

# Public Subsidies in Education in India

*Though public subsidisation of many social and economic services is a common feature of most countries of the world, of late with increasing budgetary constraints, many began raising questions on the rationale of government subsidies, and arguing in favour of drastic reduction, if not eliminating altogether of subsidies. Concentrating on education sector, this paper reviews some of the well known arguments in favour of, and counter arguments against public subsidies. Since much of the controversies are around subsidies in higher education, the paper focuses on the same, though discussion on lower levels of education is also included. The paper reviews the recent trends in public expenditures on education in India, and the available estimates on the rates of subsidy and cost recovery. Distribution of some specific subsidies in education, such as free education, fee exemptions, textbooks, noon meals, etc, is also briefly analysed. Some of the important issues on, for example, the size of the subsidy, targeting versus universalism, and methods of cost recovery are also briefly discussed. It has been shown that the level of subsidies in education in India is not particularly high, nor is the rate of cost recovery particularly low, in comparison with other developed and developing countries. It has also been found that some of the specific subsidies in education are fairly progressively distributed.*

JANDHYALA B G TILAK

Everyone has the right to education. Education shall be free at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.

– Article 26 (1), *Universal Declaration of Human Rights*  
(United Nations)

## I Introduction

Government subsidies can be a powerful welfare instrument of fiscal policy, inter alia, to improve the welfare of the people. Subsidies can also promote growth by increasing, say the level of health and education of the labour force. Public subsidies in many countries cover both economic and social goods and services. Subsidies can be implicit in the form of concessions in tariffs and taxes that can range from provision of land at concessional prices to tax exemptions/concessions; and they can also be explicit in the form of transfer payments. Subsidies aim at reducing the price of the goods, so that they are available to larger sections of the population. Subsidies are advocated generally in case of public goods and merit goods, and also in those cases where economies of scale operate.

Public subsidisation of many social and economic services is a common feature not only of welfare societies, but also of the market economies. Of late with increasing budgetary strains, governments in developing countries began feeling the burden of public subsidies and ways and methods are being explored to reduce substantially, if not eliminate altogether, public subsidies

in many sectors.<sup>1</sup> For example, government of India (1997) identified a large set of social and economic services, classified them into public goods, merit goods and non-merit goods, and proposed to reduce subsidies to non-merit goods.<sup>2</sup> In case of the education sector, education up to elementary level is considered as a merit good, and education beyond elementary level, i.e., secondary and higher education, is labelled as a non-merit good, as falling outside the ambit of merit category.<sup>3</sup> It is proposed to reduce the scale of subsidies to non-merit goods, including higher education, to a level of about 50 per cent through phased increases in user charges or cost recovery rates. The *raison d'être* given was “a significant portion of subsidies in higher education is appropriated by middle to high income groups...subsidy regime is not tangibly progressive” (p 16).<sup>4</sup>

Mainly realising the growing budgetary constraints, and partly by conviction that public subsidies in education are inherently inefficient, some people strongly advocated drastic cuts in public subsidies [e.g., Dandekar 1991; Rao 1992], and even complete withdrawal of the government from higher education sector and its wholesale privatisation [Prime Minister's Council 2000]. It is also contended that there is ability to pay and also willingness to pay on the part of the people, which need to be tapped. While many do not favour withdrawal or even reduction in public subsidies to higher education, they nevertheless suggest increase in cost recovery rates and several ways of mobilising non-governmental resources [e.g., UGC 1993; AICTE 1993], which would amount in the long run, to reduction in the relative proportion of public subsidies.

In this general background, the present paper presents, concentrating on education sector, a critical examination of some

of the important arguments made in favour of, and the counter arguments made against public subsidies in education in developing countries (Section II). There is some consensus, or at least less disagreement in case of public subsidisation of school – elementary and secondary – education. Since much of the controversies are around subsidies in higher education, the paper concentrates on the same, though discussion on lower levels of education also finds place here. After presenting a brief account of the trends in public financing of education in India during the decade of the 1990s, i.e., after the economic reform policies were introduced, it attempts at presenting a detailed set of estimates of subsidies, and rates of recovery in higher education as a whole, and on a select few universities and institutions in India (Section III). Section IV concentrates on a few specific subsidies in education and how are they distributed. The paper concludes with a discussion on a few key issues on the desirability and feasibility of reducing subsidies and on the size of the subsidies (Section V). Discussion on very closely related issues such as privatisation of education and comprehensive discussion on even financing of education are outside the scope of the present paper.<sup>5</sup>

## II Education Subsidies: The Rationale

Education is publicly provided by every nation. The dominance of the state subsidies is an outstanding feature of most education systems. Such a unique position is shared only by a very limited range of goods and services such as national defence, internal security, courts, police, etc. Even in those cases, where education is not publicly provided, it is subsidised by the state. Education, including higher education, is heavily subsidised by the state in almost all the countries of the world – not only in developing countries, but also in developed countries [see Blaug and Woodhall 1979; OECD 1990; Tilak 1993d; 1997b]. Conventionally why has education been given such a treatment? There seems to exist a powerful persuasive economic logic, and a social, political and historical rationale for this.

### Case for Public Subsidies for Education

There are several arguments in the literature that justify public subsidisation of education: Education is a public good [Vaizey 1962; Eckaus 1964; Blaug 1965; 1970:107; Levin 1987; Tomlinson 1986], producing a wide variety and huge magnitude of externalities. Consumers of education confer external benefits on those not acquiring education. The social benefits of having a large higher educated population go beyond the increase in GNP. It is also argued that social benefits of education cannot be reduced to individual self interest [Levin 1989]. Hence by taxing those who receive these benefits and subsidise the provision of education, the welfare of both groups, and thereby the society as a whole, can be improved. The externalities include improvement in health, reduction in population growth, reduction in poverty, improvement in income distribution, reduction in crime, rapid adoption of new technologies, strengthening of democracy, ensuring of civil liberties, etc., and even dynamic externalities, which are necessary for technical progress and economic growth and to arrest diminishing marginal returns.<sup>6</sup> These positive externalities constitute a powerful justification for public subsidies [Nerlove 1972]. The externalities or the ‘uncompensated’ benefits from education are regarded to be legion [see Bowen 1987; Snower 1993; Wolfe 1995; Solmon and Fagano 1995; Behrman and Stacey 1997; McMahan 1987, 1999]. Even Friedman (1955: 124–25)

provided a strong case for public subsidisation of school education to capture external benefits. In the absence of public subsidies, social investments in education would be at under-optimum levels. Further, when viewed democracy, reduction of crime, economic growth, redistribution of resources, etc., as other public goods, it is important to note that education helps in their fulfilment [Lott 1987].<sup>7</sup> In the literature basic education is considered as a pure public good, and higher education as a quasi- or semi-public good.

A closely similar aspect is education is also a merit good [Musgrave 1959; see also Arcelus and Levin 1986]. It is a merit good, consumption of which needs to be promoted. People could be ignorant of the benefits of education, or may not be appreciative of value of education, or may not be able to foresee the implications of their investment decisions in education, and may be unwilling to invest in education. But governments are expected to have better information than individuals or families, and should be wiser and more able to look into the future and accordingly take wise decisions regarding investment in education. The important aspect is that not the others, but the individual recipient him/herself benefits to a greater extent than he/she is aware of. For instance, the effect of education on wages may be known, but the likely impact on productivity in general, on family health and nutrition, ability to make decisions regarding one self, or about his/her family members relating to education, employment, etc., is less likely to be anticipated and understood. In other words, it is highly implausible, to argue that individuals can be represented as economic agents who can be relied on to make choices that are in all cases rational; or that they are infinitely clear headed about how to go about realising their goals, and that they are capable of foreseeing all of the consequences of their actions, and can discover which is the best strategy to service their chosen ends [Lane 1993]. It is widely held that governments would be wiser than the individuals in understanding the implications of investing in education. Consumer ignorance is a typical case that necessitates public subsidisation. The provision for making education – elementary education – compulsory in several national legislations is based on the same principle.

Thirdly, subsidies in education are advocated on the grounds of providing equality of opportunity. Ensuring equality of opportunity in education to everyone irrespective of not only social background, but also economic background is considered an important function of the modern state. It is held for a long time and by many that “it is necessary to provide free education at all levels and also to subsidise students’ living expenses in post-secondary schooling so as to guarantee ‘equality of educational opportunity’ ” [Blaug and Woodhall 1979:352]. Education is found to be an effective instrument of equity. In the absence of public subsidies, only those who could afford to pay would enrol in schools. The concern for equality of opportunity has led to almost universal agreement that the government should subsidise education.

A strong argument accepted by many in support of public subsidies is the existence of imperfections in capital markets. As Arrow (1993) observed, imperfections in capital markets and asymmetric information are possible justifications for the public subsidisation of higher education. In several developing countries markets are ‘incomplete’ and credible markets do not exist [Joseph Stiglitz 1986]. Education credit markets are also incomplete [Kodde and Ritzen 1985]. Imperfect capital markets inhibit students from borrowing against the uncertain future returns of higher education. Problems of offering human capital as collateral, lead to underinvestment in education, especially among the

poor families. People may not prefer to borrow to invest in education, whose gestation period is relatively very long, and may not be ready to take risk of investing in education, whose benefits are not certain. Risk associated with human capital investments could be difficult to diversify and could be very high to the society. For the individual, the risk of not completing a given level of education, or facing the risk of falling market value of his education are indeed high. Even more importantly, the lenders would be understandably reluctant to accept risk backed only by uncertain future incomes of the reluctant debtors [Arrow 1993]. Hence the need for public subsidies.

Fifthly, education is a sector, which is subject to economies of scale, or increasing returns to scale. Average costs of providing education declines as enrolments increase. If a production process is characterised with decreasing average cost condition, it may be more efficient for government to operate this process. Further, higher levels of education can be particularly subject to this phenomenon. University systems, scientific equipment, libraries, etc, cannot be used on a small scale. Hence it may be more efficient for government to produce it and provide it free (or at a price equal to the marginal cost) [Colclough 1996]. So government monopoly of education, including higher education, is viewed desirable, compared to allowing many producers in the field.

There are several other arguments: public subsidies are necessary to protect democratic rights; to promote cooperation instead of competition; to promote national values, and so on. Also increasing evidence shows that public expenditures on education do matter a lot in improving the education indicators in many developing countries [e.g., Gupta et al 1999; Mehrotra 1998].

### **Arguments against Public Subsidies**

Of late several questions are being raised on the rationale of public subsidies in general and subsidisation of education in particular, and within education, more particularly higher education. The several arguments against public subsidisation of education are essentially of three kinds: efficiency arguments, equity arguments, and pragmatic considerations.

First, much opposition to public subsidisation of education, particularly higher education, has emerged from estimates of rates of return to education. The social rates of return are found to be consistently lower than private rates of return to education, and hence it was recommended that public subsidies could be reduced, and individuals could be asked to pay for their education [Psacharopoulos 1994; World Bank 1994].

Secondly, it is argued that public subsidisation of education produces perverse effects on distribution. It is argued that, public subsidisation of education, especially higher education, would be regressive, increasing income inequalities by transferring the resources from the poor to the rich, as the education (particularly, but not exclusively higher education) subsidies accrue more to the rich than to the poor [Psacharopoulos 1977; Blaug 1982, 1992; Mingat and Tan 1986a, b; Jimenez 1987, 1994; World Bank 2000:80]. Reduction in education subsidies in general is also advocated arguing that education subsidies, including some specific subsidies in basic education, could be targeted to the poor only [World Bank 1994 also 1997].

Thirdly, governments in developing countries are increasingly facing resource crunch. Economic reform policies adopted in many developing countries, broadly known as structural adjustment policies also necessitate cuts in public expenditures across the board. Education is viewed as one sector, where public

expenditures can be reduced relatively easily.

There are also several other arguments. Public subsidisation is not needed to promote equity or to promote democracy [Tooley 2000]. It is also contended that with heavy subsidisation by the state, educational institutions become vulnerable to government control; it is inefficient to give subsidies (in the form of grants to institutions) since it offers no incentives to allocate the resources efficiently; it may not be desirable to subsidise higher education, while basic needs such as basic education and health care are not adequately funded; in other words, public resources get misallocated; etc [World Bank 1995].

It is also felt that reduction in public subsidies would not adversely affect the growth of education, as cost recovery measures can be adopted. Since education, particularly higher education may not be price elastic, it is believed that cost recovery measures would not lead to any significant fall in enrolments; on the other hand, cost recovery measures would improve access, and also would lead to improvement in quality of education by reducing the baby-sitting role of education on the one hand, and making students more diligent about studies on the other. Given the high private rates of return, people will be willing to pay for education.

### **An Assessment of Arguments**

The debate between the two sides, familiarly known as liberal versus neo-liberal groups, is intensifying in the recent years [see also Hinchliffe 1993]. How far are the arguments and counter arguments valid? While it may be possible to marshal enough evidence to argue on either side, there are some aspects that stand out very clearly in favour of public subsidies in education, which are rarely questioned. For example, even those who oppose public subsidisation of education recognise that education produces a huge magnitude of externalities.<sup>8</sup> Even Friedman (1962:86) implicitly agreed that because of externalities, associated with education, it should be publicly financed. Though all the social benefits cannot be identified and measured accurately, there is still a consensus that they are substantial. The other aspects widely shared are: public good (and quasi-public good in case of higher education) nature of education, merit good nature, social investment nature of education, market imperfections, and economies of scale. Further, many arguments made against public subsidisation do not have unqualified support either from theory or empirical evidence. Based on sound economic reasoning, Vaizey (1962:34) concluded, "publicly financed education is a legitimate end of public activity, even to extreme exponents of 'classical' economic doctrine" (p 34).

The case against public subsidies in education in the recent years is based on the premise that governments in developing countries do not have adequate resources at their disposal, and that the scope for restructuring the public budgets, and thereby increasing the subsidies substantially to education is rather limited. This is not an argument per se against public subsidisation. Except quoting the figures relating to budget deficits, or those relating to external indebtedness, and the corresponding debt service charges of the developing countries, this premise has rarely been critically examined. Arguments are made for restructuring public budgets by withdrawing resources from unproductive sectors and their reallocation towards education [e.g., UNDP 1991, 1992]. Some research also exists that shows that education expenditures are affected by military expenditures, indicating a clear trade-off between public expenditures on defence and education. Patterns of public expenditures in developing countries also show that the governments are not as much starved of resources as of lack

of priorities and political will, especially in case of sectors like education.

There is a general argument that higher education subsidies are regressive. It is also stated, that subsidies to higher education accrue to the better-off sections of the society, while those to primary education accrue to the masses [Bowles 1971; Selowsky 1979; Meerman 1979; Jallade 1974; Dasgupta and Tilak 1983; also see Tilak 1989]. It is argued that public subsidisation of education produces perverse effects on distribution [Psacharopoulos 1977] a finding that was proved wrong by Ram (1982). Ram has concluded in a cross-country analysis, "there is little evidence in favour of the postulate of a significant disequalising effect of public subsidy to higher education. If there is such an effect at all, it appears to be stronger in the DCs than in the LDCs" (pp 45-46). Torstel (1996) further showed that public subsidisation of education would even correct distortions in taxation and hence it is efficient to subsidise education. In a careful review of several studies, and after standardising their results, Leslie and Brinkman (1988:118) found that "higher education in most cases does contribute to progressivity and moreover that when the analytical methods employed are most advanced, progressivity is found without exception". It is also widely shared that any withdrawal of public subsidies would certainly make the system worse, more regressive. On the other hand, it is also noted that markets are cumulatively and inherently inegalitarian in relation to the distribution of resources in society. Further, as Johnson (1984) demonstrates, it may be justified to tax the poor to finance higher education of even the rich, because of the externalities, associated with higher education (of the rich), which can be relatively rich in a permanent income sense. The poor (or less able) also realise a portion of the gains from the rich (or more able) receiving higher education.

It is also recognised that education subsidies need not necessarily be regressive per se. It depends upon the nature, type and kind of subsidies. For instance, if subsidies that are expected to be targeted are universally available to all, it may produce adverse effects and vice versa. The type of subsidies, e g, grants to institutions versus grants to students, may also matter in this context. It is also felt that the solution to regressive effects of subsidies lies in progressive taxation system, rather than in eliminating or reducing subsidies.

The use of the estimates on rates of return to education in support of arguments against public subsidies is also found to be not proper. First, the high levels of private rates of return may not even sustain themselves long, as already experienced by some countries, reducing the students' willingness to pay. Secondly, private rates of return will decline if public subsidies are drastically reduced or altogether withdrawn, making investment in education unattractive from individual point of view. Thirdly and more importantly, it is now well noted that the social rates of return to education are not true social returns: except for tax benefits, no other social benefits are considered in the estimation of social rates of return to education. Hence, it is contended that rates of return cannot be used to argue against public subsidies [e g, see Task Force on Higher Education and Society 2000:39] or even for any sound public policy in education [Majumdar 1983]. Further, properly estimated social returns could be much higher than not only the earlier estimates on social rates of return, but also higher than the private rates of return [e g, McMahon 1999; also Weale 1992, 1993].

There are also a few who feel that education may not qualify to become a public good, as the criteria of 'non-exclusion' and the 'free-rider' do not apply. It is mentioned that one's admission

to a school may mean denial to somebody else, as the number of places in schools could be restricted [see Eicher and Chevaillier 1993:478]. What is important is to check the applicability of the criteria of non-exclusion and free rider not to consumption of the service (admission in school), but to receipt of the benefits of education. After all, people who have not gone to schools cannot be excluded from getting benefits of having educated population in the neighbourhood.

Lastly, it has to be noted that many of those who argue for increased cost recovery in higher education do not oppose public subsidisation per se; on the other hand, since there is 'limited scope for increased public spending', it is argued that additional resources can be mobilised through a variety of measures [e g, Mingat and Tan 1986]. They also recognise that public subsidies can increase efficiency [e g, Arrow 1993].<sup>9</sup>

As Blaug (1983:126) summed up long ago, market failures – consumer ignorance, technical economies of scale, externalities in production and in consumption, public good, and inherent imperfections in capital and insurance markets – inhibit the attainment of Pareto optimality in education investments.<sup>10</sup> Hence the government has to subsidise education. Governments subsidise education, not just for efficiency, but also for reasons of equity, and various other social and political objectives. Hence, as Eicher and Chevaillier (1993:480) observed, even if theoretical justification is weak, "it would probably be a mistake to curtail sharply public subsidies to education."

To conclude, there is not much disagreement on the economic rationale of public subsidies to education. As Vaizey (1962:36) observed, "the opposition to a publicly-financed system is a political opposition to paying taxes rather than an attitude ineluctably derived from the mainstream of economic reasoning". However, the important question is how much should be the subsidy. While some arguments such as pure public good and social merit good nature of basic education may suggest full subsidisation of basic education, many other arguments, e g, quasi-public good nature of higher education, may only suggest partial subsidisation. Theory does not give any clues on the level of optimum subsidy.<sup>11</sup> As a result, countries follow different mechanisms and levels of public subsidies to education, partly based on economic logic, and partly based on historical and cultural factors and social and political objectives. So as Blaug and Woodhall (1979:351) concluded, "it is vain to pretend, therefore, that we can appeal to any general principles that would specify an optimum level of subsidy to [higher] education, much less to general principles."

### III

## Public Expenditure on Education in India

Public Expenditures on education have increased remarkably in India during the post-independence period. However, the growth has not been impressive if one examines the expenditures in real prices<sup>12</sup> and per student. The growth also has not been smooth across the last five decades [Tilak 1995a]. The growth in the government expenditures has been very slow during the 1990s after the economic reform policies were introduced (Table 1).

Public expenditure on education as a proportion of GNP has been far below the national target of spending 6 per cent and in recent years declined from above 4 per cent in 1990-91 to about 3.9 per cent in 1998-99. The share of education in the total government expenditure has also declined, though marginally.

Intra-sectorally, elementary education accounts for a major proportion of total education expenditure, presently around 50

per cent. It has marginally increased over the years particularly after the formulation of the *National Policy on Education 1986*. The share of secondary education has been stable around 30 per cent and the share of higher education has also remained stable around 13 per cent.<sup>13</sup>

Government finances education to a large extent.<sup>14</sup> Elementary – primary and middle (upper primary) – education is nearly totally financed by the government – central, state and local bodies. Government meets 99 per cent of the total recurring expenditure at primary level and 96 per cent at upper primary level. Fees, endowments and others account for the rest.<sup>15</sup> De jure, it is expected to be provided free, charging no fees of any kind. In case of secondary education, student fees accounted for 3 per cent in 1992-93, and in case of higher/senior secondary education it accounts for 10 per cent. In only a few states senior secondary education is provided in intermediate colleges. The expenditure of the intermediate college education is met mainly by student fees, and endowments (and others), and government meets less than one-fifth of the total recurring expenditure (Table 2).

However, in case of higher education in the country as a whole, government subsidises about three-fourths of the total recurring expenditure. Student fees and endowments and others meet the rest more or less in equal proportions. Student fees accounted for 13 per cent of the total in 1986-87, the latest year for which such details are available. Since public subsidisation of higher education has become a controversial issue, it may be useful to

discuss a few important aspects relating to public expenditures on higher education in India.

## Public Expenditure on Higher Education

Higher education has experienced disturbing trends in public expenditures during the 1990s, i.e., during the phase of economic reforms [Tilak 1996a]. During the first few years of the 1990s, plan expenditure on higher education declined not only in real prices, but also even in nominal terms. There was a decline in non-plan expenditures in real prices also. The total (plan plus non-plan) expenditure on higher education has registered in real terms decline between 1990-91 and 1995-96. It is only in the

**Table 2: Sources of (Recurring) Funds for Education in India, 1992-93**  
(Per cent)

	Government	Local Bodies	Fees	Endowments, etc	Total
Primary	91.1	7.5	0.0	1.4	100
Middle	88.6	8.0	0.0	3.3	100
Secondary	93.2	3.0	2.9	1.0	100
Higher secondary	84.4	3.6	10.2	1.8	100
Intermediate	18.2	0.8	58.8	22.2	100
Total school sector	89.5	5.0	2.9	2.6	100
Higher (1986-87)	75.9	0.0	12.6	11.5	100

Source: Education in India (various years) (New Delhi: MHRD)

**Table 1: Budget Expenditure on Education**  
(Expenditure Incurred by the Departments of Education Only)  
(Rs in crore)

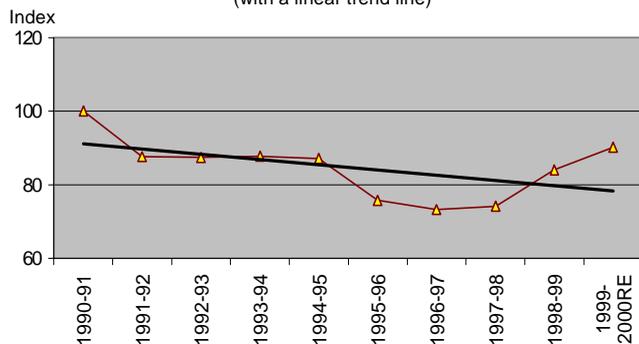
Year	Elementary	Secondary	Technical	Higher	Total	Total*
<i>In current prices</i>						
1990-91	7955.5	5531.1	753.0	2311.9	17193.7	20491.2
1991-92	8684.3	6198.8	809.5	2443.4	18757.6	22593.8
1992-93	9477.3	7178.1	907.1	2700.0	20953.6	25030.3
1993-94	10821.8	7768.6	1017.7	3103.6	23413.1	28279.7
1994-95	12638.9	9049.5	1189.3	3525.3	27232.1	32606.2
1995-96	15217.8	10344.1	1290.3	3871.3	31516.6	38178.1
1996-97	17850.5	11735.8	1450.0	4287.9	36371.6	43896.5
1997-98	20391.5	13262.4	1622.6	4859.1	41109.3	48954.1
1998-99	25114.7	16721.5	2073.1	6116.8	51225.3	62019.5
1999-00RE	31087.0	19995.7	2544.5	8189.5	65130.7	77545.8
2000-01BE	31522.0	19514.0	2543.2	9451.6	65284.6	78236.5
<i>In 1993-94 prices</i>						
1990-91	10804.3	7511.7	1022.6	3139.7	23350.4	27828.7
1991-92	10366.2	7399.3	966.2	2916.6	22390.3	26969.4
1992-93	10405.6	7881.2	996.0	2964.5	23005.9	27481.9
1993-94	10821.8	7768.6	1017.7	3103.6	23413.1	28279.7
1994-95	11532.2	8257.1	1085.1	3216.6	24847.5	29751.0
1995-96	12736.1	8657.2	1079.8	3240.0	26377.0	31952.2
1996-97	13917.6	9150.1	1130.5	3343.2	28358.0	34224.9
1997-98	14894.4	9687.2	1185.2	3549.2	30027.2	35757.2
1998-99	16982.5	11307.1	1401.8	4136.2	34638.5	41937.5
1999-00RE	20309.5	13063.4	1662.4	5350.3	42550.7	50661.6
2000-01BE	19826.5	12273.8	1599.6	5944.8	41062.3	49208.7
<i>Intra-Sectoral Allocation (per cent)</i>						
1990-91	46.3	32.2	4.4	13.4	100	
1991-92	46.3	33.0	4.3	13.0	100	
1992-93	45.2	34.3	4.3	12.9	100	
1993-94	46.2	33.2	4.3	13.3	100	
1994-95	46.4	33.2	4.4	12.9	100	
1995-96	48.3	32.8	4.1	12.3	100	
1996-97	49.1	32.3	4.0	11.8	100	
1997-98	49.6	32.3	3.9	11.8	100	
1998-99	49.0	32.6	4.1	11.9	100	
1999-00RE	48.1	30.9	3.9	12.7	100	
2000-01BE	48.9	30.1	3.9	14.6	100	

Notes: RE: Revised Estimates; BE: Budget Estimate;

Totals include other levels not included here. \* includes expenditure incurred by Departments of Education and other Departments on Education.

Source: Analysis of Budget Expenditure on Education (various years) (New Delhi: MHRD).

**Figure 1: Declining Public Expenditure in Higher Education per Student (Real Prices)**  
(with a linear trend line)



Source: Table 4.

later years some attempts were made to check this declining trend<sup>16</sup> (Table 3). As the student numbers were increasing, it adversely affected the per student expenditures. On the whole, the public expenditure per student in higher education has declined in real prices, the index falling from 100 in 1990-91 to 84 in 1998-99 (Table 4). Such a steep decline in real expenditure per student is feared to be having very serious effects on the quality and equity aspects of higher education.

It can also be noted that the relative priority accorded to higher education has drastically come down. As a proportion of GNP, public expenditure on higher education has declined from 0.55 per cent in 1989-90 (it was nearly 1 per cent in 1980-81) to 0.39 per cent in 1998-99 (Table 5).

Similarly, of the total expenditure on education in the five-year plans, the share of higher education was reduced from 18 per cent in Sixth Five-Year Plan to 7 per cent in the Eighth Five-Year Plan. There is an effort to marginally correct this in the Ninth Five-Year Plan. The outlay for education in the Ninth Plan forms 10 per cent of the total (Table 6).

The steep decline in public subsidies to education, higher education in particular, in India in the recent past could be attributed more to the resource scarcity experienced by the government than to a belief that higher education is not important for development or that higher education is regressive in effect, or that markets can take care of the education sector. Many people now realise that higher education is no more as anti-poor as it was in the past, it is not regressive in effect, and in fact, is a critically important factor of economic growth, besides social mobility.

**Table 3: Budget Expenditure on Higher Education**  
(Rs crore)

	In Current Prices			In 1993-94 Prices			As Percentage of Total Expenditure on Education		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
1989-90	291.1	1918.8	2209.9	436.4	2876.8	3313.2	7.9	13.4	12.3
1990-91	245.0	2066.9	2311.9	332.7	2807.0	3139.7	7.5	12.0	11.3
1991-92	264.5	2178.9	2443.4	315.7	2600.9	2916.6	7.1	11.6	10.8
1992-93	267.4	2432.6	2700.0	293.6	2670.9	2964.5	6.7	11.6	10.8
1993-94	312.9	2790.7	3103.6	312.9	2790.7	3103.6	6.0	12.1	11.0
1994-95	524.9	3000.4	3525.3	478.9	2737.7	3216.6	8.0	11.5	10.8
1995-96	512.7	3358.7	3871.3	429.1	2811.0	3240.0	6.1	11.3	10.1
1996-97	517.8	3770.1	4287.9	403.7	2939.4	3343.2	5.0	11.2	9.8
1997-98	646.0	4213.1	4859.1	471.9	3077.3	3549.2	9.2	12.4	11.8
1998-99	701.6	5415.1	6116.7	474.4	3661.7	4136.1	7.9	12.8	11.9
1999-00RE	798.7	7390.9	8189.6	521.8	4828.6	5350.4	7.6	13.7	12.7
2000-01BE	932.1	8519.5	9451.6	586.3	5358.5	5944.8	7.9	16.1	14.6

Note: RE: revised estimate; ;BE: budget estimate.

Source: Analysis of Budget Expenditure on Education (various years), MHRD, New Delhi.

Trends on two specific aspects on higher education subsidies may be of interest here. First, direct subsidies to students – scholarships given to student in higher education.

While no further details are available, it may not be wrong to assume that a sizeable proportion of the scholarships is meant for weaker sections. Hence this is an important subsidy that has a great potential to promote equity in the system. But the amounts allocated to this item are rather insignificant (Table 7). As a proportion of total expenditure on higher education, scholarships amounted a petty small figure: 0.5 per cent in 1989-90, which came down to below 0.4 per cent by the end of the decade.

Second, subsidies to private institutions. There is a large private sector in education, which receives state support. Subsidies to such private institutions include both explicit subsidies and implicit subsidies. Implicit subsidies take the form of provision

**Table 4: Expenditure per Student in Higher Education**  
(Rs in 1993-94 Prices)

	Rs	Annual Rate of Growth	Index
1990-91	7676		100.00
1991-92	6727	-12.4	87.64
1992-93	6710	-0.3	87.42
1993-94	6738	0.4	87.78
1994-95	6687	-0.8	87.12
1995-96	5812	-13.1	75.72
1996-97	5619	-3.3	73.20
1997-98	5692	1.3	74.15
1998-99	6448	13.3	84.00
1999-2000RE	6921	7.3	90.16
Mean	6373	-0.8	

Note: RE: Revised estimate; BE: Budget Estimate.

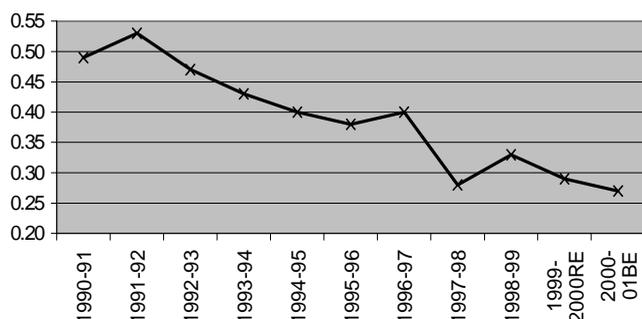
Source: Analysis of Budget Expenditure on Education (various years), MHRD, New Delhi.

**Table 5: Expenditure on Higher Education as Per Cent of GNP**

Year	Per Cent
1989-90	0.55
1990-91	0.49
1991-92	0.45
1992-93	0.44
1993-94	0.40
1994-95	0.39
1995-96	0.37
1996-97	0.35
1997-98	0.35
1998-99	0.39
1999-00 RE	0.47
2000-01 BE	0.46

Source: Based on Analysis of Budget Expenditure on Education (various years), MHRD, New Delhi.

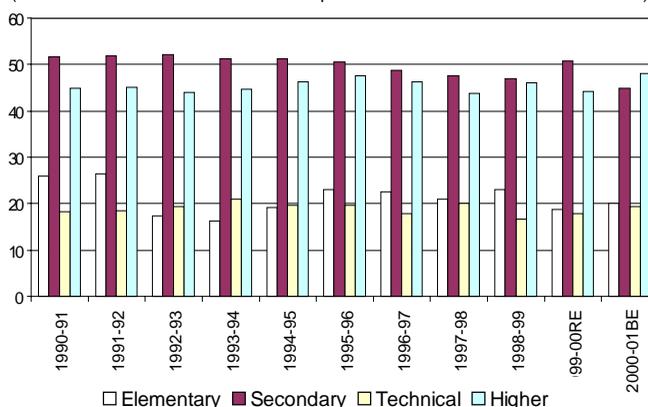
**Figure 2: Budget Expenditure on Scholarships as Per Cent of Total Expenditure in Higher Education**



Source: Based on MHRD.

**Figure 3: Government Grants to Private Institutions**

(As Per cent of Total Government Expenditure on Given Level of Education)



Source: Based on Table 8.

of land at concessional prices, tax exemptions on income and tax exemptions on material used for the construction of schools, etc. Explicit subsidies are direct transfer payments to schools and colleges. Such explicit subsidies form a significant proportion of the total education budget. More than one-fifth of the government expenditure on elementary education goes in the form of subsidies to private schools at elementary level. The corresponding proportion is nearly 50 per cent at secondary (including senior secondary) level and at higher level also they are substantial, accounting for more than 40 per cent of the total public expenditure on higher education (Table 8). Massive subsidies of this kind to private schools are felt to be actually leaving very little for government education institutions. Private schools prosper at the cost of government schools and this phenomenon is described as 'private enrichment and public pauperisation' [Tilak 1994].<sup>17</sup>

To conclude, the absolute amount of subsidies in higher education – total and per student in real prices, as well as in relative proportions – share in GNP and in total expenditure on education – has declined rather drastically during the 1990s. Subsidies in the form of scholarships are small in size, and they also have declined; and subsidies to private schools and colleges are relatively high in proportion and they tend to remain so over the years.

### Subsidies and Cost Recovery in Higher Education

There has been a misconception that higher education in India is heavily subsidised by the state, unlike in the other developed/developing countries and that students do not pay any significant amount of fees, and/or that higher education is provided relatively

free by the state. Some estimates on subsidies and rates of cost recovery in education [e.g., Mundle and Rao 1991; Rao and Mundle 1992; Rao 1992; Srivastava and Sen 1997] also strengthened such beliefs. Based on government budgetary documents, and considering total government expenditure and revenue receipts, Mundle and Rao (1991)<sup>18</sup> and later Srivastava and Sen (1997) estimated the magnitude of subsidies and rates of cost recovery in several social and economic sectors, including education, at all India level and by states. These studies have reported very high rates of subsidisation and insignificant rates of cost recovery in education. For example, according to Rao and Mundle, the recovery rate in education (all levels of education) in 1977-78 was 2.89 per cent, and the cost recovery rate in higher education was as low as 1.7 per cent. Srivastava and Sen (1997) made similar estimates for 1996-97. According to them, the rates of cost recovery were 0.3 per cent in elementary

**Table 6: Higher Education in Five-Year Plans**

(Rs crore)

	In Current Prices	Per Cent to Total Education Expenditure
Sixth Five-Year Plan	530	18
Seventh Five-Year Plan (1985-90)	1201	14
Annual Plans (1990-92)	595	11
Eighth Five-Year Plan (1992-97)	1516	7
Ninth Five-Year Plan (1997-2002)	4350	8

Source: Tilak (1995) and Planning Commission (1999, 2001).

**Table 7: Government Expenditure on Scholarships in Higher Education**

(Rs crore)

Year	In Current Prices	In 1993-94 Prices	Percentage to Expenditure on Higher Education
1989-90	11.5	17.2	0.52
1990-91	11.3	15.3	0.49
1991-92	13.0	15.5	0.53
1992-93	12.6	13.8	0.47
1993-94	13.4	13.4	0.43
1994-95	14.0	12.8	0.40
1995-96	14.7	12.3	0.38
1996-97	17.1	13.3	0.40
1997-98	13.5	9.8	0.34
1998-99	20.4	13.7	0.45
1999-00RE	23.4	15.3	0.39
2000-01BE	25.2	16.0	0.35

Note: RE: Revised estimate; BE: Budget Estimate

Source: Analysis of Budget Expenditure on Education (various years), MHRD, New Delhi.

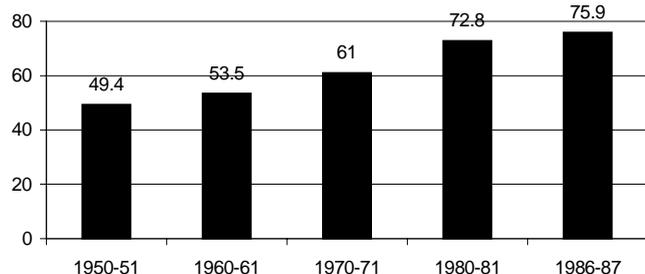
**Table 8: Budget Assistance to Private Education Institutions, by Levels**

(Percentage to the Total Expenditure on Given Level of Education)

Year	Elementary	Secondary	Technical	Higher
1990-91	25.9	51.7	18.3	45.0
1991-92	26.4	51.8	18.4	45.2
1992-93	17.4	52.0	19.4	44.1
1993-94	16.3	51.1	20.9	44.7
1994-95	19.1	51.3	19.7	46.2
1995-96	23.0	50.6	19.7	47.5
1996-97	22.6	48.8	17.8	46.2
1997-98	20.9	47.6	20.0	43.7
1998-99	23.0	47.0	16.7	46.1
1999-00RE	18.8	50.7	17.9	44.1
2000-01BE	20.0	44.8	19.4	48.1

Source: Analysis of Budget Expenditure on Education (various years), MHRD, New Delhi.

**Figure 4: Growth in Government Subsidies to Higher Education in India (Per Cent)**



Source: Based on Education in India.

education, 1.46 per cent in secondary education and 1.25 per cent in higher education – on the whole, 0.9 per cent in general education. These estimates are suspected to be very low. The main problem with these sets of estimates is: they are based on budget documents of the government of India and of the states (departments/ministry of finance) both for data on expenditure and revenue receipts. Generally only the tuition fees are credited into the treasury, while the students pay a variety of fees. Tuition fee is only a small part of the total fees paid by them. The expenditure also includes only the budgetary expenditure. So if we consider the total fee contributions made by students and total expenditures (or income) of the education institutions, we arrive at a different but a more realistic picture. For example, compared to Rao's estimate of 2.89 per cent, the rate of cost recovery through student fees was estimated to be 9.9 per cent in case of education as a whole in 1977-78, and in case of higher education it was above 20 per cent, compared to 1.7 per cent estimated by Rao and Mundle.<sup>19</sup>

As estimates on subsidies and cost recovery rates have serious policy implications, one has to be very careful in choosing appropriate database and a sound methodology. Tilak (1993a) has argued that the appropriate database for calculation of subsidies or cost recovery rates in education is the data provided by the department of education, ministry of human resource development (government of India), viz, *Education in India* and not the budget documents of the ministry of finance. *Education in India* refers to the actual expenditure by levels of education, and total fee income from students, in addition to other sources. It is important that the total fee, and not just the tuition fee, should be considered while estimating cost recovery rates and subsidy rates. Otherwise, the estimates strengthen unfounded beliefs and on the whole, give an impression that there is much, if not unlimited scope for steep increases in fees and correspondingly for drastic reduction in public subsidies. Based on such beliefs and such estimates, UGC (1993) and AICTE (1993) also recommended that cost recovery rates in higher education through student fees and other sources may be raised to about 20 per cent. But available evidence shows that the cost recovery rates already approach this proportion in many universities.

Unfortunately, we do not have more recent detailed data on higher education to estimate rates of cost recovery and subsidy. The latest available evidence shows that public subsidy, i.e., government expenditure as a proportion of total (recurring) income, in higher education<sup>20</sup> was 75 per cent in 1986-87 (Table 9). The corresponding proportion has increased from about 50 per cent at the time of the inception of planning in the country, i.e., in 1950-51 (Figure 4). Correspondingly, the rate of cost recovery, defined as income from students' fees (of all types) as a proportion of total recurring income declined from 37 per cent in 1950-51

to 12.6 per cent.<sup>21</sup> The share of endowments and other contributions has not changed much; it accounted for 12 per cent in 1986-87.

It is important to note that the rates of public subsidy and the cost recovery (through student fees) in India are not significantly different from corresponding rates in other developing and developed countries. Even in many advanced countries higher education was supported by the state to the extent of 55-93 per cent of the total expenditures in the late 1980s [Tilak 1997b]. Even recent evidence does not show any significantly different levels. E.g., in UK, Germany, Italy, Denmark, Austria, Netherlands and Sweden state met more than 90 per cent of the expenditure on higher education in 1995. In Canada, France and Hungary the corresponding proportion was above 80 per cent (below 90 per cent); and in many other countries like Australia, Ireland, Spain, Mexico, and Israel it was more than 70 per cent [OECD 1998:102].

Specifically on rates of cost recovery (through student fees) in higher education Tilak (1997a:73) compiled evidence on a large cross section of developing and developed countries, which shows that except in South Korea and Chile, cost recovery rates in public higher education systems range between zero and 20 per cent; in many countries they were between 10 and 15 per cent.

In short, the available evidence shows that higher education is heavily subsidised by the state in most parts of the world, and that the level of subsidy in India is not at all high in comparison with others. Similarly the rate of cost recovery in higher education in India is also fairly comparable with many other developed and developing countries.

## Financing of Universities

While the discussion on India in the earlier section relates to higher education as a whole, we have some recent evidence on a cross section of universities in India.<sup>22</sup> The evidence based on 39 universities in India over the decade of the 1990s presents, despite some shortcomings,<sup>23</sup> a few valuable insights into the problem of subsidies and cost recovery in the universities (Tables 10 through 12).

There are very wide variations between the several universities both in terms of level of public subsidies and rates of cost recovery. In fact, they are so wide that any generalisation has to be made very cautiously. Yet it is clear that there are several universities in India, which depend upon government subsidy (in the form of grants) for more than 80 per cent of their expenditures. But there are also many universities at the same time, where the degree of dependence on government subsidy is much lower: less than 70 per cent in case of 17 universities, of which 7 universities depend for only less than 40 per cent of their requirements. There are also good number of universities where the rate of cost recovery through student fees is high, even above 50 per cent of the total recurring expenditure.

**Table 9: Sources of Funds for Higher Education in India (Per cent)**

	Government	Fees	Others	Total
1950-51	49.4	36.8	13.8	100
1960-61	53.5	34.8	11.7	100
1970-71	61.0	25.5	13.5	100
1980-81	72.8	17.4	10.8	101
1986-87	75.9	12.6	11.5	100

Source: Based on *Education in India* (various years), Ministry of Human Resource Development, New Delhi.

Temporal comparisons during the decade also suggest that there is a marginal decline in the government subsidy in the form of grants to universities during the 1990s. The universities are compelled to decrease their reliance on government grants; and the decline is clear when the trends are compared over time and also between the periods, early 1990s and mid- and late-1990s, and when the central and state universities are considered together. The government subsidies to the central universities are obviously high. There is no sign of declining subsidies in terms of proportions to the central universities, though there might have been a decline in absolute levels of subsidies. But, in case of a majority of the state universities, the share of government grants in total recurring income of the universities has declined significantly over the years during the decade. There are also wide variations in rates of cost recovery (through student fees)<sup>24</sup> between several universities (Figure 5).

In general, the rates of recovery are lower in central universities (universities totally funded by the central government) than in state universities (universities mostly funded by state governments). Even among the central universities, the rates vary. Particularly universities that have affiliated colleges are able to generate higher levels of fees than those having no affiliated colleges. This holds true in case of state universities also in principle; but actually many state universities have affiliated

colleges under their jurisdiction, though they may not be equal in number.

The point to be noted is: students in affiliated colleges pay some specific types of fees (e.g., examination fees) that go to the university, and this is a part of the income of the universities.<sup>25</sup> In many cases, universities generate surpluses on examination accounts. Hence on the whole, universities with affiliated colleges would be able to generate more fee income than others.

There has been increase in the rates of cost recovery in many universities during the 1990s. In several state universities the hike in fee income is more pronounced than in central universities. Fee income forms more than 20 per cent share in recurring income in later period in many state universities.

UGC (1993) recommended recovery of a reasonable or meaningful proportion of academic cost (teaching and research) from students. If this reasonable proportion is around 20-25 per cent of the recurring cost, (it can be seen from the actual cost of universities, which on an average is around 50 per cent of recurring expenditure), then a meaningful rate of overall rate of cost recovery from students would form about 10 to 15 per cent of recurring expenditure. With regard to academic support cost, UGC recommends a substantial proportion of recovery from students, say this substantial proportion is 60-70 per cent of the academic support cost. From the empirical estimates, it is found

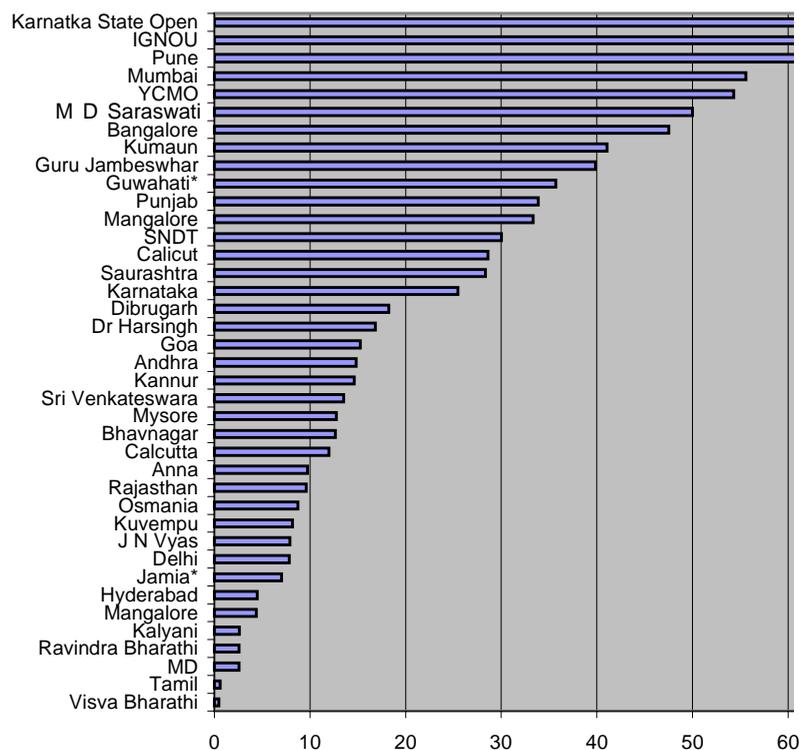
**Table 10: Average Income of the Universities from Various Sources (as a Per Cent to Recurring Income)**

Sl No University	Govt Subsidy		Cost Recovery (Fee Income)		Internal Sources		Other Sources	
	1990-91 to 1993-94	1994-95 to 1999-2000	1990-91 to 1993-94	1994-95 to 1999-2000	1990-91 to 1993-94	1994-95 to 1999-2000	1990-91 to 1993-94	1994-95 to 1999-2000
	<b>Central Universities</b>							
1	Delhi University	92.25		6.27		0.24		1.24
2	Indira Gandhi National Open University		70.06		28.28		1.66	0.00
3	Jamia Millia Islamia	85.70	79.31	0.00	0.00	7.15	10.34	0.00
4	University of Hyderabad	92.11	87.28	1.95	3.69	5.87	8.98	0.07
5	Vishva Bharathi	92.79	97.15	0.57	0.43	2.42	2.27	4.22
<b>State Universities</b>								
6	Andhra University	80.04	84.35	17.54	15.12	2.42	0.53	0.00
7	Anna University	87.86	65.11	4.33	11.54	4.01	11.48	3.80
8	Bangalore University	73.35	57.35	22.58	40.67	0.00	0.00	4.06
9	Bhavnagar University	87.47	86.97	9.59	12.80	0.00	0.00	2.94
10	Dibrugarh University	15.29	68.94	29.36	19.87	24.41	11.19	30.95
11	Dr Harsingh University	63.42	70.28	20.08	15.59	0.84	1.05	15.66
12	Gauhati University	79.70	63.64	0.00	0.00	20.30	36.36	0.00
13	Goa University	83.27	74.57	14.70	18.27	1.72	6.71	0.31
14	Guru Jambheshwar University		66.04		20.44		13.43	0.10
15	Jai Narian Vyas University	95.54	93.57	2.54	5.11	1.93	1.33	0.00
16	Kalyani University	97.59	97.16	2.41	2.85	0.00	0.00	0.00
17	Kannur University		78.09		21.91		0.00	0.00
18	Karnatak University	83.05	65.87	13.09	28.95	3.51	4.28	0.35
19	Kumaun University	72.92	64.51	6.64	17.05	6.64	5.09	13.81
20	Maharishi University	43.32	57.80	1.56	1.44	53.97	39.58	1.21
21	Mangalore University	67.60	75.51	20.66	20.04	11.65	4.44	0.13
22	M D Saraswathi University	51.82	43.43	44.44	49.29	3.74	6.99	0.00
23	Mysore University	76.84	76.11	19.17	20.60	4.00	3.29	0.00
24	Osmania University		72.85		9.05		11.38	6.72
25	Pune University	27.70	19.96	67.15	72.35	2.13	4.56	3.02
26	Punjab University	85.49	71.04	10.81	29.26	0.00	0.00	3.70
27	Rabindra Bharathi	80.85	79.98	4.40	4.12	14.75	14.90	0.00
28	Saurashtra University	34.86	54.79	31.78	21.17	31.97	20.68	1.40
29	SNDT Women's University		55.61		37.90		6.40	0.08
30	SV University	82.91	85.02	6.03	8.92	3.32	3.15	7.74
31	University of Calicut	52.07	58.14	39.57	26.23	8.18	15.59	0.18
32	University of Mumbai	38.90	29.85	43.68	53.88	5.91	8.23	11.51
33	University of Calcutta	85.23	87.20	11.46	11.39	3.01	1.22	0.30
34	University of Rajasthan		82.94		10.62		6.43	0.00
35	Tamil University	87.25	93.45	3.87	2.44	1.51	0.20	7.37
36	Yashwantrao CMOU	41.70	43.99	50.85	43.31	3.47	4.34	4.00
	Average	71.30	70.23	16.90	19.56	7.63	7.60	3.93
	Coefficient of variation	0.26	0.19	0.80	0.65	0.94	0.81	1.05

Note: blank means data not available.

Source: Tilak and Rani (2000).

**Figure 5: Cost Recovery in Selected Universities in India**  
(Fee as per cent of Rec Expenditure/Income) (mid/late 1990s)



Note: \* includes fee and other internal sources.

Source: Tilak and Rani (2000)

that actual academic support cost ranges from 15-17 per cent of recurring expenditure. A substantial proportion of this cost would be 9-10 per cent of recurring expenditure, which will have to be recovered from students. With regard to costs on student welfare, a full cost recovery from students is recommended. The expenditure on this item ranges from 2-5 per cent of recurring expenditure. So, the expected rate of total cost recovery from students from all these costs would range between 20 and 25 per cent of the recurring cost. We note that on an average fee income already forms a share of 25 per cent of recurring cost, indicating that fee levels as a proportion of recurring income have already reached the near maximum levels. But the Planning Commission (2001b:37) still argues, "a substantial hike in university fees is essential".

The contribution of other internal sources, and other sources is not significant either in the central or in the state universities.

The universities thus tend to finance their budgets mainly with the help of government subsidies or through cost recovery mechanisms, particularly the student fees. No third source or fourth source seems to exist in any noticeable form. The fiscal incentives in the form of 100-125 per cent income tax rebates offered in the union budgets in the 1990s are yet to attract any sizeable contributions from the corporate sector and other sources.<sup>26</sup>

### Fee Increases in IIT, Delhi

Following some of the recommendations of the UGC (1993), the AICTE (1993) and government policies, and following cuts in public subsidies, many universities and higher education institutions have initiated in the 1990s several efforts to generate additional resources. Increase in the cost recovery rate through

**Table 11: Distribution of the Universities by Share of Government Subsidy (Grants) in Income of Universities\***

>80 Per Cent	70-80 Per Cent	60-70 Per Cent	50-60 Per Cent	40-50 Per Cent	20-40 Per Cent	<20 Per Cent
Andhra	Anna	Dibrugarh	Bangalore		Mumabi	Kuvempu
Bhavnagar	Dr Harsingh	Guahati	Calicut		Guru Jambeswar	K'ka State Open
Calcutta	Goa	Karnataka	Saurashtra		MD Saraswati	
Delhi	Kannur	Kumaon			YCM Open	
Hyderabad	Mangalore	Maharshi			Pune	
IGNOU	Mysore	Dayanand				
Jamia	Osmania	Punjab				
J N Vyas	Sri Venkateswara	SNDT				
Kalyani						
Ravindra Bharati						
Rajasthan						
Tamil						
Viswa Bharati						

\* latest year available.

Source: Tilak and Rani (2000)

student fee has been one such effort. Student fee of various kinds has been raised by several times. As an illustration, we can note that in the Indian Institute of Technology (Delhi) tuition fee was raised by 3-12 times between 1993-94 and 1998-99; additional fees are charged on some items (Table 13).<sup>27</sup>

As a result of introduction and increase in fees, the total fee income of the institute has increased by more than 50 times during the period, and quick calculations, based on the budget documents of the institute, reveal that the rate of cost recovery increased from 2.5 per cent in 1993-94 to 7.6 per cent in 1998-99<sup>28</sup> (Table 14).

In many universities and institutions, fee increases have been erratic and unsystematic, with substantial increases in the fees for every item, including application/registration fee, marks sheets and convocation fees, transfer certificate, etc. Many new types of fees are introduced for services that were earlier not directly charged or delivered free. In addition, several universities and institutions have introduced self-financing courses, mainly, though not solely, to generate more resources from students.

Such fee reforms in many universities and institutions of higher education may produce serious effects on the demand for education. Detailed studies are not yet available on the impact of the fee reforms on demand for education. Many fee reforms involving steep increases in fees were introduced only in the 1990s. But it is feared that this might affect (a) the overall demand for higher education, (b) even if (a) is not true due to the phenomenon of excess demand, it would affect the demand from middle and low income group students, and (c) adversely impact the demand for certain disciplines of study adversely affecting the balanced growth of various disciplines of higher education. All may have negative consequences on the development of higher education.<sup>29</sup>

#### IV

### Distribution of Some Specific Subsidies

There is a general impression that most education subsidies in India are indiscriminately distributed among students, irrespective of their social and economic background. How far is it true? NSSO (1998) provides, based on a national sample survey of households conducted in 1995-96, certain interesting details on this aspect.

#### Fee Subsidies

First, distribution of fee subsidies. Contrary to the general impression, and official claims, even elementary education, which is expected to be provided free as per the Constitutional Directive, is not provided free. 'Free' education is defined as free of tuition fee. Any other type of fees could be charged even in case of 'free' education. A good proportion of children do pay fees even

in government and government assisted primary and upper primary schools, in addition to incurring huge expenditures on their own on several other school-related items [Tilak 1996, 2000a, b, 2002].

Fee subsidies include not only provision of tuition fee free education, but also provision of fee exemption in full, or in part. According to the NSSO (1998), 92 per cent of the students in

**Table 14: Cost Recovery in the Indian Institute of Technology, Delhi through Student Fees**  
(Rs lakh)

	1993-94	1998-99
Tuition fee	2.87	356.1
Examination fee	2.26	6.47
Registration fee	*	10.94
Gymkhana fee	*	2.53
Medical fee	0.17	1.26
Hostel (rent, electricity, water, etc)	1.43	34.15
Admission and other fees	0.07	12.07
Fines		0.15
Convocation fees		0.15
Total	6.8	418.92
Total per cent of total non-plan expenditure	2.5	7.6

\* included in Admission and Other Fees

Source: IIT (1994, and 1999).

**Table 13: Fee Reforms in the Indian Institute of Technology, Delhi**  
(Rs per annum)

	1993-94	1998-99
<i>Tuition fee</i>		
B Tech (I and II year)	1000	12000
B Tech (III and IV year)	200	6000
M Sc (I and II year)	1500	6000
M Tech	1500	11800
PhD	1000	11800
MBA	..	60000
Foreign nationals	..	\$4,100
<i>Examination fee</i>		
Postgraduate students/PhD	400	600
Under graduate students	400	700
<i>Registration fee</i>	*	
Under graduates		400
Postgraduates/PhD		600
MBA		3950
Gymkhana fee	*	200
Medical fee	60	100
<i>Hostel (rent, electricity, water, etc)</i>		
Under graduates (I and II Yr)/(I Yr)	450	1600
Under graduates (III and IV)/(II - IV Yr)	300	600
Postgraduates/PhD I year		1700
Postgraduates/PhD II year +		600
<i>Admission and other fees**</i>		
B Tech and MSc	70	1000
Postgraduate and PhD	70	1200

\* included in Admission and Other Fees

\*\* one time payment at the time of admission

Source: IIT (1994, and 1999).

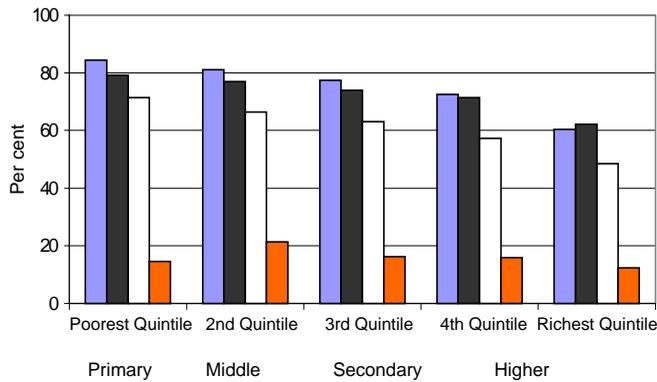
**Table 12: Distribution of Universities by the Rate of Cost Recovery (through Student Fees)\***

< 5 Per Cent	5-10 Per Cent	10-20 Per Cent	20-30 Per Cent	30-40 Per Cent	40-50 Per Cent	> 50 Per Cent
Hyderabad	Anna	Andhra	Calicut	Guru Jambeswar	Bangalore	Mumbai
Kalyani	Delhi	Bhavnagar	Goa	Punjab		Karnataka State Open
Maharshi Dayanand	J N Vyas Osmania	Calcutta	Kannur	SNDT Women's		
		Dibrugarh	Karnataka			Kuvempu
Ravindra Bharati		Dr Harsingh	Kumaon			M D Saraswati
Tamil		Rajasthan	Mangalore			Pune
Viswa Bharati		Sri Venkateswara	Mysore			YCM Open
			Saurashtra			
			IGNOU			

\* latest year available.

Source: Tilak and Rani (2000)

**Figure 6: How Many Do Get 'Free' Education? (1995-96)**



Source: NSSO (1998).

government primary schools, 88 per cent in upper primary schools and 72 per cent in secondary schools received free education in 1995-96 (Table 15). Only one-fourth of the students in higher education belongs to this category. In higher education another 4 per cent of students are fully exempt from payment of fees and yet another 4 per cent get partial exemption. So in all, only one-third of the students in higher education receive education, which is either free or they are exempted from payment of fees in full or in part; the rest – i.e., about 66 per cent of the students pay the prescribed fees in full.

Distribution of students receiving free education by household expenditure quintiles<sup>30</sup> (Table 16) shows that the fee subsidies are progressively distributed, more students among the low-income groups and fewer students from high income groups receiving such subsidies.

At each level of education, the proportion of students receiving free education falls again systematically by increasing expenditure quintiles. For example, 85 per cent of the children belonging to the lowest household expenditure quintile receive free primary education. The corresponding proportion declines marginally to 81 per cent in the second quintile (from bottom), to 77 per cent in the middle 20 per cent, 73 per cent in the fourth quintile and finally to 60 per cent in the richest expenditure quintile. A similar pattern could be noted in case of secondary education.

In case of higher education, the largest proportion of students receiving free education belongs to the second quintile from bottom: 21 per cent. This proportion declines gradually to 12 per cent in the richest expenditure quintile. Only 15 per cent of the bottom quintile receive fee subsidy in the form of free education. Except for this sole deviation, which is also minor (and it is within the bottom 40 per cent group), all this strongly suggests that the fee subsidies are progressively distributed in all levels of education in India.

Percentage of students receiving free education declines systematically by increasing levels of education. For example, while 60 per cent of the students belonging to the top expenditure quintile receive free education at primary level, this proportion declines to 62 per cent in middle (upper primary) education, to 49 per cent in secondary (including senior secondary level) and to a meagre 12 per cent in higher education. This declining pattern holds for every expenditure quintile. So one can say with confidence that in terms of proportion of students benefiting from fee subsidies, the degree of subsidisation is the highest at primary and lowest at higher education, which is what many are advocating. But this also shows that as many as 85 per cent of the students belonging

to the bottom quintile and about 80 per cent of the second quintile from bottom do not get any fee subsidy in higher education!

## Other Subsidies

Now about other specific subsidies. Other specific subsidies to students are monetary scholarships, books and stationery free or at concessional prices, noon meals and transport at concessional prices.<sup>31</sup>

Though exact details are not available on these subsidies by levels of education and household expenditure groups, it can be safely assumed that some of these subsidies, generally known as incentives, particularly, books, stationery and noon meals are provided only in primary and upper primary schools. Scholarships and subsidised transport may refer to other levels of education as well, including higher education.<sup>32</sup> Available evidence shows that textbooks, stationery and noon meals are provided only to a small fraction of students, though they are expected to be provided on a universal basis to all children enrolled in schools. Distribution within this fraction seems to be progressive: lower expenditure groups benefiting more than the higher expenditure groups (Table 17).

There does not seem to be a clear pattern with respect to scholarships. Seven per cent of the students in each of the first four expenditure quintiles seem to receive subsidies in the form of scholarships and among the students of top expenditure quintile, this proportion is marginally less, 5.7 per cent. Distribution of subsidies on transport seem to favour the rich, though the respective proportions of students benefiting in all expenditure groups are very small.<sup>33</sup>

In all, many of the subsidies are not made available to all students. Fee subsidies in elementary education are substantial

**Table 15: Distribution of Fee Subsidies, by Type of Schools, 1995-96**

(Per Cent of Students Receiving Subsidies)

Type of Fee Subsidy	Level of Education	Government Schools	Local Body Schools	Private Aided Schools	Private Unaided Schools	All
'Free' Education	Primary	92.8	88.2	46.1	8.1	77.2
	Middle	87.9	79.8	54.3	8.3	73.3
	Secondary	71.8	66.6	51.3	13.4	60.6
	Higher	24.6	21.2	9.7	6.0	18.8
Fee Exemption – Full	Primary	0.4	0.1	1.3	0.5	0.5
	Middle	1.4	5.1	8.1	0.9	3.0
	Secondary	2.7	8.9	10.4	2.1	5.4
	Higher	4.1	10.2	8.7	2.7	5.9
Partial Exemption in Fees	Primary	0.3	0.2	0.7	1.6	0.5
	Middle	0.7	0.4	0.7	0.9	0.7
	Secondary	1.4	1.6	0.8	0.7	1.2
	Higher	4.0	4.1	4.9	1.5	4.2

Source: NSSO (1998, p 23).

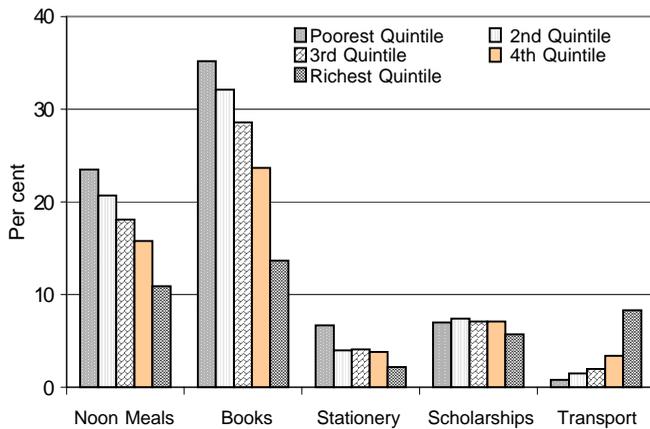
**Table 16: Distribution of Fee Subsidies (Free Tuition) by Household Expenditure Group, 1995-96**

(Per Cent of Total in Each Quintile)

Household Expenditure Quintile	Primary	Middle	Secondary	Higher
Poorest quintile (00-20)	84.5	79.2	71.5	14.5
Second Quintile (20-40)	81.1	77.0	66.4	21.4
Middle Quintile (40-60)	77.4	74.0	63.1	16.2
Fourth Quintile (60-80)	72.5	71.4	57.2	15.9
Richest Quintile (80-100)	60.4	62.1	48.5	12.3

Source: NSSO (1998, p A17).

**Figure 7: Distribution of Specific Subsidies (1995-96)**



Source: NSSO (1998).

in terms of number of students benefiting, though all students do not receive them. Among those who benefit, the distribution seems to be progressive. Other subsidies such as textbooks, uniforms, and transport are also provided only to a small fraction of students. Among them subsidies on textbooks, stationery and noon meals are fairly well distributed, the distribution favouring the low-income groups more than then rich. But the distribution of subsidies on transport received by a miniscule of the student population seems to be pro-rich.

## V Issues and Conclusions

Education is subsidised by the state in almost all countries of the world. This is not confined to basic education. Even higher education, including higher technical and professional education, is heavily subsidised by the state not only in the economies whose development policies tilt explicitly in favour of welfare and equity, but also in the developed market economies. This has been justified by the recognition of education as capable of producing externalities, as a public good (and as a quasi-public good in case of higher education), as a merit good, as a social investment for human development, and as a major instrument of equity, besides as a measure of quality of life in itself. It is also well noted that markets cannot ensure optimum supply of education, and that left to the individuals or the market mechanism, social investment would be below optimum or socially desirable levels. But in the current wave of market reforms, questions are being raised on the rationale of public subsidies, and it is also being indicated that it is both desirable and feasible to reduce, if not eliminate altogether, the public subsidies in the education sector. This paper has presented a quick review of some of these arguments being made in favour of and against public subsidisation of education and restated how important it is to subsidise education by the state. It is argued that significant reduction in public subsidies to education is neither feasible, nor desirable, even if feasible.

While opposition to public subsidies to school education is not strong, many strongly advocate against subsidisation of higher education. The argument is based, inter alia, on three important premises: (a) externalities associated with basic education are high; but they may not be so high in case of higher education; (b) similarly basic education could be a merit good, while the merit good nature in higher education may be less in

case of higher education (it is a 'merit 2' good); and (c) higher education caters to the needs of the affluent and government should not subsidise the education of the affluent. All the three premises are open to empirical verification. While few could exactly quantify the extent of externalities produced by any level of education, it is also being realised that higher education produces important externalities, including dynamic externalities, which are important for development of the societies, including specifically for rapid economic growth. Certainly there is no evidence to show that externalities are larger in case of a given level of education than in case of other levels. Similar arguments are also made in case of merit good nature of education. The initial attempt of the government of India (1997) was found to be defective, and was widely criticised on theoretical as well as empirical grounds. Thirdly, it is quite possible that higher education is received more by relatively better off sections of the society; but any attempt to reduce subsidies would aggravate this problem further. Moreover, it is strongly felt by many that essentially due to public subsidisation of higher education, today higher education in India is no more elitist; it is somewhat democratised with a large proportion of socio-economic weaker sections participating in higher education. Many also find that such a fragmented approach to education – bifurcating and tri-furcating education into primary, secondary, and higher education – for purposes of policy, especially for policies on public subsidies, would be counter-productive [UGC 1993]. After all, all levels of education are important and they are interdependent. It may not be logical to withdraw subsidies from one level of education and allocate in favour of the other, as all levels of education in India are severely under-financed.

It was shown here that the trends in public expenditures on education in the 1990s have been particularly disturbing: the growth in public expenditure on education in the 1990s has been very small. As a proportion of GNP it has declined from above 4 per cent in the late 1980s to 3.6 per cent in the late 1990s. Higher education suffered more severely in terms of public subsidies. Public expenditure per student declined by nearly 25 per cent in less than a decade in real prices. Specific public subsidies such as scholarships registered a downward trend in absolute amounts and also in relative allocations. Subsidies to private education institutions have been substantial, though the contribution of the private sector is not established.

On the whole, while elementary education is nearly totally financed by the state, government subsidies in higher education amounted to only 75 per cent in the late 1980s. More recent evidence shows that many universities are experimenting with cost recovery measures, generating resources from student fees, and other non-governmental sources. The effects of these cost recovery measures on the quantity, quality and equity in higher

**Table 17: Distribution of Other Specific Subsidies in Education (All Levels of Education)**  
(Per Cent of Total in Each Quintile)

Household Expenditure Quintile	Scholarships	Free or Subsidised		Government Concession in MIDDAY Meals	Concession in Transport
		Books	Stationery		
Poorest Quintile (00-20)	7.0	35.2	6.7	23.5	0.8
Second Quintile (20-40)	7.4	32.1	4.0	20.7	1.5
Middle Quintile (40-60)	7.1	28.6	4.1	18.1	2.0
Fourth Quintile (60-80)	7.1	23.7	3.8	15.8	3.4
Richest Quintile (80-100)	5.7	13.7	2.2	10.9	8.3

Source: NSSO (1998, p A103).

education in India are yet to be examined. Distribution of a few specific subsidies such as 'free' education, fee exemptions/concessions, textbooks, stationery and noon meals in elementary education was found to be highly progressive, the poor benefiting more than the rich, though in all their availability is restricted only to a fraction of students.

Before we conclude, a few important issues on public subsidies to education are worth noting. First, how much should be the public subsidy? As already noted, the pure public and merit good nature of school education justifies 100 per cent government financing of school education. As theory does not provide any clue beyond this, one has to draw lessons from international experience, particularly relating to public subsidies in higher education. International evidence both from developed and developing countries indicates, though wide variations exist, extensive degree of public subsidisation of higher education. The evidence also indicates rather low levels of cost recovery through student fees – about 20 per cent, except in case of private higher education systems. These evidences suggest that perhaps it is neither desirable nor feasible to sharply reduce public subsidies to low levels, and to increase cost recovery rates significantly in developing countries like India.

However, the international experience also shows varied types of experimentation with alternative methods of public subsidisation of education. The paper has not discussed alternative ways of public subsidies like grants to the institutions versus grants to the students, or various methods of grants to institutions.<sup>34</sup> Proposals being discussed in this context include outright grants, tuition subsidies, cost of living subsidies, voucher schemes, and

student loans. Student loan programmes are particularly becoming popular in many countries, though loans as a mechanism of public subsidisation of education are also associated with certain inherent weaknesses, apart from poor rates of recovery/repayment [Tilak 1999b]. In India too, in the recent years, many commercial banks have launched student loan programmes, and the efficiency with which they work and efficacy of these programmes are yet to be examined. While there is some preference to link grants to the performance, it may be useful to thoroughly examine various types of grants to the institutions – block grants, maintenance grants, etc, versus performance/efficiency related grants.

Nowadays it is increasingly suggested that public subsidies need to be targeted to the poor. While the scope for targeting various kinds of public subsidies in education sector may have to be carefully examined, it has to be noted that even in elementary education, many subsidies like textbooks, learning material, uniforms, and attendance scholarships are de facto targeted to the poor only. Subsidies such as midday meals and tuition fee free education are expected to be provided on a universal basis due to either administrative cumbersomeness involved in targeting them, or due to enormous gains in equity. But they are also received only by a small section of students; and within this small section however, the distribution is pro-poor. Thus they also seem to get targeted. In higher education subsidies such as scholarships, and loans until recently (when the government was operating the loan programmes) [Tilak 1992], were targeted to the economically needy only.<sup>35</sup> Similarly fee exemptions – partial or full, are also targeted. At the same time, the need for a properly

designed discriminatory fee system was felt time and again [Tilak and Varghese 1985; Tilak 1995b]. However, it was also shown that a well-designed discriminatory fee system would yield at best about 30 per cent of the recurring expenditure in higher education in India. This would also be subject to efficient administration of the same. At the same time, the experience of developing countries like India shows that the costs of committing errors in targeting – both omission and commission – in public services are quite high, the costs on account of errors of omission being more severe than the other, apart from high costs of their administration; and hence universalism is preferred to targeting.

To conclude, it is very clear from a review of experience in India that essentially due to public subsidisation of education, including higher education, today even higher education in India is no more elitist; it is somewhat 'democratised' with a large proportion of socio-economic weaker sections participating in higher education. This also helped in the creation of a large reservoir of scientific and technical personnel. Secondly, education is rightly and increasingly viewed in India as the only effective instrument of socio-economic mobility of the weaker sections of the society. Thirdly, it is also widely recognised that education is an important factor of economic growth, and it is education that makes the basic difference between the developed and the developing countries. Fourth, the intrinsic value of education in improving the quality of life is also increasingly recognised. All this viewed in the broad context of relatively low levels of living of the people, and given other sociopolitical considerations, makes the need for public subsidisation of education obvious.

Thus it becomes imperative that the state continues to take a major responsibility of subsidising education. All other sources of finances, including fees, should be viewed only as peripheral ones, supplementing public expenditures. Increasing reliance on student fees may produce regressive effects in the system, as already the levels of fee income (as a proportion of total recurring income/expenditure) are high in several universities and institutions of higher education. Similarly generation of internal revenues through consultancy and interactions with industry in institutions of higher education may produce imbalances in the universities across various disciplines of study. Hence, all efforts of mobilisation of resources have to be made extremely cautiously, so that aspects relating to equity, efficiency and excellence in university education in India are not adversely affected. While experimentation with alternative methods of generation of additional resources, and also with alternative types of public subsidisation may have to be made, the best method of financing education, including higher education, may still seem to be financing by the state out of its tax and non-tax revenues [Tilak 1997a]. **EW**

Address for correspondence:  
jtilak@vsnl.com

## Notes

[This is a revised and updated version of the paper presented in the Conference on 'India: Fiscal Policies to Accelerate Economic Growth', organised by National Institute of Public Finance and Policy, New Delhi, Department for International Development, London and the World Bank, in consultation with the Ministry of Finance, Government of India, New Delhi (May 21-22, 2001). The comments by V N Kothari, Tapas Majumdar, G Thimmiah, D K Srivastava and other participants of the conference are gratefully acknowledged. Usual disclaimers apply. An abridged version of the earlier version of the paper is to appear in a conference based volume.

1 See van de Walle and Nead (1995) for a large set of papers, which mainly focus on reforming public subsidies in several sectors in developing countries.

- 2 It was based on a background study by Srivastava and Sen (1997).
- 3 See several papers in AIU (1998) for a critique of Government of India (1997). The several papers concentrate on education.
- 4 Taking into consideration the strong criticism, higher education was reclassified as 'Merit 2' good, while school education was termed as 'Merit 1' good. It was recognised that Merit 2 goods also need to be subsidised but the extent of subsidy could be much less than that in case of Merit 1 goods. See Srivastava and Amarnath (2001) and Srivastava and Rao (2002).
- 5 Some of these issues were discussed in detail by the author elsewhere. See Tilak (1991, 1999a) on privatisation, and Tilak (1995a) on financing of school education and Tilak (1996a) on higher education.
- 6 On dynamic externalities, see Schultz (1988), Romer (1986 and 1990) and Lucas (1988). See also Azariadis and Drazen (1990) and Behrman (1990) for a discussion on 'technological' externalities.
- 7 Lommerud (1989) provides further justification for public subsidies to education in terms of lifetime utility that includes value for social status.
- 8 There are very few who do not recognise externalities of education. For example, according to West (1965) the externalities are 'completely unimportant'. Schultz (1972) opined that many benefits go to the concerned student only; and Newman (1985:24) feels that a large proportion of benefits of higher education goes to a relatively small group of students.
- 9 Arrow (1993), however, adds that the gains in efficiency are at the cost of inequities which may take the form of elitism, which needs to be checked through appropriate policies.
- 10 In case of higher education, Blaug agrees that of the above, externalities and imperfections in capital and insurance markets are relevant.
- 11 Cost-benefit analysis is regarded to be a useful tool in this regard to estimate optimum level of subsidies, but only in case of those sectors where accurate information is available on social and private demand functions, cost functions, and the weights the society might attach to distributional objectives. See, e.g., the Appendix 2 in Srivastava and Rao (2002).
- 12 Conversion into real prices is based on national income deflators (GNP at 1993-94 prices). Source: Government of India (2002).
- 13 This intra-sectoral allocation is based on expenditure incurred by the Departments of Education only. Expenditures incurred by other departments on education is not included here, as required data are not available.
- 14 The various sources of finances for education are classified in the official documents (e.g., *Education in India*) into four categories: government (central and state), Local Bodies, Fees and Endowments and others.
- 15 No break up is available between fees and endowments and others at primary and upper primary levels.
- 16 The data for the last two years, viz, 1999-2000 and 2000-01 are not actuals; they are respectively 'revised' and 'budget' estimates. Often we find considerable difference between the budget estimates, the revised estimates and the actuals.
- 17 Even advocates of privatisation of education might agree that private education of this kind, with price controls and cost under-writing through heavy subsidies, is one of the 'worst forms of privatisation' [Ravishanker 1989; quoted in Sen 1993:182].
- 18 See also Rao and Mundle (1991) and Rao (1992).
- 19 See Tilak (1993a, 1993b) for an elaborate comment on these estimates.
- 20 Higher education includes not only universities (and deemed universities) and colleges, but also institutions of national importance, other research institutions.
- 21 The increase in public subsidies and the corresponding reduction in cost recovery rates through student fees, were due to a deliberate policy adopted by the government after independence for producing skilled manpower required by the economy on the one hand, and for 'democratisation' of education on the other and both purposes seem to have been served somewhat significantly [Tilak, 1999a:115].
- 22 See Tilak and Rani (2000) for details.
- 23 These universities are not selected on any scientific basis. Data are collected from universities participating in a training programme being organised by NIEPA during the decade of the 1990s. Data are also not available for all the 10 years for all the universities considered here. The time period was broken for analysis into two parts: early years of economic reforms (1990-91 to 1993-94), and later years (1994-95 to 1999-2000), as shown in Table 10.
- 24 Cost recovery, through other methods like generation of other internal source of income, is not considered here.
- 25 On the expenditure side also universities do expend on conduct of examinations of the students enrolled in affiliated colleges, along with the students enrolled in their respective universities.
- 26 Institutions are also offered incentives to generate such resources, that grants would not be offset by such income; in fact, a matching grant

- to match the level of income so generated, was also offered.
- 27 Data on 1993-94 were briefly analysed earlier by Tilak (1996b).
- 28 It was 8.6 per cent in 1997-98 (revised estimate).
- 29 For example, it was reported that with steep increases in fees in the Indian Institute of Technology, Delhi, a decline of more than 37 per cent in enrolments in postgraduate courses in a year was noted. As an immediate response, a 50 per cent waiver in fees for all PhD scholars and another 25 per cent waiver on a case-to-case basis to students were to be considered by the Institute. These were in addition to other relaxations in case of admissions into postgraduate and research courses. *Times of India: Delhi Times* (New Delhi) 4 November 1997, pp 1 and 3.
- 30 NSSO provides data on expenditure quintiles, rather than on income quintiles. Data on household expenditure is generally believed to be more reliable than on household income.
- 31 School uniforms are also provided to the students in primary schools; but data on this are not available in the NSSO (1998).
- 32 Tilak (2002) found that incentives such as free textbooks, meals and uniforms have a strong, significant and negative effect on household expenditures on education in schools in rural areas, and consequently one can expect a positive effect on the enrolment of children in schools.
- 33 Subsidised transport may be important more in case of higher education than in case of school education. These figures, however, refer to all levels of education.
- 34 See, e.g., Albrecht and Ziderman (1992) and Ziderman and Albrecht (1995) for a discussion on alternative methods of financing higher education. See also Tilak (1997a).
- 35 When commercial banks started floating student loan programmes in the recent years, it is believed that the criteria of economic need as well as educational performance are not given any weightage. On the other hand, the repayment capacity seems to be the prime consideration.

## References

- AICTE (All India Council for Technical Education) (1993): *Report of the Higher Power Committee for Mobilisation of Additional Resources for Technical Education*, New Delhi.
- AIU (Association of Indian Universities) (1998): 'Higher Education – A Non-Merit Good? A Symposium', *University News* 36 (24), June 15.
- Albrecht, D and A Ziderman (1992): 'Funding Mechanisms for Higher Education Financing for Stability, Efficiency and Responsiveness', Discussion Paper no 153, World Bank, Washington, DC.
- Arcelus, F J and A L Levine (1986): 'Merit Goods and Public Choice: The Case of Higher Education', *Public Finance*, 41 (3): 303-15.
- Arrow, Kenneth J (1993): 'Excellence and Equity in Higher Education', *Education Economics*, 1 (1): 5-12.
- Azariadis, Costas and Allan Drazen (1990): 'Threshold Externalities in Economic Development', *Quarterly Journal of Economics*, 105, May: 501-26.
- Behrman, Jere R (1990): *Human Resource Led Development? Review of Issues and Evidence*, ILO, Asian Regional Team for Employment Promotion, New Delhi.
- Behrman, Jere R and Nevzer Stacey (eds) (1997): *The Social Benefits of Education*, The University of Michigan Press, Michigan.
- Blaug, Mark (1965): 'The Rate of Return on Investment in Education in Great Britain', *Manchester School*, September: 205-51
- (1970): *An Introduction to Economics of Education*, Allen Lane the Penguin, London.
- (1982): 'The Distributional Effects of Higher Education Subsidies', *Economics of Education Review*, 2(3) (Summer): 209-31
- (1983): 'Declining Subsidies to Higher Education: An Economic Analysis' in H Giersch (ed), *Reassessing the Role of Government in the Mixed Economy*, Institut für Weltwirtschaft, Kiel, pp 125-35 [reprinted in Blaug (ed), *The Economics of Education and the Education of an Economist*, Edward Elgar, Aldershot, 1987, pp 227-43]
- Blaug, Mark and Maureen Woodhall (1979): 'Patterns of Subsidies to Higher Education in Europe', *Higher Education*, 7, November: Supplement: 331-61.
- Bowen, H R (1987): *Investment in Learning: The Individual and Social Value of American Higher Education*, Jossey-Bass, San Francisco.
- Bowles, Samuel (1971): 'Class Power and Mass Education', Harvard University (mimeo).
- Colclough, Christopher (1996): 'Education and the Market: Which Parts of the Neoliberal Solution are Correct?' *World Development*, 24 (4), April: 589-610.
- Dandekar, V M (1991): 'Reform of Higher Education', *Economic and Political Weekly*, 26, November 16: 2631-37.
- Dasgupta, Ajit K and J B G Tilak (1983): 'Distribution of Education among Income Groups: An Empirical Analysis', *Economic and Political Weekly*, 18 (33), August 13: 1442-47.
- Eckaus, R S (1964): 'Economic Criteria for Education and Training', *Review of Economics and Statistics*, May: 181-83.
- Eicher, Jean-Claude and T Chevallier (1993): 'Rethinking the Finance of Post-Compulsory Education', *International Journal Educational Research*, 19 (5): 445-519.
- Fischer, Frederick J (1990): 'State Financing of Higher Education: A New Look at an Old Problem', *Change*, 22 (1), January-February: 42-56.
- Friedman, Milton (1955): 'The Role of Government in Education' in Robert Solow (ed), *Economics and the Public Interest*, Rutgers University Press, New Brunswick, NJ, pp 123-53.
- (1962): *Capitalism and Freedom*, Chicago.
- Government of India (1997): *Government Subsidies in India*, Ministry of Finance, New Delhi, May.
- (2002): *Economic Survey 2001-02*, Ministry of Finance, New Delhi.
- Gupta, Sanjeev, M Verhoeven and E Tiongson (1999): 'Does Higher Government Spending Buy Better Results in Education and Health Care?' Working Paper WP 99/21, International Monetary Fund, Washington, DC.
- Hinchliffe, Keith (1993): 'Neo-Liberal Prescriptions for Education Finance: Unfortunally Necessary or Inherently Desirable?', *International Journal of Educational Development*, 13 (20): 183-87.
- Hu, The-Wei, J J Kaufan, Maw Lin Lee and Ernst W Stromsdorfer (1969): 'Theory of Public Expenditures on Education', reprinted in R A Wykstra (ed), *Education and the Economics of Human Capital*, Free Press, New York., 1971, 89-102.
- IIT (Indian Institute of Technology) (1994): 'Revised Estimates 1992-93 and Budget Estimates 1993-94', New Delhi (unpublished).
- (1999): 'Revised Estimates 1997-98, Budget Estimates 1998-99 and Revised Estimates 1998-99', New Delhi (unpublished).
- Jallade, Jean-Pierre (1974): *Public Expenditures on Education and Income Distribution in Colombia*, Johns Hopkins University Press/World Bank, Baltimore.
- Johnson, George, E (1984): 'Subsidies for Higher Education', *Journal of Labour Economics*, 2 (3): 303-18.
- Jimenez, Emmanuel (1987): *Pricing Policy in the Social Sectors: Cost Recovery for Education and Health in Developing Countries*, Johns Hopkins University Press/World Bank, Baltimore.
- (1994): 'Financing Public Education: Practices and Trends' in T Husen and TN Postlethwaite (eds), *The International Encyclopedia of Education*, Pergamon, Oxford, pp 2310-18.
- Kodde, D A and J M M Ritzen (1985): 'The Demand for Education Under Capital Market Imperfections', *European Economic Review*, 28: 347-62.
- Lane, Robert (1993): *The Market Experience*, Cambridge University Press, Cambridge.
- Leslie, Larry L and T Paul Brinkman (1988): *Economic Value of Higher Education*, American Council of Education, New York.
- Levin, H J (1987): 'Education as a Public and a Private Good', *Journal of Policy and Management*, 6 (4): 628-41.
- (1989): 'Education as a Public and Private Good' in N E Darins (ed), *Public Value, Private Schools*, Falmer, New York.
- Lott, John R Jr (1987): 'Why Is Education Publicly Provided? A Critical Survey', *Cato Journal*, 7 (2), Fall: 475-501
- Lommerud, Kjell Erik (1989): 'Educational Subsidies When Relative Income Matters', *Oxford Economic Papers*, 41 (3), July: 640-52.
- Lucas, R E (1988): 'On the Mechanics of Economic Development', *Journal of Monetary Economics*, 22 (1): 3-42.
- Majumdar, Tapas (1983): *Investment in Education and Social Choice*, Cambridge University Press, Cambridge.
- McMahon, Walter W (1987): 'Externalities in Education' in G Psacharopoulos (ed), *Economics of Education: Research and Studies*, Pergamon, Oxford, pp 133-37.
- (1999): *Education and Development: Measuring the Social Benefits*, Oxford University Press, Oxford.
- Meerman, Jacob (1979): *Public Expenditure in Malaysia: Who Benefits and Why?*, Oxford/World Bank, New York.
- Mehrotra, Santosh (1998): 'Education for All: Policy Lessons from High-Achieving Countries', Staff Working Paper, Evaluation, Policy and Planning Series No EPP.EVL-98-005, UNICEF, New York.
- Mingat, Alain and Jee-Peng Tan (1986a): 'Financing Public Higher Education in Developing Countries', *Higher Education*, 15: 283-97.
- (1986b): 'Who Profits from Public Funding of Education? A Comparison of World Regions', *Comparative Education Review*, 30 (2): 260-70.
- Mundle, S and M G Rao (1991): 'Volume and Composition of Government Subsidies in India 1987-88', *Economic and Political Weekly*, 26 (19), May 4: 1157-72.
- Musgrave, R A (1959): *Theory of Public Finance*, McGraw Hill, New York.
- Nerlove, Marc (1972): 'On Tuition and Costs of Higher Education: Prolegomena to a Conceptual Framework', *Journal of Political Economy*, 80, May-June: S178-S218.
- Newman, Frank (1985): *Higher Education and the American Resurgence*,

- Carnegie Foundation for the Advancement of Teaching, Princeton, NJ.
- NSSO (National Sample Survey Organisation) (1998): *Attending An Educational Institution in India: Its Level, Nature and Cost*, NSS 52nd Round Edition, July 1995-June 1996, (Report No 439), Department of Statistics, Government of India, New Delhi.
- OECD (199): *Financing Higher Education: Current Patterns*, Paris.
- (1998): *Education at a Glance: OECD Indicators*, Paris.
- Olssen, Mark (1996): 'In Defence of the Welfare State and Publicly Provided Education a New Zealand Perspective', *Journal of Education Policy*, 11 (3): 337-62.
- Planning Commission (1999): *Mid-Term Appraisal of the Ninth Five-Year Plan*, New Delhi.
- (2001a): *Financial Progress of Education Sector during Ninth Plan (1997-2002)*, Education Division, New Delhi, July.
- (2001b): *Approach Paper to the Tenth Five-Year Plan (2002-2007)*, Government of India, New Delhi.
- Prime Minister's Council (2000): *A Policy Framework of Reforms in Education*, Prime Minister's Council on Trade and Industry, Government of India, New Delhi. [<http://www.nic.in/pmcouncils/reports/education/>]
- Psacharopoulos, George (1977): 'The Perverse Effects of Public Subsidisation of Education or How Equitable is Free Education?', *Comparative Education Review*, 21, February: 69-90.
- (1994): 'Returns to Investment in Education: A Global Update', *World Development*, 22 (9): 1325-43.
- Ram, Rati (1982): 'Public Subsidisation of Schooling and Inequality of Educational Access', *Comparative Education Review*, 26 (1), February: 36-47.
- Rao, M G (1992): 'Proposals for State Level Budgetary Reforms', *Economic and Political Weekly*, 27 (5), February 1: 211-22.
- Rao, M G and S Mundle (1992): 'An Analysis of Changes in State Government Subsidies: 1977-87' in A Bagchi, J L Bajaj and W Byrd (eds), *State Finances in India*, Vikas, New Delhi, pp 107-43.
- Ravishankar, V J (1989): 'India: Government Expenditure on Social Services 1976-77 – 1986-87', World Bank, New Delhi (mimeo).
- Romer, Paul M (1986): 'Increasing Returns and Long-Run Growth', *Journal of Political Economy*, 94 (5): 1002-36.
- (1990): 'Endogenous Technological Change', *Journal of Political Economy*, 98 (Supplement): S71-S102.
- Schultz, Theodore, W (1972): 'Optimal Investment in College Instruction: Equity and Efficiency', *Journal of Political Economy*, 80, May-June: S2-S30.
- (1988): 'On Investing in Specialised Human Capital to Attain Increasing Returns' in G Ranis and T P Schultz (eds), *The State of Development Economics: Progress and Perspectives*. Basil Blackwell, Oxford, pp 339-52.
- Selowsky, Marcelo (1979): *Who Benefits from Government Expenditure?*, Oxford/World Bank, New York.
- Sen, T K (1993): 'Public Expenditure on Human Development in India' in K S Parikh and R Sudarshan (eds), *Human Development and Structural Adjustment*, Macmillan, Madras, pp 156-91.
- Snower, Dennis J (1993): 'The Future of the Welfare State', *Economic Journal*, 103 (418), May: 700-17.
- Solmon, L C and C L Fagano (1995): 'Benefits of Education' in M Carnoy (ed), *International Encyclopedia of Economics of Education*, Pergamon, Oxford, (2nd edition), pp 114-25.
- Stiglitz, Joseph E (1986): *Economics of the Public Sector*, W W Norton and Co, New York.
- Srivastava, D K and H K Amarnath (2001): 'Central Budgetary Subsidies in India', National Institute of Public Finance and Policy, New Delhi.
- Srivastava, D K and C Bhujanga Rao (2002): 'Government Subsidies in India: Some Issues and Approach', Discussion Paper No 6, National Institute of Public Finance and Policy, New Delhi.
- Srivastava, D K and Tapas K Sen (1997): *Government Subsidies in India*, National Institute of Public Finance and Policy, New Delhi.
- Task Force on Higher Education and Society (2000): *Higher Education in Developing Countries: Peril and Promise*, World Bank, Washington, DC.
- Tilak, Jandhyala B G (1989): *Education and its Relation to Economic Growth, Poverty and Income Distribution: Past Evidence and Further Analysis*, Discussion Paper No 46, World Bank, Washington, DC.
- (1991): 'Privatisation of Higher Education, Prospects', *Quarterly Review of Education*, Unesco, 21 (2): 227-39.
- (1992): 'Student Loans in Financing Higher Education in India', *Higher Education*, Netherlands, 23 (4), June: 389-404.
- (1993a): 'Financing Higher Education in India: Principles, Practice and Policy Issues', *Higher Education*, Netherlands, 26 (1), July: 43-67.
- (1993b): 'Budgetary Reforms and Subsidies in Higher Education', *Economic and Political Weekly*, 28 (6), February 6: 245-48.
- (1993c): 'Subsidies in Higher Education', *Economic and Political Weekly*, 28 (24), June 12: 1259-60.
- (1993d): 'International Trends in Costs and Financing of Higher Education: Some Tentative Comparisons between Developed and Developing Countries', *Higher Education Review*, (England) 25 (3) (Summer): 7-35.
- (1994): 'South Asian Perspectives (on Alternative Policies for the Finance, Control, and Delivery of Basic Education)', *International Journal of Educational Research*, (Pergamon), 21 (8): 791-98.
- (1995a): *Costs and Financing of Education in India: A Review of Issues, Trends, and Problems*, Discussion Paper 5. Studies on Human Development in India. UNDP Research Project on Strategies and Financing of Human Development, Centre for Development Studies, Thiruvananthapuram.
- (1995b): *On Pricing Higher Education*, Occasional Paper 2, University Grants Commission, New Delhi.
- (1996a): 'Higher Education Under Structural Adjustment', *Journal of Indian School of Political Economy*, 8 (2), April-June: 266-93.
- (1996b): 'Financing Technical Higher Education in India', *The Indian Journal of Technical Education*, 19(3), July-September: 11-23 [revised/ reprinted in S Misra and P G V Chand (eds), *Institutional Building*, McGraw Hill, New Delhi, 1999, pp 101-31].
- (1996c): 'How Free is 'Free' Primary Education in India?', *Economic and Political Weekly*, 31 (5 and 6), February 3 and 10: 275-82 and 355-66.
- (1997a): 'Lessons from Cost Recovery in Education' in C Colclough (ed), *Marekting Education and Health in Developing Countries: Miracle or Mirage?*, Clarendon Press, Oxford, pp 63-89.
- (1997b): 'The Dilemma of Reforms in Financing Higher Education in India', *Higher Education Policy*, Pergamon, 10 (1), March: 7-21.
- (1999a): 'Emerging Trends and Evolving Public Policies on Privatisation of Higher Education in India' in P G Altbach (ed), *Private Prometheus: Private Higher Education and Development in the 21st Century*, Greenwood Publishing, Westport, pp 113-35.
- (1999b): 'Student Loans as the Answer to Lack of Resources for Higher Education', *Economic and Political Weekly*, 34 (1-2), January 2-15: 19.
- (2000a): 'Education Poverty in India', NIEPA Occasional Paper No 29, National Institute of Educational Planning and Administration, New Delhi.
- (2000b): *Household Expenditure on Education in India: A Preliminary Examination of the 52<sup>nd</sup> Round of the National Sample Survey*, National Institute of Educational Planning and Administration, New Delhi, July (mimeo).
- (2002): *Determinants of Household Expenditure on Education in Rural India*, Working Paper No 89, National Council of Applied Economic Research, New Delhi.
- Tilak, J B G and Geetha Rani (2000): *University Finances in India: A Profile*, National Institute of Educational Planning and Administration, New Delhi (mimeo).
- Tilak, J B G and N V Varghese (1985): 'Discriminatory Pricing in Education', *Occasional Paper No 8*, National Institute of Educational Planning and Administration, New Delhi.
- Tomlinson, T R G (1986): 'Public Education, Public Good', *Oxford Review of Education*, 12: 211-22.
- Tooley, James (2000): *Reclaiming Education*, Cassell, London.
- Trostel, Philip A (1996): 'Should Education be Subsidised?', *Public Finance Quarterly*, 24(1), January: 3-24.
- UGC (University Grants Commission) (1993): *UGC Funding of Institutions of Higher Education: Report of Justice Dr K Punnayya Committee 1992-93*, New Delhi.
- UNDP (1991, 1992): *Human Development Report*, Oxford, New York.
- Vaizey, John (1962): *The Economics of Education*, Farber and Farber, London.
- van de Walle, Dominique and Kimberly Nead (eds) (1995): *Public Spending the Poor: Theory and Evidence*, Johns Hopkins University/World Bank, Baltimore.
- Weale, Martin (1992): 'Externalities from Education' in Frank Hahn (ed), *The Market: Practice and Policy*, Macmillan, Basingstoke, pp 112-35 (reprinted in E Cohn and G Johnes (eds), *Recent Developments in the Economics of Education*, Edward Elgar, Aldershot, 1994, pp 115-38).
- (1993): 'A Critical Evaluation of Rate of Return Analysis', *Economic Journal*, 103 (418): 729-37.
- West, E G (1965): *Education and the State: A State of Political Economy*, Institute of Economic Affairs, London.
- Wolfe, B L (1995): 'External Benefits of Education' in M Carnoy (ed), *International Encyclopedia of Economics of Education*, Pergamon, Oxford, (2nd edition), pp 159-63.
- World Bank (1986): *Financing Education in Developing Countries*, Washington, DC.
- (1994): *Higher Education: The Lessons of Experience*, Washington, DC.
- (1995): *Priorities and Strategies for Education: A World Bank Review*, Washington, DC.
- (1997): *Primary Education in India*, Washington, DC.
- (2000): *Attacking Poverty: World Development Report 2000-2001*, Oxford, New York.
- Ziderman, A and D Albrecht (1995): *Financing Universities in Developing Countries*, Falmer, New York.