Investigating Risky Behaviors: Innovative Uses of the Consumer Expenditure Survey Historical Evidence from the Diary and Interview Components

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Caveat Emptor:

*This presentation is based on work in progress. The work is exploratory. All results are preliminary. No formal theories have been proposed or tested. However, no data were harmed in the production of this presentation.
Part 1: Risky Behaviors and Age...

Trends in Alcohol, Tobacco, and Fast Food Expenditures by Young Adults (Diary)
Motivations:

- The CDC produces a report (annually, since 1991) showing trends in risky behaviors for young adults.
- Young adults are both our present AND our future
  - Current employment leads to higher tax revenue, Social Security inputs, etc.
  - Behaviors today affect health status in later years
This presentation:

- Uses data from the Consumer Expenditure Survey (CE)
- Compares young adults (under 25) with the rest of the population
- Describes: trends in expenditure levels; percent reporting; and budget shares
The Data:

- Tabular (so far)
- Mostly available online (exception: Percent reporting)
- Are weighted to reflect the population
Additional Notes:

- Data for alcoholic beverages and most food away from home are published from the Diary Survey. However, expenditures for tobacco and smoking supplies are derived mostly from the Interview Survey.

- For this presentation, total food away from home is examined. However, expenditures for fast food are available on tables by type of meal (breakfast, lunch, dinner, and snack).
Why total “food away” for now?

- The online tool used to compute trends in this presentation does not provide details on food away from home.

- Percent reporting (described subsequently) is not available on tables for all “fast food,” but only for each meal. Computing for all “fast food” requires microdata.
Findings:
Trends
Before examining graphs, some general findings are:

- Expenditure patterns move in similar directions for both age groups.
- Young adults spend less on tobacco and food away from home, but more most years on alcohol.
- Expenditures decline for each item in response to the recent recession (2007-2009).
Expenditures rise at a faster rate for young adults...

Alcoholic Beverages, 1984-2013

\[ y = 5.6016x - 10840 \]
\[ R^2 = 0.4281 \]

\[ y = 7.8289x - 15292 \]
\[ R^2 = 0.8149 \]
...At about the same rate for each group for tobacco and smoking supplies...

Tobacco and Smoking Supplies, 1984-2013

Average Annual Expenditures


$0 $50 $100 $150 $200 $250 $300 $350 $400 $450

Axis Title

Under 25 25 and over (est.) Linear (Under 25) Linear (25 and over (est.))

y = 4.275x - 8248.8
R² = 0.8357

y = 4.1758x - 8116.6
R² = 0.6255
...and at a slower rate for young adults for food away from home.

Food Away from Home, 1984-2013

- Under 25
- 25 and over (est.)
- Linear (Under 25)
- Linear (25 and over (est.))

Equations:

- $y = 35.792x - 69987$
  - $R^2 = 0.8319$
- $y = 50.675x - 99159$
  - $R^2 = 0.9281$
Expenditures may differ because of percent reporting:

- Averages in tables are for all consumers, even those who did not purchase.
- Dividing average expenditures by percent reporting shows average for those who actually purchased.
Furthermore, percent reporting is important in its own right:

It describes whether goods or services of interest are being purchased by a wide or narrow portion of each age group.
Percent reporting is about the same or less for young adults compared to the total population* for alcohol...

Percent Reporting: Alcoholic Beverages

*Percent reporting for 25 and older is not available on tables, and cannot be estimated from them. Therefore, “all consumer units” value is used.
...about the same for food away from home...

Percent Reporting: Food Away from Home

<table>
<thead>
<tr>
<th>Year</th>
<th>Under 25</th>
<th>All Consumer Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>75.7</td>
<td>75.0</td>
</tr>
<tr>
<td>2009</td>
<td>70.6</td>
<td>70.4</td>
</tr>
<tr>
<td>2013</td>
<td>72.3</td>
<td>69.9</td>
</tr>
</tbody>
</table>

Under 25  All Consumer Units
...and noticeably less for tobacco, at least in 2013.

Percent Reporting: Tobacco and smoking supplies

<table>
<thead>
<tr>
<th>Year</th>
<th>Under 25</th>
<th>All Consumer Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>23.2</td>
<td>22.5</td>
</tr>
<tr>
<td>2009</td>
<td>22.5</td>
<td>22.1</td>
</tr>
<tr>
<td>2013</td>
<td>16.6</td>
<td>19.4</td>
</tr>
</tbody>
</table>

Whether this is a one-year anomaly or the start of a new trend requires further investigation.
Budget shares are also of interest:

- Young adults may spend less on average for specific goods because they have lower incomes, and therefore spend less generally;
- So how do they allocate total expenditures?
Shares allocated to alcohol and tobacco are small...

Shares of Total Expenditures Allocated to Alcohol and Tobacco by Age Groups, 2013

...However, younger adults spend a slightly larger share on alcohol in 2013.
Food away from home is more interesting:

Shares of Total Expenditures Allocated to Alcohol and Tobacco by Age Groups, 2013

Young adults spend less ($2,096) in absolute dollars than other consumers ($2,662), but this accounts for a larger share of their total expenditures.
At the same time, for young adults...

**Under 25**

- **Food at home**: 55%
- **Food away from home**: 45%

**25 and older (est.)**

- **Food at home**: 60%
- **Food away from home**: 40%

...Food away from home accounts for a larger share of the food budget than food at home.
Note that these figures do not control for:

- Price change. However, even if they do (say, by dividing each year’s value by its CPI) the general observations will not change (both generally rise or fall, e.g.), even if the shape of the curve may

- Percent reporting (although similarities for expenditures examined mitigates problem)
Nor do they control for:

- Demographics
  - Income
  - Family size

Some of this is why regression is useful.

- Logit or probit to predict probability of purchase
- OLS or other technique to estimate marginal propensity to consume and income elasticity
In addition, other expenditures are worth study:

- Health care
  - Insurance
  - Medical supplies
  - Medical services
  - Drugs (prescription and nonprescription)
- Sports, recreation, and exercise equipment
- Food at home
  - Fresh fruits
  - Fresh vegetables
  - Potato chips and other snacks
But as this is a work in progress...

...Regression and other analyses are left for...
...FUTURE WORK.
Comments/Suggestions are welcome!
Contact Information

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