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THE RELATIONSHIP BETWEEN GDP PER CAPITA AND THE SHARE OF HEALTH EXPENDITURES IN GOVERNMENT SPENDING: EVIDENCE FROM TÜRKİYE AND OECD COUNTRIES





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Introduction

The share of health expenditures in public budgets carries different strategic importance depending on each country's stage of economic development, macroeconomic balance, and political-social priorities (Tsindeliani et al., 2021).

In developing economies—such as Türkiye—health expenditures often increase in parallel with expanding budget opportunities during periods of growth, while they are positioned as a flexible item that can be restricted during times of economic contraction (Boz & Arslan, 2018; Gaies, 2022).

In contrast, in high-income OECD countries, health expenditures are generally regarded as a fundamental component of social welfare and a sustainable source of productive human capital; therefore, they gain the quality of a more stable and growth-supporting investment within the budget (Kinge et al., 2025).

Research Purpose

- This study examines the direction and dynamics of the causal relationship between gross domestic product (GDP) per capita and the share of health expenditures in the central government budget.
- A comparative approach was adopted for Türkiye and OECD countries to assess the determining role of economic development levels in this relationship.
- In the econometric analysis, the Toda-Yamamoto causality test was employed to evaluate both short- and long-term relationships between the two variables, and variance decomposition analysis was conducted to determine the extent to which each variable explains the other over time.

STUDY SCOPE

This study utilizes annual time series data for the period 1980–2022 for Türkiye and OECD countries.

The dependent and independent variables are gross domestic product per capita (current US\$) and the share of central government health expenditures in total public spending (% of general government expenditure).

While Türkiye's data were used directly, for the OECD, a usable time series was constructed by calculating the average of 37 member countries, excluding Türkiye.

Variables

GDP per capita (current US\$)	The World Bank. (2023). GDP per capita (current US\$) [Data set]. World Development Indicators. https://data.worldbank.org/indicator/NY.GDP.PCAP.CD
Domestic general government health expenditure (% of general government expenditure)	World Health Organization (WHO). (2023). Domestic general government health expenditure (% of general government expenditure) [Data set]. Global Health Expenditure Database. https://apps.who.int/nha/database

Analytical Approach

- The stationarity test (Augmented Dickey-Fuller)
- Once stationarity was achieved, the Toda-Yamamoto approach was employed for causality analysis.
- All analyses were conducted using R version 4.3.1.

Toda-Yamamoto Causality Test Results for Türkiye and OECD

Country	Direction of Causality	χ^2	Causality p-value	Interpretation
Türkiye	GDP → Health Exp. Share	45.471	< 0.001	Significant causality
Türkiye	Health Exp. Share → GDP	6.4135	0.601	No causality
OECD	GDP → Health Exp. Share	0.6008	0.7405	No causality
OECD	Health Exp. Share → GDP	26.878	< 0.001	Significant causality

Health expenditures in Türkiye, suggesting that economic growth influences public budget priorities, increasing health allocations during expansion.

No reverse causality was found, indicating that health spending does not significantly drive GDP in Türkiye.

The OECD results reveal a reversed pattern: health expenditures significantly influence GDP per capita, while GDP does not causally impact health spending

This implies that in developed countries, health investment serves not only as a social policy but also as a driver of economic productivity.

Conclusions

- In Türkiye, GDP per capita has a significant and directional causal impact on the share of health expenditures in the central government budget.
- However, health expenditures do not appear to play a triggering role in economic growth.
- This finding suggests that the positioning of health spending within public finance in Türkiye is largely shaped by the country's economic growth performance, yet these expenditures have not yet evolved into an investment tool that enhances economic productivity.

Conclusions

- This may be due to the fact that health expenditures in Türkiye are allocated mainly toward improving access, expanding infrastructure, or meeting direct consumption-based needs—thus increasing during periods of growth not as a driver, but as a result of expanded overall spending capacity.
- The lack of an integrated health system aligned with preventive services, workforce productivity, or long-term human capital investment may explain the absence of a statistically significant causal effect on GDP.

Key Findings and Directions for Future Research

- Health expenditures are influenced by economic growth but do not function as a primary driver of it in Türkiye, whereas in OECD countries, health spending plays a supportive role in promoting economic growth.
- The findings underscore that not the quantity but the efficiency, governance structure, and integration with strategic planning of health expenditures are key to their impact on economic performance.
- Additionally, incorporating factors such as institutional quality, budget transparency, and outcome-oriented service structures may yield more explanatory results.



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