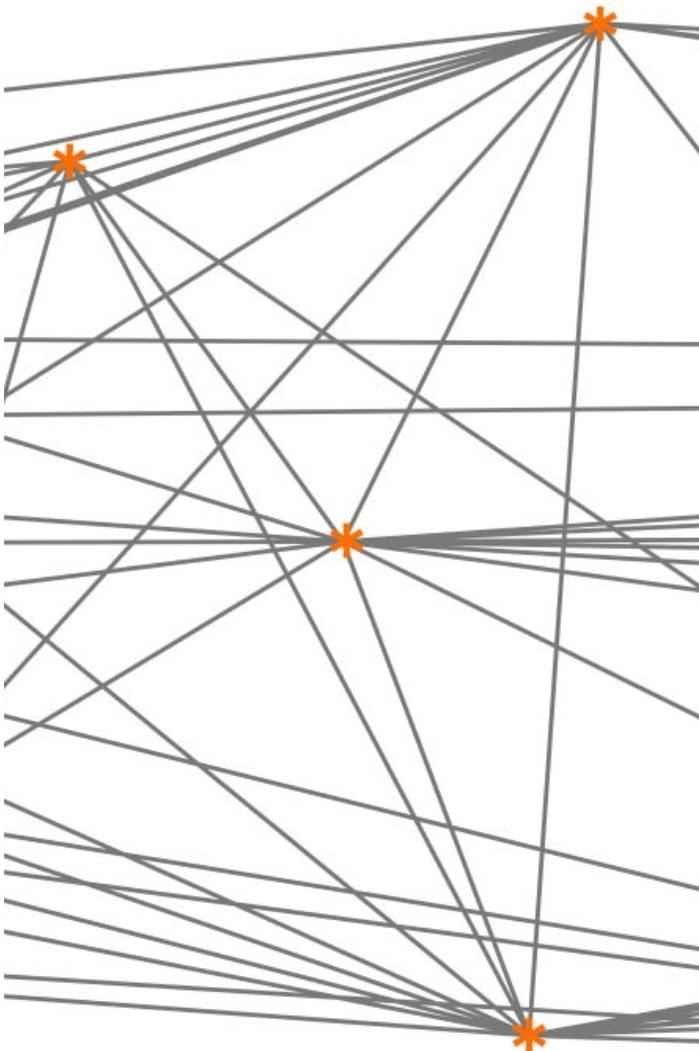




Guide to *easy*SHARE

release 5.0.0



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Please note

easySHARE is intended for student training and teaching purposes. For scientific publications we recommend using the main data set of SHARE, or to carefully study this documentation and the Stata program that extracts and generates *easySHARE* from the main release of SHARE.

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Content

1. Introduction	3
2. Access	3
3. Selection of variables	4
4. Structure of the data	5
5. Description of variables	7
Identifiers and basic demographic information	7
Household composition	12
Social Support & Network	13
Childhood Conditions	16
Health	17
Cognitive Function Indices	23
Behavioral Risks	24
Work and Money	26
6. Examples of how to analyze <i>easySHARE</i>	28
... using Stata	28
... using SPSS	33
... using R	37
7. Appendix A: List of variables	42

1. Introduction

The multitude of countries participating in SHARE with their institutional variety and different languages, combined with a large interdisciplinary set of variables stored in about 25 modules per wave, and the differentiation into individual-, couple- and household-level data, make SHARE a complex data set. The *easySHARE*-file is a simplified data set for researchers who are less experienced in the quantitative analysis of complex panel data. Its main purpose is student training and teaching.

easySHARE includes the same number of observations as the main release of SHARE but is restricted to a subset of variables. This allows storing *easySHARE* as one single file without the need for complex merging of waves and modules. *easySHARE* contains the regular panel waves of SHARE (wave 1, wave 2, wave 4 and wave 5) and some information collected in the third wave on people's life histories (SHARELIFE). The file includes variables out of a variety of the SHARE CAPI-modules (CAPI stands for *Computer Assisted Personal Interview*) and in some instances the drop-off questionnaires that collect additional information via self-completion of a paper & pencil questionnaire. We also incorporated variables out of the generated variable data sets or created additional ones. Furthermore, adaptations in *easySHARE* make the file more comparable with the US Health and Retirement Study (HRS).

To facilitate analyzing the data we transferred the information that was collected on couple- and household-level to the individual level. Several generated variables, such as indexes and recoded health, demographic, social and economic measures allow direct analyses without the need for extensive data preparations. Furthermore, we added a series of additional missing value codes. These can help understanding how missing information evolved. E.g. we added extra missing value codes to tag observations that are missing due to questionnaire filtering.

This documentation gives a quick overview on how we constructed *easySHARE* and describes the included variables. It also contains examples of how to work with and analyze *easySHARE*.

2. Access

After completing a user statement, every person with scientific affiliation can download the data for free as long as the data are used for no other than scientific purposes. For teaching purposes teachers are asked to complete a teacher statement that is available at http://www.share-project.org/fileadmin/pdf_documentation/easySHARE_Teacher_Statement.pdf.

For more information on data access and data download please see <http://www.share-project.org/data-access-documentation.html>.

In case *easySHARE* data is being used for theses or other scientific publications, besides the mandatory SHARE acknowledgement, the following additional acknowledgement has to be included:

"This paper uses data from the generated *easySHARE* data set (DOI: 10.6103/SHARE.easy.500), see Gruber et al. (2014) for methodological details. The *easySHARE* release 5.0.0 is based on SHARE Waves 1, 2, 3 (SHARELIFE), 4 and 5 (DOIs: 10.6103/SHARE.w1.500, 10.6103/SHARE.w2.500, 10.6103/SHARE.w3.500, 10.6103/SHARE.w4.500, 10.6103/SHARE.w5.500)."

Please cite the dataset in your references as follows:

Börsch-Supan, A., C. Hunkler, S. Gruber, A. Orban, S. Stuck, J. Neumann, M. Brandt (2016): *easySHARE*. Release version: 5.0.0. SHARE-ERIC. Dataset. doi: 10.6103/SHARE.easy.500

Further information on how to expand the *easySHARE* dataset with other variables from the scientific release of SHARE is available in the [SHARE Working Paper 17-2014](#) (Gruber et al. 2014).

3. Selection of variables

Central variables have been identified based on the existing modules and comparisons of SHARE and RAND-HRS. This renders variables suitable for comparisons and cross national analysis, particularly with HRS. Variables have been selected to cover each module and topic of SHARE. Problems and requests by researchers gathered from symposiums and meetings, collaborations with researchers and user questions served as a basis for the selection and recoding of variables. Variables have been selected according to the following guidelines:

- low rate of missing information
- cross-country comparability
- maximum cross-wave comparability, i.e. longitudinal measures (with the obvious exception of the retrospective life histories collected in SHARELIFE)
- indices instead of variables
- no complex filtering or documentation of filters in target variable

The following topics and variables have been selected for *easySHARE*:

- 1) **Demographics**: age, gender, country of birth, citizenship, education, religion, marital status, age and gender of partner
- 2) **Household composition**: living with partner in the same household, household size, children living in the household

- 3) **Social support & network:** mother/father alive, number of children, residential proximity of children, number of grandchildren, number of living siblings, social activities, received and given social support
- 4) **Childhood conditions:** number of books at age ten, relative mathematical skills at age ten, relative language skills at age ten
- 5) **Health and health behavior:** self-perceived health, number of chronic diseases, mental health variables, depression scale EURO-D, CASP-12 index for quality of life and well-being, health care utilization, grip strength, body mass index, smoking and drinking behavior, vigorous activities/sports
- 6) **Functional limitation indices:** mobility index, large muscle index, activities of daily living index, gross motor skills index, fine motor skills index, instrumental activities of daily living index, cognitive functions
- 7) **Work & money:** current job situation, term of main job, working hours per week, satisfaction with main job, early retirement plans, able to make ends meet, wave specific household income percentiles

4. Structure of the data

Panel data like *easySHARE* can be displayed in long or in wide format. The *easySHARE* data are stored in long format, i.e. observations in lines are the respondents, whereas respondents are included as often as they participated in the currently available five waves of SHARE. The variables or columns store reported information. If there are five observations with the same respondent identifier (`mergeid`), this respondent took part in all five waves of SHARE. One advantage of long format is that this form is generally expected for panel analysis.¹

Table 1 shows the structure of the data for two example respondents. The first respondent is male and was interviewed in Austria which can be derived from the prefix "AT" in `mergeid` or from the country variables (`country` and `country_mod`). This respondent took part in all five waves as represented by one line per wave. The second respondent who was interviewed in Sweden (prefix "SE") participated in wave 1, did not participate in wave 2 and wave 3, and then took part again in wave 4. For this respondent the data contain only two observations. The information on respondents' wave participation is stored in the variable `wavepart`. This variable can be used to select a balanced panel, e.g. of respondents who participated in all five waves.

¹ You can easily „reshape“ the data to the wide panel format. Please find code examples in the section on “Examples of how to analyze *easySHARE*”.

Table 4.1: Data structure

mergeid	wave	birth_country	wavepart
AT-986403-01	1	Austria	12345
AT-986403-01	2	Austria	12345
AT-986403-01	3	Austria	12345
AT-986403-01	4	Austria	12345
AT-986403-01	5	Austria	12345
SE-209636-01	1	Sweden	14
SE-209636-01	4	Sweden	14

Missing codes

Compared to the SHARE main release we recoded the missing values in *easySHARE* to one of the following (partially new) codes:

- 3: "implausible value/suspected wrong"
- 7: "not yet coded"
- 9: "not applicable filtered"
- 12: "don't know / refusal"
- 13: "not asked in this wave"
- 14: "not asked in this country"
- 15: "no information"
- 16: "no drop-off (information in drop-off in this wave)"

There is only one combined missing value code for "don't know" and "refusal" in *easySHARE*. The reason is that when combining two or more variables of the main release of SHARE into a new *easySHARE* variable, we sometimes cannot distinguish between the possibly different missing codes of the original variables. For consistency within *easySHARE* we use the combined "don't know / refusal" code in all variables. The code -15 "no information" is used for missing values that are not explained by filtering or questionnaire design. There are multiple reasons for this code, for example respondents may not have completed the whole interview.

Not every question was asked in all available waves of SHARE. For that reason we implemented the missing code -13: "not asked in this wave". Note that the third wave on people's life histories (SHARELIFE) collected very different information compared to the regular waves (wave 1, 2, 4 and 5) in structure and content. This is the reason for many variables set to the -13 code in wave 3.

5. Description of variables

Some variables in *easySHARE* are copies of the respective variables included in the main release of SHARE that were only complemented by recoding the system missing values due to country-/wave-missing patterns and questionnaire filtering. For these variables the name in *easySHARE* remains the same as in the main of SHARE.

Variables that have been modified beyond the above mentioned or have been specifically generated for *easySHARE* receive new or modified variable names. New indices or scores are named according to conventions (i.e. CASP score, IADLA), generated variables based on several other variables are named similarly to the variable names in the main of SHARE. Variables that have been modified, but do not represent a new concept, got an additional “_mod” identifier at the end of the variable name.

The overview of variables included in *easySHARE* in the next sections is intended to give a brief overview on the variable generation, the coding format and modifications implemented in *easySHARE*. Appendix A provides a short overview table of all variables included.

Identifiers and basic demographic information

<i>mergeid</i>	Person identifier	example “AT-123456-01”
-----------------------	-------------------	------------------------

As in the main release of SHARE *mergeid* is the person identifier. It is unique for each respondent and does not change across waves. It consists of the country abbreviation, a six digit household identifier that is assigned when the household is first sampled and a two digit person identifier.

<i>hhid</i>	Household identifier	example “AT-123456-A”
--------------------	----------------------	-----------------------

Respondents living in the same household can be identified by *hhid*. The format is similar to *mergeid* (and *coupleid*). For respondents may move out of the household they were originally sampled in, the *hhid* of an individual can change across waves. One part of the household that split gets the appendix “-B” instead of “-A”.

Note: While in the coverscreen files (*cv_r*) of the SHARE main release all household members are represented by a data line, the *easySHARE* data set only stores the observations of responding household members.

<i>coupleid</i>	Wave specific couple identifier	example "AT-123456-A-1_w1"
------------------------	---------------------------------	----------------------------

`coupleid` identifies couples within a household. Two respondents living together in the same household as a couple (regardless of their legal status) get assigned the same `coupleid`.

Note: As non-responding partners are not included in *easySHARE* there is not always a corresponding observation for every respondent with a non-missing `coupleid`. For individuals without partner or spouse in the household `coupleid` is set to plain missing. Because respondents may change partners between waves `coupleid` is a wave specific variable. Or in other words: if the `coupleid` stays the same this does not necessarily mean that the couple stays the same. The first part of its label equals `hhid` followed by a digit necessary for households in which more than one couple live. The digit equals 1 for the first household couple and is larger than 1 (usually 3) for other couples. The value does not implicate how many couples are living in the corresponding household. Finally the last digit indicates the wave.

<i>wave</i>	Wave identifier
--------------------	-----------------

easySHARE contains all five waves of SHARE. If you want to select only the four regular waves (1, 2, 4 and 5) the wave variable is the easiest way to do so. It is also needed to set up the data for longitudinal analyses.

<i>wavepart</i>	Wave participation pattern
------------------------	----------------------------

`wavepart` stores information on the wave participation pattern of each respondent. A respondent who participated in all five waves of SHARE gets the value "12345", while a respondent who skipped waves 2 and 3 would get the `wavepart` value "145". Hence, this variable can be used to select any kinds of balanced panels, e.g. of respondents who participated in all five waves. The same `wavepart` value is assigned to every single line of the respective respondent.

<i>int_year</i>	Year of interview
------------------------	-------------------

`int_year` contains the year in which the interview took place. In case the year of interview was missing we replaced the value by the country and wave specific modus year.

<i>int_month</i>	Month of interview
-------------------------	--------------------

This variable contains the month in which the interview took place. In case the month of interview was missing we replaced the value by the country and wave

specific modus (in case the modus is not unique, we used the minimum month). The main reason to impute month and year of interview is to allow computing the age at interview variable for as many respondents as possible.

<i>country</i>	Country identifier
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All countries that participated in at least one of the five waves are included in *easySHARE*: Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovenia, Spain, Sweden and Switzerland. The coding of `country` is the same as in the main release of SHARE.

<i>country_mod</i>	Modified country identifier
---------------------------	-----------------------------

`country_mod` is another country identifier. In contrast to `country` it is coded according to the ISO code scheme. Using the same ISO codes as in `birth_country` and `citizenship` allows combining the information more easily.

<i>language</i>	Language of questionnaire
------------------------	---------------------------

This variable indicates the language in which the interview was conducted. In some of the SHARE countries (like Switzerland or Israel) there is more than one language.

<i>female</i>	Gender of respondent
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`female` is the "dummy"-style coded gender variable. 0: male; 1: female. For very few respondents gender varies between waves. These are mostly cases that have not been fully checked yet. There is no way to determine the correct information, therefore we coded these respondents' gender to -3 "implausible value" in all instances.

<i>dn002_mod</i>	Month of birth
-------------------------	----------------

`dn002_mod` stores the respondents' month of birth. The original variable `dn002_` differs for quite some respondents between waves. Therefore, *easySHARE* stores the minimum mode month of birth in case of deviations within a respondent.

<i>dn003_mod</i>	Year of birth
-------------------------	---------------

`dn003_mod` indicates the respondents' year of birth. There are very few respondents for whom year of birth differs between waves. These are mostly cases that have not been fully checked yet. For year of birth is a crucial

information and there is no way to determine the correct information, we recode `dn003_mod` to -3 "implausible value" for these respondents.

<i>dn004_mod</i>	Born in the country of interview
-------------------------	----------------------------------

`dn004_` indicates whether the respondent was born in the country of interview. Hereby first generation migrants can be identified.

<i>age</i>	Age at interview
-------------------	------------------

`age` at the time of interview is calculated on the basis of the respondent's month and year of birth (`dn002_mod` and `dn003_mod`) and month and year of interview (`int_year` and `int_month`). The month-exact age is divided by 12 to produce age in years.

Note: To reduce the number of missing values on this often used variable we imputed `int_year` and `int_month` if it was missing and we also imputed the month of birth variable (`dn002_`) if it was missing. However we did not impute missing year of birth information. This explains why there are still few respondents with missing age information.

<i>birth_country</i>	Country of birth
-----------------------------	------------------

The variable combines information on whether respondents are born in the (current) country (`dn004_` in the SHARE main release) and the follow-up question in which country they were born (`dn005c` in the SHARE main release). We used the same ISO coding as in the `country_mod` variable.

Using the integrated `birth_country` variable and the accordingly coded `country_mod` you can easily generate a variable telling if the individual was born in the country of interview.

<i>citizenship</i>	Citizenship of respondent
---------------------------	---------------------------

`citizenship` is generated based on the question whether the respondent has the citizenship of the country of interview and if not, which citizenship the respondent has (`dn007_` and `dn008c` in the SHARE main release).

<i>iv009_mod</i>	Area of location
-------------------------	------------------

iv009_mod contains information on the area of the building where the interview took place. It is filtered if the interview was not conducted in the respondents' home (information taken from *ho001_*). Additionally, information was transferred from the household respondent to the other household members.

- 1: A big city
- 2: The suburbs or outskirts of a big city
- 3: A large town
- 4: A small town
- 5: A rural area or village

<i>q34_re</i>	Religious denomination [only included in wave 1]
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The information about the respondents' religious denomination was part of the drop off questionnaire in wave 1. In waves 2, 3, 4 and 5 this question was not included anymore.

- 1: Protestant
- 2: Catholic
- 3: Orthodox
- 4: Jewish
- 5: Muslim
- 7: other
- 8: none

<i>isced1997_r</i>	ISCED classification
---------------------------	----------------------

isced_r stores the ISCED-97 coding of education. The values of *isced_r* are:

- 0: none
- 1: Level 1 – Primary education or first stage of basic education
- 2: Level 2 – Lower secondary or second stage of basic education
- 3: Level 3 – (Upper) secondary education
- 4: Level 4 – Post-secondary non-tertiary education
- 5: Level 5 – First stage of tertiary education
- 6: Level 6 – Second stage of tertiary education
- 95: still in school
- 96: other

<i>eduyears_mod</i>	Years of education
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Years of education are only asked in the baseline interview of each respondent starting in wave 2. Because this question was not asked in wave 1 and 3 the answers collected in wave 2, wave 4 and wave 5 were assigned. This leads to relatively high amounts of missing values especially for respondents who were not re-interviewed after their wave 1 interview.

<i>mar_stat</i>	Marital status [not included in wave 3]
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The marital status is only asked in the baseline interview of each respondent (*dn014_* in the SHARE main release). In later regular waves the respondents are asked if their status has changed or not (*dn044* in the SHARE main release). If it has not changed we forwarded the information of *dn014_* to later waves (except wave 3). If it has changed, respondents are asked again for their current status.

- 0: none
- 1: married and living together with spouse
- 2: registered partnership
- 3: married, living separated from spouse
- 4: never married
- 5: divorced
- 6: widowed

Household composition

<i>hhsiz</i>	Household size
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hhsiz contains information about the number of people living in the respondents' household.

<i>partnerinh</i>	Living with spouse/partner
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- 1: living with a spouse/partner in household
- 3: living without spouse/partner in household
- 97: other

<i>int_partner</i>	Interview of partner available
---------------------------	--------------------------------

int_partner indicates whether an interview of the respondent's partner is available. The variable is filtered when the respondent is living as single or when the partner does not live in the same household.

- 1: yes
- 5: no

<i>age_partner</i>	Age at interview of respondent's partner
---------------------------	--

age_partner is assigned from the age of a respondent's partner using the wave specific *coupleid*. If they have an interview we use the partners self-report, otherwise *age_partner* is based on the *cv_r* information. Hence, for the age of the partner the same imputations were applied as for age of respondent, if it is based on self-report information. The variable is filtered when the respondent is living as single or when the partner does not live in the same household.

<i>gender_partner</i>	Gender of respondent's partner
------------------------------	--------------------------------

gender_partner is assigned from the gender of a respondent's partner using the wave specific *coupleid*. If the partners were interviewed, we use their self-report information; otherwise the variable is based on information given in the *cv_r*. It is filtered for singles or if the partner does not live in same household. The variable is filtered when the respondent is living as single or when the partner does not live in the same household.

- 0: male
- 1: female

Social Support & Network [not included in wave3]

<i>mother_alive</i>	Is natural parent alive: mother
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mother_alive is based on *dn026_1* of the SHARE main release and includes information on whether the respondent's mother is still alive. If available we combined it with information from previous waves and – in wave 4 – information from the social networks module. Latter is based on the assumption that persons belonging to the respondent's social network are still alive.

- 1: yes
- 5: no

<i>father_alive</i>	Is natural parent alive: father
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father_alive is based on *dn026_2* of the SHARE main release and includes information on whether the respondent's father is still alive. If available we combined it with information from previous waves and – in wave 4 – information from the social networks module. Latter is based on the assumption that persons belonging to the respondent's social network are still alive.

- 1: yes
- 5: no

<i>siblings_alive</i>	Number of siblings alive
------------------------------	--------------------------

siblings_alive counts the total number of siblings alive (sum of *dn036_* and *dn037_* in the SHARE main release). It is zero for respondents who had siblings but none of them is still alive and is filtered if a respondent never had siblings.

ch001_	Number of children
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ch001_ contains the number of children that are still alive including natural children, fostered, adopted and stepchildren. We do not integrate the wave 3 information on children, for the concept of collecting information in this wave is considerably different. In SHARE, information on children is asked to one respondent per couple only, but transferred to partners/spouses in the *easySHARE* data set.

ch021_mod	Number of grandchildren
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ch021_mod contains the number of the respondent's grandchildren. Grandchildren of spouse or partner from previous relationships are included in this variable.

ch007_hh	At least one child in same household
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ch007_hh indicates whether at least one child lives in the same household or the same building as the respondent (based on ch007_1 to ch007_16 and ch526_1 to ch526_20 in the SHARE main release; in wave 4 sn006_1 to sn006_7 were additionally used). It is filtered if respondents do not have children.

- 1: yes
- 5: no

ch007_km	Residential proximity of children
-----------------	-----------------------------------

ch007_km indicates whether at least one child lives less than one kilometer away from the respondent's household (based on ch007_1 to ch007_16 and ch526_1 to ch526_20 in the SHARE main release; in wave 4 sn006_1 to sn006_7 were additionally used).

- 1: yes
- 5: no

ac002d1– ac002dno	(Social) Activities
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The variables ac002d1 to ac002dno indicate social activities that have been done in the month before the interview.

- ac002d1 Done voluntary or charity work
- ac002d2 Cared for a sick or disabled adult
- ac002d3 Provided help to family, friends or neighbors
- ac002d4 Attended an educational or training course

ac002d5	Gone to a sport, social or other kind of club
ac002d6	Taken part in a religious organization (church, synagogue, mosque, etc.)
ac002d7	Taken part in a political or community-related organization
ac002dno	None of these

<i>sp002_mod</i>	Received help from outside the household
-------------------------	--

sp002_mod contains information on whether the respondents (or if applicable their partners) have received help from any family member from outside the household, any friend or neighbor. Help in this context incorporates personal care (e.g. help with dressing, bathing, eating, getting out of bed, using the toilet), practical household help and help with paper work such as settling financial or legal matters. The question was only answered by the family respondent. We assigned the information also to the partners.

- 1: yes
- 5: no

<i>sp003_1_mod - sp003_3_mod</i>	Who gave help
---	---------------

Respondents can name up to three persons outside the household from whom they (or their partners) received help. *sp003_1_mod* contains the first person mentioned by the respondent, *sp003_2_mod* the second and *sp003_3_mod* the third.

<i>sp008_</i>	Given help to others outside the household
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sp008_ contains information on whether the respondent has personally given help to any family member from outside the household, any friend or neighbor. Help in this context incorporates personal care (e.g. help with dressing, bathing, eating, getting out of bed, using the toilet), practical household help and help with paper work such as settling financial or legal matters.

- 1: yes
- 5: no

<i>sp009_1_mod - sp009_3_mod</i>	To whom did you give help
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Respondents can name up to three persons outside the household to whom they gave help. *sp009_1_mod* contains the first person mentioned by the respondent, *sp009_2_mod* the second and *sp009_3_mod* the third. In contrast to received help, the family respondent did not answer the questions on given help on behalf of the couple in waves 4 & 5. This explains the higher amount of missing values.

Childhood Conditions [wave 3 and wave 5 only]

<i>books_age10</i>	Number of books when ten
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This variable includes information about the number of books that existed in the place the respondents lived in when they were ten years old. Magazines, newspapers, or school books are excluded.

- 1: none or very few (0-10 books)
- 2: enough to fill one shelf (11-25 books)
- 3: enough to fill one bookcase (26-100 books)
- 4: enough to fill two bookcases (101-200 books)
- 5: enough to fill two or more bookcases (more than 200 books)

<i>maths_age10</i>	Relative mathematical skills when ten
---------------------------	---------------------------------------

maths_age10 is about the performance in mathematics compared to other children when the respondent was at the age of ten. It is filtered if the respondent did not go to school.

- 1: much better
- 2: better
- 3: about the same
- 4: worse
- 5: much worse

<i>language_age10</i>	Relative language skills when ten
------------------------------	-----------------------------------

language_age10 asks for relative language skills compared to other children when the respondent was at the age of ten. It is filtered if the respondent did not go to school.

- 1: much better
- 2: better
- 3: about the same
- 4: worse
- 5: much worse

Health: Physical Health

sphus	Self-perceived health (US version)
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In wave 1 respondents were randomized to answer the self-perceived health item either at the beginning (ph003_) or at the end of the physical health questionnaire module (ph052_). sphus combines both in one variable.

- 1: excellent
- 2: very good
- 3: good
- 4: fair
- 5: poor

chronic_mod	Number of chronic diseases
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This variable is based on the multiple answer question ph006_ that asks which of the listed chronic conditions the respondents had according to their doctors ("Has a doctor ever told you that you had ..."). The question was asked in waves 1, 2, 4, and 5. However, the answer options have been modified between waves. Therefore, we created a new index called chronic_mod that only counts the conditions that were included as answer options in each wave. For the list of answer options varies, the "other condition" option does change its meaning between waves and hence is not taken into account for chronic_mod. The following list shows the conditions included in the index:

- 1. A heart attack
- 2. High blood pressure or hypertension
- 3. High blood cholesterol
- 4. A stroke or cerebral vascular disease
- 5. Diabetes or high blood sugar
- 6. Chronic lung disease (...)
- 10. Cancer or malignant tumor (...)
- 11. Stomach or duodenal ulcer, peptic ulcer
- 12. Parkinson disease
- 13. Cataracts
- 14. Hip fracture or femoral fracture

The following answer options are *not* included in chronic_mod:

- 7. Asthma : only available in waves 1, 2
- 8. Arthritis : only available in waves 1, 2, 4
- 9. Osteoporosis : only available in waves 1, 2
- 15. Other fractures : only available in wave 4, 5
- 16. Alzheimer's (...) : only available in wave 4, 5
- 17. Benign tumor (...) : only available in wave 2

18. Other affective (...)	: only available in wave	5
19. Rheumatoid Arthritis	: only available in wave	5
20. Osteoarthritis (...)	: only available in wave	5

Difference to similar variables provided in SHARE main release: The variables *chronic* (wave 1), *chronicw2*, *chronicw4* and *chronicw5* in the main release are computed based on all answer options provided in the respective wave, including the “other condition” answer option.

Health: Mental health variables [not included in w3]

<i>casp</i>	CASP-12 score (Quality of life)
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The CASP-12 score measures quality of life and is based on four subscales on control, autonomy, pleasure and self-realization. The CASP 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.

<i>euro1</i>	Depression (part of EURO-D)
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euro1 is taken from the *gv_health* module. It is based on *mh002_* in the mental health module in the SHARE main release. It indicates whether the respondent has been sad or depressed in the last month.

- 0: not selected
- 1: selected

<i>euro2</i>	Pessimism (part of EURO-D)
---------------------	----------------------------

euro2 refers to the respondent’s hopes for the future. It is based on *mh003_*.

- 0: not selected
- 1: selected

<i>euro3</i>	Suicidality (part of EURO-D)
---------------------	------------------------------

This variable gives information on suicidal feelings based on *mh004_*. The question is: “In the last month, have you felt that you would rather be dead?”

- 0: not selected
- 1: selected

euro4	Guilt (part of EURO-D)
--------------	------------------------

euro4 is based on mh005_ in the mental health module in the SHARE main release. It indicates whether the respondents tend to blame themselves or feel guilty about anything.

- 0: not selected
- 1: selected

euro5	Sleep (part of EURO-D)
--------------	------------------------

Whether a person has trouble with sleeping is reported in euro5 respectively mh007_.

- 0: not selected
- 1: selected

euro6	Interest (part of EURO-D)
--------------	---------------------------

euro6 shows changes in the general interest in things (mh008_ in the mental health module).

- 0: not selected
- 1: selected

euro7	Irritability (part of EURO-D)
--------------	-------------------------------

“Have you been irritable recently” is the question behind euro7 (mh010_ in the mental health module).

- 0: not selected
- 1: selected

euro8	Appetite (part of EURO-D)
--------------	---------------------------

Changes in the respondent’s appetite are shown in this variable that is based on mh011_.

- 0: not selected
- 1: selected

euro9	Fatigue (part of EURO-D)
--------------	--------------------------

This variable is based on mh013_ that asks whether a respondent had too little energy to do the things she/he wanted to do in the previous month.

- 0: not selected
- 1: selected

euro10	Concentration (part of EURO-D)
---------------	--------------------------------

Information on difficulties with the concentration on a television program, film, radio program or reading is given in *euro10*. This variable combines *mh014_* and *mh015_* of the mental health module in the SHARE main release.

- 0: not selected
- 1: selected

euro11	Enjoyment (part of EURO-D)
---------------	----------------------------

"What have you enjoyed doing recently?" is the question behind *mh016_* which is the basis for *euro11*.

- 0: not selected
- 1: selected

euro12	Tearfulness (part of EURO-D)
---------------	------------------------------

mh017_ asks whether the respondent has cried at all in the last month? Taken from the *gv_health* module this information is stored in *euro12*.

- 0: not selected
- 1: selected

eurod	Depression scale EURO-D
--------------	-------------------------

The EURO-D symptom scale measures the current depression and is constructed from questions in the mental health module (*mh002_* – *mh017_*) as a composite index of twelve items: depressed mood, pessimism, suicidality, guilt, sleep, interest, irritability, appetite, fatigue, concentration, enjoyment and tearfulness. The scale ranges from 0 "not depressed" to 12 "very depressed".

Health: Health care [not included in w3]

hc002_	Doctor visits
---------------	---------------

hc002_ contains the number of doctor visits within the past year. The question behind this variable is: "During the last twelve months, about how many times in total have you seen or talked to a medical doctor about your health?" (question text of wave 4 questionnaire).

<i>hc012_</i>	Hospital stay
----------------------	---------------

hc012_ indicates whether respondents have been in a medical, surgical, psychiatric or any other specialized hospital overnight during the last twelve months.

- 1: yes
- 5: no

<i>hc029_</i>	Nursing home
----------------------	--------------

Overnight stays in a nursing home during the last twelve months are indicated by *hc029_*.

- 1: yes, temporarily
- 3: yes, permanently
- 5: no

<i>hc038_mod</i>	Private care [available for wave 1 and 2 only]
-------------------------	--

hc038_mod contains information on receiving care from private providers that respondents had to pay privately or through a private insurance because of waiting times being too long or shortages in the National Health System.

- 1: yes
- 5: no

<i>hc032c</i>	Home care [available for waves 1 and 2 only]
----------------------	--

This variable indicates whether the respondent has received home care during the last twelve months. This includes professional or paid nursing or personal care, professional or paid home help, e.g. meals-on-wheels. *hc032c* is based on received home care (*hc032_*) and having been in a nursing home (*hc029_*).

- 1: yes
- 5: no

Health: Physical measurements

<i>maxgrip</i>	Maximum of grip strength measure (from <i>gv_health</i>)
-----------------------	---

According to instructions two grip strength measurements on each hand were recorded using a so-called dynamometer. The variable *maxgrip* is defined as the maximum grip strength measurement of both hands (2x2) or of one hand (1x2).

Valid measurements are defined when the two measurements of one hand do not differ by more than 20kg. If the difference was above that limit (>20kg) the measurements for that hand were recoded as MISSING. If grip strength was only measured once on one hand, this measurement has also been recoded as MISSING. However, if there were two measurements on the other hand, these measurements have been included. Grip strength measurements of zero "0" or above 100 kg (≥ 100 kg) have been recoded as MISSING.

Health: Functional limitation indices [not included in w3]

Although SHARE provides a huge variety of indices on physical and mental health as well as health behavior, some of them are not directly comparable with US-measures and those in RAND HRS. Since one of the aims of *easySHARE* is to increase comparability with HRS and the use of SHARE outside of Europe, some new indices on health were recoded for *easySHARE*. If desired, additional indices provided in the SHARE main release files can be merged.

<i>adlwa</i>	Activities of Daily Living w&h Index
---------------------	--------------------------------------

adlwa is the sum of the three tasks: dressing (*ph049d1*), bathing or showering (*ph049d3*) and eating/cutting up food (*ph049d4*) (*Wallace and Herzog*). The higher the index is the more difficulties with these activities and the lower the respondent's mobility. *adlwa* ranges from 0 to 3.

<i>adla</i>	Activities of Daily Living Index
--------------------	----------------------------------

adla is the sum of the five tasks dressing (*ph049d1*), bathing or showering (*ph049d3*), eating, cutting up food (*ph049d4*), walking across a room (*ph049d2*) and getting in or out of bed (*ph049d5*). The higher the index is the more difficulties with these activities and the lower the mobility of the respondent. *adla* ranges from 0 to 5.

<i>iadla</i>	Instrumental Activities of Daily Living Indices
---------------------	---

iadla is the sum of telephone calls (*ph049d10*), taking medications (*ph049d11*) and managing money (*ph049d13*). The higher the index is the more difficulties with the activities and the lower the mobility of the respondent. *iadla* ranges from 0 to 3.

<i>iadlza</i>	Instrumental Activities of Daily Living Indices
----------------------	---

iadlza is the sum of telephone calls (ph049d10), taking medications (ph049d11), managing money (ph049d13), shopping for groceries (ph049d9) and preparing a hot meal (ph049d8). The higher the index is the more difficulties with the activities and the lower the mobility of the respondent. *iadlza* ranges from 0 to 5.

<i>mobilityind</i>	Mobility Index
---------------------------	----------------

mobilityind is the sum of walking 100 meters (ph048d1), walking across a room (ph049d2), climbing several flights of stairs (ph048d4) and climbing one flight of stairs (ph048d5). The higher the index, the more difficulties with these activities exist and the lower the mobility of the respondent. *mobilityind* ranges from 0 to 4.

<i>lgmuscle</i>	Large Muscle Index
------------------------	--------------------

lgmuscle is the sum of sitting two hours (ph048d2), getting up from chair (ph048d3), stooping, kneeling, crouching (ph048d6) and pulling or pushing large objects (ph048d8). The higher the index, the more difficulties with the activities and the lower the mobility of the respondent. *lgmuscle* ranges from 0 to 4.

<i>grossmotor</i>	Gross Motor Skills Index
--------------------------	--------------------------

grossmotor is the sum of walking 100 meters (ph048d1), walking across a room (ph049d2), climbing one flight of stairs (ph048d5) and bathing or showering (ph049d3). The higher the index is the more difficulties with the activities and the lower the gross motor skills of the respondent. *grossmotor* ranges from 0 to 4.

<i>finemotor</i>	Fine Motor Skills Index
-------------------------	-------------------------

finemotor is the sum of picking up a small coin (ph048d10), eating/cutting up food (ph049d4) and dressing (ph049d1). The higher the index is the more difficulties with the activities and the lower the fine motor skills of the respondent. *finemotor* ranges from 0 to 3.

Cognitive Function Indices [not included in w3]

<i>recall_1</i>	Recall of words, first trial
------------------------	------------------------------

recall_1 contains the number of words recalled in the first trial of the word recall task (cf008tot in the SHARE main release). It ranges from 0 to 10.

<i>recall_2</i>	Recall of words, first trial
------------------------	------------------------------

recall_2 contains the number of words recalled in the delayed word recall task (*cf016tot* in the SHARE main release). It ranges from 0 to 10.

<i>orienti</i>	Orientation to date
-----------------------	---------------------

Orientation to date, month, year and day of week is also a generated variable from the *gv_health* module on the basis of *cf003* - *cf006*. *orienti* ranges from 0 (good) to 4 (bad). The high amount of missing values in waves 4 and 5 is due to a routing filter: only baseline respondents get to the respective questions.

<i>numeracy_1</i>	Numeracy Score 1 (percentage)
--------------------------	-------------------------------

numeracy_1 gives information on the Mathematical performance (percentage calculation) of the respondents. The variable is based on *cf012* - *cf015* respectively the corresponding variables in the *gv_health* module and ranges from 1 (good) to 5 (bad). The high amount of missing values in waves 4 and 5 is due to a routing filter: only baseline respondents get to the respective questions. Respondents who participated before, got a new set of questions (*numeracy_2*).

<i>numeracy_2</i>	Numeracy Score 2 (subtraction)
--------------------------	--------------------------------

numeracy_2 is the second test on Mathematical performance (subtraction). It was asked to respondents of wave 4 and 5 who already participated in one of panel waves.

Behavioral Risks [not included in w3]

<i>bmi_mod</i>	Body Mass Index
-----------------------	-----------------

This variable is based on individual weight (*ph012_*) and height (*ph013_*), and is calculated according to the formula: $BMI = (ph012_ / (ph013_)^2) * 10\ 000$. Height (*ph013_*) is only asked once in SHARE in the baseline interview of each respondent. To compute the BMI in later waves, when the weight might have changed, we forward the height information to the later waves.

<i>bmi2_mod</i>	Body Mass Index (categorized)
------------------------	-------------------------------

In *bmi2_mod* the values of *bmi_mod* are summarized into the following categories:

- 1: below 18.5 – underweight
- 2: 18.5 - 24.9 – normal
- 3: 25-29.9 – overweight
- 4: 30 and above – obese

<i>smoking</i>	Smoke at present time
-----------------------	-----------------------

This variable is based on `br002_` and indicates whether the respondents smoke at present. Please be aware that `br002_` is only asked in the baseline interview. In the variable `smoking` information was transferred to later waves.

- 1: yes
- 5: no

<i>ever_smoked</i>	Ever smoked daily
---------------------------	-------------------

`ever_smoked` is based on `br001_` of the SHARE main release and indicates if a respondent ever smoked daily. Please be aware that `br001_` is only asked in the baseline interview. In the variable `ever_smoked` information was transferred to later waves.

- 1: yes
- 5: no

<i>br010_mod</i>	Drinking behavior
-------------------------	-------------------

`br010_mod` contains information on drinking behavior. Please note that in wave 1 the reference period is the last six months whereas in the subsequent waves the reference period is the last three months. The question is: "During the last six (three) months, how often have you drunk any alcoholic beverages, like beer, cider, wine, spirits or cocktails?"

- 1: not at all
- 2: less than once a month
- 3: once or twice a month
- 4: once or twice a week
- 5: three or four days a week
- 6: five or six days a week
- 7: almost every day

<i>br015_</i>	Vigorous activities
----------------------	---------------------

`br015_` gives information on the frequency of doing vigorous activities such as sports, heavy housework, or a job that involves physical labor.

- 1: more than once a week
- 2: once a week
- 3: one to three times a month
- 4: hardly ever, or never

Work and Money: Employment [not included in w3]

ep005_	Current job situation
---------------	-----------------------

"In general, how would you describe your current situation?" is the question behind ep005_.

- 1: retired
- 2: employed or self-employed (including working for family business)
- 3: unemployed
- 4: permanently sick or disabled
- 5: homemaker
- 97: other

ep009_mod	Employee or self-employed in (main) job
------------------	---

ep009_mod specifies the current job situation if the respondent answered in ep005_ that she/he is employed. Note that the answer options in wave 5 are slightly different: 1. "private sector employee" and 2. "public sector employee".

- 1: employee
- 2: civil servant
- 3: self-employed

ep011_mod	Term of (main) job
------------------	--------------------

ep011_mod indicates whether the respondents have a short-term or a permanent contract. Short-term contract means less than 3 years here.

- 1: short-term
- 2: permanent

ep013_mod	Working hours per week
------------------	------------------------

The hours that the respondents usually work during a week are asked in ep013_mod – regardless of their basic contracted hours. Meal breaks should be excluded and paid or unpaid overtime included.

ep026_mod	Satisfaction with (main) job
------------------	------------------------------

The question behind ep026_mod is: "All things considered I am satisfied with my job. Would you say you strongly agree, agree, disagree or strongly disagree?"

- 1: strongly agree
- 2: agree
- 3: disagree
- 4: strongly disagree

<i>ep036_mod</i>	Look for early retirement in (main) job
-------------------------	---

The wish for early retirement is indicated by `ep036_mod`: “Thinking about your present [main/secondary] job, would you like to retire as early as you can from this job?”

- 1: yes
- 5: no

Work and Money: Household income [not included in wave 3]

Note that the income variables of the SHARE main release are indicating *gross values* in wave 1 and *net values* in wave 2, wave 4 and wave 5. Therefore we generated wave and country specific household income percentiles. Every respondent is assigned to one of the ten income percentiles.

<i>co007_</i>	Household able to make ends meet
----------------------	----------------------------------

The question is: “Thinking of your household's total monthly income, would you say that your household is able to make ends meet...” This variable is taken from the consumption module and not from the imputed variables.

- 1: with great difficulty
- 2: with some difficulty
- 3: fairly easily
- 4: easily

<i>income_pct_w1</i>	Household income percentiles for wave 1
-----------------------------	---

`income_pct_w1` contains the household income percentiles for respondents who participated in wave 1. The higher the percentile to which the household belongs, the higher is the household income.

<i>income_pct_w2</i>	Household income percentiles for wave 2
-----------------------------	---

`income_pct_w2` indicates the household income percentiles for respondents who participated in wave 2. The higher the percentile to which the household belongs, the higher is the household income. For Ireland `income_pct_w2` is not yet generated.

<i>income_pct_w4</i>	Household income percentiles for wave 4
-----------------------------	---

`income_pct_w4` indicates the household income percentiles for respondents who participated in wave 4. The higher the percentile to which the household belongs, the higher is the household income.

<i>income_pct_w5</i>	Household income percentiles for wave 5
-----------------------------	---

income_pct_w5 indicates the household income percentiles for respondents who participated in wave 5. The higher the percentile to which the household belongs, the higher is the household income.

6. Examples of how to analyze *easySHARE*

... using Stata²

After downloading and saving *easySHARE* you can load the data set into the Stata memory with the `use` command followed by the storage location of the data.

```
use D:\easySHARE\data\easyshare_re15-0-0.dta, clear
```

First we reduce our data set to the key variables of the following exemplary analyses using the `keep` command.

```
keep mergeid wave int_year ep005_ maxgrip
```

Panel data can be stored in “wide format” or in “long format”. *easySHARE* is provided in long format because this is the common format for panel analyses. In the long format, each observation stands for a respondent at a specific point in time, and the variables are their observed characteristics. Each row represents one point in time (or wave) per respondent. As *easySHARE* contains the four regular waves of SHARE (waves 1, 2, 4 and 5) as well as some information from the third wave (SHARELIFE) there is a maximum of five rows per respondent. If a respondent participated in just one wave there is only one data line for this respondent.

In the wide format each observation stands for one respondent and the variables are their characteristics on the respective time points. There is only one row per respondent and each column represents one wave-specific variable.

Figure 6.1: *long vs. wide data format*

Long format			Wide format		
mergeid	wave	int_year	mergeid	int_year1	int_year2
AT-986403-01	1	2004	AT-986403-01	2004	2006
AT-986403-01	2	2006			

² The example analysis is based on Stata version 14.

To reshape the data from long into wide format we use the `reshape` command. `mergeid` is the identifier variable (*i*) and the variable by which to organize the data is `wave` (*j*).

```
reshape wide int_year ep005_ maxgrip, i(mergeid) j(wave)
```

The corresponding Stata output shows that in wide format `wave` is dropped and that the number of observations decreases whereby the number of variables increases. Variables are set automatically to system-missing if respondents did not participate in a wave. Using the wide format often facilitates computing difference scores between time points or to give descriptive information on the analysis sample.

Figure 6.2: Stata output for reshaping the data from long to wide format

Data	long	->	wide
Number of obs.	220577	->	108384
Number of variables	5	->	16
j variable (5 values)	wave	->	(dropped)
xij variables:			
	int_year	->	int_year1 int_year2 ... int_year5
	ep005_	->	ep005_1 ep005_2 ... ep005_5
	maxgrip	->	maxgrip1 maxgrip2 ... maxgrip5

For our example analysis we need the data in long format. So we reshape the data back.

```
reshape long
```

This procedure leads to more observations than in the original data file because every respondent has one data line for each of the five waves now. The variable values are set to system-missing for waves in which the respondent did not participate.

Figure 6.3: Stata output for reshaping the data from wide to long format

```

Data                                wide  ->  long
-----
Number of obs.                      108384 -> 541920
Number of variables                   16    ->    5
j variable (5 values)                ->  wave
xij variables:
    int_year1 int_year2 ... int_year5 ->  int_year
      ep005_1 ep005_2 ... ep005_5    ->  ep005_
    maxgrip1 maxgrip2 ... maxgrip5    ->  maxgrip
  
```

To get the original number of observations we drop the lines with missing information for the year of interview. Make sure you use a variable that had no missing values before the reshape for this step.

```
drop if int_year ==.
```

Before starting with the analysis we first look at the central variables. `maxgrip` is the maximum value of the grip strength test. It ranges from 1 to 99.

```
summarize maxgrip if maxgrip > 0
```

Figure 6.4: Stata output for the summarizing `maxgrip` (missing values excluded)

Variable	Obs	Mean	Std. Dev.	Min	Max
maxgrip	200,126	33.88208	11.997	1	99

`ep005_` contains information on the self-reported current job situation of the respondents. The output shows that retirement is the most frequent employment status. This is not surprising keeping in mind that only persons age 50 and over (and their partners) are eligible for SHARE.

```
tabulate ep005_
```

Figure 6.5: Stata output for the tabulation of *ep005*

Current job situation	Freq.	Percent	Cum.
-15. no information	2,246	1.02	1.02
-13. not asked in this wave	28,495	12.92	13.94
-12. don't know / refusal	119	0.05	13.99
1. retired	101,296	45.92	59.91
2. employed or self-employed	53,483	24.25	84.16
3. unemployed	5,724	2.60	86.76
4. permanently sick or disabled	7,060	3.20	89.96
5. homemaker	19,915	9.03	98.98
97. other	2,239	1.02	100.00
Total	220,577	100.00	

Regression analyses require Stata to know what the missing codes are. Using the `mvdecode` command, we can set all *easySHARE* missing codes to system-missing.

```
mvdecode maxgrip ep005, mv(-1/-15)
```

Afterwards we recode a new variable `Retired` based on `ep005_`. The new variable `Retired` is set to "1" for respondents in retirement and to "0" for all other employment statuses.

```
recode ep005 (2/97=0) (1=1), gen(Retired)
```

Now we estimate a cross-sectional linear regression model, e.g. for the latest wave 5.

```
regress maxgrip Retired if wave ==5
```

Figure 6.6: Stata output for an exemplary linear regression

Source	SS	df	MS	Number of obs	=	59,391
Model	143897.628	1	143897.628	F(1, 59389)	=	1051.87
Residual	8124521.54	59,389	136.80179	Prob > F	=	0.0000
				R-squared	=	0.0174
				Adj R-squared	=	0.0174
Total	8268419.16	59,390	139.222414	Root MSE	=	11.696

maxgrip	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Retired	-3.132296	.0965788	-32.43	0.000	-3.321591	-2.943001
_cons	35.52974	.0719649	493.71	0.000	35.38869	35.67079

To fully exploit the *easySHARE* panel data we now estimate a longitudinal model. For this purpose we first declare the data to be panel data. Unfortunately Stata does not accept person IDs in string format for this procedure. But there is a simple way for generating a new numerical ID variable:

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

Using the new person identifier `mergeid_n`, the `xtset` command declares the data to be a panel.

```
xtset mergeid_n wave
```

Then we can estimate any panel model, here we choose a `mle` specification:

```
xtreg maxgrip Retired, mle
```

Figure 6.7: Stata output for an exemplary panel model

```

Random-effects ML regression           Number of obs   =   173,390
Group variable: mergeid_n             Number of groups =   100,216

Random effects u_i ~ Gaussian          Obs per group:
                                         min =           1
                                         avg =          1.7
                                         max =           4

Log likelihood = -626226.63            LR chi2(1)      =   2264.80
                                         Prob > chi2     =    0.0000
  
```

maxgrip	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Retired	-2.280895	.0478648	-47.65	0.000	-2.374709	-2.187082
_cons	35.03283	.0444742	787.71	0.000	34.94567	35.12
/sigma_u	10.9948	.0279653			10.94012	11.04974
/sigma_e	4.649885	.0121824			4.626069	4.673823
rho	.8482781	.001001			.8463078	.8502315

```

LR test of sigma_u=0: chibar2(01) = 9.7e+04           Prob >= chibar2 = 0.000
  
```

... using SPSS³

After downloading and saving *easySHARE* you can load the data set into the SPSS memory with the `get` command followed by the storage location of the data.

```

GET
FILE='D:\easySHARE\data\easyshare_rel5-0-0.sav'.
  
```

First we reduce our data set to the key variables of our analysis using the `SAVE` subcommand `KEEP`. Afterwards we load the reduced data set in the memory.

```

SAVE OUTFILE= 'D:\easySHARE\data\easyshare_reduced.sav'
/KEEP mergeid wave int_year ep005_ maxgrip.
  
```

```

GET
FILE='D:\easySHARE\data\easyshare_reduced.sav'.
  
```

Panel data can be stored in “wide format” or in “long format”. *easySHARE* is provided in long format because this is the common format for panel analysis. In

³ The example analysis is based on SPSS version 19.

the long format, each observation stands for a respondent at a specific point in time, and the variables are their observed characteristics. Each row represents one point in time (or wave) per respondent. As *easySHARE* contains the four regular waves of SHARE (wave 1, 2, 4 and 5) as well as some information from the third wave (SHARELIFE) there is a maximum of five rows per respondent. If a respondent participated in just one wave there is only one data line for this respondent.

In the wide format each observation stands for one respondent and the variables are their characteristics on the respective time points. There is only one row per respondent and each column represents one wave-specific variable.

Figure 6.8: long vs. wide data format

Long format			Wide format		
mergeid	wave	int_year	mergeid	int_year1	int_year2
AT-986403-01	1	2004	AT-986403-01	2004	2006
AT-986403-01	2	2006			

To reshape the data from long into wide format we use the `CASESTOVARS` command. `mergeid` is the identifier variable and the variable by which to organize the data is `wave`. It seems a good idea to sort the data set (again) in SPSS before running the `CASESTOVARS` command using `SORT CASES`.

```
SORT CASES mergeid wave.

CASESTOVARS
  /ID=mergeid
  /INDEX = wave.
```

Figure 6.9: SPSS output for reshaping the data from long to wide format

Processing Statistics	
Cases In	220577
Cases Out	108384
Cases In/Cases Out	2,0
Variables In	5
Variables Out	16
Index Values	5

For our example analysis we need the data in long format. So we reshape the data back.

```
VARSTOCASES
/MAKE int_year from int_year.1 int_year.2 int_year.3 int_year.4 int_year.5
/MAKE ep005_ from ep005_.1 ep005_.2 ep005_.3 ep005_.4 ep005_.5
/MAKE maxgrip from maxgrip.1 maxgrip.2 maxgrip.3 maxgrip.4 maxgrip.5
/INDEX = wave.
```

Regression analyses assume that there are no missing values in the variables. Here we set all *easySHARE* missing codes to system-missing using the `recode` command.

```
RECODE ep005_ maxgrip (-15 thru -1=SYSMIS).
EXECUTE.
```

Before starting with the analysis we first look at the central variables. `maxgrip` is the maximum value of the grip strength test. It ranges from 1 to 99.

```
DESCRIPTIVES VARIABLES = maxgrip
/STATISTICS=MEAN STDDEV MIN MAX.
```

Figure 6.10: SPSS output for the description of `maxgrip`

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
maxgrip.1: max. of grip strength measure	200126	1	99	33,88	11,997
Valid N (listwise)	200126				

`ep005_` contains information on the self-reported current job situation of the respondents. The output shows that retirement is the most frequent employment status. This is not surprising keeping in mind that only persons above the age of 50 are eligible for SHARE.

```
FREQUENCIES VARIABLES= ep005_
/ORDER=ANALYSIS.
```

Figure 6.11: SPSS output for the frequency distribution of ep005

ep005_1: current job situation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. retired	101296	45,9	53,5	53,4
	2. employed or self-employed	53483	24,2	28,2	81,6
	3. unemployed	5724	2,6	3,0	84,6
	4. permanently sick or disabled	7060	3,2	3,7	88,3
	5. homemaker	19915	9,0	10,5	98,8
	97. other	2239	1,0	1,2	100,0
	Total	189717	86,0	100,0	
Missing	System	30860	14,0		
Total		220577	100,0		

Afterwards ep005_ is recoded. The newly generated variable Retired is 1 for respondents in retirement and 0 for all other employment statuses.

```
RECODE ep005_ (1=1) (2 thru 97=0) INTO Retired.
EXECUTE.
```

Now we estimate a cross-sectional linear regression model for wave 4.

```
REGRESSION
/SELECT=wave EQ 5
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT maxgrip
/METHOD=ENTER Retired.
```

Figure 6.12: SPSS output for an exemplary linear regression

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	35,530	,072		493,709	,000
	Retired	-3,132	,097	-,132	-32,433	,000

a. Dependent Variable: maxgrip.1: max. of grip strength measure

b. Selecting only cases for which wave = 5

To fully exploit the *easySHARE* data we now apply a longitudinal model. In contrast to Stata, SPSS does accept person IDs in string format for this procedure. Here we use the MIXED command:

```
MIXED maxgrip WITH Retired
/FIXED=Retired | SSTYPE(3)
/METHOD=ML
/RANDOM=INTERCEPT | SUBJECT(mergeid)
/PRINT=SOLUTION.
```

Figure 6.13: SPSS output for an exemplary panel model

Estimates of Fixed Effects ^a							
Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	35,032833	,044430	142411,201	788,490	,000	34,945750	35,119915
Retired	-2,280895	,047727	149379,377	-47,790	,000	-2,374440	-2,187351

a. Dependent Variable: maxgrip.1: max. of grip strength measure.

... using R

After downloading and saving *easySHARE* you can rename the data set (e.g. *easyshare*) for an easier handling in the R code later on. Then load the data set into the R memory with the `load` command followed by the storage location of the data.

```
load("D:\easySHARE\data\ easySHARE_re15_0_0.rda")
```

First we reduce our *easyshare* data set to the key variables of the following exemplary analyses by creating a character vector and using this for the new defined data set.

```
variables <- c("mergeid", "wave", "int_year", "ep005_", "maxgrip")
easyshare <- easySHARE[variables]
```

Panel data can be stored in “wide format” or in “long format”. *easySHARE* is provided in long format because this is the common format for panel analyses. In the long format, each observation stands for a respondent at a specific point in time, and the variables are their observed characteristics. Each row represents one point in time (or wave) per respondent. As *easySHARE* contains the four regular waves of SHARE (waves 1, 2, 4 and 5) as well as some information from the third wave (SHARELIFE) there is a maximum of five rows per respondent. If a respondent participated in just one wave there is only one data line for this respondent.

In the wide format each observation stands for one respondent and the variables are their characteristics on the respective time points. There is only one row per respondent and each column represents one wave-specific variable.

Figure 6.14: long vs. wide data format

Long format			Wide format		
mergeid	wave	int_year	mergeid	int_year1	int_year2
AT-986403-01	1	2004	AT-986403-01	2004	2006
AT-986403-01	2	2006			

To reshape the data from long into wide format we use the `reshape` command out of the `stats` package. `mergeid` is the identifier variable and the time variable is `wave`. It is important to arrange the data according to the time variable while reshaping. Otherwise the order of variables could be disarranged in the wide format.

```
install.packages("stats")
library("stats")

easyshare_wide <- reshape(easyshare[order(easyshare$wave),],
  v.names = c("int_year", "ep005_", "maxgrip"),
  idvar = "mergeid", timevar = "wave",
  direction = "wide")
```

For our example analysis we need the data in long format. After we define a character vector with the variable names that we need for the `varying` argument, we reshape the data back into long format.

```
names <- names(easyshare_wide[2:16])
easyshare <- reshape(easyshare_wide,
  idvar = "mergeid", timevar = "wave",
  times = 1:5,
  varying = c(names),
  sep=".",
  direction = "long")
```

This procedure leads to more observations than in the original data file because every respondent has one data line for each of the five waves now. The variable values are set to `NA` for waves in which the respondent did not participate.

To get the original number of observations we drop the lines with missing information for the Variable `int_year`. Make sure you use a variable that had no missing values before the reshape for this step.

```
easyshare <- easyshare[!is.na(easyshare$int_year),]
```

Now we order our data set by `mergeid` and drop the `row.names`.

```
easyshare <- with(easyshare, easyshare[order(mergeid), ])
row.names(easyshare) <- NULL
```

Before starting with the analysis we look at the central variables first. `maxgrip` is the maximum value of the grip strength test. It ranges from 1 to 99.

```
summary((subset(easyshare, maxgrip > 0))$maxgrip)
```

Figure 6.15: R output for the summarizing `maxgrip` (missing values excluded)

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1.00	25.00	32.00	33.88	42.00	99.00

`ep005_` contains information on the self-reported current job situation of the respondents. The output shows that retirement (category 1) is the most frequent employment status followed by employed or self-employed (category 2). This is not surprising keeping in mind that only persons age 50 and over (and their partners) are eligible for SHARE.

```
library("catspec")
ctab(table(easyshare$ep005_))
```

Figure 6.16: R output for the tabulation of `ep005`

Var1	Count	Total %
-15	2246.00	1.02
-13	28495.00	12.92
-12	119.00	0.05
1	101296.00	45.92
2	53438.00	24.25
3	5724.00	2.60
4	7060.00	3.20
5	19915.00	9.03
97	2239.00	1.02

Regression analyses require R to know what the missing codes are. Here we set all `easySHARE` missing codes to `NA`.

```
easyshare$ep005_[easyshare$ep005_ < 0] <- NA
easyshare$maxgrip[easyshare$maxgrip < 0] <- NA
```

Afterwards we recode a new variable `Retired` based on `ep005_`. The new variable `Retired` is set to "1" for respondents in retirement and to "0" for all other employment statuses.

```
install.packages("car")
library("car")
```

```
easyshare$Retired <- recode(easyshare$ep005_,
                           "c(2, 3, 4, 5, 97)=0; 1=1; else=NA")
```

Now we estimate a cross-sectional linear regression model, e.g. for wave 5.

```
lm <- lm(maxgrip ~ Retired,
         data = subset(easyshare, (wave == 5)),
         na.action = na.exclude)
summary(lm)
```

Figure 6.17: R output for an exemplary linear regression

```
Call:
lm(formula = maxgrip ~ Retired, data = subset(easyshare, (wave ==
5)), na.action = na.exclude)

Residuals:
    Min       1Q   Median       3Q      Max
-34.530  -8.530  -1.530   8.603  57.603

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  35.52974    0.07196   493.71  <2e-16 ***
Retired      -3.13230    0.09658   -32.43  <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 11.7 on 59389 degrees of freedom
(6855 observations deleted due to missingness)
Multiple R-squared:  0.0174,    Adjusted R-squared:  0.01739
F-statistic: 1052 on 1 and 59389 DF,  p-value: < 2.2e-16
```

To fully exploit the *easySHARE* panel data we now estimate a longitudinal model. For this purpose we first declare the data to be panel data. Using the package `plm` with the command `pdata.frame`, the data can be declared to be panel data.

```
install.packages("plm")
library("plm")
easyshare_panel <- pdata.frame(easyshare,
                              index = c("mergeid", "wave"))
```

Then we can estimate any panel model. We choose a model with random effects here:

```
plm <- plm(maxgrip ~ Retired, data = easyshare_panel,
           index = c("mergeid", "wave"), model = "random")
```

```
summary(plm)
```

Figure 6.18: output for an exemplary panel model

```
Oneway (individual) effect Random Effect Model
(Swamy-Arora's transformation)

Call:
plm(formula = maxgrip ~ Retired, data = easysshare_panel, model =
"random",
     index = c("mergeid", "wave"))

Unbalanced Panel: n=100216, T=1-4, N=173390
Effects:
              var std.dev share
idiosyncratic 21.515   4.638 0.153
individual    119.118  10.914 0.847
theta  :
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 0.6089 0.6089  0.7122  0.7033  0.7617  0.7921

Residuals :
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-36.100 -3.090  -0.405   0.020   2.920  52.500

Coefficients :
              Estimate Std. Error t-value Pr(>|t|)
(Intercept) 35.035329   0.044386 789.326 < 2.2e-16 ***
Retired     -2.285474   0.047769 -47.845 < 2.2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares:    4665200
Residual Sum of Squares: 3767900
R-Squared      : 0.19262
  Adj. R-Squared : 0.19261
F-statistic: 41291.5 on 1 and 173388 DF, p-value: < 2.22e-16
```

7. Appendix A: List of variables

Variable	Description
mergeid	Person identifier (fix across modules and waves)
hhid	Household identifier (wave specific)
coupleid	Couple identifier (wave specific)
wave	Wave
wavepart	Wave participation pattern
int_year	Interview year
int_month	Interview month
country	Country identifier
country_mod	Country identifier (ISO coded)
language	Language of questionnaire
female	Gender of respondent
dn002_mod	Month of birth
dn003_mod	Year of birth
dn004_mod	Born in the country of interview
age	Age at interview (in years)
birth_country	Country of birth (ISO coded)
citizenship	Citizenship of respondent (ISO coded)
iv009_mod	Area of location
q34_re	What religion do you belong to or feel attached to mostly?
isced_r	Education of respondent in ISCED-97 Coding
eduyears_mod	Years of education
mar_stat	Marital status
hhsize	Household size
partnerinhh	Living with spouse/partner
int_partner	Interview of partner available
age_partner	Age at interview of partner
gender_partner	Gender of partner

mother_alive	Is natural parent still alive: mother
father_alive	Is natural parent still alive: father
siblings_alive	Number of siblings alive (based on: dn036_, dn037_, dn034_)
ch001_	Number of children
ch021_mod	Number of grandchildren
ch007_hh	At least one child lives in household/building (based on ch007_1-ch007_16)
ch007_km	At least one child lives less than 1 km away (based on ch007_1-ch007_16)
ac002d1	Activities last month: voluntary or charity work
ac002d2	Activities last month: cared for a sick or disabled adult
ac002d3	Activities last month: provided help to family, friends or neighbors
ac002d4	Activities last month: attended educational or training course
ac002d5	Activities last month: gone to sport, social or other kind of club
ac002d6	Activities last month: taken part in religious organization
ac002d7	Activities last month: taken part of political or community organization
ac002dno	Activities last month: none of these
sp002_mod	Received help from outside the household
sp003_1_mod	Who gave help: person 1
sp003_2_mod	Who gave help: person 2
sp003_3_mod	Who gave help: person 3
sp008_	Given help to others outside the household
sp009_1_mod	To whom did you give help: person 1
sp009_2_mod	To whom did you give help: person 2
sp009_3_mod	To whom did you give help: person 3
books_age10	Number of books when ten
maths_age10	Relative position to others mathematically when ten
language_age10	Relative position to others language when ten

sphus	Self-perceived health – us version
chronic_mod	Number of chronic diseases (<i>easySHARE</i> version)
casp	CASP: quality of life and well-being index
euro1	Depression (part of EURO-D)
euro2	Pessimism (part of EURO-D)
euro3	Suicidality (part of EURO-D)
euro4	Guilt (part of EURO-D)
euro5	Sleep (part of EURO-D)
euro6	Interest (part of EURO-D)
euro7	Irritability (part of EURO-D)
euro8	Appetite (part of EURO-D)
euro9	Fatigue (part of EURO-D)
euro10	Concentration (part of EURO-D)
euro11	Enjoyment (part of EURO-D)
euro12	Tearfulness (part of EURO-D)
eurod	Depression scale EURO-D – high is depressed
hc002_	How often seen or talked to medical doctor last 12 months
hc012_	In hospital last 12 month
hc029_	In a nursing home
hc038_mod	Received care of private providers
hc032c	Utilization of home care last 12 month (based on hc032*, hc029)
maxgrip	Max. of grip strength measure
adlwa	Activities of daily living w&h index (high: has difficulties)
adla	Activities of daily living index (high: has difficulties)
iadla	Instrumental activities of daily living index (high: has difficulties)
iadlza	Instrumental activities of daily living index 2 (high: has difficulties)
mobilityind	Mobility index (high: has difficulties)
lgmuscle	Large muscle index (high: has difficulties)

grossmotor	Gross motor skills index (high: has difficulties)
finemotor	Fine motor skills index (high: has difficulties)
recall_1	Recall of words, first trial (based on c008tot)
recall_2	Recall of words, delayed (based on cf016tot)
orienti	Orientation to date, month, year and day of week
numeracy_1	Score of first numeracy test (percentage)
numeracy_2	Score of second numeracy test (subtraction)
bmi_mod	Body mass index (<i>easySHARE</i> version)
bmi2_mod	Body mass index categories (<i>easySHARE</i> version)
smoking	Smoke at the present time
ever_smoked	Ever smoked daily
br010_mod	Days a week consumed alcohol last 3 month
br015_	Sports or activities that are vigorous
ep005_	Current job situation
ep009_mod	Employee or self-employed in (main) job
ep011_mod	Term of (main) job
ep013_mod	Total hours worked per week (main) job
ep026_mod	Satisfied with (main) job
ep036_mod	Look for early retirement in (main) job
co007_	Is household able to make ends meet
income_pct_w1	Hhd income percentiles wave 1
income_pct_w2	Hhd income percentiles wave 2
income_pct_w4	Hhd income percentiles wave 4
income_pct_w5	Hhd income percentiles wave 5