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Returns to Education of Management Graduates in Development Banks of Nepal

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Abstract

The rate of return to education is considered as a measure of profitability. Getting confined to a particular course of study, it is well known that the number of student choosing management in masters is increasing every year in Nepal. This study attempts to estimate the private rate of return to MBA for individuals employed in development banks in Kathmandu Metropolitan City (KMC). A questionnaire survey was done to collect data from 164 MBA graduates working in development banks. Using the linear regression method, it is found that the rate of return to MBA for individuals employed at development banks in KMC is 23 percent. Further, male MBA graduates have been receiving 28 percent return to education and female MBA graduates have been receiving 22 percent. Hence, the findings suggest that undergraduates irrespective of their gender should pursue MBA for receiving higher return to investment in education.

Keywords: *Returns, Investment, MBA, Education, Earnings*

JEL Classification*: I24, I25, I26*

Introduction

The rate of return to education is estimated for understanding the household (parents and students) decision regarding investment in education (Becker, 1992). People invest in education at present with an expectation of receiving higher earnings and well beings in the future. But, it is well known that the future is always uncertain. In fact, estimating future benefits in terms of anticipated wages is always bounded by uncertainty. The highest return is achieved through investment in primary education followed by secondary and higher education (Psacharopolous, 1994). But, the recent evidence suggests that the pattern is changing (Colclough et al., 2009). Studies have shown that return to investment

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in education varies from place to place and it ranges from too low to a high rate of return to education (Amaghionyeodiwe & Osinubi, 2007; Aghajanyan & Erbasol, 2008; Javed & Arshad, 2013). In the USA, Canada, and other European developed countries, the rate of return to education tends to be in the range of 6-10 percent (Gunderson & Oreopoulos, 2010). The cost of education in Canada is approximately double the amount of that in other Organization for Economic Co-operation and Development (OECD) countries. But the share of Canadian university graduates who make earning less than half of the median average is the largest among all OECD countries (Tal & Enenajor, 2013).

The number of students enrolled in master's programme in management is also increasing in Nepal. Out of the total enrollments in master programme, only 30 percent were enrolled in management master programme in 2010/11 (UGC, 2013). Similarly, the number of students enrolled in the management master's programme was 46 percent in 2018/19 (UGC, 2020). While the number of students enrolled in management master's programme is increasing, the cost of pursuing is also increasing. The MBA cost of few reputed institutions in Nepal ranges from NRs. 385,000 to NRs. 790,000 in 2022 and from NRs. 173,450 to NRs. 450,000 in 2017 (as mentioned in their official website). But the evidence on profitability of investment in MBA degree is missing.

While making an investment in education, individuals incur tuition costs and opportunity cost. So, investment in education can thus be considered as any other investments and it can be evaluated for its rate of return. Instead of allocating resources for education, individuals can spend it in some other areas too. Despite the fact that the education is costly, individuals make choices about getting enrolled in higher education with an expectation of increased income and greater return to an additional year of schooling compared to the cost incurred.

In general, economists are concerned about the years spent in schools but not about the degrees obtained (Stearns, 2013). While one of the key determinants of investment in education is its rate of returns, the information is still very limited in the context of Nepal. It will contribute literature to the economics of education in Nepal with a special focus on MBA degree. This study can have implications on the resource allocation decisions of households and help them invest in the field that yields a higher return.

However, there are limited studies that have been done regarding returns to education in the context of Nepal. So, this study will identify whether an investment in MBA degree for graduates is worthwhile. Further, this study will show the types of private returns that education yields and how various factors (age, gender, marital status, caste, type of schooling, past experiences, and parental education) affect the return. The study also focused on the years spent in schools as well as on a particular degree obtained (i.e., MBA) especially on the basis of gender (male and female). Further, banks are one of the many

other entities absorbing a huge number of undergraduates and MBA graduates. But, this study limits to the development banks only. Thus, this study has been carried out to estimate the rate of return to MBA for individuals employed at development banks. So, this study attempts to fill the gap of missing information and evidences regarding the private returns to investment in MBA in the context of Nepal and understand if the investment decision is justified. The findings of this research can be used by individuals to make profitable investment decision by comparing the rate of return to education with the rate of interest.

Review of Literature

Solomon and Fagnano (1995) analyzed that the rate of return to education is considered a measure of profitability and the rate is equivalent to the interest paid on savings or the rate of return to investing in a machine, real estate, or any other form of capital requiring a stream of investment over time and an income over time. Schultz (1961) defined the concept of human capital as the knowledge, skills and abilities residing with and utilized by individuals. Schultz also emphasized that education has been recognized as an important investment in human capital that accounts for most of the impressive rise in the real earnings-per worker.

Becker (1964) describes human capital as the stock of knowledge, skills, and abilities embedded in an individual that result from natural endowment and subsequent investment in education, training and experience. Again, Becker (1992) further assumed that individuals take those actions that will provide benefits in the form of higher earnings and increased well-being. For the same reason, individuals have been investing in education, i.e. with an expectation of receiving higher earnings and optimizing well-being over the course of a life time. Becker's assumption is to be related with the reason to why some spend more time in the educational institution. It is mostly guided by the fact that they will receive higher life time income than the ones who enter into the labor market as soon as they can regardless of having the same ability and same family background.

Blaug (1968) has analyzed the cost incurred by individuals in acquiring more education constitutes an investment in their own future earning capacity. Further, an individual need competence to exist in the competitive labour market. Blaug (1968) states that people by investing themselves can enlarge the range of choice available to them. But Psacharopoulos and Patrinos (2018a) have found the global average rate of return to extra one year of schooling to be 8.8 percent. They also estimated that the returns to schooling were calculated to be 8.1 percent in South Asia, 8 percent in advanced economies, and 9.3 percent in low income countries. Hence, it can be said that the global average rate of return has remained almost stable over decades. Studies have shown that return to investment in education

varies from place to place and it ranges from low to high (Amaghionyeodiwe & Osinubi, 2007; Javed & Arshad, 2013).

Patrinos and Psacharopoulos (2010) estimated that global average rate of return to schooling was estimated to be 10 percent in 2010. They also estimated that in case of developing countries, rate of return to education for men is highest for primary education (14.3 %), decreases for secondary education (9.2 %) and increases for university education (12.3 %). However, for women, the rate of return to education is lowest for primary education (7.2 %), highest for secondary education (13.1 %), and falls to 10.1 percent for university education.

Parajuli (1999) estimated the private rate of return to investment in primary education using full method as 16.6 percent, 8.5 percent for secondary education, and 12 percent for higher education. Similarly, Psacharopoulos (1994) using the full method, private returns to investment in secondary education was estimated to be 15 percent for secondary, and 21.7 percent for higher education. Gurung (2007) using 'Mincer Earning Function' found the return to investment in primary, secondary, and tertiary education to be 11.6,, 10, and 21.8 percent respectively. This study will estimate return to investment in higher / tertiary education i.e., MBA in Nepal in the present context.

Akananda (2010) estimated 6 percent return to an additional one year of schooling for Nepalese in 1995/96. The study estimated marginal returns of education for male, female and full sample with primary or less education is 6 percent, 7 percent, and 6 percent respectively. Similarly, the marginal returns of education for male, female and full sample with secondary education is 4 percent, 7 percent, and 4 percent respectively. Again, the marginal returns of education for male, female and full sample with higher secondary education is 13 percent, 19 percent, and 13 percent respectively.

Javed and Arshad (2013) showed that earnings for male teachers were more than that to the female teachers. Maurer-Fazio and Dinh (2004) reported higher rate of return to formal schooling for males (4.5 %) than females (2.6 %) in China. However, Asadullah (2005) reported that female enjoy a higher return (13.2%) to education than the male (6.2%) in Bangladesh. Similarly, Psacharopoulos (1994) found that returns to education for females in the world were higher with 12.6 percent than that for males with 11.3 percent. But, Psacharopoulos and Patrions (2018b) also found that the return to education for females was higher than males by approximately 2 percent. However, Gurung (2007) found the rate of returns to education to be higher for females in urban areas (12%) than to male (9%) in the case of Nepal.

However, there are only a few studies carried out and estimated in returns to education in the context of Nepal. Besides, study yet needs to be conducted to estimate returns to education on the basis of the degrees obtained. So, the study will find out whether the MBA graduates have done profitable investment by

pursuing higher education in Nepal. Further, this study will also show on how the return to education varies on the basis of gender.

Data and Methodology

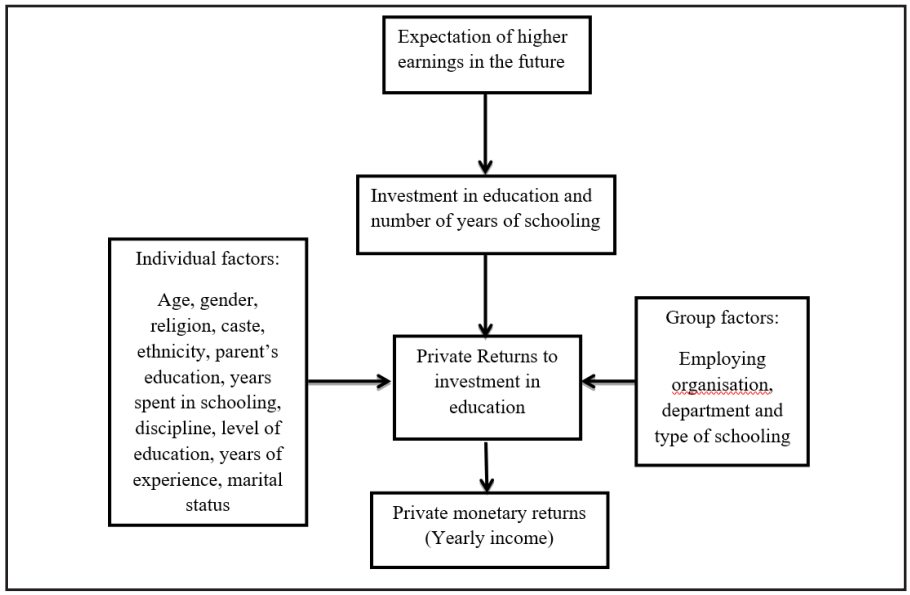
Research Design

Estimating private rate of return is one way of assessing rate of return to educational investment. One of the methods conventionally used to measure the influence of education on earnings is the estimation of Mincerian function (Lillo & Casado, 2010). To find out whether the investment done for obtaining MBA degree is profitable for the individual who obtained it, rate of return to education for MBA graduates is estimated following a cross section design by using Mincerian equation. It is a linear regression method which is the most popular method for its estimation (Björklund & Kjellström, 2002).

Conceptual Framework

Sociological theories have shown that parental education level and their occupation determine investment in education for individuals. But the major reason behind investment in education is the expectation of higher earnings in the future. While investment in education yields private returns for the investors, education attainment enhances skills and ability which helps resulting into higher returns. Those private returns are further affected by various individual and group factors as shown in given Figure 1.

Figure 1: Conceptual Framework of the Study



Source: Author's creation, 2017.

Figure 1 shows that the study analyzed the returns to education using individual and group factors along with few other factors like time spent in labour market, years of schooling, highest educational level, age, gender, religion, ethnicity, marital status, graduating institution for SLC, undergraduate level and MBA, discipline of bachelor level, parent's education, employing organization and department.

Sample and Sampling Procedure

Primary data were collected using structured questionnaire based on similar study conducted by Afzal (2011). Individuals with bachelor's degree or MBA degree with a maximum of 10 years of experience was the population of the study who employed in national-level development banks whose head office was located in KMC. Individuals with more than 10 years of experience were excluded because their returns were likely to be too high after spending more than 10 years of time in labour market because of many other factors. However, the study assumed that a minimum of 10 subjects per variable would be required for the estimation of the rate of return to education. Since there were 16 variables for the study, a minimum of 160 sample size was required. As the response rate is not always 100 percent, 220 questionnaires were set for distribution. It was understood that the sample size could not be met from the survey among the employees at the head office alone. Hence, individuals working at head offices as well as branch offices of the development banks located within KMC were approached.

Sampling Strategy

There were 20 development banks with head office located at KMC by August 2015 (NRB, 2015). However, due to mergers, by the time of data collection in October and November of 2016 for the study, there were only 17 development banks. All those 17 development banks were approached and questionnaires were provided to Human Resources Department at the head office and to concerned employees at branch offices. The sample procedure is that if one questionnaire was given to the undergraduates, one was given to MBA graduate. Further, they were asked to distribute questionnaire to males and females employees from different departments. But, the number of MBA graduates was less in most of the banks, there were no MBA graduates at all. As a result of which the 1:1 ratio of MBA graduates and undergraduates could not be met. The same department was followed up for the filled up questionnaires and then collected.

The sample size received through questionnaire survey was 182. But 18 questionnaire responses were not used in the study. Because, the salary information of the respondents is missing that was required for carrying out the regression analysis. So, the questionnaires of 164 individuals were selected for the study in which 46 percent were male and 54 percent were female.

Method of Analysis

Firstly, the raw data were compiled and grouped with respect to different variables. For inferential analysis, regression was run to check the joint effect of all independent variables on the income level. Interpretation has been done on the basis of p-value; smaller the p-value (< 0.1); stronger the evidences for the effect of factors on dependent variable.

Tools for Estimating Private Rate of Return

Mincer Earning Function (MEF) is used for estimating private rate of return to MBA. In MEF at any point (t) in an individual's life time, observed earnings can be depicted as a concave function of one's labour market experience. Assuming that the schooling phase of investment lasts years and that on-the job-training declines linearly over the lifecycle, log-earnings are a quadratic function of labor market experience. The basic MEF takes the following form:

$$lnY_i(t) = \alpha_i + b_1 s_i + b_2 e_i + b_3 e_i^2 + \varepsilon_i$$

Any analysis of marginal returns to education starts with the assumption that individuals decide on their optimal amount of education by comparing the benefits to the costs. Benefits include improvements in earnings over the course of the life time, as well as non-monetary gains such as access to more desirable jobs, self-worth, and the joy of learning (psychic earnings). Costs usually are thought of as a combination of money spent daily on education, the forgone value of the time spent obtaining education and disutility of studying. Here, the coefficient of years of schooling (b_1) is interpreted as rate of returns to schooling. Similarly, the coefficients b_2 and b_3 are interpreted as rate of returns to labour market experiences.

Natural log of total yearly income has been taken instead of taking just total yearly income for three major reasons like - it is to correct for the high discrepancy in the lowest and highest income level; the income data is highly skewed; the data is converted to a more symmetric form by taking log. Without symmetry, inference from regression analysis would be misleading (Basyal et al., 2018).

Model Specification

The MEF is extended by adding the variables such as highest level of education attained, age, gender, religion, ethnicity, marital status, discipline in undergraduate level, type of graduating institution (SLC, bachelor, and MBA), employing organization, and department.

$$Z_i = \alpha_0 + \beta S_i + \delta MBA_i + \Upsilon X_i + \varepsilon_i$$

Where,

$Z_i = \ln Y_i(t)$: Return to Education

S_i= (Years of schooling, Experience in the existing bank, Previous banking experience, Previous non-banking experience, Square of experience] as Mincer variables.

X_i= (age, marital status, gender, religion, ethnicity, stream of bachelor, type of graduating institution, currently employed bank and department) as control variables.

MBA_i= [mba_i] as research variable

i = individual 1, 2, 3,….n.

$\varepsilon_i \sim \text{NIID}\ (0, \sigma^2)$: Error is normally, independently and identically distributed.

In this model, mba_i is the dummy variable for the MBA as the highest education qualification obtained. Value '1' was assigned for MBA graduate and '0' for undergraduate the highest level of schooling (undergraduate/bachelor or MBA). Coefficient of mba_i i.e, δ represents rate of return to MBA degree.

Empirical Analysis and Discussion

Descriptive Statistics

Among the respondents, 74 individuals have completed MBA degree (53 % were male and 47 % were female. Out of the 90 respondents, 90 individuals have completed under graduation (41 % were male and 59 % were female). Also, out of the total 164 respondents, 49 percent were unmarried and 51 percent were married. Further, among the total respondents, 55 percent had completed undergraduate (bachelor) degree and 45 percent had completed MBA degree. While out of the total respondents, 41.5 percent were Brahmin, 21.3 percent were Chhetri, 32.3 percent were *Janajati,* 1.2 percent was *Dalit,* and 3.7 percent were from other ethnic groups. The total number of years spent on education is shown as following in Table 1.

Table 1: Total Number of Years Spent in Education

S.N.	Years Invested in Education	Bachelor	MBA	Total
1	< 16 years	16	0	16 (9.7%)
2	16 years	52	3	55 (33.5%)
3	17 years	0	11	11 (6.7%)
4	18 years	18	73	71 (43.3%)
5	>18 years	4	7	11 (6.6%)
	Total	90	74	164 (100%)

Source: Author's calculation, 2017.

Table 1 shows the individual respondents reported their total number of years spent in education. The total number of years required for most of the

respondents (43.3%) to complete their bachelor and master degree was 18 years. Similarly, 33.5 percent respondents spent 16 years in education. Furthermore, 9.7 percent, 6.7 percent, and 6.6 percent spent less than 16 years, 17 years and more than 18 years respectively. Out of the total 164 respondents, most of them (63.4%) completed their SLC from private schools and 37 percent from public schools. Similarly, among the total respondents, 44 percent graduated bachelors from public institution while 56 percent completed from private ones. Further, out of the 74 respondents who had graduated MBA degree, 28 percent completed it from public institution and 72 percent from private school.

Out of the total 90 undergraduate respondents, 88 reported their stream of bachelor level. Out of the total respondents 82 percent had completed bachelors in management stream. This shows that most of the employees in development banks are from management background. Out of the total 164 respondents, 31 percent were in credit followed by 23 percent in operations department. About 13 percent were in administration, 7 percent in accounts, 5 percent in treasury and 22 percent in other department. The descriptive statistics of the variables can be shown in the following Table 2 and Table 3.

Table 2: Age, Experience, Working Hours, and Working Days of Respondents

S.N.	Factors	No.	Min.	Max.	Mean	S.D.
1	Age	164	20	46	29.15	4.42
2	Age started working	164	16	40	23.52	3.23
3	Experience in the existing bank	164	0.17	10	3.78	2.74
4	Previous experiences	164	0.0	9	1.65	2.11
5	Previous banking experience	164	0.0	9	0.65	1.55
6	Total years of experience	164	0.17	10	5.41	3.02
7	Daily working hours	164	7.0	10	8.04	0.40
8	Working days in a week	164	5.0	9	6.10	4.63

Source: Author's calculation, 2017.

The average age of the sample respondents was 29.15 years. On an average, the respondents started working at the age of 23.52 years. For calculating the total number of years spent in the labour market, total years of experience was calculated by adding the no. of years of experience in the existing bank, no. of years of previous experiences and no. of years of previous banking experiences. The average, of total years of experience for the 164 respondents was 5.41 years. On an average the respondents work for 8 hours per day and 6 days a week.

Table 3: Allowances, Salary, Bonus, and Income of Respondents

S.N.	Factors	No.	Min.	Max.	Mean	S.D.
1	Allowances per month	138	500	25000	6765	4939
2	Basic salary per month	139	8000	60000	19240	8913
3	Total salary per month	164	12000	70000	26917	11195
4	Salary per year	164	144000	840000	23002	134335
5	Bonus per year	131	15000	352560	69088	57058
6	Income from other sources per year	22	49992	4200000	63866	355615
7	Total Income per year	164	144000	5084232	55957	435684

Source: Author's calculation, 2017.

Table 3 shows that development banks provided their staff salary on monthly basis and bonus on yearly basis. Monthly salary was composed of basic salary and allowances. The average monthly basic salary for the respondents (reported by only 139 respondents) was NRs. 19,240 while the average monthly allowance was NRs. 6,765 (monthly allowances reported by only 138 respondents). On an average the undergraduate and MBA graduate employees at development banks earned NRs. 323,002 per year. The bonus was provided on yearly basis to the employees who worked in the bank for more than a year. The bonus received by the employees (reported by only 131 respondents) was directly proportional to the profit earned by the bank for the same year. On an average, the employees earned NRs. 69,088 per year as bonus. Out of the total respondents, only 22 revealed their income sources other than the regular remuneration from the bank. On an average, the yearly income from outside of the bank was NRs. 63,866. The total yearly income is the total of the yearly salary from the bank, yearly bonus, and yearly income from other sources. On an average, the total yearly income for the respondents was NRs. 455,957.

Inferential Statistics (Private Rate of Return to MBA) and Discussion

Regression analysis is run for estimating the effect of age, gender, ethnicity, marital status, graduating institution for SLC, bachelor and MBA, employing organization and department over the return at the same time as shown in given Table 4.

Table 4: Effect of Mincer Variables on the Income

S.N.	Variables	All Cases	Under Graduates	MBA Graduates
1	Total number of years spent in education	No effect	No effect	No effect
2	Years of experience in the existing bank	Positive	Positive	No effect
3	Years of previous banking experience	Positive	Positive	No effect
4	Years of previous non-banking experiences	Positive	No effect	Positive
5	Experience square	No effect	Negative	No effect

Source: Author's calculation, 2017.

Mincer (1958) advocates that the total time spent in school and the labor market experiences influence the income. However, very little evidence was observed for the total number of years spent in education to affect income of the individuals but all the studies reviewed for this study had shown that the years of schooling has strong evidences for the effect on the return of an individual. The global average rate of return to schooling, 10 percent, which was used as a global benchmark (Patrinos & Psacharopoulos, 2010) decreased to 8.8 percent (Psacharopoulos & Patrinos, 2018a). Also, the average rate of return to schooling for South Asia is 8.1 percent and that for the low income countries is 9.3 percent (Psacharopoulos & Patrinos, 2018a). Parajuli (1999) estimated 9.7 percent returns to schooling for Nepal and for tertiary education, it was 12 percent. Akananda (2010) estimated that the returns to schooling for Nepalese individuals to be 6 percent during 1995-96. Returns to education in Nepal in 2008 was estimated to be 7.9 percent (Psacharopoulos & Patrinos, 2018b). Gurung (2007) found that the return to schooling in Nepal during 2003/4 was 9 percent and for tertiary education, it was 21.8 percent. But return to schooling in this study is estimated as 4 percent which is too low compared to the previous studies and the global benchmark.

The data showed strong evidences for experiences affecting the return of individuals. With the increase in number of years of previous non-banking experiences the return for all cases and for MBA graduates also increases. The number of years of experiences in the existing bank and previous banking experiences positively affects the yearly income of the individuals for all cases and undergraduates. Mincer (1958, 1974) assumes the log-earnings are a quadratic function of labor market experience (Heckman et al., 2006) found that such higher order polynomials did not improve the estimates. The experience square in this study too had no effect over the return (except for the undergraduates which had negative effect).

Regression results of the effects of the Mincer variables (years of schooling, experience in the existing bank, previous banking experience, previous non-banking experience, and experience square) on return to education as shown in given Table 5.

Table 5: Effects of Mincer Variables on Returns to Education[3]

Variables	All cases	Male	Female	Under Graduate	MBA Graduate
Constant	11.144 [0.000***]	12.129 [0.000***]	12.293 [0.000***]	11.113 [0.000***]	13.007 [0.000***]
Mincer Variables					
Years of schooling	0.041 [0.174]	0.067 [0.241]	0.018 [0.686]	0.042 [0.230]	- 0.020 [0.788]
Experience in the existing bank	0.087 [0.051*]	0.076 [0.302]	0.130 [0.073*]	0.183 [0.001***]	0.049 [0.624]
Previous banking experience	0.077 [0.089]	0.060 [0.427]	0.143 [0.041]	0.083 [0.089]	0.049 [0.650]
Previous non-banking experience	0.059 [0.022]	0.077 [0.051]	- 0.002 [0.973]	0.060 [0.178]	0.068 [0.075*]
Experience square	- 0.004 [0.289]	- 0.001 [0.908]	- 0.006 [0.382]	- 0.009 [0.045**]	0.001 [0.986]

Source: Author's calculation, 2017.
Note: *** at 1%, ** at 5%, * at 10% level of statistical significant respectively.

Table 6 shows the regression results of the effects of control variables (age, gender, marital status, religion, ethnicity, stream of bachelor, types of graduating institution, employing organizations and department) on the return to education are as shown in given Table 6.

Table 6: Effects of Control Variables on Return to Education

Variables	All cases	Male	Female	Under Graduate	MBA Graduate
Age	0.012 [0.257]	-0.001 [0.657]	0.004 [0.851]	0.005 [0.729]	- 0.002 [0.962]
Gender: Male	0.111 [0.081*]	-	-	0.119 [0.114]	0.212 [0.097*]
Marital Status: Unmarried	- 0.098 [0.179]	- 0.061 [0.675]	- 0.141 [0.184]	0.125 [0.785]	0.196 [0.184]
Religion					
Hindu	0.436 [0.227]	0.679 [0.12]	-	- 0.048 [0.636]	-
Buddhist	0.407 [0.287]	1.435 [0.013**]	- 0.145 [0.383]	0.001 [0.999]	0.039 [0.841]
Christain	0.829 [0.096*]	-	- 0.037 [0.945]	- 0.007 [0.985]	-
Ethnicity					

3 Due to the length of the table, it has been divided into three parts as Tables 7 (a), 7 (b) and 7 (c).

Brahmin	- 0.356 [0.033**]	- 0.288 [0.275]	- 0.49 [0.152]	- 0.076 [0.766]	- 0.441 [0.211]
Chhetri	- 0.512 [0.004***]	- 0.539 [0.048**]	- 0.508 [0.143]	- 0.252 [0.364]	- 0.307 [0.403]
Janajati	- 0.36 [0.036**]	- 0.693 [0.014**]	- 0.306 [0.348]	- 0.095 [0.748]	- 0.366 [0.279]
Dalit	- 0.447 [0.178]	-	- 0.441 [0.323]	0.08 [0.825]	-
Stream of Bachelor Level					
Science	- 0.008 [0.973]	- 0.427 [0.229]	- 0.157 [0.709]	0.274 [0.266]	0.25 [0.655]
Engineering	0.322 [0.235]	- 0.018 [0.965]	- 0.127 [0.848]	-	0.537 [0.283]
Management	- 0.041 [0.838]	- 0.432 [0.179]	- 0.235 [0.537]	0.278 [0.205]	- 0.013 [0.978]
Humanities	0.059 [0.801]	- 1.299 [0.082*]	- 0.126 [0.745]	0.196 [0.434]	0.449 [0.438]
Type of Graduating Institutions					
SLC from public	0.119 [0.131]	0.023 [0.882]	0.086 [0.471]	- 0.173 [0.055*]	0.543 [0.001***]
Bachelor from pubic	- 0.034 [0.671]	- 0.250 [0.110]	0.053 [0.654]	0.211 [0.043**]	- 0.260 [0.095*]
MBA from public	- 0.093 [0.387]	0.018 [0.922]	- 0.255 [0.204]	0.081 [0.853]	- 0.183 [0.210]
Employing Organizations (Development Banks)					
Ace	0.301 [0.044**]	0.199 [0.509]	0.098 [0.63]	0.113 [0.585]	0.548 [0.019**]
Agriculture	0.068 [0.73]	- 0.905 [0.037**]	0.32 [0.414]	-	- 0.084 [0.753]
Apex	- 0.268 [0.186]	- 0.907 [0.078*]	- 0.160 [0.490]	- 0.331 [0.147]	- 0.183 [0.726]
Infrastructure	- 0.09 [0.619]	- 0.452 [0.249]	0.044 [0.847]	- 0.334 [0.108]	- 0.221 [0.577]
International	0.165 [0.406]	- 0.478 [0.279]	0.332 [0.197]	0.09 [0.776]	0.466 [0.134]
Jyoti	- 0.112 [0.473]	- 0.629 [0.067*]	0.171 [0.439]	0.15 [0.515]	- 0.343 [0.161]
Kailash	0.666 [0.001***]	0.357 [0.219]	0.497 [0.014**]	0.305 [0.117]	0.682 [0.004***]
Kasthamandap	- 0.196 [0.389]	0.235 [0.741]	- 0.126 [0.682]	- 0.395 [0.121]	-
NIDC	1.213 [0.001***]	0.592 [0.266]	-	0.527 [0.119]	1.559 [0.032**]

Reliable	- 0.129 [0.491]	- 0.842 [0.053*]	0.084 [0.750]	- 0.101 [0.790]	0.042 [0.883]
Sangrila	0.332 [0.128]	0.222 [0.606]	0.292 [0.309]	0.237 [0.294]	-
Siddhartha	0.161 [0.337]	- 0.701 [0.064*]	0.383 [0.099*]	- 0.028 [0.889]	0.102 [0.745]
Society	0.286 [0.095*]	- 0.286 [0.466]	0.311 [0.176]	0.096 [0.649]	0.038 [0.903]
Supreme	0.215 [0.152]	- 0.255 [0.426]	0.406 [0.035**]	0.105 [0.573]	-0.407 [0.212]
Tourism	0.213 [0.177]	- 0.467 [0.174]	0.43 [0.043**]	- 0.023 [0.909]	0.721 [0.013**]
Yeti	0.209 [0.173]	- 0.211 [0.587]	0.242 [0.190]	- 0.097 [0.640]	0.275 [0.240]
Departments of Development Banks					
Accounts	0.085 [0.517]	0.205 [0.447]	0.041 [0.823]	0.214 [0.176]	- 0.147 [0.610]
Credit	0.042 [0.616]	- 0.082 [0.599]	- 0.073 [0.577]	0.019 [0.866]	0.028 [0.852]
Operations	- 0.090 [0.335]	- 0.100 [0.611]	- 0.133 [0.275]	0.052 [0.623]	- 0.17 [0.315]
Administration	0.100 [0.343]	0.365 [0.093*]	- 0.147 [0.394]	0.088 [0.516]	0.343 [0.085*]
Treasury	0.084 [0.565]	0.490 [0.178]	- 0.018 [0.937]	- 0.093 [0.615]	0.003 [0.993]

Source: Author's calculation 2017.
Note: *** at 1%, ** at 5%, * at 10% level of statistical significant respectively.

The regression results of the effects of research variable (MBA on the basis of highest educational attainment) on the return to education are as shown in give Table 7.

Table 7: Effects of Research Variable on Returns to Education

Variables	All cases	Male	Female	Under Graduate	MBA Graduate
MBA	0.229 [0.012**]	0.275 [0.100]	0.222 [0.109]	-	-
R^2	0.713	0.841	0.717	0.776	0.812
Skewness	0.481	- 0.083	1.007	0.452	0.455
Excess Kurtosis	1.275	- 0.002	3.436	1.543	1.067

Source: Author's calculation, 2017.
Note: *** at 1%, ** at 5%, * at 10% level of statistical significant respectively.

Individuals take those actions that will provide benefits in the form of higher earnings and for the same reason individuals have been investing in education

Schultz (1961). Rosenzweig et al. (1994) found that MBA graduates had earnings eight percent more than those with bachelor degrees. But this study found that the income of MBA graduates working in Development Banks of Kathmandu is 23 percent greater than that of the undergraduates and the difference is because of the degree obtained alone. For example, if an undergraduate earns NRs. 100, then the MBA graduate earns NRs. 123.

On the basis of gender, there is little evidence for the effect of the degree on the return of the individuals. Male MBA graduates earn 28 percent more than those with an undergraduate degree while in the case of MBA female graduates, they earn 22 percent more. In the case of all respondents, the return of males is significantly greater than females by 11 percent. While gender has no significant effect on the income for the undergraduates, MBA graduate males have an income 21.2 percent greater than that of the females MBA graduates (See: Table 6).

Psacharopoulos (1994) found higher returns to education for females (12.6%) than that for males (11.3%). Earnings for male teachers were more than that for the female teachers in Faisalabad (Javed & Arshad, 2013). Further, returns to education were found to be higher for females in China, Bangladesh and Nepal too (Asadullah, 2005; Gurung, 2007; Qian & Smyth, 2008). Psacharopoulos (2018b) also found that the returns to education for females were higher than males by approximately 2 percent. But in contrast to those studies, this study found that male MBA graduates have been earning 11 percent more than that of female MBA graduates employed at development banks in Kathmandu.

Conclusion

The level of educational attainment is a very important factor in determining return of an individual. Definitely, the future is uncertain but pursuing MBA (higher education) after completion of the under-graduation is profitable for the individuals who receive it because those working in the development banks at KMC earn 23 percent more than the undergraduates. Furthermore, male MBA graduates earn 28 percent more than undergraduates and female MBA graduates earn 22 percent more. We know that the number of graduates of Master's level in Nepal is increasing every year. This rate of return to MBA justifies the reason for the increase in the number of MBA graduates. The findings thus suggest that undergraduates irrespective of their gender should pursue MBA for receiving higher return to investment in education.

MEF is used to measure the returns to an additional one year of schooling. In this study, the returns to schooling was found to be 4 percent which is too low than the global benchmark and also lower than the estimates made by others (Parajuli, 1999; Gurung, 2007; Akananda, 2010). Stearns (2013) stated that economists are concerned on the years spent in education and not on the degree obtained. But this study shows that the degree obtained need to be considered in estimating rate of return to education.

References

Afzal, M. (2011). Microeconometric analysis of private returns to education and determinants of earnings. *Pakistan Economic and Social Review,* 49 (1), 39-68.

Aghajanyan, M. & Erbasol, T. (2008). *Returns to education for Mexican immigrants to the United States*. [A Master's dissertation, Lund Universtiy].

Akananda, Md. A. S. (2010). Returns to education in Nepal: Evidence from living standard survey. *Dhaka University Journal Science*, 58 (2), 257-264.

Amaghionyeodiwe, L. A. & Osinubi, T. S. (2007). Do higher levels of schooling lead to higher returns to education in Nigeria? *Applied Econometrics and International Development*, 7 (1), 159-166.

Asadullah, M. N. (2005). Returns to education in Bangladesh. *QEH Working Series*. https://www3.qeh.ox.ac.uk/RePEc/qeh/qehwps/qehwps130.pdf

Austin, P. C. & Steyerberg, E. W. (2015). The number of subjects per variable required in linear regression analysis. *Journal of Clinical Epidemiology*, 66 (6), 627-636. https://doi.org/10.1016/j.jclinepi.2014.12.014

Basyal, D. K., Poudyal, N. & Seo, J. W. (2018). Does e-government reduce corruption? Evidence from a heterogeneous panel data model. *Transforming Government: People, Process and Policy*, 12 (2), 134-154. https://doi.org/10.1108/TG-12-2017-0073

Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. National Bureau of Economic Research. University of Chicago Press, USA.

Becker, G. S. (1992). The economic way of looking at life. *Revista Universidad EAFIT*, 29 (89), 7–21. http://doi.org/10.1086/261880

Björklund, A. & Kjellström, C. (2002). Estimating the return to investments in education: how useful is the standard Mincer equation? *Economics of Education Review*, 21 (3), 195-210.

Blaug, M. (1968). *Economics of Education 1*. Harmondsworth: Penguin Books.

Colclough, C., Kingdon, G., & Patrinos, H. (2009). *The pattern of returns to education and its implications.* (RECOUP Policy Brief, 4). University of Cambridge, Faculty of Education, Research Consortium on Educational Outcomes and Poverty (RECOUP). https://nbn-resolving.org/urn:nbn:de:0168-ssoar-69182

Gurung, D. (2007). *Returns to education in Nepal*. [A doctoral dissertation, Kathmandu University School of Education].

Gunderson, M. & Oreopoulos, P. (2010). Returns to education in developed countries. In Brewer, D. J. & McEwan P. J. (Eds.), *Economics of Education,* 37- 43. Elsevier.

Heckman, J. J., Stixrud, J., & Urzua, S. (2006). The effects of cognitive and non-cognitive abilities on labor market outcomes and social behavior. *Journal of Labor Economics,* 24 (3), 411- 482.

Javed, Z. H., & Arshad, N. (2013). Rate of return to investment in education : A case study of Faisalabad. *Journal of Asian Business Strategy*, 3 (8), 192–199.

Lillo, A. & Casado-Diaz, J. M. (2010). On the rewards to education on Spain: Endogeneity and regional differences. *Regional and Sectoral Economic Studies*, 10 (3), 37-54.

Maurer-Fazio, M. & Dinh, N. (2004). Differential rewards to and contributions of education in urban China's segmented labor markets. *Pacific Economic Review*, 9 (3), 173– 189.

Mincer, J. (1958). Investment in human capital and personal income distribution. *Journal of Political Economy*, 66 (4), 281-302.

Mincer, J. (1974). *Schooling, experience, and earnings: Human behavior & social institutions No. 2*. National Bureau of Economic Research. New York.

NRB. (2015). *Development Bank Supervision Report*. Nepal Rastra Bank. https://www.nrb.org.np/contents/uploads/2019/12/FY-2071-72.pdf

Parajuli, D. (1999). *External efficiency and equity in Nepalese education* (mimeo). World Bank Group.

Patrinos, H. A., & Psacharopoulos, G. (2010). Returns to education in developing countries. In D. J. Brewer & P. J. McEwan (Eds.), *Economics of Education*, 44 - 51). Elsevier.

Psacharopoulos, G. (1994). Returns to investments in education: A global update. *World Development*, 22 (9), 1325–1343.

Psachoropoulos, G. (2014). *Education assessment paper: Benefits and costs of the education targets for the post-2015 development agenda, post 2015 consensus*. Copenhagen Consensus Center, http://www.copenhagenconsensus.com/sites/default/files/education_ assessment-psacharopoulos_0.pdf

Psacharopoulos, G. & Patrinos, H. A. (2002). Returns to investment in education: A further update. (WB Policy Research Working Paper No. 2881). https://documents1. worldbank.org/curated/en/512891468739485757/pdf/multi0page.pdf.

Psacharopoulos, G. & Patrinos, H. A. (2018a). Returns to investment in education: A decennial review of the global literature. *Education Economics*, 26 (5), 445-458.

Psacharopoulos, G. & Patrinos, H. A., (2018b). *Returns to investment in education: A decennial review of the global literature*. World Bank. https://documents1. worldbank.org/curated/ en/442521523465644318/ pdf/WPS8402.pdf

Qian, X. & Smyth, R. (2008). Private returns to investment in education: An empirical study of urban China. *Post-Communist Economies*. 20 (4), 483-501. DOI: 10.1080/14631370802444732

Rosenzweig, K., Gustafson, E., & Hadley, L. (1994). An economic analysis of the earnings of industrial accountants. *Journal of Economics and Finance*, 18 (1), 125-138.

Schultz, T. W. (1961). Investment in human capital. *American Economic Association*. 51 (1), 1-17.

Solomon, L. C. & Fagnano, C. L. (1995). Benefits of education. In M. Carony (Ed.) *International Encyclopedia of Economics of Education*, 114-124. Pergamon.

Stearns, J. (2013). *Estimating marginal returns to education*. University of California. Santa Barbara. https://econ.ucsb.edu/~pjkuhn/Ec250A/ StudentsPapers/Stearns_Education.pdf

Tal, B. & Enenajor, E. (2013). *Degrees of success: The payoff to higher education in Canada.* Toronto: CIBC World Markets, http://research.cibcwm.com/ economic_ public/download/if_2013-0826.pdf

UGC (2013). *Education Management Information System: Report on Higher Education 2011/12 AD (2068/69 B.S.), Nepal*. University Grant Commission. https://www.ugcnepal.edu.np / uploads/publications and Reports/j9ztK2.pdf

UGC (2020). *Education Management Information System: Report on Higher Education 2018/19 AD (2075/76 B.S.)*, *Nepal*. University Grant Commission. https://www.ugcnepal.edu.np/uploads/ publicationsAndReports/HSFpPB.pdf.