



Economic reforms and expenditure on health in India

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Abstract

In this paper an attempt has been made to analyse the impact of economic reform on public health expenditure of centre and states combined, centre, all states and each of 15 major states. For the purpose public health expenditure is measured in per capita terms, as a share of total expenditure, as a share of GDP/NSDP. 30 years of times period (from 1976-77 to 2005-06) have been selected and that has been divided in two parts - 15 years of pre reform period (1976-77 to 1990-91) and 15 years of post reform period (from 1991-92 to 2005-06). We have considered health expenditure as expenditure on a) Medical and public health, Water supply and Sanitation and b) Family welfare. Both capital and revenue accounts of plan and non-plan expenditures have been taken for the analysis the paper finds that economic reforms did affect negatively on public health expenditure of centre and states combined, and all states. While in case of central government it affected positively. In case of major 15 states – public health expenditure as a share of total expenditure and as a share of NSDP has decreased, while in growth rates of per capita public health expenditure 7 out of 15 states show an increase during the reform period. The paper suggests that huge investment is necessary for the development of the health condition of the people.

Keywords: economic reform, public health

1. Introduction

Scientific discussions concerning to the human capital theory and economics of human capital started after the presidential address by Schultz (1960) on 'importance of human capital for economic growth' to American Economic Association. The human capital theory suggests that 'people should invest themselves in the form of education, health, nutrition and job training that will increase their future income.' Thereafter, a plethora of studies were conducted to trace the impact of education and health on economic development, productivity, returns, cost benefit analysis and financing to human capital so on. At the same time it was recognized that people in developing countries cannot invest or spend on education and health due to not only their poor financial condition but also the returns from such investment needs a long gestation. Hence government has to play a major role in the development of education and health of the people through its policies and programmes. It has to provide free education and health services at least in primary level. Further, 'the dominant role of the government arises from the characteristics and the definition of "public goods." Health and education are generally considered as public goods, particularly at the basic level since they benefit a nation's social and economic growth as a whole' (Yidan Wang, 2000) [19].

In India too, many studies have conducted on the above themes more specifically V.K.R.V Rao (1964, 1970) [17], Kothari (1966) [12], Pandit (1969), Panchamukhi 1975, Baghavati 1973 Tilak (1987) [4]. During the time Kothari committee suggested at least 6 per cent of GDP should be spent on education. All the studies showed that public expenditure on education as well as health is very low, and suggested many policy measures. In India the public

expenditure on education and health are very less in terms of per capita as well as a percentage to GDP. Public expenditure on education is less than 4 per cent and health is less than 2 percent of GDP. In the present scenario there are various discussions on public expenditure on social services like health and education due to cut down of expenditure after the new economic reforms.(?)

India has not adopted new economic reforms with entirety itself contentedly. Like many other developing countries India was also facing the economic crises. 'The problems in the developing countries arose from three global crises: the oil crisis, declining agricultural commodity prices, and the international recession in the early 1980s. The developing countries therefore faced unprecedented pressure in their external accounts after these consecutive international economic crises (Adepoju, 1993). Other reasons apart from the above are cited as having contributed to Indian economic deterioration. These include rapid population growth, adverse weather conditions (such as drought), mismanagement of economy due to the political instability and corruption. At the same time it was difficult to find countries that were willing to finance, due to their short-term decline in economy for oil crises. There was only one option of Bretton Wood Institutions (IMF and World Bank) for getting assistance. 'In response, the Bretton Woods Institutions came up with a structural adjustment package comprising of a loan from the World Bank, if the country followed some recommended reform, called Structural Adjustment Program (SAP)' (AFRODAD, 2007).

Structural Adjustment Programmes (SAPs) have been evaluated as having a negative impact on social sector expenditures (Cornia, Jolly and Steward 1987; Tsujita 2005;

Panchamukhi, 2000; Hanagodimath, 2008; Dev and Mooij, 2002) [14, 10, 7]. The reduction of fiscal deficits is normally included in the conditionality of SAPs and consequently government expenditures have to be cut in order to meet the targets for reducing fiscal deficits. There are a number of studies which have pointed out the declining trend in social sector expenditures. UNICEF's *Adjustment with a Human Face* (Cornia, Jolly and Stewart 1987) was the first major criticism of SAPs to point out the negative impact on the vulnerable. In the present study public expenditure on health has been considered for the impact of economic reform. As already mentioned there are handful of study which have found the negative impact of economic reform on health expenditure. At the same time the time period considered by these studies is very limited. Further more, among these studies most of have restricted to only revenue expenditure. Expenditure by combined (Centre + States), centre, all states and individual states are very few. An attempt has been made here to fulfil this research gap.

2. Data and methodology

The study is based on secondary sources of data. The required data has been obtained from following sources: Indian Public Finance Statistics, RBI Bulletin, National Human Development Report (2002), CSO, and Economic Survey.

15 major Indian states have been selected for the analysis as they cover around 90% of the Indian population. The states covered in the study are, Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal.

Public Health expenditure includes expenditure on a) Medical and public health, Water supply and Sanitation and b) Family welfare. The time period considered for analysis of trends of public expenditure on health sector is from 1976-77 to 2005-06 (15 years of pre reform period [from 1976-77 to 1990-91] and 15 years of post reform period [from 1991-92 to 2005-06]). The first reason for selecting this period is that – two appropriate divisions can be done for before and after economic reform, and second is that before 1975-76, in budgetary classification the head health has not been defined properly.

In order to remove the impact of price rise, the growth and composition of public health expenditure has been considered at constant prices with reference to 1999-00 as the base year. By using the GDP deflator method, the current expenditure items were converted into constant (1993-94) prices. The GDP deflator is the ratio of nominal GDP to real GDP. In other words, it is equal to nominal GDP divided by real GDP. To get a value at constant prices we need to divide the value of current prices with GDP Deflator, in case of individual states GSDP deflators have been used.

To analyse the pattern of public expenditure on health, the present study has included plan and non-plan expenditure of revenue and capital accounts; loans and advances have been excluded. The study does not analyse government programmes / schemes relating to health sector development. Also the allocation of central government expenditure to individual states has been excluded from the scope of this study. The present study also ignores the intra-state disparities.

This paper has been divided into three sections. Section I includes introduction research gap, data and methodology. Section II has the discussion of the paper. This section has been divided into four sub sections, sub section 'A' analysis the public health expenditure of centre and states combined, while section 'B' discusses the central government expenditure, section 'C' deals with the health expenditure of all states, and section 'D' looks at public health expenditure of 15 major states of India. Section III has summary and conclusion of the paper.

3. Discussion

Before going to the analysis of trends and patter of public health expenditure a quick review of private and public expenditure on health sector in different states gives us the proportion spent by public as against private, and it also shows the position of different states in both sectors. Table 1 shows the per capita public and private expenditure on health by Indian states during 2001-02. Per capita public health expenditure is Rs. 207 in India while it is Rs. 790 from private sector. Public sector spends only 20 per cent of the total health expenditure. One can easily argue that private expenditure is very important but the thing is not so uncomplicated, people who are rich can spend on health, although health expenditure has not been considered as luxurious expenditure, for poor people health spending is the territory expenditure after food and cloth. In case of health expenditure considerable inter-state disparity can be observed from the table, while private expenditure (CV 28.21%) has less disparity than that of public (CV 46.23%). At the same time we can observe that there is no significant relationship between public and private expenditures. Kerala, Punjab, Haryana, Uttar Pradesh are the highest spending sates in private as well as total health expenditure with the amount of more than Rs. 1,100 per person, per year. While in case of public expenditure - Punjab, Kerala, Tamil Nadu and Karnataka are the highest spending states with the amount more than Rs. 200 per person per year. If we see the relationship with poverty of these expenditures – public expenditure turns a negative significant relationship with poverty (correlation coefficient -0.673), whereas it not so in case of private expenditure. Thus, mainly, it is clear that public health expenditure is for poor and private health expenditure from rich.

Table 1: Per Capita Public Private Expenditure on Health in Indian States, 2001-02

States	Public	Private	Total	Public Exp. as % total exp.
Andhra Pradesh	182	858	1,039	17.5
	(6)	(5)	(5)	(9)
Assam	176	393	569	30.9
	(9)	(15)	(15)	(1)
Bihar	92	687	779	11.8
	(14)	(8)	(10)	(13)
Gujarat	147	670	816	18
	(11)	(9)	(9)	(8)
Haryana	163	1,408	1,570	10.4
	(10)	(2)	(2)	(14)
Karnataka	206	506	712	28.9
	(3)	(12)	(12)	(3)
Kerala	240	1,618	1,858	12.9
	(2)	(1)	(1)	(12)
Madhya	132	733	864	15.2
	(13)	(7)	(7)	(11)
Maharashtra	196	815	1,011	19.4
	(5)	(6)	(6)	(7)
Orissa	134	449	582	23
	(12)	(13)	(14)	(6)
Punjab	258	1,273	1,530	16.8
	(1)	(3)	(3)	(10)
Rajasthan	182	415	597	30.4
	(7)	(14)	(13)	(2)
Tamil Nadu	202	644	846	23.9
	(4)	(10)	(8)	(4)
Uttar Pradesh	84	1,040	1,124	7.5
	(15)	(4)	(4)	(15)
West Bengal	181	593	775	23.4
	(8)	(11)	(11)	(5)
All India #	207	790	997	20.8
CV (%)	28.21	46.23	39.91	37.74

Note: # All India public expenditure including expenditure by the Ministry of Health and Family Welfare, Central Ministries and local bodies, while private expenditure includes health expenditure by NGO, firms and household.

Source: Economic Survey of Delhi, 2005-2006

However present study has an intention to analyse the impact of economic reform on public health expenditure and not to trace out the relationships and behaviours of public and private expenditures.

Now we will turn to the analysis of public health expenditure, which is important theme of the study. India has a federal government. Indian constitution prescribes different areas in three lists i.e., State list, Centre list and Concurrent list. Health comes under the state list. But centre has a strong influence on state government expenditure via its fiscal transfers. (Note: for example, family welfare is financed almost 100% by fiscal transfers from the central government to the states, although it is in the Concurrent List). However, we have analysed public health expenditure at four levels: combined centre and states, centre, all states and each of the 15 major states. While most of the studies use only revenue expenditure, in this study we include both revenue and capital accounts of plan and non-plan expenditures.

A) Public Health Expenditure of Centre and States Combined

India's best dedication or commitments to the public health expenditure can be seen in centre and states combined

expenditure. Table 2 shows the combined health expenditure from 1976-77 to 2005-06. In the absolute term expenditure increased significantly about 50 times from Rs. 978 crores to Rs. 47,220 crores. This impressive growth is offset by escalation of price and rapid growth in population. After converting these figures into constant prices of 1999-00, the increase is less than 6 times. If we view this growth in per capita terms at 1999-00 prices, the picture does not look so impressive. In per capita terms, expenditure increased only 3 times. In sum, increase of public health expenditure is only three times from 1976-77 to 2005-06 (over 30 years). Measuring Health expenditure as a share of total budgetary expenditure is another way to understand the commitment of budget to health sector. The share was less than 4 per cent until 1981-82, 1982 onwards it increased and reached 4.68 per cent in 1984-85. Thereafter, the share has started declining except for some years, like 1993-94 which has second highest share (4.63%) during the study period. Measuring health expenditure as a share of GDP is also considered as an important way especially when comparing with other nations. Health expenditure as a percentage of GDP was between 1.08 per cent and 1.83 per cent in the period under reference. The share rose from 1.08 per cent in 1977-78 to 1.83 per cent in

1987-88 but later on declined significantly. The share is 1.44 in 2006-07, which is more than 6 per cent in developed countries. Public expenditure on health in per capita term, as a share to total expenditure and percentage of GDP is less in India. In OECD countries public health expenditure as a share of GDP is more than 6 per cent. In France it is 10 per cent and

in Germany it is more than 11 per cent (Lalitha and Guennif; 2007). Moreover the share has shown declining trend during the period of economic reforms. Growth rates of public health expenditure in different terms in pre reform period are high as compared that of post reform period, which can be seen in the last columns of the table.

Table 2: Combined (Centre and State Government) Expenditure on Health

Year	Current Prices	Constant Prices	Per Capita	As a share to Total Budget	As a % of GDP
1976-77	978	6579	102	3.84	1.18
1977-78	1024	6486	98	3.56	1.08
1978-79	1195	7430	109	3.47	1.18
1979-80	1420	7670	111	3.85	1.28
1980-81	1724	8351	118	3.79	1.30
1981-82	2087	9120	126	4.14	1.35
1982-83	2497	10053	136	4.19	1.44
1983-84	3034	11263	149	4.39	1.50
1984-85	3909	13434	174	4.68	1.72
1985-86	4486	14371	182	4.60	1.76
1986-87	5132	15381	191	4.47	1.81
1987-88	5876	16084	196	4.59	1.83
1988-89	6492	16403	196	4.44	1.69
1989-90	6990	16271	190	4.12	1.58
1990-91	8088	17016	195	4.12	1.57
1991-92	9056	16751	188	4.13	1.52
1992-93	10291	17486	192	4.25	1.51
1993-94	12794	19766	213	4.63	1.62
1994-95	13999	19701	208	4.34	1.51
1995-96	15426	19893	206	4.33	1.42
1996-97	17322	20725	211	4.29	1.37
1997-98	20138	22599	226	4.38	1.44
1998-99	24214	25148	247	4.44	1.50
1999-00	27306	27306	263	4.46	1.53
2000-01	29963	29018	275	4.45	1.56
2001-02	30869	29028	271	4.17	1.47
2002-03	35551	32200	295	4.15	1.57
2003-04	35209	30834	262	4.15	1.39
2004-05	42191	35017	291	4.17	1.47
2005-06	47220	37665	313	4.18	1.44
Pre reform period	17.73	8.22	5.95	1.48	3.35
Post reform period	12.23	5.89	3.63	0.27	-0.27
Total reform period	14.57	5.90	3.71	0.49	0.45

Note: Total expenditure is Rs. in Crores and per capita expenditure in Rupees.

Source: Computed from the data available in Budgetary Document of India, Indian Public Finance Statistics and RBI Bulletin Various Issues

B) Central Government Expenditure

As it is already mentioned health is a state subject in India. This means that the primary responsibility of financing and providing health care rests with the state governments. The central government's role has been to fund centrally sponsored schemes, to develop policies and guidelines and provide statutory grants or general transfers to the states (Bajpai and Goyal, 2005) ^[3]. In this connection analysing the role of central government on health spending before and after economic reform becomes imperative. There are a number of studies who have indicated the increasing public spending of central government notably Dev and Mooij (2002) ^[7], Prabhu, (1994) ^[16], Panchamukhi (2002) ^[14], Joshi (2005). In the

present section we analyse the same with broadening of the time period and we look how much increase/decrease has taken place over time on various counts. Table 3 gives us the growth of central government expenditure on health from 1976-77 to 2005-06. As we have seen in the above section expenditure at current prices is very impressive and not so in constant prices and in per capita constant prices. One thing here to be noted is that in per capita constant prices the increase is around 5 times from Rs. 20 in 1976-77 to Rs. 97 in 2005-06, while it is only 3 times in combined (centre and state) expenditure. Moreover, public expenditure on health of combined in the reform period is less as compared with that of pre reform period. In case of central expenditure the growth

rates are high in reform period in all type of measurements; growth rate in per capita expenditure was 5.3 per cent per annum, which increased to 8.6 per cent per annum in the post reform period. Health expenditure as a share of total expenditure and as a percentage of GDP has increased around 2 times in the study period from 1.41 per cent to 2.84 per cent and from 0.23 per cent to 0.45 per cent respectively from

1976-77 to 2005-06. This increase is mainly due to implementation of many centrally sponsored health and development programmes like Rajiv Gandhi National Drinking Water Mission, National Rural Health Mission, and Jawaharlal National Urban Renewal Mission (JNNIRM), others.

Table 3: Central Govt. Expenditure on Health

Year	Current Prices	Constant Prices	Per Capita	As a share to Total Expenditure	As a % of GDP
1976-77	192	1291	20	1.41	0.23
1977-78	194	1229	19	1.25	0.21
1978-79	187	1163	17	1.00	0.18
1979-80	197	1064	15	1.04	0.18
1980-81	238	1153	16	1.05	0.18
1981-82	290	1267	18	1.15	0.19
1982-83	386	1554	21	1.25	0.22
1983-84	447	1659	22	1.26	0.22
1984-85	611	2100	27	1.40	0.27
1985-86	685	2194	28	1.30	0.27
1986-87	754	2260	28	1.20	0.27
1987-88	887	2428	30	1.30	0.28
1988-89	1062	2683	32	1.34	0.28
1989-90	1110	2584	30	1.19	0.25
1990-91	1271	2674	31	1.21	0.25
1991-92	1374	2542	28	1.23	0.23
1992-93	1630	2770	30	1.33	0.24
1993-94	2182	3371	36	1.54	0.28
1994-95	2490	3504	37	1.55	0.27
1995-96	2974	3835	40	1.67	0.27
1996-97	3084	3690	38	1.53	0.24
1997-98	3575	4012	40	1.54	0.26
1998-99	4477	4650	46	1.60	0.28
1999-00	6004	6004	58	2.01	0.34
2000-01	6303	6104	58	1.94	0.33
2001-02	8837	8310	77	2.44	0.42
2002-03	7736	7007	64	1.87	0.34
2003-04	9263	8112	69	1.97	0.36
2004-05	11891	9869	82	2.35	0.41
2005-06	14631	11670	97	2.84	0.45
Pre reform period	17.03	7.58	5.32	0.65	2.73
Post reform period	17.63	10.99	8.62	4.80	4.53
Total reform period	16.81	7.97	5.74	2.61	2.41

Note: Total expenditure is Rs. in Crores and per capita expenditure in Rupees.

Source: Computed from the data available in Budgetary Document of India, Indian Public Finance Statistics and RBI Bulletin Various Issues

C) Expenditure on Health of All States

From the above analysis we found that combined (Centre and States) expenditure on health decreased after economic reforms while it increased in central government. States have the lions' share in health spending as these spend around 80 per cent of the total spending. Comparatively changes of states spending affect a lot on the population of the country. Table 4 depicts the public health expenditure of all states from 1976-77 to 2005-06. In the current prices public health expenditure

increased around 42 times from Rs. 897 crore in 1976-77 to Rs. 37523 crore 2005-05. It is not necessary to mention that the picture is not so impressive in constant and per capita terms. In per capita constant term is less the 3 times, which is less than centre and combined expenditures. Furthermore, growth rates are very low in the post reform period and in case of as a share of total budget and as a share of GDP growth rates turned to negative in the post reform period.

Table 4: Public Expenditure on Health of All States

Year	Current Prices	Constant Prices	Per Capita	As a share to Total Expenditure	As a % of GDP
1976-77	897	6031	93	7.57	1.08
1977-78	937	5937	89	7.07	0.99
1978-79	1104	6866	101	7.04	1.09
1979-80	1338	7226	104	7.46	1.21
1980-81	1608	7790	110	7.10	1.21
1981-82	1949	8518	118	7.74	1.26
1982-83	2329	9377	127	8.10	1.34
1983-84	2843	10555	140	8.48	1.40
1984-85	3181	10931	142	7.98	1.40
1985-86	3679	11785	150	8.20	1.45
1986-87	4259	12765	159	8.22	1.50
1987-88	4963	13586	165	8.29	1.54
1988-89	5480	13846	165	8.17	1.43
1989-90	5962	13878	162	7.77	1.35
1990-91	6815	14338	164	7.48	1.32
1991-92	7674	14195	159	7.11	1.29
1992-93	8569	14560	160	7.18	1.26
1993-94	10646	16447	177	7.91	1.34
1994-95	11586	16305	172	7.17	1.25
1995-96	12884	16614	172	7.26	1.19
1996-97	14522	17375	177	7.16	1.15
1997-98	16964	19037	190	7.44	1.21
1998-99	20221	21001	206	7.59	1.25
1999-00	22294	22294	215	7.10	1.25
2000-01	24672	23893	226	7.11	1.28
2001-02	24892	23408	218	6.60	1.19
2002-03	29030	26294	241	6.56	1.28
2003-04	28353	24830	211	6.59	1.12
2004-05	34291	28460	236	6.90	1.19
2005-06	37523	29930	248	7.06	1.15
Pre reform period	16.62	7.20	4.95	0.78	2.37
Post reform period	11.83	5.52	3.26	-0.68	-0.62
Total reform period	13.98	5.36	3.18	-0.43	-0.06

Note: Total expenditure is Rs. in Crores and per capita expenditure in Rupees.

Source: Computed from the data available in Budgetary Document of India, Indian Public Finance Statistics and RBI Bulletin Various Issues

4. Summary and Conclusion

It is well known fact that improved education and health positively affect economic growth. Although private expenditure is 80 per cent of the total health expenditure, government spending is necessary in a developing country like India due to poor financial position of the majority of the population. Especially in the rural area, which is around 72 per cent of the total population in the country, expenditure on health is the territory expenditure. Cutting down of the health services affects a lot for rural people. India accepted 'Structural Adjustment Programme' in its new economic reforms, which suggests fewer government interventions in the economy including of basic social services. In this paper an attempt has been made to analyse the trends and pattern of public health expenditure before and after economic reform periods.

Public health expenditure of combined centre and states increased impressively in current prices about 50 times from Rs. 978 crores in 1976-77 to Rs. 47,220 crores in 2005-06. This impressive growth has been eaten into escalation of price and rapid growth in population. In the per capita constant prices (1999-00) expenditure increased only 3 times. Compared to 1980s public health expenditure as a share of

total budget as a percentage to GDP are less in 1990s and 2000s. Moreover, growth rate is also less in post reform period. On the other hand centre has increased its spending after economic reforms not only in per capita term but also in case of as a share of total expenditure and percentage to GDP. In case of All States, economic reform affected negatively, spending as a share of total expenditure and as a percentage of GDP decreased after reforms, further the growth rate is also less. Whereas analysis of 15 major states reveals that with having the continuation of increased inter-state disparity economic reforms affected differently on health sector for different states. Bihar, Orissa, Uttar Pradesh and West Bengal are the lowest spending states, while Kerala, Haryana, Rajasthan and Punjab are the highest spending states in most of the selected years. In case of growth rates of per capita health expenditure in 7 out of 15 states show an increase in the reform period. Significant growth rate can be observed in Andhra Pradesh, Haryana, Kerala and West Bengal during reform period. This means more than 50 per cent of the selected states affected negatively by economic reform. In case of health expenditure as a share of total budget it is less in 11 out of 15 states compared spending of 1980s. As converge from the paper, public health expenditure

decreased in India after economic reforms. Seeing of the lagging behind in Human Development Index, India needs to improve its education and health condition of the people. Huge investment is necessary to improve. In case of education Sarvashiksha Abhiyana is the central government ambitious scheme to attain the goal of universalisation of primary education by 2007 and the universalisation elementary education by 2010. Three donors have assured for \$ 1 billion in the estimated \$ 3.5 billion. Similarly, as Bajapai and Goyal suggested a Health for All programme (Sarwa Swasthya Abiyan) is to be launched in India to improve the health from the ground level. Not only increasing of funds by the government is important but the efficient use of the fund is also important. Along with this encouraging of the private and public partnership also appreciated. Last but not least awareness improvement of the people is very important.

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