

The Effect of Broadband Internet for Low-Income Americans

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Introduction

- To what extent does broadband connection affect a family's well-being?
- We find that access to a broadband connection increases income by 8.5%

Literature Review

Data

Empirical Methodology

Results

Conclusion

Context

- **Broadband Internet Connection:**
 - Defined as 25 Mbps download and 3 Mbps upload
 - Allows for multiple streams of data to be sent at once
- **Affordable Connectivity Program (ACP):**
 - \$14.2 billion program
 - Replaced the Emergency Broadband Benefit Program (~9 million household carried over)

Literature Review

Why does Internet use matter?

- “Internet use among adults ... was associated with a 6 percentage point increase in the probability of employment.”
 - Exploring the Digital Nation: America's Emerging Online Experience, NTIA 2013
- *“Price is the largest barrier to broadband adoption, with 50% of non-broadband users indicating that cost is the primary reason why they do not have a broadband subscription”*
 - *Wired and Hired: Employment Effects of Subsidized Broadband Internet for Low-Income Americans*, Dr. George Zuo 2021

Data Selection

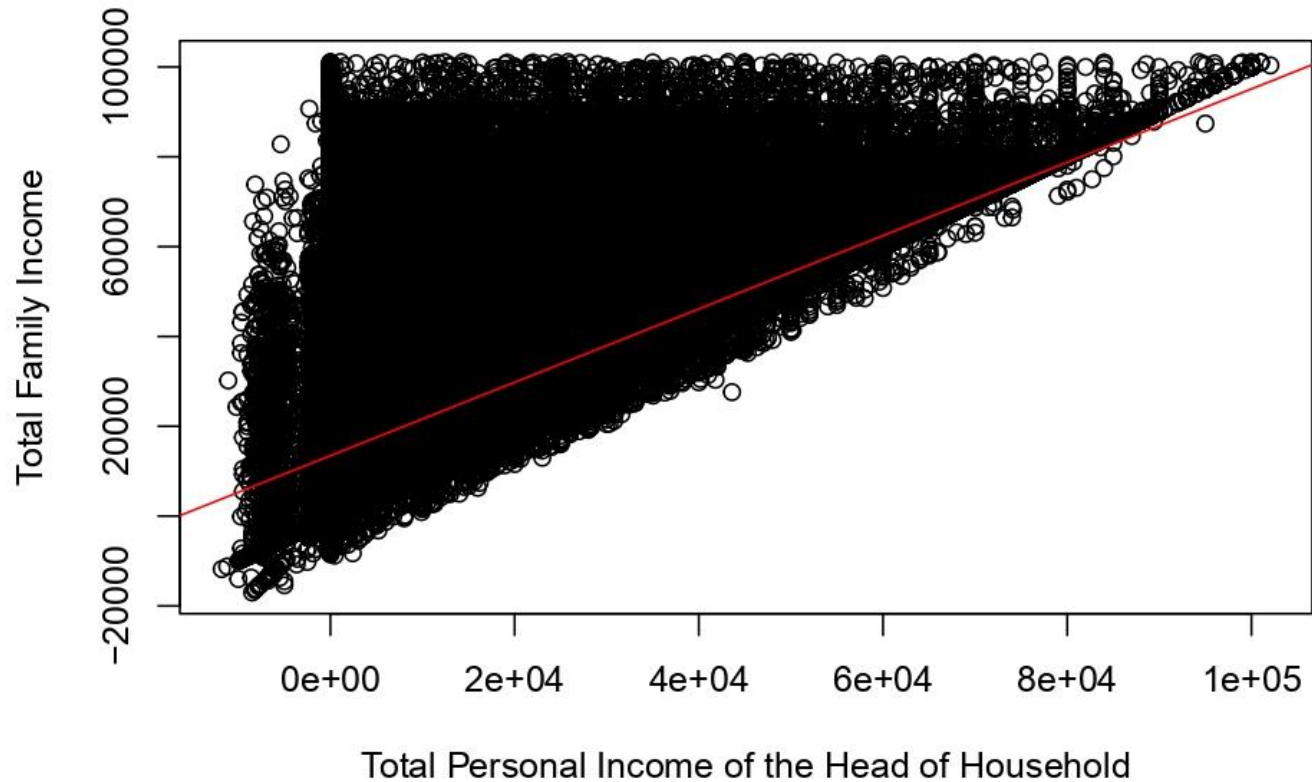
- Qualifying observations are:
 - At or below 200% of the federal poverty guidelines
 - The head of their household
 - Drawn from 2016 - 2021 ACS Samples
- Assumed that all observations completed survey correctly

Empirical Methodology (Logic)

- How could broadband internet access affect household outcomes? (Chain of causality)

Broadband → Head of Household Outcomes → Household Outcomes

Total Family Income vs. Total Personal Income



Empirical Methodology

$$\ln(Y_i) = \alpha + \beta BB_i + \rho SEX_i + \theta AGE_i + \lambda RACE_i + \gamma EDUC_i + \kappa MARST_i + \tau YEAR_i + \epsilon STATE_i + e_i$$

Where

Y_i : Total Personal Income of the Head of House

BB_i : Access to Broadband Internet Connection

Results

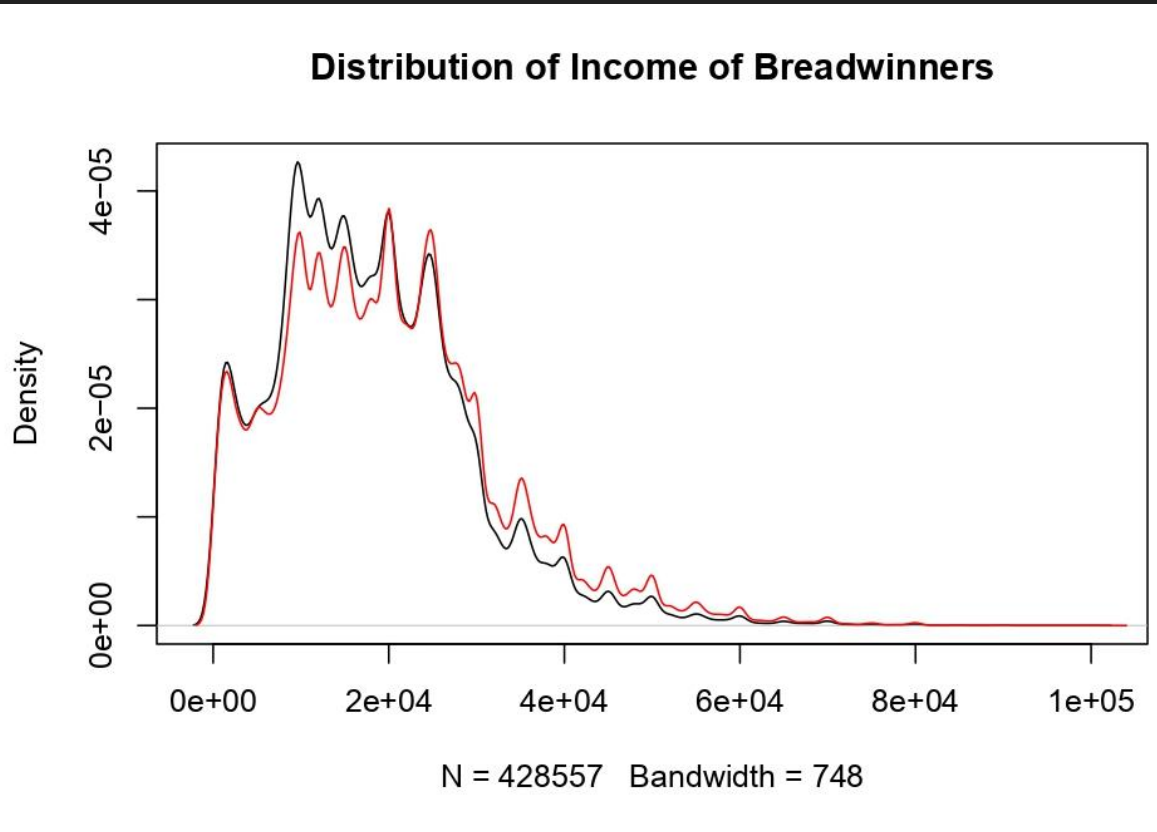
Linear Regression Coefficients				
	Estimate	Std. Error	t value	Pr(> t)
HASBBIA	0.085	0.002	49.344	0
SEX	-0.234	0.002	-148.370	0
AGE	-0.004	0.0001	-87.449	0

- Access to a broadband internet connection increases personal income by 8.5%

Conclusion

- To what extent does broadband internet affect a family's well-being?
- It increases the head of household's personal income by 8.5%
- These gains compound with other beneficial factors and result in greater gains than costs, suggesting greater investment in these kinds of benefit programs

Reverse Causality?



Robustness Checks?

- State vs. County control
 - No change in regression coefficient for BBIA, still 8.5%
- Heteroskedasticity Robust SEs
 - No change in regression coefficients
- Model only using BBIA, SEX, and AGE
 - Regression coefficient for BBIA is 8.7%