

Designing and Assessing Studies of the Impact of Broadband on Productivity

James E. Prieger
Pepperdine University
School of Public Policy
Malibu, California

FCC National Broadband
Plan Workshop
Washington, D.C.
August 26, 2009



Macro approaches to measuring impact of broadband on productivity

- ◆ ICT → “C” → BB
 - Traditional growth accounting
 - Econometric studies
- ◆ Find a clear impact of ICT on US growth
 - Caused $\frac{3}{4}$ of labor productivity growth in 1995-99
 - Caused $\frac{2}{5}$ in 2000-05. (source: Oliner *et al.* 2007)
- ◆ Growth may not be win-win
 - Some firms exit, other enter.
- ◆ Results vary greatly across sectors and countries
 - \$\$ spent on ICT is not the whole story.
 - Intangibles matter!

Micro approaches to measuring impact of broadband on productivity

- ◆ US v. European federal data collection:
 - Eurostat surveys 107,000 firms on use of ICT.
 - ◆ Extensive survey: 65 variables.
 - US Census surveys 50,000 firms on ICT spending
 - ◆ Nothing about usage.
- ◆ Generally positive results
- ◆ Issues with firm-level studies:
 - Heterogeneity in impact is the norm (again!).
 - Endogeneity (again!). Businesses most likely to gain benefits adopt.
 - Intangibles and their measurement (again!)

What are these intangibles?

- ◆ Human capital, education, training
- ◆ Complementary investments in organizational accommodation and change
- ◆ Competitive pressure
- ◆ Labor market flexibility/liberalization
- ◆ Implications:
 - Broadband is not a Band-Aid for a company, a labor market, or a region.
 - Example: ICT and U.S. schools
 - Cannot merely measure BB availability or spending and assume causality for growth

Impact of broadband on employment

- ◆ Many studies unconvincing
 - What caused what?
 - Mobility of workers.
- ◆ More productive workers: paid more, but fewer?
- ◆ Deeper “problem”: broadband enables globalization.
 - Why wouldn't the offsite worker also be offshore?

Suggestions for the National Broadband Plan

- ◆ Institute systematic data collection/
survey on *usage* by firms.
- ◆ Perform rigorous evaluation of BTOP
projects.
 - Take advantage of the “experiment.”
 - Use state of the art methods for
program evaluation.
- ◆ Facilitate internal and external
analyses.