ECONOMIC FINDING • SEPTEMBER 2022

Broadband Internet and the Stock Market Investments of Individual Investors

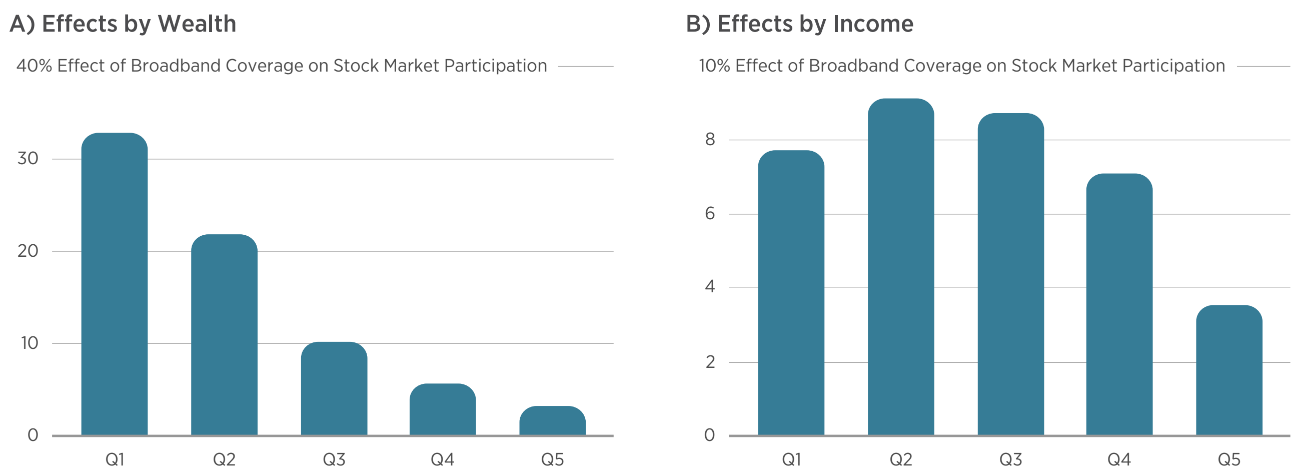
Based on BFI Working Paper 2022-117, "Broadband Internet and the Stock Market Investments of Individual Investors," by Hans K. Hvide, University of Bergen; Tom G. Meling, The Ohio State University; Magne Mogstad, University of Chicago; and Ola L. Vestad, Statistics Norway

Internet use causes a large increase in stock market participation, driven primarily by increased fund ownership. Existing investors increase their diversification and obtain higher risk-adjusted returns. Overall, internet use seems to spur a "democratization of finance", with individuals making investment decisions that are more in line with the advice from portfolio theory.

Does internet use lead to improved portfolio choices by households, or does it amplify behavioral biases? Early studies suggest the latter: In the 1990s, individuals that adopted online stock trading platforms increased their trading activity and trading costs without any apparent increase in risk-adjusted returns. More recently, social media usage appears, at best, to have mixed effects on the quality of financial decisions. New work by Hvide et al. (2022) challenges the conventional wisdom and suggests that internet use greatly improves financial decision-making.

The authors study a program rolled out by the Norwegian government in the 2000s that aimed at ensuring broadband internet access throughout the country. Detailed data on all stock and fund transactions made by all Norwegian individuals

Figure 1 • Effects of Broadband Coverage on Stock Market Participation, by Wealth and Income



Note: This figure shows the effects of broadband coverage on stock market participation rates. For each year, the authors first rank individuals into quintiles based on their wealth (Panel A) or income (Panel B) in the previous year. Individuals in Q1 have the lowest wealth or income, individuals in Q5 have the highest. Across all wealth and income levels, the authors find that broadband coverage has a positive and statistically significant effect on stock market participation. All coefficient estimates are scaled by the pre-reform participation rate.

Becker Friedman Institute FOR ECONOMICS AT UCHICAGO allow the authors to construct measures of stock market participation and portfolio composition. Comparing over time the investment decisions of individuals with and without broadband access, the authors find:

- Broadband internet use leads to increased stock market participation, driven by an increase in the share of the population investing in equity funds. The authors find no effect of internet use on the share of the population holding common stocks. The effects are economically significant: For every 10-percentage point increase in broadband use, the stock market participation rate increases by 0.7 percentage points, that is, about 5.3 percent of the pre-reform mean stock market participation rate.

- Existing investors on average do not increase their stock trading activity following the introduction of broadband, though there is a slight tendency for the most active traders to become even more active. Moreover, existing investors tilt their portfolios toward equity funds, thereby obtaining more diversified portfolios and higher Sharpe ratios (a measure of risk-adjusted returns), as well as higher portfolio efficiency.

- To better understand the mechanisms underlying the two main findings, the authors use nationally representative survey data on households' internet activities. Theory suggests that entering financial markets involves fixed costs such as becoming aware of stock market opportunities and acquiring financial competence, and it is plausible that high-speed internet would facilitate these activities and thus reduce fixed costs. The survey data support this interpretation: Over the broadband expansion period, the authors observe a broad trend towards increased internet-based information acquisition and learning. Heterogeneity analyses also point towards an information acquisition channel: Compared to pre-reform stock market participation rates, the effects of broadband on stock market participation are stronger for low-SES households who have the lowest stock market participation rates and likely the lowest financial literacy to begin with.

- Finally, the authors use household balance sheet data to show that broadband internet use increases households' financial wealth and their return on financial wealth.

Bottom line: The authors' two key findings, as well as their supporting analysis, suggest positive effects of broadband internet on the financial decision-making of individual investors.

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NO. 2022-117 · AUGUST 2022

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