Ullah, A., and Hussain, I. (2022). An Empirical Investigation of Household Head's Decision for Demand for Education in Pakistan: Evidence from Pakistan Social and Living Standard Measurement (PSLM) Survey. *Bulletin of Business and Economics,* 11(2), 64-73. https://doi.org/10.5281/zenodo.6584504

AN EMPIRICAL INVESTIGATION OF HOUSEHOLD HEAD'S DECISION FOR DEMAND FOR EDUCATION IN PAKISTAN: EVIDENCE FROM PAKISTAN SOCIAL AND LIVING STANDARD MEASUREMENT (PSLM) SURVEY

ASMAT ULLAH[1], IJAZ HUSSAIN[2]

ABSTRACT

The current study tried to investigate the role of socioeconomic and demographic factors over the household head's decision in case of educational expenditures in Pakistan. Pakistan Social and Living Standard Measurement Survey (PSLM) ROUND-IX (2013-14) was used in this regard. Descriptive as well as parametric analysis was done to achieve the objectives of the study. The results of descriptive statistic show that mean educational expenditures of households belongs to Khyber-Pakhtunkhwa (KP) and Punjab were almost same while the minimum educational expenditures were found among the Baluchistan province households. In case of regional comparison, the mean educational expenditures of urban households were three time higher than their counterpart rural households. The result of multiple regression indicates that majority of the independent variables includes in the demand for education model found significant. Age of the household's head, location (urban/rural) of the household, education of the head, education of souse, types of educational institution (government and private), industry of the household head except transport and income of the households were found positive and significant determinants of demand for education/per capita educational expenditures in Pakistan. The result of age of head revealed that an additional year increases in age of the head leads to increases the per capita educational expenditures. Further, the type of educational institution, which has also dominant and positive impact on the head decision regarding educational expenditure means comparative to government educational institution, the parents were spending more on the education of their family members whose were enrolled in private educational institution as well as in both type of educational institution. Income of the head has also found significant positive determinant of demand for education means as the income of the head increase; it leads to increase the demand for education in terms of educational expenditures. Both category unmarried and widow/divorced marital status of the household was found significant but negative impact on decision making of household in demand for education. In policy prospective, it is suggested that central authority should focus to provide a quality education to the residence of rural area and improve the educational standard of public educational institution for overall improvement in education status of Pakistan.

Keywords: Demand for education, per capita educational expenditure, multiple regression model, PSLM, Pakistan
JEL Codes: H52, C3

I. INTRODUCTION

Education is ranked top among the basic indicators of quality of life as well as economic, social and political development throughout the world. Gray Becker (1964) the great economist and founder of human capital theory, concluded that investment on humanity has the same need just like to invest in physical capital, he considered education is base of human capital. To keep in mind, the importance of human capital, the nations of the world make their efforts to provide basic education free and higher education at low cost to their citizen but the developing nations are failed in this regard and the basic reason behind this failure is the lack of financial resources. Lack of financial resource restricted the central authority of LDCs to allocate huge amounts in terms of education budget and this is one of the reason of low literacy rate in these nations. Further, the low budget allocation has two basic impact on government education sector and household sector. In case of government, it causes to condense the education quality of public sector educational institutions while it transforms the burden of educational expenditures on household sector

[1] Corresponding Author, Ph.D. Scholar, Department of Economics, Institute of Social Sciences, Gomal University, D. I. Khan; asmateco1431@gmail.com
[2] Associate Professor, Department of Economics, Institute of Social Sciences, Gomal University, D. I. Khan

in second case. Pakistan just like other's developing nations, unable to provide the basic education free and higher education at low cost as it has the same issues of others developing nations. Pakistan is a federation composed of five provinces, Punjab, Sindh, KP, Baluchistan, and Gilgit-Baltistan and a capital Islamabad and state should be responsible to provide the basic education free according the Constitution of Islamic Republic of Pakistan, 1973. From the day of independence to up until now, we as a nation incapable to attain the target of world literacy rate but not even attain the south Asian nations rate of literacy. The 57% adults of Pakistan are literate and this rate is even low as compared to other regional nations. Pakistan is ranked at 3rd position based on high dropout rate from school after Nepal and Bangladesh (Human Development Report,2019). Approximately 22.7 million (44%) Pakistani children having age 5years to 16 years are out of school. (World Education Services, 2020). Although, many social, political, regional and economic factors are collectively a reason of low demand for education in Pakistan but low budget allocation from the government side is the dominant factor among all of them. Government budget allocation and household sector are the two basic source to finance the educational expenditures in Pakistan. In case of government side, according to AEPAM, 2018, the educational budget of Pakistan remained 1.8% to 2.2% of GDP for the last two decades. Therefore, in such critical condition of low budget allocation, parents have no choice to devote on the education of their children from own resources not only to make their/children future's bright but the most important one is to receive high return on present investment in terms high salary in future. Therefore, keeping in view the importance of education, it's need of time to not only improve the education status of Pakistan but to formulate the such types of policies which may be best to overcome the issues of high rate of drop out, low school enrollment and gender discrimination in case of demand for education. Demand as well as determinants of demand for education had explored by many researchers in different time and different space throughout the world but few studies found in case of Pakistan with different objectives. In world perspective, the study of Jenkin et al. (2019), Nigeria, Qian and Smyth (2011), China, Tansel and Bircan (2006), Turkey, Pushkar (2003), Bangladesh, Sackey (2007) and Iddrisu et al. (2016), Ghana conducted to find out the determinants of demand for education in their respective areas of study with different objectives. In the above mention studies, the comprehensive and important term demand for education confined to school enrollment or educational acquisition only, which may be not appropriate to reveal the true picture of demand for education. While on other side, if we look at the past literatures on demand for education in case of Pakistan, we found very rare studies, in which the authors tried to explore the pattern, situation and determinants of demand for education in different time span. For example, Shahnaz Hamid (1993), Hamid and Rehana (2002), Aslam and Kingdon (2008), and Mahmood et al. (2017) had conducted studies in case of demand for education in the context of Pakistan but they used the concept demand for education in narrow sense school enrollment while the study of Idress and Khan, 2020 tried to explore the determinants of demand for education from primary to master level in Pakistan. Therefore, keeping in view the shortcomings of past studies, the present study contribute manifold to the existing education literature. The first significant contribution of current study is to empirically investigate the determinants of demand for education, which is measured in terms of per capita educational expenditures at household level in Pakistan. The second and most important contribution of the study is that we/researchers does not confine the concept demand for education to any specific level rather extend it to the educational expenditure of the household from primary to PH. D. level in Pakistan. The findings of the study will provide the platform to the education policy makers to make such type of policies, which not only overcome the weakness of existing education system of Pakistan rather reduce the burden of parent's educational expenditures in terms of increases the educational budget from the central authority side.

The outline of the rest of the paper is as follows, section 2 includes the brief review of literatures specially to education side, section 3 compacts analytical framework used to analyze the data, section 4 and section 5 highlights the empirical results discussion and conclusion respectively.

II. LITERATURE REVIEW

Many works have done so for been on the demand for education throughout the world based on Becker household production model given in 1965. This model provide base to analyzing the impact of many factors, which contributes to determine the demand for education. Parents interest in education of children, economic capability and the success of the children in education field persuade them to invest on the education as well as health of the children (Becker and Tomes 1986). With the passage of time, the motivation and determinants of demand for education changes as many researchers tried their best to investigate these determinants in many previous studies. Jenkin et al (2019) in their study of household decision regarding demand for education/educational expenditures in Nigeria and for this purpose, they have used the micro level information. The result revealed income of the households, age, gender of the head and the households belong to rural areas were the major determinants of demand for education. Aslam and Kingdon (2008) tried to investigate the household head's decision making regarding educational expenditure in case of Pakistan constructed on gender of the student and they found that the male student was favor male than female

student when parents decided to occupy amounts on education of their family members. The study of Glewwe and Patrinos (1999) indicated that income of the household has positive significant impact on household demand for education decision it mean increase in income of the household head, he/she willingness to devote extra amounts on the education of their family members. According to their study, the urban households were extra keen to spend on education sector relative to their counterpart rural ones and male were preferred by the parents when parents decided to finance educational expenditure in case on higher education in Turkey. Huy (2012) used the Vietnamese Household Living Standards Survey 2006 to investigate the role of households' factors in educational expenditure in Vietnam. Results presents, education level as well as income of the households found positive and significant contributor in educational expenditure. Further, it was also found that the household having primary as well as secondary age school going children were spending more relative to those whose have pre-school or collage age children. The study of Ogundari and Abdulai (2014) investigate the determinants of educational and healthcare expenditure using General Household Survey Data of 2004 in case of Nigeria. Financial status, numbers of family person, and education of the head were declared the positive significant determinants of educational as well as healthcare expenditure in study area. Moreover, male rather than female household headed were spending more on the education of their family members. In short, the studies of (Zimmerman 2001; Jayachandran 2002) highlights head's income while (Glick and Sahn 2000; Schaffner 2004) found parent's education was the significant and positive determinant of household educational expenditure. On the other hand, (Lloyd and Blanc 1996) and (Connelly and Zheng 2003) in their studies declared gender and location of the head respectively the major determinants of educational expenditure. There are numerous studies available on such very important issue throughout the world, but few studies were conducted in case of Pakistan, therefore, the present study/works contributes manifold to the prevailing education literature in world general and in case of Pakistan special. Present study will explore comprehensively the role of major socioeconomic and demographic aspects in case of demand for education. The second most important contribution of this study in education literature is that the researcher used the latest micro data set to highlights the demand for education at household level in Pakistan. The extra contribution of present's study is that the researchers explored the household demand for education from primary to higher education level[3], which was not explored any one before in the context of Pakistan. Therefore, the present study does not confine to see the demand for education to any specific level of education.

III. DATA AND METHODOLOGY

To achieve our objective, we used the Pakistan Social and Living Standard Measurement Survey data (PSLMS) ROUND-IX (2013-14), in present's study. This is a nation representative data set collected by Pakistan Bureau of Statistics with the assistance of federal government of Pakistan in regular interval. This is micro level data, which based on two stage stratified random sampling technique. This data set consists of 119018 individuals' and 17988 households level information. As we are concerned with those households whose have positive educational expenditures, therefore, after cleaning and removing the missing data, we have left 10492[4] household for analysis. Here in educational expenditure, we mean the expenditure of households on school fee, uniform, book & stationary, private tuition, transport, hostel and other activities. The detailed information regarding numbers of households taken as a sample is given in table 1. The table 1 shows the overall distribution of households at provincial level in Pakistan. The total 10492 households were taken as sample. 2229 households out of total households belong to KP province while 4647 households belong to Punjab from same total. The households from Sindh and Baluchistan were taken for analysis were 2690 and 926 in numbers.

Table 1: Province wise distribution of households in Pakistan

Province	No. of households	Percentage
KPK	2229	21.2
Punjab	4647	44.3
Sindh	2690	25.6
Baluchistan	926	8.8
Total	10492	100.0

Author's Own Calculation Based on Data Source, Pakistan Social and Living Standard Measurement Survey (PSLM, 2013-14)

While regional wise distribution of the households is presented in table 2. The table 2 show the distribution of households based on their regional location. The households belong to rural area were 6303 in number, which was 60% of total numbers of households. While the remaining 4189 (40%) households belong to urban areas.

[3] Including all types of education such as law, engineering, medical, technical and Ph.D.
[4] The number of the households having positive educational expenditure in 2013-14

Table 2: Regional wise distribution of households in Pakistan

Region	No. of households	Percentage
Rural	6303	60.1
Urban	4189	39.9
Total	10492	100.0

Author's Own Calculation Based on Data Source, Pakistan Social and Living Standard Measurement Survey (PSLM, 2013-14)

III.I. RESEARCH METHODOLOGY

As our work is based on household's decision for demand for education, therefore in such situation the best and more appropriate theoretical models are the household's choice making behavior models, which firstly introduced by Behrman in 1982 and Behrman, Pollak and Taubman in 1982. Both types of model provide foundation to investigate the impact of many determinants on educational expenditures. The individual maximizing model[5] based household's head decision making in case of educational expenditure based on efficiency level while the household maximizing model[6] based on household's characteristics. In present case, the household's educational function is applied to analyze the determinants of educational expenditure in Pakistan. Educational expenditure function highlights the impact of household characteristics like, income as well as education of the parents, regional location, and number of school going children etc., on the household educational expenditure decision (Ali and Naeem, 2017; Ali, 2011; Ali, 2015; Ali, 2018; Ali and Bibi, 2017; Ali and Ahmad, 2014; Ali and Audi, 2016; Ali and Audi, 2018; Ali and Rehman, 2015; Ali and Senturk, 2019; Ali and Zulfiqar, 2018; Ali et al., 2016; Imran et al., 2021; Ali et al., 2021; Ali et al., 2021; Ali et al., 2015; Arshad and Ali, 2016; Ashraf and Ali, 2018; Imran et al., 2022; Audi et al., 2022; Audi and Ali, 2017; Audi and Ali, 2017). As our analysis is based on household education decision regarding educational expenditures on higher education, both in public as well as in private educational institutions, therefore, our household's educational expenditures function looks like;

$$H\_ED\_EX = f(H_j, X_j, Xc_j, ED_i) \quad (1)$$

Where H_ED_EX show the educational expenditures of the household in terms of per capita in Pak Rupee, which depends upon other explanatory variables and the details of these explanatory variable given below.

Hij = set of head characteristics of student i of household j,

Child Household head characteristics includes, age of the household head, gender of the household head, education of the household head, marital status of the head, and industry of the household head.

Xij = set of household characteristics of student i of household j.

The household characteristics where the student i belong is education of the spouse.

Xcj= set of community characteristics/factors where household j resides.

The community characteristics where the household j reside include location (urban/rural) of the household.

EDIi = set of educational institution characteristics where student i enrolled.

The set of characteristics of educational institution where student i enrolled include, types of educational institution (Private /government, and both/ government)

III.II. ECONOMETRIC MODEL

To address our issue, the demand for education and its determinants empirically, the best and appropriate data analysis technique is the Ordinary Least Square (OLS) as both the properties of linearity and continuity in the dependent variable is fulfil by our dependent variable demand for education/per capita educational expenditures. Therefore, in current situation, the multiple regression model is applied to investigate the influence of socioeconomic and demographic factors over the dependent variable per capita educational expenditure[7]. Therefore, the demand for education model in econometric shape look like that,

$$H\_ED\_EX = \alpha i + \sum_k \beta_k Z_{ki} + \gamma_k Y_{ki} + \epsilon i \quad (2)$$

Where H_ED_EX denotes the household i educational expenditures measured in terms of per capita. The vector Z indicates the socioeconomic and demographic characteristics of household i gender of the household head, education of the household head, location of the household, industry of the household head, income of the household and so on. α is the constant, β is the set of regression coefficients to be estimated, which measure the impact of all Z variables over the educational expenditure and the γ is the coefficient of income. While ϵi is the symbol used for the error term. The total nine (9) independent variables/aspects we have in demand for education model and out of total, four

[5] Behrman model
[6] Behrman, Pollak and Taubman model
[7] Demand for education

variables/aspects are quantitative and these are age of the household head, education of the household head, education of the spouse and income of the household, While, gender of the head, location of the household, marital status of the head and industry of the head are taken as qualitative variables. In case of qualitative variables, the minimum 2 and maximum 7 categories are recorded. The detailed description of variables included in the demand for education/per capita educational expenditures model is given below in table 3.

Table 3: Variables Description

Dependent variable	Description
Demand for education	Per capita educational expenditure in Pak rupee
Independent variables	Sub-group
Household head characteristic	
Education	Head education in years
Age	Age of the head in complete years
Gender	= 1 if head is male = 0 if head is female (base category)
Marital status	= 0 if married (base category) = 1 if unmarried, 0 otherwise = 1 if widow/divorced, 0 otherwise
Industry	= 0 if agriculture (base category) = 1 if manufacturing, 0 otherwise = 1 if construction, 0 otherwise = 1 if wholesale, 0 otherwise = 1 if transport, 0 otherwise = 1 if education, 0 otherwise = 1 if services, 0 otherwise
Household characteristics	
Income	Income of the household in Pak rupee
Spouse education	Education of spouse in year
Community characteristics	
Location	= 0 if location is rural (base category) = 1 if location is urban
Educational institution characteristics	
Types of educational institution	= 0 if government (base category) = 1 if private, 0 otherwise = 1 if both[8], 0 otherwise

III.III. REMEDIAL TEST

Cross sectional data study mostly faces the problem of heteroscedasticity/different variance as unit of the data is one point in time. Therefore, we need to take care of the above-mentioned problem during analysis, so that our results are free from the heteroscedasticity problem. We will run the Breusch-pagan/Cook-Weisberg test to test the problem of heteroscedasticity and result will be shown in multiple regression model table.

IV. EMPIRICAL FINDINGS AND DISCUSSION

This the most important segment of the study in which we have to interpret the findings after applying most relevant data analysis technique. In the perspective of the objectives of the study, we have done two types of analysis like, parametric, and non-parametric analysis. In case of non-parametric analysis, we have used mean approach in case of educational expenditures pattern of the household based on their province and regional location. In second part of analysis, the multiple regression model was used to empirically investigate the impact of socio-demographic aspects of household's over the demand for education/per capita educational expenditures.

IV.I. NON-PARAMETRIC ANALYSIS/DESCRIPTIVE ANALYSIS

This is the first part of our present study analysis that how much a household head wants to spend on the education sector from their own pocket and for this purpose, we used the mean assessment approach based on the household's

[8] A household who's some of the family persons were enrolled in private and some were in government educational institution

characteristics. The detail interpretations are given below according to the sequence. The table 4 highlights the household's head educational expenditures pattern in Pakistan. According to the mention table, the highest mean educational expenditures were found in Punjab and KP households and these were Rs.30179 and Rs.29042 respectively. From the given table, we can see the mean educational expenditures of KP and Punjab provinces household heads were almost same but two-time higher if we compared it with Sindh and Baluchistan province household heads educational expenditures. The situation of Baluchistan province was found not satisfactory in terms of household heads mean educational expenditures as the mean educational expenditure was half of KP and Punjab province while the same was the situation of Sindh province in this regard. The overall mean educational expenditure in Pakistan was Rs.24631 in given year of analysis.

Table 4: Household heads mean educational expenditures in all provinces of Pakistan

Province of the household head	Mean educational expenditures	Number of households	Std. Deviation
KPK	29042.71	2229	7013.751
Punjab	30179.03	4647	7305.384
Sindh	15341.49	2690	2839.915
Baluchistan	13163.9	926	2721.387
Total	24631.77	10492	5272.876

Author's Own Calculation Based on Data Source, Pakistan Social and Living Standard Measurement Survey (PSLM, 2013-14)

In case of regional comparison, the table 5 shows the household's head mean educational expenditures based on their region of residence. Household heads belong to urban area were spending on average Rs.39337 while this amount was Rs.14858 among the households whose were the residence of rural areas. The mean educational expenditures of urban households on education of their family members were almost three time higher than the rural households. The results of mean educational expenditures based regional level indicate the parents in urban areas were more expected to invest on their family members in terms of providing standard education.

Table 5: Mean educational expenditure based on rural urban comparison in Pakistan

Region of the household heads	Mean educational expenditure	Number of households	Std. Deviation
Rural	14858.14	6303	7386.226
Urban	39337.72	4189	16202.419
Total	24631.77	10492	12720.876

Author's Own Calculation Based on Data Source, Pakistan Social and Living Standard Measurement Survey (PSLM, 2013-14)

IV.II. PARAMETRIC ANALYSIS/ MULTIPLE REGRESSION

Consistent with the second objective of the study, we have used multiple regression model. In table 6, majority of socio-demographic factors found significant and having different impact on decision of household head's in case of demand for education/per capita educational expenditures. Household head's age found significant positive determinant of per capita educational expenditures. A supplementary year increase in the age of the household's head leads to increases the educational expenditures by Rs.96 on average. It is common perception about the age factor that more aged heads have lot of experience and knowledge in about future challenges that is why, they more likely to invest on the present generation to earn in future. The insignificant with positive sign coefficient value of gender of the head indicates, no matter the head of the household is male or female, both prefer to devote equal amounts on their family person in terms of educational expenditures. The household's head location(urban/rural) positively determine the per capita educational expenditures as its coefficient value found significant with positive sign and this shows that on average the urban household heads were spending Rs.3521 more as matched to rural household head. The finding of location of the household's head is match with the findings of previous studies of (Psacharopoulos et al, 1997; Kanellopolos and Psacharopoulos, 1997; Donkoh and Amikuzuno, 2011). The possible reasons of higher spending on education sector among the urban heads may be that the majority of the household heads are educated and that is why they prefer to educate their family members and for this they paid high amount in terms of educational charges. Household's head is another factor having significant positive impact on head's decision of investment on their present generation. The extra year head's education leads to increases the educational expenditures by Rs.302 and this prove the theory of human capital that parent's education has positive determinant of demand for education. Our result in case of education of the head is supported by the previous studies of Jenkin et al 2019 in Nigeria and Rizk and Owusu-Afriyie 2014 in Egypt. Spouse's education also found significant and its value of coefficient indicate, if spouse gets an extra year of education, it leads to increases the per capita educational expenditure by Rs.308 on average. It generally seen that sophisticated spouses/mothers are more aware about the future of their children and that is why

they would like to invest on them in terms of providing best education and for this they paid higher cost. In case of marital status of the household heads, the unmarried as well as the widow/divorced category found significant with negative coefficients sign, highlights that relative to married household head, the unmarried and widow/divorced household heads spend less on average and this amount was Rs.4247 and Rs.7059 respectively on the education of their family persons. The possibility of less spending among the unmarried and widow/divorced household that the heads belong to above mentioned categories have no such resources to devote on their family members in terms of providing good education or in most of the cases, the married head have the responsibility to make decision regarding any household activity and there is no role of above mention categories. The previous study of Bayar and İlhan (2016) supported the result of our marital status of the household head that both unmarried and widow/divorced heads were spending less as compared to married ones. The result of types of educational institution shows that it has positive impact on educational expenditures decision of household heads. The household heads whose family members were getting education from private educational institution spending Rs.6148 more associated to those whose children were enrolled in government educational institution only. The same is the case of both (a household who's some children were enrolled in private and some were in government) also found significant and its coefficient value indicated that the average educational expenditure of such types of household were Rs.2085 more related to the households whose children were enrolled in government educational institution only. The private educational institutions are providing standard education in terms of best environment, extra curriculum activities and high-qualified staff and return form these services, they charged high educational expenditure. The other possible reason of high private educational expenditure in private education institution is that mostly the strong financial background children are enroll in such types of educational institution who can afford to pay the cost of these educational institutions. The household heads industry/work status like, manufacturing, wholesale and education positively while transport found negatively significant determinants of per student educational expenditures. The significant and positive coefficient of manufacturing category of industry highlights, the household heads belong to manufacturing category of industry were spending Rs.1610 more on average on education of their family members as associated to those whose belong to agriculture category of industry. Just like manufacturing category of industry, the wholesale and education industry has the same positive significant contribution in household heads educational expenditures. The household heads belong to above mentioned categories of industry/work status were spending Rs.1977 and Rs.3833 respectively more on average associated to the heads whose belong to agriculture category of industry. Higher profit earning from these industries may be the one of the reason to spend more on education sector among the heads belong to these industries. The education profession related household heads having lots of experience about job challenges in future, therefore, they take serious steps to improve the quality of education of their family to avoid the difficulties to get a reasonable job. The only one category of industry of the household heads, transport has the negative impact on household heads decision making regarding educational expenditures as its coefficient value is significant but with negative sign. The average educational expenditures of household heads whose have transport profession were specified less amount on education sector relative to agriculture based category of industry heads. Low earnings from transport industry may be one of the reason of low spending on education sector or mostly the heads belong to such activities force their family members to assist them in their works. Household heads income found positive and significant impact on demand for education. A positive increase in household heads income leads to increases the demand for education/per capita educational expenditure. The result of income of the household heads is supported by the many previous works like, Blanden & Gregg, 2004; Aakvik, Salvanes & Vaage, 2005; Liu et al., 2005. The overall model of demand for education (per capita educational expenditures) is well fitted because the F-Statistic is significant. The R^2 value highlights, 34% variation in per capita educational expenditure was due to explanatory variables. We have no issue of heteroscedasticity in our demand for education model as the value of Breusch-pagan/Cook-Weisberg was insignificant as mentioned in the table 6.

V. CONCLUSION AND RECOMMENDATION

The current study investigated the role of major socio-demographic factors over the decision of household head's in case of demand for education/educational expenditures using Pakistan Social and Living Standard Measurement Survey (PSLM), ROUND-IX (2013-14). The results showed that most of the explanatory variables were significantly affecting the household heads decision regarding educational expenditures in Pakistan. The significant factors like, location of the household, household heads education, spouse education, manufacturing, wholesale and education industry-based household heads and income of the household's found the significant and positive determinants of demand for education/per capita educational expenditures. On the next side, unmarried and widow/divorced household heads and the household heads whose belong to transport industry were found significant negative determinants of per capita educational expenditure. Households location plays an essential role in case of educational expenditure as we found that the urban household's comparative to their counterpart rural household's, were more willing to spend

to educate their persons and this amount was Rs.3521. Head as well as spouse education have significant positive impact on per capita educational expenditures and this indicates that the demand for education was the direct proportion of education year of heads and spouse. Both category of marital status like unmarried and widow/divorced has negative impact on head's decision in case of educational expenditures as shown in the results. The results of present study also revealed that types of educational institution have positive impact on educational expenditure mean relative to government enrolled students, the educational expenditures of private educational institution enrolled were Rs.6148. The same was the case of category both, which mean that the households whose children were getting education from private as well from public educational institution were also spend more as associated to those whose children were getting education only from public educational institution. Industry/profession of household heads like, manufacturing, wholesale and education found significant positive determinants of educational expenditure while the transport industry has negative impact mean relative to agriculture-based profession, the household heads having transport is profession of earning were spending 1395 rupee less on average. Positive and significant impact of income of the household's highlight, desire to educate the family person increases as increases in the income of the household. Low budget specification for education sector in Pakistan is the major cause of low literacy rate as well as high dropout rate among student at each level of education and this mean that majority of the youth have no such education, which enable them to get a suitable job in job market. Low educational budget of central as well as the provincial authorities transforms the burden of educational expenditures to the parents, which in-force them to make budget plan for not only routine consumption but for the education of their family members. To improve educational status, the central authority of Pakistan should specify huge amount to construct new educational institution as well to improve the quality of education of existing public sector educational institution in rural areas.

Table 6: Socioeconomic and demographic determinants of demand for education/per capita educational expenditure in Pakistan

Dependent variable: demand for education/Per capita educational expenditure in Pak Rupees			
Number of households 10492			
Variable	Reg: Coefficient	Standard error	T-statistic
(Constant)	-79871.1	2871.012	-27.82***
Gender of head (Ref: Female)	1822.88	1218.721	1.496
Household head age	96.231	14.754	6.538***
Location (Ref: Rural)	3521.491	370.219	9.513***
Head Education	302.223	39.651	7.622***
Education of spouse	308.965	39.304	7.861***
Unmarried (Ref: Married)	-4247	1153.222	-3.683***
Widow/divorced (Ref: Married)	-7059.04	1455.841	-4.849***
Private (Ref: Government)	6148.815	383.231	16.045***
Both (Ref: Government)	2085.742	458.38	4.55***
Manufacturing(Ref:Agriculture)	1610.14	614.164	2.622**
Construction(Ref:Agriculture)	312.263	588.933	0.53
Wholesale(Ref:Agriculture)	1977.19	543.566	3.637***
Transport(Ref:Agriculture)	-1395.88	669.469	-2.085**
Education(Ref:Agriculture)	3833.43	785.136	4.883***
Services (Ref: Agriculture)	501.481	455.227	1.102
Income	0.0085	0.0002	35.83***
R-square	0.34		
F-value	312.02 (0.000)		
Breusch-pagan/Cook-Weisberg	2345 (0.3471)		

Author's Own Calculation Based on Data Source, Pakistan Social and Living Standard Measurement Survey (PSLM, 2013-14); "***", "**" and "*" indicates significant at 1%, 5% and 10% respectively

REFERENCES

Aakvik, A., Salvanes, K. G., & Vaage, K. (2003). Educational Attainment and Family Background. *German Economic Review*, 6(3), 377-394

Academy of Educational Planning and Management, Pakistan (AEPAM, 2018)

Ali, A. & Naeem, M.Z. (2017). Trade Liberalization and Fiscal Management of Pakistan: A Brief Overview. *Policy Brief-Department of Economics, PU, Lahore*. 2017 (1), 1-6.

Ali, A. (2011). Disaggregated import demand functions of Pakistan; An empirical Analysis. M-Phil Thesis, NCBA&E, Lahore, Pakistan, 1-70.

Ali, A. (2015). *The impact of macroeconomic instability on social progress: an empirical analysis of Pakistan*. (Doctoral dissertation, National College of Business Administration & Economics Lahore).

Ali, A. (2018). Issue of Income Inequality Under the Perceptive of Macroeconomic Instability: An Empirical Analysis of Pakistan. *Pakistan Economic and Social Review*, 56(1), 121-155.

Ali, A. and Bibi, C. (2017). Determinants of Social Progress and its Scenarios under the role of Macroeconomic Instability: Empirics from Pakistan. *Pakistan Economic and Social Review* 55 (2), 505-540.

Ali, A., & Ahmad, K. (2014). The Impact of Socio-Economic Factors on Life Expectancy in Sultanate of Oman: An Empirical Analysis. *Middle-East Journal of Scientific Research*, 22(2), 218-224.

Ali, A., & Audi, M. (2016). The Impact of Income Inequality, Environmental Degradation and Globalization on Life Expectancy in Pakistan: An Empirical Analysis. *International Journal of Economics and Empirical Research*, 4 (4), 182-193.

Ali, A., & Audi, M. (2018). Macroeconomic Environment and Taxes Revenues in Pakistan: An Application of ARDL Approach. *Bulletin of Business and Economics* (BBE), 7(1), 30-39.

Ali, A., & Rehman, H. U. (2015). Macroeconomic instability and its impact on the gross domestic product: an empirical analysis of Pakistan. *Pakistan Economic and Social Review*, 285-316.

Ali, A., & Şenturk, I. (2019). Justifying the Impact of Economic Deprivation, Maternal Status and Health infrastructure on Under-Five Child Mortality in Pakistan: An Empirical Analysis. *Bulletin of Business and Economics*, 8(3), 140-154.

Ali, A., & Zulfiqar, K. (2018). An Assessment of Association between Natural Resources Agglomeration and Unemployment in Pakistan. *Pakistan Vision*, 19(1), 110-126.

Ali, A., Ahmed, F., & Rahman, F. U. (2016). Impact of Government Borrowing on Financial Development (A case study of Pakistan). *Bulletin of Business and Economics* (BBE), 5(3), 135-143.

Ali, A., Audi, M., & Roussel, Y. (2021). Natural Resources Depletion, Renewable Energy Consumption and Environmental Degradation: A Comparative Analysis of Developed and Developing World. *International Journal of Energy Economics and Policy*, *11*(3), 251-260.

Ali, A., Audi, M., Bibi, C., & Roussel, Y. (2021). The Impact of Gender Inequality and Environmental Degradation on Human Well-being in the Case of Pakistan: A Time Series Analysis. *International Journal of Economics and Financial Issues*, *11*(2), 92-99.

Ali, A., Mujahid, N., Rashid, Y., & Shahbaz, M. (2015). Human capital outflow and economic misery: Fresh evidence for Pakistan. *Social Indicators Research*, *124*(3), 747-764.

Angelopoulos, C., & Psacharopoulos, G. (1997), Private Education Expenditure in a Free Education Country: The Case of Greece. *International Journal of Educational Development*, 17(1), 73-81.

Arshad, S., & Ali, A. (2016). Trade-off between Inflation, Interest and Unemployment Rate of Pakistan: Revisited. *Bulletin of Business and Economics (BBE)*, *5*(4), 193-209.

Ashraf, I., & Ali, A. (2018). Socio-Economic Well-Being and Women Status in Pakistan: An Empirical Analysis. *Bulletin of Business and Economics (BBE)*, 7(2), 46-58.

Aslam, M, & Gandhi, K, G (2008). Gender and Household Education Expenditure in Pakistan. *Applied Economics*, 40 (20), 2573—2591.

Audi, M & Ali, A. (2017). Socio-Economic Status and Life Expectancy in Lebanon: An Empirical Analysis. *Archives of Business Research*, 5(11), 159-170

Audi, M. & Ali, A. (2017). Environmental Degradation, Energy consumption, Population Density and Economic Development in Lebanon: A time series Analysis (1971-2014). *Journal of International Finance and Economics*, 17(1), 7-20.

Audi, M., Ali, A., & Al-Masri, R. (2022). Determinants of Advancement in Information Communication Technologies and its Prospect under the role of Aggregate and Disaggregate Globalization. *Scientific Annals of Economics and Business*. https://doi.org/10.47743/saeb-2022-0009.

Bayar, A, A., & İlhan, B, Y. (2016). Determinants of Household Education Expenditures: Do Poor Spend Less on Education? *Topics in Middle Eastern and African Economies*, 18(1), 83-111.

Becker G, S. (1975). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education, Second Edition.

Becker, G. S. (1965). A Theory of the Allocation of Time. *Economic Journal*, 75 (299), 493–517.

Becker, G. S., & Tomes, N. (1986). Human Capital and the Rise and fall of Families. *Journal of Labor Economics*, 4 (3), S1–S39.

Behrman, J, R., Pollak, R, A., & Taubman, P. (1982). Parental Preferences and Provision for Progeny. *Journal of Political Economy*, 90 (1).

Blanden, J., & Gregg, P. (2004). Family Income and Educational Attainment: A Review of Approaches and Evidence for Britain. *Oxford Review of Economic Policy*, 20(2), 245-263.

Connelly, R., & Zheng, Z. (2003). Determinants of School Enrolment and Completion of 10 to 18 Year Olds in China. *Economics of Education Review*, 22(2003), 379–388.

Donkoh, S. A., & Amikuzuno, J, A. (2011). The Determinants of Household Education Expenditure in Ghana. *Educational Research and Reviews*, 6(8), 570-579.

Glewwe, P., & Patrinos, H. (1999). The Role of the Private Sector in Education in Vietnam: Evidence from Vietnam Living Standards Survey. *World Development*, 27 (5), 887–902.

Glick, P., & Sahn, E. D. (2000). Schooling of Girls and Boys in a West African Country: The Effects of Parental Education, Income, and Household Structure. *Economics of Education Review*, 19 (1), 63–87.

Hamid, S. (1993). A Micro Analysis of Demand-side Determinants of Schooling in Urban Pakistan. *The Pakistan Development Review*, 32(4), 713-72.

Hamid, S., & Siddique, R. (2001). Gender Differences in Demand for Schooling. *The Pakistan Development Review*, 40(4), 1077-1092.

Huy, V. Q. (2012). Determinants of Educational Expenditure in Vietnam. *International Journal of Applied Economics*, 9 (1), 59–72.

Iddrisu, A. M., Danquah, M., & Quartey. P. (2016). Analysis of School Enrolment in Ghana: A Sequential Approach. *Review of Development Economics*.

Idrees, M., & Khan, F, N. (2020). An Analysis of Demand for Education in Pakistan. *FWU Journal of Social Sciences*, 14(1), 37-50.

Imran, C. A. B., Shakir, M. K., & Qureshi, M. A. B. (2021). Regulatory Perspectives on AI in Autonomous Vehicles Global Approaches and Challenges. *The Asian Bulletin of Green Management and Circular Economy*, *1*(1), 62–74.

Imran, C. A. B., Shakir, M. K., & Qureshi, M. A. B. (2022). Applications of Artificial Intelligence in Enhancing Construction Safety and Productivity. *The Asian Bulletin of Big Data Management*, *2*(1), 63-74.

Jayachandran, U. (2002). Socio-Economic Determinants of School Attendance in India. Working Paper No. 103. Centre for Development Economics.

Jenkins, G, P., Anyabolu, H. A., and P, Bahramian (2019). Family Decision-making for Educational Expenditure: New Evidence from Survey Data for Nigeria. *Applied Economics*, 51(52), 5663-5673.

Liu, J., Chou, S., & Liu, J. (2005). Asymmetries in Progression in Higher Education in Taiwan: Parental Education and Income effects, Economics of Education Review, In Press [online, accessed 25 October 2005].

Lloyd, C. B., & Blanc A. K. (1996). Children's Schooling in Sub Saharan Africa: The Role of Fathers, Mothers, and Others. *Population and Development Review*, 22 (2), 265–298.

Mahmood, T., Najam Us Saqib & Qasim, M. A. (2017). Parental Effects on Primary School Enrolment under Different Types of Household Headship: Evidence from Pakistan. *The Pakistan Development Review*, 56(3), 249–264.

Ogundari, K., & Abdulai. A. (2014). Determinants of Household's Education and Healthcare Spending in Nigeria: Evidence from Survey Data. *African Development Review*, 26 (1), 1–14.

Psacharapoulos, G., Arieira, C. R. & Mattson, R. (1997). Private Education in a Poor Country: The Case of Urban Bolivia. *Economics of Education Review*, 16 (4), 395-406.

Pushkar, M. (2003). Schooling and Educational Attainment: Evidence from Bangladesh. *Education Economics* 11, (2), 129–153.

Qian, J, X., & Smyth, R, (2011). Educational Expenditure in Urban China: Income Effects, Family Characteristics and the Demand for Domestic and Overseas Education. *Applied Economics*, 43(24), 3379-3394.

Sackey, H. A. (2007). The Determinants of School Attendance and Attainment in Ghana: A Gender Perspective (No. RP_173). African Economic Research Consortium.

Sawada, Y., &Lokshin, M. (2009). Obstacles to school progression in rural Pakistan: An analysis of gender and sibling rivalry using field survey data. *Journal of Development Economics*, 88(2), 335-347.

Schaffner, A. J. (2004). The Determinants of Schooling Investments among Primary School Aged Children in Ethiopia. The World Bank, Africa Region Human Development Working Paper Series, Background Paper for the 2004 Ethiopia Education Country Status Report.

World Education Services, (2020).

Zimmerman, J. F. (2001). Determinants of School Enrolment and Performance in Bulgaria: The Role of Income among the Poor and Rich. *Contemporary Economic Policy*, 19 (1), 87–98.