
ICT for Economic Development and Innovation

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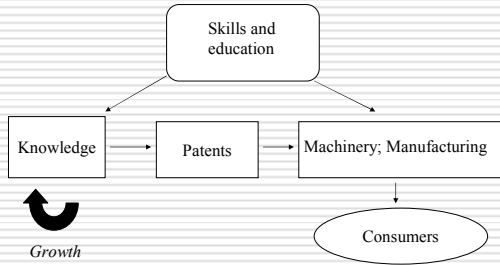
Central issues

- What makes for a productive economy?
 - How can Information and Communications Technology help developing countries grow?
 - ... Or do countries acquire ICT only when already developed and thus ready?
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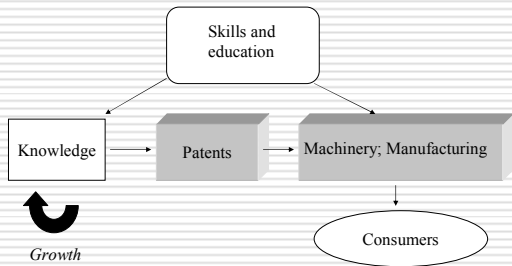
Conclusions

- ICT is good for growth and development
 - The world remains deeply divided but no longer uniformly so
 - Mobile telephones!
(More than the Internet and PCs)
 - IPRs matter
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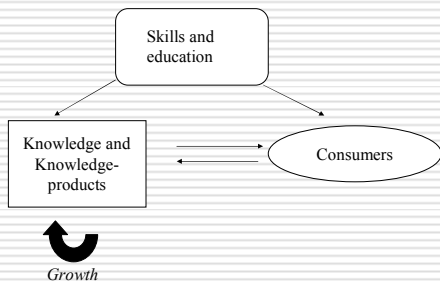
Technology and Growth: Old and New



Technology and Growth: Old and New



Growth in the Modern Economy



Hope and hyperbole

- 2000 - NASDAQ reversal and vindication
- Now-invisible presence
 - "Information superhighway"
 - "To google"
 - 36% a year Bengalooru/Bangalore

ICT helps

- 2000-2003; 50,000 firms in 56 countries: Email vs non-email
 - 10X sales growth
 - 2X profitability
 - 2/3 higher labour productivity
 - Higher employment growth
- Similar results for computer usage, website interactivity
- Increasing Internet population 1% raises exports by 4.3%

Leapfrog or Digital Divide: Some Basic Facts

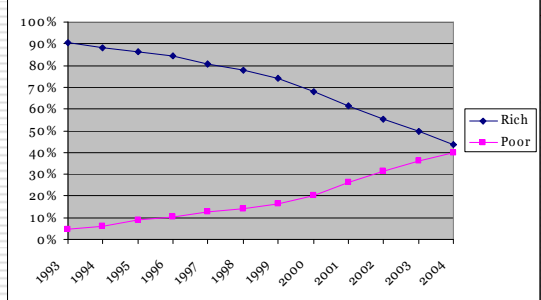
- Rich countries, poor countries. Worldwide populations 2004:

People	6.36 X 10 ⁹
Internet users	0.87 X 10 ⁹
Mobile phones	1.78 X 10 ⁹
PCs	0.79 X 10 ⁹
Per capita income	\$22.40/day

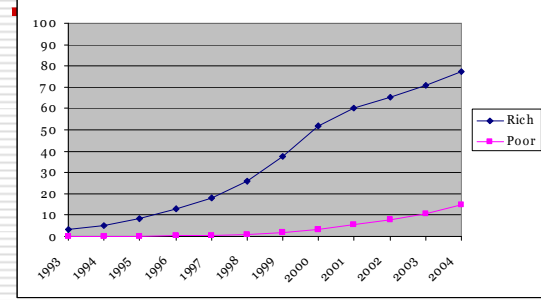
Digital Divide across countries

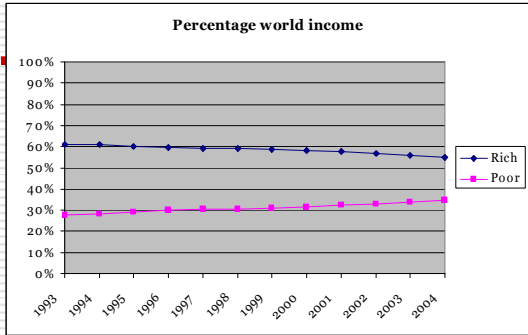
% world	Rich	Poor	Per capita Rich/Poor
People	16	75	
Income	55	34	7.5X
Internet users	63	27	11.1X
Mobile phones	44	40	5.2X
PCs	73	18	19.7X

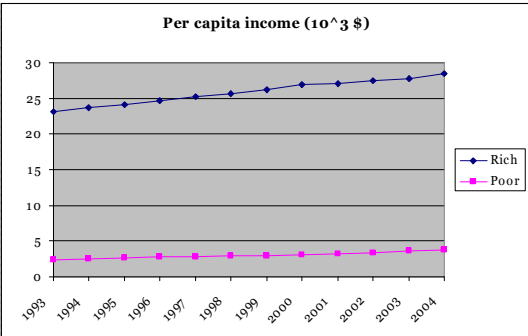
Percentage world mobile users



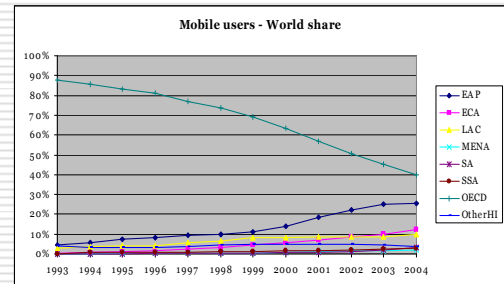
Mobile users per 100 people



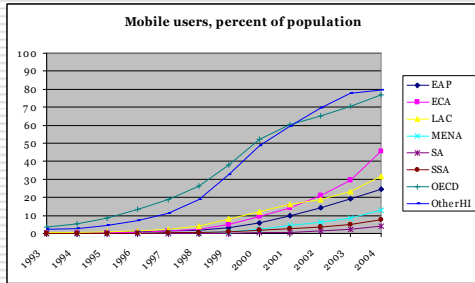





Mobile users: Percentage located in different regions

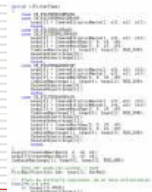
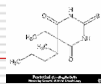


Mobile dissemination within regions



Intellectual property rights

- Music, digital entertainment
 - MP3s, DVDs 
- Computer software, operating systems
 - MS Windows, Linux
- Pharmaceuticals
 - AIDS antiretrovirals



Global medication

- 90% of world's disease burden; 3% of the world's R&D expenditure
- HIV/Aids infection in 2005: Africa 26m, total worldwide 40m
- Population in Africa 12% of world
 - Cost of anti retroviral medications
 - Poverty, ignorance, prohibitive cost
 - Workers at their most productive
 - Orphans, social structure

International IPRs

- ❑ India 04/1972-05/2003, pharma product patents
 - ❑ World's largest producer by volume, one of the world's largest for bulk drugs. Major exporter
 - ❑ Quinolone molecules for bacterial infection
 - ❑ Welfare loss US\$715mn a year (120% of total sales) versus domestic producer profits gain US\$50mn a year, multinationals US\$57mn
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