

Event Title

Research Title

Author

Department



RELEVANCE

When is the last time you have opened you phone to Google something?

Introduction

- ▶ Facebook - 3.8 billion users worldwide, 2.7 billion monthly active users, 1.8 billion daily active users - 3 hours per day .

Literature

1. The existing literature seeks to examine the effect of social media and mobile phones on time spent on different activities and welfare effects .

Does higher mobile phone usage is linked to higher time spent on learning?

Data and Measures

1. Consumer Pyramid Survey (CPS) (Year 2019, Wave: September - December)
2. (X) **Mobile Phone Usage** - Monthly expenditure on mobile phones (recurring).
3. (Y) **Time spent on learning** - Average time spent on learning by members of the household.

EMPIRICAL STRATEGY

Specification

- ▶ The equation used to measure the effect of monthly expenditure on time spent on learning is as follows:

$$\text{Log}(TL)_{ijt} = \beta_0 + \beta_1 \text{Log}(EXPM_i) + \gamma X_i + \mu_j + \nu_t + \varepsilon_{ijt}$$

where $\text{Log}(TL)_{ijt}$ is log of average time spent on learning by members of i household, j state t in month t

- ▶ $\text{Log}(EXPM_i)$ is the log monthly expenditure on mobile phones. β_1 is the primary effect of interest.
- ▶ μ_j and ν_j are state and time fixed effects.
- ▶ X_i is the control variables.
- ▶ ε_{ijt} is the idiosyncratic error term that follows a $N(0, \sigma_2)$.

Regression Results

Heterogenous Treatment Effects

Figure 1: Marginal Effect of Interaction between Monthly Consumption Expenditure and Gender Group

Post Analysis Discussion

- ▶ Autocorrelation
- ▶ Heteroskedasticity
- ▶ Outliers

Appendix

Possible Sources of Endogeneity

- ▶ *Measurement Error and Reporting Bias*: Expenditure and Quantifying time spent on learning.
- ▶ *Omitted Variable Bias*: Baseline values of Y (Habit forming behaviour), Unmeasurables - curiosity to learn, district level infrastructure, etc.
- ▶ *Reverse Causality*: What if more time spent on learning leads to more expenditure on mobile phones? (Rational decision - ROI)

Future Directions

- ▶ More village level controls variables: Other data sources.
- ▶ Use of instruments variables to address endogeneity (two i have tested).

Thank You

Appendix

Scatter Plot of Y and X

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Normality of Residuals

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Residual Plot

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