

Economic impact of investments in digital infrastructure

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I study the economic impact of broadband internet in Norway, in particular focusing on productivity and skill complementarities in the labor market and the effects on international trade. Due to limited annual funding and challenges posed by geographic barriers, broadband internet coverage was progressively rolled out over several years (2000–2008). Together with my coauthors, I use this variation in time and space as a natural experiment that can be used to identify causal effects. The productivity of university educated («skilled») workers increased due to the internet, while the effects were only limited for other groups. These productivity effects also affected labor market outcomes, specifically causing an increase in the employment rate and hourly wage premium of university graduates. We find suggestive evidence that broadband adoption in firms complements university graduates when executing nonroutine abstract tasks and substitutes for non-university graduates when performing routine tasks. Firm productivity increased by an average of four percent, with the largest effects seen among firms employing relatively more skilled workers. We also analyze the effects on patterns of international trade. We find that the internet increases the sensitivity of international trade to geographic distance. This is most likely due to a reduction in information frictions, which increased competition among producers, thereby making price differences more salient. Since geographic distance entails costly transports, the internet appears to favor producers more closely located to the consumer since such producers are to a larger degree able to avoid transport costs.

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