

PANEL CAUSALITY ANALYSIS BETWEEN PUBLIC HEALTH EXPENDITURE AND DETERMINANTS OF ECONOMIC GROWTH IN SOUTH ASIAN ECONOMIES

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ABSTRACT

Purpose: *The research aims to find out the directional relationship among the investment variables, economic growth, and health expenditure.*

Design/methodology/approach: *The current study employs Pairwise Dumitrescu-Hurlin Panel Causality Tests for understanding this relationship between the said variables.*

Findings: *The findings show a bidirectional causal relationship between labor force participation and economic growth while a unidirectional relationship between Economic growth and Domestic government health care expenditure (EG & DGHE); Economic growth and Gross fixed capital formation (EG & GFCF); Economic growth and Institutional quality index (EG & IQI); Domestic government health care expenditure and Institutional quality Index (DGHE & IQI); Labor force and Domestic government health care expenditure (LF & DGHE); Life expectancy and Domestic government health care expenditure (LE & DGHE); Life expectancy and Gross fixed capital formation (LE & GFCF); Life expectancy and institutional quality index (LE & IQI).*

Originality/value: *The findings of this study will enable the policymakers of South Asian Economies to prioritize their investments based on the identified relationship.*

Keywords: Causality Test, Economic Growth, Gross Fixed Capital Formation, Health Expenditure, Institutional Quality Index, Labour Force, Life Expectancy, South Asian Countries.

INTRODUCTION

In recent years all the economies throughout the globe have faced several losses of human resources due to the sudden abrupt of viruses like COVID-19 and similar strains. This period of crises forced the economies to reevaluate and relook at their health policies for better implications of these policies. For any economy to achieve sustainable development, it is necessary to focus on infrastructure growth along with framing policies focused on the means to achieve the same. The differentials of health infrastructure and government health expenditure reveal the picture of the economic growth of different economies. So, it becomes essential to examine economic growth and health expenditure in a relational context. Though many researchers have found this relationship (Ewurum et al., 2024; Olufemi et al., 2024; Qehaja et al., 2024; Aboubacar & Xu, 2017; Adedokun et al., 2023; Rengin, 2012; Bedir, 2016), but still this relationship in South Asian economies is not implicit. Further economic growth of any nation is determined by determinants like domestic government health expenditure, labor force, gross fixed capital formation, life expectancy, and Institutional quality index.

Many studies have also tried to unveil the relationship between these variables (Duval et al., 2010; Sethi et al., 2020; Balaji, 2011). Not only investment in infrastructure but equally important is the contribution of human resources to any economy. The investment in human resources develops human capital and it significantly determines economic growth. Investment in health plays a major role in human capital growth and economic growth as healthy persons can contribute more towards the economy as compared to unhealthy persons. Therefore, against this backdrop discussion, the current study has included labour force, gross fixed capital formation, and life expectancy in addition to institutional quality and domestic general health expenditure and economic growth as variables for understanding the relationship between them for eight South Asian nations. The paper begins with introduction of the study, followed by a discussion on relevant literature. Third section highlights data sources and methodology adopted. Study results and discussion is provided in forth section. At last the paper ends with concluding followed by limitations and future research directions.

REVIEW OF LITERATURE

In recent times, more focus has been on the study of the direction and strength of the linkage between public healthcare expenditure and economic development. It is well acknowledged that a population with poor health cannot experience sustained economic growth. Human resources development in a country depends heavily on its ability to maintain its population's health, and the economic success of any country is closely associated with that performance. An increase in the workforce brought about by a decrease in fatalities and disabilities is a direct human investment in economic progress. Healthcare spending and the level of living as determined by per capita income are strongly correlated (Balaji, 2011; Azam & Awan, 2022; Maroof & Sangmi, 2021). Numerous empirical research examining the link between healthcare spending and income suggest that investing in one's physical well-being is a key driver of income development (Hansen and King, 1996; Mehrara, 2011; Clemente et al., 2004). Economic growth highlights the expansion of a country's production of products and services. Changes in the labor force, technology, capital, and human resources positively affect economic growth. Economic growth is analyzed using estimates like the GDP reflecting a rise in the total market value of newly produced products and services (Sarker, 2024). Health expenditures include all costs associated with providing health services, family planning initiatives, nutrition programs, family planning initiatives, and health-focused emergency assistance are included, but the price of providing clean water and sanitation is excluded (WHO, 2023; Aydin & Bozatli, 2023; Vysochyna, 2023). The productivity of human capital is positively influenced by investment in healthcare which in turn increases economic growth. Poor-quality institutions, especially in developing nations, severely restrict access to healthcare, which may have an impact on the nation's ability to prosper economically. The previous two decades have seen a great advancement in healthcare access, but the efficiency of healthcare services has changed far less, and as a result, the outcomes are not what was anticipated. The study argues that inadequate care and ineffectiveness arise due to a lack of accountability on the part of the government. The manufacturing and provision between institutional quality and health care spending and economic growth is not well understood, despite its significance. The lack of efficient institutions results in destabilized health investments that cause a hazy correlation between health status and healthcare services (Lewis et al., 2006). These studies mostly concern the South Asian region, notwithstanding their emphasis on emerging nations.

According to the author's knowledge, relatively few studies have been conducted in South Asia employing macro data institutional quality, and other variables in health spending and growth analyses. The efficacy of health spending is generally accepted to be accurate, but

whether an increased investment would have a bigger or lesser impact on that nation's economy depends on the institutional quality of each country (Sethi et al., 2020; Funlayo et al., 2022; Dias et al., 2012; Li, et al., 2020; Valeriani et al., 2011). More labour force participation can increase the pace of economic growth. Population above 16 years, who play their part in the manufacturing and provision of goods and services from the labor force of a country. Lower labor force participation has always been a problem in developing nations. Studies show a strong relationship between labor force participation and economic growth. Economic growth is highly affected when the labor force is skilled (Duval et al., 2010).

Capital accumulation being one of the important factors of economic growth highly influences it. Both empirically and theoretically this assertion has been observed. Initially, (Solow, 1957) concluded that the level of production is influenced by physical capital accumulation. Later, the Growth theory developed by (Lucas Jr, 1988; Romer,1990; Barro,1990; and Romer, 1986), supported Solow's conclusion by including other variables like human capital, research and development, and infrastructure (Ongo & Vukenkeng, 2014; Zoaka, & Güngör, 2023).

DATA AND METHODOLOGY

In the present study the panel causality test is employed to study the directional relationship between domestic general government health spending, Life expectancy at birth, GDP per capita, Labor force participation rate, Domestic Capital, and Institutional Quality Index for this we have constructed the panel spanning the period with effect from 2002 to 2020 for Eight South Asian economies namely Bangladesh, Afghanistan, India, Bhutan, Maldives, Nepal, Pakistan, and Sri Lanka. The Pairwise Dumitrescu–Hurlin Panel Causality Tests were used to examine the relationship between the mentioned variables, as in terms of cross-sectional dependence, the test shows more reliable and stable results (Akbas et al., 2013; Feenstra et al., 2015).

RESULTS AND DISCUSSION

This research paper examines the causal relationships between public health expenditure and the determinants of economic growth in South Asian economies. Utilizing the Dumitrescu-Hurlin Panel Causality Tests, the study reveals a two-way causality between labor force participation and economic growth, as well as one-way causalities from economic growth to domestic general health expenditure, gross fixed capital formation, and the institutional quality index. Panel causality test results are presented in Table 1. It is revealed that there is unidirectional causality between health spending and economic growth and it is evident that health expense is a significant cause of GDP improvement therefore government needs to increase healthcare spending to reap the benefits of rising GDP. A unidirectional causality between GDP and GFCF has been observed which allows the researcher to believe that rising health expenditure can indirectly affect GFCF. Further, LF is bi-directionally related to GDP and unidirectionally with IQI. Similarly, GFCF and DGHE are bi-directionally related to IQI.

Null Hypothesis	Direction	Prob.
DGHE is not caused by LGDP	LGDP→DGHE	0.005
GFCF is not caused by LGDP	LGDP→GFCF	0.056
IQI is not caused by LGDP	LGDP→IQI	0.351
LGDP is not caused by LF	LF →← LGDP	0.020
IQI is not caused by DGHE	DGHE→ IQI	0.049

DGHE is not caused by LE	LE → DGHE	0.057
DGHE is not caused by LF	LF → DGHE	0.012
GFCF is not caused by LE	LE → GFCF	0.061
IQI is not caused by LF	LF → IQI	0.001

Source: Authors' estimation.

CONCLUSION AND SUGGESTIONS

The study analyzed the causation between domestic government health expenditure, gross fixed capital formation, institutional quality index, Life expectancy, labor force participation, and economic growth for individual and panel datasets of eight South Asian countries. Since a bidirectional relationship has been found between labor force participation and economic growth, the government should prioritize the employment-generating policies for economic growth, and similarly, the policies focussing on economic expansion can provide new employment opportunities for labor force participation. On similar grounds, the policymakers must prioritize the mechanisms to improve Life expectancy because it leads to domestic government health expenditure and gross fixed capital formation. Furthermore, since economic expansion leads to domestic government health expenditure, institutional quality, and gross fixed capital formation the investment in all sectors including the health sector will promote health outcomes in the selected economies. Government investment on healthcare should rise in South Asian nations in order to lower out-of-pocket medical expenses. This is demonstrated in the Maldives, where increased government spending has helped to lessen the financial strain on the population as a whole. A number of health coverage initiatives should be launched by the government in order to get universal health coverage. Different healthcare finance plans should be offered by the government. A few of the initiatives that have been successful in lowering out-of-pocket costs are Ayushman Bharat in India, Aasandha, the Maldives' universal health insurance program, and Pakistan's Sehat Sahulat Program. Programs that make healthcare services more affordable for the general public also need to be adopted.

LIMITATIONS AND FUTURE RESEARCH DIRECTION

The study has taken 19 years data period for analysis due to non-availability of data for some countries. The study results can be validated by taking longer data period for the same economies while applying econometric models like Autoregressive Distributed Lag Model (ARDL).

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