

glamour and mystique surrounding the world's most sought-after gemstone.

## **INFORMATION AND COMMUNICATION TECHNOLOGIES IMPACT ON THE ECONOMIC GROWTH**

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The question of information and communication technology's (ICT) impact on economic growth and productivity has fascinated and perplexed governments, academics and business leaders since the ICT "revolution" began. The role of technology in the economy is now a subject of government policy across the globe. There is widespread consensus that ICT does benefit productivity and growth, but exactly how and to what extent remains a matter of debate.

The Economist Intelligence Unit conducted empirical research to investigate the strength of ICT's impact on economic growth, based on a cross-section model of 60 countries including 26 developed countries and 34 less-developed countries. Using this model it is possible to draw a number of conclusions about the economic impact of ICT.

**1. Technology does drive growth — but only after a minimum threshold of ICT development is reached.** Countries with high penetration levels for fixed telephone lines, mobile phones, personal computers and the Internet appear to achieve the greatest economic benefit from ICT. By contrast, the impact of ICT on GDP per head growth was non-existent and in some cases even negative for the developing countries included in the model. One major reason for this appears to be that ICT penetration and usage needs to attain critical mass before it will make a significant positive impact on a country's economy.

**2. There is a time-lag before ICT benefits growth and productivity.** It is the time it takes for organisations to assimilate and adjust to new technology. During this period the adoption of ICT can even retard productivity growth.

**3. ICT accounts for most of the gap in GDP per head growth between the US and euro zone "big three".** The impact of ICT

appears to be substantial: about 0.4 percentage points of the 0.52-point difference between GDP per head growth rates in the US and the euro zone big three (Germany, France, Italy) in 1995-2002 can be attributed to ICT use.

**4. Education and the business environment are crucial to making technology work.** The cross-section model indicates that the quality of a country's business environment, as well as its attention to specific ICT enablers such as education, significantly affect its ability to harness the full benefits of technology.

Policymakers and business leaders must focus their efforts in five areas:

- **Skills.** Europe needs to entrench ICT-related managerial skills in the workforce, both through skills training and changes to educational curricula.

- **Innovation.** Policymakers must follow through on their pledge to foster an entrepreneurial culture by encouraging new firm creation and risk-taking, for example by reducing the penalties for bankruptcy.

- **Competition.** Governments must maintain the assault on barriers to competition, particularly in telecommunications markets. This is particularly critical for the growth of broadband access.

- **ICT in the public sector.** The best thing governments can do to promote effective ICT use is to practise what they preach. They can promote and reward innovative behaviour among firms by choosing suppliers that use ICT to deliver improved services and better value for money.

- **Invigorating Research and Development (R&D).** The most critical is the need to invest a greater share of public funds to applied research, and channelling the fruits of university and public R&D to enterprises.

Progress in each of the above areas will create a more conducive environment for innovation in many countries.