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Regional Comparative Analysis Of The Household Expenditure On Education In Pakistan

Muhammad Waqar[1*], Dr. Muhammad Niamat Ullah Khan Babar[2], Dr. Muhammad Suleman[3], Muhammad Nadir[1], Malik Asfand Yar[1], Muhammad Bilal[1] and Ruqia Naaz[1]

Abstract

This study evaluates Pakistani families' educational expenditures. *It* uses data from *the* PSLM *for the year* 2018–19. *It* investigates *the* elements and variables that make up the families' total spending on education. *The* estimation *results* show *that how* degree levels, *income* levels, *and* residential status (rural versus *urban*) *of* individuals residing *[1]in* Pakistan's *four provinces* influence the family expenditure on education. However, *it* concludes that every factor has a favorable impact on the *policy* suggestions *for education.* Furthermore, every revelation may *have* implications for a wide range *of* matters pertaining to education system of *Pakistan.* Each of these variables plays a distinct part *in* determining how much money *the* government will spend *on education. The* regression was carried out using the regression *analysis technique* and the OLS (ordinary Least Square) Method. *This approach and methodology denotes the scenario in which a model has a quantitative dependent variable. Estimates and results will implement the policy and provide means of resolving all the issues that are explained by the variables and the household education spending.*

Keywords*: Education expense, family head, income level, region, province of household, PSLM, OLS, regression.*

Introduction

Social investment is a crucial factor in progress and expansion that can primarily be acquired over advanced education. Social investment development is the only component of the economy, deprived of it, destitution, physical labor, and deficiency exist (Schultz, 1961). Sophisticated stages of asset in education indicate more skilled and productive labor. Knowledge, experience, and information are the fundamental components of societal development, not natural wealth (Barro & Lee, 2001); (Kalashnikova, Makasheva, Ischuk, and Makasheva, 2016) in adding, emerging economies' growth is utterly reduced depressed by a nonexistence of cultivated and capable hard work, which is indispensable for a vigorous economy (Fields, 1973; Javed, 2018).

A momentous portion of Pakistan's residents is currently enrolled in school; forty eight percent of the people are between the ages of five and twenty-four (LFS, 2013–14), making up a significant portion of the population who are already in school. This populace can be converted into a segment profit by putting resources into training and capabilities improvement. In addition, Pakistan has a demographic share likely for monetary growth since the proportion of

[1]Institute of Social Sciences, Department of Economics, Gomal University Dera Ismail Khan, Khyber Pakhtunkhwah, Pakistan.
[2]Professor/Director Institute of Social Sciences, Gomal University Dera Ismail Khan, Khyber Pakhtunkhwah, Pakistan.
[3]Lecturer, Institute of Social Sciences Department of Economics, Gomal University Dera Ismail Khan, Khyber Pakhtunkhwah, Pakistan.
*Corresponding Author: Muhammad Waqar (Email ID: waqar.1127@gmail.com)

its total population that is working age is growing and is expected to continue growing till 2040 (Bongaarts , Sathar, & Mahmood, 2013; Saad, 2016). It is understood that Pakistan's macroeconomic performance could be affected in the future by this pattern of demographic change. Additionally, the China-Pakistan Economic Corridor, or CPEC, will soon be operational. Therefore, investing in education is necessary to increase the workforce's education and skills in order to benefit from the demographic dividend.

There are two ways that the public capitalizes in schooling: administration level and family level. In the circumstance of Pakistan, there is a realistic amount of evidence about how much money the government spends on education, but there is not much information about how much money households spend on education. Public and private sector expenditures are equally significant. Because the presence or absence of either one indicates a suboptimal allocation of resources, investments made by households and by the government are interconnected and dependent on one another. As a result, ignoring education expenditures by households is costly because a lack of information leads to incorrect assumptions regarding households' willingness to pay for education. National educational policies are less effective because of these flawed assumptions. As a result, it is crucial to investigate and evaluate the demand for education in Pakistan and the willingness of households to pay for it.

The goal of this study is to find out how different socioeconomic factors affect how much money is spent on education at the household level in Pakistan. A double logarithmic specification of the Engel Curve has been used in this study to evaluate the association between education expenses and their elements. Attention of household in training is assessed by the family's uses on schooling. Instead of focusing on factors that influence educational attainment as did previous studies (Ahmed, Amjad, Habib, & Shah, 2013 ;) the study focuses on the factors that influence education spending at the household level. 2001; Alderman, Orazem, and Paterno Saqib, 2004). Educational achievement is likewise a purpose of individual features of the kids in addition to the features of the household, so it somewhat enlightens the outlay in or petition for edification by families (Qian & Smyth, 2011). Expenditure on education reflects households' readiness to recompense for their kids' education. Second, we examine whether household budgets and income elasticity of demand for education in Pakistan change with income level to trial the hypothesis that schooling is an essential worthy.

Three ways this study adds to the literature First, rather than using the educational extent of the household head or parentages, the study suggests using the maximum stage of education in the family as a substitution for education consciousness. Second, it focuses on education supply-side factors rather than demand-side factors, which have fascinated additional scholars in latest research. Thirdly, the different to operate OLS or Tobit relapse models, this education recycled log typical Tobit prototypes that modifies for the sensible leftward adjusting in log of consumption on exercise at domestic level, delivered the truth with that numerous people are represented by no usage on schooling.

Instructive improvement is viewed as a vital part to upgrading efficiency; it advances groundbreaking thoughts and developments, which thusly raises the effectiveness of the labor force and lift up monetary development (Wongmonta and Glewwe, 2017. For supported monetary development, venture towards human resources, especially in schooling is undeniable to battle comprehensive and select financial difficulties looked by any nation (Confirmations, 2011; Gamlath and Lahiri, 2017). The extreme number of nations has guaranteed arrangement of instructive offices; while offices at a grass root level is yet an unsettled inquiry in a large part of the immature nations because of monetary imperative, unfortunate administration, and less consideration by government and nearby specialists (Singh and Shastri, 2020).

Many creating and less-created nations experience the ill effects of elevated degrees of pay imbalance and neediness and it lead to more noteworthy changeability in the assignment of instructive assets across families (Abdelbaki, 2012; Basuki et al., 2019; Costa and Gartner,

2017). These variables aren't just contracting the bureaucratic and nearby government's financial plan portion of schooling in absolute spending plan, yet in addition answerable for blocking family consumption on training. Numerous different elements, for instance, elevated degree of expansion, orientation imbalances, and territorial contrasts as far as open positions, joblessness, political precariousness and high expense in confidential area instructive foundations make fluctuation in schooling use (Afzal et al., 2012; Kuvat and Kizilgol, 2020; Pallegedara and Kumara, 2020)

1.1 Objectives of the study

1. To estimate the factors of family expenditure on education.
2. To quantify extent of family expenses on education in Pakistan
3. To practice such figures and realistic findings for strategy implications regarding advanced education of Pakistan.

1.2 Background and Significance of the Study

The current study is related to factors that influence household outlay on schooling. Much researcher has prior done work on education but no one has clearly attempted to segregate education expenditure as degree wise separately. However, the scholar has attempted to determine the factors that influence household expenses on learning from graduation to a doctorate. It will surely help researchers to quantify household expenditures on schooling gradations.

Review Literature

Kuvat and Kizilgöl (2020) investigated personal family education spending utilizing information from the Turkey family financial plan overview 2017. The information show that family pay, family head instructive level, and individual home are the main indicators of education spending. The qualities affect family education spending. Family size increments and lesser admittance to instruction are both connected to diminish family personal spending.

Khalili, Arshad, Farajzadeh, Kächele, & Müller (2020) examined the effect of dry spell on little homestead family schooling spending in the Iranian area of Fars. The schooling cost and pay of little homestead families have a negative association. Pay affects schooling spending. There is no such thing as predisposition in young men's and young women's instructive expenditure at the school level, however it exists at the college level. Families are bound to deter young women from seeking after advanced education while pushing people to do as such.

Chandrasekhar et al. (2019), utilizing the 2013 and 2014 NSSO study information, assessed those metropolitan families in India burn through 18.4% of their all-out use on advanced education though in rustic areas of India 15.3% of all out family use is on advanced education. In rural India, education costs make up 27% of the mean annual household expenditure, while in urban India, they make up 30%. In rural south Indian states, where more people enroll in private, unaided technical education, education expenditures make up a larger portion of household spending. In rural South India, The average household education expenditure per student is 36,063, while in urban areas, it is 49,690. Using the Household Budget Surveys from 2002, 2010, and 2013.

Chandrasekhar, Rani, & Sahoo (2019) concentrated on the expenditure n advanced education by utilizing information from the two late Public Example Study Office overviews. The creators assessed that families picking advanced education burn through 15.3 percent of their complete consumption in provincial regions; and 18.4 percent in metropolitan regions. The creator further assessed that the offer was bigger in southern states as individuals from south

were bound to concentrate on specialized schooling in confidential foundations and accordingly likewise had additional exceptional borrowings. The creators dissected that more unfortunate Indian families were less inclined to get advance for advanced education as they were risk-averter and dubious about future returns.

Datta and Kingdon, (2019) concentrated on the orientation predisposition in designation of assets on education in country India from 1995 to 2014. The creators assessed that as opposed to falling; the methods of orientation inclination are changed emphatically over the review period. The creators recognized two likely channels of orientation inclination, school enrolment choice, and contingent instructive consumption. The creator featured that orientation predisposition in the enrolment choice had decreased however orientation inclination in the expenditure on education had altogether expanded. The creators focused on that singular level information was more helpful in recognition of orientation predisposition when contrasted with family level information.

Material and Methods

3.1 Data Range and Data Source

This investigation is grounded on examination of Pakistani households to find out how much each household spends on education. The Pakistan Social and Living Standard Measurement (PSLM) Assessment Round -VII 2018-2019 provided the data for this analysis. The informational collection comprises of the multitude of four areas of Pakistan (KPK, Punjab, Sindh and Baluchistan). It is a cross-sectional review with a random sample extent of twenty one hundred and sixty six people as of all over Pakistan. The statistics from the survey provide information at the household level regarding education as well as various socioeconomic variables like income, region (Urban & Rural) and province. Consumption on education includes the educational expense, Scholastic Charge fixed, hostel and transport charges.

3.2 Research Design

The equation is assessed using the Linear Regression and Ordinary Least Squares (OLS) methods. The kind of dependent Variables determines the estimation method. The OLS Method and the regression analysis method are utilized because the dependent variable in this instance is quantitative. There can be no doubt that the regression analysis method was used to estimate the model. The estimated model will provide all of the explanatory variables' measurable statistics and reliability. A variable is statistically significant if its probability or P value is less than 5%, (0.05), or 10% (0.10), while a variable is statistically insignificant if it is greater than 5% or 10%.

Additionally, we evaluate the Model's overall performance using the F statistic. The power of the explanatory variable is sufficient to sustenance the model if the probability value of the F test is less than 5%. Additionally, the significance of each individual variable can be assessed using the T test. The P value has same case while incorporating with result of variables. The outcome that the explanatory variables have on the dependent variable, which is the amount that a household spends on education, will be quantified using estimated coefficients. The model's coefficient will explain the extent of the effect on the dependent variable.

3.3 Econometric Model

Forming the model's shape and specifying its variables are essential before beginning the estimation and data analysis. The Model provides the foundation and estimation methods by demonstrating the variety and nature of variables. The form of this Multiple Linear Regression Model is as shadows:

Dependent variable = $\mathbf{C} + B_1X_1 + B_2X_2 + B_3X_3\, B_4X_4 + +e$

Dependent variable	(Y)	=	Education Expenditure
Constant		=	C
x_1		=	Education Level (Degrees)
x_2		=	Total income
x_3		=	Region (Urban & Rural)
x_4			Province
e		=	Error Term

Result and Discussions

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.516	0.266	0.255	84675.6886

Table 4.1 (Researcher's own contribution, PSLM 2018-19)

This table 4.1 represents the value of R square and Adjusted R square that explains the variation that how all the explanatory variable explains the variation in dependent variable. It depicts that variation in education expenditure that accounts for all the independent variables in the regression mode. It corresponds that 26.6 % variation in education expenses is explained by the independent variables.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5550248752327.473	32	173445273510.234	24.391	0.000
	Residual	15293550803414.492	2133	7169972247.264		
	Total	20843799555741.965	2165			

Table 4.2 (Researcher's own contribution, PSLM 2018-19)

This summary of table 4.2 shows the statistic of F test which inclusive depicts the strength and power of all independent variables that how these affect the dependent variable. The probability value of F statistic that is 0.000 which is statistically significant and indicates that the overall regression model is substantial. The value of R square is statistically significant based on this F test. The overall F-test determines the statistical significance of this relationship. If the P value for the overall F-test is less than significance level, we can conclude that the R-squared value is significantly different from zero.

We have above discussed the Model Summary and ANOVA table, which entirely discusses the performance and credibility the model. Researcher now focuses to discuss and interpret the impact and extent of each variables on education expenditure. It will further clarify that how each variable contributes its shares in schooling outlay. We will plot the compare means and coefficients table in order to understand the essence of this thesis designed in order to understand the aspect of household expenditure on education.

The significance level for the model estimation was taken as (5 & 10 %.)

Dependent Variable = Log (Expenditure on Education)
Log on Independent Variables as well that are quantitative in nature.

R Square	= 0.266	Adjusted R square	= 0.255
F Statistic	= 24.391	Probability	= 0.000
e	= Random Error Term		

The mean amount that each degree bearing family or household spends on education is shown in Table 4.3, which is presented in an easy-to-read format. Given the degree's nature and the head of the family or behavior of the family heads, this expenditure makes perfect sense. This shows the total expenditure of the household faced in order to educate their children in the following specified degrees.

Total Expenditures			
Education Degrees	Mean	N	Std. Deviation
BA/B.SC/B.Com	34653.975 Rs	726	39661.0743
B.Ed./M.Ed.	48541.127 Rs	71	69035.9159
B.A/B.SC/BS/BE	69960.991 Rs	454	57551.1260
MA/MSC	54251.555 Rs	299	54671.3398
Degree in Medicine(MBBS/BDS/Pharm-D)	242270.561 Rs	107	280201.8506
Degree in Agriculture	98307.692 Rs	13	127890.3401
Degree in Law	83215.152 Rs	33	49761.3751
Degree in Engineering	129034.545 Rs	99	94143.7682
Degree in Accountancy	110503.846 Rs	26	64332.9432
MPhil	123361.765 Rs	34	84433.6067
PHD	202600.000 Rs	7	142580.6906
MS	250222.222 Rs	9	302608.2566
Other	23196.094 Rs	288	48854.4060

Table 4.3 (Researcher's own contribution, PSLM 2018-19)

Model		Unstandardized Coefficients		Standardized Coefficients	T-Values	P-Values
		B	Std. Error	Beta		
1	(Constant)	38197.746	7383.474		5.173	0.000
	Total Income	-.003	.010	-0.006	0.294	0.009
	Rural	-12236.644	3956.227	-0.062	-3.093	0.002
	KPK	-1401.826	1187.726	0-.024	-1.180	0.238
	Sindh	-7568.526	2550.111	-0.061	-2.968	0.003
	Baluchistan	-23421.802	7539.988	-0.061	-3.106	0.002

Since the entire presentation of model and enactment will be tagged in this section. The impact of each variable on education spending will be inferred. We can comprehend each variable and its impact on the dependent variable by identifying an overhead table (4.4)
Table 4.4 (Researcher's own contribution, PSLM 2018-19)

As we glance over table 4.4, it signifies the relation of all variables with education expenditure. It will highlight the importance of each variable and factor of family spending on education.it will segregate the variable by showing separate impact of each elements considered important for this analysis. Researcher has reflected those factors that absolutely shakes the household expenditure on education based on region like urban and rural or based on the four provinces.
Income variable shows statistically significant result with probability value less than five percent.it shows coefficient value (-0.006) that further indicates that if family or household income increases by one unit then, it causes family expense to decreases on average by 0.006 units. As income plays an important role in the attaining education for their kids. The importance of income can not be completely ignored while analyzing household expenditure on education.
The next category is whether the cost of education matters. Without a doubt, the characteristics of urban and rural areas have a significant impact on the amount of money that households spend on education. We can clearly assess through results table 4.4 that people living in rural areas spend 0.062 units less on education compared to people living in urban areas. Because the coefficient value of rural is (-0.062) with P or probability value less than five percent making it as different from the urban in term of spending on education from the households or family heads.
The following province will demonstrate the differences between one and the other with regard to family education spending. Using the province of Punjab as a starting point or benchmark category. We can determine that there is no difference in the level of spending between the residents of Punjab and KPK. Because, we can limit it through table 4.4 by assessing the probability values that makes it different or indifferent with respect to education expenditure. However, when it comes to trends in education spending, the provinces of Sindh and Baluchistan differ because of their different trends. Sindhi families spend on average 0.061 units less than Punjabi families. In a similar vein, citizens of Baluchistan spend on average 0.061 less than they spend on average, those in Punjab Province.

Conclusion

This study looks into how much a family spends on education. In this essay, we have examined family education costs using a variety of socioeconomic and demographic factors. It implies that a rise in household income is necessary to offset a fall in family spending. It is impossible to overlook the role and significance of income in ensuring children's education. Therefore, in order to improve the financial situation of Pakistani citizens, the government should provide employment opportunities and raise per capita income. A closer look at the provincial situation reveals stark differences in spending patterns, and states ought to increase funding to close these gaps. These variables are causing differences in the predominant educational systems in the provinces, which is the reason behind Pakistan's current disparate educational system. The disparity between spending in urban and rural areas is another significant factor. Those who raise their children in urban areas spend 6.2% more on education than those who live in rural areas. It reveals that there is much work to be done to advance education in Pakistan's remote areas. More emphasis needs to be placed by the state or government on rural development, including improved infrastructure, basic healthcare, and education. If there are opportunities for employment, people in rural areas can invest more in their education .It will encourage people to live more powerful and efficient lives that can help to advance education in rural areas.

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