

Linking ATUS & CPS Data

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CPS is sampling frame for ATUS

- CPS is a short panel survey – *households* are surveyed up to 8 times in a 16 month period
 - 4-8-4 design
 - Housing units are constant, individuals are not necessarily
- In selected households exiting CPS, one individual is invited to participate in ATUS
 - Usually 2-5 months after finishing CPS rotation



CPS Rotation Pattern

		Month-in-sample (MIS)							
		MIS-1	MIS-2	MIS-3	MIS-4	MIS-5	MIS-6	MIS-7	MIS-8
Year 1	January	A	XX	WW	VV	MM	L1	K1	J1
	February	B	A	XX	WW	NN	MM	L1	K1
	March	C	B	A	XX	OO	NN	MM	L1
	April	D	C	B	A	PP	OO	NN	MM
	May	E	D	C	B	QQ	PP	OO	NN
	June	F	E	D	C	RR	QQ	PP	OO
	July	G	F	E	D	SS	RR	QQ	PP
	August	H	G	F	E	TT	SS	RR	QQ
	September	I	H	G	F	UU	TT	SS	RR
	October	J	I	H	G	VV	UU	TT	SS
	November	K	J	I	H	WW	VV	UU	TT
	December	L	K	J	I	XX	WW	VV	UU
Year 2	January	M	L	K	J	A	XX	WW	VV
	February	N	M	L	K	B	A	XX	WW
	March	O	N	M	L	C	B	A	XX
	April	P	O	N	M	D	C	B	A
	May	Q	P	O	N	E	D	C	B
	June	R	Q	P	O	F	E	D	C
	July	S	R	Q	P	G	F	E	D
	August	T	S	R	Q	H	G	F	E
	September	U	T	S	R	I	H	G	F
	October	V	U	T	S	J	I	H	G
	November	W	V	U	T	K	J	I	H
	December	X	W	V	U	L	K	J	I

Green: follow a CPS rotation pattern over time

Orange: any given month has groups at eight different points in the CPS rotation

Source: American Time Use Survey User's Guide (Bureau of Labor Statistics and U.S. Census Bureau 2008).



CPS Rotation Pattern Implications

- Under no circumstances are all ATUS respondents from a given year able to be found in a particular month during the previous year
- Only a subsample of ATUS respondents can potentially link to any given CPS month
- Additional reasons individuals may not be found even if they should have been based on the CPS rotation pattern
 - Some households won't have responded during that month
 - Some individuals will have moved into the household after that month
 - Some individuals may not have been eligible for the supplement of interest in that month
- Conclusion: weights must be considered



Final CPS Month/Year for 2003 ATUS Respondents

Final Year/Month in CPS for January 2003 Respondents and All 2003 Respondents

	January only		All 2003	
	2002	2002	2002	2003
January	0	0	0	1,747
February	0	0	0	1,713
March	0	0	0	1,680
April	0	0	0	1,704
May	0	0	0	1,709
June	0	0	0	1,732
July	0	0	0	1,734
August	20	20	20	1,674
September	273	285	285	1,411
October	1,356	1,552	1,552	309
November	210	1,743	1,743	0
December	0	1,707	1,707	0

• Sources of variation

- ATUS respondents entered the ATUS 2 to 5 months after completing CPS
 - January 2003 ATUS respondents finished CPS in August-November 2002
- Not everyone finished the CPS at the same time
 - 2003 ATUS respondents finished CPS between August 2002 and October 2003



What You Know and What You Can Do

- What you know from ATUS
 - Month and Year of participation in CPS MIS8
- What you can figure out from ATUS
 - When ATUS respondents *should* have been in the CPS
- Opportunities for linking to CPS
 - Link ATUS respondents to a CPS supplement fielded once (e.g. May 2004 Work Schedules Supplement)
 - Link ATUS respondents to a CPS supplement fielded annually or biannually (e.g. March ASEC or June Fertility)
 - Link ATUS respondents to all CPS observations
 - Get spouse/parent/other household member characteristics from some previous month



Variables Needed to Link ATUS & CPS

- Linking keys

- | | |
|---|-----------------------|
| – ATUS-X name | RENAME ATUS-X |
| – HRHHID_CPS8 | HRHHID |
| – HRHHID2_CPS8 (2004+) | HRHHID2 |
| – HRSERSUF_CPS8 (2003 & 2004) | use to create HRHHID2 |
| – HRSAMPLE_CPS8 (2003 & 2004) | use to create HRHHID2 |
| – HUHNUM_CPS8 (2003 & 2004) | use to create HRHHID2 |
| – LINENO_CPS8 | PULINENO |
| – See ATUS user's guide for the mechanics | |
| – ***CPSID (coming soon)*** | |

- **Other helpful variables**

- MONTH_CPS8
- YEAR_CPS8
- CASEID
- LINENO

Variables to check links

- AGE_CPS8
- SEX_CPS8
- RACE_CPS8



Prepare ATUS-X File

- Decide which CPS month(s)/year(s) you want to link with ATUS
- “Create” records for all months that ATUS respondent should have been in CPS based on YEAR_CPS8 and MONTH_CPS8
 - I use STATA’s EXPAND command to create 8 observations per person (number of times they should have been in CPS) and then recode month/year (to match the month/year the respondent should have been in CPS)
- Keep only records that correspond to your month(s)/year(s) of interest



ATUS-X Data

CASEID	MONTH_CPS8	YEAR_CPS8	MOINCPS
1	9	2002	8
2	10	2002	8
3	11	2002	8
4	1	2003	8



Expanded Respondent Record

CASEID	MONTH_CPS8	YEAR_CPS8	MOINCPS	HRMIS	HRYEAR4	HRMONTH
1	9	2002	8			
1	9	2002	8			
1	9	2002	8			
1	9	2002	8			
1	9	2002	8			
1	9	2002	8			
1	9	2002	8			
1	9	2002	8			
1	9	2002	8			



Create HRMIS

CASEID	MONTH_CPS8	YEAR_CPS8	MOINCPS	HRMIS	HRYEAR4	HRMONTH
1	9	2002	8	1		
1	9	2002	8	2		
1	9	2002	8	3		
1	9	2002	8	4		
1	9	2002	8	5		
1	9	2002	8	6		
1	9	2002	8	7		
1	9	2002	8	8		



Populate Year/Month

CASEID	MONTH_CPS8	YEAR_CPS8	MOINCPS	HRMIS	HRYEAR4	HRMONTH
1	9	2002	8	1	2001	6
1	9	2002	8	2	2001	7
1	9	2002	8	3	2001	8
1	9	2002	8	4	2001	9
1	9	2002	8	5	2002	6
1	9	2002	8	6	2002	7
1	9	2002	8	7	2002	8
1	9	2002	8	8	2002	9



Example

- Link ATUS respondents to most recent CPS Volunteer Supplement (September)
 - MIS = 5-9
 - HRMONTH = 9
 - Merge on linking keys, HRMIS, HRYEAR4, HRMONTH (or CPSID from IPUMS-CPS soon!)
- At most one link per person, but expect some non-matches because of non-response and changing household composition



Retain Relevant Records

CASEID	MONTH_CPS8	YEAR_CPS8	MOINCPS	HRMIS	HRYEAR4	HRMONTH
1	9	2002	8	1	2001	6
1	9	2002	8	2	2001	7
1	9	2002	8	3	2001	8
1	9	2002	8	4	2001	9
1	9	2002	8	5	2002	6
1	9	2002	8	6	2002	7
1	9	2002	8	7	2002	8
1	9	2002	8	8	2002	9



Check Validity of Linked Records

- Check that AGE, SEX, and RACE match for all linked cases
 - Madrian, Brigitte C. and Lefgren, Lars John, A Note on Longitudinally Matching Current Population Survey (CPS) Respondents (November 1999). NBER Working Paper Series, Vol. t0247, pp. -, 1999. Available at SSRN: <http://ssrn.com/abstract=226653>
- Adjust ATUS weights so that linked file is representative
 - http://www.atusdata.org/atus/linked_docs/linked_generic.pdf



Prepare CPS Files

- IPUMS-CPS (<http://cps.ipums.org/cps/>)
 - Currently has all basic monthly data through December 2010 (and more is always being added)
 - Just like ATUS, so you'll already know how to use it!
- Data Ferret (<http://dataferrett.census.gov/>)
- NBER (<http://www.nber.org/data/current-population-survey-data.html>)



Perform Merge!



ATUS-X Linked Data Files

- Linked data files available
 - September Volunteer
 - October School Enrollment
 - December Food Security
- Or, use CPSID to easily create linked data files
 - Coming soon!
 - re-weighting the data still required

