CHAPTER III

DEMAND FOR EDUCATION: CONCEPT AND DETERMINANTS

This chapter defines the concept of demand for education with special reference to socio-economic factors. The various ways of measuring the demand for education have been discussed. The concept of supply price and demand price are being explained. Different costs component of education are discussed. The important role of cost factors in children's demand for education is emphasised. In regard to this, some empirical evidences are given both at the national and international levels. Consumption and investment dimensions of education are defined. Private demand means the enrolment of individuals in an educational system. Social demand refers to the total number of persons enrolled in an educational system. Further the concept of demand for education with that of text-book definition of demand has been compared. The criterion for investing in education is that when marginal cost of education equals the marginal benefit obtained from education.

There is a separate section on "Determinants of demand for education". This is being discussed from four different angles, namely individual, family, society and the school. These four units are insisting that, demand for education decided by the forces operated by these units in the decision-making process of
household demand for education. An exclusive attempt has been made in this chapter to define the concept of demand for education with a special focus to socio-economic factors. Conclusion suggests that, more research studies should be made in this direction.

3.1 Introduction:

There are quite a few studies have attempted to estimate demand for education. They defined the concept of demand for education at different angles. But none of the study has tried to explain the various other dimensions associated with the concept of demand for education. These studies have not discussed the determinants of demand for education in a nutshell of different socio-economic factors.

Among the researchers, still there is considerable disagreement with the concept of demand for education. We would like to pose a series of questions here. What are the conceptual problems related with the definition of demand for education? What are the socio-economic factors decide the demand for education? How far effective their role in assessing the demand for education? In order to draw the attention for the answers to the above questions, in this chapter an attempt has been made to define the concept of demand for education, and the factors influencing the demand for education in the contexts of an individual, family, society and the school.
3.2 Concept of Demand for Education: A Socio-economic Approach

In demand analysis we investigate the choices that individuals make between the goods and services that are available to them in the market at a given price level, (Simmons, 1974). The term demand refers to the quantity or the amount of a particular commodity purchased at a given price level. The term "demand" is associated with the price of the commodity in question. The quantity demanded in the context of education has been explained in the following views.

a) The number of Years of education an individual has acquired. This can be measured in terms of number of years of schooling.

b) Whether the child is enrolled in the school or not. This aspect is known as the enrolment Index. A variant of this measure is the enrolment ratio, where it is measured as the percentage of children enrolled.

c) School expenditure on children is calculated as the expenditure on education such as school fees, transportation cost, etc.

As far as the price of education is concerned there are two kinds of price. 1) Supply price and 2) demand price. The supply price is the price at which the supply of education can be offered to the public which includes government and non-government outlays on educational institutions. The demand price
is the price at which the consumers are willing to obtain education. If supply price and demand price converge in this case, it is named as the equilibrium price.

The demand price is the costs of education borne by households. Here let us discuss about the various cost factors which are operating on the demand side of education. The following diagrammatic representation gives a clear idea regarding the costs of education.

**Chart Showing the Cost of Education**

- **Total Costs**
  - **Direct Costs**
  - **Indirect Costs**
    - Opportunity cost of Education or real cost of Education
    - Tuition Costs
    - Non-tuition Costs or Out of Pocket Expenses
  - **Other Expenses**
  - School Fees, Exam Fees
  - Travel Cost
  - Private Tuition Cost
  - Boarding, Lodging Expenses
  - For Students who are away from their residence

*figure 1*
The total costs of education comprise of the direct costs and indirect costs. Direct costs are further subdivided into two components viz., expenditure on books, uniforms, papers, pen, pencil etc., and expenditure on school fees, examinations fees etc. The other expenses block also includes three more components such as travel cost, private tuition cost, boarding and lodging expenses (for the students who are staying outside home).

The opportunity cost of education of children or the earnings foregone by the students is the indirect cost of education. This cost is the amount of earnings foregone by the students while they are at school. Sheehan (1973) in his book on "Economics of Education" has said that there are two kinds of costs of education (measured by the expenses on fees, books and other items) as well as the indirect costs of education (the earnings foregone amount) which are a real cost to him. Similarly Hansen (1971) has viewed the private resource costs as a combination of opportunity costs incurred by the individuals and incidental school related costs incurred by individuals. In his work the author has concluded that perhaps cost is one of the many determinants of the quality of education, (Clark, 1963).

While assessing the individual demand for education, Harnqvist (1978) has found that the direct costs of education and the opportunity costs of education would decide a rational decision to pursue in a certain kind of education. Mc Donald (1988) has been considered the same point of view in his review.
on "Demand for Education". In another work, Parsons (1974) has shown that students are not only sacrificing their foregone earnings but also their leisure time period. These studies have explained the vital role of direct costs and indirect costs in children's demand for education.

3.3 Some Empirical Evidences:

3.3.1 Abroad Studies:

Edwards (1975) observed that the school expenditure per pupil are having a tremendous positive effect on the level of teenage enrolment rates in 1960, by using the U.S. census data. After reviewing the studies of responses to tuition fees in U.S. Freeman (1986) arrived at the conclusion that a $100 change in tuition cost would negatively alter the proportion enrolled by 0.8% points. In a recent study Long and Toma (1988) have found out that the tuition variable was negatively related to private school demand in 1980, but not in the case for 1970 by employing the U.S. data. In Australia the choice between government and private schooling was estimated to be quite responsive to the private price of private schooling, (Williams, 1985).

3.3.2 Indian Studies:

Psacharopoulos and Woodhall (1985) found that many poor parents in India do not send their children to school mainly
because they cannot afford to pay the direct costs of education. While analysing the private costs of education in Baroda city of Gujarat state, Shah (1968) has shown that the non-tuition costs (e.g., costs of education other than fees) incurred by the students are more significant than the fees. In a pioneer study, Panchamukhi (1967) observed that for the Indian context there is a complementary effect operating between public and private education expenditures. In his study on cost and demand relationship for secondary education in Coimbatore district of Tamil Nadu state, Arumugam (1984) identified that the cost factors are important in deciding the demand for education.

There is a negative association between indirect costs (i.e., the earnings foregone amount) and demand for education. For example Crean (1973) has demonstrated that there is a negative relationship between foregone earnings and the demand for education in Canada. Goel (1975) emphasized that the opportunity costs of education should be taken into consideration in any analysis of costs and benefits of education. The important component of the costs of education is the opportunity costs of education. If the children have worked they could have earned from their employment. Especially in less income rural areas, where children are highly employed in agricultural works, foregone earnings are high and hence the opportunity costs. In a recent article Tilak (1989) has developed a theoretical framework for analysing the costs of education. But his paper does not
explicitly explain anything about the cost factors which are operating on the demand side of education. In their survey Kothari and Panchamukhi (1975) have opined that the indirect cost of education can be captured in terms of the foregone work opportunity of the individuals. Rate of return studies in India have estimated the foregone earnings on the basis of age-earnings profiles based upon various surveys, (Harberger, 1965); Nallagounden (1965, 1967); Panchamukhi and Panchamukhi, (1969); Goel (1975); Blaug Layard and Woodhall, (1969), Tilak, (1980).

So on this basis of above discussion, we would like to conclude that especially in a country like India, the cost factors are playing a crucial role in deciding the educational attainment of people. Hence while analysing the demand aspect of education cost factors ought to be taken into consideration.

Thus on the whole demand for education can be considered as a functional relationship in which price of education, family income and socio-economic factors are as its elements. We can expect a negative price effect and a positive income effect. On the average there is some possibilities that as the family income goes up, people will also spend more on education of their children.

3.4 Education as an Investment Good:

Education has both consumption benefits and investment benefits. It is very difficult to differentiate these two types
of benefits. But most of the economists have argued that
Government is subsidising education heavily it should be treated
as an investment good. Investment in education are the current
investments for future earnings. If the future earnings are
expected to be higher than the current alternative activity (e.g.
Work) then it is more beneficial to invest in education.
Moreover parents are sending their children to school because
they expect better employment and earnings for their children in
future which can off-set the expenses incurred by parents for
children's education. This study treats education as an
investment good. Hence the demand concept has a direct relevance
to the analysis.

3.5 Different Types of Demand:

Demand for education can be classified into two types.
They are:

1) Individual demand or private demand.

2) Social demand. For instance Psacharopoulos and Woodhall
(1985) have defined the individual demand as the enrolment
of individuals in an educational system. On the other hand,
if we aggregate the individual demand, we get the social
demand. Thus the social demand is the total number of
persons enrolled in an educational system.

Actual demand for education by which we mean that the total
number of persons actually enrolled in the educational system.
The potential demand for education may be defined as the total number of individuals who are willing to pay for their education. There are three kinds of private demand for education. These can be explained as described here.

i) Satisfied Demand for Education:
We call the satisfied private demand for education as one when an individual enrolled in a school and he stays through his course time with more probability of completing the course.

ii) Unsatisfied Demand for Education
Unsatisfied private demand for education may be defined as the situation while an individual not at all enrolled in a school, during his voluntary school-age period. Here the individual’s demand for education is said to be an unsatisfied demand.

iii) Partially Satisfied Demand for Education:
The partially satisfied demand for education can be viewed as the case, where an individual enrolled in a school after some days or months might have dropped out from the school, due to any family problem. Therefore we can call this demand as the partially satisfied demand for education.

We can compare the concept of demand for education with
that of the text book definition of demand as follows. At a given price level, the quantity of commodity demanded by an individual, while he was backed by the purchasing power. In the context of education the ability to pay for the school expenses (i.e., the direct and indirect costs of education) depends on the purchasing power. Therefore the purchasing power for education can be decided by student's family income.

The equilibrium condition for investing in education is that the marginal cost of education must be equal to the marginal benefit obtained from education. The marginal concepts explain regarding the last unit of money that was spent on education and the last unit of rewards received from education. In the following section we discuss the determinants of the demand for education from the individual as well as society point of view.

3.6 Determinants of Demand for Education:

This section attempts to identify crucial determinants of demand for education. We discuss these determinants from the point of view of the individual family, society, and the school.

3.6.1 Individual Factors:

As far as an individual is concerned he will invest in education so long as the present value of the expected stream of benefits arising from education exceeds or equals the present cost of education. This is known as the rate of return
criterion, (Becker, 1964); Campbell and Seigel (1967). The internal rate of return can be defined as the rate of discount which makes the present value of the costs equal to the present value of benefits. The demand for education can also be considered as a functional relationship between the willingness to purchase education and the price of education. Here the term "willingness" refers to the preference towards education. In short individual's perception about education plays a vital role in deciding his demand for education (Blaug, 1966). We may argue that, even if the individual has willingness to obtain education, if his family background does not allow him to do so, then his demand will be unsatisfied.

Further, more often an individual chooses to invest in an additional period of full time education if the expected net benefits of doing so are positive (Rice, 1987). This implies that in deciding the individual demand for education the future benefits rather than the present benefits play a crucial role.

Freeman (1986) asserted that individuals demand education by investing their current time and money for future pay. We can think of a trade-off between the present consumption and future consumption. The occupational motive factors play a predominant role in individual's demand for education, (Harnqvist, 1978). Freeman (1979) found that the individual's childhood ambition or aim influences the demand for education.
The equilibrium condition for the case of individual demand for education would be the equality between the marginal interest rates and the marginal rate of returns. The marginal interest rate is that rate of interest rate prevailing in the market for educational funds, (Becker and Chiswick, 1966; Becker, 1967).

An individual's demand curve for education can be drawn by using the marginal rate of return on investment in education. It is drawn downward sloping with the assumption that beyond a certain point additional investments would yield a lower return. (Ben-Porath, 1967).

The sex of the individual plays an important role in determining the demand for education. There is a general opinion that if the person is a boy, parents would educate him well than in the case of a girl.

Thus, we strongly feel that the individual's decision is more important in deciding the demand for education.

3.6.2 Family Factors

We shall explain the determinants of the demand for education in the context of family. In his work Becker (1976) pointed out that economic approach can be applied to analyse any issue that is pertaining to family's matter. Primarily the family income decides the demand for education of their children. The
parents ability to pay for their children's school fees would decide the demand for education of their children. (Hight, 1975; Mc Donald, 1988; Kodde and Kodde, 1987; Robert, 1980; Jamison and Lockheed, 1987; Joshi, 1983; OECD, 1975; Arumugam, 1984; Duraisamy, 1984). In U.K., Rice (1975), arrived at a striking conclusion that family income is more important for girl’s education but not for boys.

Parental educational levels influence the demand for education of their children. We can expect a direct relationship between the parent's education and their children's demand for education. Research studies by Marsden and Harvey (1971); Brazer and David (1962); Birdshall (1985) shown that father's education has much influence over their children's demand for education. On the other hand Leibovitz (1974); Wolfe and Behrman (1986) Behrman and Wolfe (1987); have found that the influence of mother's education was more than that of father's education in determining their children's demand for education. Further the results of these studies have confirmed the effect of mother's education on their girl's education was very high compared to boy's education.

Moreover, educo-genic factors decide the demand for education of their children among families. The term educo-genic factor refers to strong motivation for schooling. This strong motivation arises as a result of educated elder's presence in the
families. These factors may help in providing an educational environment for their children. Floud (1961) has argued that children from those families perform comparatively better than other children. In a similar manner Anderson (1983) has examined the role of “educo-genic factors” among families. Don Chernichovsky’s (1985) study supported this line of reasoning.

However members of the family demand education only after calculating their private returns such as securing a good occupation, more salary and more facilities. Based upon these expectations they will enroll in that particular programme. In the existing literature some of the research studies had pointed this. These studies were Gary, (1974); Psacharopoulos and Hinchliffe (1973); Mattila, (1982); and Miller, (1983).

Father’s occupation is one of the determinants of demand for education of their children. Bowles (1972) has shown that in U.S., the position of father in the hierarchy of work relations is an important variable in explaining the demand for education of their children. After reviewing the studies of private demand for education, Psacharopoulos and Woodhall (1985) emphasised the role of father’s occupation in determining their children’s education. Father’s occupation can also decide the choice of subjects for their children. As an illustration Vaughan (1971) observed that children of peasants are likely to enter a college of agriculture and the children of industrial workers are likely to enter a technological university. In the
case of Indian context, we feel that social mobility factor is more important than social reproduction phenomenon.

The family size factor also plays a crucial role in the educational attainment of children. That is families with less number of children get more opportunities for education than those families with more number of children. Thus the demand for education would be decided by the family size, (Eyken, 1973).

Variables like demand for child labour, urban living standards and the role of child in the economic well being of the family would influence the demand for education of children, (Shrestha, 1984; Anderson, 1985). Hence the children's activities should also be taken into account at least in urban and rural low income setting for an analysis of the demand for education.

While assessing the black economic progress after 1964 in U.S., Freeman (1981) found that the reading facilities at home, the reading habit of newspapers and magazines, parental support are significantly influencing the demand for education.

Hence, we infer that the family factors are the major influences in deciding the demand for education of children. We can expect a favourable demand for education, if the family has the following characteristics:

1) well planned family.
ii) family with parents and elders who are highly educated.

iii) family with reasonable economic status.

iv) family with respectable occupation.

3.6.3 Social Context:

This section provides the determinants of the demand for education at the society level. The social status and demand for education are positively related (Safilios and Rothschild 1980; Rao, 1985; Bowman and Anderson, 1980; O.E.C.D., 1983; Coleman, 1971).

As far as the society is concerned demand for education depends on good social status, social mobility and social prestige. Among the social factors, variables such as community, religion and the social value attached to education play a crucial role in determining the educational attainment of the members. A recent study by Srinivasan, (1987) in Madras city has shown that Caste Variable plays a vital role in utilising the educational opportunities of different socio-economic groups. Studies by Tilak, (1980); Neelson, (1983) have shown that the inequality of educational distribution persists among various socio-economic strata by using the data obtained from West-Godavari district of Andhra Pradesh and Dhanbad district of Bihar state respectively.

Demand for education can also be determined by the conveyance facilities available for going to educational institutions in
that particular area of the society. Hence the transportation facilities should be considered in deciding the demand for education of individuals.

3.6.4 School Factors:

There are several important school factors, that determine the demand for education. These are:
- the distance from home to school,
- availability of schools (especially in rural areas),
- medium of instruction,
- school fees,
- the infra-structure facilities available at schools, and
- subjects offered for the students.

For instance, Psacharopoulos and Woodhall (1985) identified that medium of instruction would affect the demand for education. Shrestha, (1984) and Lane (1982) observed that distance factor greatly influences the demand for education.

3.7 Conclusion:

In this chapter, we attempt to present a conceptual framework for the analysis of demand for education. As noted earlier, various studies have used different concepts for measuring the demand for education. But none of the studies attempted to define the concept of demand for education with a special reference to socio-economic factors. Hence we have
discussed the socio-economic determinants of demand for education. The evidence shows that, mere provision of educational facilities alone would not create the quest for demand for education. Special research studies should be undertaken in order to know the various difficulties that are faced by the divergent socio-economic groups in utilizing the existing educational opportunities available to them.

References:


2. Long and Toma (1988), have used the population census data for the years 1970 and 1980. They applied the n-chotomous probit analysis for the estimation purpose. School choice has been treated as a dependent variable.

3. Williams (1985) has applied the logit method for the estimation procedure. The choice of school was considered as a dependent variable. The R-squared value was 0.833 and all co-efficients had the expected sign and were significant at 5% level of confidence intervals.

4.(a) Crean (1973) has employed the informations like school retention rates by age, retirements from school life for various years. He has taken the unemployment rates as a proxy for foregone earnings amount. The R-Squared Values were ranging from 0.90 to 0.97. The private demand for school places has been taken as a dependent variable and it was measured by the retention rate 'Rt'.

4.(b) Schultz (1963) has mentioned that, according to Conroy, the total costs in 1957 for secondary schooling in Mexico was 1,240 million, out of which 760 million were earnings foregone amount.