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**Research Report**

## SOEP-IS 2018 - HGEN: Household related status and generated variables

SOEP Survey Papers, No. 844

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# SOEP-IS 2018–HGEN: Household- Related Status and Generated Variables

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Editors:

Dr. Jan Goebel, DIW Berlin

Prof. Dr. Stefan Liebig, DIW Berlin and Freie Universität Berlin

Dr. David Richter, DIW Berlin

Prof. Dr. Carsten Schröder, DIW Berlin and Freie Universität Berlin

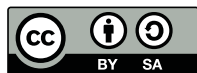
Prof. Dr. Jürgen Schupp, DIW Berlin and Freie Universität Berlin

Dr. Sabine Zinn, DIW Berlin

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DIW Berlin

German Socio-Economic Panel (SOEP)

Mohrenstr. 58

10117 Berlin

Germany

[soepapers@diw.de](mailto:soepapers@diw.de)

# SOEP-IS 2018–HGEN: Household-Related Status and Generated Variables

SOEP-IS Group

2020

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## 1 Overview

Variables in the file hgen documented here are generated mostly from the answers in the household questionnaire. There is one row for each wave (syear) a household (hid) participated in the survey.

## 2 Variables in file hgen

**cid** – Original Household Number

---

**hid** – Current Wave HH Number

---

**syear** – Survey Year

---

1998	373
1999	383
2000	391
2001	409
2002	415
2003	424
2004	433
2005	441
2006	452
2007	451
2008	447
2009	1942
2010	1628
2011	1504
2012	2277
2013	3173
2014	4232
2015	3743
2016	4599
2017	4073
2018	3717

**hgnrpers** – Number Of Persons In HH

---

1	10871
2	13429
3	4825
4	4400
5	1491
6	358
7	97
8	25
9	11
-1 [-1] No Answer	0
-2 [-2] Does Not Apply	0
-3 [-3] Answer Improbable	0

-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	0
-6	[-6] Questionnaire Version With Modified Filtering	0

#### hgnrkid14 – Number Of Children Under 14 In HH

---

1		4148
2		2775
3		715
4		109
5		26
6		4
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	27730
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	0
-6	[-6] Questionnaire Version With Modified Filtering	0

#### hgnrkid16 – Number Of Children Under 16 In HH

---

1		4349
2		3408
3		999
4		163
5		43
6		11
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	26534
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	0
-6	[-6] Questionnaire Version With Modified Filtering	0

#### hgmoveyr – Year Moved Into Dwelling

---

? When did you move into this dwelling? // Year (from: soep-is/soep-is-2017-f/Q4:hwj\_xx1 [16611])

? When did you move into this dwelling? // \_\_\_\_\_ (from: soep-is/soep-is-2017-f/Q4:hwj\_xx2[16611])

1917	1
1921	19
1925	5
1926	12
1928	8
1930	11
1931	7
1932	10
1933	9



1934	25
1935	45
1936	65
1937	41
1938	28
1939	49
... (71 rows omitted)	25533
2011	1072
2012	1168
2013	1217
2014	981
2015	762
2016	710
2017	435
2018	194
2019	4
-1 [-1] No Answer	767
-2 [-2] Does Not Apply	1305
-3 [-3] Answer Improbable	15
-4 [-4] Inadmissible Multiple Answer	0
-5 [-5] Not Contained In Questionnaire	1009
-6 [-6] Questionnaire Version With Modified Filtering	0

For old households at their old address, data is carried forward for up to two waves. For new households in SOEP and for old households that have moved, the variable is based on newly collected data. In case the information is missing and an old household has moved that year or the previous year, HGMOVEYR is given the value of the year of the respective wave. The carrying forward of data entails the possibility that the year of moving into the new dwelling may lie before the year of birth of the oldest household member.

### hgcnstyr – Year House Was Built

**?** When, approximately, was the building built in which your dwelling is located? (*from: soep-is/soep-is-2018-f/Q8:h\_\_bauj\_wohn09[16616]*)

1 [1] Before 1918	3951
2 [2] 1918 To 1948	4331
3 [3] 1949 To 1971	9318
4 [4] 1972 To 1980	4841
5 [5] 1981 To 1990	3178
6 [6] 1991 To 2000	3115
7 [7] 2001 To 2010	1264
8 [8] 2011 Or Later	421
-1 [-1] No Answer	1488
-2 [-2] Does Not Apply	1120
-3 [-3] Answer Improbable	0
-4 [-4] Inadmissible Multiple Answer	0
-5 [-5] Not Contained In Questionnaire	2480
-6 [-6] Questionnaire Version With Modified Filtering	0

Classified statement of the year the building in which a household lives at the time of the

survey was built.

### hgcondit – Condition Of House

---

1	[1] In A Good Condition	6997
2	[2] Partial Renovation	2422
3	[3] Full Renovations	250
4	[4] Dilapidated	11
-1	[-1] No Answer	13
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	25814
-6	[-6] Questionnaire Version With Modified Filtering	0

Respondent's estimation of the condition of the building.

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

### hgseval – Adequacy Of Living Space In Housing Unit

---

1	[1] Much Too Small	132
2	[2] A Bit Too Small	1107
3	[3] Just Right	6302
4	[4] A Bit Too Large	947
5	[5] Much Too Large	148
-1	[-1] No Answer	17
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

Estimate by the respondent (household head).

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

### hgeqpkit – Dwelling Has Kitchen

---

1	[1] Yes	8558
2	[2] No	77
-1	[-1] No Answer	18
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

#### **hgeqpshw** – Dwelling Has Indoor Bath,Shower

---

1	[1] Yes	8588
2	[2] No	47
-1	[-1] No Answer	18
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

#### **hgeqpiwc** – Dwelling Has Indoor Toilet

---

1	[1] Yes	5876
2	[2] No	19
-1	[-1] No Answer	2758
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

#### **hgeqphea** – Dwelling Has Central,Floor Heat

---

1	[1] Yes	8327
2	[2] No	306
-1	[-1] No Answer	20
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

**hgeqpter** – Dwelling Has Balcony,Terrace

1	[1] Yes	7023
2	[2] No	1587
-1	[-1] No Answer	43
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

**hgeqpbas** – Dwelling Has Basement

1	[1] Yes	8202
2	[2] No	419
-1	[-1] No Answer	32
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

**hgeqpgar** – Dwelling Has Garden

1	[1] Yes	5598
2	[2] No	3028
-1	[-1] No Answer	27
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

**hgeqpwat** – Dwelling Has Water Boiler

1	[1] Yes	8600
2	[2] No	28

-1	[-1] No Answer	25
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

#### hgeqptel – Dwelling Has Telephone

---

1	[1] Yes	9327
2	[2] No	66
-1	[-1] No Answer	300
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	25814
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

#### hgeqpalm – Dwelling Has Alarm System

---

1	[1] Yes	230
2	[2] No	5605
-1	[-1] No Answer	423
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	29249
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

#### hgeqpsol – Dwelling Has Solar System

---

1	[1] Yes	254
2	[2] No	4671
-1	[-1] No Answer	7
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0

-5	[-5] Not Contained In Questionnaire	30575
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

#### hgeqpair – Dwelling Has Air Conditioner

---

1	[1] Yes	56
2	[2] No	4869
-1	[-1] No Answer	7
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	30575
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

#### hgeqplif – Dwelling Has An Elevator

---

1	[1] Yes	255
2	[2] No	3765
-1	[-1] No Answer	14
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	31473
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

#### hgeqpnrj – Dwelling Has Alternative Energy Source

---

1	[1] Yes	75
2	[2] No	3946
-1	[-1] No Answer	13
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	31473
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

### hgowner – Tenant Or Owner Of Dwelling

---

**?** The next questions deal with the costs of living in your dwelling. First the question: Are you living in the dwelling as ... (*from: soep-is/soep-is-2018-f/Q21:hm01[16620]*)

1	[1] Owner	16159
2	[2] Main Tenant	16383
3	[3] Sub-tenant	458
4	[4] Tenant	0
5	[5] Home Occupant	27
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	2480
-6	[-6] Questionnaire Version With Modified Filtering	0

In all waves, codes 1 and 4 are used if the original variable is coded as -1 (“no answer”) but if at least one answer that is specific to owners, respectively to tenants, was given. Code 4 is also used if a change in ownership (from owner to tenant) has taken place, but no original information for HGOWNER was given.

### hgacquis – Means Of Acquiring Dwelling

---

1	[1] Bought From Owner	841
2	[2] Inheritance, Gift	629
3	[3] Bought, Built New	1120
4	[4] Got back from public property	0
-1	[-1] No Answer	1750
-2	[-2] Does Not Apply	4313
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

Statement by respondent (household head). If no new information is provided and a change of address or ownership status (HGOWNER) has not taken place, the information of the previous year is carried forward.

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

### hgsubsid – Government Subsidizes Housing Payments

---

1	[1] Yes	38
2	[2] No	126

-1	[-1] No Answer	114
-2	[-2] Does Not Apply	478
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	34751
-6	[-6] Questionnaire Version With Modified Filtering	0

Statement by respondent. HGSUBSID contains information on government subsidies at the time the housing was built or bought. Information is carried forward until the year 1999.

### hgosubs – Amount Of Subsidies Last Year

---

1	[1] Yes	416
2	[2] No	2973
-1	[-1] No Answer	44
-2	[-2] Does Not Apply	4464
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	27610
-6	[-6] Questionnaire Version With Modified Filtering	0

Statement by respondent. HGOSUBS contains information on cash housing subsidies received from the government during the year prior to the interview. Information is not carried forward.

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

### hgreal – Rent Of Dwelling Vs Comparable Dwellings

---

1	[1] Very Inexpensive	267
2	[2] Inexpensive	879
3	[3] Reasonable	1711
4	[4] Slightly Expensive	640
5	[5] Too Expensive	136
-1	[-1] No Answer	62
-2	[-2] Does Not Apply	4101
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	27711
-6	[-6] Questionnaire Version With Modified Filtering	0

Subjective assessment by respondent (household head). The corresponding information from the previous year is not carried forward longitudinally due to the possibility of changes in rent and income, residential moves, and change in the person responding.

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).



**hgrsubs** – Government Subsidized Housing

1	[1] Yes, With due diligence	212
2	[2] Yes, Exp.Subsidy	177
3	[3] No	3905
-1	[-1] No Answer	19
-2	[-2] Does Not Apply	4340
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

**hgreduc** – Dwelling At A Reduced Prize

1	[1] Yes	301
2	[2] No	3773
-1	[-1] No Answer	239
-2	[-2] Does Not Apply	4340
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

Information is carried forward from the previous years for old households residing at their old address; for new households and for old households that have moved, newly collected data is used.

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

**hgsize** – Size of Housing Unit in Square Meters

? How large is the total living space in this flat? // sqm (from: soep-is/soep-is-2017-f/Q11:hqm\_xx1 [16619])

? How large is the total living space in this flat? // \_\_\_\_\_ (from: soep-is/soep-is-2017-f/Q11:hqm\_xx2[16619])

8	1
9	2
10	2
12	13
13	1
14	8
15	11
16	10
17	3

18	8
19	1
20	60
21	9
22	22
23	5
... (200 rows omitted)	29585
320	3
340	4
350	7
360	2
400	14
540	8
600	2
650	1
754	1
-1 [-1] No Answer	297
-2 [-2] Does Not Apply	2943
-3 [-3] Answer Improbable	4
-4 [-4] Inadmissible Multiple Answer	0
-5 [-5] Not Contained In Questionnaire	2480
-6 [-6] Questionnaire Version With Modified Filtering	0

In the following cases the information on HGSIZE is still missing:

- The information could not be carried forward (e.g. due to the household moving)
- A new household did not provide information
- The size of the housing unit changed, but no new information was provided
- The given value was found to be implausible.

Missing cases in 2009 and 2010 were imputed using a regression model with the following independent variables:

- Number of rooms larger than 6 square meters (see variable HGROOM)
- Size of the household (HHGR)
- Status of ownership (HGOWNER)
- Year house was constructed (HGCNSTYR)
- Type of building (WUM1)
- Adequacy of living space in housing unit (HGSEVAL)
- SOEP Subsample (HSAMPLE)
- Dummy variable coded “1” for households living in Eastern Germany

The results of these imputations are also carried forward for up to two waves unless new information is provided in later waves.

In case HGSIZE is imputed, the flag variable HGFSIZE takes the value “1”.

The number of missing cases from 2011 on was reduced by carrying on the information from previous years, unless there was a relocation of the household. Note the possibility of a change in the size of the housing unit even when no relocation happened. We estimate that there was a (undetected) change in size of the housing unit for around 3% of the households that did not relocate.

### hgroom – Number Of Rooms Larger than 6 Square Meters

---

1	256
2	1221
3	2473
4	2000
5	1277
6	828
7	311
8	180
9	70
10	23
11	7
12	7
-1 [-1] No Answer	0
-2 [-2] Does Not Apply	0
-3 [-3] Answer Improbable	0
-4 [-4] Inadmissible Multiple Answer	0
-5 [-5] Not Contained In Questionnaire	26854
-6 [-6] Questionnaire Version With Modified Filtering	0

The procedure of carrying forward and imputation is identical to that for HGSIZE. In the regression model the same covariates are used with the exception of HGROOM which is replaced with HGSIZE (size of the housing unit in square meters). In case information on HGSIZE is missing, a first imputation was done excluding HGSIZE. In case information for HGSIZE exists, these values were replaced with values obtained from a second imputation including HGSIZE as a covariate.

In case HGROOM is imputed, the flag variable HGFROOM takes the value “1”.

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

### hgheat – Costs Of Warm Water (gen)

---

0	1
1	1
5	1
7	1
8	3
9	3

10	7
11	3
12	1
13	1
14	4
15	6
16	5
17	2
18	11
... (198 rows omitted)	4033
270	1
296	1
300	4
350	1
358	1
360	1
375	1
475	1
493	1
-1 [-1] No Answer	5
-2 [-2] Does Not Apply	4553
-3 [-3] Answer Improbable	0
-4 [-4] Inadmissible Multiple Answer	0
-5 [-5] Not Contained In Questionnaire	26854
-6 [-6] Questionnaire Version With Modified Filtering	0

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

### hgutil - Cost Allocation (gen)

? How much do you spend for incidentals like water, garbage disposal and all not yet mentioned cost allocation monthly on average? (from: soep-is/soep-is-2018-f/Q33:hm11[16628])

? How much do you spend for incidentals like water, garbage disposal and all not yet mentioned cost allocation monthly on average? // EUR per month (from: soep-is/soep-is-2018-f/Q33:hm10[16628])

1	1
2	4
3	1
5	13
6	12
7	12
8	16
9	6
10	113
11	8
12	35
13	13
14	11

15		113
16		16
...	(213 rows omitted)	10626
352		1
400		4
414		1
422		1
450		2
460		1
480		2
500		1
1213		1
-1	[-1] No Answer	3139
-2	[-2] Does Not Apply	18874
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	2480
-6	[-6] Questionnaire Version With Modified Filtering	0

HGRENT, HGUTIL and HGHEAT are generated variables on the housing cost of households in rental properties. HGRENT is a measure of the gross rent including utility costs (HGUTIL) and excluding heating costs (HGHEAT).

For further information on HGRENT, HGUTIL and HGHEAT please see the corresponding SOEP HGEN documentation.

### hgent – Amount of Rent Minus Heating Costs (EUR)

**?** How much is the monthly rent at present? // EUR (from: soep-is/soep-is-2018-f/Q23:hm04 [16624])

15		1
20		1
46		1
47		1
48		1
50		2
57		1
70		3
71		1
73		1
74		1
75		1
76		1
78		1
80		2
...	(988 rows omitted)	15936
2282		1
2300		3
2350		1
2400		1
2500		7

2573		1
2700		1
2902		1
3000		1
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	17053
-3	[-3] Answer Improbable	2
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	2480
-6	[-6] Questionnaire Version With Modified Filtering	0

Because detailed information on heating costs is not assessed in the Questionnaire of the SOEP Innovation Sample, in the years 2011 and 2012 HGRENT was generated by simply duplicating respondents' answers on the amount of monthly rent from the H dataset.

### hgelectr - Costs of Electricity (gen)

---

3		1
6		1
12		2
15		3
16		3
17		1
18		6
19		3
20		20
21		2
22		7
23		1
24		2
25		27
26		7
...	(113 rows omitted)	850
177		1
180		1
183		1
185		1
191		1
196		1
200		1
218		1
279		1
-1	[-1] No Answer	4
-2	[-2] Does Not Apply	1143
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	33415
-6	[-6] Questionnaire Version With Modified Filtering	0

Information was collected in wave BA (2010) for the first time. The procedure of imputation is identical to that for HGHEAT. In the regression model the same covariates are used.

In case HGELECTR is imputed, the flag variable HGFELECTR takes the value “1”. In the year 2011, no imputation of HGELECTR was conducted.

This information is not assessed in the Questionnaire of the SOEP Innovation Sample from 2012 on, therefore this variable is not generated for these years and coded to “-5” (not contained in questionnaire).

### hgnovent – Does Not Pay Rent

---

? How much is the monthly rent at present? (from: [soep-is/soep-is-2018-f/Q23:hm05\[16624\]](#))

1	[1] Pays No Rent	464
2	[2] Pay No Rent But Utilities	245
3	[3] Pays Neither Rent Nor Utilities	109
-1	[-1] No Answer	71
-2	[-2] Does Not Apply	32138
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	2480
-6	[-6] Questionnaire Version With Modified Filtering	0

Coded as “1” if the household does not pay rent; e.g., if living space is provided by relatives at no cost. Note that in these cases, the information on gross cold rent (HGRENT), heating costs (HGHEAT) and utilities (HGUTIL) is coded “-2” (“not applicable”).

Information is not carried forward.

### hgfsiz – Imputation Flag, Size Of Housing

---

0	[0] Not imputed	8609
1	[1] Imputed	44
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This variable contains information, whether the referring variable has been imputed. If the referring information has not been assessed in the questionnaire, this flag also contains “-5” (not contained in questionnaire).

### hgffroom – Imputation Flag, Number Of Rooms Larger than 6 Square Meters

---

0	[0] Not imputed	8632
1	[1] Imputed	21
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0

-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This variable contains information, whether the referring variable has been imputed. If the referring information has not been assessed in the questionnaire, this flag also contains “-5” (not contained in questionnaire).

#### hgfheat – Imputation Flag, Costs Of Heating And Warm Water

---

0	[0] Not imputed	7464
1	[1] Imputed	1189
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

This variable contains information, whether the referring variable has been imputed. If the referring information has not been assessed in the questionnaire, this flag also contains “-5” (not contained in questionnaire).

#### hgfutil – Imputation Flag, Cost Allocation

---

0	[0] Not imputed	5648
1	[1] Imputed	3005
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

Please note that HGFUTIL is also given the value “1” for households reporting that utility costs are only partly included in the amount of rent stated (see the description of HGUTIL). This variable contains information, whether the referring variable has been imputed. If the referring information has not been assessed in the questionnaire, this flag also contains “-5” (not contained in questionnaire).

#### hgfrent – Imputation Flag, Amount Of Rent Minus Heating Costs

---

0	[0] not imputed	6397
1	[1] Imputed	87
2	[2] imputed cost allocation	1207
3	[3] Imputed Costs Of Heating And Warm Water	962
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0



-5	[-5] Not Contained In Questionnaire	26854
-6	[-6] Questionnaire Version With Modified Filtering	0

HGFRENT indicates that at least one of the components of HGRENT (HGUTIL or HGHEAT) or HGRENT itself is imputed. It is only given positive values if the respective imputed component is part of HGRENT.

“1”: The household did not provide information on the amount of HGRENT, thus the basic value of HGRENT is imputed.

“2”: Utility costs are imputed and had to be added to the amount of rent stated to obtain the target measure of gross HGRENT.

“3”: Heating costs are imputed and had to be deducted from the amount of rent stated to obtain the target measure of gross HGRENT excluding heating costs.

This variable contains information, whether the referring variable has been imputed. If the referring information has not been assessed in the questionnaire, this flag also contains “-5” (not contained in questionnaire).

### hgfelectr – Imputation Flag, Costs of Electricity

---

0	[0] not imputed	1971
1	[1] Imputed	121
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	33415
-6	[-6] Questionnaire Version With Modified Filtering	0

This variable contains information, whether the referring variable has been imputed. If the referring information has not been assessed in the questionnaire, this flag also contains “-5” (not contained in questionnaire).

### hgtyp1hh – Household Typology, One Digit

---

1	[1] 1-Pers.-HH	11026
2	[2] Couple without children	11582
3	[3] Single Parent	2915
4	[4] Couple With Children LE 16	5567
5	[5] Couple With Children GT 16	2406
6	[6] Couple With Children LE and GT 16	1307
7	[7] Multiple Generation HH	207
8	[8] Other combination	497
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	0
-6	[-6] Questionnaire Version With Modified Filtering	0

Generated variable created by combining the relationships of all persons living in the household to the head of household (Variable \$STELL in the file PBRUTTO) at the time of the

survey.

From 2009 onwards, the data production process switched to a standardized procedure for all waves to ensure longitudinal consistency, resulting in minor changes compared with older distributions.

HGTYP1HH is an aggregation of HGTYP2HH (first column of the two-digit code). Single households are differentiated in HGTYP2HH according to both gender and age.

Due to a slightly modified \$STELL variable in the file PBRUTTO, the generation syntax of HGTYP1HH and HGTYP2HH needed to be updated in the year 2011.

Legend:

- LE = less or equal
- GT = greater than
- K = child

### hgtyp2hh – Household Typology, Two Digit

---

11	[11] 1-Person HH - Male LE 35 Y.	1001
12	[12] 1-Person HH - Male 35- LT 60 Y.	2020
13	[13] 1-Person HH - Male GE 60 Y.	1814
14	[14] 1-Person HH - Female LE 35 Y.	870
15	[15] 1-Person HH - Female 35- LT 60 Y.	1511
16	[16] 1-Person HH - Female GE 60 Y.	3810
21	[21] Couple without children	11582
31	[31] Single Parent, 1 child LE 16	958
32	[32] Single Parent, 2 or more children LE 16	731
33	[33] Single Parent, 1 child GT 16	730
34	[34] Single Parent, 2 or more children GT 16	174
35	[35] Single Parent, 2 children LE and GT 16	193
36	[36] Single Parent, 3 children or more LE and GT 16	129
41	[41] Couple, 1 Child, LE 16	2021
42	[42] Couple, 2 Children, LE 16	2524
...	(2 rows omitted)	2647
52	[52] Couple, 2 Children, GT 16	674
53	[53] Couple, 3 Or More Children, GT 16	107
61	[61] Couple, 2 Children, LE and GT 16	723
62	[62] Couple, 3 Or More Children, LE and GT 16	584
71	[71] 3-generation hh	179
72	[72] 4-generation hh	3
73	[73] GrandParents-GrandChildren-HH	25
81	[81] Other combination without K. LE 16	450
82	[82] Other combination with K. LE 16	47
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	0
-6	[-6] Questionnaire Version With Modified Filtering	0

### hghmonth – Month Of Interview

---

1	[1] January	2510
---	-------------	------

2	[2] February	2947
3	[3] March	1767
4	[4] April	699
5	[5] May	537
6	[6] June	402
7	[7] July	723
8	[8] August	373
9	[9] September	6872
10	[10] October	10929
11	[11] November	5485
12	[12] December	2263
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	0
-6	[-6] Questionnaire Version With Modified Filtering	0

The month of participation in the survey is generated using data from the household questionnaire.

#### hghmode – Interview Method

---

100	[100] With Interviewer Assistance	15
110	[110] Oral Interview	1574
120	[120] Written Ques. Interviewer	949
130	[130] Mix Between With/Without Interviewer	0
131	[131] Written Ques. No Interviewer	88
132	[132] Oral And Written	85
133	[133] Proxy	0
134	[134] With Interpreter	0
135	[135] Without Interpreter	0
140	[140] CAPI - Wave 0 Onwards	32670
200	[200] Telephone Assistance	0
210	[210] Written, By Mail	117
220	[220] Phone interview	0
300	[300] Web-based Interview	9
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	0
-6	[-6] Questionnaire Version With Modified Filtering	0

The interview method is generated through data from the household questionnaire.

#### hghinc – Monthly Household Net Income (EUR)

---

**?** If you take a look at the total income of all members of the household: How much is the monthly household net income today? // EUR per month (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx1[16656])

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // \_\_\_\_\_ (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx2[16656])

0	3
1	1
100	1
102	1
129	1
160	2
176	1
184	1
200	6
220	1
250	3
260	1
279	1
280	1
290	2
... (1912 rows omitted)	33073
16483	1
17000	3
18000	1
20000	11
21000	1
21250	1
22000	2
25000	1
30000	2
-1 [-1] No Answer	2253
-2 [-2] Does Not Apply	0
-3 [-3] Answer Improbable	132
-4 [-4] Inadmissible Multiple Answer	0
-5 [-5] Not Contained In Questionnaire	0
-6 [-6] Questionnaire Version With Modified Filtering	0

This variable contains the current monthly net household income asked for in the household questionnaire, always provided in euros. Income is reported by the respondent (head of household).

#### hgahinc - Adjusted Monthly Household Net Income (EUR)

---

0	3
1	1
138	1
154	2
160	1
205	1
225	1
250	1

261		1
270		1
279		1
281		1
286		1
290		1
300		8
...	(1889 rows omitted)	6865
13100		1
15000		5
16211		1
17000		2
20000		1
21000		1
21024		1
28164		1
30000		1
-1	[-1] No Answer	571
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	3
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	28029
-6	[-6] Questionnaire Version With Modified Filtering	0

This variable is based on the current monthly net household income asked for directly in the household questionnaire (“screener”). Since everyone in SOEP over the age of 16 is also interviewed personally, this income can be calculated based on the current individual monthly incomes of all household members. Possible underestimation in “screener” can thus be assessed and corrected. However, in the case of item-nonresponse on the original screener, the procedure is only used for households surveyed completely, without item-non-response on the variables in question.

For personal income, we use monthly net income (from dependent employment and self-employment), extra earnings, pensions, widow’s pensions, unemployment benefits or relief, maintenance payments, early retirement payments, maternity benefits, BaFoeG (state higher education grants), military or civil service pay, compulsory child support, as well as other forms of support from the P files. Civil servants’ pensions income is taxed at the flat rate of 20% and multiple entries on the use of employment office services are corrected for by calculating a median value. We add all the individual incomes of all interviewed household members, also adding to this sum all income from the household context (housing subsidies, child benefits, welfare and home nursing subsidies, social assistance; since 2005 also Unemployment Benefit II (“ALG II”) or Social Benefit).

When no answer was provided on net household income, we use the net household income calculated as described above, under the condition that all household members gave valid answers. If the net household income generated in this way is higher than the household income stated in the questionnaire, we correct the value upwards. When no answer was given for the different components of income, we set the value of the particular component at zero. HGAHINC was not generated from 2011 on.

[hgnuts1](#) - NUTS-Systematic-1 (Federal State)

---

1	[1] [DE100] Baden-Wuerttemberg	3589
2	[2] [DE200] Bavaria	5272
3	[3] [DE300] Berlin	1409
4	[4] [DE400] Brandenburg	1015
5	[5] [DE500] Bremen	307
6	[6] [DE600] Hamburg	590
7	[7] [DE700] Hesse	2254
8	[8] [DE800] Mecklenburg-Western Pomerania	862
9	[9] [DE900] Lower Saxony	3823
10	[10] [DEA00] North Rhine-Westphalia	9330
11	[11] [DEB00] Rhineland-Palatinate	1377
12	[12] [DEC00] Saarland	382
13	[13] [DED00] Saxony	1873
14	[14] [DEE00] Saxony-Anhalt	1155
15	[15] [DEF00] Schleswig-Holstein	1187
16	[16] [DEG00] Thuringia	1082
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	0
-6	[-6] Questionnaire Version With Modified Filtering	0

NUTS (“Nomenclature of Statistical Territorial Units”) is a hierarchical system for dividing up the economic territory of the European Union. It was introduced by Eurostat more than 30 years ago in order to provide a single uniform breakdown of territorial units for the production of regional statistics. NUTS 1 especially contains the major socio-economic regions for analyzing regional Community problems. It subdivides the European Union by now into 97 regions, whereas in Germany there are equivalent to the German Federal States 16 regions.

### 3 Imputation of Household Income

#### Procedure

Multiple imputation procedures provide a way to deal with missing values on the variable HGHINC current monthly net household income in Euros by using information about determinants of the household income and replacing item-nonresponse with multiply imputed data. Five imputations are available within the \$HGEN datasets: the variables hgi1hinc-hgi5hinc. The imputations were calculated using the method of chained equations predictive mean matching in STATA. The procedures were written by Patrick Royston (see Royston 2004, 2005a, 2005b, 2007, 2009) and Ian White (see White, Daniel and Royston 2010; White, Royston and Wood 2011). Predicted mean matching means that for each missing observation on income, the particular non-missing observation is found whose prediction on observed data is closest. This closest observation is used to impute the missing value. The most important variable for modelling the current monthly net household income is monthly net household income of the previous year. A complete list of the variables used for modelling is available upon request.

The missing observations were assumed to be missing at random. We set the number of imputations  $m=5$  and get 5 multiple imputed values for HGHINC. The number of iterations carried out in each prediction model was specified to be 2000. Samples E&I&S1 and the supplementary sample S2 were imputed separately in 2014.

### Analysing multiple imputed data

For analysing multiple imputed data, you do not necessarily need special methods, however such tools exist and simplify the use of multiply imputed data. Below a short overview of some useful tools for various statistical packages is given. These tools estimate the parameters of a regression model by combining the estimates across the several replicates of imputation. Point estimates from multiple imputations are then the arithmetic mean of the several point estimates obtained from analysis on each imputed data. Standard errors are obtained by combining the average of the squared standard errors of the several ( $m$ ) estimates with the within-and between-imputation variance. STATA provides a builtin functionality called `mi`. Within SAS, PROC MIANALYZE combines the results of analyses on the data sets. IVEware is a set of routines that can be launched from SAS or run independently using data from many sources. You can use the IVEware module `regress` to perform multiple imputation analysis.

Royston, P. 2004. Multiple imputation of missing values. *Stata Journal* 4: 227–241.

Royston, P. 2005a. Multiple imputation of missing values: Update. *Stata Journal* 5: 188–201.

Royston, P. 2005b. Multiple imputation of missing values: Update of `ice`. *Stata Journal* 5: 527–536.

Royston, P. 2007. Multiple imputation of missing values: Further update of `ice`, with an emphasis on interval censoring. *Stata Journal* 7: 445–464.

Royston, P. 2009. Multiple imputation of missing values: Further update of `ice`, with an emphasis on categorical variables. *Stata Journal* 9: 466–477.

White, I. R., R. Daniel, and P. Royston. 2010. Avoiding bias due to perfect prediction in multiple imputation of incomplete categorical data. *Computational Statistics & Data Analysis* 54: 2267–2275.

White, I. R., P. Royston, and A. M. Wood. 2011. Multiple imputation using chained equations: Issues and guidance for practice. *Statistics in Medicine* 30: 377–399.

### hgi1hinc - 1. Imputed Monthly Net Household Income (EUR) [1/5]

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // EUR per month (from: *soep-is/soep-is-2017-f/Q52:hnetto\_xx1[16656]*)

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // \_\_\_\_\_ (from: *soep-is/soep-is-2017-f/Q52:hnetto\_xx2[16656]*)

0	3
1	1
100	2
102	1
150	1
160	2
176	1
184	1
200	8
250	2
260	1
279	1
280	1
290	2
297	1

...	(1797 rows omitted)	30700
15500		1
16000		1
17000		3
18000		1
20000		10
21000		1
22000		2
25000		1
30000		2
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	4757
-6	[-6] Questionnaire Version With Modified Filtering	0

### hgi2hinc – 2. Imputed Monthly Net Household Income (EUR) [2/5]

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // EUR per month (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx1[16656])

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // \_\_\_\_\_ (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx2[16656])

0		4
1		1
100		2
102		1
160		2
176		1
184		2
200		5
241		1
243		1
250		4
260		1
279		1
280		1
290		2
...	(1806 rows omitted)	30700
15500		1
16000		1
17000		3
18000		1
20000		9
21000		1
22000		2
25000		1
30000		2



-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	4757
-6	[-6] Questionnaire Version With Modified Filtering	0

### hgi3hinc - 3. Imputed Monthly Net Household Income (EUR) [3/5]

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // EUR per month (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx1[16656])

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // ————— (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx2[16656])

0	3	
1	1	
100	1	
102	1	
160	2	
176	1	
184	1	
200	5	
238	1	
250	2	
260	1	
279	1	
280	2	
290	2	
297	1	
... (1811 rows omitted)	30703	
15500	1	
16000	2	
17000	3	
18000	1	
20000	9	
21000	1	
22000	2	
25000	1	
30000	2	
-1	[-1] No Answer	0
-2	[-2] Does Not Apply	0
-3	[-3] Answer Improbable	0
-4	[-4] Inadmissible Multiple Answer	0
-5	[-5] Not Contained In Questionnaire	4757
-6	[-6] Questionnaire Version With Modified Filtering	0

**hgi4hinc** – 4. Imputed Monthly Net Household Income (EUR) [4/5]

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // EUR per month (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx1[16656])

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // \_\_\_\_\_ (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx2[16656])

0	4
1	1
100	1
102	1
160	3
176	1
184	1
200	6
250	2
260	1
279	1
280	2
290	2
297	1
300	16
... (1817 rows omitted)	30686
15500	1
16000	1
17000	3
18000	1
20000	9
21000	1
22000	2
25000	1
30000	2
-1 [-1] No Answer	0
-2 [-2] Does Not Apply	0
-3 [-3] Answer Improbable	0
-4 [-4] Inadmissible Multiple Answer	0
-5 [-5] Not Contained In Questionnaire	4757
-6 [-6] Questionnaire Version With Modified Filtering	0

**hgi5hinc** – 5. Imputed Monthly Net Household Income (EUR) [5/5]

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // EUR per month (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx1[16656])

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // \_\_\_\_\_ (from: soep-is/soep-is-2017-f/Q52:hnetto\_xx2[16656])

0	3
---	---

1	1
96	1
100	1
102	1
150	1
160	2
176	1
184	1
200	8
250	3
260	2
279	1
280	1
285	1
... (1805 rows omitted)	30700
15500	1
16000	2
17000	3
18000	1
20000	9
21000	1
22000	2
25000	1
30000	2
-1 [-1] No Answer	0
-2 [-2] Does Not Apply	0
-3 [-3] Answer Improbable	0
-4 [-4] Inadmissible Multiple Answer	0
-5 [-5] Not Contained In Questionnaire	4757
-6 [-6] Questionnaire Version With Modified Filtering	0

### hgfhinc - Imputation Flag, Monthly Net Household Income (EUR)

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // EUR per month (from: [soep-is/soep-is-2017-f/Q52:hnetto\\_xx1\[16656\]](#))

? If you take a look at the total income of all members of the household: How much is the monthly household net income today? // \_\_\_\_\_ (from: [soep-is/soep-is-2017-f/Q52:hnetto\\_xx2\[16656\]](#))

0 [0] Not imputed	29592
1 [1] Imputed	2198
-1 [-1] No Answer	0
-2 [-2] Does Not Apply	0
-3 [-3] Answer Improbable	0
-4 [-4] Inadmissible Multiple Answer	0
-5 [-5] Not Contained In Questionnaire	3717
-6 [-6] Questionnaire Version With Modified Filtering	0

HGFHINC is a dummy variable indicating whether an observation was missing on HGH-INC and was therefore imputed or not.