Longitudinal Response Rates and the Economy

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Introduction

• Current trends in declining participation rates
  • Longitudinal attrition only partially responsible
  • Trend not as consistent/steep as thought but still in decline (Smith 1995)

• Possible Causes
  • Cell phones
  • Increased work force participation
  • General respondent fatigue

• Understanding participation factors even more important

Purpose

Examine way in which National Longitudinal Surveys of Youth 1979/97 participation rates affected by economic factors.

• How:
  • Look at participation rates and respondent demographics for NLSY79 before and during 2001 recession
  • Look at participation rates and respondent demographics for NLSY97 before and during 2007-2009 recession

• Why:
  • Chose these two time periods so 79 sample closer in age to 97 sample during selected periods
  • Minimize effects of natural longitudinal attrition in NLSY79
  • Better understand if overall participation rates or subsets affected by looking at respondent demographics
National Longitudinal Surveys of Youth

- Commissioned by Bureau of Labor Statistics
- NORC at the University of Chicago
- Center for Human Resource Research at the Ohio State University
- Transition from adolescence into labor market
- NLSY79
  - 12,686 Youth respondents sampled
  - Born between 1957-1964
  - Completed 24th round
  - Transition to biennial survey and majority phone
  - Base Incentive: $20-$40 with additional incentives for missed rounds, Early Bird, in-kinds
- NLSY97
  - 9,894 Youth respondents sampled
  - Born between 1981-1984
  - Completing 14th round
  - Annual in-person survey (<13% by phone)
  - Base Incentive: $20-$30 with additional incentives for missed rounds and in-kinds

Current Theories

Leverage Salience Theory (Groves and Couper 1998)
- Participate in survey if salient features of survey are personally relevant
- Personal relevance varies
- Increase participation by making respondent aware of aspects of survey important to them
- Tailoring approach

Heuristic Approach (Groves and Cialdini 1991)
- Decision made quickly based on most obvious features
- Survey is not personally relevant so look at:
  - Credibility of sponsor
  - Attractiveness of deal
- Also promotes tailoring approach

Current Theories

Social Exchange Theory (Dillman 1978)
- Participate if personally beneficial for self and others
- Receive self-validation

Rational Choice Theory (Groves, Cialdini, Couper 1992)
- Participate if benefits outweigh costs
  - Self-validation
  - Monetary incentive
  - Public good
  - Time burden
  - Intrusion on privacy
Theoretical Implications

• Look at how respondent processes decision to participate
• Obvious features of survey important for participation
• Saliency/importance and costs/benefits can change:
  • From respondent to respondent
  • According to respondent’s environment

Limitations: Only applicable when are able to locate/contact respondent

Societal Level Factors

• Household structure
• Crime rates
• Urbanization
• Personal finances
• Employment/unemployment
• Job searching

Can affect noncontact AND refusal rates (Groves, Cialdini, and Couper 1992; Wolford 1994)

Respondent Demographics

• General demographics may be significant—inhconsistencies
  Variables interact with each other (Radler and Ryff 2010)
• MIDUS National Study of Health and Well-Being
  • Interplay between variables
    • White, married, more education associated \(\rightarrow\) positively correlation
    • Females more likely to participate than males if married, BUT equal chance if unmarried
    • Race/ethnicity correlation to health status \(\rightarrow\) both negatively correlated
  • Implications:
    • Participation affected by interplay of respondent characteristics, features of survey, societal and environmental factors, personal values
    • Difficult to understand role economy plays
Features of 2001 Recession

- Very mild
- Short
- Small decrease in GDP
- Small increases in unemployment and underutilization
- Unemployment continued to rise after official end of recession as classified by National Bureau of Economic Research (NBER)

<table>
<thead>
<tr>
<th>Dates</th>
<th>Peak Unemployment Rate</th>
<th>Date</th>
</tr>
</thead>
</table>


Features of 2007-2009 Recession

By almost all measures was worst recession since World War II
- Largest increase in unemployment
- Largest period of increasing unemployment
- Biggest drop in GDP
- Severe labor underutilization

Economic Impact on Minorities

- Worse Rates of Unemployment:
  - Males
  - Young adults
  - Hispanics
  - Blacks
  - Lower education levels
- Underemployment:
  - High School Diploma/equivalency 34%
  - Master’s Degree or higher 6%

Annual Unemployment Rate by Race (percent)

Source: Bureau of Labor Statistics; Average unemployment rate, civilian labor force 16 years and over (percent)

*Data not available for Asians before 2000; not seasonally adjusted.
Recession Profiles

<table>
<thead>
<tr>
<th>Dates</th>
<th>Duration (months)</th>
<th>GDP (change)</th>
<th>Consumption (change)</th>
<th>Investment (change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov. 1948-Oct. 1949</td>
<td>11</td>
<td>-1.6</td>
<td>3.4</td>
<td>-10.2</td>
</tr>
<tr>
<td>July 1953-May 1954</td>
<td>10</td>
<td>-2.6</td>
<td>-0.5</td>
<td>-3.4</td>
</tr>
<tr>
<td>Aug. 1957-April 1958</td>
<td>8</td>
<td>-3.7</td>
<td>-1.3</td>
<td>-8</td>
</tr>
<tr>
<td>April 1960-Feb. 1961</td>
<td>10</td>
<td>-1.6</td>
<td>-1.5</td>
<td>-5.1</td>
</tr>
<tr>
<td>Dec. 1969-Nov. 1970</td>
<td>11</td>
<td>-0.6</td>
<td>2.5</td>
<td>-2.6</td>
</tr>
<tr>
<td>Nov. 1973-March 1975</td>
<td>16</td>
<td>-2.8</td>
<td>-0.7</td>
<td>-18.4</td>
</tr>
<tr>
<td>Jan. 1980-July 1980</td>
<td>6</td>
<td>-2.2</td>
<td>-1.2</td>
<td>-8.1</td>
</tr>
<tr>
<td>July 1981-Nov. 1982</td>
<td>16</td>
<td>-2.7</td>
<td>-1.1</td>
<td>-8.3</td>
</tr>
<tr>
<td>July 1990-Mar. 1991</td>
<td>8</td>
<td>-1.4</td>
<td>-0.7</td>
<td>-7.2</td>
</tr>
<tr>
<td>March 2001-Nov. 2001</td>
<td>8</td>
<td>-0.3</td>
<td>1.2</td>
<td>-3.2</td>
</tr>
<tr>
<td>Dec. 2007-June 2009</td>
<td>15</td>
<td>-4.1</td>
<td>-2.3</td>
<td>-23.4</td>
</tr>
</tbody>
</table>

Source: National Bureau of Economic Research; CRS calculations based on data from Bureau of Labor Statistics, Bureau of Economic Analysis. Notes: Table measures changes in economic indicators from peak to trough, which do not always correspond with NBER business cycle dates.

Results-NLSY79

- Used 5 binary logistic regression models
- Each round African American respondents at least 1.4 times more likely to participate than white counterparts
- Women more likely to participate in 3/5 rounds
- Hispanics more likely than whites in 2 rounds

<table>
<thead>
<tr>
<th>Year</th>
<th>Participation Rate 1979</th>
<th>Annual CPI (in 1,000s)</th>
<th>Annual GDP (in billions of current dollars)</th>
<th>Median Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>88.8</td>
<td>156.9</td>
<td>7,838.50</td>
<td>19,000</td>
</tr>
<tr>
<td>1998</td>
<td>86.7</td>
<td>163</td>
<td>8,753.50</td>
<td>21,000</td>
</tr>
<tr>
<td>2000</td>
<td>83.2</td>
<td>172.2</td>
<td>9,951.50</td>
<td>25,000</td>
</tr>
<tr>
<td>2002</td>
<td>80.9</td>
<td>179.9</td>
<td>10,642.30</td>
<td>26,000</td>
</tr>
<tr>
<td>2004</td>
<td>79.8</td>
<td>185.9</td>
<td>11,807.80</td>
<td>28,000</td>
</tr>
</tbody>
</table>

- Insufficient data to integrate case-level economic data into analysis
- No general trends apparent based on participation rates, CPI, GDP, and median income of participants
- Median income increase expected as respondents age
- Participation rates decline as expected given patterned attrition in longitudinal surveys.
Results-NLSY97

- A binary logistic regression model was fitted to the data
- Test research hypothesis that state-level economic indicators and individual level predictors explain participation
- 5 separate logistic regression analyses for R9, R10, R11, and R12

Predictors and Coding Scheme for NLSY97 Analyses

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Description</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>Fee offered to R to complete each round</td>
<td>n/a</td>
</tr>
<tr>
<td>Black</td>
<td>Dummy variable</td>
<td>1 = Black/African American</td>
</tr>
<tr>
<td>Race Other</td>
<td>Dummy variable</td>
<td>1 = Asian, Pacific Islander, American Indian, AK native, Hispanic, Latino, Other</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td>1 = Female</td>
</tr>
<tr>
<td>Age</td>
<td>Age calculated for each Round</td>
<td>n/a</td>
</tr>
<tr>
<td>State GDP</td>
<td>Gross Domestic Product per State</td>
<td>Continuous</td>
</tr>
<tr>
<td>State Unemployment</td>
<td>Unemployment rate per State</td>
<td>Continuous</td>
</tr>
</tbody>
</table>

Results-NLSY97

- Only significant predictor of participation was Respondent Fee
  - Respondent fee is negatively associated with participation.
  - Attributed to survey design and respondent fee guidelines

Results-NLSY97

- Participation appears to act independently of economic variables
- Unknown what caused increase in participation rates for 2006 and 2008
- Anecdotally thought could be a connection to poor economy
Conclusion

• Proved difficult to isolate economic factors in response rates
  • Difficult to isolate any variables (Radler and Ryff 2010)
• Hard to account for individual motivations for participation
  • Heuristics, role of field interviewer, incentive, time of year, locating information, etc.
• Blacks, Hispanics, and women more likely to participate on NLSY79
  • Possible associations with economy, income, employment, respondent fee

Limitations

• Questionnaire design
  • Collect information from date of last interview
  • Collect information from year prior to year round starts (income)
• Missing data from respondents who did not participate
  • Collected retroactively but difficult to compile
• Round 12 employment information from 2007
  • Recession lasted through 2009
• Difficult to isolate economic variables and factor into analysis
• Hard to account for natural longitudinal attrition
• Regional variations in economic characteristics
• Used annual economic data
  • Missed variance within year

Future Research

• Compile retroactively collected data for more complete data set
• More information on missing respondents
  • Unlocatable
  • Refusal
  • Scheduling issues
• Respondent self-report motivations for participation
• Follow-up when more recent data is publicly available
• Cross-study comparisons during same time period
• Account for economic variance regionally and over time
Works Cited


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Thank You!