

Economic impact of broadband in developing countries

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Hypothesis: broadband via enabling characteristics delivers economic impact

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- For businesses and public sector
 - Workplace productivity
 - Better access to markets (e.g. agriculture and tourism)
 - Access to global know-how and training
 - Reduced transaction costs
 - Outreach
- For individuals
 - Lowering barriers to knowledge (e-Learning)
 - Better access to labor markets

Least developed countries: data issues

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- Time-series data
 - Limited number of observations
 - Sub-categorization to investigate the impact of other factors not possible
- Missing economic and telecom indicators
 - Affects the approach used
 - Limits the variables used for analysis

Estimating effect of broadband on GDP per capita in LDC, LLDC and SIDS countries

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- Mobile broadband has greater impact than fixed
- Threshold effects at 20% penetration fixed & 30% mobile

Fixed BB: +10% penetration → GDP/capita: +2.0-2.3%

Mobile BB: +10% penetration → GDP/capita: +2.5-2.8%

Economic impact greatest in low-income countries

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The economic contribution of broadband, digitization and ICT regulation (ITU, 2018)

139 developed & developing countries
2010-2017 quarterly data

1% increase in fixed broadband penetration

→ increase in GDP
• **0.08%**

1% increase in mobile broadband penetration

→ increase in GDP
• **0.15%**

Economic impact of broadband in developing countries (ITU, 2019, forthcoming)

LDCs, LLDCs and SIDS: 47 (fixed),
62 (mobile), 2000-2017 annual data

1% increase in fixed broadband penetration

→ increase in GDP/capita
• **0.23%**

1% increase in mobile broadband penetration

→ increase in GDP/capita
• **0.28%**

Approach: instrumental variable regression

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- Separate models for fixed and mobile broadband
- Estimate GDP/capita based on key predictor variables
- Broadband penetration
 - fixed
 - mobile
- Average years of schooling
- Labor force participation
- Fixed capital formation
- Fixed line penetration
- WiMAX, 3G & 4G coverage

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