Economic Impact of ICT

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What Causes Economic Growth?

- The Right Culture (1900)?
- Investment in Capital (1950s)?
- Investment in People (1970s)?
- The Right Policies (1980s)?
- The Right Institutions (1990s)?
- The Right Culture (2000s)?
Whatever It Is, It Isn’t Just Investment

Decade Investment (% GDP)
(Data 1950-90 Across Countries)
But Technology Has a Large Role

Thousands of 1985 international dollars

- Difference attributed to knowledge
- Difference due to physical and human capital
Teledensity and Income

\[ y = -0.2094x^2 + 5.0228x - 25.283 \]

\[ R^2 = 0.814 \]
IT Production

Even Skeptics See US Impact (Gordon, 2000)
ICT: An Engine of Growth?

Sources of Labor Productivity Growth
1995-2000

- US: ICT Investment and Production TFP accounts for 53 percent of productivity growth.
- In Malaysia and Thailand growth would have been significantly negative without ICT.
The Mystery of ICT Capital

Output $= Y_t = TFP_t \times F(K_t, L_t)$

- Investment in ICT has grown dramatically over the past ten years, this investment has expanded $K_t$
- The evidence of a TFP impact from ICT use is mixed
- Production of ICT *adjusted for hedonic gains* has had an impact on $TFP_t$... but this accrues to consumers
OECD Benefits from ICT Use

ICT Spending and TFP Growth in the OECD

1991-7 TFP Growth

1992 Nominal ICT Spending/GDP
E-Choupals – Internet Access and Rural Livelihoods

• ITC used the Internet to re-engineer the supply chain of their soybean business in rural India
• ITC saves US$ 5 and the farmer saves a similar amount on each transaction
• For the first year ITC estimated a 2% total savings in production costs associated with their soybean business and a similar boost in profit due to enhanced quality
Telecoms as a driver of private-sector investment

- Total investment in telecoms in Sub-Saharan Africa was $13.9bn 2001-2005
- In 2003, Total investment in telecoms in Sub-Saharan Africa = 27% of total FDI and 0.8% of GDP
Liberalization Drives Investment and Access

Private Participation in Telecom Projects Attracted over $13 billion in MNA 2000-2004

Private Participation in Telecom Projects in MNA is a high % of Private Participation in Infrastructure Projects
An increase of 10 mobile phones per 100 people boosts GDP growth by 0.6%.

A 1% increase in the number of Internet users increases total exports by 4.3%.

ICT, Trade, Economic Growth: the Logical Links
## ICT, Firm Competitiveness, Economic Growth: Empirical Evidence

### Effect of ICT Use on Enterprise Performance in Developing Countries

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Enterprises that do not use ICT</th>
<th>Enterprises that do use ICT</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales growth (%)</td>
<td>0.4</td>
<td>3.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Employment growth (%)</td>
<td>4.5</td>
<td>5.6</td>
<td>1.2</td>
</tr>
<tr>
<td>Profitability (%)</td>
<td>4.2</td>
<td>9.3</td>
<td>5.1</td>
</tr>
<tr>
<td>Labor Productivity (value added per worker in USD)</td>
<td>5,288</td>
<td>8,712</td>
<td>3,423</td>
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<tr>
<td>Total Factor Productivity (%)</td>
<td>78.2</td>
<td>79.2</td>
<td>1</td>
</tr>
</tbody>
</table>
ICT Creates New Jobs

IT-Related Employment in South East Europe

Between 2003 and 2008 there is growth of 32,000 new IT jobs

Bulgaria
Croatia
Macedonia
Romania
Slovenia
Serbia and Montenegro

Source: IDC IT Economic Impact Study, 2005, 6 South East European Countries
An aggregate of $432 million in new tax revenues over 5 years.

Source: IDC IT Economic Impact Study, 2005, 6 South East European Countries
Singapore uses ICT in TradeNet, Achieves Significant Gains in Customs Efficiency