

# Do Foreign Direct Investment (FDI) and Trade Openness Explain the Disparity in ICT Diffusion between Asia-Pacific and the Islamic Middle Eastern Countries?

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## ABSTRACT

*This study investigates the impact of FDI and trade openness on ICT diffusion in the Asia-Pacific and Middle East regions from 1996-2005. The results indicate that while dissimilarities exist between the economies included in this study in terms of their level of socio-economic and political development, education and the growth of GDP have had a positive impact on ICT diffusion in both regions. However, while FDI has generally had a positive and significant impact on ICT diffusion in Asia-Pacific economies, its impact on Middle Eastern economies has been detrimental. The results of this study also show that trade-openness has had, in general, a positive and significant impact on ICT diffusion.*

*Keywords: Asia-Pacific, FDI Inflows, Government Intervention, ICT Diffusion, Middle East, Trade Openness*

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## INTRODUCTION

In recent literature, Foreign Direct Investment (FDI) has been cited as a measure of globalization (Loungani & Razin, 2001) and trade

liberalization (Santos-Paulino & Thrilwall, 2004) that can provide development opportunities to host economies (Soper et al., 2006). As developing economies become more open to international competition, organizations are increasingly forced to compete with multinational corporations (MNCs) in both domestic and foreign markets. In turn, FDI becomes an

DOI: 10.4018/jgim.2010070103

important component of the economic strategies of developing countries (UNCTAD, 2006a).

In the last decade, several economies in the Asia-Pacific region have witnessed profound progress in Information and Communication Technology (ICT) and FDI inflows. Middle Eastern economies, on the other hand, have not been able to attract FDI inflows to the same extent despite their success in ICTs and an increase in the capacity of FDI inflows for the period 1996-2005. FDI flows in the Middle East and North Africa (MENA) accounted for less than 10% of total FDI investment in 2007 (Delasnerie, 2007).

Delasnerie (2007) argues that 60% of investors consider MENA a high-risk region due to political situation in its countries, poor infrastructure, corruption, fear of terrorism and insufficient intellectual resources in R&D and other knowledge-based services. Similarly, Krogrtrup and Matar (2005) claim that Arab economies are less likely to possess the absorptive capacity necessary to benefit from FDI, due to the poor quality of the education system, the financial sector, and technological and institutional development.

World leaders noted "the importance of removing barriers to bridging the digital divide, particularly those that hinder the full achievement of the economic, social and cultural development of economies and the welfare of their people, in particular, in developing economies" (ITU Tunis Agenda, 2005, section 10).

There are many attempts made to "quantify" and "qualify" the global digital divide with different conceptual frameworks, sets of variables and methodologies (see Wong, 2002; Tipton, 2002; Grubestic & Murray, 2002; Brown & Licker, 2003; Oyelaran-Oyeyinka et al., 2003; Barroso & Martinez, 2005; Dutton et al., 2004; Lu, 2005; Yap et al., 2006; Cava-Ferreruela et al., 2006; La Rose et al., 2007; Zhao et al., 2007; Dwivedi & Lal, 2007; Hitt & Tambe, 2007; Picot & Wernick, 2007; Robertson et al., 2007; Trkman et al., 2008; Howick & Whalley, 2008).

Though there has been an intense interest among international institutions (e.g., UNCTAD, UNDP, UNESCO) in terms of the access

to and benefits and impacts of ICT at regional and country levels, little attention has focused on the potential impact of factors like FDI inflows, trade openness, and government interventions in economic activities on the ICT diffusion in developing economies. Therefore, the aim of this study is to fill this gap by analysing the extent to which FDI inflows, trade openness, government interventions in economic activities, and other socio-economic factors affect the disparities among developing economies, specifically in the Asia-Pacific and Middle East regions for the period 1996-2005.

For this study, our main research question is: Can FDI inflows and trade openness provide insight into the differences in ICT diffusion between these two regions? To answer this question, we performed an econometric analysis for a balanced panel<sup>1</sup> of nine Islamic states<sup>2</sup> in the Middle East (Bahrain, Iran, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Syria, and the United Arab Emirates) and eight Asia-Pacific<sup>3</sup> economies (China, Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam). This paper is organized as follows: next section provides an overview of ICT diffusion and FDI in both regions while the following section reviews the literature on the determinants of ICT diffusion. Then the research approach is introduced, followed by regression results and findings. Finally a discussion and concluding comments based on these findings are presented.

## BACKGROUND

### ICT Diffusion in Asia-Pacific vs. the Middle East

Table 1 shows the level of digital access in Asia-Pacific and the Middle East. There are four levels of digital access as defined by the UN's ICT Task Force (2005), ranging from High Access to Low Access. While Hong Kong (China) and Singapore are considered to have high digital access, no Middle East economies hold rank in this category. Four of the developed economies in the Middle East

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