



Secondary & Tertiary Education, Health, Investment and Human Capital in Pakistan: A Time Series Analysis

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ABSTRACT

This paper contains a new human capital paradigm that measures Pakistan's economic development and human capital formation. The aim of this paper is to empirically estimate the impact of economic growth on human capital formation in Pakistan. Human capital is used as the dependent variable with govt. expenditures on secondary education, expenditures on tertiary education, current health expenditure and GROSS fixed capital formation as the independent variables. Data is taken from WDI and the P.W.T (10) for the period of 1990-2020. This study is based on time series analysis. In this study ADF unit root and ARDL techniques are used to analyze. gross fixed capital formation, tertiary education and health expenditures are necessary tools for human capital. Tertiary education enhances the productivity of individuals in Pakistan. Findings of this analysis argued that Pakistan has paid much attention to the quality of tertiary education and on current health expenditures and also try to the improvement of the net investment. It will be beneficial for the entire country.



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1. Introduction

Human Capital Formation is defined as a process of acquiring and increasing the number of people with more education and experience which is very important for the economic and political development of a country. Human capital is defined as the amount of knowledge, skills, and abilities. The increase in human capital leads to stable economic development, which can be a solution to improve economic performance. The quality of human resources can be improved through education and health services. A healthy worker is better able to contribute to the production process than his sick counterpart. A healthier worker has ability of producing more output and he has energy and power to work efficiently. In developing countries, labor productivity is low due to ignorant behaviors in human capital investment. Health and education play vital role for economic development. The two interdependent components of human capital are health and education, that work together to make the person more useful, and also enhance the individual productivity, and make him efficient. These characteristics include values such as higher education, technical education or vocational education, health and accuracy. All activities that increase individual productivity are called creation and improvement of human capital. The creation of human capital is the process by which people in one country can produce more goods and services.

At the macro level, the value of human capital is the value of the knowledge, skills, and abilities of all employees need to ensure the long-term process of creating the value of Human capital, also the economic value of technology and work quality that affects productivity. In doing so, relatively unskilled people are provided with the tools and training, they can help the economy. The training and creation of human resources must make a significant contribution to the financial, material, and time resources that can be expected to benefit in the short or long term, depending on internal and external conditions and environmental factors. The formation of human capital is positively correlated with the investment in humans and his development as a creative and productive resource. Human capital formation is a process by which people's knowledge, skills and abilities are enhanced.

In recent years, much attention has been paid to the accumulation of human capital. Researchers examined the responsibilities of human resources in economic development and emphasized that human resources have increased significantly in many developing countries that are growing rapidly. Economic development is the process of the creation of the production of goods and services from one period to another to increase the possibilities of the economic situation.

Pakistan is rich in natural resources but lacks educated and skilled labor. Education is defined as a process that enables people to gain knowledge and understanding of higher concrete objects and special functions. Education is part of human capital, and education spending is called personal development. Education, skills, and relationship skills are the types of components that increase human capital and drive financial expansion. Education plays an important role in formation of human resources. Education can reduce unemployment in a country. Educational institutions offer many job opportunities. Education can change people's attitudes and thoughts that how education is making citizens more productive. Education has created new incentives and innovations that positively influence the growth process. Education changes narrow thinking and creates human strength for industrialization. Education plays a central part in the formation of human capital. Improve the productivity and efficiency of people. In Pakistan, we have to work to measure the cultural values of the scientific, technological, medical, engineering, and agricultural sectors and other national needs.

Education is a principal tool for the empowerment of women; therefore it is very important for women. Education offers many other benefits in addition to acquiring knowledge and value that will help you advance your society. Training develops mental development, development logic, and analytical thinking, organization, management, and management skills. Therefore, education is available to everyone. Education is also an important factor in improving parenting and healthier lifestyles. No doubt educating girls can pay off more than other investments. In Pakistan, the present government is taking decisive steps to uplift the quantity of education, but the quality of education still needs improvement.

Changes in technology involve changes in income at different levels of human capital and chance to acquire accurate skills as per the study of (Pitt, Rosenzweig, & Hassan, 2012; Rosenzweig & Zhang, 2013). To assess the economic impact, one need to understand different components of skill as well as knowledge, self-control, dedication, and effort are implications for non-economic outcomes such as physical and mental health, that are significantly influence the human well-being.

Poor parents may lack of the information and complexity to measure academic performance of their children. Given the pressures they face, they may want to develop and implement long-term plans that conclude on-going investment (incentives) and resources for their children. Given the scale and very dynamic nature of the unequal incomes, they can be very effective in reducing inequality such that "Equal Opportunities promotion".

The biggest challenge is designing a policy that can be implemented using scalable and available resources in a variety of situations. Well-designed and useful policies require a good understanding of the mechanisms that drive their impacts. The multidimensionality of human capital is identical for understanding the development process, but it is very

complex. Country-to-city destination, migration has been an important in Thailand for decades. According to the 2006 Immigration Survey, 52.56% of immigrants were male immigrants and 47.44% were female immigrants. Also, analysis of domestic immigration trends from 2007 to 2009 showed that women migrated more from rural to city and city to up built areas than men. consequently, the migration of women from the countryside to the city, and the rates of migration of women are similar to those of men. The rapid development of infrastructure, industry, and services in the eastern region increases migration to the central region, especially in Chonburi. While the employment trend has shifted from industry to services. Therefore, various research questions regarding human capital formation were raised. As long as immigrants work in the target areas, how do they accumulate human capital to increase their knowledge and work values? The results show guidelines for developing migrant women from human capital accumulation to improve personal skills in the long term.

Pakistan with a low human development index ignores the development of technology. Pakistan is unable to improve its professional and vocational skills, and it leads to low level of creative and cognitive skills, personal and social skills, leading to lost production, exports and employment, and ultimately lower living standards. Several factors contribute to this, including a foreign policy that is not focused on quality products [Atta-ur-Rahman et al. (2005)].

As Amjad (2005) noted, Pakistan has remained at a very low level of technology, and if we want to get out of this trap, we have to enter in the world of knowledge. This requires more investment in education and technology that is capable of producing goods that are cost-effective and demand-driven.

In this case, labor throughout the country includes the value of human capital. Basic learning alone cannot be measured. The level of storage and development of knowledge mainly depends on the speed of technological development. The search for knowledge determines the value of knowledge. Changes in the priority of knowledge and the importance of the value creation process can make existing knowledge unusable and outdated. Therefore, it is important to balance the value of human resources not only at the micro level but also at the macroeconomic level. It is becoming more and more obvious that human resources are complex objects of different dimensions.

The objective of the study is to empirically estimate the impact of economic development on the formation of human capital in Pakistan. The study is organized as in section two there is a brief review of a few pieces of literature. The next section of the study is based on the data and methodology and then there are empirical findings of the study. The conclusion is then the next section along with policy recommendations and in the end, the references are furnished.

2. Literature Review

Khaomin, Dianova, Kuznetsova, and Bogdanova (2021) analyzed human capital and its relationship with economic development. According to researchers, human capital was no doubt largely determined by the economic development of a country. In this regard, the objective of the study was to enhance the prerequisites for the improvement of human capital in the current economic space. This paper presented the results of the research by using the wide range of stated questions relating demography, health, education and culture. These dimensions were taken from the argument of the possibility of the influence on human capital. The accumulation of innovations, the use of human capital management functions, integrative, technological approaches and human capital investment management are projected as future trends for human capital building.

Ismayilzade et al. (2021) explained in the study conducted in 2021 the impact of Covid19 on the quality of human capital and economic development of Azerbaijan. The objective of the research work was to develop an approach for the empirical judgement of qualitative control of HC in a developing economy like Azerbaijan during the worldwide economic pandemic crisis. The questionnaire method was adopted for data collection tool. On the basis of a survey of 7,232 people from July to September 2017-2020, the method of linear regression modeling was used. It was empirically found that there was a statistically

significant influence of COVID-19 on the level of economic development of the country and on qualitative indicators of the development of HC.

Another research work conducted by (Zhang, Ruan, & Health, 2020), the researchers examined the relationship between the regional natural disasters' frequency and long-term growth in human capital. The paper aimed to explore long-term causality of natural disasters and human capital growth by using macro and micro data base. The dependent variable of the study was taken human capital stock of each district. The significant explanatory variables were the average frequency of floods and droughts during the period 1500-2000. Since a climatic disaster was considered as an exogenous shock and a structural break, it directly affected domestic agricultural productions. A cross-country empirical analysis showed that higher frequencies of natural disasters were correlated with higher rates of human capital stock. Therefore, the experience of natural disasters will influence the human inclination for investing human capital rather than physical capital.

Ayuwat, Saithong, Chinnasri, and Sciences (2019) to analyze the determinants of human capital accumulation of migrant women at destination along with the variables deciding human capital collection among northeastern zones. The information assortment period was in January 2018 gathered by interview. An information examination was done with the Way investigation with the STATA program. Human capital accumulation acted as a dependent variable and directly influenced by the factors that were female migrant attributes; marital status and dependency ratios in families, factors that indicate migration. It was discovered that age and education, social capital factors; enrollment directly affected human capital accumulation through single marriage status and it was highly significant.

Mirgorodskaya, Kushnazarova, Lukashenko, and Zakharova (2019) analyzed the target of studying the defense of the auxiliary and the meaningful premise of competitiveness, just as created or adjusted instruments and techniques for assessing its parts. The researcher utilized the formula for computing the volume of the random sample example to decide the necessary measure of the observational base. The volume of the observational base of the employers was 150 units. 430 perception units were dependent upon essential investigation. Human capital was taken as the dependent variable.

Sipa (2018) examined the factors that determine the creativity of human capital under the conditions of sustainable development. Sustainable development and innovation were challenging those contemporary enterprises and economies must face. Increasing innovations required adequate resources, broadening the knowledge of the processes of creativity. Creation and innovation would make it possible to achieve greater productivity of human resources in the company. The main objective of the compilation was therefore to identify the factors that determine the creativity and innovation of labor resources in Polish and Slovakian economic entities. An analysis had been carried out which made it possible to indicate the similarities and the differences which appeared in the countries examined. The conclusions were based on the author's research which was conducted in the first quarter of 2017.

Ali, Bajwa, and Batool (2016) provided the empirical bond between private resources and economic enlargement in Pakistan. This analysis used secondary data recorded from 1974 to 2014 from WDI. ADF test applied on secondary data to test the stationarity of variables and it was established that variables were integrated at a mixed order so ARDL procedure was used to estimate long-run relationships between variables. Human capital was taken as dependent variable and to bring into being positively associated with inflation, labor force, and govt. fixed capital formation, but it was in the negatively connected with foreign direct investment. The Government must improve human capital for economic growth progression was a requirement to create awareness of technology, training, skills of human capital.

van Hoorn (2016) investigated a particular micro-level channel through which county where origin of culture influenced human capital accumulation included culture's impact on people's manners. The researcher utilized the total information record from secondary data, which covers six waves of information gathered in 2002, 2004, 2006, 2008, 2010, along with 2012 (European Social Overview 2014) structure the bi-annual European Social Review

or ESS. The human capital accumulation was taken as a dependent variable and a set of different factors were as independent variables. With a huge scope and top-down social change didn't show up entirely.

Yu and Koltun (2015) broke down the elements that decided financial development and its variances, the degree to which monetary development converted and upgraded human conditions. Specialist attempted to decide how the procedure of monetary development interpreted human capital formation in different social orders were characterized as the whole range through which human capacities were extended and used human capital taken as a dependent variable and which incorporated various segments of expected human and Social capital, procurement, accessibility human and adequacy. Human and Social capital was expanded significantly by profitability and monetary development.

Cingano (2014) examined the long-term rise in the income inequality in OECD countries. The investigation utilized annual data from 1970 to 2010 from OECD annual National Records. Gini coefficient was used to check income inequality in OECD. Income Distribution Database (IDD) was preferred in OECD countries that showed an indirect impact on human capital. It was treated as a dependent variable. However, this paper suggested that it needed extra significant to focus on inequality at the bottom of the income distribution, giving out and policymakers looked-forward to get them out of trouble about the bottom 40%.

Liepe, Sakalas, and management (2013) gave the Human Capital assessment at the small scale and deciding the fiscal estimation of Human Capital at the large scale level. The computations had been chosen from two lists: Human improvement list (Undp, 2012); and Record of deep-rooted learning - support in preparing, the age gathering of 15-64 years (Eurostat, 2012). The Human Capital was taken as dependent variable for estimation at the full-scale level. Human Capital value base, Human Capital value devaluation, Human Capital value recuperation Human Capital value modification were taken as explanatory variables. The introduced procedure for the human Capital value assurance at the large scale level assessed the pace of genuine wages at the national level, the pace of information deterioration and recovery. The examination was critical in investigating the choices of the HC esteem assurance at the economy, branch - full-scale level.

The study of (Castelló & Doménech, 2002) provided the indicators of human capital inequality in a large sized sample of countries, and to consider their influences on the economic growth process. The investigation utilized information from secondary data ranged from 1960 to 2000. The objective of the thesis was to make available new HC inequality measures, which permit us to comprise a primary approximation of the association between these indicators of entire groups of countries and economic growth. Gini coefficients were utilized; that demonstrated the low relationship between the HC and the income. Gini coefficient was taken as the dependent variable and population, education as autonomous factors. Policies, recommended that development ought to consider the levels regarding the distribution of education, summing up the excess for education at various stages to a more extensive segment of the population.

3. Data and Methodology

This part is used to work out and take a look at the topic of analysis through empirical observations. There is a discussion on the sources of information set and methodology that this study will use for empirical results.

3.1. Data and Method

Data is collected from secondary sources and it is statistical information covering from 1990-2020. Data on Government expenditure on secondary education, Expenditure on tertiary education, Current health expenditure, Gross fixed capital formation and Human capital (HC) are collected from W.D.I 2021 and Penn World Table (10.0).

In the start of the analysis, the application of Correlation Matrix helps us to identify the severity of Multicollinearity. As presence of Multicollinearity is obvious, therefore the

computation of correlation matrix is to check its severity. The correlation matrix and ARDL Approach is applied by the help of statistical software E-Views 9.0. For the purpose of analysis, unit root test will be applied for checking stationarity of results and then ARDL technique will be applied to find out the Econometric results.

Unit Root Test that assesses the stationary behavior of the variables using the Augmented Dickey Fuller (ADF). The unit root test is to determine the order of integration.

3.2. Specification of the model

Mathematical model of the study is formulated as;

Human Capital = f (Expenditure on Secondary Education, Health Expenditure, Expenditure on Tertiary Education, Gross Fixed Capital Formation)

The same model may be written in equation form;

$$HC = \alpha_1 + \alpha_2 ESE + \alpha_3 ETE + \alpha_4 HE + \alpha_5 INV + u_i \quad (1)$$

Where, HC is Human Capital, ESE is Government expenditure on Secondary Education (% of GDP), ETE is Expenditure on tertiary education (% of Government expenditure on education), HE is Current health expenditure (% of GDP) and INV is Gross fixed capital formation (% of GDP).

3.3. Definition of Variables

3.3.1. Human capital (HC)

Human capital used as a dependent variable during this study. HC is a vital indicator of economic development. The investment in human capital can enhance the productive capacity of the country. Human capital such as knowledge, skills of individuals can work more efficiently in any profession. So, human capital may be the progress of any country and skillful individuals to expand the country which might be helpful for the export of any country.

3.3.2. Gross fixed capital formation (INV)

Gross Fixed Capital Formation is net investment. To be an additional angle, Gross Fixed Capital Formation measures an increase in fixed capital or produces assets after removing the disposals.

3.3.3. Government expenditure on secondary education as percentage of GDP (ESE)

Government expenditure on secondary education as percentage of GDP (ESE) (current, capital, and transfers) is expressed as a share of gross domestic product. Fortunately, we all know from the economic theory of human capital that a considerable part of the total value of human capital accumulation has nothing to do but to deal with the expenditures of governments and personal agents for education found in official statistics. This is the price that incurred directly by the persons seeking education in sort of gone earnings.

3.3.4. Current Health Expenditure (HE)

Current health expenditure is expressed as a percentage of GDP. Current estimates of health expenditure include health goods and services consumed during a year. Pakistan's Expenditure as a percentage of GDP has gradually increased from 2000 to 2019, to 3.4%. On the first hand, health expenditure can be considered as an investment in human capital. The accumulation of human capital is therefore seen as a cause of economic growth, for example, through increased productivity. On the other hand, an increase in health expenditure can improve the workforce and enhance the productivity of an individual.

3.3.5. Expenditure on tertiary education (ETE)

Expenditures for higher education are delineated as total expenditures for the highest level of education cover out-of-pocket expenses for colleges, universities, and various personal institutions that provide supportive academic services. Expenditure by firms or persons are based totally on training of human capital is additionally taken under consideration besides the analysis and development by academic institutions.

4. Results and Discussion

In this section, results of unit root test and ARDL Approach are given.

4.1. Unit Root Test Results

The ADF unit root results are shown in table 1. Human Capital, Gross Fixed Capital formation, Government expenditure on tertiary education and current health expenditure are stationary at 1st difference but only Government expenditure on secondary education variable is stationary at level. Above table shows the mixed order of integration so study applies ARDL approach for finding econometric results.

Table 1
Augmented Dickey Fuller test

Variable	Test for unit root in	by including	t-value	Probability	Remarks
HC	1 st	None	-2.17393	0.0309	I(1)
INV	1 st	Intercept	-4.85174	0.0005	I(1)
ESE	Level	Intercept	-3.12736	0.0351	I(0)
ETE	1 st	Intercept	-5.58472	0.0001	I(1)
HE	1 st	Intercept	-4.30757	0.0021	I(1)

4.2. Correlation Analysis

The correlation matrix is pair wise estimated coefficients of all variables used in the study and the table 2 presents the results. The results of correlation coefficient indicate that all explanatory variables are not strongly correlated with one another and there will be no serious consequences of Multicollinearity in the explanatory variables.

Table 2
Correlation Matrix

Variables	ESE	INV	ETE	HE
ESE	1			
INV	0.113053	1		
ETE	0.038929	-0.3447	1	
HE	0.241485	-0.04537	-0.27932	1

4.3. ARDL Bound Test Results

The bound test result shows the existence of long-term relationship between variables. The results given in table 3 confirm the existence of long-term Cointegration among variables.

Table 3
ARDL Bound testing Approach

Equation	Calculated value of F-Statistics	Critical Value Bounds		Conclusion
HC = f (ESE, ETE, HE, INV)	5.17193	I0 Bound	I1 Bound	4
	Significance	10 Bound	11 Bound	Co-integration Exist
	10%	2.2	3.09	
	5%	2.56	3.49	
	2.50%	2.88	3.87	
	1%	3.29	4.37	

The value of F-statistic is 5.17193 with number of parameters 4. This value of F-statistic is greater than the value of upper bound (I0 bound) at 5 percent level of significance as reported in table 3. It verifies the existence of long run relationships among variables used in this study.

4.4. ARDL Longrun Results of Human Capital Model

The results reported in table 4 show that the Human capital of Pakistan depends on various independent variables that are Government Expenditure on Secondary Education, Government Expenditure on Tertiary Education, Health expenditure (HE), Gross Fixed Capital Formation. The two independent variables (HE and ETE) are positively and significantly impacted the human capital and other two independent variables (ESE and GFCF) are negatively but significant impacted human capital.

The impact of Government Expenditure on Secondary Education and Gross Fixed Capital Formation on Human capital in Pakistan is negative, but significant for longer period. The co-efficient is -0.31413 of Government Expenditure on Secondary Education. The existence of negative Government Expenditure on Secondary Education is evidence to the fact that there might be a possibility of corruption in the expenditure on education in Pakistan. The educational expenditures are not being utilized properly. The real-world theories claimed that when Government Expenditure on Secondary Education raises it will increase the human capital formation, but in the analysis of Pakistan, result shows the opposite.

The long run coefficient (-0.0643) of independent variable Gross Fixed Capital Formation shows that is negative, but highly significant impact on Human Capital. Gross Fixed Capital Formation is not playing an important role in the formation of human capital in Pakistan.

The long-run co-efficient (0.775556) of Health Expenditure shows that its positive relation with human capital in Pakistan and highly significant relationship exist. This type of expenditure is useful for Pakistan's economic development. The Health Expenditure also utilize efficiently, the government should take action and should more focus on the expenditures because if the peoples of any country are healthy, they will give their best. It will increase the individual efficiencies of work which play important role in the development of human capital in Pakistan.

The coefficient of Government Expenditure on Tertiary Education is 0.012895 shows that is positive and significantly impacted Human Capital. This type of expenditure is useful for Pakistan's economic development. The Government Expenditure on Tertiary Education also utilizes efficiently and so that it can perform its vital role in the development of new human capital in Pakistan.

Table 4
ARDL Long Run Results of Human Capital Model

Variables	Coefficient	Std. Error	t-Statistic	Probability
HE	0.775556	0.040891	18.96637	0.0000
ESE	-0.31413	0.033306	-9.43164	0.0007
INV	-0.0643	0.002243	-28.6744	0.0000
ETE	0.012895	0.001312	9.825352	0.0006
Constant	1.016399	0.128804	7.891037	0.0014

The human Capital short-run results of ARDL are given in table 5 with short-run coefficients, t-statistic and standard errors and probability values. In the short run, without lagged terms, Gross Fixed capital Formation is negative with Human Capital. While it lagged term is also negative as well as positive with Human capital. Expenditure on tertiary education (ETE) is positive as well as negative with Human capital. Without lagged terms, Health Expenditure is positive with Human Capital. While it lagged term is negative with Human capital. But Government Expenditure on Secondary Education is positive in both without lagged terms and lagged term. Making an allowance for them i.e. Error Correction

term, it is negative which shows that the short-run results would be converged towards long run results if the presence of any disequilibrium in the short run.

Table 5
ARDL Short Run Results of Human Capital Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(HC(-1))	0.685052	0.162494	4.215869	0.0135
D(HC(-2))	3.077326	0.538899	5.710395	0.0047
D(HE)	0.114452	0.013298	8.606493	0.001
D(HE(-1))	-0.1002	0.012309	-8.14087	0.0012
D(HE(-2))	-0.13734	0.010548	-13.0204	0.0002
D(ESE)	0.025696	0.005024	5.114896	0.0069
D(ESE(-1))	0.055762	0.0103	5.413702	0.0056
D(ESE(-2))	0.027848	0.008903	3.128	0.0353
D(ESE(-3))	0.043183	0.006297	6.857832	0.0024
D(INV)	-0.00772	0.001573	-4.91054	0.008
D(INV(-1))	-0.00693	0.001403	-4.93896	0.0078
D(INV(-2))	0.01787	0.00231	7.736576	0.0015
D(INV(-3))	-0.01329	0.001629	-8.15676	0.0012
D(ETE)	0.004736	0.000848	5.582831	0.005
D(ETE(-1))	-0.00082	0.00027	-3.02692	0.0389
D(ETE(-2))	-0.00042	0.000227	-1.83834	0.1399
D(ETE(-3))	0.002138	0.000394	5.420946	0.0056
CointEq(-1)	-0.51225	0.058953	-8.68922	0.001

5. Conclusion

The findings of the study are obtained by using ARDL approach as explanatory variables are integrated at different level of integration. The model results indicate that Government Expenditure on Secondary Education and Gross Fixed Capital Formation are having a significant but negative impact on human capital.

Government Expenditure on Secondary Education has a negative impact on human capital. This means that the level at which the expenditures are planned and made, these are not increasing human capital. Government Expenditure on tertiary education is being used properly in Pakistan because Government Expenditure on Tertiary Education is positively and highly significant in relation with human capital. At the level of tertiary education, it serves well and is a valuable complement as it should be. There is evidence that Pakistan has paid much attention to tertiary education.

In general, developing countries tend to spend a higher percentage of GDP on investment that leads to boost the human capital formation. Countries with rapid economic development invest heavily in more fixed assets to achieve rapid economic development. But contrary, the results for Pakistan show the lowest rates of gross fixed capital formation and hence it has ineffective impact on human capital.

The government should be focused on the quality of govt. institutions of secondary education by reducing corruption and leakages from funds. So that good quality of secondary education can be enhanced and rich human capital in the form of doctors, teachers, technicians, etc., can be created in our country. Those who are employing highly qualify workers from abroad must engage their labor force as much as possible. By focusing on govt. institutions of secondary education, not only there will be a skilled labor force but the per capita income of the people of its own country will also increase. The government should take steps to increase the enrolment ratio for govt. institutes of education. The government of Pakistan should improve the training levels of education and adopt the practical education system all over Pakistan rather than only rely on bookish knowledge.

Reference

- Ali, H., Bajwa, R., & Batool, H. J. S. L. E. J. (2016). Human capital and economic growth in Pakistan. *1*(10). doi:10.15520/sslej.v1i10.17
- Ayuwat, D., Saithong, S., Chinnasri, O. J. J. o. S., & Sciences, P. (2019). Determinants of Human Capital Accumulation of Female Migrants in the Destination. *2*(2).
- Castelló, A., & Doménech, R. J. T. e. j. (2002). Human capital inequality and economic growth: some new evidence. *112*(478), C187-C200. doi:10.1111/1468-0297.00024
- Cingano, F. (2014). Trends in income inequality and its impact on economic growth.
- Ismayilzade, A. A., Guliyeva, S., Teymurova, V., Azizova, R., Alishova, C. J. J. o. E. E., & Research, C. A. (2021). The impact of Covid-19 on the quality of human capital for the economic development of Azerbaijan. *8*(1), 26-39. doi:10.15549/jeecar.v8i1.639
- Khaomin, D., Dianova, Y. A., Kuznetsova, M. A., & Bogdanova, I. O. (2021). *Human Capital and Economic Development*. Paper presented at the International Scientific and Practical Conference Operations and Project management: strategies and trends.
- Liepe, Z., Sakalas, A. J. E., & management. (2013). Determination of Human Capital Value in Macro Level. *18*(2), 296-304. doi:10.5755/j01.em.18.2.4101
- Mirgorodskaya, A. B., Kushnazarova, R. A., Lukashenko, S. S., & Zakharova, L. Y. J. J. o. M. L. (2019). Self-assembly of mixed systems based on nonionic and carbamate-bearing cationic surfactants as a tool for fabrication of biocompatible nanocontainers. *292*, 111407.
- Pitt, M. M., Rosenzweig, M. R., & Hassan, M. N. J. A. e. r. (2012). Human capital investment and the gender division of labor in a brawn-based economy. *102*(7), 3531-3560. doi:10.1257/aer.102.7.3531
- Rosenzweig, M. R., & Zhang, J. J. J. o. D. E. (2013). Economic growth, comparative advantage, and gender differences in schooling outcomes: Evidence from the birthweight differences of Chinese twins. *104*, 245-260. doi:10.1016/j.jdevec.2013.01.002
- Sipa, M. J. E. J. o. S. D. (2018). The factors determining the creativity of the human capital in the conditions of sustainable development. *7*(2), 1-1.
- Undp, A. (2012). *Africa Human Development Report 2012 Towards a Food Secure Future*. Retrieved from
- van Hoorn, A. J. A. a. S. (2016). The Cultural Roots of Human Capital Accumulation.
- Yu, F., & Koltun, V. J. a. p. a. (2015). Multi-scale context aggregation by dilated convolutions.
- Zhang, Z., Ruan, J. J. I. J. o. E. R., & Health, P. (2020). Do Long-Run Disasters Promote Human Capital in China?— The Impact of 500 Years of Natural Disasters on County-Level Human-Capital Accumulation. *17*(20), 7422.