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Broadband Internet, Fertility and Work from Home

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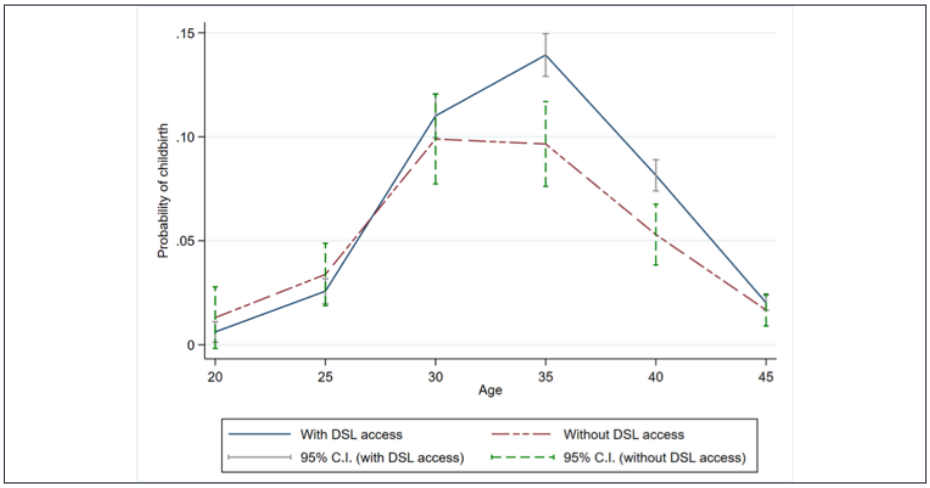
Introduction: While the economic and social implications of the rapid spread of Internet access have been the subject of research for some time now (Di Maggio et al, 2001), the interest in the potential effects of Internet access on family and personal life is much more recent. In a new study (Billari et al, 2019), we look at the possible impacts of access to high speed Internet on fertility choices in a low fertility setting – Germany.

Using data from the longitudinal German Socio-Economic Panel (SOEP), we construct our fertility outcomes using retrospective fertility histories. Our key explanatory variable is access to the Internet and whether this access is based on broadband technology. We use the SOEP's rich information on life courses and conditions, including working from home, time spent on childcare, and life satisfaction to identify possible mechanisms for our relationship of interest.

Results: Figures 1 and 2 show differences in age patterns of fertility by internet access between highly educated and lower-educated individuals, respectively. Broadband Internet access at home is positively correlated with the probability of a birth, but only among highly educated individuals older than 25. Interestingly, the opposite pattern is seen among lower-educated individuals. We then exploit an instrumental variable (IV) strategy devised by Falck et al. (2014) to investigate whether DSL availability has causally increased fertility.

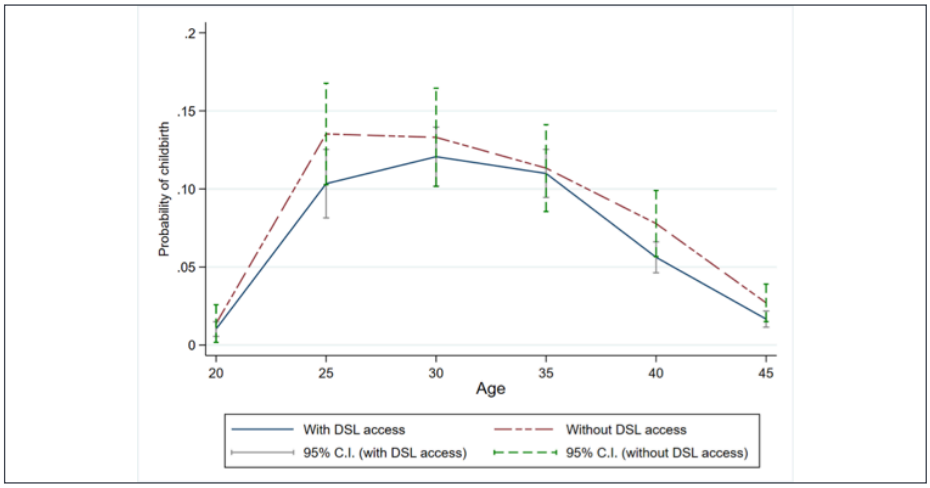
Evidence from Germany suggests that access to high-speed Internet may promote fertility among highly educated women, by improving the work-family balance

Figure 1 Annual probability of childbirth by DSL access and age: highly educated individuals, Germany 2008–12



The IV analysis confirms the positive effect of DSL on fertility among the highly educated women (13.3 percentage points), and a negative and not statistically significant effect among the lower educated. The DSL effect remains positive (7 percentage points), albeit non-significant, among highly educated men.

Figure 2 Annual probability of childbirth by DSL access and age: less-educated individuals Germany, 2008–12



We consider three mechanisms for this relationship: information, marriage, and work-family balance. Our analyses suggest that information plays a limited role. We find a positive but non-significant relationship between access to high-speed Internet and the likelihood of getting married for highly educated women aged 25-45. With regard to the work-family balance mechanism, we find that high-speed Internet increases the likelihood of working from home by almost 30 percent, encourages part-time vs. full-time work and diminishes the overall number of hours worked. There is no evidence of a significant overall effect on female employment. Finally, access to DSL significantly increases time spent on childcare and the likelihood of reporting a high life satisfaction.

Discussion: Our findings suggest that increasing access to high-speed Internet may promote fertility among highly educated women in an advanced economy, by easing the burden of balancing work and family duties. This also means that broadband might introduce a "second-level digital divide" in fertility, allowing highly educated individuals to realize their fertility goals, while not improving those chances for less-educated individuals, who tend to be employed in less flexible occupations.

These relationships may be different in other contexts. For example, Guldi and Herbst's (2017) study of US teenage fertility finds opposite results and suggests that broadband access has contributed to the recent decline in U.S. teenage fertility rates. The information mechanism seems to be important here. Billari et. al (2018) show that the diffusion of digital mobile phones is associated with a reduction in fertility in an area of Malawi. What is consistent across all these studies is the fact that closing digital divides might allow women and men to better realize their life plans.

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