Implication of E-Health and IT Governance on Healthcare Expenditure: An Econometrics Approach (Case Study Middle East Countries)

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ABSTRACT

This paper analyzes the public healthcare expenditure of Middle Eastern countries in relation to different exogenous explanatory variables, through a panel study involving twelve (12) Middle East countries. More specifically, the study methodology uses panel cointegration, and panel-based error correction models derived from annual data covering the period of 2000 to 2010. The empirical results support a short-run co-integration relationship after allowing for the heterogeneous country effect. The long-run relationship is estimated using a full-modified OLS. The results of a ten-year panel study have been interpreted and commented. The public healthcare expenditure of our countries is explicated to a great extent by the single country GDP. Other strong correlation variables were found also to be statistically significant. The research reveals that e-health programming and e-health governance could lead to a decrease in unnecessary health care expenditure.

Keywords: E-Health, Fully Modified Ordinary Least Squares (FMOLS), Governance, Panel Data, Public Healthcare Expenditure

1. INTRODUCTION

E-health is one of the most critical assets owned by human beings. It permits us to fully develop our capacities. If this asset erodes or is not developed completely, it can cause physical and emotional weakening, as well as bring about obstacles in the lives of people. The previous connection can be seen as evidenced by the relationship between income and e-health. Studies using life-cycle models have shown how one’s e-health status can determine future income, wealth and consumption (Lilliard & Weiss, 1997; Smith, 1998).

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Botha (2012) “E-health is a relatively new field and has no clear definition to date. It was first used in 1999 at the 7th International Congress on Telemedicine and Telecare in London by John Mitchell from Sidney, Australia who spoke about a national government study whose main result was the recognition that “cost-effectiveness of telemedicine and tele-health improves considerably when they are part of an integrated use of telecommunications and information technology in the e-health sector” (pp. 1).

According to Awad Rawabdeh (2007) “e-health as a commercial activity can be schematically conceptualized as four important categories, namely medical equipment and supplies, health insurance, medications and clinical services” (pp. 519).

In this paper, “e-health definition is comprising all of the Information and Communication Technologies (ICT) tools employable in e-care services that link or interface patients with providers of e-health services. E-Care providers include e-health professionals and e-health information covers the transmission of data related to the provision of e-care services between and among institutions. Specific examples include e-prescriptions, e-referrals, e-health information networks, electronic health records, telemedicine services, wearable and portable devices, e-health portals used as informational infrastructure for research and clinical care and many other ICT-based tools that assist in disease prevention, diagnosis, treatment, e-health monitoring and lifestyle management” (Europe’s Information Society, 2010; Botha, 2000, pp. 1).

Many people involved in some way with patient and health care would disagree with this claim, since health IT is not always seen as one of the main components of health services, or at least is not perceived to be as crucial as, say, clinical factors. IT in the health sector is commonly regarded as a support tool for people (e.g., caregivers) to help other people (e.g., patients). However, there is an expectation that e-health will become more and more important in the delivery of modern health care, in areas such as preventative and curative health, assistance with mobility, telemedicine and virtual healthcare. E-health is expected to improve the health services delivery in the future, adding values for practitioners, patients and caregivers, researchers and government in different stages of the total health care journey. These expectations are already creating new pressures to ensure the successful delivery of e-health; this can be seen in the implementation of IT governance approaches based on proven best practices, not only to get assurance but also to show how these newer expectations are to be realized (Beratarbide & Kelsey, 2009, pp. 7-8).

Beratarbide and Kelsey (2009) states that “adopting IT governance can help healthcare organizations to deliver e-health services; however, it requires commitment and sustainable support at all levels across the healthcare boards. This is a medium to long-term process that involves a series of improvement cycles that are transitions of care services. Such transitions would require the careful management of organizational change. In other words, the successful delivery of e-health in this highly demanding scenario not only requires commitment but also strong determination and deep-pocket investments from all types of health care organizations, aside from other stakeholders such as patients, caregivers, researchers, suppliers of health informatics and the government (Beratarbide & Kelsey, 2009, pp. 7-8).

It is generally agreed that the healthcare industry has a major influence upon the development of the national economy and the increase of its Gross Domestic Product (GDP). At a macro economical level, health care contributes to the work force reproduction and general welfare specifically. So, the healthcare sector of a country has a major importance and the purpose of our study is to investigate the under-financing of Middle Eastern countries in this sector.

In this paper, we intend to examine the relationship between e-health care expenditure and economic growth for Middle East countries based on Beratarbide and Kelsey (2009); Botha (2000) papers.
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