

## Determinants of Education Loan for Higher Education in Uttarakhand: An Empirical Analysis

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### Abstract:

*There has been an upsurge in the number of students pursuing higher education in India owing to the “youth bulge”. The enrollment in higher education has increased consistently however, the public expenditure on higher education has not been very encouraging. With rising number of private institutes, self-financing courses and cost of education increasing, students are forced to finance their education via alternative sources of financing like education loan, work- study programs, human capital contracts, income contingent loan and grants. The decision to take education loan is not an isolated event that can be separated from a student’s socio-economic condition. It is not just the lack of finance for pursuing education that is enough to be eligible for education loan there are other factors that come into play. The study focuses on finding the determinants of education loan for higher education in Uttarakhand. Using primary data of 220 students studying in medical and technical colleges of Uttarakhand, an empirical analysis using logistic regression has been undertaken to find out the factors affecting the decision to take education loan in the state. The analysis suggests that factors like gender, educational attainment as well as occupation of the head of the family, household income and course fee are significant determinants of education loan among students pursuing medical and technical courses in the state of Uttarakhand.*

**Keywords:** Financing, Education loan, Higher education, Logistic regression

**JEL Classification:** I22, I23, H52, H75

### 1. Introduction

There has been a substantial increase in the number of students pursuing higher education in India the enrollment in higher education stands at 28.4 percent as of 2021-22. Higher education gives students an opportunity to attain knowledge, follow their passion and hone their skills which gives them better access to the job market. Students approach higher education with a lot of aspiration as for many it is a medium of upward economic mobility, a secure future and a better standard of living.

Unlike primary and secondary education in India, higher education has a lot of costs associated with it. The cost of attending a general or professional course involves direct costs and indirect costs in the form of opportunity costs. With the rising cost of education, it becomes necessary for households to think about ways of financing the higher education. This rising household expenditure is accompanied with declining public expenditure on education evident from the budgetary allocations. The share of higher education as a percentage of the total budget has remained around 1.47

percent over a long period of time which explains the shifting of burden from the government to the households.

In some cases, where the cost is more than the household can afford, students turn to alternative ways of financing their higher education. Some students work part time to pay for their education, others turn to income contingent loan, education loan or human capital contracts. These methods are common in developed countries but in India these methods of financing higher education are not as popular. With the rising cost of different courses in India especially professional courses like engineering, medicine, management and others many students are opting for education loan to finance their higher education.

Education loans are one of the modes through which students finance their education when faced with a financial crunch. In a world where attending college has become a necessary condition for employment, higher education should not be an exclusive good accessible only to a few who can afford it. The government started the education loan scheme in India with an intent of making education accessible to all. Many overlook the risks associated with education loan while popularizing it. The students who take loans are usually unsure of their future employment situation and they have to repay the principal amount as well as interest. This adds to the already existing situation of uncertainty and risk not only for the student but also their family (Geetha Rani, 2011).

## 2. Theoretical Underpinnings of the Study

The decision to invest in higher education comes directly from the returns that a person anticipates from investing in education. Increasing cost of education has led to students taking up loan to finance

their education and then return the money later when they start reaping the benefits of the investment they have made. The human capital theory states that education is an investment in human capital (Becker and Chiswick, 1966). People invest in education because they foresee returns to investing in education like incase of other investments. It is observed that the cost of pursuing professional and technical courses is usually higher in comparison to general education and this might be a reason for students pursuing these courses to be more inclined towards taking out a loan. The other reason for them taking up loan is because of better returns in comparison to general education in the labour market (Tilak, 2020). A critical component of the cost-benefit analyses is the student's perception of his or her ability (or inability) to pay for college (Becker and Chiswick, 1966). Since these professional courses lead to an impressive salary package for the graduates, the cost of these courses is also high. These costs impact students coming from households falling in the lower income group and the poorest margins of the society. The loan that students take becomes an additional risk for them as well as their family. For students unable to repay the loan, nemesis comes in the form of not being eligible for taking financial help from banks for any other investment later in life.

Lack of financial resources is not the only factor that makes people eligible for education loan. As per traditional economic theory humans are considered rational beings (Mill,1987) but humans do not always behave rationally especially while taking financial decisions. These decisions are not free from biases or emotions (Kahneman and Tversky, 1979). Studies have shown that it is not just behavior of a person that influences financial decisions but also other factors that are related to their social, economic, demographic factors that influence long term financial decisions.

### 3. Conceptual Framework and Objective of the Study

The field of social science deals with complex social behavior, group dynamics and unique human settings like culture, socio-economic status and educational background (Ritchie et al, 2014). Therefore, sometimes it becomes difficult to get results that conform to expectations (Ravitch and Riggan, 2012). This study employs a cause-and-effect relationship between education loan and other independent variables. The conceptual framework follows from the idea that taking an education loan is not a decision that is isolated from other aspects of life of a student. The study tries to analyze the factors that play an important role in determining the decision of taking education loan among technical and medical students of Uttarakhand.

With that as the backdrop the primary objective of the study is to find out the effect of family background, social factors, demographic factors, type of course and institution on disbursement of education loan in Uttarakhand among students pursuing medical and technical education. Due to limited sources that have data on education loan in India the demand side factors influencing loan disbursement are rarely studied in India. This study adds to literature on education loan in India by filling the aforementioned gap.

### 4. Review of Literature

Higher education has become a prerequisite for anyone who wants to enter the formal labour market. A graduate degree backs students who do not have any experience in the labour market. Becker's research on human capital shows that investing in higher education leads to increase in productivity and helps an individual maximize their earning potential. Investing in higher education through loans falls under the same idea. However, since there are conditions related to uncertainty of

getting a job in future, people only invest if the expected rate of return is higher than the sum of interest rate on assets and the liquidity as well as risk premiums associated with the investment (Becker, 1994). The risk of investing in higher education is more for students from low socio-economic sections of the society. This is because when students from underprivileged families are unable to fare well in their course, get a job or graduate from college, education loans instead of providing access and bringing equity in society widens the gap among the people (Geetha Rani, 2011). Therefore, human capital proves to be a tricky investment in many cases because of its inability to offer any collateral that can help in borrowing funds to invest on humans. This has been reiterated by Becker who cites this reason as one of the foremost causes of under investment in education of humans (Becker, 1962). So, taking education loan to complete higher education in India is often a questionable move. It is difficult for people to let go of investing in education and training even though more often than not this investment is usually under investment (Becker, 1975), (Carneiro and Heckman, 2002), (McMohan, 2018).

Humans usually fail to see the long-term benefits of education and are focused on short term benefits. When the government's financial support fails to cover the cost of education students are forced to take either loan, forgo consumption or take up part time work. Heckman concluded that, "children from families with higher incomes have access to resources that children from families with lower incomes do not have. Limited access to credit markets means that the costs of funds are higher for the children of the poor and this limits their enrolment in college" (Carneiro and Heckman, 2002).

### Education Loan: Factors Affecting the Decision

Academic ability of a student is often an important factor for them to pursue higher education however, family income operates as a constraint for many and it can be corrected via policy changes (Ellwood and Kane, 2000). Avery and Kane found that students belonging to low-income groups do not find it profitable to attend higher educational institutions especially because they underestimate the aids available and overestimate the limitations. Students of low-income families are discouraged to apply for aid and college admission even if they are qualified to attend higher education institutions because of the complex process of applying for aid (Avery and Kane, 2004). Borrowing behaviour is influenced by various factors as highlighted by sociologists. Jason N. Houle observed that there is a safety net for people borrowing money and falling in the higher and lower income groups, the worst affected by debt are the middle-income groups this phenomenon is known as the "middle class squeeze". The students belonging to educated and high-income families are more or less protected from falling in the debt trap. The resources of parents and their socioeconomic status are strong indicators of whether young students who have taken loan fall prey to debt or not (Houle, 2013). Since borrowing for higher education does not guarantee a job and repayment is compulsory it leads to problems, especially so for women from poorer households. The problem is aggravated as women graduates in India have low rate of participation in the formal labour market. In such a situation, an education loan acts as "dowry burden" (Tilak, 1992), (Geetha Rani, 2016).

The student loan scheme in Thailand, covers the needy students however having a poor targeted population base lead to improper allocation of financial resources among students causing increase in horizontal inequalities (Ziderman, 2005). Since education loans have a positive association with dropping out of education

and a negative association with graduating, it proves to be a deterrent for students (Gayardon et al., 2019). In Odisha, merit and income of parents were the considerations by the banks for sanction of loan, because of these considerations the poor students with merit were likely to be deprived of the loan facilities (Debi, 2014). Another study on Odisha's Khordha district highlighted bias in terms of gender, religion as well as caste household income did not play a major role in the loan process (Biswal and Chinara, 2020). Apart from social factors the stream of study directly related to the fees that a student has to pay for financing also plays a role. Empirical analysis of 7000 students from 40 engineering institutes in four different states in India shows that gender, household income, cost of education, occupation of parents, assets of the household and social background are important determinants of disbursement of education loan (Tilak, 2020).

The analysis of government data has also provided gainful insight into how student loan schemes are functioning in India. Cases of discrimination with regard to courses to be pursued and in-built discrimination with regard to socio-economic background and region are coming to the fore (Chattopadhyay, 2007). It has been observed that education loan in India predominantly cater to the students enrolled in private institutes and market-oriented courses, which is evident from the number of students from southern states opting for technical and market-oriented courses and also the number of education loan takers in those states (Chandrasekhar, Geetha Rani and Sahoo, 2019). Also, highly market-oriented courses have highest education loan and by default get the highest interest subsidy. This further accentuates the inequality in the society (Geetha Rani, 2016).

The literature provides an insight into the myriad of studies undertaken on the issue of education loan. Most studies undertaken are either studies on other countries or southern states of India. Understanding of micro level issues is important for which state specific studies in India should be undertaken. Mostly studies on education loan focus on the supply side of education loan and repayment, limited attempt has been made in order to understand how the decision to take loan is affected by the circumstances, demographic and socio-economic characteristics of the student.

Uttarakhand is a middle-income state of India and students often face financial crunch when trying to pursue higher education. With rising cost of pursuing technical, medical and professional education it becomes important to study the factors influencing the decision to take loan for higher education.

## 5. Research Methodology

Primary data was collected using a close ended questionnaire from students of six technical and medical institutes of two districts of Uttarakhand namely; Udham Singh Nagar and Dehradun. Since these districts have a higher percentage of student enrollment and number of institutions in Uttarakhand, they were selected. The data used in the study is categorical explaining various factors that influence the decision of taking education loan among students.

The sampling technique used for the study was purposive sampling, and data was collected from undergraduate students. The data collection was undertaken from January 2021 till March 2021, in order to understand the social, demographic, economic and institutional factors that influence the decision of taking education loan. The data consisted of 220 students aged 17- 25 years studying in technical and medical institutes of Uttarakhand.

## Sample Characteristics

The sample comprises of students from Garhwal and Kumaon region of Uttarakhand mostly belonging to middle income families, involved in central and state government occupations. 24 percent respondents had taken education loan for completing their higher education. The sample has students who are beneficiaries of education loan, others who had applied but did not qualify for loan (3.2 percent) and students who did not require financial support (40.5 percent).

The hypothesis for the study was;

**H<sub>0</sub>:** Demographic, social, institutional and economic factors do not affect the decision to take education loan among students of technical and higher educational institutions in Uttarakhand.

The alternate hypothesis,

**H<sub>1</sub>:** Demographic, social, institutional and economic factors affect the decision to take education loan among students of technical and higher educational institutions in Uttarakhand

The model used for the analysis was logistic regression with education loan as the dependent variable and other variables like social factors, demographic factors, educational factors, institutional factors and economic factors as independent variables. Since the dependent variable was binary in nature, logistic regression was thought to be an appropriate model

The model used was as follows;

$$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \quad (1)$$

Where,

$\beta_1 \rightarrow \beta_n$  = coefficient of explanatory variables  $X_1$  to  $X_n$

$X_1$  = Social variables

$X_2$  = Demographic variables

$X_n$ = Institutional variables and Economic variables

The logit transformation:

$$\ln\left(\frac{p}{1-p}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \quad (2)$$

Where,  $p$ =probability of event occurring,  
 $\frac{p}{(1-p)}$  = odds ratio

## 6. Analysis of Data

The primary data collected for the study had the following distinct characteristics. Around 15 percent of males and 9 percent of females were loan takers studying in technical and medical institutes of Uttarakhand majority of them in the age group of 21- 25 years. 64 percent of the students belong to general category. Among the minority categories the proportion of education loan takers is around 23.37 percent. The proportion of students taking out education loan comes mostly from urban areas and households involved in the private sector followed by central or state government. The descriptive statistics

shows that data has a large number of students from government technical institutes. Many students from private institutes are education loan takers for the obvious reason that fees is high in these institutes. 52 percent of the total students have fees above 50000 per semester and most of them belong to households that have an annual average income of 1-5 lakhs. Students from the sample mostly prefer staying at hostels for the purpose of completing their higher education, very few of them stay at rented accommodations which increase the expenses further. We analyze the relationship between the independent variables and dependent variables.

## Relationship Between Education Loan and Other Variables

The decision of taking loan is often influenced by multiple factors analysis of demographic, social, educational, institutional and economic factors that have any association with taking education loan is undertaken with the help of cross tabs and a chi square test.

**Table: 1 Association between Education Loan and Independent Variables**

| Variables<br>Ho: There is no association between disbursement of education loan and | Value of Chi-square test |
|-------------------------------------------------------------------------------------|--------------------------|
| Gender                                                                              | 3.27*                    |
| Age                                                                                 | 2.39                     |
| Social Category                                                                     | 5.39                     |
| Religion                                                                            | 1.91                     |
| Type of residence                                                                   | 9.98**                   |
| Education attainment of the head of the family                                      | 20.05***                 |
| Occupation of the head of the family                                                | 9.97**                   |
| Type of school attended by the respondent                                           | 0.35                     |
| Marks obtained in the HSC examination                                               | 4.83                     |
| Type of institute currently attending                                               | 38.49***                 |
| Course currently pursuing                                                           | 9.71**                   |

|                                         |          |
|-----------------------------------------|----------|
| Average annual Household Income         | 7.68*    |
| Fees per semester                       | 15.45*** |
| Place of stay while pursuing the course | 2.98     |
| Monthly college expenditure             | 3.4      |

\*\*\* $\rho < .00$  \*\* $\rho < .05$ , \*  $\rho$  value is  $<0.1$

Source: Author's own calculation (2021)

The chi square analysis given in table 1 shows that out of all the independent variables gender, educational attainment of head of the family, occupation of the head of the family, type of institute the student is attending, course, household income and fees of the course are significant variables that show association with the dependent variable which is; whether the student takes education loan or not.

### Summary of Regression Results

A logistic regression model is used for analyzing multiple explanatory variables that are categorical. It is well suited for describing and testing hypotheses about relationships between a categorical outcome variable and one or more categorical or continuous predictor variables (Joanne Peng, Lida Lee and Ingersoll, 2002). The following section explains the results.

**Table 2 Logit Estimates of factors affecting disbursement of education Loan**

| Independent Variables |                                        | Log Odds( $\beta$ ) | Odds ratio or Exp( $\beta$ ) | Standard Error | Marginal Effects(dy/dx) |
|-----------------------|----------------------------------------|---------------------|------------------------------|----------------|-------------------------|
| Demographic Factors   | Female                                 | -.758*              | .469                         | .422           | -.105                   |
|                       | Male                                   | Reference category  |                              |                |                         |
| Social Factors        | Urban                                  | .432                | 1.540                        | .504           | .057                    |
|                       | Rural                                  | Reference category  |                              |                |                         |
|                       | Post graduate and above                | -1.577**            | .207                         | .504           | -.176                   |
|                       | HSC and SSC                            | -1.115**            | .328                         | .542           | -.131                   |
|                       | Graduate                               | Reference category  |                              |                |                         |
|                       | Central government or state government | -0.934              | .393                         | .743           | -.129                   |
|                       | Private                                | -.069               | .933                         | .722           | -.009                   |
|                       | Business                               | -1.453*             | .234                         | .744           | -.160                   |
|                       | Unemployed                             | Reference category  |                              |                |                         |
|                       | Government technical                   | -1.379**            | .252                         | .499           | -.201                   |
| Institutional factors | Government medical                     | -.814               | .443                         | 1.191          | -.087                   |
|                       | Private medical                        | .195                | 1.215                        | .577           | .028                    |

|                         | Private technical                              | Reference category |       |      |      |
|-------------------------|------------------------------------------------|--------------------|-------|------|------|
| <b>Economic Factors</b> | <b>Household Income 1-5 Lakh</b>               | .214               | 1.239 | .567 | .030 |
|                         | <b>Household Income 5-10 Lakh</b>              | .984*              | 2.676 | .580 | .150 |
|                         | <b>Less than 1 lakh and more than 10 lakhs</b> | Reference category |       |      |      |
|                         | <b>Fees above 50000 per semester</b>           | .900*              | 2.459 | .465 | .124 |
|                         | <b>Fees below 50000 Per semester</b>           | Reference category |       |      |      |
|                         | <b>Constant</b>                                | -.208              | .821  |      | .786 |
|                         | <b>Log likelihood</b>                          | -88.549            |       |      |      |
|                         | <b>Pseudo R<sup>2</sup></b>                    | .405               |       |      |      |
|                         | <b>Number of Observation</b>                   | 220                |       |      |      |

\*\*\* $p < .00$  1\*\*  $p < .05$ , \*  $p$  value is  $<0.1$

Source: Author's own calculation (2021)

Table 2 shows the result of the binary logistic model with education loan as the dependent variable. The variables that have an influence on students going for education loan are gender of the student, the educational attainment of the parents of the respondent which is closely related to their occupation which is a significant determinant of education loan. Institutional factors like the type of institute the respondent attends and economic factors like household income, fees and place of stay of the respondent are proved to be significant factors. The odds of taking up an education loan being a female are 0.46 times lower than when the individual is a male. The odds of students taking out education loan with parents having post-graduation or above educational qualification are 0.20 times less than that of students being children of parents having graduation as their educational qualification. In case of occupation, the odds of students taking loan are low if their parents have a business of their own or are engaged in the public or private sector vis-

à-vis students having parents that are unemployed. The odds of taking education loan by students studying in a government technical institute are 0.25 times less than that of a private technical institute. The odds of taking education loan are 2.6 times more for students falling in the annual average household income bracket of 5-10 lakhs as compared to the students from extreme income backgrounds of more than 10 lakhs and less than 1 lakh. The odds of taking an education loan are 2.4 times more for students who have semester fees above 50,000 as compared those having fees less than 50,000 per semester.

Other factors that were taken into consideration like social factors and educational factors which were thought to be important determinants of educational loan were not significant. The type of school attended by student also does not prove to be important, but the current institution attended does play an important role. Factors like religion, social category were insignificant in the present model showing that these factors do not largely

influence the disbursement of education loan among technical and medical students of Uttarakhand. The pseudo-R square for the model is .32 and the log likelihood is – 88.55. One of the major limitations is that the sample size of the study is small considering the scope of the analysis but the results do give an insight into the situation in technical and medical institutes in Uttarakhand.

### Conclusion

The study gives an insight on factors affecting the decision of taking education loan in Uttarakhand. Focusing on students pursuing technical and medical courses in education institutes in Uttarakhand. Factors like gender, educational attainment of the head of the family, occupation of the head of the family, type of institute attended, average annual household income and the fees of the course proved to be significant determinants of education loan among students in Uttarakhand.

Unlike the study done on factors influencing education loan in Odisha which showed significant influence of different social issues like caste and religion as significant factors in disbursement of loans (Biswal and Chinara, 2020). These factors were insignificant in case of education loan disbursement in Uttarakhand. Gender has proved to be a significant determinant of education loan distribution among students. Many people in India do not find it profitable to spend on educating girls and studies done earlier on different states correctly identify it as “dowry burden” (Tilak, 1992), (GeethaRani,2016).

Studies have also shown that occupation of the parents of the child is an important factor since it is closely related to the amount that the person can spend on financing the higher education of the child (Tilak, 2020). The present study also shows that occupation of the head of the family plays a significant role in determining the

disbursement of education loan among students. However, some factors like academic score of the student and place of stay while pursuing the course that were considered important factors for taking an education loan among students pursuing technical and medical courses were proved to be insignificant.

### Limitations

The study highlights factors that play an important role in students taking education loan thereby adding to the limited existing literature specific to the Indian context. However, it does suffer from certain limitations. The scope of the study is limited and specific to one particular state of India, other regions may have different factors peculiar to their cultural as well as social context. The study has a limited sample and there is dearth of data with regard to education loan in India, therefore, it becomes difficult to carry out in depth analysis around the issue of education loan.

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