

NEPS

National Educational Panel Study

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Samples, Weights and Nonresponse

NEPS Starting Cohort 6 — Adults

Adult Education and Lifelong Learning

Wave 11

Research Data

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Samples, Weights, and Nonresponse: the Adult Cohort of the National Educational Panel Study (Wave 11)

1. Prequel

This report documents the sample sizes and the weighting procedures of the panel Wave 11 of the NEPS Starting Cohort 6 (SC6, Adult Education and Lifelong Learning).¹

This paper supplements NEPS Survey Paper No. 7 by Hammon, Zinn, Aßmann, and Würbach (2016) which gives more detailed information on the applied sampling procedure, the derivation of design weights, and their successive adjustments. Details on the computation of panel weights for previous waves can be found in Hammon et al. (2016) for waves 2 to 6, in Hammon (2018) for waves 7 to 9 and in Hammon (2019) for wave 10.

In total, the SC6 sample comprises three subsamples: respondents from the ALWA sample (ALWA), the enhancement & refreshment sample of Wave 2 (NEPS 1), and the refreshment sample of Wave 4 (NEPS 3). Table 1 summarizes the study numbers, the survey modes, the periods of the studies, as well as the numbers of participants in each wave. Table 2 completes this information by detailing the composition of the distinct samples together with the numbers of nonrespondents and final drop-outs.

Table 1: Summary of waves.

Wave	Study number	Survey mode	Period	Number of Participants
2	B72	CATI/CAPI	2009/10	11,649
3	B67	CAPI/CATI	2010/11	9,320
4	B68	CATI/CAPI	2011/12	14,104
5	B69	CAPI/CATI	2012/13	11,696
6	B70	CATI/CAPI	2013/14	10,639
7	B97	CAPI/CATI	2014/15	9,770
8	B115	CATI/CAPI	2015/16	9,236
9	B116	CAPI/CATI	2016/17	8,662
10	B117	CATI/CAPI	2017/18	8,125
11	B144	CATI/CAPI	2018/19	7,693

CATI: Computer-assisted telephone interview, CAPI: Computer-assisted personal interview.

The remainder of this supplement is structured as follows: Section 2 describes how the panel weights of Wave 11 are derived. This includes nonresponse adjustments and the post-stratification of weights, respectively. Section 3 concludes with a summary of the design variables and the sampling weights provided.

¹The wave corresponds to study B144 (Wave 11).

Table 2: Case numbers, respondents, nonrespondents and final drop-outs.

Wave	Sub-sample	Panel cohort	^a Not used	Used sample	Participants	Participation proportion	Temporary drop-outs	Final drop-outs (within wave)	^b Final drop-outs (after wave)
2	Gesamt	8997	0	27009	11649	0.431	1927	13433	1381
	ALWA	8997	0	8997	6572	0.730	1927	498	1097
	NEPS 1	-	0	18012	5077	0.282	0	12935	284
3	Gesamt	12195	0	12195	9323	0.764	2566	306	511
	ALWA	7402	0	7402	5639	0.763	1582	181	511
	NEPS 1	4793	0	4793	3684	0.769	984	125	0
4	Gesamt	11390	0	28501	14112	0.495	1806	12583	414
	ALWA	6714	0	6714	5380	0.801	1023	311	204
	NEPS 1	4676	0	4676	3524	0.754	783	369	210
	NEPS 3	-	0	17111	5208	0.304	0	11903	0
5	Gesamt	15504	255	15249	11696	0.767	2113	1440	0
	ALWA	6199	3	6196	4880	0.788	757	559	0
	NEPS 1	4097	8	4089	3100	0.758	548	441	0
	NEPS 3	5208	244	4964	3716	0.749	808	440	0
6	Gesamt	13809	251	13558	10639	0.785	2354	565	528
	ALWA	5637	114	5523	4555	0.825	814	154	161
	NEPS 1	3648	119	3529	2847	0.807	520	162	114
	NEPS 3	4524	18	4506	3237	0.718	1020	249	253
7	Gesamt	12465	22	12443	9770	0.785	1771	902	344
	ALWA	5208	2	5206	4189	0.805	737	280	109
	NEPS 1	3253	10	3243	2604	0.803	385	254	82
	NEPS 3	4004	10	3994	2977	0.745	649	368	153

Table 2: Case numbers, respondents, nonrespondents and final drop-outs, continued.

Wave	Sub-sample	Panel cohort	^a Not used	Used sample	Participants	Participation proportion	Temporary drop-outs	Final drop-outs (within wave)	^b Final drop-outs (after wave)
8	Gesamt	11197	10	11187	9236	0.826	1458	493	616
	ALWA	4817	2	4815	4099	0.851	554	162	616
	NEPS 1	2907	4	2903	2450	0.844	322	131	0
	NEPS 3	3473	4	3469	2687	0.775	582	200	0
9	Gesamt	10078	23	10055	8662	0.861	1003	390	392
	ALWA	4427	23	4404	3835	0.871	431	138	131
	NEPS 1	2641	0	2641	2289	0.867	240	112	117
	NEPS 3	3010	0	3010	2538	0.843	332	140	144
10	Gesamt	9273	0	9273	8125	0.876	921	227	319
	ALWA	4135	0	4135	3669	0.887	395	71	126
	NEPS 1	2412	0	2412	2133	0.884	203	76	90
	NEPS 3	2726	0	2726	2323	0.852	323	80	103
11	Gesamt	8727	0	8727	7693	0.882	766	268	322
	ALWA	3938	0	3938	3525	0.895	313	100	124
	NEPS 1	2246	0	2246	1991	0.886	175	80	76
	NEPS 3	2543	0	2543	2177	0.856	278	88	122

Note: ^a Includes respondents who did not actively withdraw their participation but who were not used in the subsequent wave (e.g. due to unavailability). These cases were finally excluded from the panel. ^b Includes respondents who have withdrawn their participation between two waves as well as individuals who have been declared as final drop-outs because of not having participated for a period of two years.

2. Cross-sectional and Longitudinal Weights for Wave 11

2.1. Wave 11

For all units of the Wave 11 gross sample, participation probabilities have been estimated in order to adjust the sampling weights with respect to nonresponse. For this purpose, logistic regression models have been estimated separately for the two subsamples NEPS1/ALWA and NEPS3. The resulting participation probabilities were inverted and used as adjustment factors. Missing values in the covariates were below 5% for each variable and handled by imputation.

In Wave 11, participation of the ALWA and NEPS1 subsample depends on *subsample, birth cohort, gender, migration background, marital status, household size, educational level, federal state* and *contact attempts*. Individuals of the youngest birth cohort and males are less likely to participate than units from the oldest age group and females. Unmarried persons are more likely to drop out than married, divorced or widowed individuals. The propensity of participating increases with increasing level of education as in previous waves. Units from the ALWA study have a higher likelihood to participate than units from NEPS1 subsample. Furthermore, migration background has a very negative impact on the probability of participating in the survey. Individuals from *Berlin* are more likely to participate than people from *Nordrhein-Westfalen*. In addition, units who live in a household with three persons and more have a lower probability of participating than those who live in a one-person-household. The number of contact attempts has a positive impact on the participation propensity. The model of the NEPS3 subsample shows selectivity with regards to *migration background, marital status, household size, educational level, federal state, residential area* and *contact attempts*. The effects are similar to those reported for the ALWA and NEPS1 subsample. The residential area has a significant but unstable effect. Units from *Baden-Württemberg* are less likely to participate than respondents from *Nordrhein-Westfalen*. The parameter estimates of both models can be found in Table 6 and 7 in the Appendix.

The longitudinal weights of continuous participation until Wave 11 are derived using the longitudinal weights of Wave 10, and the participating propensities in Wave 11 that are predicted by the logistic regression models. The cross-sectional weights were calibrated to match sample distributions with those of the Microcensus 2018. A comparison of the (unweighted) Wave 11 sample distributions and the benchmark distributions from the Microcensus can be found in Tables 8 to 13 in the Appendix. The distribution of *country of birth* and especially that of *educational level* differ considerably between sample and Microcensus. In addition, younger units are less represented in the sample than in the target population.

3. Summary of Design Variables and Weights

To ease statistical analysis, all of the survey weights are provided in a standardized form, where standardization was performed to have weights with mean one. Along with sampling weights, variables highlighting the sampling design are published. They are summarized in Table 3. Table 4 lists the types of weights provided for the SC6 SUF release version 11-0-0 and Table 5 gives some summary statistics of the (standardized) weights provided.

Table 3: Design variables provided.

Type of design information	Label
Primary Sampling Unit (Sampling point number)	psu
Identifier of stratum (Implicit stratification)	stratum
Initial sample (ALWA, NEPS)	sample
Initial sample detailed (ALWA, NEPS enhancement, NEPS refreshment)	subsample
Federal state	tx80101
BIK 10 classification	tx80102
BIK 7 classification	tx80103

Table 4: Types of weights provided.

Variable	Applies to	Content
<i>Cross-sectional weights adjusted for wave-specific nonresponse, calibrated and standardized</i>		
w_t2_cal	11,649	Cross-sectional weight for targets participating in Wave 2
w_t3_cal	9,320	Cross-sectional weight for targets participating in Wave 3
w_t4_cal	14,104	Cross-sectional weight for targets participating in Wave 4
w_t5_cal	11,696	Cross-sectional weight for targets participating in Wave 5
w_t6_cal	10,639	Cross-sectional weight for targets participating in Wave 6
w_t7_cal	9,770	Cross-sectional weight for targets participating in Wave 7
w_t8_cal	9,236	Cross-sectional weight for targets participating in Wave 8
w_t9_cal	8,662	Cross-sectional weight for targets participating in Wave 9
w_t10_cal	8,125	Cross-sectional weight for targets participating in Wave 10
w_t11_cal	7,693	Cross-sectional weight for targets participating in Wave 11
<i>Longitudinal weights adjusted for wave-specific nonresponse, standardized</i>		
w_t23	9,040	Longitudinal weight for targets participating in Wave 1, 2, and 3
w_t234	7,905	Longitudinal weight for targets participating in Wave 1, 2, 3, and 4
w_t2345	6,823	Longitudinal weight for targets participating in Wave 1, 2, 3, 4, and 5
w_t23456	6,169	Longitudinal weight for targets participating in Wave 1, 2, 3, 4, 5, and 6
w_t234567	5,462	Longitudinal weight for targets participating in Wave 1, 2, 3, 4, 5, 6, and 7
w_t2345678	5,019	Longitudinal weight for targets participating in Wave 1, 2, 3, 4, 5, 6, 7, and 8
w_t23456789	4,624	Longitudinal weight for targets participating in Wave 1, 2, 3, 4, 5, 6, 7, 8, and 9
w_t2345678910	4,264	Longitudinal weight for targets participating in Wave 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10
w_t234567891011	3,997	Longitudinal weight for targets participating in Wave 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11

Table 4: Types of weights provided, continued.

Variable	Applies to	Content
w_t45	11,198	Longitudinal weight for targets participating in Wave 3, 4, and 5
w_t456	9,717	Longitudinal weight for targets participating in Wave 3, 4, 5, and 6
w_t4567	8,506	Longitudinal weight for targets participating in Wave 3, 4, 5, 6, and 7
w_t45678	7,636	Longitudinal weight for targets participating in Wave 3, 4, 5, 6, 7, and 8
w_t456789	6,982	Longitudinal weight for targets participating in Wave 3, 4, 5, 6, 7, 8, and 9
w_t45678910	6,393	Longitudinal weight for targets participating in Wave 3, 4, 5, 6, 7, 8, 9, and 10
w_t4567891011	5,948	Longitudinal weight for targets participating in Wave 3, 4, 5, 6, 7, 8, 9, 10 and 11

Table 5: Summary statistics for (calibrated and standardized) weights of wave 11.

Label of weight	Number of individuals	Min.	Lower Quart.	Median	Mean	Upper Quart.	Max.
w_t2_cal	11,649	0.118	0.493	0.785	1.000	1.209	3.798
w_t3_cal	9,320	0.065	0.420	0.728	1.000	1.246	4.120
w_t4_cal	14,104	0.000	0.394	0.832	1.000	1.253	4.110
w_t5_cal	11,696	0.000	0.330	0.552	1.000	1.207	4.836
w_t6_cal	10,693	0.000	0.273	0.499	1.000	1.126	22.979
w_t7_cal	9,770	0.000	0.225	0.465	1.000	1.129	20.603
w_t8_cal	9,236	0.022	0.190	0.423	1.000	1.079	20.298
w_t9_cal	8,662	0.019	0.163	0.401	1.000	1.059	19.488
w_t10_cal	8,125	0.011	0.159	0.407	1.000	1.118	16.709
w_t11_cal	7,693	0.008	0.136	0.376	1.000	1.092	20.727
w_t23_std	9,040	0.135	0.471	0.762	1.000	1.211	3.952
w_t234_std	7,905	0.130	0.435	0.725	1.000	1.203	4.202
w_t2345_std	6,823	0.104	0.389	0.674	1.000	1.206	4.461
w_t23456_std	6,169	0.082	0.337	0.611	1.000	1.210	4.719
w_t234567_std	5,462	0.061	0.278	0.543	1.000	1.203	4.974
w_t2345678_std	5,019	0.034	0.230	0.483	1.000	1.175	5.157
w_t23456789_std	4,624	0.020	0.178	0.417	1.000	1.159	5.326
w_t2345678910_std	4,264	0.016	0.136	0.358	1.000	1.111	5.466
w_t234567891011_std	3,997	0.008	0.098	0.293	1.000	0.999	5.595
w_t45_std	11,198	0.147	0.520	0.684	1.000	1.136	4.115
w_t456_std	9,717	0.115	0.445	0.631	1.000	1.124	4.490
w_t4567_std	8,506	0.086	0.374	0.576	1.000	1.112	4.805
w_t45678_std	7,636	0.049	0.316	0.518	1.000	1.098	5.055
w_t456789_std	6,982	0.029	0.249	0.465	1.000	1.087	5.211
w_t45678910_std	6,393	0.023	0.190	0.402	1.000	1.069	5.377
w_t4567891011_std	5,948	0.011	0.136	0.336	1.000	1.024	5.528

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A. Results of Nonresponse Modeling and Calibration

Table 6: Models estimating the participation propensity for individuals in Wave 11 for the ALWA and NEPS 1 subsample used to derive adjustment factors for adjusted wave-specific cross-sectional and longitudinal weights.

Variable	Reference	Odds Ratio	P-Value
<i>Subsample</i> NEPS1	ALWA	0.74	0.00
<i>Birth year</i> 1956 – 1969 1970 – 1979 1980 – 1986	1944 – 1955	1.21 1.07 0.65	0.01 0.39 0.00
<i>Gender</i> female	male	1.10	0.01
<i>Country of birth</i> born abroad	born in Germany	0.58	0.00
<i>Marital status</i> married divorced widowed	unmarried	1.57 1.39 1.73	0.00 0.00 0.00
<i>Household size</i> two persons three persons and more	one person	0.96 0.62	0.53 0.00
^a <i>Educational attainment</i> ISCED 3ac/4ab ISCED 3b ISCED 5a/6 ISCED 5b	ISCED 1/2ab	1.93 1.36 2.66 1.91	0.00 0.00 0.00 0.00
<i>Federal State</i> Hamburg Niedersachsen Bremen Schleswig-Holstein Hessen Rheinland-Pfalz Baden-Württemberg Bayern Saarland Berlin Brandenburg Mecklenburg-Vorpommern Sachsen Sachsen-Anhalt Thüringen	Nordrhein-Westfalen	1.01 1.02 1.35 0.97 1.07 1.01 1.00 1.06 0.77 1.29 1.16 1.01 1.15 0.86 1.21	0.97 0.80 0.22 0.80 0.40 0.94 0.99 0.35 0.11 0.02 0.20 0.95 0.13 0.21 0.13
^b <i>BIK categories</i> 2000 to 5000 inhab. 5000 to 20,000 inhab. 20,000 to 50,000 inhab. 50,000 to 100,000 inhab. (styp 2/3/4) 50,000 to 100,000 inhab. (styp 1) 100,000 to 500,000 inhab. (styp 2/3/4) 100,000 to 500,000 inhab. (styp 1) more than 500,000 inhab. (styp 2/3/4) more than 500,000 inhab. (styp 1)	less than 2000 inhab.	0.81 0.90 0.81 0.97 1.00 0.82 0.91 0.83 0.92	0.25 0.49 0.16 0.83 0.99 0.21 0.54 0.24 0.56
<i>Attempts to contact target</i>		1.03	0.00
Number of cases	12,482		

Note: ^a International Standard Classification of Education (ISCED 1997): http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-1997-en_0.pdf. ^b Classification of residential areas on the two dimensions community size and regional structure (https://www.destatis.de/EN/Themes/Countries-Regions/Regional-Statistics/_node.html, https://www.bik-gmbh.de/download/BIK-Regions_english.pdf).

Table 7: Models estimating the participation propensity for individuals in Wave 11 for the NEPS 3 subsample used to derive adjustment factors for adjusted wave-specific cross-sectional and longitudinal weights.

Variable	Reference	Odds Ratio	P-Value
<i>Birth year</i>	1944 – 1955		
1956 – 1969		1.08	0.35
1970 – 1979		0.89	0.26
1980 – 1986		0.88	0.27
<i>Gender</i>	male		
female		0.97	0.66
<i>Country of birth</i>	born in Germany		
born abroad		0.57	0.00
<i>Marital status</i>	unmarried		
married		1.74	0.00
divorced		1.25	0.08
widowed		1.87	0.00
<i>Household size</i>	one person		
two persons		0.97	0.74
three persons and more		0.63	0.00
^a <i>Educational attainment</i>	ISCED 1/2ab		
ISCED 3ac/4ab		1.64	0.00
ISCED 3b		1.34	0.03
ISCED 5a/6		2.31	0.00
ISCED 5b		1.93	0.00
<i>Federal State</i>	Nordrhein-Westfalen		
Hamburg		0.65	0.08
Niedersachsen		1.13	0.29
Bremen		1.95	0.08
Schleswig-Holstein		0.98	0.93
Hessen		0.90	0.44
Rheinland-Pfalz		0.85	0.30
Baden-Württemberg		0.79	0.03
Bayern		1.06	0.52
Saarland		1.05	0.86
Berlin		1.01	0.96
Brandenburg		1.14	0.46
Mecklenburg-Vorpommern		0.81	0.37
Sachsen		1.12	0.45
Sachsen-Anhalt		1.08	0.69
Thüringen		1.11	0.55
^b <i>BIK categories</i>	less than 2000 inhab.		
2000 to 5000 inhab.		2.14	0.01
5000 to 20,000 inhab.		1.87	0.02
20,000 to 50,000 inhab.		1.61	0.06
50,000 to 100,000 inhab. (styp 2/3/4)		1.45	0.15
50,000 to 100,000 inhab. (styp 1)		1.89	0.04
100,000 to 500,000 inhab. (styp 2/3/4)		1.55	0.08
100,000 to 500,000 inhab. (styp 1)		1.71	0.03
more than 500,000 inhab. (styp 2/3/4)		1.92	0.01
more than 500,000 inhab. (styp 1)		1.66	0.04
<i>Attempts to contact target</i>		1.02	0.00
Number of cases	5,208		

Note: ^a International Standard Classification of Education (ISCED 1997): http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-1997-en_0.pdf. ^b Classification of residential areas on the two dimensions community size and regional structure (https://www.destatis.de/EN/Themes/Countries-Regions/Regional-Statistics/_node.html, https://www.bik-gmbh.de/download/BIK-Regions_english.pdf).

Table 8: Comparison of the distribution of the Wave 11 sample data and the target distribution (Microcensus 2018) according to Federal State.

Federal State	Actual distribution	Target distribution	
	net sample	population (Microcensus 2018)	
	%	%	total
Schleswig-Holstein	2.91	3.50	1,624,000
Hamburg	1.79	2.19	1,015,000
Niedersachsen	10.54	9.52	4,416,000
Bremen	0.78	0.77	357,000
Nordrhein-Westfalen	22.03	21.53	9,988,000
Hessen	7.59	7.55	3,504,000
Rheinland-Pfalz	4.69	4.95	2,297,000
Baden-Württemberg	11.95	12.99	6,028,000
Bayern	15.78	15.75	7,310,000
Saarland	1.25	1.20	558,000
Berlin	4.11	4.41	2,048,000
Brandenburg	3.50	3.23	1,497,000
Mecklenburg-Vorpommern	1.61	2.01	933,000
Sachsen	5.45	4.94	2,293,000
Sachsen-Anhalt	2.89	2.76	1,282,000
Thüringen	3.13	2.69	1,250,000
Total	100.00	100.00	46,400,000

Table 9: Comparison of the distribution of the Wave 11 sample data and the target distribution (Microcensus 2018) according to gender and educational attainment.

Gender and ^a education	Actual distribution	Target distribution	
	net sample	population (Microcensus 2018)	
	%	%	total
<i>male</i>			
ISCED 1	0.21	1.68	777,000
ISCED 2	1.13	4.20	1,945,000
ISCED 3	15.79	24.00	11,119,000
ISCED 4	3.13	3.71	1,717,000
ISCED 5	27.26	15.11	7,000,000
ISCED 6	1.48	0.96	446,000
<i>female</i>			
ISCED 1	0.36	1.93	892,000
ISCED 2	2.65	6.22	2,881,000
ISCED 3	18.07	23.65	10,957,000
ISCED 4	4.04	6.53	3,027,000
ISCED 5	25.05	11.45	5,305,000
ISCED 6	0.82	0.55	257,000
Total	100.00	100.00	46,323,000

Note: ^a International Standard Classification of Education (ISCED 1997): http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-1997-en_0.pdf.

Table 10: Comparison of the distribution of the Wave 11 sample data and the target distribution (Microcensus 2018) according to birth year and educational attainment.

Birth year and ^a education	Actual distribution	Target distribution	
	net sample	population (Microcensus 2018)	
	%	%	total
<i>1975 – 1986</i>			
ISCED 1	0.10	1.01	458,000
ISCED 2	0.64	2.42	1,092,000
ISCED 3	3.98	9.70	4,386,000
ISCED 4	1.57	3.50	1,580,000
ISCED 5	9.84	7.55	3,411,000
ISCED 6	0.87	0.46	208,000
<i>1965 – 1974</i>			
ISCED 1	0.08	0.97	437,000
ISCED 2	0.66	2.51	1,135,000
ISCED 3	8.50	12.60	5,696,000
ISCED 4	2.56	3.15	1,424,000
ISCED 5	13.15	6.86	3,100,000
ISCED 6	0.53	0.41	185,000
<i>1956 – 1964</i>			
ISCED 1	0.12	0.84	380,000
ISCED 2	1.10	2.53	1,144,000
ISCED 3	11.95	13.03	5,888,000
ISCED 4	2.16	2.34	1,059,000
ISCED 5	17.21	6.25	2,827,000
ISCED 6	0.47	0.34	154,000
<i>1944 – 1955</i>			
ISCED 1	0.27	0.78	352,000
ISCED 2	1.38	3.02	1,363,000
ISCED 3	9.44	12.59	5,689,000
ISCED 4	0.88	1.15	520,000
ISCED 5	12.10	5.69	2,570,000
ISCED 6	0.43	0.32	143,000
Total	100.00	100.00	45,201,000

Note: ^a International Standard Classification of Education (ISCED 1997): http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-1997-en_0.pdf.

Table 11: Comparison of the distribution of the Wave 11 sample data and the target distribution (Microcensus 2018) according to country of birth.

Country of birth	Actual distribution	Target distribution	
	net sample	population (Microcensus 2018)	
	%	%	total
born abroad	6.85	20.23	9,385,000
born in Germany	93.15	79.77	37,009,000
Total	100.00	100.00	46,394,000

Table 12: Comparison of the distribution of the Wave 11 sample data and the target distribution (Microcensus 2018) according to birth year.

Year of birth	Actual distribution	Target distribution	
	net sample	population (Microcensus 2018)	
	%	%	total
1944	1.59	1.65	767,000
1945	1.33	1.26	586,000
1946	1.49	1.47	684,000
1947	1.79	1.68	778,000
1948	1.75	1.83	851,000
1949	2.26	2.03	941,000
1950	2.38	2.12	982,000
1951	2.42	2.14	994,000
1952	2.60	2.15	997,000
1953	2.13	2.12	985,000
1954	2.68	2.23	1,035,000
1955	2.08	2.29	1,064,000
1956	3.46	2.40	1,113,000
1957	3.25	2.46	1,142,000
1958	3.47	2.54	1,178,000
1959	4.07	2.66	1,232,000
1960	3.85	2.76	1,281,000
1961	3.67	2.87	1,333,000
1962	3.54	2.87	1,332,000
1963	3.90	3.07	1,425,000
1964	3.81	3.08	1,427,000
1965	3.80	3.09	1,432,000
1966	3.55	3.00	1,390,000
1967	3.15	2.87	1,333,000
1968	2.99	2.85	1,320,000
1969	2.64	2.69	1,249,000
1970	2.53	2.54	1,178,000
1971	1.92	2.44	1,133,000
1972	1.81	2.23	1,035,000
1973	1.61	2.06	958,000
1974	1.49	2.09	968,000
1975	1.29	2.06	957,000
1976	1.44	2.11	979,000
1977	1.61	2.15	998,000
1978	1.42	2.16	1,003,000
1979	1.47	2.14	995,000
1980	1.22	2.31	1,073,000
1981	1.25	2.29	1,063,000
1982	1.35	2.27	1,053,000
1983	1.53	2.22	1,029,000
1984	1.27	2.22	1,028,000
1985	1.42	2.23	1,034,000
1986	1.73	2.28	1,059,000
Total	100.00	100.00	46,394,000

Table 13: Comparison of the distribution of the Wave 11 sample data and the target distribution (Microcensus 2018) according to BIK categories of municipal size.

^a BIK categories	Actual distribution	Target distribution	
	net sample	population (Microcensus 2018)	
	%	%	total
less than 2000 inhab.	1.92	1.78	824,000
2000 to 5000 inhab.	2.53	2.57	1,191,000
5000 to 20,000 inhab.	7.80	8.47	3,929,000
20,000 to 50,000 inhab.	11.46	11.09	5,144,000
50,000 to 100,000 inhab. styp 2/3/4	8.80	7.74	3,591,000
50,000 to 100,000 inhab. styp 1	2.00	2.09	969,000
100,000 to 500,000 inhab. styp 2/3/4	15.59	15.11	7,010,000
100,000 to 500,000 inhab. styp 1	15.98	14.44	6,697,000
500,000 and more inhab. styp 2/3/4	9.31	9.88	4,584,000
500,000 and more inh. styp 1	24.61	26.84	12,449,000
Total	100.00	100.00	46,388,000

Note: ^a Classificationclassification of residential areas on the two dimensions community size and regional structure (https://www.destatis.de/EN/Themes/Countries-Regions/Regional-Statistics/_node.html, https://www.bik-gmbh.de/download/BIK-Regions_english.pdf).