Time-Use in
The Consumption and Activities Mail Survey (CAMS)

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RAND

We are grateful to the Social Security Administration for research support and to the National Institute on Aging for data development support.
CAMS sub-sample of Health and Retirement Study

- HRS population-representative of 51+
- HRS domains
  - economic status
  - Health
  - labor market activity
  - family linkages
  - use of public programs
- Main HRS survey is biennial
  - Telephone and face-to-face
- About 20,000 interviews each wave in HRS
- Both spouses
• HRS off-year
• Data embedded in very rich HRS panel data
• Mailed to about 5000 persons; 3866 responses
• Random sub-sample of the HRS
• Part A. 32 activities (time-use) categories
  – One respondent in each household
• Part B. 32 consumption categories

CAMS Oct. 2003 mailed to same respondents
Time-use questions

• Mainly designed by Regula Herzog, Nancy Fultz and F. T. Juster

• Specific domains in mind
  – Physical activities
  – Cognitive activities
  – Social activities
  – Altruistic activities
Time-use questions

- Ask about actual time spent last week or last month
- Even if unusual (specific instructions)
  “It is important, however, to report the actual amount of time spent on each activity, rather than the usual amount.”
- => Better for population averages than average individual time-use
Can be more than one use of an hour’s time

- Multi-tasking: both activities given “credit”
  - Listening to music while ironing
- One behavior can produce two types of time-use (double counting)
  - Sending email to a friend
- Could have total greater than 720 hours per month
- O.k. for many purposes
## Time spent last week: 20 items

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours spent last week</th>
<th>No time spent last week</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. Watching programs or movies/videos on TV</td>
<td>______ hours last week</td>
<td>OR</td>
</tr>
<tr>
<td>A2. Reading newspapers or magazines</td>
<td>______ hours last week</td>
<td>OR</td>
</tr>
<tr>
<td>A3. Reading books</td>
<td>______ hours last week</td>
<td>OR</td>
</tr>
<tr>
<td>A4. Listening to music</td>
<td>______ hours last week</td>
<td>OR</td>
</tr>
<tr>
<td>A5. Sleeping and napping (including at night)</td>
<td>______ hours last week</td>
<td>OR</td>
</tr>
</tbody>
</table>
Time spent last month: 11 items

Now think about the last **MONTH**. How many hours did you spend last month…

<table>
<thead>
<tr>
<th>A21. Helping friends, neighbors, or relatives who did not live with you and did not pay you for the help</th>
<th>Hours spent last month</th>
<th>OR</th>
<th>□ 0 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____hours last month</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A22. Doing volunteer work for religious, educational, health-related, or other charitable organizations</th>
<th>Hours spent last month</th>
<th>OR</th>
<th>□ 0 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____hours last month</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A23. Attending religious services</th>
<th>Hours spent last month</th>
<th>OR</th>
<th>□ 0 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____hours last month</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A24. Attending meetings of</th>
<th>Hours spent last month</th>
<th>OR</th>
<th>□ 0 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____hours last month</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A32. How many days in the last twelve months were you away from home on overnight trips or vacations? (Check one.)

___ Zero
___ 1-7
___ 8-14
___ 15-21
___ 22 or more
General summary

• Item non-response very low…see handout
• Women report 720 hours per month; men 638 (actual $30 \times 24 = 720$)
• Total declines with age
  – 50-64  735 hours
  – 65-74  690 hours
  – 75+  642 hours
• But remember multi-tasking and double counting…may be more at younger ages.
We have aggregated into 12 categories and converted to total “last month”

• But if last week was unusually high will get very high monthly amount
• This is a basic problem when combining items that operate on different time scales
• Put “missing” to zero but makes little difference
## Hours per month

<table>
<thead>
<tr>
<th></th>
<th>Leisure</th>
<th>Housework</th>
<th>Personal care</th>
<th>Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td>157.7</td>
<td>70.0</td>
<td>30.7</td>
<td>39.7</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td>171.3</td>
<td>105.1</td>
<td>39.9</td>
<td>29.8</td>
</tr>
</tbody>
</table>
## Hours per month

<table>
<thead>
<tr>
<th></th>
<th>Socialize</th>
<th>Help/vol</th>
<th>Religious</th>
<th>Computer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td>54.9</td>
<td>8.0</td>
<td>15.3</td>
<td>16.7</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td>73.5</td>
<td>12.0</td>
<td>25.2</td>
<td>17.2</td>
</tr>
</tbody>
</table>
### Hours per month

<table>
<thead>
<tr>
<th></th>
<th>Sleeping</th>
<th>Pet care</th>
<th>Financial</th>
<th>Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>203.3</td>
<td>6.9</td>
<td>4.2</td>
<td>57.7</td>
</tr>
<tr>
<td>Women</td>
<td>190.4</td>
<td>9.5</td>
<td>3.9</td>
<td>40.0</td>
</tr>
</tbody>
</table>
Actual hours last month: self-assessed health status and age
Hours of work last month: health variation

![Bar chart showing health variation by age and hours of work.](chart)
Hours of housework last month

[Bar chart showing hours of housework by age group (50-64, 65-74, 75+) and health status (excellent or very good, good, fair or poor).]

- **Excl or very good**
- **Good**
- **Fair or poor**
Hours socializing last month

- 50-64
- 65-74
- 75+

Excl or very good
Good
Fair or poor
Hours helping others or volunteering last month

![Bar chart showing hours helping others or volunteering last month for different age groups (50-64, 65-74, 75+) with categories Excl or very good, Good, Fair or poor.](chartimage)
Hours managing own medical condition last month

- Men 50-64
- Women 50-64
- Men 65-74
- Women 65-74
- Men 75+
- Women 75+

Excl or very good, Good, Fair or poor.
Another way of presentation: “time budget shares”

Distribution of hours excluding work and sleep
Percent time in leisure (work and sleep time excluded)
Percent time in housework (work and sleep time excluded)
Percent time in personal care (work and sleep time excluded)
Application of time-use data

Retirement-consumption puzzle
Retirement-Consumption Puzzle

Prior research found drop in spending at retirement

Banks, Blundell, Tanner, 1998;
Bernheim, Skinner, Weinberg, 2001;
Miniaci, Monfardini and Weber (2003); …

At odds with prediction of the simple lifecycle model: consumption should change continuously…no jumps in consumption
An interpretation of retirement-consumption puzzle

- People reach retirement with inadequate financial resources
- Have to reduce spending
- Raises questions about extent of forward-looking behavior and life-cycle model itself
But retirement => increased leisure

• Use some increase in home production
• Or in more efficient shopping
• If true: maintain consumption even as SPENDING drops. (We measure spending in almost all surveys.)
We use data on 7 possible substitutes for market purchases:

- house cleaning
- home improvements
- shopping
- washing and ironing,
- yard work
- preparing meals
- finances
We use two CAMS waves

- CAMS waves 1 and 2
- CAMS 2003 data
  - Administered in Fall 2003 to same households
  - 2989 panel observations
  - About 230 transitions into retirement
**Increase in time-use at retirement: hours per week (panel)**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>House cleaning</td>
<td>0.68</td>
</tr>
<tr>
<td>Washing, ironing</td>
<td>0.14</td>
</tr>
<tr>
<td>Yard work</td>
<td>1.46</td>
</tr>
<tr>
<td>Shopping</td>
<td>0.82</td>
</tr>
<tr>
<td>Food preparation</td>
<td>1.42</td>
</tr>
<tr>
<td>Finances</td>
<td>0.10</td>
</tr>
<tr>
<td>Home improvements</td>
<td>0.79</td>
</tr>
</tbody>
</table>

*Total substitutes 5.48 hours per week*
Change in time-use at retirement

Hours per week. Panel

<table>
<thead>
<tr>
<th>Market substitutes</th>
<th>Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>6.0</td>
</tr>
<tr>
<td>Women</td>
<td>5.2</td>
</tr>
</tbody>
</table>

(Almost same as cross-section differences between retired and not-retired of same age.)

Supports hypothesis of substitution between purchases and home production
Conclusions about CAMS time measures

• Very low item non-response
• But total hours vary with observable characteristics
  – However instructions allow for multi-tasking and double crediting
• Time-use varies in reasonable ways with personal characteristics
Conclusions (cont.)

• Would like time-use of both spouses
• Variation with retirement status suggests data can be used in models of economic behavior