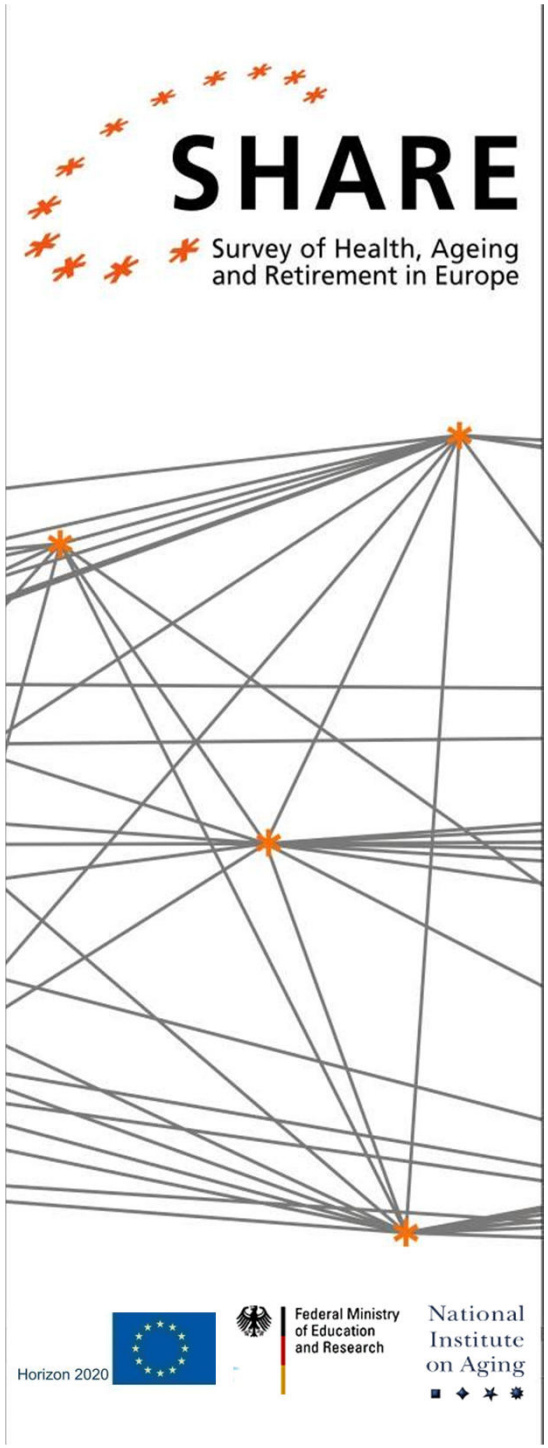

Generate your own SHARE dataset

Stefan Gruber (MEA)

SHARE User Workshop
Stockholm 25/02/2016

Generate your own panel dataset

1. Step: Define your research question and the research design

2. Step: Which modules and variables do you need to answer your research question?

3. Step: Generate your panel dataset and prepare the data

4. Step: Analysis

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Step 1: Define your research question and the research design

Step 1: Define research question and design

Research question:

Does retirement influence the individual quality of life?

Step 1: Define research question and design

The model:

- Dependent variable: quality of life (CASP)
- Independent variable: retirement
- Possible controls: age, health status, marital status, educational level, financial situation

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Step 2: Which modules and variables do you need to answer your research question?

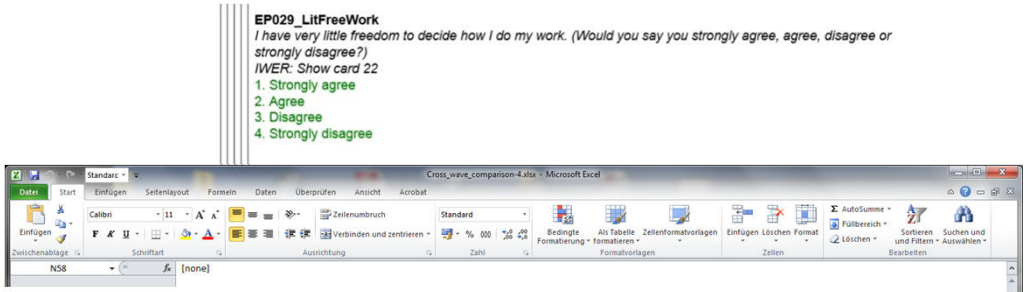
Step 2: Which modules and variables do you need to answer your research question?

Most important:

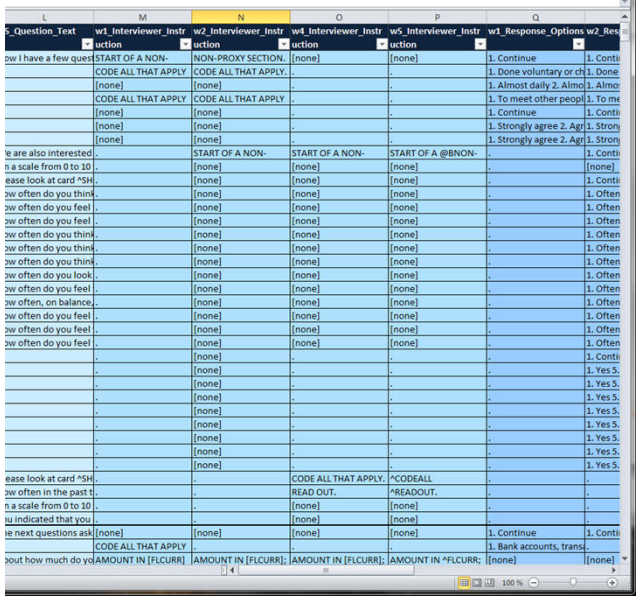
Become aquainted with the dataset!!

Step 2: Which modules and variables do you need to answer your research question?

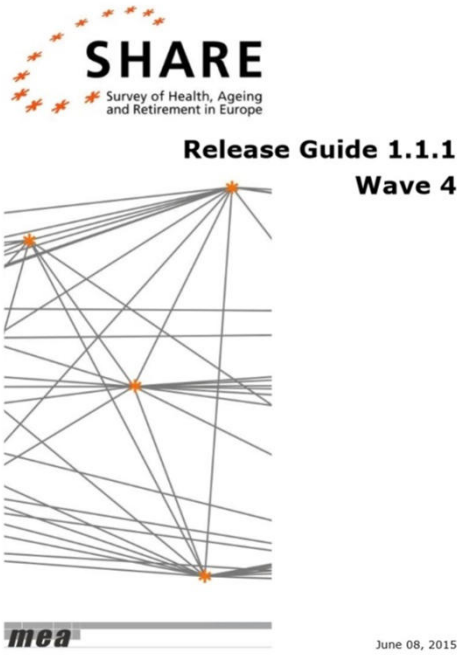
1. *Study the questionnaires*



2. *Cross-Wave-Comparison-Tool*



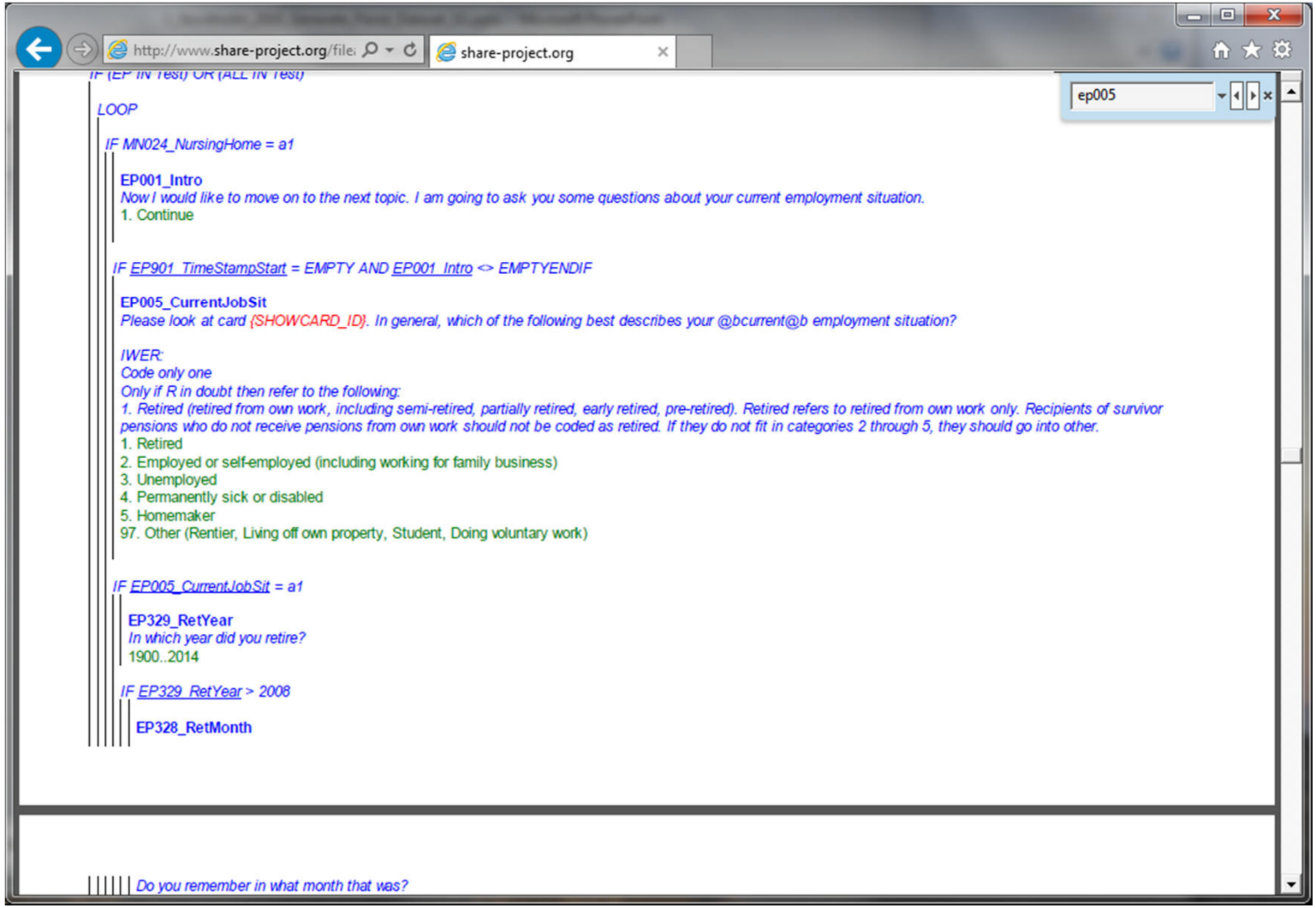
3. *Release Guides*



Quality of life in SHARE: **CASP-12**

- The score measures quality of life and well-being
- It is based on four subscales: *control*, *autonomy*, *self-realization* and *pleasure*.
- The score is the sum of these four subscales and ranges from 12 to 48.
- The items were asked in the drop off questionnaire in wave 1 and then moved into the CAPI from wave 2 onwards.
- For drop off questionnaires not being filled in by all respondents there is a higher fraction of missing observations in wave 1.

Step 2: Which modules and variables do you need to answer your research question?



Step 2: Which modules and variables do you need to answer your research question?

Which modules do we need:

- Coverscreen (cv_r) → age
- Dropoff module of wave 1 → CASP
- Activities module (ac) of waves 2, 4 & 5 → CASP
- Demographics (dn) → marital status
- Consumption (co) → financial situation (able to make ends meet)
- Employment (ep) → retirement
- Gv_isced → educational level
- Gv_health → health status

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Step 3: Generate your panel dataset and prepare the data

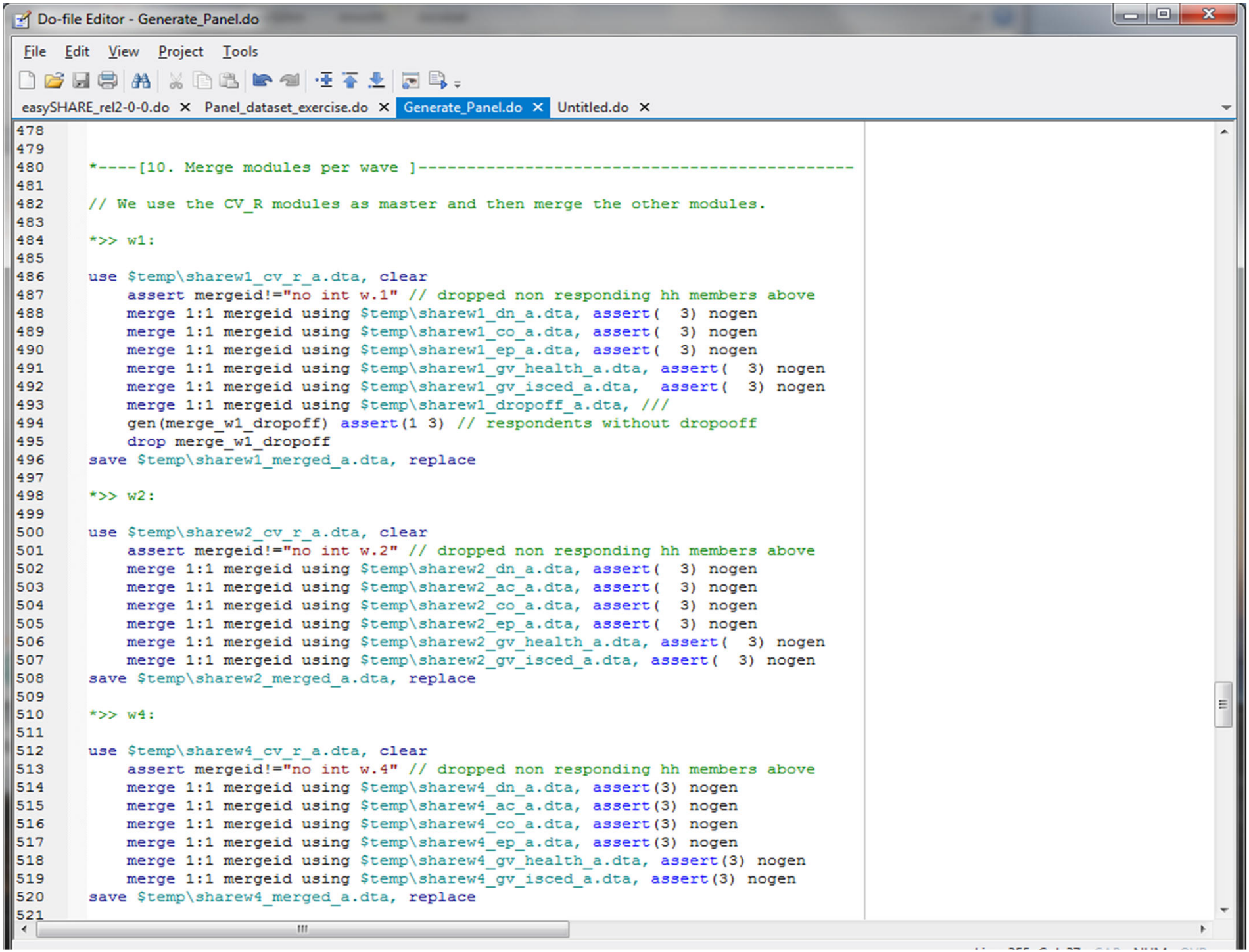
Step 3: Generate panel dataset and prepare the data

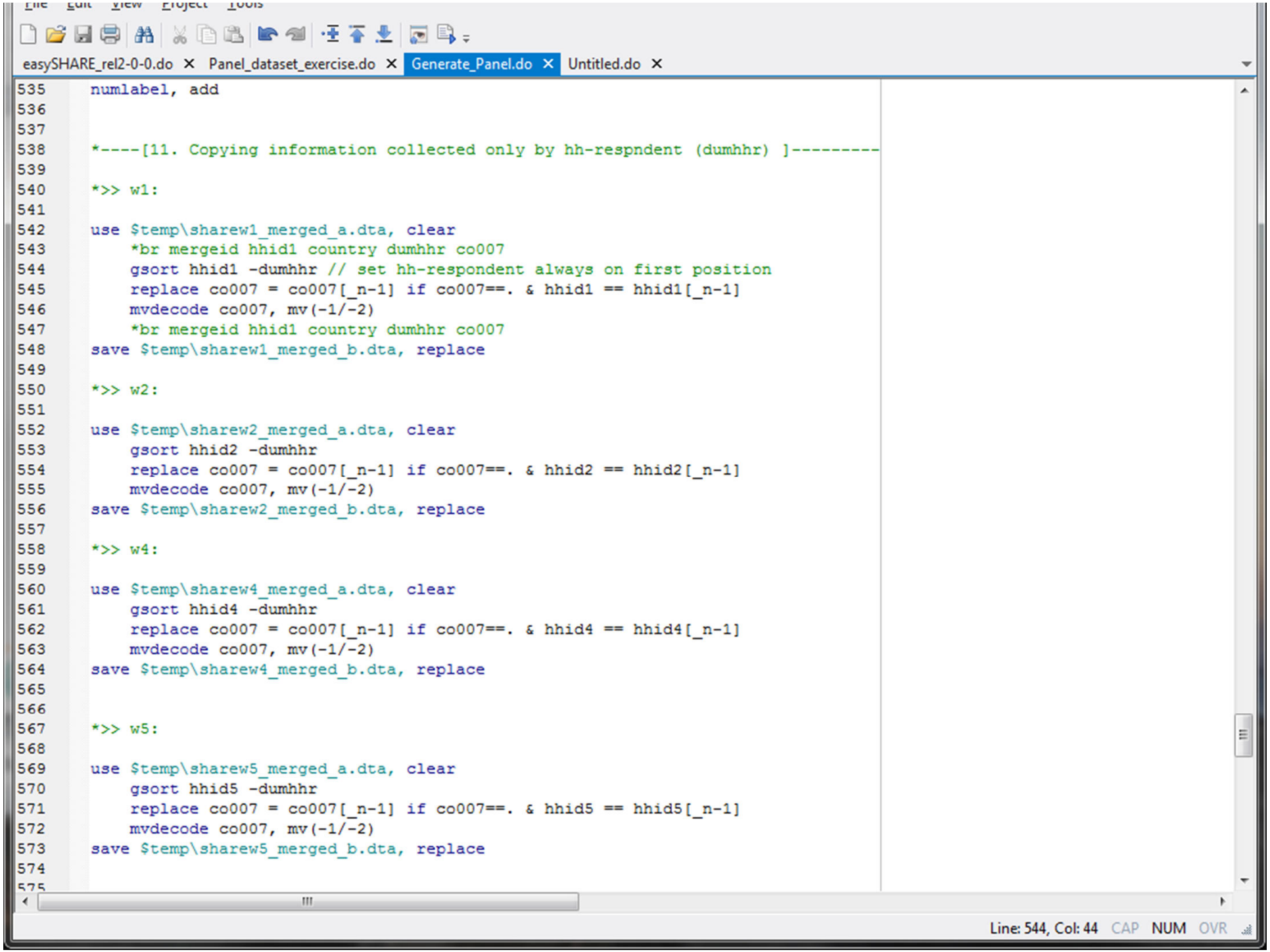
1. Extract & Recode Variables from the wave-specific modules
2. Merge modules per wave → *Attention: cv_r also contains non-responding household members!*
3. Copying information collected only by one hh-member
   → *CO module answered by hh-respondent only*
4. Append waves to panel long format
5. Copying information collected only once in baseline interview to later waves (ISCED)

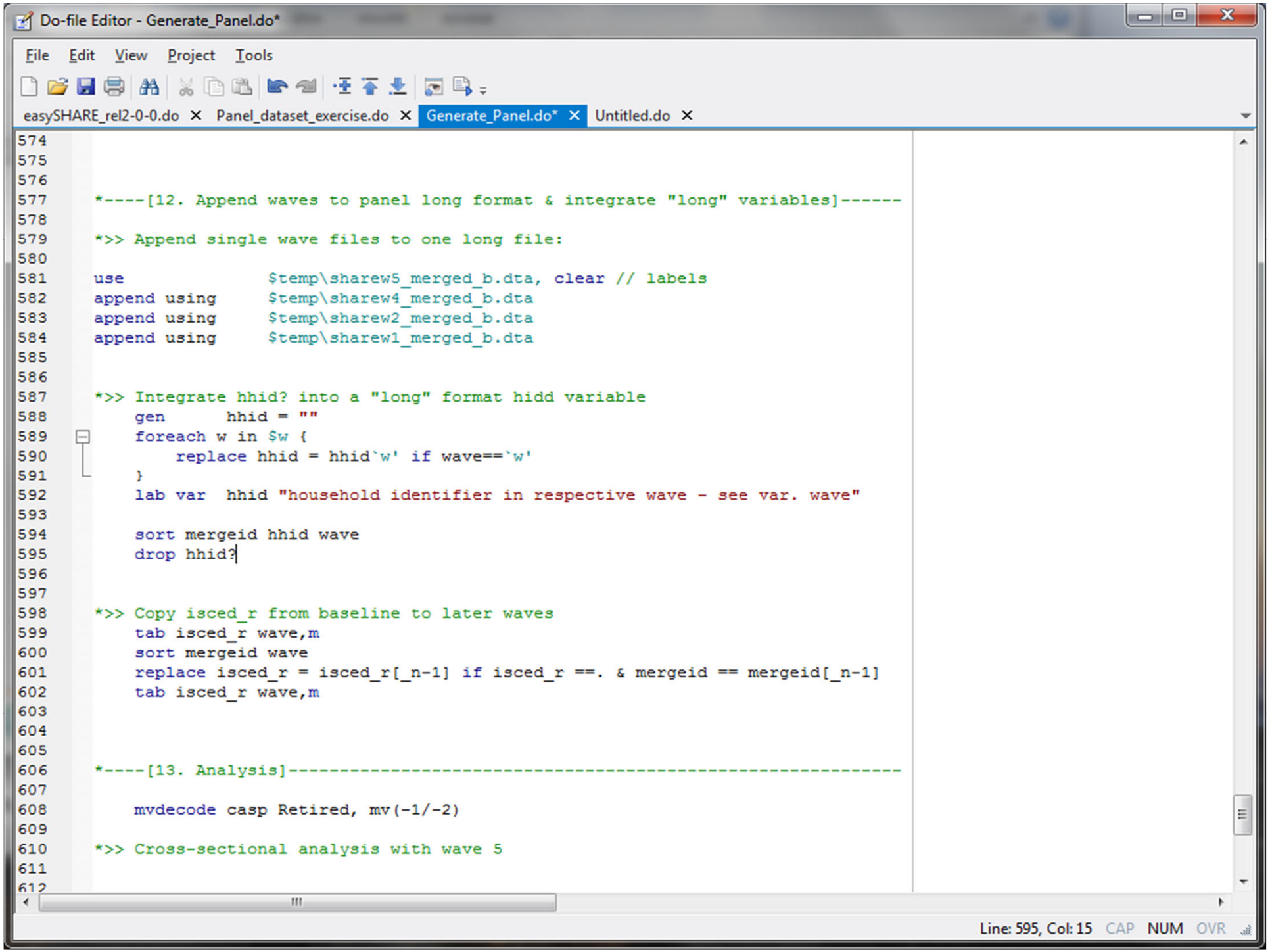
asySHARE_rel2-0-0.do × Panel_dataset_exercise.do × Generate_Panel.do × Untitled.do ×

```
*----[6. Extract & Recode Variables from CO ]------------------------------


*>> w1:

use  $wave1\sharew1_rel2-6-0_co.dta, clear
     tab co007_
     gen co007_mod = co007_
     replace co007_mod = 0 if co007_ == 3 | co007_ == 4
     replace co007_mod = 1 if co007_ == 1 | co007_ == 2
     keep mergeid co007_mod
save $temp\sharew1_co_a.dta, replace

*>> w2:

use  $wave2\sharew2_rel2-6-0_co.dta, clear
     gen co007_mod = co007_
     replace co007_mod = 0 if co007_ == 3 | co007_ == 4
     replace co007_mod = 1 if co007_ == 1 | co007_ == 2
     keep mergeid co007_mod
save $temp\sharew2_co_a.dta, replace

*>> w4:

use  $wave4\sharew4_rel1-1-1_co.dta, clear
     gen co007_mod = co007_
     replace co007_mod = 0 if co007_ == 3 | co007_ == 4
     replace co007_mod = 1 if co007_ == 1 | co007_ == 2
     keep mergeid co007_mod
save $temp\sharew4_co_a.dta, replace

*>> w5:

use  $wave5\sharew5_rel1-0-0_co.dta, clear
     gen co007_mod = co007_
     replace co007_mod = 0 if co007_ == 3 | co007_ == 4
     replace co007_mod = 1 if co007_ == 1 | co007_ == 2
     keep mergeid co007_mod
save $temp\sharew5_co_a.dta, replace
```

Line: 653, Col: 50 CAP NUM OVR


Do-file Editor - Generate_Panel.do
File Edit View Project Tools
easySHARE_rel2-0-0.do
Panel_dataset_exercise.do
Generate_Panel.do
Untitled.do
478
479
480 *----[10. Merge modules per wave]----------
481
482 // We use the CV_R modules as master and then merge the other modules.
483
484 *>> w1:
485
486 use $temp\sharew1_cv_r_a.dta, clear
487 assert mergeid!="no int w.1" // dropped non responding hh members above
488 merge 1:1 mergeid using $temp\sharew1_dn_a.dta, assert(3) nogen
489 merge 1:1 mergeid using $temp\sharew1_co_a.dta, assert(3) nogen
490 merge 1:1 mergeid using $temp\sharew1_ep_a.dta, assert(3) nogen
491 merge 1:1 mergeid using $temp\sharew1_gv_health_a.dta, assert(3) nogen
492 merge 1:1 mergeid using $temp\sharew1_gv_isced_a.dta, assert(3) nogen
493 merge 1:1 mergeid using $temp\sharew1_dropoff_a.dta, ///
494 gen(merge_w1_dropoff) assert(1 3) // respondents without dropooff
495 drop merge_w1_dropoff
496 save $temp\sharew1_merged_a.dta, replace
497
498 *>> w2:
499
500 use $temp\sharew2_cv_r_a.dta, clear
501 assert mergeid!="no int w.2" // dropped non responding hh members above
502 merge 1:1 mergeid using $temp\sharew2_dn_a.dta, assert(3) nogen
503 merge 1:1 mergeid using $temp\sharew2_ac_a.dta, assert(3) nogen
504 merge 1:1 mergeid using $temp\sharew2_co_a.dta, assert(3) nogen
505 merge 1:1 mergeid using $temp\sharew2_ep_a.dta, assert(3) nogen
506 merge 1:1 mergeid using $temp\sharew2_gv_health_a.dta, assert(3) nogen
507 merge 1:1 mergeid using $temp\sharew2_gv_isced_a.dta, assert(3) nogen
508 save $temp\sharew2_merged_a.dta, replace
509
510 *>> w4:
511
512 use $temp\sharew4_cv_r_a.dta, clear
513 assert mergeid!="no int w.4" // dropped non responding hh members above
514 merge 1:1 mergeid using $temp\sharew4_dn_a.dta, assert(3) nogen
515 merge 1:1 mergeid using $temp\sharew4_ac_a.dta, assert(3) nogen
516 merge 1:1 mergeid using $temp\sharew4_co_a.dta, assert(3) nogen
517 merge 1:1 mergeid using $temp\sharew4_ep_a.dta, assert(3) nogen
518 merge 1:1 mergeid using $temp\sharew4_gv_health_a.dta, assert(3) nogen
519 merge 1:1 mergeid using $temp\sharew4_gv_isced_a.dta, assert(3) nogen
520 save $temp\sharew4_merged_a.dta, replace
521


File Edit View Project Tools
easySHARE_rel2-0-0.do
Panel_dataset_exercise.do
Generate_Panel.do
Untitled.do
numlabel, add
*----[11. Copying information collected only by hh-respndent (dumhhr)]---------
*>> w1:
use $temp\sharew1_merged_a.dta, clear
*br mergeid hhid1 country dumhhr co007
gsort hhid1 -dumhhr // set hh-respondent always on first position
replace co007 = co007[_n-1] if co007==. & hhid1 == hhid1[_n-1]
mvdecode co007, mv(-1/-2)
*br mergeid hhid1 country dumhhr co007
save $temp\sharew1_merged_b.dta, replace
*>> w2:
use $temp\sharew2_merged_a.dta, clear
gsort hhid2 -dumhhr
replace co007 = co007[_n-1] if co007==. & hhid2 == hhid2[_n-1]
mvdecode co007, mv(-1/-2)
save $temp\sharew2_merged_b.dta, replace
*>> w4:
use $temp\sharew4_merged_a.dta, clear
gsort hhid4 -dumhhr
replace co007 = co007[_n-1] if co007==. & hhid4 == hhid4[_n-1]
mvdecode co007, mv(-1/-2)
save $temp\sharew4_merged_b.dta, replace
*>> w5:
use $temp\sharew5_merged_a.dta, clear
gsort hhid5 -dumhhr
replace co007 = co007[_n-1] if co007==. & hhid5 == hhid5[_n-1]
mvdecode co007, mv(-1/-2)
save $temp\sharew5_merged_b.dta, replace
Line: 544, Col: 44
CAP
NUM
OVR


Do-file Editor - Generate_Panel.do*
File Edit View Project Tools
easySHARE_rel2-0-0.do
Panel_dataset_exercise.do
Generate_Panel.do*
Untitled.do
574
575
576
577 *----[12. Append waves to panel long format & integrate "long" variables]------
578
579 *>> Append single wave files to one long file:
580
581 use $temp\sharew5_merged_b.dta, clear // labels
582 append using $temp\sharew4_merged_b.dta
583 append using $temp\sharew2_merged_b.dta
584 append using $temp\sharew1_merged_b.dta
585
586
587 *>> Integrate hhid? into a "long" format hidd variable
588 gen hhid = ""
589 foreach w in $w {
590 replace hhid = hhid`w' if wave==`w'
591 }
592 lab var hhid "household identifier in respective wave - see var. wave"
593
594 sort mergeid hhid wave
595 drop hhid?
596
597
598 *>> Copy isced_r from baseline to later waves
599 tab isced_r wave,m
600 sort mergeid wave
601 replace isced_r = isced_r[_n-1] if isced_r ==. & mergeid == mergeid[_n-1]
602 tab isced_r wave,m
603
604
605
606 *----[13. Analysis]----------
607
608 mvdecode casp Retired, mv(-1/-2)
609
610 *>> Cross-sectional analysis with wave 5
611
612
Line: 595, Col: 15 CAP NUM OVR

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Step 4: Analysis

(exemplary! Do not cite!)

Step 4: Analysis

```
. ta Retired
```

RECODE of ep005_ (Current job situation)	Freq.	Percent	Cum.
0	87,894	46.53	46.53
1	101,014	53.47	100.00
Total	188,908	100.00	

53 percent of the observations are retired

```
. sum casp
```

Variable	Obs	Mean	Std. Dev.	Min	Max
casp	168,633	37.36559	6.325392	12	48

Less observations available for CASP due to w1 drop-off

Step 4: Analysis

* Cross-sectional analysis:

```
reg casp Retired female age co007_mod sphus_2 sphus_3 sphus_4 ///
sphus_5 isced_r_2 isced_r_3 isced_r_4 isced_r_5 isced_r_6 if wave ==5
```

Source	SS	df	MS		
				Number of obs	= 21,442
				F(13, 21428)	= 886.82
Model	272568.163	13	20966.7818	Prob > F	= 0.0000
Residual	506614.269	21,428	23.6426297	R-squared	= 0.3498
				Adj R-squared	= 0.3494
Total	779182.433	21,441	36.3407692	Root MSE	= 4.8624

casp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Retired	.2428614	.0707843	3.43	0.001	.1041189	.381604
female	-.166942	.067423	-2.48	0.013	-.2990961	-.0347878
age	-.0034851	.0013703	-2.54	0.011	-.0061711	-.0007992
co007_mod	-3.832087	.0767923	-49.90	0.000	-3.982605	-3.681568
sphus_2	-1.257869	.1239858	-10.15	0.000	-1.50089	-1.014847
sphus_3	-2.579503	.1146536	-22.50	0.000	-2.804233	-2.354774
sphus_4	-5.070172	.1243151	-40.78	0.000	-5.313839	-4.826505
sphus_5	-9.149092	.1580605	-57.88	0.000	-9.458903	-8.839282
isced_r_2	1.822029	.1548813	11.76	0.000	1.51845	2.125608
isced_r_3	2.470873	.1477878	16.72	0.000	2.181198	2.760548
isced_r_4	2.934816	.1384377	21.20	0.000	2.663467	3.206164
isced_r_5	3.275441	.2094251	15.64	0.000	2.864952	3.685929
isced_r_6	3.021708	.1447031	20.88	0.000	2.738079	3.305337
_cons	40.34844	.1919019	210.26	0.000	39.9723	40.72459

Positive significant coefficient: retired people have higher levels of well-being.

Step 4: Analysis

- To fully exploit SHARE, i.e. estimating a panel model, we first need to `xtset` the data.
  - Unfortunately Stata does not accept numerical person IDs, but there is a simple work-around:

```
bysort mergeid : gen mergeid_n = _n == 1
replace                  mergeid_n = sum(mergeid_n)
```

  - Then we can declare the data to be a panel

```
xtset mergeid_n wave
```

  - Then we can estimate a fixed effects panel model:

```
xtreg casp Retired age co007_mod sphus i.wave, fe
```

Step 4: Analysis

```
Fixed-effects (within) regression               Number of obs      =       165,568
Group variable: mergeid_n                       Number of groups   =        99,835

R-sq:                                           Obs per group:
     within  = 0.0464                                         min =             1
     between = 0.0012                                         avg =           1.7
     overall = 0.0038                                         max =

                                                F(7,65726)         =
corr(u_i, Xb)  = -0.5480                        Prob > F           =
```

casp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	In
Retired	.5460179	.0553519	9.86	0.000	.4375281	.
age	.2874831	.0400189	7.18	0.000	.2090461	.
co007_mod	-1.387598	.0447612	-31.00	0.000	-1.47533	-1
sphus	-.9763644	.0220599	-44.26	0.000	-1.019602	-
wave						
2	-.5044401	.1101902	-4.58	0.000	-.7204128	-.2884674
4	-1.800124	.2721538	-6.61	0.000	-2.333545	-1.266703
5	-2.221101	.3474725	-6.39	0.000	-2.902147	-1.540054
_cons	23.33125	2.385854	9.78	0.000	18.65498	28.00753
sigma_u	7.6067326					
sigma_e	3.7725325					
rho	.80259209	(fraction of variance due to u_i)				

F test that all u_i=0: F(99834, 65726) = 2.50 Prob > F = 0.0000

The cross-sectional correlation we found still subsists in the panel model: Respondents who retire during the observation period show significantly higher well-being

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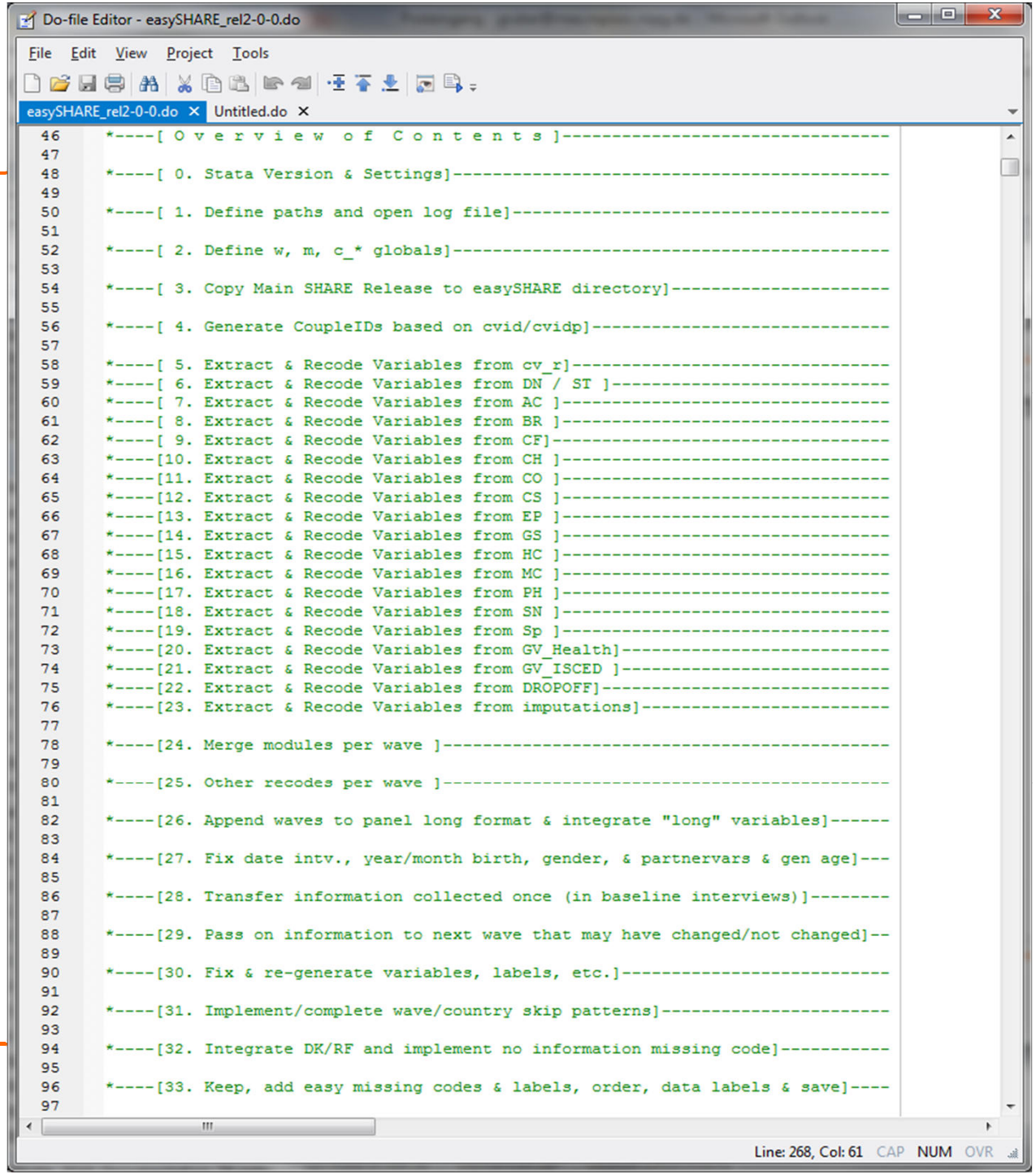
easySHARE *Syntax as example*



mea
MUNICH CENTER FOR THE ECONOMICS OF AGING
AT THE MAX PLANCK INSTITUTE FOR SOCIAL LAW AND SOCIAL POLICY

*easy*SHARE Working Paper

Gruber, Stefan; Hunkler, Christian; Stuck, Stephanie (2014): Generating *easy*SHARE: Guidelines, Structure, Content and Programming , SHARE Working Paper Series: 17-2014

→ http://www.share-project.org/publications/share-working-paper-series.html

Abstract

This paper provides an overview of the construction, structure and content of *easy*SHARE – a simplified dataset that is based on the scientific release of the Survey of Health, Ageing and Retirement in Europe (SHARE). *easy*SHARE contains a subset of ready-to-analyse variables and indices. It is designed for student training on country-comparative and longitudinal analyses as well as for introducing SHARE to researchers who have little experience in quantitative analyses of complex survey data. This paper puts special emphasis on the extraction and generation of the dataset using the statistical software package Stata. We also provide an example of how to extract more variables from the scientific release of SHARE to include them in the *easy*SHARE dataset.

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Thank you!

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