Journal of System Management (JSM)
Online ISSN: 2538-1571, Print ISSN: 2322-2301
Doi: 10.30495/JSM.2023.1969198.1717
9(2), 2023, pp. 183-195

Received: 23/11/2022
Accepted: 25/01/2023

RESEARCH ARTICLE **Open Access**

The Effect of Financial Development on Human Development in Selected Development Countries Using GMM Method

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Abstract
In the development process, achieving a better life and increasing well-being is achieved by focusing on access to a life of health and knowledge. The main purpose of this study is to investigate the effect of financial development on human development, including life expectancy and primary enrollment rates in developing countries by gender in the period 2016-2020. The experimental model of this research was estimated using the Generalized method of Moments (GMM) panel method and the variables of facilities granted to the private sector, the ratio of money to GDP, the degree of openness of the economy, the effect of educational expenditures and health expenditures. The results of model estimation indicate that the facilities granted to the private sector have a positive and significant effect on human capital. The effect of the ratio of money supply to GDP is negative due to the destructive effect of inflation on all models. The coefficient of degree of openness of the economy in all models (except the female registration rate) is positive and significant. Educational expenses have a positive and significant effect on the male and female registration rate as well as men's life expectancy. The effect of health expenditures is also positive and significant in most models (life expectancy of men and women as well as women's registration rate). Therefore, governments should pay attention to encouraging exports, reforming the tariff system based on encouraging the import of capital goods, currency stability, facilitating banking transactions, facilitating the conditions for opening letters of credit.

Keywords*: Financial development, Human development, Life expectancy, Initial enrollment rate, Generalized method of Moments*

Introduction

Human capital is a comprehensive economic view of people active in the economy. Human capital is the only institution that can change or adjust other production inputs while changing itself and provide a basis for innovation and lead to economic growth on a large scale. Physical capital will be more productive only when the country has the necessary amount of human capital. Now, the most important issue in this regard is the issue of the health of the human force because any damage to the health of the human force can reduce the efficiency of the investments made regarding the human force, including the investment in the training of the workforce and the cultivation of skilled and specialized workforce, and as a result reduce the efficiency of human power, which is the most important factor of economic growth and the factor of creating innovation (Verhrami & Kollivand, 2021). Human development index is one of the most important indicators of development. This index was created by emphasizing three basic criteria of development, i.e. healthy and long

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life, access to knowledge and having a suitable standard of living. Human development index, unlike the previous indicators of development, such as per capita income, focuses on broader aspects of development and makes human the center of development. While this index is a measure to measure citizens' well-being, it can also measure the effect of economic policies on citizens' quality of life. Financial development entered the economic literature after examining the relationship between the real sector of the economy and the financial system. Financial development is a process that leads to the development of financial intermediary services in terms of quality, quantity and efficiency. Financial development by affecting economic growth can play an effective role in the development process (Barkhordari et al, 2018, Stanton, 2007)

One of the ways to achieve this is the use of technology and new technologies that Ardehi et al, (2022), In the research, designed a model to implement the fourth generation industry to achieve the goals of sustainable development in the automobile industry. Also, one of the signs of movement and achieving sustainable development is the performance of the country's capital market and economy. In a study by Keshavarz et al, (2022), Investigated trading strategies based on trading systems in Iran's capital market as a developing economy. In this study, the effect of financial development on human development in selected developing countries is investigated. In the following, a review of the literature and the background of the research is done, then the methodology of the research is reviewed, and then the findings, discussion and conclusions are presented.

Literature Review

The financial sector plays an increasing role in economic growth and development in the global economy (Nguyen et al, 2022). Financial development renders investments attractive and encourages countries by increasing the efficiency of financial markets and economic activities (Kevser et al, 2022). According to Levine (1997), a well-developed financial institution is a key to the economic growth of the country as it acts to reduce the risk/uncertainty through well-organized risk management processes, effective sharing and utilization of saving by lowering the cost of transaction and access to financial institutions, monitoring transactions through proper regulatory bodies to promoting efficient market and comfort in trade by exchanging of goods, services, knowledge, technology and innovation (Sarwar et al, 2020).

Financial development is a multi-dimensional process, including financial institutions and the financial market. Financial institutions include banks, insurance companies, and other institutions (Ma et al, 2022). Financial sector development measures the stability, strength, and effectiveness of the financial institutions. It includes financial intermediation, depth, and access to the financial market (Arif, Khan, 2019). Financial development is beneficial for the final good sector whilst the intermediate good sector does not require financing. Thus, countries with more developed financial systems specialise in final goods while those with less developed ones specialise in intermediate goods (Maria Caporale et al, 2022). Financial development entered the economic literature after examining the relationship between the real sector of the economy and the financial system. Financial development is a process that leads to the development of financial intermediary services in terms of quality, quantity and efficiency. Financial development can have an effective role in the development process by affecting economic growth. Empirical studies such as (Levin, 1997) and (Singh, 2008) have shown the positive impact of financial development on economic growth. Some studies focus on the links between financial development, economic crises, and international trade, especially on the impact of the global financial crisis of 2007–8 on international trade. They find that banking crises amplify

the adverse effect of external financial dependence on the growth rates of exports by sector. Trade transactions involve some form of credit, insurance or guarantee, thus the supply-side driven shortages of trade finance have the potential to inflict further damage on international trade. Other studies are based on the feedback hypothesis according to which international trade and financial development interact with each other, their main conclusion is that the causal linkage between trade and finance is country-specific (Maria Caporale et al, 2022).

With the growing importance of human development, the sustainable development goals(SDGs) have explicitly incorporated human development within four of its goals (no poverty, good health and well-being, quality education and decent work) and implicitly through two of them (zero hunger and peace), to be achieved by the year 2030. These goals, if realized, are expected to promote human development eventually. On the other side, as the world economy becomes more integrated, great attention is given to financial inclusion, which is considered a trending topic not only for global financial institutions such as the World Bank (WB) and the International Monetary Fund (IMF) but also for governments and regulators in many countries The link between financial inclusion and human development exists nearly in most fundamental development theories. For instance, Schumpeter (1912) comes up with the finance–development nexus asserting that a developed and well-functioning financial sector is necessary for involving effective entrepreneurs in technological innovation. Moreover, Solow(1956) argues, through his growth model, that savings will increase per capita output leading to an upward shift in the whole production function. Also, Hicks (1969) states that financial development could have a significant contribution to savings and investment inputs. This will further promote output in the economy through capital accumulation channels and through technological enhancements as asserted by Schumpeter. Levine (1997) highlights the role of the financial sector in boosting innovation and production, where savings are pooled through the financial sector having a positive impact on economic growth and development. Empirically, Mohieldin et al, (2019) examine the relationship between the financial sector development and economic growth in Egypt from 1980 to 2016 based on comparisons of critical financial indicators between Egypt and selected emerging markets and developing countries. The study reveals a strong association between real growth per capita and financial development measured by money supply to GDP(Abdel ghaffar et al, 2021).

A group of endogenous growth models pointed to financial development limited to financial liberalization with an emphasis on interest rate liberalization, but monetary and banking crises and the costs resulting from them made the process of financial development and its implementation in countries more complicated and emphasized and paid attention to the dimensions It revealed a broader financial development plan. (Baitencourt, 2012; Izhar khan & Ahmed, 2012). By reviewing Amartiasen's articles, (2000); can see that the human development approach takes its main foundation from Amartyasen's Capabilities approach, which is "a person's ability to make different choices and achieve the corresponding level of well-being". Such an approach believes that people should be the focus of attention and not the growth rate and other quantitative economic variables. Ultimately, these views and theories led to the publication of the Human Development Index by the United Nations Development Program in 1990. In the conventional view, financial development is considered a prerequisite for economic growth. In this view, it is claimed that the good performance of the financial system can improve the efficiency of the entire economy, create and expand liquidity, mobilize savings, increase capital formation, transfer resources from traditional sectors to modern sectors, and also promote the entrepreneurs of these sectors.

(Beltaji, 2021). Inequalities in human development in the 21st century, 1.Beyond income: understanding differences in aspects of human development other than income and the processes that lead to them. 2.Beyond average: going beyond summary measures of inequality that focus on a single dimension. 3.Beyond today: Recognising that inequalities in human development will shape the prospects of people that may live to see the twenty-second century (Jain, 2020). The human development index is ranked based on a high standard of living, good health, low mortality, and a high quality of education as well as education coverage (United Nations Development Program [UNDP], 2018). Aziz and Denvald, (2002), stated three methods of influencing financial development on economic growth as follows: 1- Financial development reduces the final production of capital by collecting information to evaluate alternative investment projects and reduce risk. 2- By creating proportionality

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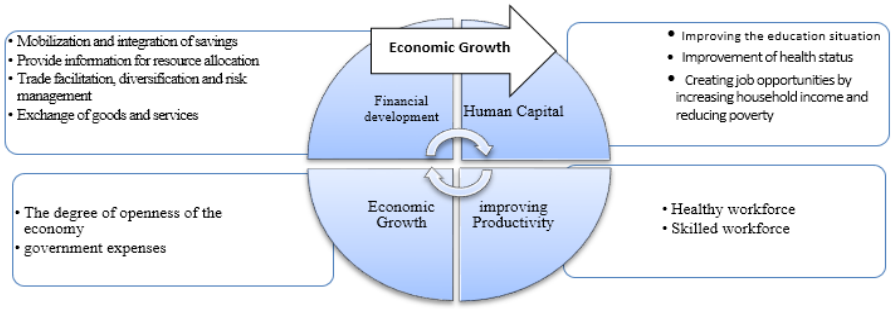

Figure 1. *Channels of the effect of financial development on human capital (Aziz & Denvald, 2002)*

In new studies in the field of financial development and economic growth, one of the influencing channels of financial development on economic growth is the effect that financial development has on human capital (Johnson et al, 2009). Beck et al,(2000) & Odhiambo,(2009) are among the researchers who have come to the conclusion in their research results that the financial market promotes economic growth through improving the health and education status and consequently increasing life expectancy and reducing poverty. can improve Therefore, in their study, they point out the role of health and education in improving people's lifespan, which is rooted in the improvement and development of the financial market. Kalsen & Feijin(2006) have drawn the link between financial development and human capital as follows:

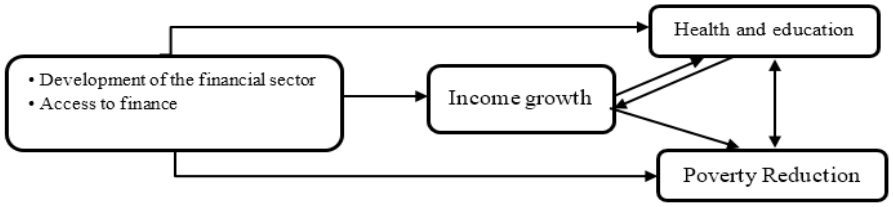

Figure 2. *Mutual effects of the financial sector and human development indicators (Kalsen & Feijin, 2006)*

In this model, financial development directly and indirectly affects human capital indicators (health and education). The indirect effect of the development of the financial sector occurs through two channels; 1- through income growth, 2- through poverty reduction. Financial development, with its effect on the growth of people's income, improves the state of education and health, which by improving the state of education and health as pillars of human capital, based on the theories of economic

growth, leads to an increase in income and economic growth. Gohri et al, (2016), in another study, investigated the effect of financial development on human capital using the ARDL model. The results show that financial development has a positive and significant effect on human capital in the short and long term, so that the degree of influence In the long term, it is more than the short term.

Sohrawat & Ghairi (2017), in the research, have investigated the relationship between financial development indicators and human capital. The results of the causality test have also shown that the causality is from the direction of financial development and economic growth and public expenditure on education towards human capital. Sharma, (2016), in an article, has investigated the effect of financial development, human capital and also the cross effect of these two on economic growth using panel data method. Nguyen et al, (2022) They did the research "Does financial development matter for economic growth in the emerging markets?" Despite an increasing focus on the nexus between finance and growth, little is known about the growth effect of financial development in emerging markets. We also find solid bidirectional Granger causality between financial development and economic growth in all proxies for financial development.

Jain (2020), They did a research Human Development, Gender and Capability Approach, Indian Journal of Human Development. Finally, it discusses the case of Kerala state to understand the complex nature of human development. The state made strides in education and health, but rising inequalities, gender violence and ecological changes remain major concerns. Varahrami & Kolivand (2021), In the research, investigated the environmental effects of pollutant emissions on economic growth with emphasis on the human development index of selected oil countries, scientific quarterly of environment and cross-sectoral development. The results showed that environmental pollution has a negative and significant effect on the health index and the human development index. Barkhordari et al,(2018) In the research, investigated the impact of financial development on human development in developing countries, focusing on the institutional, social and economic characteristics of the financial economy. The results showed that in developing countries, the governance efficiency index has a significant relationship with HDI, but two other control variables, namely the ratio of urban population to the total population and national income per capita have a direct and strong relationship with HDI. As can be seen from the previous studies, no specific study has been conducted on the relationship between financial development and human development index in Iran. These studies, like foreign examples, have mainly addressed the role of the financial system (not financial development) in human development for a specific country and have considered variables such as human capital as an indicator for human development. While in this article, the focus is It was based on the relationship between financial development and human development index. Another point is that by considering the main indicators of financial development, the research econometric model has been estimated for developing countries.

Research Methodology

The current research is a descriptive-analytical research. The statistical population of the research includes all developed and developing countries, which were selected based on the report of the United Nations Human Development Program (UNDP). The statistical sample of the research according to the statistical limitations (data related to the Gini coefficient index and the average years of education), a selection of countries in the world based on the division of the United Nations Human Development Program report in 2016, including 24 developing countries (Azerbaijan, Bangladesh, Brazil, Bulgaria, Cameroon, Colombia, El Salvador, Gambia, Ghana, Indonesia, Iran, Kyrgyzstan,

Lebanon, Malaysia, Mexico, Moldova, Nepal, Peru, Senegal, South Africa, Tajikistan, Thailand, Togo and Ukraine) for the period It is from 2016 to 2020. Information and data needed to answer research questions and test hypotheses through library sources, documents, documents of organizations and official institutions, statistical tables of the World Bank and data banks, Center for Statistics and Global Studies, International Labor Organization and Iran Statistics Center. Several indicators for measuring financial development have been stated in the studies. In this study, the effect of indicators on human development including life expectancy and primary enrollment rate by gender will be investigated. became. The Generalized method of Moments (GMM) was used to analyze the data. The advantage of using the dynamic data panel method is to consider individual heterogeneity and more information, to remove the distortions in cross-sectional regressions, which will result in more accurate estimates, with higher efficiency and less collinearity in this method. In this research, in order to estimate the relationship between human capital indicators as a dependent variable and independent variables such as financial development indicators, government expenditure, education expenditure, health expenditure and the degree of openness of the economy for developing countries by gender, which is based on the index Human development has been divided, the following basic models have been used:

(1) $LE_{FL} = \alpha_0 + \alpha_1(M2/GDP)_{it} + \alpha_2(CR/GDP)_{it} + \alpha_3(G/GDP)_{it} + \alpha_4(IH)_{it} + \alpha_5(IE)_{it} + \alpha_6(X+M/GDP)_{it}$

(2) $LE_{ML} = \alpha_0 + \alpha_1(M2/GDP)_{it} + \alpha_2(CR/GDP)_{it} + \alpha_3(G/GDP)_{it} + \alpha_4(IH)_{it} + \alpha_5(IE)_{it} + \alpha_6(X+M/GDP)_{it}$

(3) $EG_{FL} = \alpha_0 + \alpha_1(M2/GDP)_{it} + \alpha_2(CR/GDP)_{it} + \alpha_3(G/GDP)_{it} + \alpha_4(IH)_{it} + \alpha_5(IE)_{it} + \alpha_6(X+M/GDP)_{it}$

(4) $EG_{ML} = \alpha_0 + \alpha_1(M2/GDP)_{it} + \alpha_2(CR/GDP)_{it} + \alpha_3(G/GDP)_{it} + \alpha_4(IH)_{it} + \alpha_5(IE)_{it} + \alpha_6(X+M/GDP)_{it}$

LE: Indicates hope for life, EG: indicating the enrollment rate in primary education, M: Indicates the amount of money, CR: indicates the loan granted to the private sector, G: current government expenditure, IH: Investing in Health, IE: Investment in Education, X: Export of goods and services, M: Import of goods and services, GDP: gross domestic product, ε_{it} : Error sentences, α_k : Amin coefficient of the explanatory variable, i,t : according to time and selected country

Research Findings

Among the issues that need to be checked before estimating the model, is the issue of the mean of time series of variables. Table (1) shows the results of LLC, IPS and ADF unit root test for selected developing countries of the world:

Table 1. *The results of LLC, IPS and ADF test for selected developed countries of the world*

(LLC) Levin, Lin, Cho tests						
Variable	At the level and with the width of the origin			with one differentiation		
	statistics	Prob.	Condition	statistics	Prob.	Condition
Le-male	-10/28	0/000	static	-6/3467	0/000	static
Le-female	-14/50	0/000	static	-6/5567	0/000	static
School-male	-0/957	0/164	unstable	-1/45	0/072	static
School-female	40/49	0/000	static	-4/35	0/000	static
Government	-2/17	0/014	static	--	--	--
Openness	-4/403	0/000	static	--	--	--
Credit	1/318	0/906	unstable	-4/16	0/000	static
Money	-0/202	0/419	unstable	-7/10	0/000	static

Education	1/377	0/084	unstable	-3/090	0/001	static
Health	-3/088	0/000	static	-8/26	0/000	static
Im, sons and Shin test (IPS)						
Le-male	-9/500	0/000	static	-7/711	0/000	static
Le-female	-17/05	0/000	static	-10/619	0/000	static
School-male	1/71	0/957	unstable	-2/520	0/005	static
School-female	0/770	0/779	unstable	-2/890	0/001	static
Government	-0/903	0/183	unstable	-6/830	0/000	static
Openness	-2/656	0/003	static	--	--	--
Credit	4/095	1/000	unstable	-3/850	0/000	static
Money	3/66	0/999	unstable	-7/330	0/000	static
Education	-2/47	0/006	static	--	--	--
Health	-0/038	0/484	unstable	-5/890	0/000	static
Generalized Dickey Fuller (ADF)						
Le-male	163/20	0/000	static	149/623	0/000	static
Le-female	266/42	0/000	static	195/630	0/000	static
School-male	33/12	0/949	unstable	74/88	0/002	static
School-female	55/26	0/219	unstable	77/49	0/001	static
Government	57/95	0/153	static	--	--	--
Openness	75/43	0/006	static	--	--	--
Credit	20/77	0/999	unstable	88/30	0/000	
Money	24/58	0/998	unstable	143/91	0/000	static
Education	79/97	0/002	static	--	--	--
Health	42/55	0/694	unstable	120/09	0/000	static

According to the results of Table No. (1), Considering that in all three unit root tests, it was confirmed that some variables are co-accumulated from the first degree, in the next step, the existence of long-term relationship was tested based on Pedorni's co-accumulation test. in tables (2) to (5), the results of the Pedroni cointegration test are given for each of the equations that must be estimated. Also, considering that 4 equations will be estimated for this group of countries (Pedroni, 2004; Westerland, 2005), therefore, a separate cointegration test has been performed for each of the equations. Table (2) shows the results of the cointegration test related to equations No. 8 to 11:

Table 2.
The results of the Pedroni and Kao test for the dependent variable of male life expectancy

Pedroni test results				
Test type		intercept	Intercept and trend	none
Panel ADF-Statistic	Test statistics	-2/5499	1/8067	1/0969
	Prob.	0/005	0/000	0/863
Group ADF-Statistic	Test statistics	-0/5192	-2/9858	0/861
	Prob.	0/301	0/001	0/805
Panel PP-Statistic	Test statistics	-5/0239	-8/2925	-4/4613
	Prob.	0/000	0/000	0/000
Group PP-Statistic	Test statistics	-8/8022	-16/0322	-7/4994
	Prob.	0/000	0/000	0/000
Kao test results				
ADF	Test statistics	-4/4673	---	---
	Prob.	0/000	---	---

Based on most statistics of Pedroni's cointegration test and Kao's test statistic, the existence of a long-term relationship for equation number 8 is confirmed. Therefore, in the next step, long-term coefficients will be estimated using the GMM method. Due to

the long-term relationship, there is no need to differentiate the variables.

Table 3
The results of the Pedroni and Kao test for the dependent variable of women's life expectancy

Pedroni test results				
Test type		intercept	Intercept and trend	none
Panel ADF-Statistic	Test statistics	-0/9827	20/6675	1/1128
	Prob .	0/162	0/003	0/867
Group ADF-Statistic	Test statistics	0/676	10/8705	1/0561
	Prob .	0/750	0/030	0/854
Panel PP-Statistic	Test statistics	-4/2708	-6/7591	-4/8748
	Prob .	0/000	0/000	0/000
Group PP-Statistic	Test statistics	-8/2238	-18/6188	-7/6591
	Prob .	0/000	0/000	0/000
Kao test results				
ADF	Test statistics	-4/4169	---	---
	Prob .	0/000	---	---

Like equation number 8, the existence of a long-term relationship between the variables in the second equation is also confirmed based on most statistics of the Pedroni cointegration test and the Kao test statistic.

Table 4
The results of the Pedroni and Kao test for the dependent variable of male primary enrollment rate

Pedroni test results				
Test type		intercept	Intercept and trend	none
Panel ADF-Statistic	Test statistics	-1/2590	-1/3126	-1/3226
	Prob .	0/104	0/112	0/093
Group ADF-Statistic	Test statistics	-0/3953	0/8843	-1/6850
	Prob .	0/346	0/811	0/046
Panel PP-Statistic	Test statistics	-4/7485	-4/6590	-3/5082
	Prob .	0/000	0/000	0/000
Group PP-Statistic	Test statistics	-8/4662	-8/0157	-7/4532
	Prob .	0/000	0/000	0/000
Kao test results				
ADF	Test statistics	-4/8885	---	---
	Prob .	0/000	---	---

Finally, in table (5) the results of the Pedroni and Kao cointegration test for the 11th equation are presented, and the results based on most of the statistics of these two tests also confirm the existence of a long-term relationship between the variables. Therefore, in this equation, there is no need to differentiate the variables, and the coefficients will be estimated for the level of the variables.

Table 5
The results of the Pedroni and Kao test for the dependent variable of female primary enrollment rate

Pedroni test results				
Test type		intercept	Intercept and trend	none
Panel ADF-Statistic	Test statistics	-0/6358	0/4257	-0/5264
	Prob .	0/262	0/664	0/299
Group ADF-Statistic	Test statistics	01/1110	-0/2726	-2/4601
	Prob .	0/133	0/392	0/006
Panel PP-Statistic	Test statistics	-5/6655	-5/2210	-3/5155
	Prob .	0/000	0/000	0/000
Group PP-Statistic	Test statistics	-12/5614	-12/3549	-9/9992
	Prob .	0/000	0/000	0/000
Kao test results				
ADF	Test statistics	-4/0537	---	---
	Prob .	0/000	---	---

Estimation of the model by the method of generalized moments: The results of the generalized moments method for the first model with the dependent variable of male life expectancy in developing countries are given in Table No. 6 below:

Table 6
The results of GMM model estimation for the dependent variable of men's life expectancy

explanatory variables	coefficient	standard deviation	T statistic	*Prob*.
le_m(-1)	0/944	0/01	47/78	0/000
Government	-0/007	0/01	-0/76	0/442
Openness	0/006	0/001	7/32	0/000
Credit	0/010	0/001	7/43	0/000
Money	-0/011	0/002	-4/003	0/000
Education	-0/035	0/01	-2/50	0/012
Health	0/224	0/02	8/97	0/000

As can be seen, the dependent variable has a significant and strong relationship with its own break, which is removed by entering it into the past effects model and the coefficients are estimated more accurately. The self-variable coefficient with an interval has the most positive and significant effect. In table number (7), the results of the generalized moments method for the second model with the dependent variable of women's life expectancy in developing countries are given. As in the previous model, in this model, the coefficient of the dependent variable with an interval is the most effective and significant.

Table 7
The results of GMM model estimation for the dependent variable of women's life expectancy

explanatory variables	coefficient	standard deviation	T statistic	*Prob* .
le_f(-1)	0/97	0/006	154/31	0/000
Government	0/01	0/003	3/92	0/000
Openness	0/007	0/000	32/26	0/000
Credit	0/01	0/000	20/14	0/000
Money	-0/01	0/001	-9/66	0/000
Education	-0/01	0/009	-1/34	0/179
Health	0/24	0/007	33/36	0/000

Table No. (8) shows the results of the generalized moments method for the third model with the dependent variable of male primary enrollment rate in developing countries. In this equation as well, the coefficient of the dependent variable with an interval has a positive and significant effect:

Table 8

The results of GMM model estimation for the dependent variable of male primary enrollment rate

explanatory variables	coefficient	standard deviation	T statistic	*Prob.*
school_m(-1)	0/401	0/021	18/685	0/000
Government	0/201	0/139	1/443	0/150
Openness	-0/065	0/013	-4/798	0/000
Credit	0/038	0/020	1/826	0/068
Money	-0/055	0/020	-2/730	0/006
Education	0/338	0/096	3/513	0/000
Health	-/123	0/176	-0/697	0/486

Table (9) shows the results of the generalized moments method for the fourth model with the dependent variable of the primary enrollment rate of women in developing countries. In this equation, the coefficient of the dependent variable with an interval has a positive and significant effect.

Table 9

The results of GMM model estimation for the dependent variable of primary enrollment rate of women

explanatory variables	coefficient	standard deviation	T statistic	*Prob.*
school_f(-1)	0/522	0/013	39/287	0/000
Government	0/147	0/083	1/766	0/078
Openness	-0/045	0/013	-3/327	0/000
Credit	0/087	0/008	10/401	0/000
Money	-0/031	0/008	-3/705	0/000
Education	0/359	0/096	3/715	0/000
Health	0/301	0/086	3/489	0/000

Considering the results obtained from Sargan's test in Table No. 10, the null hypothesis of Sargan's test that the equation is certain is not rejected. Therefore, it is necessary to use instrumental variables to control the correlation between explanatory variables and disorder sentences in the model, and the instrumental variables used in the generalized moments model are appropriate, and the validity of the results for the interpretation of all equations is confirmed.

Table 10

Sargan test results for selected developing countries of the world with dependent variables

The dependent variable is life expectancy of men	
χ^2 *statistics*	*Prob .*
16/1003	0/585
The dependent variable of women's life expectancy	
χ^2 *statistics*	*Prob .*
23/5820	0/261
The dependent variable of male primary enrollment rate	
χ^2 *statistics*	*Prob .*

13/6791	0/689
The dependent variable of primary enrollment rate of women	
χ^2 *statistics*	*Prob .*
18/4874	0/358

Conclusion

The economic crisis that started in 2007 continues to pose major challenges in the European region of the World Health Organization. This crisis has led to a significant decrease in economic activities, an increase in unemployment, a recession in the housing market, and an increase in poverty. The increase in the national debt has forced governments to reduce their public spending. This research examines the impact of financial development on human development in selected developing countries using the GMM method between 2016-2020. The results showed that the effect of government spending on human capital (life expectancy and enrollment rate) in all models except the life expectancy of women in developing countries is insignificant and indicates the lack of influence of this variable on human capital. As discussed in the theoretical foundations of the research, the size of the government can have positive or negative effects on human capital through different channels. Positive effects occur through the creation of infrastructures and improvement of productivity and other cases, but the negative effects of government spending and government enlargement mainly occur through the externalization effect of private sector investment on production and employment and finally effective human capital, which is the result of the effects Positive and negative in developing countries has made the effect of this variable on human capital insignificant. Also, government expenditures in developing countries are spent on current affairs such as administrative staff salaries, food subsidies, expansion of the police and military system, which has little to do with the productivity and growth of human capital. The coefficient of the degree of openness of the economy in all models (except the enrollment rate of women) is positive and significant and indicates the effect of this variable on human capital in developing countries. The degree of openness of trade through the growth of exports and the arrival of capital goods leads to economic growth and, as a result, the income of people in the society, which in turn leads to better access of people to medical facilities and medical services, as well as access to higher quality educational and educational facilities. Improving the educational and health status of the people in the society will lead to a skilled and healthy workforce (improvement of human capital), which again leads to economic growth.

The effect of facilities granted to the private sector, which is the main variable of the research and has been chosen as an indicator of financial development, has a positive and significant effect on human capital, which according to the theoretical foundations, access to financial resources, the possibility of creating job opportunities, suitable income, reducing Poverty provides different levels of society access to facilities and medical care, as well as proper diet and health insurance, and ultimately improves human capital. Of course, as previously discussed, according to various theories, the relationship between human capital and economic growth is two-way, so that the improvement of human capital leads to economic growth, and this again leads to the improvement of the state of human capital. The effect of money volume to GDP ratio on human capital has a negative and significant coefficient in all models. The effect of the amount of money (percentage of GDP) due to the destructive effect of its inflation, especially when its growth is higher than the GDP, has caused a decrease in the level of well-being and finally its negative effect on human capital. Therefore, it can be stated that the increase in the volume of money compared to the increase in GDP causes the

deterioration of the human capital situation. Educational investment has a positive and significant effect on the enrollment rate of men and women in developing countries, and the result of these coefficients is completely as expected. The effect of this variable on the life expectancy of women in this group of countries is insignificant, but it has a negative effect on life expectancy. The effect of health investment in most models is positive and significant and shows the positive effect of this variable through a healthier workforce and improved productivity and as a result economic growth on human capital.

The results obtained with most of the researches conducted, such as Hashdari et al, (2018) Nguyen et al, (2022) is in the same direction. Considering that the degree of commercial openness has a positive effect on human capital in most cases. Therefore, governments should pay attention to encouraging exports, reforming the tariff system based on encouraging the import of capital goods, currency stability, facilitating banking transactions, facilitating the conditions for opening letters of credit. Also, the facilities granted to the private sector have a positive effect on human capital (especially life expectancy), so governments should pay attention to granting facilities to micro and small enterprises. On the other hand, the effect of the amount of money on human capital is negative. Therefore, the budget deficit should always be controlled and inflationary methods should be avoided. According to the research results, educational investment has a positive effect on the enrollment rate of men and women in developing countries. Therefore, governments should invest in infrastructure and school construction. In deprived areas, they can have a direct effect on the enrollment rate in schools and the accumulation of human capital.

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