Chapter - 2

REVIEW OF LITERATURE

Financing of education has been a matter of great concern and major policy challenge across all the countries. A country’s education sector competes for public resources with all other sectors and has been a competition for resources within various sub-sectors of education. There was a time when the educational development of a nation occurred exclusively with the availability of public resources and the private participation was not considered that much necessary and a good practice. The governments were having sound budgets and providing sufficient resources to the education sector, at least, up to the elementary and secondary levels. The present day advanced economies and even the newly industrialized countries of East Asia have developed their human resources with the strong backing of the public funds. However, the situation changed considerably with the advent of economic reforms under the so-called neo-liberal policies. As a consequence, the education sectors of many countries were opened up for the private sector on the massive scale. It has brought up the issues of rising costs, cost recovery and financing of education on the forefront of any discussion related to the education sector.

For the past many years, not only in India, but also across the world, public expenditure on higher education has been declining at least in real prices as in relation to state incomes and budgets. The decline in public expenditure on higher education has emerged as a global crisis of higher education sectors and is the most noticeable trend. Compelled by economic reform policies or conceived of the rationale for reduced role of the state in funding higher education, most countries have inflicted serious cuts in public budgets for higher education. This trend exist in many countries, in some or all of the areas related to education: total public expenditure on higher education, per student public expenditure, public higher education expenditure’s shares in relation to a particular country’s national income or total government expenditure, and allocation in absolute and relative terms to the important programmes that include research, scholarships and so on. The decline is not confined
to developing countries, though it is more prevalent in the developing than that in the
developed countries. There has been a significant fall even in the advanced countries
such as the United Kingdom, Australia and New Zealand. But the higher education
sector generally suffered much in the high income countries. However, the decline
was steep in some countries such as Botswana, Jamaica, Hungary and New Zealand
(Tilak, 2006).

The financing of higher education is a matter of great theoretical and empirical
debate. The nature, extent and mode of participation of public funds in the education
sector involve a long list of arguments put forward by individual scholars and
institutions. As reported earlier (Chapter 1), these arguments mainly revolve around
the ‘public good’ nature of higher education, dynamic externalities produced by it, its
role in achieving equality of opportunities, and economies of scale (Blauf and
Woodhall, 1979; OECD, 1990; Tilak, 1993a; 1997b). However, several arguments
have also been cited against the public subsidization of higher education. These
arguments essentially revolve around three parameters: (a) inefficiency; (b)
iniquitous; and (c) pragmatic nature of these grants/subsidies.

Many research studies show that the benefits of higher education are largely
appropriated by the students belonging to the upper and middle income groups, and
those who belonged to the forward communities. Thus, the benefits of liberal
government grants/subsidies are largely cornered by the already rich sections of
society, whereas the tax receipts, particularly from the indirect taxes - the stable tax
resources of state – used to finance higher education expenses mainly fell on the
lower income groups. It can be safely stated that the higher education of privileged
sections of society is liberally financed out of the revenue extracted from the poor and
such a policy is bound to be perpetuating educational and income inequalities in the
society (Psacharopoulos, 1994; World Bank, 1994; Psacharopoulos, 1997; Mingat and

However, the debate of increasing grants/subsidies on one hand or right-
sizing/no grants/subsidies to higher education on the other hand has been intensified
recently (Hinchiffe, 1993). In the absence of public grants/subsidies, it is suggested that the cost of higher education should be extracted from the beneficiaries (students) or financed from the alternate sources like the endowments, industry, charity, etc. Since the professional education requires huge finances to establish and run the infrastructural facilities, therefore, costs and financing practices have attained a great deal of attention of policy makers and academia. Keeping in view the high cost of higher professional education and financing practices adopted by the students, the present chapter divides the review of literature into two parts. First, the studies related with the measurement of cost of higher education both recurring and non-recurring cost; and second, with the source/s of financing of such education.

2.1 Cost of Higher Education

The cost of delivery of education determines the resource requirements of an education sector. The cost of higher education is strongly influenced by the many norms related to the various aspects of the educational institutions like the level of teachers' salaries, teacher-student ratios, provisions of physical infrastructure, administrative staff, affiliation norms, etc. The literature related to the cost of higher education has been examined at two levels: (a) cost studied related to other countries; and (b) cost studies pertaining to India and its various states.

2.1.1. Cost of Education: Studies Related to Other Countries

A vast amount of literature is available related to the level of educational costs in other countries. It highlights the issues related to the various concepts and measurements of educational costs. Hirsch (1959) explains the determinants of educational expenditures. According to his study, the main determinants were: the level of teacher’s salaries, pupil-teacher ratio, proportion of pupils in high school, and proportion of pupils in urban areas. Edding (1966) produced a useful technical discussion of the methods of analyzing education expenditures with some illustrative data by one of the most important authorities in the field of cost of education. Oddie (1966) gives a detailed conceptual framework of planning of school facilities in a country. It includes a systematic analysis of the determinants of school education -
building costs, method of comparing space utilization with unit cost, and presents several useful suggestions for improvement in the planning of school facilities such as area-based planning.

Robbins Committee (1968) was appointed (i) to review the pattern of higher education in Great Britain; and (ii) to advise the government about the rules to be adopted for the long term development of higher education in the light of national needs and available resources. It pointed out the rising level of public expenditure on higher education in Great Britain. The committee observed that there was a substantial increase in public expenditure on the higher education, including capital and current expenditures, loan charges, and maintenance of infrastructural facilities created in the UK during 1954-63.

Woodhall and Blaug (1967) attempted to construct an index of total factor productivity for the British’s secondary education sector, with a discussion on the theoretical and practical problems of measuring inputs and outputs of education. It shows the decline in total factor productivity in the UK’s secondary education over the study period. Vaizey and Sheehan (1968) pointed out the dramatic changes which had happened in the British education system and indicated the true trends in educational expenditures in that country from 1920-1965. The study observed that the share of educational expenditure in the country’s GNP had risen from 2.5 per cent between the two World Wars to five per cent in the mid-1960s. During the same period, its share in total government expenditure had also increased from 13.5 per cent to 18.9 per cent.

Leite, et al. (1968) in a research report examined unit cost of education in a number of countries. They tried to establish a genuine base for the international comparison of educational costs estimated across the many countries. The study includes some interesting points about the determinants of educational costs and on cost behavior with a useful illustrative data. Knight (1968) made an interesting attempt to study, on the basis of factual data, the relationship between the earning structure, the employment conditions and the cost of education in the specific cases of
African countries. Blaug, Layard and Woodhall (1969) reviewed the problem of unemployment among the matriculates and graduates in India with an attempt to apply cost-benefit analysis to India’s education sector. The analysis shows that there has been an over-investment in the general and university level of education in India. Hallak (1969) examined the critical problems in the concepts, estimates, analysis and use of unit cost in the educational planning. It includes useful illustrative data with analysis of experience of France and Tanzania in testing the financial feasibility of educational plans.

Coombs (1968) had tried to locate the root cause of emerging crisis in the higher education and suggested some possible elements for a strategy to get rid of this crisis. The study observed that one of the main reasons for the crisis in higher education throughout the world was the severe scarcity of public resources which had constrained the system of education from responding fully to the new demands of society. The study further shuffled the various corners of cost of higher education, viz. why cost analysis has become imperative in these changing times; how educational costs behaves; why they behave as they do; how various educational institutions and systems have actually used cost analysis and with what results. Finally, he recommended cost analysis as a powerful and necessary tool for modern educational management and effective planning since it contributes significantly to get better educational outputs from the available resources.

Another study by Coomb (1972) divides the cost of education into the recurrent and capital costs. The study described that many different inputs enter into the recurrent costs, some very large (particularly teacher cost) and some relatively small (such as office supplies). In the recurrent cost, teacher’s costs consume the major proportion. Capital cost is associated with the durable educational inputs, particularly the land and site utilities, building, furniture, equipments and other capital items. The study has also made the comparison by measuring capital cost as capital stock vs. capital flows. The stock of capital is the inventory of buildings, equipments and other capital items existing at a given period of time, while the capital flows over
the past years. The study also made comparison between the depreciation vs. amortization costs; the budgetary cost vs. full cost; and the domestic vs. foreign costs. It measured the capital cost by original cost or replacement cost or market value at a given period of time by deducting depreciation value. An attempt has also been made by him to find out the various causes of unprecedented increase in the educational cost. The various determinants of costs identified were the inflation, educational demand, factor cost, educational revenue and foreign aid.

Pickford (1975) discussed comprehensively the economic aspects of administration in a university in U.K. The main objective of study was to investigate potential economies in the cost of producing students in the university. The study is divided into two parts. The first part of study contained the detailed analysis of current cost like the teaching and research by the course of education. However, the second part of study dealt with the economies of scale in certain university resources. The study also purposed to suggest changes in the existing system of finances so that scarce resources could be efficiently utilized.

Mingat (1986) by studying the Lao PDR held that the share of teachers’ salaries formed 83.8 per cent of public recurrent costs at the primary level; however, it was 34 per cent in the higher education. The report also revealed by the cross-country analysis of teachers’ salaries that it was one of the largest single items in educational recurrent costs.

Johnstone (1993) analyzed the trends in cost control and revenue enhancement in higher education. It was observed that the higher education had a formidable appetite for revenue because of slowdown of many economies and thus of tax revenue. In some countries, a reassessment of priorities, not necessarily to the advantage of higher education, will place universities and higher educational institutions and the governments that support them in an increasing financial squeeze. Part of the response to this pressure will be an increasingly aggressive quest for realization of non-tax revenue from the students, businessmen and other donors. But, at the same time, there are important limitations to the capacities of most of these non-
tax revenue sources in the most of countries. The suggested remedy was to reduce the cost so that the higher education must be made more productive.

A study by the World Bank (1997) provides an example of the ways and means in which the unit cost may be portrayed by using the data from Vietnam for private and public costs. The striking feature of Vietnam data is that the unit cost in technical education was almost the same as those in the tertiary education. The data point out that total recurrent unit cost at all level of education for regular higher education was 17.7 times higher than that of the general elementary education. Further, a full-time equivalent (FTE) unit recurrent cost in the higher education of Vietnam for the period 1993 to 1994 indicates that the higher unit cost fluctuates for different fields of study such as the general, agro-forestry, medicine, art, culture and sports, teacher training, science and technology. While estimating the goals, determinants and manipulatable variables, the data show that distinction between recurrent and capital costs (in the form of building, equipments, etc.) tends to become more visible at the higher levels of education. And, in some of specialties, the teachers are paid more, class size tends to be smaller, buildings and equipments are more elaborate. For example, in Singapore, teachers are considered to be well paid in comparison with other professions. However, teachers in Cambodia are paid so poorly than an official salary is inadequate even for one person to live on, let alone a whole family.

2.1.2 Cost of Education: Studies Related to India

The cost of education has attracted researchers’ attention at the very early stage. These studies deal with the national education sector as well as that of the individual states of the country. Day’s study (1963) focuses mainly on the costs of education. For this, he prepared a detailed list of items of expenditure on education and grouped these into six categories: (i) direct expenditure; (ii) meals and tiffin; (iii) students’ health service; (iv) training of teachers; (v) administration and inspections; and (vi) transport services. During the pilot enquiry on the provision of public education, the planning division of the Indian Statistical Institute collected some data
on the cost of education for the period 1963 in Madhya gram, an urbanized village in
the district of 24 Pargans (West Bengal); ten km away from the Calcutta city. The
study presented data on the cost of secondary education, which was collected from
five schools in the area. It gives the detailed analysis of receipts and payments,
income and expenditure, etc. A consolidated list of assets has been prepared for
estimating the depreciation. The main purpose of the study was to estimate the cost of
education of each unit of product.

Panchamukhi (1965) measures the public expenditure on education in India. The
study estimated the total cost of education for the period 1950-51 to 1959-60 and
concluded that total cost of education constituted 6.2 per cent of GNP in 1959-60. The
study also calculated the various components of private and institutional costs of
education, foregone earnings for males and females, village and town pupil
separately. The study estimated that foregone earnings constituted major proportion of
total factor cost of education. The total cost of education was found to stand between
5 per cent and 6.5 per cent of national income in 1960-61 and not 2.5 per cent of
institutional cost alone. Pandit (1969) measures the unit cost of education and
efficiency of educational expenditure. The study divides the total cost of education
into three categories such as institutional cost, students’ cost and opportunity cost.

Dutt (1969) tries to measure the recurring unit cost of education in Haryana on
the basis of sampled 28 colleges of which 24 colleges were private and four were
government owned. It found main factors affecting the unit cost of education: age of
the college; student enrollments; average pay of teacher; and ratio of non-teacher to
total teachers. Among all the four component of unit cost of education, salary
emerged as the main component. For measuring of all the four variables, regression
and correlation analysis were carried out. Regression analysis reveals separate results
both for the private and all colleges together. In the case of private colleges, only
enrollment and age of the college had a negative impact on unit cost, and average pay
of the teacher and ratio of non-teacher to the total cost had a positive impact. On the
other hand, correlation analysis of all colleges suggests that, if other variables remain
constant, student enrollment was found to be significantly correlated with unit cost followed by average pay of teacher. Neither age of the college nor ratio of non-teacher to total cost have significant impact. One thing which is very much clear in the study is that the cost of education of state and private women colleges was more than their income from all sources. However, in other private colleges, their total income from all sources was more than that of their cost of education.

The study by Shah (1969) analyzes the unit cost of higher education. The study has divided the cost of education into two main components: (a) social cost, (b) opportunity cost. Social cost is again divided into student cost and institutional cost. In student cost, he points out the possibility of double counting in fee and scholarship because at one time it is the income of the institution and at the same time it is also the part of institutional cost. Further, he also feels that there is different unit cost of education of hostellers and day-scholars. Institutional cost can be divided into two parts, recurring cost and non-recurring cost. In non-recurring cost, the main components of cost are capital (land on rent and building) and equipment and in recurring cost they are divisible and non-divisible. He also points out the complications of calculating unit cost due to the administrative organization. The study suggests that the recurring cost and expenditure should be done very carefully.

Sharma (1969) highlights the significance of unit costs in the planning process. The study takes into account the nature and different types of unit costs required at different levels of education with special reference to Indian conditions, the nature of available statistics, their coverage gap and their limitations. A method has been developed to measure the cost per student at different levels. Various suggestions were available for improvements in the methodology for the estimation of costs, etc.

Rao (1969) puts the main attention on the analysis of the various concept of the cost of education, particularly the higher education, in the developing countries like India. He discussed the economic aspect of the education. In order to study the cost of education, he adopted several approaches. In one approach, the main
component was the cost borne by the students. In other approach it is divided into three parts: (i) institutional cost, (ii) student’s cost and (iii) opportunity cost. Kulkarni’s study (1969) also estimates the unit cost of education from the period 1962-66 at current prices. It shows that the change in pupil-teacher ratio affects the unit cost of education. The decline in pupil-teacher ratio increases the work load of the teachers during the period which also leads the teachers to leave the profession.

Another study by Shah (1969) analyzes the unit cost of elementary education under two components: tuition and non-tuition expenditure. It was found that non-tuition expenditure of poor students is low as compared to the rich students. This paper points out that there are disparities in the educational standard of private and municipal schools. It suggests that this gap can be reduced only either by reducing the burden of tuition cost or improving the quality of teaching. The study concludes that educational expenditure at constant prices increased at a lower rate as compared to current prices.

Pandit (1972), in his study, described the social and private cost of the resources used in the educational process. This was the first study in India where the capital cost of education has been measured by calculating the stock of physical capital. The study also analyzed the share of direct cost and opportunity cost in the total private cost, and found that the share of direct cost (tuition and non-tuition) in the total private cost had declined, while the share of opportunity (income foregone) cost had risen. It shows that the students’ contribution is becoming more and more prominent in the private cost of education. As far as institutional cost is concerned, per unit current cost had risen while the capital cost remained constant. Thus, increase in the social cost and that of the share of private cost in the social cost indicated the increasing participation of private sector in education.

Kamat (1973) made a detailed study of arts, science, commerce and technical education. It also compares the unit recurring cost of education at various levels in the University of Poona and found that unit recurring cost of science education is more than the arts and commerce education. In commerce, arts and science degree courses
the unit costs were about Rs 1200, Rs. 1500 and Rs. 1800 respectively. The cost of science courses was higher due to the cost of laboratories and equipments. Similarly, cost of PG courses was four or five times more than degree courses. The cost of technical and professional education like the engineering and medicine at the degree level was four or five times higher than that of the general higher education. Kamat made a very good attempt of comparing the cost of general higher and professional education. This is one of the best analyses of the unit recurring cost of higher education.

Chalam (1978) analyzed the cost of education in colleges of Andhra University. The study calculated the institutional and private cost in the colleges. And, it was observed that institutional cost per student was almost double in the science faculty as compare to the arts. The comparative study of cost in both faculties has proved that major component of costs in science faculty was related with the common services. In arts, however, the teaching cost was the major component of unit cost. Similarly, private cost of former is less and social cost is more and private expenditure of the students was mostly influenced by socio-economic background of the students. Ramanujan (1979), while making a comparative study of the per student cost in the institution of Jammu and Kashmir found that more than 80 per cent of the total expenditure of university is consumed by salaries and very less was spent on library and laboratories.

Prakash (1978) has developed a detailed methodology for the calculation of the unit cost of education. Moreover, he has developed input-output models of education with an application to the Indian data. He has made estimates of cost of higher education in the country. He has tried to develop the educational deflators by using various inputs and their prices over the time. In the case of education, no separate educational deflators are available and most of the time the consumer price index or income implicit deflators are used. He identified various determinates of cost of education and developed the cost of education function. Among others, the major determinants were the academic costs, particularly the salary level, structure of
providing basic instructions, research guidance and supervision. The availability of public resources helps in reduction of educational costs by the process of subsidization of institutional cost of service providers.

Tilak (1979) on the basis of data on higher education in India relating to the year 1975-76, computed the unit cost of education by various components for the different states/union territories in India. It is also attempted to formulate a cost function with an objective of explaining differences in unit cost between different states/union territories. The wide differences have been found in unit cost of different type of higher education such as general, professional and other types. Similar differences are also found in the analysis of component-wise unit cost among different states/union territories as well as for different types of education. In the general education, the average salary of the teacher varies between Rs. 19,546 in Lakshadweep and Rs.975.64 in Tamil Nadu. The student-teacher ratio ranges from 61 in U.P. to 6 in Sikkim and Pondicherry. The size of institution varies between 64 in Tamil Nadu and 2,387 in U.P. Similar picture emerged in the case of professional education. The average salary of the teacher in Chandigarh was more than Rs. 30,000 and Rs. 3,871 in Mizoram. The student-teacher ratio varies between 6 in Mizoram and Pondicherry compared to 35 in Meghalaya. The range in size is also quite big the lowest figure was 30 in Mizoram with 803 in Chandigarh. Wider inequalities persist in the case of other education. In West Bengal, average salary of the teacher was Rs. 1990.50 while Rs. 716 in Manipal.

Sharma (1980) in order to assess the cost and efficiency in Indian university system, made a unit cost study of the universities located in Delhi. The study also compared per unit cost of general and professional courses for the period 1974-75 to 1976-77. The per unit current cost was estimated under the four heads: teaching; student welfare; supporting services; and examination, and the capital cost were classified into four categories: buildings; equipments; libraries; and others. The study concluded that operating cost per student in affiliating universities was higher compared to that of residential universities. Subrahmanym (1982) by studying the
expenditure and financing pattern of Andhra University, shows that on the expenditure side, major proportion was consumed by the teaching departments (between 40 per cent and 69 per cent). Further, in per pupil cost, larger differences were found in the non-tuition components of the cost (general administration 20 per cent to 30 per cent, library 2.58 per cent to 9.12 per cent) rather than in the tuition cost among the students belonging to the different income stratas of the society.

The study done by George (1982) measured the private and social costs of higher education in Tamil Nadu for the period 1960-76. He found that private expenditure on professional education was higher than that of general education. He also points out that the poor communities lagged behind than the urban based families who were enjoying the maximum benefits of higher education. Gupta (1982) and Shah (1987) estimated private costs of college education and found that among the main components of private cost, fee consisted of a very small proportion of the total private cost.

Todaro (1985) discussed the issues of demand for and supply of education and concluded that private costs of education are inversely related to the demand for education. Private costs are high at low level of education because of the low government subsidies. Nair (1990), in his study, described the various types of costs and their return in the case of higher education. In the case of private cost of education, the study estimated the average per year expenditure on higher education in Kerala and showed that tuition fees accounted for minor proportion in the post-graduate courses during 1985-86.

Rajkumari (1986) presents the vital points in the theoretical reconstruction of cost and benefit analysis of college education. In cost analysis, the three main components were student cost, institutional cost and opportunity cost. In the institutional cost (excluding value of college buildings), mainly three headings were undertaken. They were: (i) maintenance expenditure; (ii) non-recurring expenditure; and (iii) students-fund expenditure. After detailed analysis of cost of college education, it was noted that average cost of all the three attributes were different. The
behavior of cost per institution for all the colleges on different attributes was also in different order. Taking all colleges together, the institutional cost has increased by 47 per cent during the study period. The study also shows that among the total cost, opportunity cost has made a big contribution, followed by student cost, and institutional cost.

Ramachandran (1987) attempted to analyze the problems of higher education in India with special reference to the Kerala state for the period 1952-75. The study revealed huge growth in students’ enrollment, number of institutions and expenditures during the study period. But the growth of expenditure was found to be higher as compared to enrolment and institutions. The bulk of public expenditure on higher education was spent on development and maintenance of arts and science colleges in Kerala, and the salary constituted the largest component in the total cost of education. While analyzing the cost of education, Kiranmayi (1989) studies the role of organizational structure, financial management and their weaknesses in the universities. It discussed the pattern of income and expenditure of the universities and suggested that there was an urgent need to evaluate their financial management. Ramamurthy (1989), in his study, tried to analyze in the case of Delhi University the impact of introducing computer system on its financial management. For this, the study take into account the financial performance, resource allocation, per student cost of different departments and percentage of expenditure of different heads. It indicates the possibility of better cost management in the university system.

Sharma (1992) gives the state-wise detailed analysis of recurring and non-recurring expenditure of the central, deemed and state universities for higher general institutions from the period 1982-85. The study reveals the income pattern, budgeting and accounting of finances of the university level institutions in India. And, he suggested following recommendations: (i) the universities should be given financial autonomy; (ii), the heads of departments should be delegated adequate financial powers; and (iii) the universities must prepare an accounts for themselves.
Dutt (1995) analyzed the cost of education of 12 colleges affiliated to the Delhi University for the period 1976-77 and 1987-88. It was found that educational expenditure as a proportion to income has risen from 1.26 per cent in 1950-51 to 3.30 per cent in 1992-93, but in total plan outlay, it declined from 7.8 per cent in the First Five Year Plan (1951-56) to 4.5 per cent during the Sixth Five Year Plan (1980-85), while the plan-wise expenditure on the university education rose from 9 per cent in the First Five Year Plan to 19 per cent in Sixth Five Year Plan (1980-85). The average cost per student was worked out to be Rs. 4,994. Christo’ study (1996) held that the cost of medical education in a self-financing college, without any government subsidy, was about Rs.2.25 lakh per annum. Similarly, the average cost of medical education at the Manipal Academy of Higher Education, for the year 1993-94 to 1996-97, was about Rs. 1.60 lakh per annum for the post-graduate degrees and diplomas.

Regarding the public, private and social costs of higher education on per unit basis, Salim’s study (1997) is of worth quoting. It also enquires about the extent of government subsidization of higher education to the students according to their socio-economic backgrounds with special reference to Kerala. This review revealed very interesting results regarding the cost estimates of higher education courses. The results show that during 1989-90, per student capital cost of engineering education was more than two-and-a half times higher than that of the general education. During 1976-90, per pupil capital cost had declined marginally in the case of engineering education, while it increased in the case of general education, in spite of the steady rise in enrollment of students. Further, unit capital cost of government engineering college was higher than that of the private engineering college whereas that of the government art and science college is low in relation to its counterpart in the private sector. Among the various components of the unit capital cost, during 1989-90, the buildings and equipments together constituted almost 75 per cent of the cost of engineering colleges and 65 per cent of arts and science colleges. Over the period of fourteen years, per pupil share of equipments and books had increased in the
engineering colleges, while it was the share of buildings and books which rose in the general education colleges. Over this period, salary remained as the major component in pushing up the recurring cost of education. Almost 66 per cent of the recurring cost of technical education and 61 per cent of general education was taken by this item. Regarding the estimation of private cost, according to the socio-economic background of the students, it was found that total private cost of engineering education was 21 per cent higher than that of general education. Interestingly, out of the total private cost, almost 50 per cent in the technical education and 61 per cent in the general education was allocated to incidental items of expenditure. Across the different components of academic costs, the college fee, private tuition and books expenditure played a significant role. In the case of incidental expenses, the largest share was earmarked for hostel expenses, travel and clothing. Further all students, particularly the PG engineering students received considerable amount of money by way of subsidies which substantially reduced the costs borne by their households. Surprisingly, the net private cost of engineering education, which gives larger private benefits, was considerably lower than that of the general education. Finally, a regression analysis of factors influencing private cost of higher education showed household income as the major determinant. The estimates of social cost revealed that only about one-fifth of the social cost of engineering education was borne by the students, while nearly one-half of the social cost of general education was incurred by them. The remaining part of the social cost was borne by the government/institution. The contribution of fees in the institutional cost was only marginal and moreover, it was declining over the time period.

Heggade (1998) studied the resource allocation and pattern of expenditure on education in Karnataka state during 1981-90. It also measured the institutional cost of higher education and studied the management as well organizational problem of higher education in the state. Sood (2003), while estimating recurring cost of education, concludes that teachers cost account more than 90 per cent of recurring cost of school level education in India. In his study, Kumar (2004) measures the
private cost of MBBS course in Kerala in 2000. It showed that pre-admission expenditure was Rs. 8,817 per student and the average post-admission annual private expenditure Rs. 13,703 including the hostel expenses. Further, the study shows that, the share of private cost was just 12.3 per cent in the total cost. However, institutional cost shares a whooping proportion of 87.70 per cent. The study also shows that major section of the students comes from the high income strata. And fees charged from students form only a minor component of private educational expenses of medical and para-medical courses in Kerala. Nearly, 90 per cent of the cost was incurred on non-fee expenses.

Garg (1985) argued that the unit cost is most often expressed in terms of per student enrolled, but these can be expressed in other definable units such as per student graduated. The main classification of educational costs by the incidence of burden was (a) institutional costs which is sum of (i) current or recurring or operating costs and (ii) capital costs; (b) household or private costs which include (i) net tuition costs, i.e. fee paid minus financial aid received by a student and (ii) non-tuition costs; (c) social costs which is sum of (i) institutional costs (current costs and capital costs), (ii) private costs (non-tuition costs) and (iii) earning foregone. The major components of recurring costs in the study were: teachers’ cost, non-teaching cost, consumable material cost, scholarships, and maintenance cost of infrastructure (playgrounds, repair and maintenance of capital assets, durables, unspecified items or miscellaneous) and organization of literary activities, recreation and cultural activities. The components of capital costs were the buildings and other capital installation, equipments apparatus, teaching aids, library books, periodicals, newspapers, etc. However, the private costs consisted of the tuition cost, non-tuition cost (it includes: additional cost of living in hostels, uniform cost, transport cost) and opportunity cost. This was the first study which calculated per unit cost of higher education both at the institutional and private levels in Punjab. The main conclusions of study were: (i) unit cost of education both at current and capital level had shown an upward trend; (ii) science departments had higher unit cost than that of others; (iii)
salary component constituted the major proportion of recurring cost in each department; (iv) subsidization of unit costs from public funds had increased over a period of time; (v) economic status of university students was better than that of affiliated colleges; and (vi) demand for higher education was high from the households belonged to the administrative and professional services.

Another significant study produced by Ghuman, Singh and Brar (2005) measures per unit recurring cost of higher education (general and professional) for Punjab. It measures the unit cost, financing and recovery of colleges and university level higher education. The study shows that there has been a strong growth of private initiative in higher education particularly in the professional higher education. It found that overall per unit recurring cost in the case of general higher education was Rs. 13,508 during 2004-05. Per unit recurring cost was higher in the urban areas colleges (Rs. 13,506) compared to the rural areas colleges (Rs. 10,118). However, ownership-wise, its level was the highest in the aided private colleges (Rs. 14,600), followed by the government colleges (Rs. 12,053), and the lowest in the unaided private colleges (Rs. 10,118). Component-wise, teachers’ cost dominates across the ownership and locational categories. However, administrative cost was the second highest component of recurring cost, where it constituted between 18.16 per cent and 33.22 per cent of unit recurring cost. In professional education, per unit overall recurring cost was Rs. 1,17,555. Out of this, teachers’ cost was Rs. 56,967 (48.50 per cent) and other costs Rs. 60,488 (51.49 per cent). Thus, like the general education, teachers’ cost and administrative cost constituted the substantial proportion of recurring cost across all the trades/courses of professional education in Punjab. The analysis of cost recovery of general and professional education in Punjab shows that its level was quite higher in the professional education than that of the general education. The share of total receipts in recurring cost was 95.72 per cent in general education, and 134.27 per cent in professional education. Moreover, fees and funds alone constituted 77.38 per cent of recurring cost of general education, and 97.34 per cent in professional education.
2.2 Financing of Higher Education: The Basic Issues

The financing of higher education has always been a matter of debate across the countries. In fact, within the education sector, higher education demands more resources on per unit basis because of its special requirements and higher level of specialization. There has also been a debate about the generation of social return of higher education in relation to private returns to the education acquirer. The beneficiaries of subsidies parked in this sector may not always be from the deprived sections of the society. However, a reduction in state resources creates its own problem like the exclusion and undersupply of human capital in the state. The linking of subsidies to the income of students too involves many practical problems, particularly in the developing countries where informal sector and size of black economy is too large. Further, the privatization of education results in the commercialization because of the least enforcement of rules and regulations. Thus, the study of financing pattern and practices becomes more important in order to comprehend the situation in a better way.

2.2.1 Studies Related to Other Countries

The higher education sector witnessed a considerable expansion among world countries immediately after the end of World War II, i.e. the 1950s onwards. And, the financing issues emerged as the most important topic of debate and drew the attention of policy planners and academia across all the countries of world. In this section, the most important research studies in the field of financing higher education have been reviewed. For instance, Mishan (1960), in this study, examined the financing of education with a special focus on Britain’s higher education system. It identified two main components such as the fees and student loans that were used in Great Britain to cover the cost of higher education. On the other side, Carnegie Commission on Higher Education (1982) reviewed the financial problems faced by the system of higher education in United States. It also tried to find out the causes of rising cost of higher education in the USA. The report commented that, during the present century, the cost of colleges owned by the public sector was rising at a very high speed. This
increase is largely due to the growing proportion of students in public institutions, particularly in the expanding community college sector since the World War II. Further, the commission added that, ‘as a steadily rising proportion of the nations choose to go to the college; the public cost of higher education grows much more rapidly than the national income’. The Commission opined that in the changing scenario, higher education will have to call for a reappraisal of traditional views about financing it through the public funds. In the last, the Commission recommended that the tuition fee charges should be based on the economic strata of the students. It also stressed that the institutions should initiate a careful study of tuition fee to be charged from students in the private colleges and universities so that tuition fee was relatively low for the lower division students, slightly higher for upper division students and substantially higher for the graduate and professional students.

Psacharopoulous (1985), by reviewing the financing pattern, held that in most developing countries, the direct costs of education are financed largely by the taxpayers’ money rather than the individual student. It was further held that the tuition fees are substantial high in certain cases. Jimenez (1987) held the view that the primary source of financing has been the state support to the higher educational institutions and tuition fees be kept very small. It was observed that nearly one-third of the countries in the world provide higher education at no-fee, and the users’ fees as percentage to unit cost were eight per cent only at the higher education level in nearly 30 countries. Mingat and Tan (1986), by making a careful examination of the source of financing of higher education, observed that increase in tuition fees as a non-government source of financing under certain circumstances could prove an important source of financing higher education because it may contribute to both efficiency and equity. On the other hand, Woodhall (1991) suggested a reduction in the subsidies to the higher education sector and recommended that the student loans, graduate tax and enhancing fees and funds should be adopted to finance the rising cost of higher education.
Mwikisa and Lungwangwa (1998) studied the financing behavior of two important universities of Zambia and find out that the main source of financing these two universities of Zambia namely Lusaka and Copper Belt depends upon the grants of government even though both of the universities were autonomous institutions. A study got prepared by the OECD (2003), while discussing funding of higher education, shows that percentage share of GDP spent on the tertiary education in 2000 was 1.7 per cent. The UK was below this, at the one per cent level of GDP. This percentage was lower than the other country, except Germany and Italy. It suggested that overall support should be available to the students regarding the financing of higher education and for this, either it should be in the form of grants or loans or both. The report prepared by Bars (2005) highlights the financing problems faced by the higher education sector throughout the world and suggested certain valuable suggestions so that the students of developing as well as developed countries could be able to cover the cost of higher education, and for this, the study suggests a three-part strategy such as deferred variable fee, income-contingent loans, and active measure to promote access. Reforms in 1998 brought in income-contingent loans, which also brought some problems. The reform enacted in 2004 provides a useful framework for deciding other features, like tuition fees, loans, and action plan to promote access. It is held that all the major industrialized countries were grappling with the issue of financing higher education.

The British government showed considerable courage in addressing some serious political obstacles in the implementation of academic reforms. Other governments will have to do the same sooner or later. For instance, countries like Australia, Canada, the Netherlands, and United Kingdom have made their task much earlier. The USA does well on the fee front, but less well on the loans and promoting access. Canada is actively considering income contingent loans since the 1989. The Netherlands came close to getting all three elements right during the 1990’s. Most countries in the Western Europe and the Nordic countries have yet to address fees. In many European countries, tuition fees for higher education are a no-go-area. In
developing countries, however, the challenge before the authority is how to design a loan that mimics income-contingent repayments, particularly when there is a large informal sector and only limited capacity to collect income tax. But at the same time, some options are also available: small tax contributions rely on private finance, small scale loan schemes, etc. (Bars, 2005).

UNESCO report (2005) analyzed public financing of education both from the centre and the states’ viewpoints. It also analyzed the expenditure by the households including the trend of funding loans. It was found that only a few public higher education institutions are reasonably funded, most of them face a severe financial constraint, which is reflected in their sloppy downwards. In several cases, the public funds are not optimally utilized and the mechanism promotes inefficiencies in the delivery of education. In most cases, public higher education institutions have no incentives for the internal resource generation. The report suggested that public funded higher education institutions need to be supported by the governments to reach the critical minimum standards. The competitive grants need to be provided to encourage healthy competition in higher education. Public funds would have to be used in areas and for the subjects where private sector may not venture. A demand-driven, efficient and targeted funding of students from the poor background by initiating a social equity fund should be taken up on a big scale. And, to generate more resources to finance higher education, this report suggested important measures: collaborative activities that are far and few but require to be supported through public funding. The deficit in financing higher education has to be met by pooling resources from all possible sources, such as the government, households, and education loans. The possibility of attracting foreign and corporate agencies in the knowledge economy sectors through a proactive approach could be explored. To address equity issues, a social equity fund to cater to the need of students from poor background be set up. Thus, to meet the financial requirement of knowledge industries, a suitably designed affirmative action policy should also be put in place.
Rolle (2006) examines the concepts of equity and efficiency in higher education, but also addresses the ideas of adequacy and liberty around the central issues in the policy and research finances. It provides an overview of the goals of equity and efficiency and also presents a discussion of the challenges in the public sector education that have undermined the pursuit of each goal. It was also argued that equity and efficiency goals have evolved in such a way that they are more complementary than competing.

In fact, these studies state that the main sources of financing higher education are the government grants, funds from self-government agencies, tuition fees, charity/donations, scholarships, educational cess, and so on. It also points out that the differences exist in the case of availability of funds and resources in the context of different levels and types of education such as the general, higher, and professional education. Regarding total resource allocated to higher education, it was observed that the government provides 88 per cent of total resources and fee contributed 10.2 per cent in 1992-93. Out of this, central government provides 10 per cent, followed by the fees and funds as the second main source of finance in India. Many study also suggested that other resources such as the donation, consultancy services, production centers, social forestry and other programmes, alumni association, levy of tax on employer, and loan scholarships must be tapped (Tilak, 2004a).

2.2.2 Studies Related to India

The financing of higher education in India fits well in the overall development strategy and economic policy of the country at that time. India’s higher education sector evolved and grew with the strong support of public funds during the period called Nehruvian model of development. By and large, this model of development was applied across all the Indian states. In fact, governments owned, established and operated educational institutions everywhere. These institutes were funded by the government and charged very nil or low fees and funds from the students. The scenario changed drastically during the last about a decade and half. As a result, the whole gamut of financing higher education has changed in India which gave a central
role for the private sector. Indeed, it has happened under the nose of new economic policy initiated since the 1990s. Numerous studies are available about the financing of education in the country both during the pre- and post-reforms periods.

In the past, Pillai and Nair (1962) made an attempt to study the history and problems of educational finance in Kerala state. To solve the problem of financing education, the study suggested that additional public resources should be generated on large scale in order to finance the continuously rising demands for the education in the state at all levels. Even, the Education Commission (1964-66) strongly argued for devoting 6 per cent of GNP to the education financing by taking into account numerous parameters like cost of education, teacher-student ratio, educational requirements of the country and financing policies adopted in other countries. It further recommended that some proportion of it be made available to the higher education on a continue basis.

Dutt (1969) measures the source of financing of 28 colleges of Haryana which includes four state colleges and 24 private colleges categorized under three headings as the state colleges, private women colleges and other private colleges. The various sources of financing of higher education was found to be: (i) fee income; (ii) government grants (State, UGC, and local bodies); (iii) other sources (fines, sale of prospectus, etc.); and (iv) funds given by the governing bodies. In all colleges, sources of income were very much different. In the state colleges, the main contributor was the state government, the private women colleges depend mainly upon state grants-in-aids, and other private colleges depends upon the fees and funds and the UGC grants, if any. After the government grants, among the private sources, the major contributor was fees and funds paid by the students.

Jha (1974), while studying the financial behavior of the Patna University, concluded that government grants is the main source of finance. The study also noted that in 1964-65, the state government was itself faced a deficit of funds due to the lack weak tax collections. This situation reduced the flow of funds to the coffers of university. Even, it was noticed that the finance committee failed to function properly
due to the lack of financial rules. Nigam (1975) examined the main source of finance of University of Rajasthan and their relative importance. The study also deals with the steadiness and adequacy of the finances, expenditure incurred under different heads, and difficulties faced by the university due to lack of finance. The study found that per capita availability of educational facilities, in real terms, does not fall either due to rise in enrollment ratio or inflation which affects the facilities of the supply of laboratories or libraries. It recommended the creation of state level body like the UGC to settle financial issues in order to stabilize per capita educational facilities in real terms.

Mathur (1974), in his study on Kerala University during 1970-71, found that the receipts from examination, which was initially a source of income, later became a major item of heavy expenditure of the university. The expenditure on science departments was nearly double than that of the funds spent on the humanities. The expenditure on administration head alone was 19 per cent in 1970-71. And, over the time period, overall expenditure of university increased by 17 per cent per year. Nanjundappa (1975) described the Karnataka University’s finances with special reference to growth of revenue and behavior of various revenue components during 1972-73. It was found that the state government financed up to 54 per cent, and income from fees and funds collected from students contributed up to 35 per cent. Moreover, per capita expenditure of state on education was just Rs. 80 in 1949-50 and rose to Rs. 3,306 in 1972-73. At the university level, there was enormous increase in the expenditure, especially in the academic departments, but still the grants of teaching staff were only 13 per cent.

Panchmukhi (1975), after making a careful study of the analysis of category-wise expenditure and various sources of financing of higher education, found that students’ fees and funds was the major source of financing, although its proportion was continuously decreasing with the increase in the government’s contribution to higher education. It also recommended that government should minimize their role in
financing except the necessary, i.e. only for the students belonged to under-privileged classes. And to cover the cost of education, he suggested that fee rates should be fairly high.

Nanjundappa (1976) reported a continuously rising gap between the cost of higher education and fees charged in Karnataka University. In order to eliminate this gap, he suggested that (i) state grants must be increased to the higher education; (ii) a rise in fees and funds from beneficiaries; (iii) introduction of indirect methods of financing such as student loans which would be beneficial for both students as well as society. Mukerjee’ study (1976) made an attempt to throw the light on the pattern of income and expenditure of the Calcutta University. He found that the administrative expenditures of the Calcutta University alone constituted about 30 per cent between 1948-49 and 1969-70. The salaries to teachers cornered between 13.12 per cent and 18.76 per cent of expenditure. The study views that raising trust and endowments funds to finance university expenditure is the best option in the long run to sustain finances.

Mathew (1980) showed a detailed analysis of the receipts and expenditures of Kerala University for the year 1974-45. Out of total revenue of Rs. 192.2 lakh, Rs. 95.5 lakh (50 per cent) were accounted by the examination fee and Rs. 80.8 lakh (42 per cent) by the public grants. Further, the bulk of public grants (80 per cent) came from the state government. Out of total expenditure of Rs. 229.1 lakh (25.6 per cent) incurred on the general administration, Rs. 53.1 lakh (32.2 per cent) on the examination work and Rs. 42.1 lakh (18.3 per cent) on the departments for study and research. Faculty-wise, the humanities spent, on the average, Rs 1.3 lakh per department and science departments Rs. 2.7 lakh.

Subrahmanyam (1982), in case of financing pattern of the Andhra University, found that its major sources of income (60 per cent) were the internal sources. However, across the non-academic income sources, major contributors were the press, publications, and interest on corpus fund. Further, the results show that on expenditure side, major proportion of funds was consumed by the teaching
departments (40 per cent to 69 per cent). It was further noticed that there exists larger differences in the non-tuition components of cost on per-pupil basis (general administration, 20 per cent to 30 per cent; library, 2.58 per cent to 9.12 per cent) rather than in the tuition cost among the students belonging to the different income strata of the society.

Azad (1984) critically analyzed the pattern of grants to the higher education sector in Andhra Pradesh. The major sources of grants were the government grants, followed by the revenue generated through fees and funds. It divides the pattern of state grants into the general and professional education. In general education, major heads of grants were the maintenance, building and equipment grants; while in professional education, they were the maintenance and building grants.

Mridula (1985) made an effort to analyze the sources of financing universities’ maintenance grants. The study based on a large number of state universities found that the main source of financing maintenance expenditure was the UGC’s grants and the majority of these grants were in the form of the block grants.

Mathew (1991) analyzed, in detail, the source of funds of private colleges in Kerala for the period 1972-86. The analysis was made on the basis of sample data collected from 25 arts and science colleges spread over the state. The study found that, among the institutional sources of finance, grants from the state constituted more than 90 per cent. However, of the non-institutional sources of finance, donations emerged as the most important component of finance of private colleges in Kerala. The study called for strengthening of the finances of colleges in the private sector.

Varghese (1991), in his research work, shows that the cost-recovery from beneficiaries implies a reduction in the public subsidies to higher education sector. And, he suggests that the best way to reduce the public subsidies is to diversify the source of funding for higher education. This could be done by shifting the incidence of financial burden either to the beneficiaries (students) or to their users (employers). Student loans, graduate tax and enhancing fees were other suggestions in this regard.
The study carried out by Sharma (1992) pointed out the major sources of funding of university education in India. These sources are: the central government, the state governments, the University Grants Commission (UGC,), the Indian Council of Agriculture Research (ICAR) and other public and private agencies. The funds are in the form of grants-in-aid, development assistance from the UGC and ICAR, fees and funds, income from moveable and immovable property, and sale of university publications and farm produce. The endowment funds were the sources of finance of university institutions. Further, grants-in-aid made by the central, state and other authorities to an institution to run their activities in order to improve them and to start new programme for further development and growth. These grants were given to the university institution in the form of (i) matching share of development grant by UGC; (ii) grants in the form of committed expenditure under the non-plan heads by either of the system, namely, the deficit grants or block grants.

Punnayya Committee (1993) provided many diversified and new ways of funding of universities in the country. For instance, it recommended: (i) maintenance grants, dearness allowance, etc., to be provided by the government; (ii) subsidies on many items of the maintenance grants to be reduced and maintenance grants to be stabilized at a certain acceptable level; (iii) maintenance grants to be based on unit costs; (iv) universities to mobilize funds – at least 15 per cent of the total recurring expenditure at the end of the first five years and 25 per cent at the end of next ten years; (v) creation of corpus funds to meet infrastructure development; (vi) increase in student fee keeping in view the rate of inflation; (vii) scholarships to at least 20 per cent of students; and (viii) soft loans and scholarships from the nationalized banks.

Punnayya Committee also contains a general re-statement of the problems pertain to higher education, including the increased cost to the families and the increasing difficulties of low-income students in attaining higher education. The commission advises simplifying the process of federal student aid as one program which includes the three aspects of grants, loans and work-study. This program should guarantee equal aid to all students. Further, it is suggested that the low-income
students should be given more grants and high-income students more loans. At the same time, at state level, the commission warns against the implementation of high tuition fee and low aid system.

Swaminadhan Committee (AICTE, 1994) looked into the possibilities of resource mobilization in the case of technical education, essentially through cost-recovery modes either from students or from elsewhere. The Committee’s recommendation includes: (i) the creation of corpus funds in the institutions; (ii) establishment of an Educational Development Bank of India (EDBI) with an initial capital of Rs 3000 crore; (iii) reducing the share of salaries in the recurring expenditure from the present level of 80 per cent to 60 per cent; and (iv) enhancing fees to recover at least 20 per cent of the recurring expenditure.

Natrajan (1995) analyzed the source of finance of university education and also the use of funds. The analysis shows that the major sources of finance of universities were the government grants, followed by fee income, and other sources. Development grants were found to be spending both on capital and recurring items. Academic costs absorbed the major proportion of total expenditure of the university. Among academic fee income, examination related work entails major proportion of total expenditure. At the same time, income from the endowments is decreasing. The study provides the purpose-wise classification of income of the universities and suggests ways and means to overcome the shortage of finance.

The research done by Dutt (1995), while estimating the various source of financing of higher education for the period 1960-61 to 1976-77, shows that the government funds (central, state, UGC, etc.) was the major source of finance. These funds constituted 75 per cent of the total cost per student, followed by 13 per cent by the fees. However, endowments and other sources cornered low share of 12 per cent. Further, source-wise income per student at the university level, subsidy to education at various levels, and recovery rates at different level of education has also been evaluated. The analysis of 12 colleges of Delhi University shows that fee accounted for only 5 per cent of total cost per student and the balance of 95 per cent was
contributed by the government/UGC and some receipts from the private trusts. The subsidy per student was estimated to be equal to Rs.4,744.

Salim (1997) enquired about the extent of government subsidization of higher education in Kerala state with special reference to students’ socio-economic background. He found that all students, particularly the PG engineering students, received a considerable amount of money by way of subsidies. The overwhelming burden of financing of higher education has fallen on the state government, which is gradually taking up the role that the fees had played earlier. Interestingly, government subsidization is high in the case of technical education. The burden of government has been increasing year after year. And, no successful attempt has been made by the government to enhance the tuition fees or to tap additional resources for financing the mounting expenditure on higher education. Pylee Committee (UGC, 1997) also advocated the cost recovery by suitably revising, rationalizing and enhancing tuition fees in order to make the institutions more sustainable in terms of financing.

Tilak (1997) analyzed the pattern of financing of education in India during the last 50 years since independence. It also examined the trends of public expenditure and resource allocation at different levels of education. The public expenditure on education which was less than 40 per cent of total expenditure at the time of independence rose to 85 per cent. The share of all non-government sources have declined steeply, but this achievement is not adequate for India to survive as a great nation. Majumdar Committee (1999), while analyzing the fiscal implications, came to the conclusion that enhancing the share of investment to 6 per cent of the GNP would be sufficient to provide adequate resources at all levels of the education system.

Tilak (1999b), in another work, held that the student loan programme could be an answer to the problem of lack of public funds for higher education. However, he cautioned that student loans were launched in many developing countries with exaggerated expectations. For instance, the experiences of many developing and developed countries in the past have shown that there are elusive gains based on questionable philosophy and unrealistic assumptions of student loans. The experience
has also shown that there are serious weaknesses associated with the student loans particularly the low rate of recovery of loan. Several studies of World Bank contained in this study show that the highest rate of recovery was 67 per cent in Barbados, but in many other countries it was below 40 per cent and in some countries, in fact it was negative. Secondly, the cost of administration of loan is very high. Thirdly, it was guided more by the ability to pay, fourthly, loans are deterrent to women’s to access higher education, and finally, psychological factors associated with student loan cannot be ignored.

Dandekar (2003) held that the process of reform of higher education went against the judgment given by the Supreme Court which states that education should be free to all. Showing disagreement with judgment, he points out that education can not be given free to everybody and suggests that full public cost should be re-covered from beneficiaries. The study did not deny the problem of inequalities of income but the remedy is not to make higher education free or highly subsidized. For this, long term loan could be the best remedy to cover the cost of education at any college or university.

Regarding funding of higher education in India, Kumar’s study (2004) observed that major source of financing of private cost is the income of households (wages and salaries, agricultural income, income from business, interest, dividends, etc.) and other sources such as the scholarships and loans. On the other hand, CABE (2005) argued that the governments – union and the states – must make a firm commitment to sustain funding of higher education institutions in such a way that basic teaching, research and extension activities are not affected in terms of their quality and quantum due to paucity of financial resources. The state funding for higher education out of tax and non-tax revenues should be the only sustainable way of financing higher and technical education in India.

Tilak (2004a) found that public subsidization of many social and economic services is a common feature of most countries of the world. But, with increasingly budgetary constraints, many have started raising questions on the rationale of
government subsidies to higher education. The study shows that all level of education are important and they are dependent upon each other. It may not be logical to withdraw subsidies from one level of education and allocate in favour of the other, as all level of education in India are severely under-financed. Regarding the recent trends in public expenditure on education during 1990’s, the study found that public expenditure on education has declined from above 4 per cent of income in the late 1980s to 3.6 per cent in the late 1990s. Higher education suffered more severely in terms of public expenditure. Per student public expenditure had declined nearly by 25 per cent. Thus, on the whole, elementary education is nearly totally financed by the state. The government subsidies in higher education are being reduced as many universities are experimenting with the cost recovery measures, generating resources from student fees, and other non-government sources. The study also estimates the rates of subsidy and the cost recovery. It provides the distribution of some specific subsidies in education such as free education, fee exemptions, text books, noon meals, etc. Some of the important issue on, for example, the size of the subsidy, targeting vs universalism and method of cost recovery are also briefly discussed. It has been shown that the levels of subsidies to education sector in India are not very high, nor is the rate of cost recovery. It has also been found that some of the specific subsidies in education are fairly progressively distributed.

A recent report of the UGC (2005) shows that in the UK, higher education is primarily in the public sector or financed through the public grants. Faced with problems of deteriorating standard due to inadequacy of funds and failing accountability, a number of innovative ways in financing of higher education, such as the performance-based funding for teaching and research, portable students’ aid, etc., were introduced during the last decade. This has helped the UK higher education to regain its place as one of the best systems of higher education in the world. In a politically sensitive and tough decision, the UK government has now allowed the universities to compete for students and charge variable fees. It results in the end to the regulated fee regime in the UK.
Varghese (2005), in his paper, on reforming the education financing points out that Indian government finds it difficult to cope with the ever increasing financial requirements of an expanding system. For this, the study suggested two major propositions: (i) improving efficiency in the functioning of the public institutions on the one hand; and (ii) mobilizing resources from non-governmental sources on the other. It is held that the country needs to invest more resources both at primary and tertiary levels of education. Ultimately, these reforms lead to the shifting of the burden of cost from the public to private and household domains.

The study done by Sanyal and Martin (2006) held that the reforms in higher education of China were initiated along with other economic reforms. Prior to that higher education in China was in the public sector. There was no tuition fee. Since then the system of higher education in China has radically changed. The concepts of cost-sharing and cost-recovery were introduced in the early years of reforms. Tuition fee have now been made compulsory. The higher education institutions in China were expected to diversify their revenue sources and, therefore, they were allowed to have affiliated enterprises. Further, they identified the seven key factors that affect the new funding trends for higher education: (i) the massive expansion of student enrollment; (ii) the incapacity of the state to fund such an expansion; (iii) the vigorous emergence of the private higher education; (iv) the tendency to cost-sharing by students and their parents; (v) the importance of accountability; (vi) the emergence of new providers; and (vii) the need for funding by the states to reduce growing inequalities in access.

Hauptman (2006) also points out that funding process of higher education followed in India continues to be on the basis of historical allocation. He suggested a shift to policy-driven funding by introducing policy variables into funding process or performance-based funding that recognize outputs rather than just inputs (as in UK). Tilak’ study (2004b) again suggested the best method of financing education, including the higher education, is the state funds through its tax and non-tax revenues. On the other side, Choudhury and Mahajan (2006) suggested that, the subsidization, which certainly has an anomaly in a resource poor country like ours, could be
corrected in several ways like an increase in tuition fees for the students belonged to better part of the society and low interest loans can be initiated for economically squeezed students, along with various forms of scholarships to finance their higher education.

The report of National Knowledge Commission (2006) also recommended the various public and private sources of financing of higher education and also feels that it should be the collective responsibility of both the public and private sectors. Among the various possible source of financing: government support; better asset management; rationalization of fees; philanthropic contributions; private investment; public-private partnerships and international students have been recommended. Even, the Yash Pal Committee (2009) recommended state funding as a major source of financing of higher education, however, student loan at low interest rates and free education for poor students will also move side by side.

**Summing up:**

The foregoing review of available literature reveals that the most of studies revolve around the estimation of recurring cost of education. Adequate attention is not given to the estimation of capital costs in the education which forms an extremely important component in the overall institutional cost of education. Similarly, the estimation of private cost of education is one of the areas which remained as most neglected in the studies of educational costing. In most of studies, it is also evident that even with regard to the estimation of recurring expenditure, maximum attention was paid to salary (teaching and non-teaching), stationary, consumables, repair and maintenance, communication, sports, etc. However, certain items like the cost of examination, scholarship and stipends, fee concession and publicity, etc., were excluded from the calculation of cost. Similarly, in private cost main focus of the studies was on the tuition cost, however, non-tuition components of private cost of education are still waiting for proper attention. This statement is true not only for the
various states, but also in all India contexts as well. Overall, no full-fledged study is available which discuss the total cost of education in a comprehensive manner. As far as financing of higher education is concerned, mixed approaches have been adopted and recommended by these studies. Few studies favor withdrawal of public subsidization and suggest fee hike and student loans to finance higher education. On the other hand, many studies do not favor withdrawal of public support to higher education. In the context of India, where public subsidy is one of the most important elements of educational financing, not much attempts have been made to measure the extent of subsidization, or to evaluate the benefits flowing from it. Thus the present study makes serious attempt to measure the total cost (institutional and private) of professional higher education along with their source of financing.