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# Research Report SOEP-Core v34 - HGEN: Household-related status and generated variables

SOEP Survey Papers, No. 759

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SOEP - The German Socio-Economic Panel at DIW Berlin

59

SOEP-Core v34 – HGEN: Household-Related Status and Generated Variables

**SOEP Group** 



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The German Socio Economic Panel at DIW Berlin

# SOEP-Core v34 – HGEN: Household-Related Status and Generated Variables

SOEP Group

2019

The file hgen is part of a collection, which is released with doi:10.5684/soep.v34.

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# 1 General Information

The HGEN file provides a set of time-consistent variables generated from the SOEP household questionnaire. It only includes households who participated in the respective year.

Up to Wave G, "old" households already known to the SOEP were surveyed at the old address with a "green" questionnaire; old households that had moved and new households received a "blue" questionnaire. While a number of questions in the blue questionnaire surveyed information for the first time (e.g. living space in square meters), this information was only asked for again in the green questionnaire in case of changes. Otherwise, the information collected in the previous wave was still valid. The variables described in the following are in part status variables in this sense: Information collected once is carried forward to subsequent waves if no address change has taken place since the previous wave. This is the case for: HGCNSTYRMIN, HGCNSTYRMAX, HGCONDIT (for Wave B to G), HG-SIZE, HGROOM, HGEQPKIT, HGEQPSHW, HGEQPIWC, HGEQPHEA, HGEQPTER, HGEQPBAS, HGEQPGAR, HGEQPWAT, HGEQPALM, HGEQPSOL, HGEQPAIR, HG-MOVEYR, HGACQUIS, HGSUBSID, HGRSUBS, HGREDUC and HGSEVAL (for Wave C to G). Furthermore, identical information is recorded in the green and blue questionnaire in separate variables (e.g. housing tenure as owner or tenant). The corresponding status variables are therefore just a compilation of these more dispersed pieces of information. Since only one common questionnaire has been used since Wave H rather than the former "blue" and "green" versions, the necessity for the aforementioned status variables disappears. However, this user-friendly redundance is maintained for reasons of consistency.

In addition, we impute missing values of the variables HGROOM, HGSIZE, HGRENT, HGHEAT, HGUTIL and HGHINC to ensure the completeness of the dataset and facilitate its usage. Details of the imputation process can be found in the description of the respective variable.

Since Wave BG, new migration samples (M3 and M4) have been added. These samples provide less household information which explains the high incidence of missing values (=-5). Therefore, in the samples M3 and M4 hgen variables are generally not imputed.

## 2 Sample Information

hid - Current Household Number (=BHHHNR)

19		6
27		25
35		10
43		3
51		9
60		29
78		3
86		2
94		34
108		4
116		15
124		23
132		14
140		7
159		34
	(49886 rows omitted)	356631

3923487	1
3923541	1
3923550	1
3923568	1
3923576	1
3923584	1
3923614	1
3923649	1
3923746	1
3923762	1
3923789	1
3923797	1
3923800	1
3923835	1
3923878	1

# cid - Case-ID, Original Household Number

519608878386294341084116151242313216140715934	
(41232 rows omitted) 356542 3923487 1	
3923541 1	
3923550 1	
3923568 1	
3923576       1         3923584       1	
3923614	
3923649	
3923746 1	
3923762 1	
3923789 1	
3923797 1	
3923800 1	
3923835 1 3923878 1	

# syear – Survey Year

1984		5921
1985		5322
1986		5090
1987		5026
1988		4814
1989		4690
1990		6819
1991		6699
1992		6665
1993		6637
1994		6795
1995		6968
1996		6894
1997		6810
1998		7668
	/ • · · · · · · · · · · · · · · · · · ·	
	(4 rows omitted)	45276
 2003	(4 rows omitted)	12061
2004	(4 rows omitted)	12061 11796
2004 2005	(4 rows omitted)	12061 11796 11440
2004 2005 2006	(4 rows omitted)	12061 11796 11440 12499
2004 2005 2006 2007	(4 rows omitted)	12061 11796 11440 12499 11689
2004 2005 2006 2007 2008	(4 rows omitted)	12061 11796 11440 12499 11689 11058
2004 2005 2006 2007 2008 2009	(4 rows omitted)	12061 11796 11440 12499 11689 11058 11889
2004 2005 2006 2007 2008 2009 2010	(4 rows omitted)	12061 11796 11440 12499 11689 11058 11889 15414
2004 2005 2006 2007 2008 2009 2010 2011	(4 rows omitted)	12061 11796 11440 12499 11689 11058 11889 15414 16819
2004 2005 2006 2007 2008 2009 2010 2011 2012	(4 rows omitted)	12061 11796 11440 12499 11689 11058 11889 15414 16819 16508
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013	(4 rows omitted)	12061 11796 11440 12499 11689 11058 11889 15414 16819 16508 18093
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	(4 rows omitted)	12061 11796 11440 12499 11689 11058 11889 15414 16819 16508 18093 16037
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015	(4 rows omitted)	12061 11796 11440 12499 11689 11058 11889 15414 16819 16508 18093 16037 15991
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	(4 rows omitted)	12061 11796 11440 12499 11689 11058 11889 15414 16819 16508 18093 16037

# **3** General Housing Information

hgacquis - Means Of Acquiring Dwelling

1	[1] Bought From Owner	33590
2	[2] Inheritance, Gift	22751
3	[3] Bought, Built New	39187
4	[4] Got Back From Public Property	6
-1	[-1] No Answer	48258
-2	[-2] Does not apply	190301
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	22771
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: all

If a household did not provide any information on HGACQUIS, the information from previous waves is carried forward under the condition that a change of address or ownership status (HGOWNER) has not taken place.

In Wave A to Wave G, HGACQUIS was asked only if a household was new to the SOEP or if it had changed its address. From Wave H to Wave R, HGACQUIS was also asked if a change in ownership status had taken place in the last year. Since Wave S, HGACQUIS is only asked if a change in ownership status has taken place. In consequence, households new to the SOEP without a change in ownership in the last year, do not state any information on HGACQUIS anymore. Furthermore, since Wave S, the category "Bought New or Built" is no longer included in the household questionnaire but is carried forward from last years. Given these changes in the categories and the sample that provides information for HGACQUIS, we recommend not to compare the shares of the different categories of HGACQUIS over time.

"Returned to private ownership" was surveyed only in Wave I in East Germany and is carried forward.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

0		49047
1918		7547
1919		45276
1949		103303
1972		49291
1973		802
1974		997
1975		895
1976		659
1977		383
1978		558
1979		490
1980		822
1981		26847
1982		520
	(22 rows omitted)	44271
2005		729
2006		1143
2007		754
2008		614
2009		468
2010		534
2011		545
2012		305
2013		115
2014		212
2015		137
2016		95
2017		6
-1		10437

hgcnstyrmin - Earliest Possible Construction Year of Dwelling

-5

9062

Waves: 1984–2013, 2015–2016

HGCNSTYRMIN provides the lower limit of the time period in which the household's building was constructed. HGCNSTYRMAX provides the upper limit. E.g. if a household's HGC-NSTYRMIN is 1984 and HGCNSTYRMAX is 1990, the building was built between 1984 and 1990.

Households new to the SOEP and households who have moved since the last interview are asked for the time period of construction of the building they live in. With this information HGCNSTYRMIN and HGCNSTYRMAX are constructed. For old households the variables are carried forward from the last years. Since Wave X, households are also asked for the exact construction year. In these cases, HGCNSTYRMIN and HGCNSYTRMAX contain the same value. If a building was built before 1919, HGCNSTYRMIN contains a zero and HGC-NSTYRMAX 1919.

In Wave BE, the question about the construction year was not included in the SOEP. All information for HGCNSTYRMIN and HGCNSTYRMAX derives from the previous year.

HGCNSTRMIN and HGCNSTRMAX replace CNSTYR\$\$ that has previously been distributed in \$HGEN files. The latter was a categorial variable grouping about one decade each into one category. Hence, with the last category having a flexible upper limitation and being split up regularily, sorting was ambiguous in some cases. For example, a household responding in Wave L that his house has been built "1981 or later" was not unambiguously assignable to either "1981-1990" or "1990 or later". Using HGCNSTRYRMIN and HGCNSTYRMAX, changing questions can be far better described.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

	6546
	42501
	52823
	103303
	1420
	802
	997
	895
	659
	383
	558
	490
	36694
	581
	520
(22 rows omitted)	80014
	1578
	2182
	780
	687
	512
	934
	553
	(22 rows omitted)

#### hgcnstyrmax - Latest Possible Construction Year of Dwelling

2012	346
2013	126
2014	212
2015	150
2016	108
2017	11
-1	10437
-5	9062

#### Waves: 1984-2013, 2015-2016

HGCNSTYRMAX provides the upper limit of the time period in which the household's building was constructed. The generation of HGCNSTYRMAX is analogous to HGCNSTYR-MIN.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hqcondit - Condition Of House

1	[1] In A Good Condition	212908	
2	[2] Some Renovations	92371	
3	[3] Full Renovations	12333	
4	[4] Dilapidated	478	
-1	[-1] No Answer	1298	
-2	[-2] Does not apply	0	
-3	[-3] Answer improbable	0	
-4	[-4] Inadmissible multiple response	0	
-5	[-5] Not included in this version of the questionnaire	37476	
-6	[-6] Version of questionnaire with modified filtering	0	
-8	[-8] Question this year not part of Survey program	0	

#### Waves: 1984-2015

Respondent's subjective assessment of the condition of the building. In the West German sub-samples from Wave B to Wave G, the information on HGCONDIT was collected only for new households and for households with a residential move since the previous year (households with "blue" questionnaires). For households who had not moved ("green" questionnaire), the information collected in previous years was carried forward. The wording in the questionnaire was changed in the first wave of the East German sub-sample (Wave G) to better capture the rundown condition of some residential buildings in East Germany. Since Wave H the wording is identical for the entire SOEP-sample in East and West Germany. Since Wave BG, HGCONDIT is not asked anymore and information is not carried forward. *For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

#### hgreval – Rent Of Dwelling Vs Comparable Dwellings

1	[1] Very Inexpensive	12957
2	[2] Inexpensive	39152
3	[3] Reasonable	67492
4	[4] Slightly Expensive	27088
5	[5] Too Expensive	5335
-1	[-1] No Answer	1643
-2	[-2] Does not apply	125873

-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	77324
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: 1984–2002, 2005–2014

Subjective assessment by respondent (household head). This variable was not surveyed in Wave T and Wave U. 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.

Since Wave BF, HGREVAL is not asked and information is neither carried backward nor forward.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

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

1	[1] Baden-Wuerttemberg	43460
2	[2] Bavaria	51440
3	[3] Berlin	14952
4	[4] Brandenburg	13662
5	[5] Bremen	2970
6	[6] Hamburg	6031
7	[7] Hesse	25453
8	[8] Mecklenburg-West Pomerania	8122
9	[9] Lower Saxony	31254
10	[10] North Rhine-Westphalia	72781
11	[11] Rhineland-Palatinate	17451
12	[12] Saarland	2950
13	[13] Saxony	22557
14	[14] Saxony-Anhalt	13345
15	[15] Schleswig-Holstein	11142
16	[16] Thuringia	13371
-1	[-1] No Answer	2
-2	[-2] Does not apply	5921
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	0
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

NUTS ("Nomenclature of Statistical Territorial Units")URL 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. Before Wave Q, Rhineland-Palatinate and Saarland were defined as one region. *For more information, contact:* Jan Goebel (Tel. +49-30-89789-377), <jgoebel@diw.de>

## 4 Equipment of the Dwelling

hgroom – Number Of Rooms Larger Than 6 Sq M

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14  17 18 19 20 22	(2 rows omitted)	14 12861 57289 109321 74187 47049 28449 13633 6757 2769 1286 424 220 82 63 66 4 11 1 1 4 3
19		1
22 24		3 4
24 25		4 1
25 35		3
42		1
45		2
51		11
60		19
80		20
82		12
-1		2298

#### Waves: all

Up to Wave R (except for Wave O), HGROOM was collected only in the first interview with new households. In case a household had moved or (from Wave H onwards) whether a household's housing unit size changed due to renovations or additions (up to Wave G, these households filled out a "green" questionnaire). In Wave O, the information had been asked again in order to correct for mistakes that may have occurred in carrying forward or in the process of imputation. From Wave S onwards, the question on the number of rooms has been asked to all households annually.

For old households still residing at their old address and neither having moved nor renovated their dwelling, the information on the number of rooms is carried forward as a status variable in order to provide valid current information. Analogously, the information is carried back to fill gaps if a households missed to state the number of rooms in the first year(s) they moved to a new housing.

In case, the information on the number of rooms is still missing, it is imputed simultaneously with other variables using Stata's chained imputation procedure. Imputed values are not carried forward. For information on the imputation procedure, see the description of HGRENT.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqpbas - Dwelling Has Basement

1	[1] Yes	329692
2	[2] No	22576
-1	[-1] No Answer	4514
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	82
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: all

Except for Wave H, Wave O, and from Wave V onwards, HGEQPBAS has been collected only from new households and households who have moved since the previous interview. For this reason, in case no address change has taken place, the information for HGEQPBAS is carried forward from the previous years.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqpfhea - Equipment: Floor Heating

1	[1] Yes	27192
2	[2] No	116728
-1	[-1] No Answer	4307
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	208637
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 2014

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hgeqpgar - Dwelling Has Garden

1 -1 -2 -3 -4 -5	<ul> <li>[-2] Does not apply</li> <li>[-3] Answer improbable</li> <li>[-4] Inadmissible multiple response</li> <li>[-5] Not included in this version of the questionnaire</li> </ul>	204975 144504 6217 0 0 0 1168
		•
-6 -8	[-6] Version of questionnaire with modified filtering [-8] Question this year not part of Survey program	0 0

#### Waves: all

Except for Wave H, Wave O, and from Wave V onwards, HGEQPGAR has been collected only from new households and households who have moved since the previous interview. For this reason, in case no address change has taken place, the information for HGEQPGAR is carried forward from the previous years.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqphea - Dwelling Has Central, Floor Heat

1	[1] Yes	274723
2	[2] No	25603
-1	[-1] No Answer	2203
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	54335
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: 1984-2014

Only in Wave H, Wave O, and from Wave V onwards, HGEQPHEA is asked from every household. In previous years, the variable was only collected from new households and households who had moved since the previous interview. For this reason, in case no address change has taken place, the information for HGEQPHEA is carried forward from the previous years. Additionally, from Wave G onwards the information is updated if the household has stated that it modernized its heating since January of the previous year. Since Wave BF, HGEQPHEA is not asked and the information is neither carried backward nor forward. *For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

#### hgeqpinsul – Equipment: Thermal Insulation

1	[1] Yes	27233
2	[2] No	18478
-1	[-1] No Answer	673
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	310480
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 2015

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqpiwc - Dwelling Has Indoor Toilet

1	[1] Yes	202210
2	[2] No	4371
-1	[-1] No Answer	1832

-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	148451
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: 1984-2008

Only in Wave H, Wave O, and from Wave V to Wave Y, HGEQPIWC is asked from every household. In previous years, the variable was only collected from new households and households who had moved since the previous interview. For this reason, in case no address change has taken place, the information for HGEQPIWC is carried forward from the previous years. Additionally, from Wave B onwards, the information is updated if the household has stated that it modernized its bathroom since January of the previous year. In a second step, the information of the variable HGEQPSHW is used to replace missing and inconsistent values of EQPIWC\$. For every household with EQPSHW\$\$=1, EQPIWC\$\$ is set to 1. Since Wave Z, HGEQPWC is not asked. Since Wave BA, the information is neither carried backward nor forward.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqpkit – Dwelling Has Kitchen

1	[1] Yes	282602
2	[2] No	3187
-1	[-1] No Answer	1558
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	69517
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: 1984-2013

Only in Wave H, Wave O, and from Wave V onwards, HGEQPKIT is asked from every household. In previous years, the variable was only collected from new households and households who had moved since the previous interview. For this reason, in case no address change has taken place, the information for HGEQPKIT is carried forward from previous years. Additionally, from Wave B on, the information is updated if the household has stated that it modernized its kitchen since January of the previous year. Since Wave BE, HGEQPKIT is neither asked nor carried forward.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqplif - Dwelling Has An Elevator

[1] Yes	12728
[2] No	132725
[-1] No Answer	2774
[-2] Does not apply	0
[-3] Answer improbable	0
[-4] Inadmissible multiple response	0
	<ul> <li>[1] Yes</li> <li>[2] No</li> <li>[-1] No Answer</li> <li>[-2] Does not apply</li> <li>[-3] Answer improbable</li> <li>[-4] Inadmissible multiple response</li> </ul>

- -5 [-5] Not included in this version of the questionnaire 208637
- -6 [-6] Version of questionnaire with modified filtering 0
- -8 [-8] Question this year not part of Survey program 0

#### Waves: Since 2009

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hgeqpmglass - Equipment: at Least Double Glazing

1	[1] Yes	42579
2	[2] No	3681
-1	[-1] No Answer	124
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	310480
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 2015

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqpnobar – Equipment: Barrier Free Furnishing

1	[1] Yes	12377
2	[2] No	72643
-1	[-1] No Answer	2577
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	269267
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 2013

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqpnrj – Dwelling Has Alternative Energy Source

1	[1] Yes	4719
2	[2] No	135875
-1	[-1] No Answer	550
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	215720
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: Since 2009

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqppark - Equipment: Garage/ Parking Space

1	[1] Yes	33246	
2	[2] No	17778	
-1	[-1] No Answer	2443	
-2	[-2] Does not apply	0	
-3	[-3] Answer improbable	0	
-4	[-4] Inadmissible multiple response	0	
-5	[-5] Not included in this version of the questionnaire	303397	
-6	[-6] Version of questionnaire with modified filtering	0	
-8	[-8] Question this year not part of Survey program	0	

Waves: Since 2015

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hgeqpshw – Dwelling Has Indoor Bath, Shower

1	[1] Yes	280620
2	[2] No	4860
-1	[-1] No Answer	1662
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	69722
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: 1984-2013

Only in Wave H, Wave O, and from Wave V onwards, HGEQPSHW is asked from every household. In previous years, the variable was only collected from new households and households who had moved since the previous interview. For this reason, in case no address change has taken place, the information for HGEQPSHW is carried forward from the previous years. Additionally, from Wave B onwards, the information is updated if the household has stated that it modernized its bathroom since January of the previous year. Since Wave BE, HGEQPSHW is not asked anymore. Since Wave BF, the information is not carried forward. *For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

1	[1] Yes	13854
2	[2] No	149306
-1	[-1] No Answer	731
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	192973
-6	[-6] Version of questionnaire with modified filtering	0

#### hgeqpsol - Dwelling Has Solar System

-8 [-8] Question this year not part of Survey program

0

#### Waves: Since 2007

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqptel - Dwelling Has Telefone

1	[1] Yes	263503
2	[2] No	3560
-1	[-1] No Answer	10027
-2	[-2] Does not apply	4640
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	75134
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 1990 (east) or 1991 (west) to 2008, 2010-2015

The question on whether a household has a telephone or not has varied over the years. In some years, households were asked very generally if they had a "telephone". In other years they were asked more specifically for a "landline telephone" and a "cellphone". HGEQPTEL is set to 1 if a household stated that it had a telephone, landline telephone, or cellphone. Additionally, the information from HBRUTTO (HTEL) is used to complete missing information. In Wave N, Wave P, and Wave Z, the household questionnaire did not ask about the possession of a telephone and HBRUTTO is the only source of data. For Wave K, no information is available.

Since Wave BG, HGEQPTEL is no longer asked in the household questionnaire (except for the samples M3 and M4 as HGEQPTEL was asked in the migration household questionaire). For this reason, it is no longer provided since Wave BG for any other samples than M3 and M4.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqpter - Dwelling Has Balcony, Terrace

1	[1] Yes	260901
2	[2] No	88653
-1	[-1] No Answer	6035
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	1275
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: all

Except for Wave H, Wave O, and from Wave V onwards, HGEQPTER was only collected from new households and households who have moved since the previous interview. For this reason, in case no address change has taken place, the information for HGEQPTER is carried forward from the previous years.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqpwat - Dwelling Has Water, Bioler

1 2 -1 -2 -3	<ul> <li>[1] Yes</li> <li>[2] No</li> <li>[-1] No Answer</li> <li>[-2] Does not apply</li> <li>[-3] Answer improbable</li> </ul>	246907 3103 1847 4640 0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	100367
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: Since 1990 (east) or 1991 (west) to 2013

Except for Wave H, Wave O, and from Wave V onwards, HGEQPWAT has been collected only from new households and households who have moved since the previous interview. For this reason, in case no address change has taken place, the information for HGEQPWAT is carried forward from the previous years. Since Wave BE, HGEQPWAT is not asked and since Wave BF, the information is neither carried backward nor forward. *For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

#### hgeqpair - Dwelling Has Air Conditioner

-4 -5	<ul><li>[-3] Answer improbable</li><li>[-4] Inadmissible multiple response</li><li>[-5] Not included in this version of the questionnaire</li></ul>	2842 160239 810 0 0 192973	
-5	[-5] Not included in this version of the questionnaire	192973	
-6	[-6] Version of questionnaire with modified filtering	0	
-8	[-8] Question this year not part of Survey program	0	

Waves: Since 2007

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgeqpalm – Dwelling Has Alarm System

1	[1] Yes	8013
2	[2] No	184731
-1	[-1] No Answer	13965
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	150155
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: Since 2004

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

## 5 Costs of Living, Size, and Rooms (Imputed Variables)

hgrent - Amount Of Rent Minus Heating Costs
---

0		29
1		6
2 3		8
		6
4		6
5		16
6		10
7		18
8		26
9		27
10		52
11		34
12		61
13		74
14		66
	(1703 rows omitted)	188730
4620		1
4700		1
4895		1
4920		1
4950		1
4953		1
5000		1
5050		1
5180		1
5700		1
6700		2
7318		1
-1 2		129
-2		160470
-5		7083

Waves: all

HGRENT is a measure of gross rent, i.e. it equal to the base rent plus utility costs (HGUTIL) but does not include heating (HGHEAT), electricity costs (HGELECTR) and additional gas costs (HGGAS). HGRENT is converted into Euro values for all waves including those prior to Wave S.

The questions for HGRENT and utility costs have changed considerably since the first SOEP questionnaire in Wave A. From Waves A to Wave G, the amount of rent stated by the house-holds in SOEP is in principle the desired concept of gross rent, i.e. basic rent excluding heating and electricity costs but including utility costs. However, in these waves the information on utility costs was not collected.

From Wave H onwards, households simply state the amount of rent they pay. Following this question, it is asked whether heating and utility costs are included in that amount of rent and what the exact costs for heating and utilities eventually are (in the latter case only if they are included).

In Wave BE and Wave BF, the questionnaire design was different to all other waves. In a first step, households were asked for their overall monthly housing costs (sum of base rent, heating costs, additional utility costs, electricity and gas). In a second step, they stated the respective expenses. In order to obtain RENT\$\$, heating, gas, and electricity costs have to be deducted from these overall monthly housing costs. In Wave BE, some households state monthly housing costs that presumably do not include all possible expenses. They might do so because they do not know all their expenses or because they misunderstood the question. We attribute the drop of rent from Wave BD to Wave BE and Wave BF to the different questionnaire design and do no longer adjust the values as we did in data release v31. Therefore, the average rent of Wave BE (data release v31) is about 10 Euros lower in data release v32 and v33 than it was in v31. Both, in Wave BE and Wave BF, implausible values of rent (e.g. if utility costs are above total living costs) have been set to missing to be imputed in the following step.

The questionnaire design in Wave BG was set back to the format of Wave BD.

Missing values of HGRENT are treated as follows: In a first step, past values of the two last years are carried forward and adjusted for inflation given that the household still lives at the same address and the dwelling's size has remained the same. The type of rent (heating/utility costs included or not) is then also carried forward. In a second step, if HGRENT is still missing, values of the two subsequent years are carried backwards in the same manner. In a third step, the remaining missing values of HGRENT are imputed by Stata's chained imputation procedure. Imputed values are not carried forward.

**General Information on the Imputation Procedure** Since data release v31, missing values of HGROOM, HGSIZE, HGRENT, HGHEAT, HGUTIL, and HGELECTR are imputed with Stata's chained imputation procedure (mi impute chained). We impute separately for each wave, for East and West and for owners and tenants. The regression specifications vary between these groups but in general they include:

- For owner:
  - HGROOM, HGSIZE, HGCONDIT, HGCNSTYRMAX
  - Number of persons in household
  - Household net income as stated in questionnaire
  - Type of dwelling (family house, apartment, etc.)
- For tenants:
  - HGROOM, HGSIZE, HGRENT, HGHEAT, HGUTIL, HGELECTR, HGCON-DIT, HGCNSTYRMAX, HGEQPHEA, HGEQPFHEA, HGEQPTER, HGEQP-GAR, HGEQPSOL, HGEQPAIR, HGCNSTYRMAX, HGREVAL, HGREDUC
  - HGSIZE squared
  - Number of persons in household
  - Household net income as stated in questionnaire
  - Type of dwelling (family house, apartment, etc., \$\$wum1)
  - Type of tenant
  - Dummy: HGHEAT included in HGRENT (Wave G to Wave BD)
  - Dummy: HGUTIL included in HGRENT (Wave H to Wave BD)
  - Dummy: HGUTIL partly included in HGRENT (Wave H to Wave BD)
  - Dummy: HGHEAT includes electricity costs (since Wave BE)
  - Dummy: household pays only utility costs (since Wave BE)
  - Household has children younger than 16

In addition, the regression of HGRENT contains HGRSUBS, a dummy for children under 16, information on the residential area (\$\$wum3) and BIK regions. The regression of HGHEAT includes a dummy for children under 16. The regression of HGUTIL includes HGEQPLIF and omits HGRENT, HGCONDIT, the type of dwelling and the dummy for whether HGHEAT is included in HGRENT. The regression of HGSIZE omits HGSIZE squared.

HGRENT is not normalized across households before imputation and may include heating and utility costs or not. Solely partially included utility costs are subtracted. We use dummies for HGHEAT/HGUTIL included in HGRENT to account for the different types of rent. Note that these dummies are also imputed if they are missing. If HGUTIL contains a partial amount, it is set to missing and then also imputed.

Residents of homes (HGOWNER==5) are excluded from the imputation. Values larger than four times the 99th percentile in one of the target variables are also excluded.

For all six target variables, the predictive mean matching imputation method is applied. We use 175 iterations as burn-in period. Furthermore, we only distribute one imputed value for each observation.

Gross warm rent including electricity (Bruttowarmmiete inkl. Strom) could be computed from this data as follows: HGRENT + HGHEAT + HGELECTR.

HGRENT is set missing (=-5) for all M3 and M4 respondents although the migration household questionnaire surveyed rent information. However, the surveyed information for M3 and M4 is not comparable with the information for the other samples as information on HGHEAT, HGUTIL, HGELECTR, etc. is not surveyed.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hgrentinfo – Pays Rent and/or Utilities

1	[1] Pays Rent	188793
2	[2] Pays Utility Costs, but No Rent	1063
3	[3] Does Not Pay either Rent or Utilities	650
-1	[-1] No Answer	36
-2	[-2] Does not apply	27326
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	138996
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 2014

HGRENTINFO is a filter question for housing costs. It was introduced in Wave BE and replaces NORENT\$\$ in \$HGEN files.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hgnorent – Does Not Pay Rent

1	[1] Pays No Rent	9949
-1	[-1] No Answer	128
-2	[-2] Does not apply	339703
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	7084

[-6] Version of questionnaire with modified filtering 0 -6 0

[-8] Question this year not part of Survey program -8

#### Waves: 1984-2013

HGNORENT marks tenants who do not a pay rent. Until Wave BD, it was a filter question for all housing costs such that non-rent paying tenants were not asked for HGHEAT, HGUTIL and HGELECTR. In Wave BE, the filter question was rephrased and tenants were asked for their utility costs even if they stated not to pay a rent. To maintain consistency over time, we set HGNORENT to 1 for all tenants who only pay utility costs. RENTINFO\$\$ contains the information of the new filter question.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

0		5
1		8
2		2
3		5
4		9
5		12
6		6
7		6
8		10
9		6
10		110
11		17
12		31
13		29
14		49
	(267 rows omitted)	67000
	(207 1003 01111100)	67802
389		1
389 400	(207 1000 01111100)	1 3
389 400 430	(207 1003 01111100)	1 3 1
389 400 430 448	(207 lows onniced)	1 3 1 1
389 400 430 448 450	(207 1003 01111100)	1 3 1 1 1
389 400 430 448 450 500	(207 lows onniced)	1 3 1 1 1 2
389 400 430 448 450 500 530	(207 lows onniced)	1 3 1 1 2 1
389 400 430 448 450 500 530 540	(207 lows onniaca)	1 3 1 1 2 1 1
389 400 430 448 450 500 530 540 580	(207 lows onniaca)	1 3 1 1 2 1 1 1
389 400 430 448 450 500 530 530 540 580 690	(207 lows onniaca)	1 3 1 1 2 1 1 1 1
389 400 430 448 450 500 530 530 540 580 690 840		1 3 1 1 2 1 1 1 1 1 1
389 400 430 448 450 500 530 530 540 580 690 840 950		1 3 1 1 2 1 1 1 1 1 1 1
389 400 430 448 450 500 530 540 580 690 840 950 -1		1 3 1 1 2 1 1 1 1 1 1 2577
389 400 430 448 450 500 530 530 540 580 690 840 950		1 3 1 1 2 1 1 1 1 1 1 1

hgelectr - Costs of Electricity (gen)

#### Waves: Since 2010

Costs for electricity (excluding arising expenses for heating if applicable) have been collected starting from Wave BA if tenants pay a rent. From Wave BE onwards, they have been collected from all tenants. In Wave BF, total electricity costs were explicitly asked for so that costs for

heating and warm water were substracted to generate HGELECTR that year. Furthermore, due to changes in the questionaire design in Wave BF, HGELECTR is neither carried backward nor forward. See HGHEAT for further explanations on housing costs in Wave BF. Missing values of HGELECTR are treated as follows: In a first step, past values of the two last years are carried forward and adjusted for inflation given that the household still lives at the same address, the dwelling's size has remained the same and the rent has not changed considerably. In a second step, if HGELECTR is still missing, values of the two subsequent years are carried backwards in the same manner. In a third step, the remaining missing values of HGELECTR are imputed by Stata's chained imputation procedure. Imputed values are not carried forward. We do not impute HGELECTR for years before Wave BA. For more information on the imputation procedure, see the see the description of HGRENT. *For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

#### hgelectrinfo - Reason for Missing Electricty Costs

1	[1] Electricity Costs Unknown	9
2	[2] Electricity Costs Included in Heating Costs	282
3	[3] No Electricity Costs	434
-1	[-1] No Answer	30040
-2	[-2] Does not apply	15665
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	310434
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

HGELECTRINFO was introduced in Wave BE and indicates why HGELECTR is missing. If a household stated that it did not know its electricity costs, we impute HGELECTR and set HGELECTRINFO to -2.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hggas – Costs of Gas (EUR)

0		40
1		1
3		1
4		1
5		9
6		6
7		10
8		13
9		12
10		15
11		6
12		7
13		7
14		3
15		16
	(111 rows omitted)	775

190	2
193	1
197	1
200	11
202	1
210	1
213	1
220	1
234	1
250	5
300	3
550	1
-1	7234
-2	7852
-5	340827

HGGAS states the monthly costs for gas not used for heating in Euros. HGGAS was only collected in Wave BA. Missing values of HGGAS are not imputed due to the low number of households which state gas costs.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hggasinfo – Reason for Missing Gas Costs

1 2	[1] Gas Costs Unknown [2] Electricity Costs Included in Heating Costs	1059 1547
3	[3] No Gas Costs	5256
-1	[-1] No Answer	0
-2	[-2] Does not apply	8175
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	340827
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

HGGASINFO has only been asked in Wave BE and indicates why a household did not state additional gas costs that were not included in the heating costs.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hgheat - Costs Of Warm Water, Gen

0	457
1	12
2	16
3	18
4	23
5	141
6	84
7	196
8	83
9	103

10 11 12 13 14		735 144 393 190 174
	(381 rows omitted)	178984
542	х , , , , , , , , , , , , , , , , , , ,	1
545		1
550		5
580		1
595		1
600		5
700		5
724		1
756		1
800		3
900		2
930		1
-1		9270
-2		147488
-5		18326

Waves: Since 1986

Heating costs are collected since Wave C. Until Wave BD, only tenants who stated to pay a rent were asked. Since Wave BE, every tenant was asked. Heating costs are reported in Euro for all years.

In Wave BF, HGHEAT has not been asked for directly. Instead, respondents stated their costs for different energy sources (district heating, gas, liquefied gas, electricity, heating oil, coal, wood, biomass, solar, and geothermal heat) and whether they use them for heating, warm water, cooking, and/or electronic devices respectively (if applicable). To generate HGHEAT, costs for cooking and electricity costs other than heating have been excluded by regressing the usage-dummies and controlling for household-specific (number of people living in the household, type of tenant) and dwelling-specific variables (number of rooms, size of the dwelling, construction year, living environment). The shares for heating and warm water were then added to generate HGHEAT. Due to changes in the questionaire design, firstly, HGHEAT is lower in Wave BF than it has been in previous and following years and secondly, HGHEAT from Wave BF is neither carried backward nor forward. In file HGEN, only HGHEAT is distributed. All energy cost variables can be found in the dataset BFH.

Missing values of HGHEAT are treated as follows: In a first step, past values of the two last years are carried forward and adjusted for inflation given that the household still lives at the same address, the dwelling's size has remained the same and the rent has not changed considerably. In a second step, if HGHEAT is still missing, values of the two subsequent years are carried backwards in the same manner. In a third step, the remaining missing values of HGHEAT are imputed by Stata's chained imputation procedure. Imputed values are not carried forward. In contrast to previous versions of the SOEP, we do not impute HGHEAT for Wave A and Wave B anymore, since data release v32. For more information on the imputation see the see the description of HGRENT.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hgheatinfo - Reason for Missing Heating Costs

1	[1] Heating Costs Unknown	24
3	[3] No Heating Costs	1292
-1	[-1] No Answer	29316
-2	[-2] Does not apply	15730
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	310502
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 2014

HGHEATINFO was introduced in Wave BE and indicates why HGHEAT is missing. If a household stated that it did not know its heating costs, we imputed HGHEAT and set HGHEATINFO to -2.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914  2005 2006 2007 2008 2007 2008 2009 2010 2011 2012 2013 2014	(90 rows omitted)	1 34 11 7 18 4 24 92 8 44 19 18 69 22 33 274654 8390 8097 7256 7346 7026 6369 5916 4822 4130
2009 2010 2011 2012 2013 2014 2015 2016 2017		7346 7026 6369 5916 4822 4130 4260 3480 1365
2018 -1		3 4970

hgmoveyr - Year Moved Into Dwelling

#### Waves: all

HGMOVEYR contains the year of moving into the household of the person who answers the household questionnaire. For old households at their old address data is carried forward for up to two years. 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.

*For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

0		6
1		225
2 3		423
3		187
4		166
5		560
6		165
7		317
8		243
9		115
10		2080
11		172
12		749
13		167
14	<i></i>	163
	(325 rows omitted)	145823
466		1
474		1
476		1
479		1
480		1
481		1
500		6
600		2 1
700		1
710		3
900 930		5 1
930 -1		ı 9187
-1		137199
-2 -5		58897
-J		50057

ha	util -	Other	Monthly	/ Utility	Costs
IIY	uun	Other	TVIOITLIII		COSIS

#### hgutilinfo - Reason for Missing Additional Utility Costs

1	[1] Utility Costs Unknown	35
3	[3] No Other Additional Utility Costs	6573
-1	[-1] No Answer	27562

-2	[-2] Does not apply	28251
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	294443
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

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

1	[1] Much Too Small	9370
2	[2] A Bit Too Small	53659
3	[3] Just Right	250810
4	[4] A Bit Too Large	34660
5	[5] Much Too Large	4387
-1	[-1] No Answer	3978
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	0
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: all

Subjective assessment by respondent (household head). From Wave C to Wave G, the information on HGSEVAL was only collected for new households or households that had moved (households with "blue" questionnaires) and immobile households whose HGSIZE had changed. In these Waves, HGSEVAL is carried forward from previous years. *For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

6		15
7		1
8		13
9		24
10		119
11		41
12		299
13		37
14		119
15		292
16		300
17		78
18		238
19		73
20		979
	(299 rows omitted)	351466
440		4
442		1
450		47

#### hgsize – Size Of Housing Unit In Sq M

460	2
470	11
475	1
500	11
540	4
550	3
564	2
650	1
754	1
838	2
938	1
-1	2679

Waves: all

Up to Wave R (except for Wave O), HGSIZE was collected only in the first interview with new households. In case a household had moved or whether a household's housing unit size had changed due to renovations or additions (up to Wave G, these households filled out a "green" questionnaire). From Wave S onwards, the question on the size of the housing unit has been posed to all households annually. For households still residing at their old address and neither having moved nor renovated their dwelling, the information on the size of the housing unit is carried forward as a status variable in order to provide valid current information. Analogously, the information is carried back to fill gaps if households missed to state the size of the housing in the first year after moving.

In the case the information on the size of the housing unit is still missing, it is imputed simultaneously with other variables using Stata's chained imputation procedure. Imputed values are not carried forward. For information on the imputation procedure, see the description of HGRENT.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgf2rent - Detailed Imputation Flag, Rent Minus Heating Costs

0	[0] Not imputed	283636	
1	[1] Reported Rent Corrected for Imputed Heat	27442	
2	[2] Reported Rent Corrected for Imputed Util	35162	
3	[3] Reported Rent Corrected for Imputed Electr	459	
4	[4] Reported Rent Corrected for Heat and Util	3467	
5	[5] Reported Rent Corrected for Heat and Electr	1389	
6	[6] Reported Rent Corrected for Util and Electr	2	
7	[7] Reported Rent Corrected for Heat, Util and Electr	1	
8	[8] Reported Rent, at least one Sub-Aggregate Imputed	3655	
9	[9] Rent Imp., Sub-Aggregates Not Imputed	532	
10	[10] Rent Imp. and Corrected For Imp. Heat	422	
11	[11] Rent Imp. and Corrected For Imp. Util	282	
12	[12] Rent Imp. and Corrected For Imp. Electr	5	
13	[13] Rent Imp. and Corrected For Imp. Heat and Util	113	
14	[14] Rent Imp. and Corrected For Imp. Heat and Electr	231	
15	[15] Rent Imp. and Corrected For Imp. Util and Electr	2	
16	[16] Rent Imp. and Corrected For Imp. Heat, Util and Electr	2	
17	[17] Rent Imp. & at least one Imp. Sub-Aggregates	62	
-1	[-1] No Answer	0	

-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	0
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: all

HGF2RENT indicates whether or not HGRENT has been imputed (=1) by Stata's chained imputation procedure.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgfelectr - Imputation Flag, Costs of Electricity

0	[0] Not imputed	130802
1	[1] Imputed by PMM	3154
2	[2] Electricity Costs from Previous or Subsequent Years	2382
-1	[-1] No Answer	0
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	220526
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 2010

HGFELECTR indicates whether HGELECTR value has been imputed (=1) by Stata's chained imputation procedure or whether it has been carried for- or backwards (=2) from past/subsequent waves.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

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

0	[0] Not imputed	304958
1	[1] Imputed by PMM	22307
2	[2] Electricity Costs from Previous or Subsequent Years	18356
-1	[-1] No Answer	0
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	11243
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 1986

HGFHEAT indicates whether HGHEAT has been imputed (=1) by Stata's chained imputation procedure or whether it has been carried for- or backwards (=2) from past/subsequent waves.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

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

0	[0] Not imputed	283817
1	[1] Rent and/or Sub-Aggregate Imputed by PMM	57598
2	[2] Rent and/or Sub-Aggregate from Previous or Subsequent Years	13094
3	[3] Rent and/or Sub-Aggregate From Prev./Subs. Years and/or PMM	2355
-1	[-1] No Answer	0
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	0
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: all

HGFRENT indicates whether HGRENT or expenses added or subtracted to HGRENT has been imputed (=1) by Stata's chained imputation procedure, whether HGRENT itself or expenses added or subtracted to HGRENT was carried for- or backwards (=2) from past/subsequent waves or whether HGRENT is the result of a mixture of imputed and past/subsequent waves' values. The fourth category marks households who very likely did not include all utility costs in their overall housing costs in Wave BE (the question from which HGRENT is generated). We identified these households by their longitudinal information on housing costs and did not subtract HGHEAT and/or HGELECTR to obtain their HGRENT. HGF2RENT contains more detailed information about which imputed expenses were added or subtracted. *For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

#### hgfroom – Imputation Flag, Number Of Rooms Lager Than 6 Sq M

0	[0] Not imputed	354505
1	[1] Imputed	2359
-1	[-1] No Answer	0
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	0
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: all

HGFROOM indicates whether or not HGROOM has been imputed (=1) by Stata's chained imputation procedure.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgfsize - Imputation Flag, Size Of Housing

0	[0] Not imputed	355681
1	[1] Imputed	1183
-1	[-1] No Answer	0
-2	[-2] Does not apply	0

0
0
0
0
0

Waves: all

HGFSIZE indicates whether or not HGSIZE has been imputed (=1) by Stata's chained imputation procedure.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgfutil - Imputation Flag, Other Monthly Utility Costs

~		211075	
0	[0] Not imputed	211875	
1	[1] Imputed by PMM	80172	
2	[2] Electricity Costs from Previous or Subsequent Years	13003	
-1	[-1] No Answer	0	
-2	[-2] Does not apply	0	
-3	[-3] Answer improbable	0	
-4	[-4] Inadmissible multiple response	0	
-5	[-5] Not included in this version of the questionnaire	51814	
-6	[-6] Version of questionnaire with modified filtering	0	
-8	[-8] Question this year not part of Survey program	0	
-2 -3 -4 -5 -6	<ul> <li>[-1] No Answer</li> <li>[-2] Does not apply</li> <li>[-3] Answer improbable</li> <li>[-4] Inadmissible multiple response</li> <li>[-5] Not included in this version of the questionnaire</li> <li>[-6] Version of questionnaire with modified filtering</li> </ul>		0 0 0 0

Waves: Since 1991

HGFUTIL indicates whether HGUTIL value has been imputed (=1) by Stata's chained imputation procedure or whether it has been carried for- or backwards (=2) from past/subsequent waves.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

## 6 Subsidization of Housing Costs

hgosubs – Amount Of Subsidies Last Year

1	[1] Yes	13048
2	[2] No	80190
-1	[-1] No Answer	1225
-2	[-2] Does not apply	108728
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	153673
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: 2000–2014

Statement by respondent. HGOSUBS contains information on cash housing subsidies received by owners from the government during the year prior to the interview. Wave W was the last wave house owners could apply for the 8-years-long financial support such that since Wave BF, HGOSUBS is not asked any longer. Information is not carried forward.

Please note: The old variable \$FOERD (available until SOEP data release v25 in \$HGEN)

is discarded. Homeowner subsidies in Germany have been subject to major revisions and fluctuations over time. The corresponding question in SOEP was in some waves only posed to new households and those that have moved, in some waves it was not surveyed at all. For these reasons, the question for government housing subsidies was changed in Wave Q to cover direct subsidies received the previous year. HGSUBSID and HGOSUBS replace the old variable \$FOERD.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

#### hgreduc - Dwelling At A Reduced Prize

1	[1] Yes	15552
2	[2] No	159488
-1	[-1] No Answer	19135
-2	[-2] Does not apply	146654
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	16035
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: 1986–2002 (west), 1990 & 1992–2002 (east), since 2008 (both)

HGREDUC states whether the flat is offered by the owner at a reduced rent. Information is carried forward from previous waves for old households residing at their old address. For newly surveyed households and for old households that have moved, newly collected data is used. From Wave T to Wave X, this information was not collected. It is carried forward from Wave S for households who have not moved and whose stated amount of rent vary only slightly. The new information from Wave Y is then carried backward for households with the same characteristics if HGREDUC is still missing after carrying forward from Wave S. *For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

#### hgrsubs – Government Subsidized Housing

1	[1] Yes, With Due Diligence	18010
2	[2] Yes, With Run Out Due Diligence	4896
3	[3] No	172594
-1	[-1] No Answer	3001
-2	[-2] Does not apply	151280
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	7083
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: Since 1984 (west), 1990 & since 1994 (east)

HGRSUBS states whether the rent is subsidized by government or not. Up to Wave K, the question was asked only to new households and households who had moved since last year. For the remaining households, the information is carried forward from previous waves. East German households were asked for the first time in Wave J.

In Wave L, the second response category was added to indicate expired subsidization. For reasons of time series consistency, HGRSUBS was coded with "3" for "no" from Wave A

to Wave K. The rewording of the response categories became necessary due to the carrying forward of data: It was impossible to identify whether a housing unit had lost its subsidization status for any period of time. Thus, for population estimates there is a distinct possibility that HGRSUBS produces increasing overestimations of government-subsidized housing units up to Wave K.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hgsubsid - Government Subsidizes Housing Payments

1	5274
2	8767
-1	11769
-2	74396
-5	256658

Waves: 1984-1999 (west), 1994-1999 (east)

Statement by respondent. HGSUBSID contains information on government subsidies at the time the housing was built or bought. From Wave B to Wave N, this was only asked to new households or in case an old household had moved. Information is then carried forward. In Wave O and Wave P, the question was again posed to the whole population. *For more information, contact:* Carsten Schröder, <cschroeder@diw.de>

## 7 Typology of Household

hgowner - Tenant Or Owner Of Dwelling

1 2	[1] Owner [2] Main Tenant	150524 191846
3	[3] Sub-Tenant	8338
4	[4] Tenant	102
5	[5] Living In A Home	756
-1	[-1] No Answer	506
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	4792
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

#### Waves: all

Up to Wave H, the information for HGOWNER was collected in separate questionnaires for "old" and first-time respondents, respectively ("blue" and "green" questionnaires). In all waves and for each household with the original value of -1 ("no answer"), codes are set to =1 and =4 if at least one owner- or tenant-specific item is 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. Code 5 ('resident of a home or institutional living facility') has only been assigned by interviewers during fieldwork since Wave P.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

## hgtyp1hh – Household Typology, One Digit

_		
1	[1] 1-PersHH	85024
2	[2] Couple Without Children	100668
3	[3] Single Parent	28930
4	[4] Couple With Children LE 16	80258
5	[5] Couple With Children GT 16	32950
6	[6] Couple With Children LE And GT 16	19031
7	[7] Multiple Generation-HH	4379
8	[8] Other Combination	5624
-1	[-1] No Answer	0
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	0
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

### Waves: all

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

hgtyp2hh – Household Typology, Two Digit

11	[11] 1-Person HH Male LE 35 Y.	11778
12	[12] 1-Person HH Male 35- LT 60 Y.	14776
13	[13] 1-Person HH Male GE 60 Y.	9705
14	[14] 1-Person HH - Female LE 35 Y.	8925
15	[15] 1-Person HH Female 35- LT 60 Y.	11139
16	[16] 1-Person HH Female GE 60 Y.	28701
21	[21] Couple Without Children	100668
31	[31] Single Parent,1 Child, LE 16	9320
32	[32] Single Parent,2 Or More Children, LE 16	5599
33	[33] Single Parent,1 Children, GT 16	8563
34	[34] Single Parent,2 Or More Children, GT 16	2054
35	[35] Single Parent,2 Children, LE and GT 16	1960
36	[36] Single Parent,3 Or More Children, LE and GT 16	1434
41	[41] Couple, 1 Child, LE 16	30099
42	[42] Couple, 2 Children, LE 16	34317
	(2 rows omitted)	37692
52	[52] Couple, 2 Children, GT 16	9378
53	[53] Couple, 3 Or More Children, GT 16	1722
61	[61] Couple, 2 Children, LE and GT 16	9362
62	[62] Couple, 3 Or More Children, LE and GT 16	9669
71	[71] 3-Generation-HH	3949
72	[72] 4-Generation-HH	29
73	[73] GrandParents-GrandChildren-HH	401
81	[81] Other Combination Without K. LE 16	5624
-1	[-1] No Answer	0
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	0

- 0 -4 [-4] Inadmissible multiple response
- [-5] Not included in this version of the questionnaire 0 -5 0
- -6 [-6] Version of questionnaire with modified filtering
- [-8] Question this year not part of Survey program -8

#### Waves: all

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. With data release v26 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. The following abbreviations are used in the labels: LE=less or equal, LT=less than, GE=greater or equal, GT=greater than.

0

Help for old friends: Starting with data distribution v26 (Wave A to Wave Z), the category "(88) Other combination" has been further differentiated into households with vs. those without children (up to the age of 16).

Legend:

- K = children up to the age of 16
- EK = adult children age 17 and older
- (E)K = children both below and above age 16
- 1-P-HH = one-person households.

For more information, contact: Carsten Schröder, <cschroeder@diw.de>

## 8 Household Income

hghinc – Monthly Household Net Income (EUR)

0		<b>C</b> 7
0		67
1		1
8		1
10		1
20		1
26		5
28		1
31		2
40		1
49		1
50		2
51		5
52		1
62		1
66		2
	(5391 rows omitted)	338526
44166		1
45000		1
49190		1
50000		7

55000	2
60000	5
65000	2
70000	1
85000	1
90000	1
99999	2
200000	1
999999	1
-1	17071
-3	1149

This variable contains the current monthly net household income asked for in the household questionnaire, always provided in Euros which was introduced in January 2002 (1 Euro = 1.95583 DM). Income is reported by the respondent (head of household). *For more information, contact:* Jan Goebel (Tel. +49-30-89789-377), <jgoebel@diw.de>

0		39
1		1
10		1
20		1
28		1
40		1
50		2
51		1
70		1
72		1
77		1
78		1
80		1
84		3
87		1
	(5264 rows omitted)	292295
42000		2
42667		1
44166		1
45000		1
50000		7
55000		2
60000		6
65000		2
70000		1
85000		1
90000		1
99999		2
999999		1
-1		4
-2		64481

Multiple imputation procedures provide a way to deal with missing values on the variable Current Monthly Net Household Income by using information about components and determinants of the household income and replacing item-nonresponse with multiply imputed data. The first five imputations are available within the HGEN dataset: the variables HGI1HINC-HGI5HINC.

The imputations were calculated using multiple imputations by chained equations. Up to Wave BB the program ICE of Stata which was written by Patrick Royston (see Royston 2004, 2005a, 2005b) and which is based on the program MICE in S-Plus and R was used. Since Wave BC the Stata command mi impute is used. The missing observations are assumed to be missing at random. We set the number of imputations m=10 and get 10 multiple imputed values for IHINC\$\$. For a discussion on the choice of m, see Rubin (Wave D) and Royston (Wave U).

The dataset MIHINC contains the complete imputation results and is separately available. To be compatible with methods for analyzing multiply imputed data, MIHINC is constructed in the so called stacked or MIM Dataset Format. It contains the following variables: HHNRAKT, SVYYEAR, MJ, MI, IHINC and IMPFLAG. For all household from Wave L to Wave BD, there are ten imputed values for the current household income. MJ identifies the individual dataset to which each observation belongs while MI identifies the observations within each individual dataset. To distinguish between the original data containing missing values and the imputed values, the dummy variable IMPFLAG is added. In the \$HGEN files five of these imputed incomes are stored in the conventional wide format.

The number of iterations carried out in each prediction model was specified to be 500. For East and West Germany, imputations were done separately. Furthermore, the option for predicted mean matching was chosen which 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.

Most important variables for modelling the current household net income consist in the household net income of the previous year, in basic information about the household and changes in its composition as well as all relevant income components received.

####The complete list of the variables used for modelling

- Description of household:
  - size, number of children, sample
  - head of household: not German, age, sex
  - changes in household composition between years: births, deaths, persons entering or leaving the household or being temporarily absent
- Financial Situation:
  - Monthly household income previous year
  - Income from employment
  - Pensions
  - Sum of personal incomes (e.g. Support from the "Arbeitsamt", Maternity benefit, Alimony, etc.)
  - Household related incomes (e.g. Child allowance, Housing assistance, Social assistance, Unemployment benefit, Assets, etc.)
  - Fraction of persons greater than 16 in household who refused answering a component of income (0-1)
- Number of persons not attended survey (PUNR, partial unit nonresponse)
- Cross-sectional weights

#### ####Analyzing multiply imputed data

For analyzing multiple imputed data, you do not necessarily need special methods, however such tools exits and simplify the use of multiply imputed data. Below is given a short overview of some useful tools for various statistical packages. 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 various built-in functionality called mi.
- Within SAS, the MIANALYZE procedure combines the results of the analyses of imputations and generates valid statistical inferences: http://support.sas.com/rnd/app/stat/procedures/mianalyze.html
- 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, Patrick (2004): Multiple imputation of missing values. In: Stata Journal 4(3): 227-241. Royston, Patrick (2005a): Multiple imputation of missing values: update. In: Stata Journal 5(2): 188-201. Royston, Patrick (2005b): Multiple imputation of missing values: Update of ice. In: Stata Journal 5(4): 527-536. Rubin, D.B. (1987): Multiple imputation for non-response in surveys. New York.

For more information, contact: Jan Goebel (Tel. +49-30-89789-377), <jgoebel@diw.de>

0		40
1		1
10		1
20		1
28		1
40		1
50		2
51		1
70		1
72		1
77		1
78		2
80		1
84		3
87		1
	(5264 rows omitted)	292294
42000		2
42667		1
44166		1
45000		1
50000		7
55000		2
60000		5

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

65000		2	
70000		1	
85000		1	
90000		1	
99999		2	
999999		- 1	
-1		4	
-2		64481	
hgi3hinc -	- 3. Imputed Monthly	Net Hous	ehold Income (EUR) [3/5]
	· · ·		
0		41	
1		1	
10		1	
20		1	
28		1	
40		1	
50		2	
51		1	
70		1	
72		1	
77		1	
78		1	
80		1	
84 87		2 2	
	(EDG4 rours amittad)	2 292293	
 42000	(5264 rows omitted)	292293	
42667		1	
44166		1	
45000		1	
50000		7	
55000		2	
60000		6	
65000		2	
70000		1	
85000		1	
90000		1	
99999		2	
999999		1	
-1		4	
-2		64481	

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

0	40
1	2
10	1
20	1
28	2

40		1
50		3
51		1
70		1
72		1
77		1
78		1
80		1
84		2
87		1
	(5264 rows omitted)	292292
42000		2
42667		1
44166		1
45000		1
50000		7
55000		2
60000		6
65000		2
70000		1
85000		1
90000		1
99999		2
999999		1
-1		4
-2		64481

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

0		39
1		1
10		1
20		1
28		1
40		1
50		2
51		1
70		1
72		1
77		1
78		1
80		1
84		2
87		3
	(5264 rows omitted)	292293
42000		3
42667		1
44166		1
45000		1
50000		7

55000	2
60000	5
00000	
65000	3
70000	1
85000	1
90000	1
99999	2
999999	1
-1	4
-2	64481

hgfhinc - Imputation Flag, Monthly Net Household Income

0	[0] Not imputed	341429
1	[1] Imputed	15428
-1	[-1] No Answer	3
-2	[-2] Does not apply	4
-3	[-3] Answer improbable	0
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	0
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

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

For more information, contact: Jan Goebel (Tel. +49-30-89789-377), <jgoebel@diw.de>

## 9 Time and Method of Interview

iyear - Household Related Survey Year

2017	18771
2018	930
-8	337163

hghmonth - Month Of Interview

1	[1] January	23022
2	[2] February	90085
3	[3] March	91291
4	[4] April	52787
5	[5] May	30933
6	[6] June	24100
7	[7] July	16974
8	[8] August	11124
9	[9] September	7951
10	[10] October	4832
11	[11] November	2349
12	[12] December	1378

-1	[-1] No Answer	37
-2	[-2] Does not apply	0
-3	[-3] Answer improbable	1
-4	[-4] Inadmissible multiple response	0
-5	[-5] Not included in this version of the questionnaire	0
-6	[-6] Version of questionnaire with modified filtering	0
-8	[-8] Question this year not part of Survey program	0

Waves: all

The month of participation in the survey is generated using data from the household questionnaire. Missing information is filled in using data from the HBRUTTOL file. Interviews that took place in the month of December, and prior to the 20th of that month, were recoded to -3.

For more information, contact: Peter Krause (Tel. +49-30-89789-690), <pkrause@diw.de>

#### hghmode - Interview Method

100	[100] With Interviewer Assistance	4233	
110	[110] Oral Interview	100570	
120	[120] Written Ques. Interviewer	56607	
131	[131] Written Ques. No Interviewer	5956	
132	[132] Oral And Written	6965	
133	[133] Proxy	10	
134	[134] Third Person Present	1334	
135	[135] No Third Person Present	9175	
140	[140] CAPI - Since 1998 (O)	128086	
150	[150] Cawi Since 2014 (BE)	3624	
210	[210] Written, By Mail	40032	
220	[220] Telephone Interview	261	
-1	[-1] No Answer	11	
-2	[-2] Does not apply	0	
-3	[-3] Answer improbable	0	
-4	[-4] Inadmissible multiple response	0	
-5	[-5] Not included in this version of the questionnaire	0	
-6	[-6] Version of questionnaire with modified filtering	0	
-8	[-8] Question this year not part of Survey program	0	

#### Waves: all

The interview method is generated through data from the household questionnaire. Missing information is filled in with data from the corresponding HBRUTTO file. *For more information, contact:* Peter Krause (Tel. +49-30-89789-690), cpkrause@diw.de>

#### inputdataset – Source dataset

ahgen	5921
bahgen	15414
bbhgen	16819
bchgen	16508
bdhgen	18093
behgen	16037

bfhgen		15991
bghgen		17775
bhgen		5322
bhhgen		19701
chgen		5090
dhgen		5026
ehgen		4814
fhgen		4690
ghgen		6819
	(4 rows omitted)	26796
lhgen		6968
mhgen		6894
nhgen		6810
ohgen		7668
phgen		7388
qhgen		13249
rhgen		11947
shgen		12692
thgen		12061
uhgen		11796
vhgen		11440
whgen		12499
xhgen		11689
yhgen		11058
zhgen		11889