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The Effects of Socioeconomic and Environmental Factors on Health Status of Caribbean and Central American Countries

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Abstract

Significant health improvements have been noted in Central American and Caribbean countries in the past three decades. The changes have been attributed to improved nutrition and a decline of infectious diseases. However, few studies have attempted to quantify the factors influencing health status in these countries. In this paper, we developed a health production function for 18 Central American and Caribbean countries using panel data. We developed Ordinary Least Squares (OLS), random and fixed effects models to determine the factors affecting health status. Health status represented by life expectancy was expressed as a function of socioeconomic and environmental factors such as income, carbon dioxide (CO₂) emission, healthcare expenditure, access to sanitary facilities and clean water, education, recorded AIDS cases, mortality rate due to heart diseases, protein supply, food imports and number of television sets. The random effects model was selected because of its high R² of 0.83 which means that 83 percent of the variation of the dependent variables is explained by the variation of the independent variables, and the number of significant variables with anticipated signs. The random effects model showed that GDP per capita, GDP per capita², education, the recorded number of AIDS cases, the interaction between portable water and access to improved sanitation, protein supply and food imports influenced health status. GDP per capita squared negatively influenced health status which means that the region will attain a point where increases in income will reduce the health status of its people. Health policymakers must critically examine the results to determine optimal points of socioeconomic and environmental variable contributions in promoting health care status in these countries.

Keywords: health status, Ordinary Least Square, GDP, socioeconomic, environmental