



Shahid Chamran  
University of Ahvaz

## Quarterly Journal of Quantitative Economics

Journal Homepage:


[www.jqe.scu.ac.ir](http://www.jqe.scu.ac.ir)

Print ISSN: 2008-5850

Online ISSN: 2717-4271



### Assessing the short run and long run effects of foreign direct investment, human capital and financial development on the economic growth of different income groups in developing countries (application of the panel cointegration approach)

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#### ARTICLE HISTORY

Received: 09 February 2021

Revision: 02 July 2021

Acceptance: 25 July 2021

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#### JEL

#### CLASSIFICATION

J24 J20 O47 O13

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#### KEYWORDS

Foreign direct investment,  
Human capital, Financial  
development, Economic  
growth, Developing  
countries

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Assessing the short run and long run effects of foreign direct investment, human capital and financial development on the economic growth of different income groups in developing countries (application of the panel cointegration approach)



**Acknowledgments:** Acknowledgments may be made to individuals or institutions that have made an important contribution.

**Conflict of Interest:** The authors declare no conflict of interest.

**Funding:** The authors received no financial support for the research, authorship, and publication of this article.

**How to Cite:**

Leylian, Neda., Ebrahimi, Mehrzad., Zare, Hashem & Haghghat, Ali. (2023). Assessing the short run and long run effects of foreign direct investment, human capital and financial development on the economic growth of different income groups in developing countries (application of the panel cointegration approach). *Quarterly Journal of Quantitative Economics (JQE)*, 20(3), 35-77.

 [10.22055/jqe.2021.36604.2339](https://doi.org/10.22055/jqe.2021.36604.2339)



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## EXTENDED ABSTRACT

### INTRODUCTION

One of the most important goals of the countries, especially developing countries, is economic growth and development. Foreign direct investment along with human capital and financial development are important factors that can have a significant impact on economic growth. Human capital can be used as a facilitator for the transfer of technology related to foreign direct investment. In addition, evidences show that human capital plays a complementary role to the impact of foreign direct investment on economic growth. Technology overflow into domestic companies is also more efficient when financial markets in the host economy are more developed. Therefore, the purpose of this study is to evaluate the short-run and long-run effects of foreign direct investment, human capital and financial development on the economic growth of various income groups in developing countries.

### METHODOLOGY

The model used for unsustainable economies (developing countries) is designed to be appropriate for the current study. In this model, the effect of

population growth rate and technology, physical capital, human capital, financial development, foreign direct investment, foreign direct investment interaction and financial development and the interaction of foreign direct investment and human capital on economic growth is examined. The statistical population is developing countries in the period 2000-2019. For the study, developing countries were divided into four categories: low-income, lower-middle-income, upper-middle-income, and high-income, which included a total of 27 countries (9 Asian countries, 9 African countries, and 9 South American countries). In this study, first, the significance of variables for developing countries by income groups was investigated. Then, based on the Kao test, the existence of long-run equilibrium relationships among the variables related to the income groups of developing countries was confirmed. FMOLS and DOLS methods were used to investigate the integration.

## **FINDINGS**

The results of long-run estimates show that foreign direct investment alone is 0.27 effective on the economic growth of high-income countries, and when combined with human capital and financial development, its impact on economic growth is 0.42 and It will be 0.104. Thus, the effect of the interaction of foreign direct investment and human capital is greater than the effect of foreign direct investment alone on the economic growth of high-income countries. But in other income groups of developing countries, the interaction of foreign direct investment with human capital and financial development has not had a positive effect on economic growth. Also, the results of short-run estimates showed that foreign direct investment alone does not affect the economic growth of high-income countries, but the interaction of foreign direct investment and financial development and the interaction of foreign direct investment and human capital by 0.48 and respectively. 2.13 affects economic growth. This result shows that in the short run, foreign direct investment alone has no effect on economic growth, but along with human capital and financial development have a positive effect on economic growth in these countries. In other income groups of developing countries, the interaction of foreign direct investment with human capital and financial development has not had a positive effect on economic growth. Also, the correct component of the error of foreign direct investment interaction with financial development and human capital shows that in each

period, 78% and 95% of the imbalances in the system are eliminated to achieve long-run equilibrium, respectively. But in other income groups, the speed of adjustment is very low or non-existent.

## CONCLUSION

These results show that high-income countries have realized that it is possible to increase productivity due to the high level of human capital and skilled labor through the transfer of new technologies and technology overflows, and this is a positive factor in Economic growth works. Also in high-income developing countries, due to the high institutional capacity in the economic structure that has led to comprehensive efficiency in the mechanism of credit allocation of these countries, the interactive effect of foreign direct investment and financial development on economic growth in the short-run and long –run is positive.

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