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Health Development Nexus: Macroeconomic Estimation Using Developing Country Data

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Abstract

Health is a fundamental human right and a basic capability that augments human capital, and thus positively affects output. Good health is a critical input into poverty reduction, economic growth, and sustainable development. In spite of economic improvement, social and demographic indicators in Pakistan present a dismal picture. Nevertheless, Pakistan still has one of the highest infant, child, and maternal mortality rates compared with the developing countries of the same income level. It is empirically estimated that Pakistan has losing its economic growth potential considerably due to lack of improvement in health status. According to World Bank, poor governance, frail health sector management and low levels of public spending are the key factors behind poor health outcomes and hence low economic growth. Keeping in view the likely role that health sector can play in economic development; this study uses time series macroeconomic data spanning from 1972 to 2008 and aims at answering the following questions: what role health can play in economic development of Pakistan? What are the affects of nutrition availability per capita on development status in the long run? Does health causes development and/or vice versa? And how shocks to health variables are affecting economic development over time? Augmented dickey fuller (ADF) unit root test are used to check for stationarity. Johansen multivariate cointegration approach is employed to estimate the cointegration relationship. Engle-Granger causality framework is applied to see the direction of causality and its extent. Finally, Impulse response analysis (IRA) is carried out, as post estimation tool, to account for shocks in health variables and their likely impact on development of Pakistan. Augmented Dickey Fuller (ADF) and Philip Perron (PP) tests showed that all data series are non-stationary I (1) in their level form and become stationary I (0) after first differencing. Study further estimated that there exists a single cointegrating vector which means that a unique long run equilibrium relationship exists between health variables and economic development (income per capita at national level). This analysis will help in understanding the dynamics of health development relation in the long run and helps in better decision making.

Keywords: Cointegration, health, nutrition per capita, Pakistan, time series