced in different states is the same; only the differences in their per capita quantity are being compared. Hence, a higher per capita state domestic product indicates a bigger amount of the very same product mix. This assumption is broadly correct about the fully developed countries but not about the developing countries. It is well known that the production structures of developing countries are quite divergent. The production structure of states of India is far from being same or even similar; the mix of goods and services being produced in Punjab is quite different from that in Maharashtra or Gujarat. In such a scenario, the differences in per capita state domestic product do not correctly reflect the differences in the level of development. It needs to be emphasized that per capita state domestic product or per capita income is not a strict cardinal number (Rogen, 1964) whose differences across states has a very sharp numerical meaning when their production structures are quite divergent.

Finally, considerable inter-state variation in the purchasing power of rupee also reduces the sharpness of per capita state domestic product as a true indicator of comparative level of development. It is because of such variation in purchasing power of money that the use of raw per capita income figures is not favoured in cross country comparisons of level of development (Heston, 2008). These are used only after making a purchasing power parity correction.

A purchasing power parity correction needs to be made in the per capita state domestic product figures also is clearly indicated by the practice of using state specific poverty lines (GoI, Planning Commission, 2013) to estimate the population below poverty line.

These limitations of per capita state domestic product reduce its accuracy as an indicator of level of development and consequently, rankings based solely on it need to be checked and verified on the basis of per capita availability of goods and services to people. It needs to be always remembered that per capita availability of goods and services is the real indicator of level of development per capita income or per capita state domestic product are only handy proxies for it (Costanaza *et al.*, 2009). In this paper, an effort has been made in that direction, and the development level ranking of Punjab and other seven states is estimated and compared on the basis of per capita consumption of non-durable goods and durable goods and housing and other living facilities. The information used for this

purpose is taken from Census of India, 2011, and NSSO 66th round (2009-10) and NSSO 68th round (2011-12) surveys.

Ranking Based on Per Capita Consumption of Non-Durable Goods

Owing to the above mentioned limitations of per capita state domestic product, per capita consumption expenditure is a better proxy for per capita income than per capita state domestic product. It is well known that per capita consumption has a stable relationship with per capita income. So ranking based on per capita consumption expenditure may be a more accurate indicator of relative level of development of different states. The per capita consumption is disaggregated into three components partly due to the nature of information available and partly due to differences in the nature of the goods and their consumption. These three types/categories of consumption are: (1) consumption of non-durable goods (2) consumption/use of durable consumer goods and (3) consumption/ use of houses and other living facilities. The simple mechanical

TABLE 1: PER CAPITA STATE DOMESTIC PRODUCT AND PER CAPITA CONSUMPTION EXPENDITURE

State	Per Capita Net State Domestic Product at Constant (2004-05) Prices		Per Capita Consumption Expenditure (2009-10)	
	Average for the Triennium Ending 2012-13 (₹)	Rank	Rank	₹/Year
Punjab	47944	8	2	22548
Himachal Pradesh	49205	7	6	20940
Kerala	52238	6	1	24900
Uttarakhand	52437	5	5	21300
Tamil Nadu	56584	4	7	18648
Gujarat	57493	3	8	18084
Haryana	61318	2	3	22500
Maharashtra	62520	1	4	21516

Source: (1) *Statistical Abstract of Punjab, 2013*.

(2) *NSSO, 66th Round: Level and Pattern of Consumer Expenditure, 2009-10*.

aggregation of these three types of goods consumed/used by people is neither valid conceptually, nor possible empirically. Thus these three types of goods are compared across the eight states separately. In this section per capita consumption of non-durable goods and services is compared. The consumption/use of the other two types of goods is compared in the next two sections. The ranking of Punjab and other seven states on the basis of per capita consumption of non-durable goods is presented in Table 1 along with the ranking based on of per capita state domestic product for comparison purposes. The comparison of these two rankings clearly reveals the inadequacy of per capita state domestic product as the sole indicator of level of development. The ranking of Punjab improves markedly from the bottom (eighth) rank on the basis of per capita state domestic product, to the second rank when one uses per capita consumption of non-durable goods. Similarly, the ranking of Kerala improves from sixth to first when per capita consumption of non-durable goods is used as the indicator of level of development. On the other hand, the ranking of Maharashtra, Gujarat and Tamil Nadu declines from the top to almost the bottom. Maharashtra slips down from first rank to fourth, Gujarat from third to eighth and Tamil Nadu from fourth to seventh rank.

The comparison of development level rankings based on per capita state domestic product and per capita consumption of non-durable goods clearly suggests that one has to be very cautious in using the former as the sole indicator of level of development. The level of per capita consumption of non-

durable goods in Punjab compared to the other seven states clearly indicates that Punjab people's standard of living is almost the highest among the states of India being second only to that of Kerala. It seems the sizeable amount of foreign remittance received by people of Punjab and Kerala (₹2116 crore and ₹6668 crore respectively in 2007-08) that are not included in state domestic product figures, is one of the reasons for lowering their ranking when per capita state domestic product is used as the sole indicator of level of development. As we shall see in the next two sections, the development level ranking of Punjab improves further when one looks at per capita consumption/use of durable goods, housing and other facilities.

Ownership/Use of Durable Consumer Goods

The standard of living of people depends not only on the consumption of non-durable goods (like cereals, milk, etc.) but also on the use of durable consumer goods. As household income rises, households purchase and use more and more consumer durable goods. The income elasticity of demand for these goods is higher than for non-durable consumer goods. On account of the nature of use and ownership of durable consumer goods, the per capita consumption/use of these goods is empirically represented by the proportion (percent) of all households owning/using these goods. The information on proportion (percent) of households owning/using ten important consumer durable goods is presented in Table 2. This information is gathered partly from 2011 census and partly from NSSO, 68th round (2011-12) survey. It

TABLE 2: OWNERSHIP/USE OF DURABLE CONSUMER GOODS

State	(Percent of Households)									
	Radio/ Transistor	Mobile/ Phone	Bicycle	Sewing Machine	T.V.	Refrigerator	Washing Machine	Air Conditioner/ Air Cooler	Motor Cycle/ Scooter	Car/ Jeep/ Van
Punjab	16.96 (7)	82.42 (2)	65.99 (1)	65.95 (2)	82.59 (2)	72.24 (1)	36.33 (2)	50.36 (1)	47.42 (1)	13.65 (1)
H.P.	25.66 (2)	75.60 (4)	9.45 (8)	68.98 (1)	74.40 (4)	43.99 (4)	17.46 (4)	5.97 (6)	15.51 (8)	8.30 (4)
Kerala	29.65 (1)	89.67 (1)	20.44 (7)	26.44 (5)	76.84 (3)	53.00 (3)	27.02 (3)	6.93 (5)	24.08 (6)	10.22 (3)
Uttarakhand	14.56 (8)	74.59 (6)	31.29 (5)	43.84 (4)	61.98 (6)	31.06 (7)	16.49 (5)	12.14 (4)	22.89 (7)	6.21 (5)
Tamil Nadu	22.67 (3)	74.90 (5)	45.24 (2)	9.81 (8)	86.95 (1)	29.37 (8)	14.08 (6)	5.25 (9)	32.32 (4)	4.30 (8)
Gujarat	19.38 (5)	68.95 (8)	34.82 (4)	10.37 (7)	53.77 (8)	37.45 (5)	7.26 (8)	4.16 (8)	34.14 (2)	6.10 (6)
Haryana	17.41 (6)	79.34 (3)	44.77 (3)	65.57 (3)	67.89 (5)	56.56 (2)	40.10 (1)	50.35 (2)	33.34 (2)	10.51 (2)
Maharashtra	19.47 (4)	69.07 (7)	30.49 (6)	13.85 (6)	56.76 (7)	33.40 (6)	10.45 (7)	19.78 (3)	24.93 (5)	5.91 (7)

Note: (1) Source of Data: Census of India, 2011 and NSSO, 68th Round (2011-12).

(2) Figures in brackets are ranks.

may be seen that in most of these ten consumer durable goods Punjab ranks first or second among the eight states only in the ownership of radio/transistor its rank is almost at the bottom (seventh). Even that low rank indirectly indicates the high level of standard of living of people of Punjab. The radio/transistor as a source of information and entertainment becomes an interior good at higher levels of per capita income as households become richer they switch from radio/transistor to the more expensive and better product, the T.V. In the ownership of bicycles, refrigerators, air conditioners, motorcycles and cars Punjab ranks at the top and in ownership of sewing machines, television, washing machines and phone/mobile it ranks second.

In sharp contrast to the top ranking of Punjab, Maharashtra and Gujarat are at the bottom in the ownership of durable consumer

goods by households. This complete reversal of ranks of Punjab, Maharashtra and Gujarat discredits completely the prevailing practice of using per capita state domestic product as the sole indicator of level of development. The proportion of households owning consumer durable goods better reveals the level of prosperity and consumption standard attained by people of a state, than per capita state domestic product. Moreover, it is not merely reversal of ranks. Punjab is much ahead of these two states (Gujarat and Maharashtra) in the ownership of consumer durable goods by households. For example, in Punjab about 72 per cent households own refrigerators, in Maharashtra 33.40 per cent have one, in Punjab 47.42 per cent households own motor cycle/scooter, in Maharashtra only about 25 per cent have one; in Punjab 13.65 per cent households have cars, in Maharashtra only about six per

cent have it. The contrast is almost equally stark between Punjab and Gujarat. It is thus clear that the top ranking of Maharashtra, Gujarat, etc. on the basis of per capita state domestic product is misleading and equally misleading is the bottom ranking of Punjab on that basis. The real picture of development level is better revealed by the per capita consumption of non-durable goods and the proportion of households owning/using consumer durable goods.

Housing Condition and Living Facilities

A very important component of standard of living and well being of people is the condition of houses in which they live and the other living facilities they enjoy. Out of all the components of standard of living, house is the most expensive and therefore, most difficult to acquire. Only relatively well off people are able to own/use modern pucca houses in developing countries like India while

the poorer ones subsist in kucha houses or thatch/bamboos huts. The information on housing condition and five living facilities enjoyed by people of Punjab and the other seven states is detailed in Table 3. The better position of Punjab households compared to households of the other seven states is quite visible from this table. It may be seen that in the proportion of households having pucca houses, availability of drinking water in house premises, and ownership/use of liquified petroleum gas (LPG) for cooking, Punjab is at the top of these eight states. In the proportion of households having proper drainage outlet for disposal of waste water, latrine facility in house premises and electricity for lighting, Punjab ranks second among these states. In fact, in proper drainage outlet for disposal of waste water and availability of electricity for lighting also, Punjab is almost bracketed at number one

TABLE 3: HOUSING CONDITION AND LIVING FACILITIES

(Percent of Households)

State	Pucca House	Drinking Water Source in House Premises	Latrine Facility in House Premises	Proper Drain Outlet for Disposal of Waste Water	LPG for Cooking	Electricity for Lighting
Punjab	94.46 (1)	85.93 (1)	79.63 (2)	85.30 (2)	55.24 (1)	96.67 (2)
H.P.	80.15 (4)	55.54 (7)	69.11 (3)	65.20 (4)	38.57 (6)	96.76 (2)
Kerala	90.25 (3)	77.74 (2)	95.20 (1)	46.43 (8)	35.85 (8)	94.41 (3)
Uttarakhand	58.85 (8)	58.25 (6)	65.77 (5)	61.12 (5)	44.23 (3)	87.04 (7)
Tamil Nadu	74.63 (6)	34.88 (8)	48.29 (8)	50.25 (6)	47.94 (2)	93.36 (4)
Gujarat	75.72 (5)	64.04 (4)	57.35 (6)	46.73 (7)	38.31 (7)	90.40 (6)
Haryana	94.26 (2)	66.53 (3)	68.63 (4)	86.33 (1)	44.00 (4)	90.51 (5)
Maharashtra	71.65 (7)	59.39 (5)	53.10 (7)	67.48 (3)	43.37 (5)	83.94 (8)

Note: (1) Source of Data: Census of India, 2011.

(2) Figures in brackets are ranks.

as the proportion of Punjab household having these facilities is only very marginally below the top rank state. Therefore, only in the per cent of households having latrine facility in house premises, Punjab is substantially below the top ranking state, Kerala. But the advantage of Kerala over Punjab in the proportion of households having latrine facility in house premises also becomes somewhat doubtful because almost half of the households having latrine facility in Kerala do not have a proper drainage outlet for disposal of waste water. In Punjab, on the other hand, all the households having latrine facility in house premises also have a proper drainage outlet for disposal of waste water. On the basis of these facts and observations, it is not difficult to conclude that in housing and living facilities Punjab is at the top of these eight states.

In sharp contrast to Punjab, the poor performance of Maharashtra and Gujarat in housing and living facilities is also clearly visible from the information presented in this table. In spite of their higher per capita state domestic product, both these states are almost at the bottom rank in housing condition and living facilities enjoyed by people. To mention only a few items by way of illustration, about 72 per cent households in Maharashtra and about 76 per cent in Gujarat have pucca houses compared to 94.46 per cent in Punjab. Only about 59 per cent households in Maharashtra and 64.04 per cent in Gujarat have drinking water facility in house premises compared about 86 per cent in Punjab. On every item given in the table, the position of Maharashtra and Gujarat households is significantly poor compared to

Punjab households. So, the study further strengthens the conclusions of the previous two sections; that like the consumption of non-durable goods and use of durable consumer goods, in terms of housing conditions and living facilities also Punjab is at the top rank among these eight high income states.

Level of Development: Composite Ranking

On the basis of information presented in tables one to three the composite ranking, in level of development, was prepared using two methods. In the Borda method a simple average of sum of separate item wise ranks is used to determine the overall composite rank of a state (Mundle *et al.*, 2012). In the UNDP human development index method a different procedure is used to arrive at the overall composite rank. To construct the composite index a minimum value and a desirable (maximum) value is specified for each of the indicators. These two are then used as the end points of a scale indexed from zero to hundred for each indicator and then each country is placed at the appropriate point on the scale of each indicator. The average of these points gives the overall rank of the country (UNDP, 1990).

The results of this exercise are detailed in Table 4 and clearly show the pre-eminent position of Punjab among these eight states in standard of living of the people. In the consumption of non-durable goods, Punjab ranks second (by both the methods) after Kerala. In ownership/use of durable consumer goods as well as house condition and living facilities it ranks first. In the overall composite ranking combining all these three components of standard of living Punjab

TABLE 4: DEVELOPMENT LEVEL OF HIGH INCOME STATES: COMPOSITE RANKING

Particulars	Punjab	H.P.	Kerala	Uttrakhand	Tamil Nadu	Gujarat	Haryana	Maharashtra
<i>Borda Method</i>								
Per Capita Consumption of Non- Durable Goods	2	6	1	5	7	8	3	4
Ownership/ Use of Durable Consumer Goods	1	3	4	5	6	7	2	8
Ownership/ Use of Housing and Living Facilities	1	3	4	6	5	8	2	7
<i>UNDP Human Development Index Method</i>								
Per Capita Consumption of Non- Durable Goods	2	6	1	4	7	8	3	5
Ownership/ Use of Durable Consumer Goods	1	5	3	4	8	7	2	6
Ownership/ Use of Housing and Living Facilities	1	4	3	6	5	8	2	7
<i>Composite Rank</i>								
Borda Method	1	4	3	5	7	8	2	6
UNDP Method	1	5	2	4	7	8	3	6

ranks at the top according to both the methods. On the other hand, both Maharashtra and Gujarat are at the bottom in the composite ranking combining all the three components of standard of living. It may also be noted that composite rank of Kerala and Haryana is almost at an equivalent level. The UNDP method gives second rank to Kerala and third to Haryana but the Borda method gives second rank to Haryana and third to Kerala. Anyhow, the position of Punjab at the top rank of these states, in standard of living of people, is left in little doubt by the information given in tables one to three, and the ranking computed from that information and presented in table four.

CONCLUSIONS

The information and analysis presented in this paper suggests the following conclusions: (1) The ranking of states on the basis of per capita state domestic product does not give a correct picture of their relative levels of development (2) The per capita

consumption of non-durable and durable goods and housing and living facilities is a better indicator of relative level of development (3) On that basis, Punjab is at the top of these eight states in the level of development and Gujarat at the bottom; and Kerala and Haryana are bracketed at number two rank and (4) Maharashtra and Tamil Nadu are also at the bottom with sixth and seventh ranks respectively.

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