ABSTRACT

This chapter is composed of two major parts. The first one measures interactions and interconnections between health and education using aggregate data on South Mediterranean countries. It focuses on Principal Components Analysis (PCA), descriptive statistics, and regression analysis. This latter is based on different clusters concerning the likely potential links between education, health, and income. The results attained show how different series of results are obtained. The inter-relations identified do account for health, education, and income variables, and are sensitive to the type of data mobilized. This illustrates how ICTs can be used to respond to the analysis required in this type of situation. The second part addresses the directions of links between health, education, and income, and introduces causality tests. This is established in the context of the regional data on South Mediterranean countries. The analysis is consequently conclusive about the role of education based on the data used. Coordination of actions can then target education as the main source of causal relationships. This type of analysis has the merit of facilitating the use of ICTs in the coordination process.

DOI: 10.4018/978-1-4666-3643-9.ch004
INTRODUCTION

This chapter assesses interdependencies between health, education, and income. This is achieved first through techniques that are mainly descriptive in nature including the use of principal component analysis. The following type of analysis focuses on the mobilization of multivariate regression on different datasets besides using causality tests.

A DESCRIPTIVE ASSESSMENT OF WEALTH COMPONENTS

The main objective of this part is to check the interdependencies between different sources of wealth (education, health and economic wealth). The analysis is based on datasets made of World Bank and United Nations.

The first section uses descriptive statistics, and simple regressions to make a comparative analysis between South Mediterranean countries and countries of the European Union about the levels of education, health and economic wealth, taking also into consideration the evolutions during the last 10 years, the classification of countries (developed, developing, underdeveloped countries), or membership in different organizations (OPEC or oil exporters). The second section uses factorial methods to detect the interdependencies between the selected indicators of education, health, and economic development (GDP per capita, literacy rate, school life expectancy, life expectancy, and infant mortality rate).

Using these variables, three wealth patterns are observed and are analyzed for SMC and EU countries.

The last section is an econometric analysis of the relation between education, health and economic development. To obtain better results, a dummy variable is introduced to account for country wealth (if a country is rich or with medium wealth dummy=1 or if it is poor dummy=0).

The main conclusion is that all the components of human welfare are strongly interdependent. For SMC countries, the impact of any change in the level of education or health on the level of economic development depends on the level of wealth patterns. There are some differences between SMC and EU countries. No direct relationship between the level of education and economic development could be seen for EU countries, and the relationship between health and economic development is different from South Mediterranean countries.

Descriptive Statistics

Economic Development

Per capita economic development in the SMC region has been relatively low over the past 20 years, partly because of high population growth rates and partly because many countries still depend on oil exports and oil prices remained relatively low during this period. Under this situation, human capital (health and education) and economic development are not expected to show meaningful relationships.

The Gross Domestic Product (GDP) per capita shows that the SMC region is of medium wealth. The GDP per capita in 2004 was 10881.22 (PPP) current international $ compared to the overall mean of 10390.66 (PPP) current international $. The GDP growth during the period 1995-2004 for MENA countries was 34%, much lower than the growth of 57% for EU countries during the same period (Table 1).

Health and Education

Many scientists consider that literate people have a better health and a higher socio-economic status. The general measure used to describe the educational level of a country is the literacy rate, calculated as the percentage of the population 15 years and older who are literate (can read and write).
30 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the product's webpage: www.igi-global.com/chapter/descriptive-statistics-regression-analysis-tests/74585?camid=4v1

This title is available in InfoSci-Books, InfoSci-Social Technologies, E-Adoption in Developing Countries, Communications, Social Science, and Healthcare, InfoSci-Social Sciences and Humanities, InfoSci-Select, InfoSci-Computer Science and Information Technology, Science, Engineering, and Information Technology, InfoSci-Select, InfoSci-Select. Recommend this product to your librarian:
www.igi-global.com/e-resources/library-recommendation/?id=1

Related Content

A Nearly One-to-One Method to Convert Analog Signals into a Small Volume of Data: Second Part:
Dan Ciulin (2013). Strategic Adoption of Technological Innovations (pp. 305-336).
www.igi-global.com/chapter/nearly-one-one-method-convert/74269?camid=4v1a

Informal Education of Energy Conservation: Theory, Promotion, and Policy Implication
www.igi-global.com/article/informal-education-energy-conservation/70760?camid=4v1a

Collaborative Research (CR): To Reduce Transaction Cost in Open Innovation
www.igi-global.com/article/collaborative-research-reduce-transaction-cost/77867?camid=4v1a

Investigation of the Role of Mobile Personalisation at Large Sports Events
www.igi-global.com/article/investigation-of-the-role-of-mobile-personalisation-at-large-sports-events/169139?camid=4v1a