

OECD Technical Workshop at the FCC, Washington DC

## Session 4 – Looking ahead: examining the relationship of broadband to entrepreneurship, innovation and productivity

12 October 2011 • Dr Matt Yardley

# A practitioner's perspective

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- We are currently advising:
  - EC on the “benefits of bandwidth” (integral to the Digital Agenda for Europe)
  - EIB on broadband development in Algeria, Egypt, Gaza/West Bank, Israel, Jordan, Lebanon, Morocco, Syria and Tunisia
  - UK Government on next generation broadband
  - Other Governments on national broadband plans
  - Regulators on broadband policy

**Cost-benefit analysis is central to all of these**

## Some recent interesting studies ...

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- Czernich et al (2009): an increase in the broadband penetration rate by 10 percentage points raised annual growth in per capita GDP by 0.9–1.5 percentage points (panel of OECD countries)
- Qiang and Rossotto (2009): a 10% increase in basic broadband penetration enlarged GDP growth by an additional 1.21% when looking at 66 high-income countries; and by 1.38% in the remaining 120 low- and middle-income countries
- Ericsson, Arthur D. Little and Sweden's Chalmers University of Technology (2011): doubling broadband internet access speeds for an economy can increase GDP by 0.3% (33 OECD countries)
- Milano (2010) suggests that investment in ICT (like broadband) contributed almost 0.8% to the average annual real GDP growth in the USA from 1994 to 2000

## ... and some potential issues highlighted

- Czernich et al (2009): an increase in the broadband penetration rate by **10 percentage points** raised annual growth in per capita GDP by 0.9–1.5 percentage points (for a subset of OECD countries)
- Qiang and **Linear? First 10% same as last 10%?** **a 10% increase** in basic broadband penetration raised annual growth by an additional 1.21% when looking at 66 high-income countries; and by 1.38% in the remaining 120 low- and middle-income countries

**Linear?** Little and Sweden's Chalmers University of Technology found that **100Mbit/s→6% GDP in the UK!** **doubling broadband internet access speeds** for an increase in per capita GDP by 0.3% (33 OECD countries)

- Milano (2010) suggests that investment **in ICT (like broadband)** contributed almost 0.8% to the average annual real GDP growth of the USA from 1994 to 2000

**Vague definition:  
ICT ≠ broadband!**

## Some other major questions

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- **Causality**: does GDP drive broadband penetration, or vice versa?
- **Incremental benefits**: will next generation broadband deliver less, the same, or more benefit than basic broadband?
- **Counterfactual case**: does broadband create jobs or simply maintain them?
- **Competitiveness**: can all countries be winners?

# Benefits go beyond GDP and productivity

Source of benefit	Examples
Direct	Revenues, expenditures, induced impacts
Competition	Technology impacts, pricing impacts
Economy stimulation	GDP increase, productivity gains
Business	Procurement savings, online efficiencies, market growth, technology and process adoption
Government	e-procurement, process efficiencies
Public goods provision	e-health, e-learning
Social inclusion	Social bonds, reduced exclusion
Consumer	Consumer surplus
Environmental	Weightless economy, commuting reductions

**Major implications for data collection (if indeed possible),  
and double-counting issues persist**

# Ultimately, does measuring growth matter?

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- It is inconceivable for Governments to ignore broadband
  - but they do need to be very clear on their role in broadband market stimulation / intervention
- Accept that cost-benefit analysis is necessarily approximate
  - and note that it is very easy to get the counterfactual (“do nothing”) case wrong
- Focus on the most easily measured / clean indicators
- Drive towards implementation rather than over-analysis
- Live with uncertainty
  - there is some truth in “build it and they will come”

# Contact details

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