

Subsidies, Merit Goods and the Fiscal Space for Reviving Growth: An Aspect of Public Expenditure in India

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Subsidies, Merit Goods and the Fiscal Space for Reviving Growth: An Aspect of Public Expenditure in India

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Abstract

Budget subsidies have been defined as the unrecovered cost of economic and social services. The incidence of these implicit and explicit budget subsidies provided by the central and state governments has declined from about 12.9 % of GDP in 1987-88 to 10.3 % at present. The bulk of these subsidies is provided by the states and about half is spent on non-merit subsidies. The paper finds an inverse relationship between subsidy incidence and per capita income and also finds that subsidies are important determinant of the consumption of many public services though not all. There are large variations across states in the efficiency of subsidy use and the paper identifies the states which lie on the subsidy efficiency frontier for several key public services. The paper also argues that rationalising non-merit subsidies is one of several deep fiscal reform measures that could together free up massive fiscal space, conservatively estimated at 6% of GDP, and outlines a proposal for using this fiscal space to finance an inclusive growth revival strategy that could simultaneously reduce the fiscal deficit even without raising any tax rates.

JEL Classification Codes: **H2:** Taxation, Subsidies, and Revenue; **E6:** Macroeconomic Aspects of Public Finance; **H5:** National Government Expenditures and Related Policies; **O2:** Development Planning and Policy

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1. Introduction

India is an economy chronically under fiscal stress. The tax: GDP ratio has remained below 18 percent² (central plus state governments) while expenditure has progressively increased to 29 percent³ of GDP. Large fiscal deficits and even larger public sector borrowing requirements (PSBR), remain a chronic problem.⁴ In this context the high incidence of budget subsidies, the unrecovered cost of publicly provided private services, has always been an important policy concern.

In a paper published in 1991 one of the present authors and M. Govinda Rao estimated the total volume of explicit and implicit budget subsidies for the central and state governments at 14.4 per cent in 1987-88⁵. Several estimates of subsidies were published subsequently by their colleagues at NIPFP. Though these were conceptually similar to the Mundle-Rao estimates they were not strictly comparable and coverage varied from an all India estimate to estimates for the central government to estimates for selected states.⁶ Responding to persistent demands for replicating the original Mundle-Rao estimate, we have now estimated implicit and explicit budget subsidies for the years 1987-88, 2011-12 and 2015-16. Though the incidence of subsidies is lower today than thirty years ago, it still amounts to over 10 per cent of GDP, and over half of this is for non-merit subsidies. Rationalising these subsidies, along with other fiscal reform measures, would free up considerable fiscal space for an inclusive growth revival strategy without raising tax rates and cutting down on the fiscal deficit at the same time.

The next section of the paper discusses the concept of subsidies employed in the paper, its measurement and coverage. Section 3 presents estimates of the aggregate flow of budget subsidies, the distribution of these flows through the central government and 18 major states, and the composition of these subsidies between social and economic services and between merit and non-merit subsidies.

Section 4 analyses inter-state variations in the flow of subsidies. Section 5 analyses the relationship between subsidies and the consumption of publicly provided services. Section 6 discusses a program of deep fiscal reforms that could use the extra fiscal space arising from the rationalization of subsidies and other fiscal measures for an inclusive growth revival strategy. Part 7 concludes.

² See Indian Public Finance Statistics (IPFS) 2016-17, page 14.

³ IPFS 2016-17, page 16.

⁴At present the total PSBR, including the central and state governments and public sector undertakings is estimated to be over 9% of GDP See, among others, Sajjid Chinoy (2019)

⁵Mundle S. and M.G. Rao (1991). These estimates covered the central government and 14 major states (now 18 states following division of four states) accounting for 93% of the population.

⁶ See Srivastava and Sen (1997), Srivastava and H.K. Amarnath (2001), Srivastava et. al (2003) and Kumar et.al (2004)

2. Concept, Coverage and Measurement of Subsidies

In this paper subsidies have been defined as the unrecovered cost of social and economic services delivered by the government. The years for which subsidies have been computed include 1987-88, 2011-12 and 2015-16. The exercise covers the central government and what were 14 major states in 1987-88. Some of these have subsequently been bifurcated. So now they add up to 18 major states accounting for about 93% of the population of India. In other words these are essentially estimates of explicit subsidies flowing through the budgets of the central government and 18 major state governments. Administrative services are assumed to be pure public services which cannot be priced, or their costs recovered, by definition. Hence, the 36 administrative services in the Finance Accounts data base are not included in the reckoning.

Formally,

$$s_j = v_j + i(K_j + L_j) + d.K_j - y_j - r_j - t_j$$

Where, $j = 37 \dots 123$, indexes the services.

For the sector; j^{th} is the subsidy; s_j is the variable cost or revenue expenditure on the service; K_j is the capital stock in the sector; L_j is the stock of investment outside government by the sector in the form of loans or equity; i is an imputed interest rate representing the opportunity cost of money for government; d is the depreciation rate; y_j is revenue receipts by the sector; r_j is income by way of interest or dividend on loans and equity; and t_j is a transfer payment from the sector to individual agents.

The total volume of subsidies on all services is given by

$$S = \sum_{j=37}^{123} s_j$$

Note that other subsidy like components such as direct income transfers, e.g., MNREGA or PM-Kisan, concessional interest rates, concessional pricing of land or other assets sold by the government and tax exemptions or concessions, otherwise known as tax expenditures, are not included in these estimates. Thus the concept of budget subsidy in this paper has been strictly confined to the unrecovered cost of services provided by the government other than pure public services.

3. The Aggregate Flow of Budget Subsidies

The total flow of subsidies through the budgets of the central and state governments in the years 1987-88, 2011-12 and 2015-16 are presented in Table 1⁷. The estimates show that there was a decline in the incidence of total subsidies from 12.9% of GDP in 1987-88 to 10.7% in 2011-12 and further to 10.3% in 2015-16, i.e. a decline of a little over 20% in 28 years. The decline was relatively more pronounced in the case of the central government, going down from 4.9% in 1987-88 to 2.9% in 2015-16, i.e., over 40%. For all states taken together, which account for the bulk of subsidies, it first declined from 8.1% in 1987-88 to 6.9% in 2011-12 but rose again to 7.4% in 2015-16, i.e. a net decline of less than 9%.⁸

Table 1: Percentage Share of Subsidy to GDP/ GSDP

State	Social Sector			Economic Sector			Economic & Social Sector		
	% of GDP			% of GDP			% of GDP		
	1987-88	2011-12	2015-16	1987-88	2011-12	2015-16	1987-88	2011-12	2015-16
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All States*	4.40	3.83	4.09	3.66	3.08	3.26	8.06	6.91	7.35
Centre*	0.65	0.94	0.39	4.22	2.82	2.54	4.87	3.76	2.93
All States + Centre*	5.05	4.77	4.48	7.88	5.90	5.80	12.93	10.67	10.28
All States' Average**	5.21	4.31	4.64	4.47	3.39	3.54	9.69	7.70	8.18

Notes: *These numbers are percentage of GDP.

**All States' Averages are the average as percentage of GSDP.

The incidence of subsidies is higher for economic services at 5.8% in 2016-17, down from 7.9% in 1987-88, as compared to social services where subsidies declined from 5.1% in 1987-88 to 4.5% in 2015-16. Most of the central subsidies are for economic services with very little for social services. The states on the other hand account for virtually all the subsidies in social services. It is also higher (4.1% of GDP in 2015-16) than states' subsidies in economic services (3.3% of GDP in 2015-16).

From a policy perspective it is important to compare the relative incidence of merit subsidies and un-warranted non-merit subsidies. The definition of merit subsidies has been strictly limited to basically four items: food, primary and secondary education, health and

⁷ Mundle - Rao (1991) had provided the original subsidy estimates for the year 1987-88. However, the present estimate of subsidy incidence for 1987-88 at 12.9% of GDP is not strictly comparable to the original Mundle-Rao estimate of 14.4 % of GDP. This is mainly because the GDP series used here, with bases 2004-5 and 2011-12 are different from the GDP series used in Mundle-Rao (1991). It is also because there are some small differences (less than 1%) in a few absolute estimates at the 9-digit sub-minor head. Records are no longer available at that level of granularity about how some ambiguous items were classified 25 years ago.

⁸ For state-wise details see Appendix Table A1.1

water supply and sanitation. All other subsidies are considered unwarranted non-merit subsidies. The share of merit subsidies increased from around 36% in 1987-88 to over 44% in 2015-16 (Table 2)⁹. But that means unwarranted non-merit subsidies still account for 56% of total subsidies.

Table 2: Share of Merit and Non-merit Subsidies as Percentage of Total Subsidies

State	Total Merit Subsidies			Total Non-Merit Subsidies			Total Subsidies		
	1987-88	2011-12	2015-16	1987-88	2011-12	2015-16	1987-88	2011-12	2015-16
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All States*	44.19	45.42	43.93	55.81	54.58	56.07	100.00	100.00	100.00
Centre	21.90	62.50	45.13	78.10	37.50	54.87	100.00	100.00	100.00
All States + Centre*	35.79	51.44	44.27	64.21	48.56	55.73	100.00	100.00	100.00
States' Average	43.72	46.81	45.94	56.28	53.19	54.06	100.00	100.00	100.00

Notes: * All states refer to selected major states

** States' Average means calculated average of states' merit and non-merit subsidy share

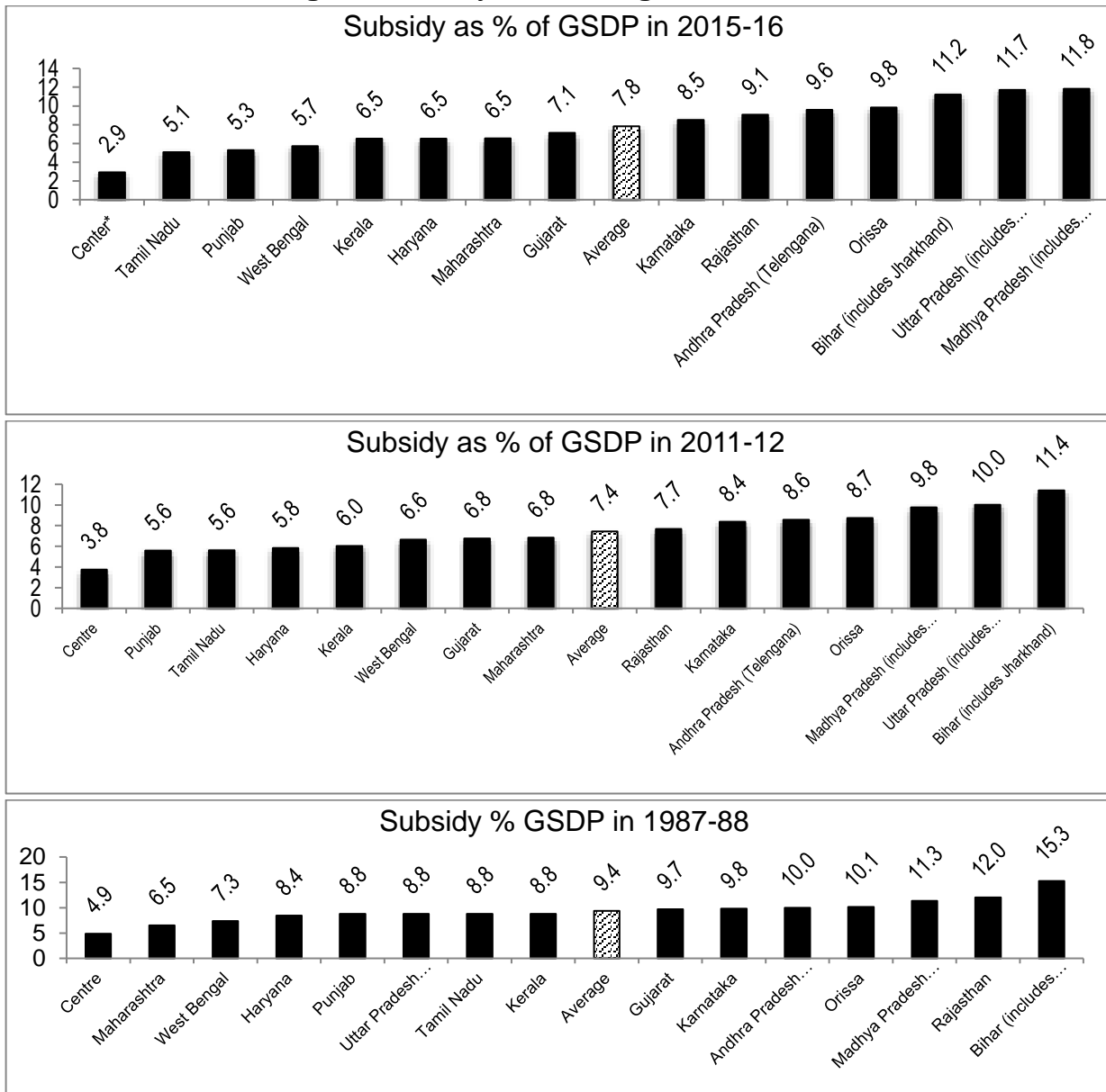
The subsidies treated as merit subsidies are mainly for social services, which are mostly provided by the states (Appendix table A2.2). Nevertheless, the share of merit subsidies is slightly lower than that of non-merit subsidies for the states. In contrast the share of merit subsidies is higher than non-merit subsidies for the central government even though the central government mainly provides economic services. This apparent paradox appears because economic services include agriculture sector services and this in turn includes the provision of food subsidy, the largest of all merit subsidies.

4. Inter-State Variations in Subsidy Flows

We now turn to the variations in subsidy flow across states and over time which is presented in Figure 1. The average level of states' subsidies declined from 9.4% of Gross State Domestic Product (GSDP) in 1987-88 to 7.8% in 2015-16. The distribution around this average ranged from 6.5% in Maharashtra to 15.3% in Bihar (including Jharkhand) in 1987-88 and 5.1% in Tamil Nadu to 11.8% in Madhya Pradesh (including Chhattisgarh) in 2015-16. The incidence of subsidies was higher in 2015-16 compared to 1987-88 in only two states, namely Uttar Pradesh and Madhya Pradesh. It remained unchanged in Maharashtra at 6.5%. In all other states the incidence of subsidies in 2015-16 was lower than in 1987-88.

⁹ For state-wise details see Appendix table A2.1 and A2.2

Figure 1: Subsidy as Percentage of GSDP



The rank distribution of states in descending order of subsidy incidence is presented in Table 3. The distribution has remained broadly stable though there has been some churn. Between 1987-88 and 2011-12 there was no change in the rank of six states. But Maharashtra which had the top rank with 6.5% subsidy incidence in 1987-88 had slipped down 6 ranks to 7th position by 2011-12. Another state which slipped significantly was West Bengal (-3). Bihar which was at the bottom in 1987-88 remained there even in 2011-12. The states that improved their ranks the most were Rajasthan (+5), Tamil Nadu (+4), Kerala (+3) and Punjab (+3), which achieved the top rank. It was followed by Tamil Nadu and Haryana. By 2015-16 West Bengal had improved and moved up by 2 ranks and so also had Bihar. Madhya Pradesh

lost 2 ranks to hit the bottom of the rank ordering. Haryana also slipped 2 ranks. Other states either maintained their 2011-12 rank or moved up or down by just one rank.

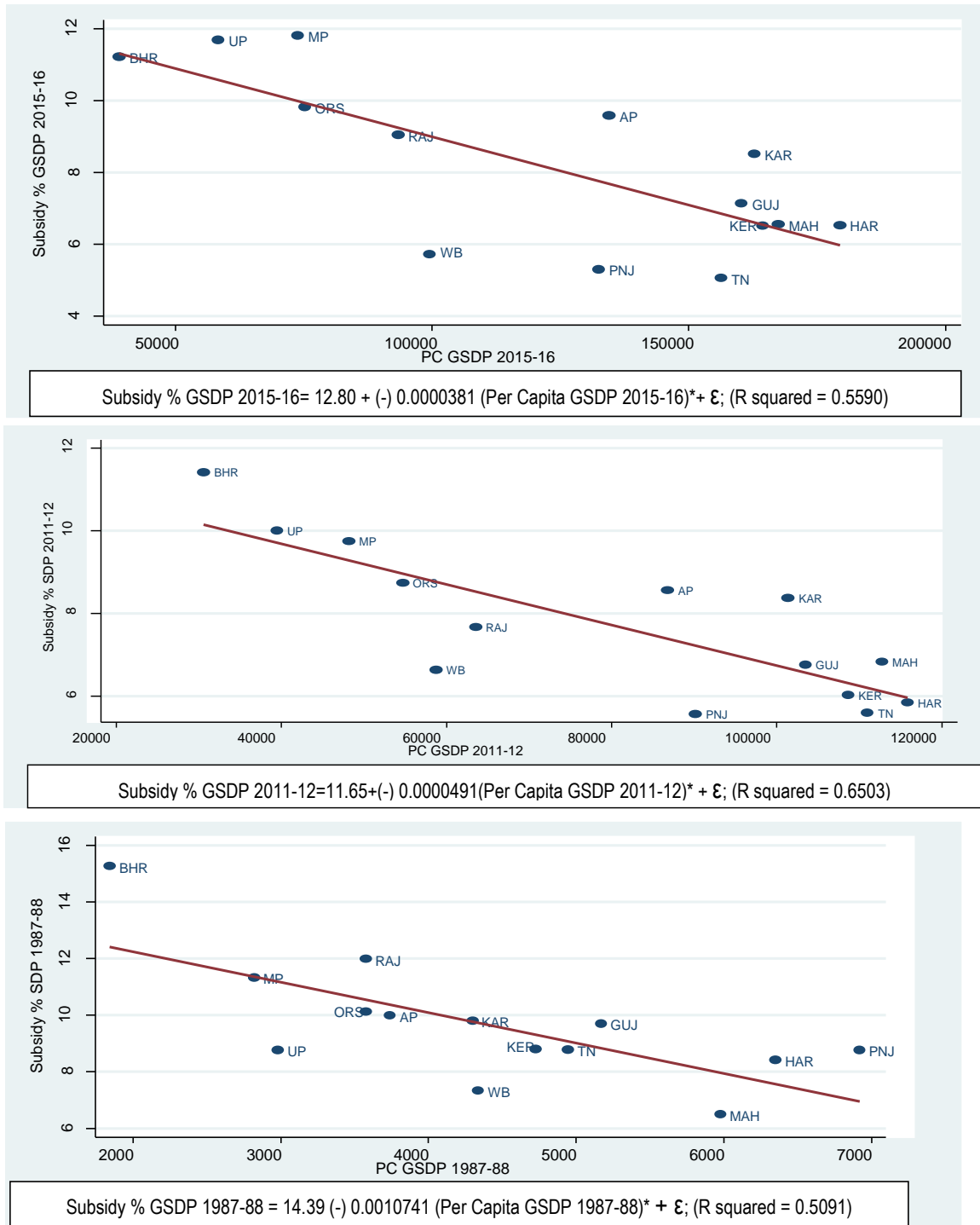
Table 3: Ranks of States by Subsidy Incidence (% of GSDP)

Rank	1987-88	Rank	2011-12	Rank	2015-16
1	Maharashtra	1	Punjab (+3)	1	Tamil Nadu (+1)
2	West Bengal	2	Tamil Nadu (+4)	2	Punjab (-1)
3	Haryana	3	Haryana (0)	3	West Bengal (+2)
4	Punjab	4	Kerala (+3)	4	Kerala (0)
5	Uttar Pradesh (includes Uttarakhand)	5	West Bengal (-3)	5	Haryana (-2)
6	Tamil Nadu	6	Gujarat (+2)	6	Maharashtra (+1)
7	Kerala	7	Maharashtra (-6)	7	Gujarat (-1)
8	Gujarat	8	Rajasthan (+5)	8	Karnataka (+1)
9	Karnataka	9	Karnataka (0)	9	Rajasthan (-1)
10	Andhra Pradesh (Telangana)	10	Andhra Pradesh (Telangana) (0)	10	Andhra Pradesh (Telangana) (0)
11	Orissa	11	Orissa (0)	11	Orissa (0)
12	Madhya Pradesh (includes Chhattisgarh)	12	Madhya Pradesh (includes Chhattisgarh) (0)	12	Bihar (includes Jharkhand) (+2)
13	Rajasthan	13	Uttar Pradesh (includes Uttarakhand) (-8)	13	Uttar Pradesh (includes Uttarakhand) (0)
14	Bihar (includes Jharkhand)	14	Bihar (includes Jharkhand) (0)	14	Madhya Pradesh (includes Chhattisgarh) (-2)

Note: Figures in parentheses indicate change in rank in 2011-12 compared to 1987-88 & change in rank in 2015-16 compared to rank in 2011-12

Rankings are relative. A state's rank depends not just on its own performance but its performance relative to that of other states. In very broad terms, Bihar, Uttar Pradesh, Madhya Pradesh and Orissa were the worst performers in 1987-88 and remain so even today. There has been more churn at the top but Tamil Nadu, Punjab, West Bengal and Kerala which were already among the better performers in containing subsidies in 1987-88 are still the best performers today.

Figure 2: Relationship between Subsidy Share to GSDP to Per Capita GSDP



Note: * Significant at 1% Level

State Codes: AP-Andhra Pradesh (Telangana); BHR-Bihar (includes Jharkhand); GUJ-Gujarat; HAR-Haryana; KAR-Karnataka; KER-Kerala; MP-Madhya Pradesh (includes Chhattisgarh); MAH-Maharashtra; ORS-Orissa; PNJ-Punjab; RAJ-Rajasthan; TN-Tamil Nadu; UP-Uttar Pradesh (includes Uttarakhand); WB-West Bengal

There is a strong inverse relationship between per capita income (GSDP) in a state and the incidence of subsidies in a state. The higher the per capita GSDP the lower is the incidence of subsidies (Figure 2). This is also consistent with the decline in incidence of subsidies over time overall and in most states with rising per capita incomes. The relationship between state per capita income (GSDP) and the incidence of subsidies can be used to assess which states are providing excess subsidy and which states are providing less compared to the predicted level of subsidy for their level of per capita income, *i.e.* their expenditure efficiency.

In some states the incidence of subsidies is much higher than the level predicted by the regression relationship. These include Uttar Pradesh, Madhya Pradesh, Andhra Pradesh and Karnataka. Conversely, subsidy incidence is much lower than the predicted level in some states, *i.e.*, West Bengal, Punjab and Tamil Nadu. Though Bihar still has the highest incidence of subsidies and this was much higher than the level predicted for its per capita GSDP in 1987-88 and also in 2011-12, its level of subsidy incidence today (2015-16) is exactly at the predicted level.

However, this way of assessing which states are providing excess subsidies is somewhat problematic because all subsidies are not by definition bad or unwarranted. As discussed above, merit subsidies are desirable in the public interest while non-merit subsidies are not. Further, instead of an omnibus relationship between per capita income and incidence of subsidies, it is more useful to examine whether there is a significant relationship between specific public services and the subsidy per capita provided for that service¹⁰. This issue is addressed in the next section.

5. Subsidies and the Consumption of Public Services

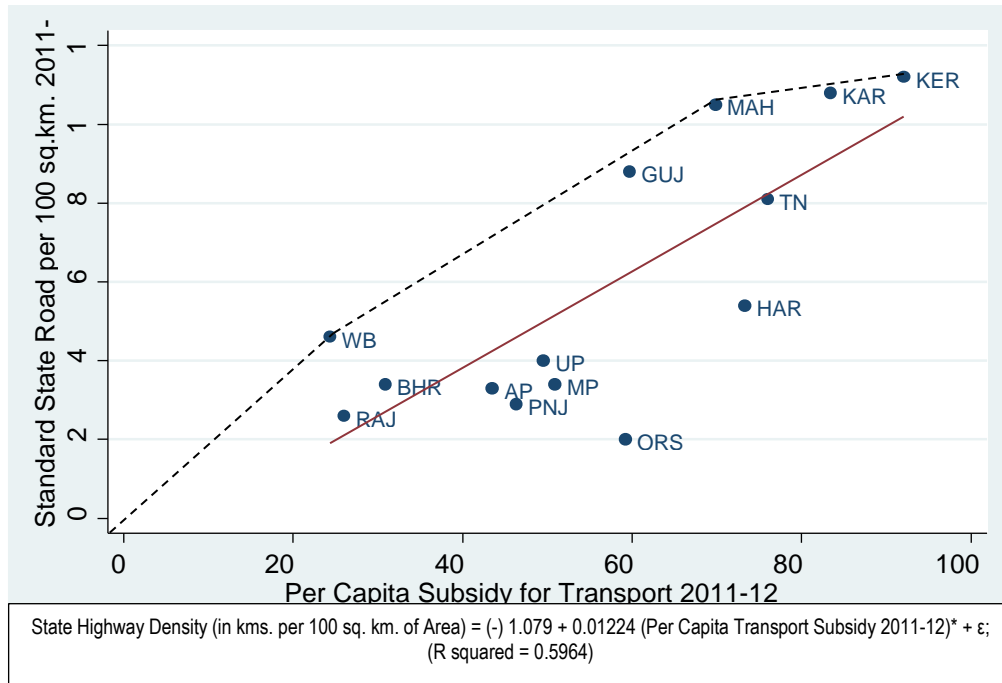
Many private goods which could be priced and sold through the market by private providers are in fact provided by state governments in India, sometimes in competition with private providers. These include services like education, health, power, etc. which are provided at subsidized rates. So the question arises, do subsidies impact the consumption of public services? To address this question we combine the data on inter-state variations in subsidy flows with the data from an earlier study on inter-state variations in the delivery of public services (Mundle, Chowdhury and Sikdar, 2016)

Starting with infrastructure services, we take density of state highways (Kms per 100 sq. Km) as an indicator of infrastructure provision for road transport. We do not take total road density because that includes both national highways as well as village and municipal

¹⁰ In a recent paper Mohanty and Bhanumurthy (2018) have used a form of the frontier production function to relate an index of governance, measured as public service delivery, to public expenditure to define an efficiency boundary and used that boundary to assess governance efficiency. There may be a specification problem in the paper if public expenditure is also embedded in some form in the governance quality index. This requires further scrutiny. But their approach is interesting and worth exploring in the context of subsidies for individual services.

roads, etc. The former is a responsibility of the federal National Highway Authority while the latter is the responsibility of local governments. State highways are in the jurisdiction of state governments which are also responsible for providing the state level transport subsidy. The statistical relationship between per capita transport subsidy and state highway density is displayed by the linear regression line in Fig. 3. There is a strong positive relationship between the two which is statistically significant at the 1% level of confidence.

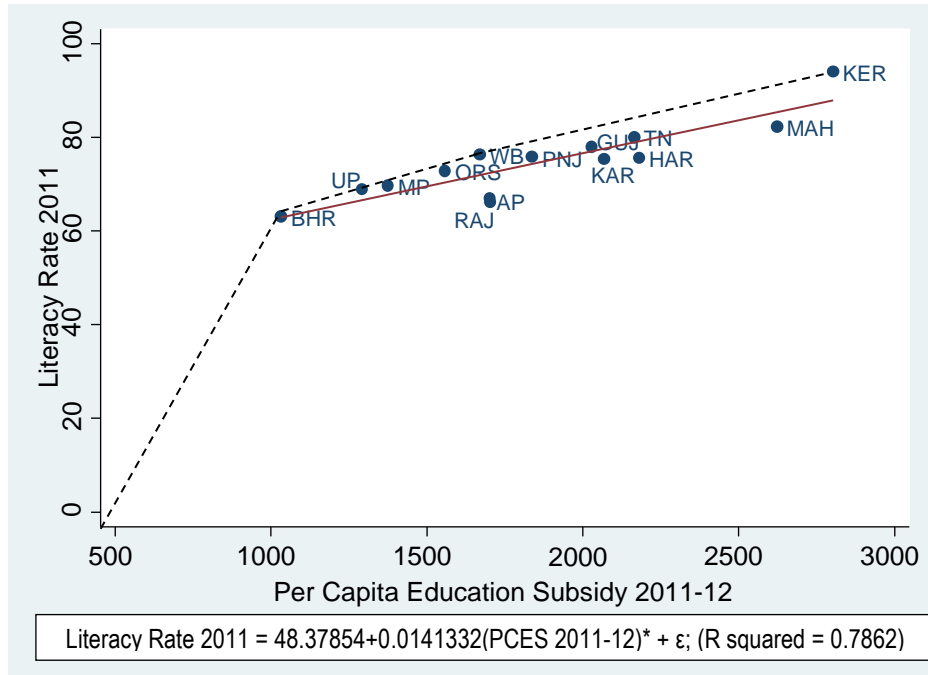
Figure 3: State Highway Density (in kms. per 100 sq. km. of Area) & Per Capita Transport Subsidy in 2011-12



Note: * Significant at 1% Level; State Codes: same as figure 2.

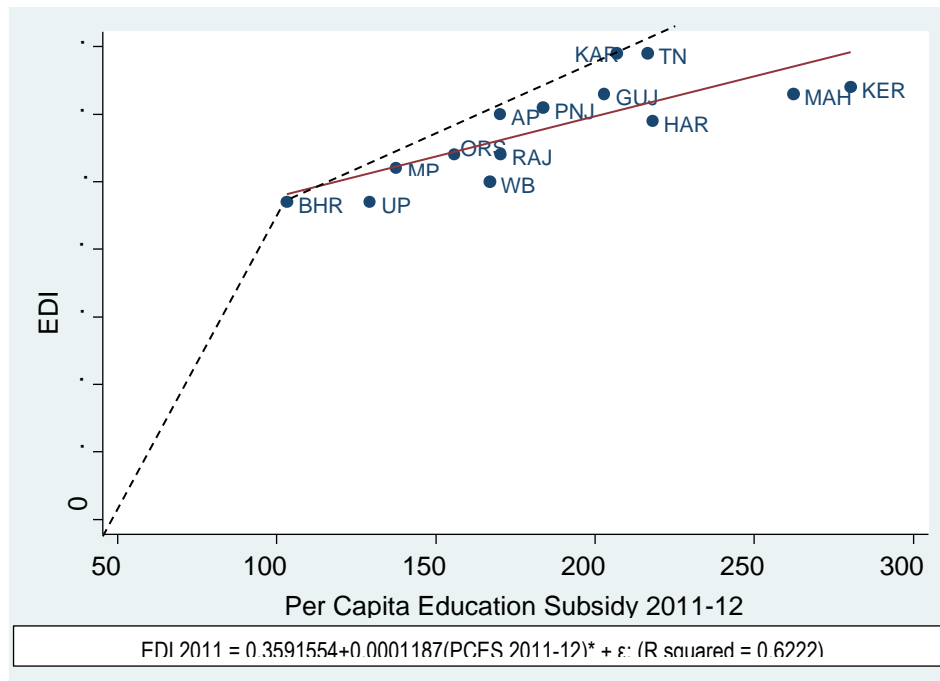
As another infrastructure service we looked power consumption. In particular, we tested for the relationship between per capita energy subsidy and per capita consumption of electricity (kWh). It turns out that there is no significant relationship between power subsidy and power consumption. Though the sign of per capita subsidy in the regression equation turned out to be positive, the relationship is not statistically significant and is not reported here. One obvious policy implication following from this is that even a significant reduction in power subsidies, as in UDAY which is causing severe fiscal stress in some states, would make little difference to power consumption.

Figure 4.a: Education Service Delivery (Literacy Rate) & Per Capita Education Subsidy (PCES) in 2011-12



Note: * Significant at 1% Level; State Codes: same as figure 2.

Figure 4.b: Education Service Delivery (Education Development Index (EDI)) & Per Capita Education Subsidy (PCES) in 2011-12



Note: * Significant at 1% Level; State Codes: same as figure 2.

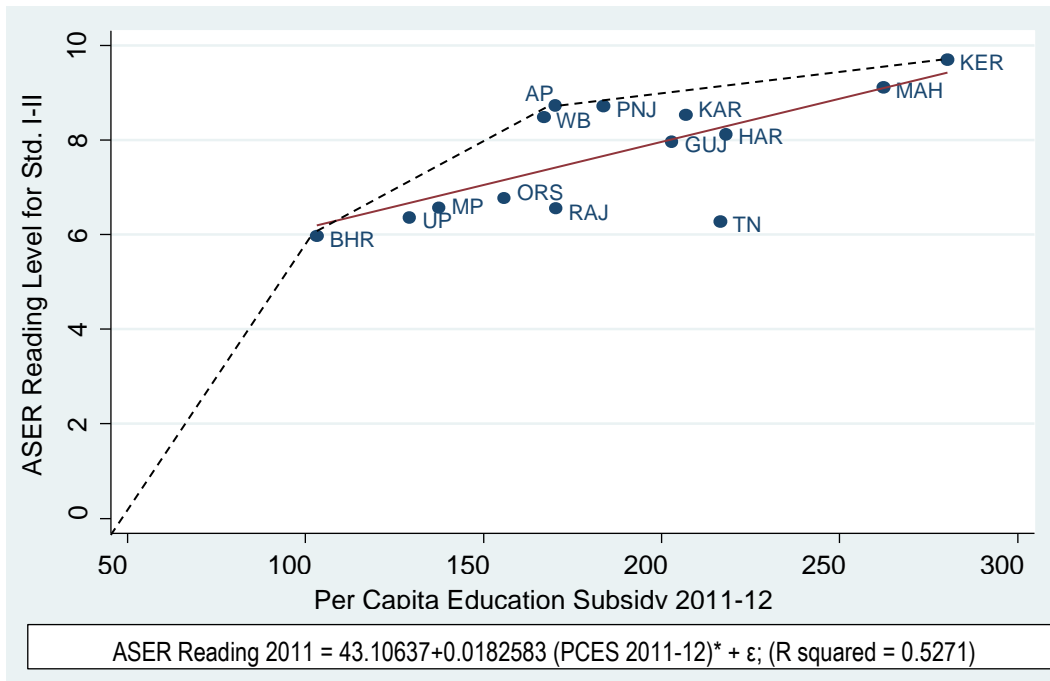
We next look at the impact of education subsidies. In figure 4a, the linear regression line shows the relationship between per capita education subsidy and literacy. The linear regression line in Figure 4b shows the relationship between per capita education subsidy and the government's education development index (EDI)¹¹ in 2011-12, the year for which we get the relevant data from the Mundle et al. paper on government service delivery. Both education indicators show that there is a very strong positive relationship between education subsidy and consumption of education services, significant at the 1% level of confidence.

There is growing evidence, especially from the Pratham sponsored ASER surveys,¹² that quantitative indicators of education service consumption conceal the massive deficit in learning outcomes - which is possibly the most serious policy challenge in education in India today. Accordingly, we have presented in Figure 5a the linear regression line between education subsidy and reading skills for students of standards I and II. The linear regression line in Figure 5b shows the relationship between education subsidy and mathematics learning outcomes for students in standards in I or II.

¹¹ Education Development Index (EDI) 2011-12 is a Composite Educational Development Index for All Schools and All Managements, based on DISE data, collected from Elementary Education in India: Progress towards UEE, Flash Statistics, NUEPA, 2013, page 43.

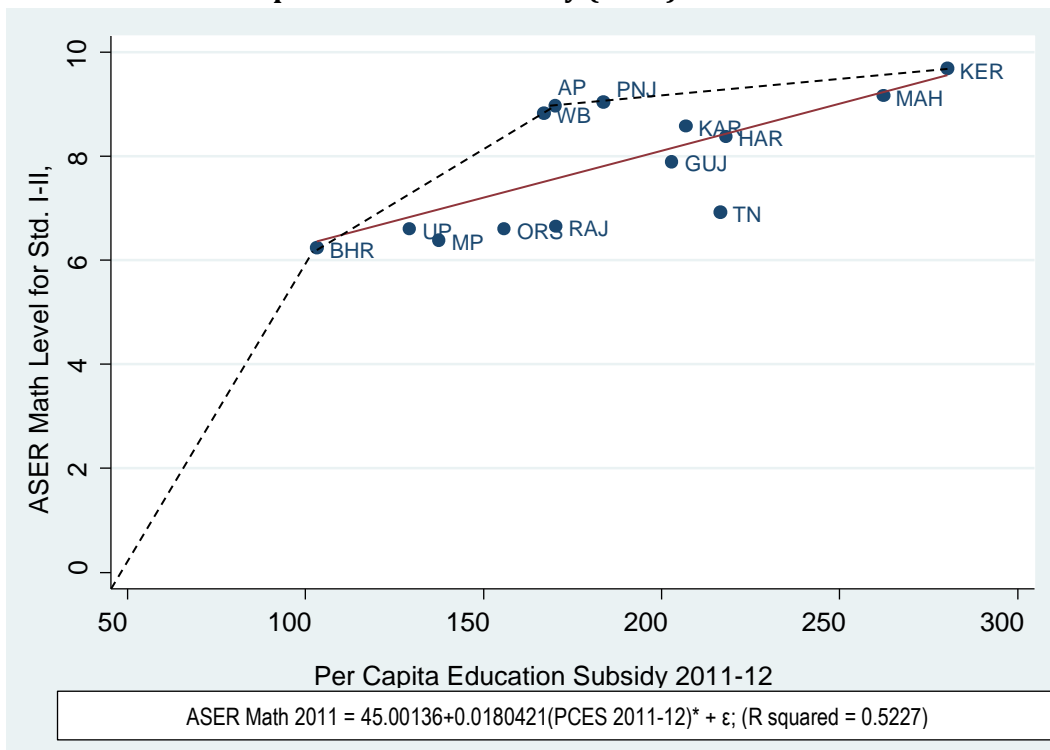
¹² Annual Survey of Education (Rural), various annual reports.

Figure 5.a: Education Service Delivery (ASER Reading Level for Std. I-II in 2011) & Per Capita Education Subsidy (PCES) in 2011-12



Note: * Significant at 1% Level; ε is error; State Codes: same as figure 2

Figure 5.b: Education Service Delivery (ASER Math Level for Std. I-II in 2011) & Per Capita Education Subsidy (PCES) in 2011-12

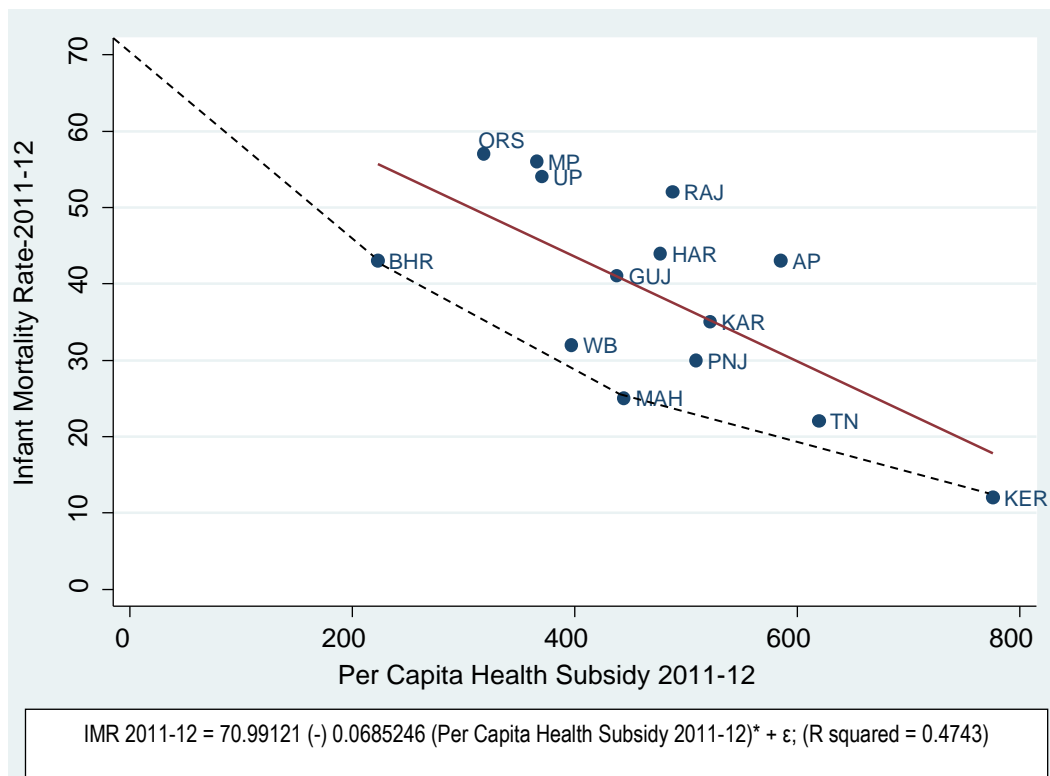


Note: * Significant at 1% Level; ε is error; State Codes: same as figure 2

Here too we see a very strong positive relationship between education subsidy and learning skills for reading and mathematics, both again significant at the 1% level of confidence. The key policy take away from this evidence is that education subsidies, which we treat as merit subsidies, are indeed very important in determining the level of education consumption as well as actual learning outcomes.

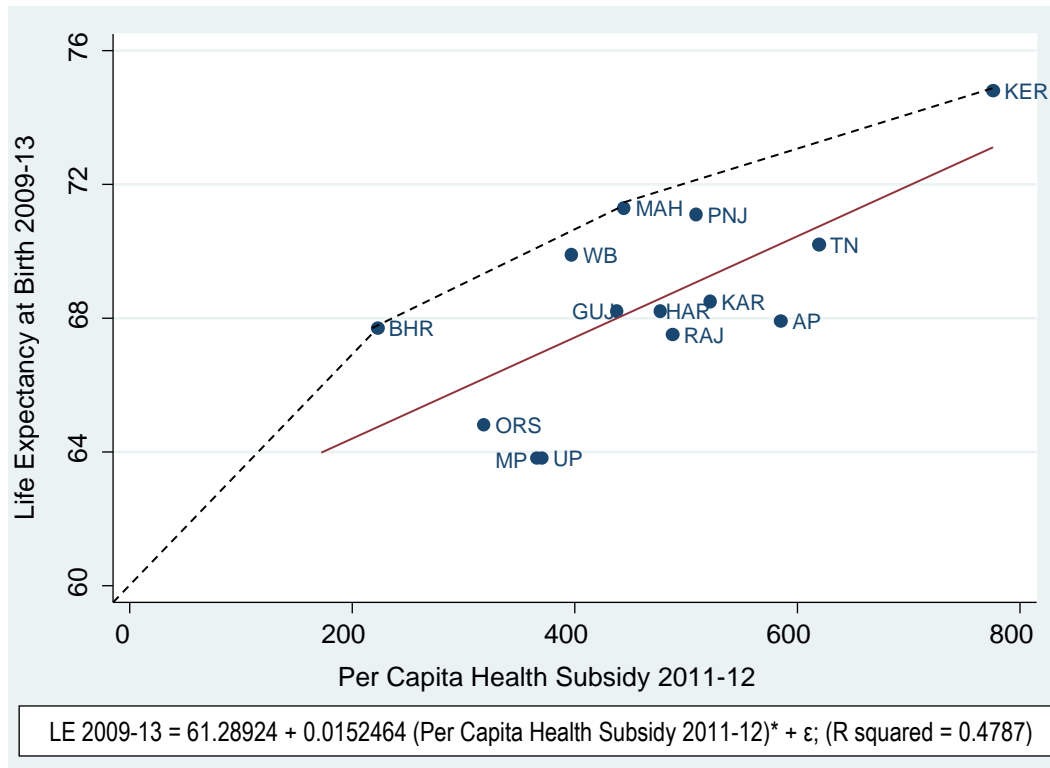
Next, we test the relationship between per capita subsidy in consumption of health services and health outcomes, *i.e.*, the linear regression line between per capita health subsidy and Infant Mortality Rate (IMR) in Figure 6a and that between health subsidy and life expectancy in Figure 6b. Both indicators of health outcome are seen to have a very strong relationship with per capita health care subsidy significant at the 1% level of confidence.

Figure 6.a: Health Service Delivery (Infant Mortality Rate 2011-12) & Per Capita Health Subsidy in 2011-12



Note: * Significant at 1% Level; ε is error; State Codes: same as figure 2

Figure 6.b: Health Service Delivery (Life Expectancy at Birth 2009-13) & Per Capita Health Subsidy in 2011-12



Note: * Significant at 1% Level; ε is error; State Codes: same as figure 2

The policy conclusion from this evidence is that health subsidy, which we also treat as a merit subsidy, has a strong positive impact on health outcomes and needs to be sustained, if possible even increased.

Finally, on the question of efficiency in the use of subsidies we find large differences across states in the outcome delivered per unit of per capita subsidy for the various services. Noting these differences, we have attempted to identify the states which lie on the subsidy efficiency frontier for the different public services analysed in this paper¹³. Starting with infrastructure, as we move from low to high state road density we see by inspection that West Bengal, Maharashtra and Kerala define the road transport subsidy efficiency frontier (the dashed line in Figure 3).

In the case of education subsidy we find that Bihar, Uttar Pradesh, West Bengal and Kerala lie on the literacy subsidy efficiency frontier (dashed line in figure 4a) while only Bihar and Kerala define the subsidy efficiency frontier for education development as measured by

¹³ See footnote 10 above. Here, we have attempted to identify by inspection the states which define the subsidy efficiency frontier in the delivery of different public services. It should be emphasised that the discussion here is purely illustrative and exploratory.

the DICE index(dashed line in Figure 4b). Learning outcomes capture a very different qualitative dimension of education as discussed above. Bihar, Andhra Pradesh and Kerala lie on the learning outcome subsidy efficiency frontier for reading ability (dashed line in Figure 5a), while these three states along with West Bengal and Punjab define the subsidy efficiency frontier for arithmetic ability (dashed line in Figure 5b). In the provision of health services we find Bihar, Maharashtra and Kerala lie on the health subsidy efficiency frontier both in terms of infant mortality as well as life expectancy (dashed lines in Figures 6a and 6b).

The states cited above include both low and high income states as well as low and high subsidy incidence states. What they have in common, especially Kerala and Bihar, and to a lesser extent Andhra Pradesh (undivided), Maharashtra and West Bengal, is that they are efficient in the use of subsidies.

6. Non-merit Subsidies, Fiscal Space and Inclusive Growth

In the context of the India's sharp growth deceleration we have recently argued (Mundle 2019, Mundle and Sikdar 2019), as have others, that the deceleration is being driven by the collapse of aggregate demand. Hence, growth revival in the short run will require substantial income support, especially for poor households with a high propensity to consume, which would have a high multiplier effect, buying time for structural reforms which can take India back to a higher growth path sustainable in the longer term.

Such income support would entail substantially higher public expenditure. However, such additional expenditure cannot be financed through larger deficits because the economy is already under considerable fiscal stress. The total public sector borrowing requirement for central and state governments plus public enterprises is running in excess of 9% of GDP (Chenoy 2019). This large preemption of loanable funds for low or zero risk loans has resulted in high yields for government bonds. Hence, the need for a strategy of deep fiscal reforms to finance such additional expenditure without recourse to either higher deficits or higher rates of taxation.

The standard argument against any major increase in public spending is that there is no fiscal space. But this is so only true in a 'business as usual scenario'. Deep fiscal reforms can actually free up considerable fiscal space which can be used to finance a large volume of additional public spending. On the revenue side this would have three main components: non-merit subsidies, tax expenditures and savings from excess appropriations.

The estimates presented above indicate that unwarranted non-merit subsidies, with no public interest rationale for under recovery of costs, amounts to over 5.7% of GDP (Table 4). Even if half of these could be rolled back, such rationalization of subsidies could free up considerable additional fiscal space. However, it is important to recall that the bulk of these non-merit subsidies, over 4.1% of GDP, is actually being provided by the states. Hence the rationalization would have to be undertaken not just by the central government but also, indeed more so, by the states.

Second, there is a large volume of revenue being foregone in the form of tax exemptions and concessions, for both direct as well as indirect taxes. This amounts to around 5% of GDP as reported in Annexure 7 of the 2019-20 central government receipts budget (GOI 2019). This is a lower bound estimate. There would also be exemptions and concessions from state taxes that have not been included in the reckoning.

Further, the Comptroller and Auditor General has reported in a report on central government accounts earlier this year that there are savings in central government expenditure to the tune of 1.5% of GDP which have been appropriated for spending in the budget approved by Parliament but not actually spent. Again, this is a lower bound estimate because it only includes excess appropriations of the central government. There could be similar excess appropriations of state governments which have not been counted.

Thus, taken together the potential for additional fiscal space through rationalization of non-merit subsidies, reduction of tax exemptions and concessions and greater efficiency in public spending is an enormous 12.2% of GDP. Even this is a lower bound estimate as we have not included in it the tax concessions and exemptions or excess appropriations of state governments. But it would be unrealistic to assume that this entire additional fiscal space could actually be released, perhaps it may not even be desirable in case of some tax concessions. Let us assume, conservatively, that if the government could commit itself to a bold program of deep fiscal reforms it could free up only about half of this potential extra fiscal space. Even that would amount to over 6% of GDP or close to the entire fiscal deficit of the central and state governments taken together!

It should be emphasized that all the three components discussed above are savings of revenue leakage in the form of flows not stocks. They are not a one-time provision of fiscal space as, for example, with the sale of public sector equity. Instead, they free up a permanent flow of additional fiscal space. It is important to emphasize this because only such fiscal space can be used to finance additional expenditures which are in the nature of recurring, long term, expenditure commitments without causing any additional fiscal stress.

The question now arises, how best can this extra fiscal space be used to quickly step up demand in the macroeconomic system, thereby reviving India's faltering growth?

As explained earlier, such a program should aim to quickly put more money in the hands of consumers, especially poor consumers with a high marginal propensity to consume, and revive growth in the short run. This would buy time for the effects of more demanding structural reforms to kick in and sustain growth over the long term. The expenditure package of such an inclusive growth revival strategy would have three main components:

(i) An income support program. Ghatak and Muralidharan (2019) have made a compelling case for extending the PM- Kisan program to all citizens without any targeting. They have estimated that such an expansion which they call the Inclusive Growth Dividend (IGC), at the

rate of Rs. 6000/- per head per year, would cost about 1% of GDP. Doubling the IGC income support to Rs. 12,000/- per year, or Rs. 1000/- per month, would raise the cost of the program to 2% of GDP. Earmarked at that level, the assistance per head would grow in proportion to GDP without any additional fiscal pressure. Note that this would be in addition to any existing income support programs for specific target groups such as MNREGA, scholarships, old age pensions, etc. and not a substitute for them. Further, it may be considered unpalatable in principle or politically inappropriate for such support to be made available for the rich, however insignificant it may be fiscally. In that case, instead of a positively targeted inclusion list, with all its challenges of identification, leakage, etc., it would be better to have a transparent negative exclusion list that cannot be easily manipulated, i.e., exclude all income tax payers.

(ii) The second component would be education and health services, both of which are highly underfunded in India. Each of these could be provided additional funding amounting to 1% of GDP. In education this could be used to scale up the 'Teaching at the right level' program which has proved to be very effective in improving learning outcomes in several state level experiments. In health the additional allocation could be used to strengthen the 150,000 or so Health and Wellness Centers, the erstwhile primary health care centers, which have remained the fragile backbone of India's healthcare system despite their recent makeover.

(iii) Third, despite the present government's emphasis on infrastructure, the infrastructure deficit still remains a major bottleneck in India. An extra allocation of 1% of GDP could be set aside for stepping up investment in road infrastructure, especially the PMGSY rural roads program, which has been one of India's most successful, employment intensive, infrastructure programs ever since it was first introduced by Prime Minister Vajpayee.

The above three components would together use up extra fiscal space to the tune of 5% of GDP. The balance 1% of GDP could be used to reduce the fiscal deficit. Thus, the deep fiscal reforms outlined here would quickly revive growth through an inclusive expenditure strategy. It would accomplish this without any additional hike in tax rates and it would actually reduce the fiscal deficit not increase it. However, such fiscal reforms cannot be rolled out overnight. Even if launched immediately with determination, it could probably only be fully rolled out by the end of the current financial year and its full impact would be felt only by the end of FY 2019-20.

7. Conclusion

In an economy chronically under fiscal stress the rationalisation of subsidies has always remained an important but unfulfilled goal of fiscal policy. Replicating the original Mundle-Rao estimate of budget subsidies, defined as unrecovered cost of economic and social services provided by the central and state governments, we find that the incidence of subsidies has declined from about 12.9 % in 1987-88 to 10.3 % at present. This is consistent with cross section analysis across states which show that the incidence of subsidies is inversely related to state's per capita income. The bulk of budget subsidies are provided by the states and about

half of it is spent on non-merit subsidies. We also find that subsidies are important determinants of the consumption of many public services though not all. Further, there are large variations across states in the efficiency of subsidy use and we have identified the states that are at the subsidy efficiency frontier for several key public services. Finally, we have argued that rationalising non-merit subsidies is only one of several possible measures of deep fiscal reforms that could free up massive fiscal space, conservatively estimated at 6% of GDP. We have outlined a proposal for using this fiscal space to launch an inclusive strategy that could revive growth without raising tax rates and while actually reducing the fiscal deficit.

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Appendix Table A.1.1: Ratio of Subsidy to GSDP/ GDP

State	Social Sector			Economic Sector			Economic & Social Sector		
	% of GSDP*			% of GSDP*			% of GSDP*		
	1987-88	2011-12	2015-16	1987-88	2011-12	2015-16	1987-88	2011-12	2015-16
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Andhra Pradesh (Telangana)	5.84	3.95	4.84	4.15	4.61	4.75	9.99	8.56	9.59
Bihar (includes Jharkhand)	7.79	5.63	5.96	7.48	5.79	5.27	15.27	11.42	11.23
Gujarat	5.05	4.21	3.93	4.66	2.55	3.21	9.71	6.76	7.14
Haryana	3.98	3.36	3.55	4.45	2.49	2.96	8.43	5.84	6.52
Karnataka	5.57	3.95	4.28	4.23	4.43	4.24	9.80	8.38	8.52
Kerala	5.96	3.93	4.52	2.85	2.10	1.99	8.81	6.03	6.51
Madhya Pradesh (includes Chhattisgarh)	6.54	5.19	6.72	4.79	4.57	5.11	11.34	9.75	11.82
Maharashtra	4.19	3.84	3.51	2.30	3.00	3.03	6.50	6.83	6.55
Orissa	5.30	4.71	5.67	4.82	4.03	4.17	10.12	8.74	9.83
Punjab	3.98	3.13	3.31	4.79	2.44	1.99	8.77	5.57	5.30
Rajasthan	5.76	5.38	5.96	6.23	2.29	3.09	11.99	7.67	9.05
Tamil Nadu	4.24	3.31	3.27	4.54	2.29	1.79	8.78	5.60	5.06
Uttar Pradesh (includes Uttarakhand)	4.35	5.18	5.98	4.42	4.82	5.71	8.77	10.01	11.70
West Bengal***	4.43	4.62	3.49	2.90	2.03	2.24	7.33	6.64	5.72
All States*	4.40	3.83	4.09	3.66	3.08	3.26	8.06	6.91	7.35
Centre*	0.65	0.94	0.39	4.22	2.82	2.54	4.87	3.76	2.93
All States + Centre*	5.05	4.77	4.48	7.88	5.90	5.80	12.93	10.67	10.28
All States' Average**	5.21	4.31	4.64	4.47	3.39	3.54	9.69	7.70	8.18

Notes: GSDP for 2011-12 and 2015-16 are at current prices in 2011-12 NAS Series; whereas GSDP for 1987-88 are at current prices in 2004-05 NAS Series.

*These numbers are percentage of GDP.

** All States' Averages are the average as percentage of GSDP.

***West Bengal's GSDP for 2015-16 are collected from State Budget Speech, and 2011-12 GSDP is at current prices in 2004-05 NAS Series.

Appendix Table A.2.1: Distribution of Merit and Non-Merit Subsidies in Social and Economic Sector (% to GSDP/GDP)

State	Merit Subsidies						Non-Merit Subsidies						Total Subsidies								
	Social Sector			Economic Sector			Social Sector			Economic Sector			Social Sector			Economic Sector			Total		
	87-88	11-12	15-16	87-88	11-12	15-16	87-88	11-12	15-16	87-88	11-12	15-16	87-88	11-12	15-16	87-88	11-12	15-16	87-88	11-12	15-16
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Andhra Pradesh (Tel-angana)	3.8	2.8	3.3	0.1	0.1	0.1	2.0	1.2	1.5	4.0	4.5	4.7	5.8	4.0	4.8	4.1	4.6	4.7	10.0	8.6	9.6
Bihar (includes Jhar-khand)	6.0	4.2	4.4	0.3	0.1	0.2	1.8	1.4	1.5	7.2	5.7	5.0	7.8	5.6	6.0	7.5	5.8	5.3	15.3	11.4	11.2
Gujarat	4.1	3.3	3.2	0.1	0.1	0.1	1.0	0.9	0.7	4.6	2.5	3.1	5.1	4.2	3.9	4.7	2.6	3.2	9.7	6.8	7.1
Haryana	3.1	2.5	2.8	0.1	0.1	0.1	0.9	0.8	0.8	4.4	2.3	2.9	4.0	3.4	3.6	4.4	2.5	3.0	8.4	5.8	6.5
Karnataka	4.0	2.7	2.8	0.1	0.2	0.4	1.6	1.3	1.5	4.1	4.2	3.9	5.6	3.9	4.3	4.2	4.4	4.2	9.8	8.4	8.5
Kerala	4.7	2.9	2.8	0.2	0.3	0.3	1.3	1.0	1.7	2.7	1.8	1.7	6.0	3.9	4.5	2.9	2.1	2.0	8.8	6.0	6.5
Madhya Pradesh (in-cludes Chhattisgarh)	4.9	4.1	4.8	0.2	0.2	1.0	1.7	1.1	1.9	4.6	4.4	4.1	6.5	5.2	6.7	4.8	4.6	5.1	11.3	9.8	11.8
Maharashtra	3.5	3.0	2.7	0.2	0.1	0.1	0.7	0.9	0.8	2.1	2.9	2.9	4.2	3.8	3.5	2.3	3.0	3.0	6.5	6.8	6.5
Orissa	3.8	3.4	4.5	0.2	0.5	0.5	1.5	1.3	1.1	4.7	3.6	3.7	5.3	4.7	5.7	4.8	4.0	4.2	10.1	8.7	9.8
Punjab	3.2	2.7	2.7	0.1	0.0	0.1	0.8	0.5	0.6	4.7	2.4	1.9	4.0	3.1	3.3	4.8	2.4	2.0	8.8	5.6	5.3
Rajasthan	4.9	4.8	5.1	0.0	0.0	0.0	0.9	0.6	0.8	6.2	2.2	3.1	5.8	5.4	6.0	6.2	2.3	3.1	12.0	7.7	9.1
Tamil Nadu	3.4	2.7	2.7	0.3	0.1	0.1	0.8	0.6	0.6	4.2	2.2	1.7	4.2	3.3	3.3	4.5	2.3	1.8	8.8	5.6	5.1
Uttar Pradesh (in-cludes Uttarakhand)	3.4	4.4	4.3	0.2	0.3	0.2	0.9	0.8	1.7	4.3	4.5	5.5	4.4	5.2	6.0	4.4	4.8	5.7	8.8	10.0	11.7
West Bengal***	3.5	3.9	2.5	0.2	0.1	0.1	0.9	0.7	1.0	2.7	1.9	2.2	4.4	4.6	3.5	2.9	2.0	2.2	7.3	6.6	5.7
All States*	3.4	3.0	3.0	0.1	0.1	0.2	1.0	0.8	1.0	3.5	2.9	3.1	4.4	3.8	4.1	3.7	3.1	3.3	8.1	6.9	7.3
Centre*	0.3	0.9	0.2	0.7	1.5	1.1	0.3	0.1	0.2	3.5	1.3	1.4	0.7	0.9	0.4	4.2	2.8	2.5	4.9	3.8	2.9
All States + Centre*	3.7	3.9	3.2	0.9	1.6	1.3	1.3	0.9	1.2	7.0	4.3	4.5	5.0	4.8	4.5	7.9	5.9	5.8	12.9	10.7	10.3
All States' Average**	4.0	3.4	3.5	0.2	0.2	0.2	1.2	0.9	1.2	4.3	3.2	3.3	5.2	4.3	4.6	4.5	3.4	3.5	9.7	7.7	8.2

Notes: GSDP for 2011-12 and 2015-16 are at current prices in 2011-12 NAS Series; whereas GSDP for 1987-88 are at current prices in 2004-05 NAS Series.

*These numbers are percentage of GDP.

** All States' Averages are the average as percentage of GSDP.

***West Bengal's GSDP for 2015-16 are collected from State Budget Speech, and 2011-12 GSDP is at current prices in 2004-05 NAS Series.

Appendix Table A.2.2: Shares of Merit Subsidies (% to GSDP/GDP)

State	Merit Subsidies																	
	Elementary Education			Secondary Education			Health			Water supply, sanitation, housing & urban development			Food			Total Merit		
	87-88	11-12	15-16	87-88	11-12	15-16	87-88	11-12	15-16	87-88	11-12	15-16	87-88	11-12	15-16	87-88	11-12	15-16
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Andhra Pradesh (Telangana)	1.36	0.81	0.87	0.81	0.73	0.86	0.98	0.67	0.73	0.70	0.57	0.84	0.10	0.06	0.08	3.94	2.84	3.38
Bihar (includes Jharkhand)	2.99	2.09	2.49	1.03	0.57	0.48	1.16	0.71	0.98	0.77	0.81	0.49	0.25	0.07	0.24	6.21	4.25	4.68
Gujarat	1.47	1.12	1.04	0.95	0.52	0.41	0.70	0.44	0.55	0.94	1.21	1.19	0.08	0.05	0.09	4.13	3.34	3.28
Haryana	0.90	0.83	0.91	0.90	0.57	0.48	0.67	0.41	0.50	0.60	0.74	0.91	0.08	0.14	0.11	3.15	2.68	2.91
Karnataka	1.59	0.99	0.86	0.89	0.59	0.48	0.99	0.53	0.50	0.55	0.58	0.94	0.09	0.23	0.36	4.11	2.92	3.14
Kerala	1.96	1.03	0.88	1.07	0.94	0.92	1.00	0.71	0.74	0.64	0.25	0.25	0.16	0.34	0.33	4.82	3.27	3.13
Madhya Pradesh (includes Chhattisgarh)	1.78	1.72	1.82	0.71	0.77	0.92	1.14	0.76	1.00	1.25	0.85	1.10	0.20	0.19	1.02	5.08	4.29	5.85
Maharashtra	1.11	1.08	0.99	0.92	0.89	0.80	0.75	0.39	0.45	0.74	0.60	0.48	0.17	0.11	0.11	3.69	3.09	2.83
Orissa	1.57	1.49	1.64	0.62	0.72	0.79	0.90	0.58	0.97	0.76	0.62	1.12	0.16	0.48	0.45	4.00	3.89	4.98
Punjab	0.84	0.46	0.62	1.19	1.31	1.23	0.80	0.56	0.63	0.39	0.32	0.24	0.12	0.02	0.09	3.34	2.68	2.81
Rajasthan	1.67	1.57	1.53	1.07	0.84	1.27	1.06	0.77	1.03	1.09	1.58	1.30	0.04	0.04	0.04	4.94	4.80	5.17
Tamil Nadu	1.12	0.80	0.76	0.90	0.82	0.78	0.81	0.56	0.63	0.58	0.48	0.50	0.33	0.09	0.09	3.74	2.76	2.76
Uttar Pradesh (includes Uttarakhand)	1.18	2.03	2.04	0.88	0.99	0.68	0.96	0.94	1.04	0.42	0.46	0.54	0.16	0.29	0.18	3.60	4.71	4.49
West Bengal***	1.04	1.05	0.75	1.03	1.28	1.01	0.86	0.68	0.67	0.60	0.88	0.05	0.23	0.08	0.06	3.76	3.98	2.53
All States*	1.22	1.09	1.08	0.81	0.74	0.70	0.79	0.55	0.64	0.61	0.62	0.62	0.14	0.13	0.19	3.56	3.14	3.23
Centre*	0.02	0.32	0.01	0.10	0.09	0.05	0.10	0.22	0.10	0.09	0.24	0.05	0.75	1.48	1.12	1.07	2.35	1.32
All India*	1.24	1.41	1.08	0.91	0.83	0.74	0.89	0.77	0.74	0.70	0.86	0.67	0.89	1.61	1.31	4.63	5.49	4.55
All States' Average	1.47	1.22	1.23	0.92	0.82	0.79	0.91	0.62	0.74	0.72	0.71	0.71	0.15	0.16	0.23	4.18	3.54	3.71

Notes: GSDP for 2011-12 and 2015-16 are at current prices in 2011-12 NAS Series; whereas GSDP for 1987-88 are at current prices in 2004-05 NAS Series.

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