


# Chapter 1

# Modelling the Impact of Education, Research, and Digitalization on Economic Growth: Evidence From Developing Economies

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## **ABSTRACT**

*The present study has tried to investigate the impact of Investment in education, Research and Development, amid Gross Fixed Capital Formation, Tertiary Education Enrolment, Unemployment, Corruption Control and Proportion of internet users on Economic Growth of selected developing nations. The data was sourced from World Data Bank, Our World in data and UNDP for the period from 2000 to 2021. The short run and the long run impact of these variables on economic growth of the selected economies was estimated using Panel ARDL. All the preliminary tests including unit root test, cross sectional dependence, cointegration test, etc. were performed before using Panel ARDL. The results indicated that, in developing countries, government expenditure on education, gross capital formation, tertiary*

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*studies, internet facilities and effective corruption control have become one of the key drivers of long-term growth and increasing productivity, as all these variables have positive and significant relationship with economic growth.*

## **INTRODUCTION**

In today's world when all the major economies are rattling on about sustainable economic growth and to achieve this, UNDP has already defined 17 SDGs. Out of these 17 SDGs, the SDG no.4, focuses on achieving inclusive and equitable, quality education and promoting life-long learning opportunities for everyone. Education, digitalization and economic growth are interwoven drivers of development, particularly in today's rapidly evolving global landscape. In an amassed digital world, education systems are being transformed to prepare individuals for a tech-centric future, where digital literacy is as crucial as traditional skills. Developing nations, where digital infrastructure is still seasoning, are working to bridge gaps in access to digital tools and internet connectivity, as these are essential for modern education and economic participation. Digitalization not only enhances learning by enabling remote and interactive methods but also empowers economies by fostering a skilled workforce ready for a digital economy. Countries embracing this shift see accelerated economic growth as new skills fuel innovation and entrepreneurship, giving rise to job creation and global competitiveness. Yet, without universal access to digital resources and quality education, as the inequality risks deepen, we run a risk of leaving under-connected communities and nations behind. To drive inclusive growth, global collaboration is essential to expand digital infrastructure, support educational reforms and foster policies that prioritize equitable access to these crucial tools for development.

In the past, it was observed that a positive trend in public spending on education causes a positive trend in government spending on education causes a positive effect on economic development (Besime Fekri Ziberi et al.,2022) (Girma Mulugeta Emeru, 2023) (Nura Aliyu Kabuga, 2015) (Paravee Maneejuk & Woraphon Yamaka, 2021) (Chinedu Uchenna Okerekeoti 2022) etc. It is observed that inflation impacts education spending, negatively (Mohamed Maher et al., 2022). Investment in education at all levels aids the growth (Victor Owusu-Nantwi, 2015). Corruption impacts government spending, by interfering with the expenditure needs of a nation, inversely (Agung Suwandaru et al, 2021) (Girma Mulugeta Emeru, 2023). GFCF is positively related to growth of an economy (Agung Suwandaru et al, 2021) (Shikha Pokhrel and Chakra Bahadur Khadka, 2019). Unemployment affects the GDP negatively (Victor Owusu-Nantwi, 2015). Enrolment in tertiary education, mainly, helps economic growth positively (Paravee Maneejuk et al, 2021) (Fadila Kabir

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