



Volume and Issues Obtainable at Center for Sustainability Research and Consultancy

Journal of Accounting and Finance in Emerging Economies

ISSN: 2519-0318 ISSN (E) 2518-8488

Volume 4: Issue 1 June 2018

Journal homepage: www.publishing.globalcsrc.org/jafee

Impact of Human and Social Capital on Economic Development in Pakistan: Empirical Evidence from Primary Data Analysis

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ARTICLE DETAILS

History

Revised format: May 2018

Available online: June 2018

Keywords

Banking profitability; Industry-specific; Ethiopia; System GMM.

JEL Classification:

E50,F10

ABSTRACT

This study examines the impact of human and social capital on economic development in Pakistan by employing empirical evidence from primary data analysis. The survey was conducted in Multan District based on the household concerning questionnaire. The results conclude that age, on job training, area of residence, public health units, and work experience have positive and significant impact on economic development, while norms of the society and gender have negative impact on economic development. In other words, it is empirically evident from the analysis that human and social capital has strong impact on economic development. Therefore, there is an ardent need to bring the sustainable changes in human and social capital for inclusive growth and economic development in Pakistan.

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Recommended citation: Ali, M.S., Chaudhary, I. S., Farooq, F. (2018). Impact of Human and Social Capital on Economic Development in Pakistan: Empirical Evidence From Primary Data Analysis. *Journal of Accounting and Finance in Emerging Economies*, 4(1) 39-46

DOI: 10.26710/jafee.v4i1.346

1. Introduction

In the modern world no country is able to attain the goal of economic development without investment in human and social capital. In developing countries a huge number of citizens live under the poverty line. In order to remove poverty from the developing countries, investments must be increased in human development to remove poverty. Improve the basic facilities such as education, health, safe drinking water to increase the living standard of the people. The goal of economic development cannot be achieved without increase investment in human capital and they are closely linked to each other. The social interaction of the people is also important in the society and they connect each other in different sectors of the society. It is only possible with the help of social capital which are helpful in achieving the desired goals.

Human capital works as an engine to achieve the goal of economic development in any country. In the modern world human beings are considered as the most significant positive feature of the nation. Human capital is helpful to increase the knowledge, skills, which are helpful to get better employment opportunities and to increase the living standard of the people. No country achieves the goal without increasing investment in human and social capital. Educated and healthy people play an essential part in the economic development of the nation. So investment in both these sectors must be increased to achieve the desired

goal.

With the passage of time, the importance of human and social capital is increasing day by day in the under developed countries of the world. The investment in social capital is helpful to increase the trust level among the people in the society. Different financial institutions of the world like IMF and World Bank also give weight age to social capital. Social capitals are also helpful to increase the economic growth

Social ills of the society can be removing by increasing investment in social capital. Social interaction is important for the development of particular area. Social interaction tells us about the norms and other cultural activity of specific area. In under developed countries more than fifty percent of the population is living in rural area and they are mostly engaged in agricultural and dairy industry. Social capital is helpful in these areas because people are socially connected with each others. Social capital is helpful to enhance the hope intensity which is helpful in raising the creative ability of these areas. They form different co-operative societies which help small farmers and helpful in overall production of agricultural sector. In the same way public servant also form their social groups which are helpful in public administration.

By increase investment in education sector literacy rate of the country can be increased. It is the duty of the administration to give better health and education services to everyone in the country. There is a positive and significant effect of investment in human and social in the society.

2. Literature Review

Phillips & Massey (2000) examined that huge amount of people migrated from Mexico to USA. Data is used from 1987 to 1994 in this research. Logit model is used to obtain the results. The finding shows that 58 percent of working people move to United States of America. The significant store of immigration precise to human capital was there among the public. 10 percent of the citizens are qualified for the lawful migration to the US. The human and social capital were formerly accumulated in Mexico will provide as engines of accumulation exit for the time to come.

Bosma et al (2004) said that investment in human and social capital increases the skills and abilities of employees. Primary data is used in this research and got data through questionnaires. Logarithm model is applied to find out the results. The finding tells us that human capital persuades performance measures. Social capital is also helpful to increase the performance. The main goal is to achieve growth and provide more opportunities to common people.

Khan et al (2005) said that in the last two decades, the performance of Pakistan economy is much better as compare to other developing countries. Data from year 1980 to 2002 is used in this research. Cobb-Douglas production function is used to obtain the results. The finding tells us that growth rate is 5 percent is much better that 72 other countries. But capital growth is less than 1 percent. Investment in both the private and public must be increased to develop institutional structure. More investment is required to improve education facilities in the country.

Casey & Christ (2005) elaborate that due to investment, in social capital economic performance of some areas are high in these areas. Data from 1972 to 2002 was used in this research. The OLS model is used to get the results. Finding tells us that reflect on beside human, physical capital and other factors; social capital was neither an economically, nor statistically significant fact of state output expansion and service. Investment in social capital is helpful in economic development of the country.

Khilji (2005) elaborate that 85 percent of the people live in rural areas and 66 percent are connected with agriculture sector. Data from 1951to 1992 is used. Increase in investment is helpful for the industrial development of the country. The goal of economic development cannot be achieved without investment in human capital. Finding tells us that there is well-built association among economic development and

human capital. There is negative effect of increase in population on the resources of the country.

Mamuneas et al (2006) said that increase in education level is helpful in increasing income level. Data from 1971 to 1987 was used. Coefficient semi parametric model is used to estimate the results. The finding of the research tells us that human capital growth has less advantageous effect on output. The benefit is lower for developed countries and higher for developing countries. Inference of productivity stretch was low for developing countries.

Nasir (2002) elaborate that increase investment in human capital are helpful to increase the productivity in the country. This research used primary data. PIHS survey is used to collect information in 1995-96. Due to increase in education level the income of the people increase. OLS is used to get the result. The finding tells us that earning level increases with the increase in education level. Male earn more as compare to female at all levels. Education is the key to increase the economic development in developing countries.

Neira et al (2009) investigates that there is strong link between economic development and social capital. There is strong relationship among fiscal capital and human. Development is not possible without investment in social capital. Data from 1980 to 2000 is used in this research. OLS is used to obtain the results. Finding tells us that there is constructive connection between social capital and economic growth in Europe Union.

3. Data and Methodology

Primary data is used this research. Survey is conducted to get important information related to variable that are connected with human and social capital on economic development in Pakistan. To, examine the relationship between human and social capital formation on economic development. The specified model has been analyzed by employing the method of Ordinary Least Squares (OLS). Log of per capita income is used as dependent variable while AGE, SQAGE, GENDER, NORMS, HHS, JT, TEA, PHU, AH, TWE are independent variable for our model. Regression error in these models will be tested for autocorrelation with the help of Durbin Watson (DW) test statistic.

4. Explanation of variable used in the research

Many factors are connected with the human and social capital in Pakistan. In this research we consider variables which are based on literature and theory. The clarification of variables and their hypothetical impact are described as follows:

Per capita income (PCI)

In this research we use per capita income as dependent variable. Per capita income tells us about the purchasing capacity of the people. Per capita income tells us regarding the economic circumstance of the country. High per capita income shows strong economic condition and low per capita income shows that country is under developed. Purchasing power of the people depends directly on the per capita income. Increase in per capita income help to increase the purchasing power of the common people and vice versa.

Age

Age is considered as the most influencing variable in human capital. Productivity of the individual is linked with age. Young people work more effectively as compare to old people. On the other hand the increase in age, experience of the individual increase. Experienced person make better decision. The square of age is also used in this research. The second derivative of age is negative which shows that after specific age level productivity of the individual decreased. Age square is added to make non linear function.

Total Education Acquired

The impact of education is very significant in the growth procedure of the country. No state is able to attain the goal of economic expansion without investment in education sector. Education level is direct linked with the income level. Highly qualifies person make better decision in all the fields. Output is directly linked with year of schooling. Highly educated person get better job as compare to low educated person.

Education level is divided in different sectors in Pakistan.

Gender

Gender is considered as independent variable in this research. Income level is also affected due to gender. Female has less opportunities of job as compare to male in developing countries. Male earned more as compare to female in developing countries. Fewer predilections are giving to female in all the fields in developing countries. Most of the female in under developed countries work in agricultural sector and their productivity are also low as compare to males.

Norms

Norms is considered as the most important variable of social capital. We use norms as independent variable in this research. Norms tells us the overall deeds of the society. Norms vary from place to place. Social norms can be obligatory from end to end permit or casually from side to side body language and nonverbal commutation.

Household size

The household size is closely associated with the development of specific area. In this research we use household size as an independent variable. As the house hold size increase less resources is available to family members. If the household size of the family is low more resource is available to family members.

On Job Training

Another important variable of this research is on job training. Training section during the job is also considered as independent variable in this research. Training section is helpful in increasing the creative ability of the individual. Income level is also increased due to on job training.

Public Health Unit

Health is considered as the most important variable of human capital. Better health facilities are helpful to increase the productive capacity of the people in the society. Community health services in the area give better and cheap health services to common people in the surrounding. It is the liability of the state to offer superior health services to everybody in the area.

Area of House

Area of house also tells us about the living standard of the people. Area of house is directly linked with the development. People with more resources live in big villas. Increase investment in real stat is directly connected with the economic development.

Total Work Experience

One other important variable in this research is total work experience. Work experience increases the performance of the individual. Experienced person make batter decision in favour of the organization. We also use square of total work experience to make it non linear function. The second derivative of total work experience is negative. Working ability of the experienced staff increased which are helpful to increase productivity.

5. Model Specification

Two different models are used to get the impact of human and social capital on economic development in Pakistan. In model number 1, log of per capita income is a dependent variable while AGE, GENDER, NORMS, HHS, JT, TEA, PHU, AH are independent variables. On the other hand in model number 2 log of per capita income is used as dependent variable while TWE, GENDER, NORMS, HHS, JT, TEA, PHU, and AH are independent variables. Econometric model of the selected variable used in this study is given as follows:

$$\text{Model 1: } \log \text{ PCI} = \alpha_0 + \alpha_1 \text{ age} + \alpha_2 \text{ age sq} + \alpha_3 \text{ gender} + \alpha_4 \text{ norms} + \alpha_5 \text{ HHS} + \alpha_6 \text{ JT} + \alpha_7 \text{ TEA} + \alpha_8 \text{ PHU} + \alpha_9 \text{ AH} + \varepsilon_i$$

$$\text{Model II: } \log \text{ PCI} = \alpha_0 + \alpha_1 \text{ TWE} + \alpha_2 \text{ TWE SQ} + \alpha_3 \text{ gender} + \alpha_4 \text{ norms} + \alpha_5 \text{ HHS} + \alpha_6 \text{ JT} + \alpha_7 \text{ TEA} + \alpha_8 \text{ PHU} + \alpha_9 \text{ AH} + \varepsilon_i$$

Where

Log PCI = log of Per Capita Income	AGE = Age	GENDER = Gender	NORMS = Norms
HHS = House Hold Size	JT= On Job Training	TEA= Total Education Acquired	PHU= Public Health Unit
AH= Area of House	TWE= Total Work Experience	ε_i = Error Term	

6. Results and Discussions

In this segment we will present the econometric and statistical data analysis. Descriptive statistics tell us about the main quantitative features of the data use in this study. This will give us the simple summaries about the data. Following table provide the detail of descriptive statistics of the variable of our models.

Table: 1 Descriptive analysis of the variable of both the models

	Gender	JT	AGE	PCI	HHS	NORMS	PHU	AH	TEA	TWE
Mean	0.93	0.45	35.5	9034.6	5.12	0.99	0.59	12.9	12.6	11.8
Median	1	0	34	7500	5	1	1	10	14	10
Maximum	1	1	65	56000	11	1	1	40	21	40
Minimum	0	0	18	2500	2	0	0	3	0	3
Std.Dev	0.26	0.49	8.71	6271.5	1.49	0.08	0.49	8.6	4.39	8.6
Skewness	-3.32	0.25	0.79	4.09	0.54	-11.1	-0.39	1.71	-0.96	1.71
Kurtosis	11.97	1.06	3.41	26.39	3.86	123.01	1.15	5.69	3.32	5.69
Observation	250	250	250	250	250	250	250	250	250	250

Detail descriptive analysis is carried out in table 1. The descriptive statistic show that the normal of age is 34 with standard deviation of 8.7. Gender is 0.928 with standard deviation of .25.

The average for on job training is 0.44 with the standard deviation of 0.49. The average for house hold size is 5.12 with standard deviation of 1,49. The average for the norms is .99 with standard deviation of .08.

The average for the per capita income is 9034.5 with standard deviation of 6271.4. The average total education acquired is 12.5 with standard deviation of 4.38. The average of total work experience is 11.7 with standard deviation of 8.27. The average of area of house is 12.8 with standard deviation 8.5. The average of public health unit is 0.59 with standard deviation of 0.4.

Correlation coefficient tells us about the degree of linear connection among the two variables. The table of correlation matrix shows all possible correlation coefficients between a set of variables. Following table give us detail of correlation matrix of the variables used in our model.

Table: 2 Correlation Matrix of both the models.

	AGE	AH	GENDER	HHS	JT	NORMS	PHU	TWE	TEA	LPCI
AGE	1.000									
AH	0.29	1.000								
GENDER	0.09	-0.04	1.000							
HHS	0.46	0.34	-0.03	1.000						
JT	-0.19	-0.09	-0.16	-0.16	1.000					
NORMS	0.11	0.08	-0.03	0.09	0.08	1.000				
PHU	-0.13	-0.26	-0.02	-0.17	0.33	0.02	1.000			
TWE	0.91	0.29	0.17	0.42	-0.32	0.11	-0.15	1.000		
TEA	-0.23	-0.09	-0.17	-0.22	0.54	-0.03	0.29	-0.48	1.000	
LPCI	0.11	0.23	-0.09	-0.21	0.37	0.03	0.29	0.01	0.49	1.000

The results tells us that no severe issue of multicollinearity in this table. As we know that little

multicollinearity always exist, but there is no issue of multicollinearity in this models. All zero order correlation are no so high.

Table 3 table of result of model I

Dependent Variable: LOGPCI

Method: Least Squares

Sample (adjusted): 1 250

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.44	0.41	18.21	0.00
Gender	-0.07	0.09	-0.71	0.48
Norms	-0.07	0.27	-0.24	0.81
Age	0.06	0.02	2.82	0.00
SQAGE	-0.01	0.01	-1.98	0.04
AH	0.02	0.01	6.81	0.00
PHU	0.23	0.06	4.47	0.00
TEA	0.05	0.01	6.22	0.00
JT	0.12	0.06	4.47	0.00
HHS	-0.12	0.02	-6.11	0.00

R-Square: 0.49

Adjusted R-square: 0.47

n: 250

F-Statistics: 25.03

p-value of F-statistic: 0.00

S.D. dependent var: 0.49

The result of the research show that age, on job training, area of house, public health units significant variables in this research. These entire variables are significant at 1 percent level. The result shows that total education is exceedingly significant variable and is helpful to increase the income to people of Pakistan. This is the key point of our research that increases in education increase the income level in Pakistan. The coefficient of TEA is .05. The result shows that due to change in 1 year of schooling will increase income level by 5 percent and it will increase the economic development process. Coefficient of PHU is also significant and positive effect. On job training boost the capability, skills and effectiveness of the person. Coefficient of AH is 0.02 which is highly positive and significant and has positive effect on the economic development of the area. Another important variable in this research is age. Coefficient of age is .06. Due to one year increase in age will increase income by 6 percent. The sign of HHS is negative which shows that with the increase in family members, fewer resources are available to family members. It is according to the results of the previous research. There is a negative link among family size and income level. Norms and gender is insignificant variables in this research. Per capita income is not affected if people do not observe the norms of the society. Gender discrimination exists in our society. Males give preference in all the fields in our society. Most of the women are working in very low grade jobs. On the other hand mostly women are housewife in our society. We also include the age square in this research. The sign of age square is opposite to age which shows that after certain age limit working ability of the individual decreases. So in mature age the level of income decreases.

The findings of model II is exhibited in table 4. The result shows F-statistics p-value and intercept of R². The value of R² is .51. The value of R² shows that 51.7% variation in response variable is possible due to explanatory variable. Similarly the value of Prob(F-statistic) is zero which shows that the overall model is significant and good.

Table 4 table of result of model II

Dependent Variable: LOGPCI

Method: Least Square

Sample (adjusted): 1 250

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.32	0.29	28.93	0.00
Gender	-0.15	0.09	-1.59	0.11
Norms	-0.14	0.26	-0.54	0.59
TWE	0.06	0.01	5.89	0.00
SQTWE	-0.01	0.01	-3.84	0.00
AH	0.22	0.01	6.77	0.00
PHU	0.22	0.05	4.39	0.00
TEA	0.06	0.01	7.82	0.00
JT	0.13	0.01	7.82	0.00
HHS	-0.12	0.02	-6.51	0.00

R-Square: 0.52

Adjusted R-square: 0.49

n: 250

F- Statistics: 28.64

S.D. Dependent var: 0.49

P-value of F-statistic 0.00

In model II we include the total work experience. E-views is used to find out the result of the research. The results tell us that TWE is significant and positive effect on per capita income. Coefficient of TWE is .06 which shows that one year change in experience will increase the income level by 6 percent. When number of family member's increases income per capita decreases which shows the negative relationship exists between income level and number of family members. But household is significant variable in this research. On the other hand job training has significant impact on income level. It will helpful in increasing the ability and efficiency of individual. The coefficient of TEA is 0.06. TEA has significant and positive effect on income level. This show that one year of schooling will increase the income level by 6 percent. In the same way, the accessibility of public health unit is helpful for the economic development of specific area. It is significant variable in this research. Public health unit has also positive effect on income level. The coefficient of area of house is 0.02 which is positive and significant variable in this research and has positive effect on economic development. The result of this research is related to the past study. Gender and norms are also insignificant variables in this research. Reason of insignificance is explained in model one. Square of total work experience is negative and is opposite to total work experience. Square of total work experience in old age is negative effect.

7. Conclusion and Suggestions

The major purpose of this research is to find the empirical association among human and social capital formation on economic development in Pakistan. Survey is conducted for this purpose in Multan district in the month of November in 2016. The finding tells us that education, health facilities on job training working experience has positive impact on economic development in Pakistan. There is significant and positive effect of education, public health units on economic development. The norms of the society do not have impact on economic development. Government spent more on non productive purpose. In order to increase the pace of economic development, government must increase spending on basic facilities such as health and education to achieve the goal of economic development.

Investment must be increased in education sector to provide better and better education facilities. It is helpful to increase employment opportunities for the common people. Increase the health facilities and provide more facilities in the remote areas of Pakistan. Due to better health facilities life expectancy of the people increased in Pakistan. Government provides more opportunities to increase the skills abilities of to unskilled worker. Technical education is helpful to increase the abilities of common people. It is helpful to achieve the goal of development. Government should take measures to provide on job training to staff of different department. Skill building is very important for the worker. To provide employment opportunity to educated people so they can contribute towards the process of economic development. Due to increase in prices purchasing power of the people decreases. Government should serious steps to control the prices of basic facilities such as food, education etc. Government should also take steps to control population because

resources are limited and increase pressure on existing resources. Promote family planning program which are helpful in controlling the population.

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