Intermediate Quality report
Relating to the
EU-SILC 2006 Operation

Austria

STATISTICS AUSTRIA
The Information Manager

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Preface

The present quality report is the intermediate quality report of EU-SILC 2006 in Austria and follows the structure outlined in the Commission Regulation No. 28/2004.

This regulation defines four chapters. The first chapter provides the common cross-sectional indicators and other indicators of interest computed on the basis of EU-SILC 2006. The second chapter deals with accuracy meaning that all factors that affect the closeness of estimations and results to the exact or true value should be described. The third chapter reports on comparability and describes all differences between the standard EU definitions and the definitions applied in the survey in Austria. The fourth and last chapter, reporting on coherence, presents the comparisons of the EU-SILC 2006 data with external sources.

As this is the third intermediate quality report for EU-SILC in Austria some chapters and sections resemble the corresponding chapters and sections of the preceding reports.

1. Common cross-sectional Indicators

Table 1: Common cross-sectional indicators EU-SILC 2006

	Indicators	Value	Achieved sample size	Total item non response
1	At-risk-of-poverty rate after social transfers - total	**12.6**	14883	0
2	At-risk-of-poverty rate after social transfers - men total	**11.0**	7178	0
3	At-risk-of-poverty rate after social transfers - women total	**14.0**	7705	0
4	At-risk-of-poverty rate after social transfers - 0-17 years	**14.7**	3207	0
5	At-risk-of-poverty rate after social transfers - 18-24 years	**11.4**	1252	0
6	At-risk-of-poverty rate after social transfers - 25-49 years	**11.0**	5201	0
7	At-risk-of-poverty rate after social transfers - 50-64 years	**10.6**	2838	0
8	At-risk-of-poverty rate after social transfers - 65+ years	**16.2**	2331	0
9	At-risk-of-poverty rate after social transfers - 18+ years	**12.0**	11622	0
10	At-risk-of-poverty rate after social transfers - 18-64 years	**11.0**	9291	0
11	At-risk-of-poverty rate after social transfers - 0-64 years	**11.8**	12498	0
12	At-risk-of-poverty rate after social transfers - men 18-24 years	**9.1**	633	0
13	At-risk-of-poverty rate after social transfers - men 25-49 years	**10.2**	2524	0
14	At-risk-of-poverty rate after social transfers - men 50-64 years	**10.1**	1331	0
15	At-risk-of-poverty rate after social transfers - men 65+ years	**10.5**	1010	0
16	At-risk-of-poverty rate after social transfers - men 18+ years	**10.1**	5498	0
17	At-risk-of-poverty rate after social transfers - men 18-64 years	**10.0**	4488	0
18	At-risk-of-poverty rate after social transfers - men 0-64 years	**11.1**	6140	0
19	At-risk-of-poverty rate after social transfers - women 18-24 years	**13.8**	619	0
20	At-risk-of-poverty rate after social transfers - women 25-49 years	**11.8**	2677	0
21	At-risk-of-poverty rate after social transfers - women 50-64 years	**11.2**	1507	0
22	At-risk-of-poverty rate after social transfers - women 65+ years	**20.2**	1321	0
23	At-risk-of-poverty rate after social transfers - women 18+ years	**13.8**	6124	0
24	At-risk-of-poverty rate after social transfers - women 18-64 years	**11.9**	4803	0
25	At-risk-of-poverty rate after social transfers - women 0-64 years	**12.6**	6358	0
26	At-risk-of-poverty rate after social transfers - employed	**6.4**	6327	95
27	At-risk-of-poverty rate after social transfers - unemployed	**43.6**	282	95
28	At-risk-of-poverty rate after social transfers - retired	**13.3**	3181	95
29	At-risk-of-poverty rate after social transfers - other inactive	**21.5**	2124	95
30	At-risk-of-poverty rate after social transfers - men, employed	**6.4**	3573	37
31	At-risk-of-poverty rate after social transfers - men, unemployed	**50.3**	140	37
32	At-risk-of-poverty rate after social transfers - men, retired	**10.3**	1482	37
33	At-risk-of-poverty rate after social transfers - men, other inactive	**17.8**	478	37
34	At-risk-of-poverty rate after social transfers - women, employed	**6.3**	2755	58
35	At-risk-of-poverty rate after social transfers - women, unemployed	**35.8**	142	58
36	At-risk-of-poverty rate after social transfers - women, retired	**15.8**	1699	58
37	At-risk-of-poverty rate after social transfers - women, other inactive	**22.3**	1646	58
38	At-risk-of-poverty rate after social transfers - single, < 65 years	**19.6**	1046	0
39	At-risk-of-poverty rate after social transfers - single, 65+ years	**26.1**	709	0
40	At-risk-of-poverty rate after social transfers - single, male	**16.4**	607	0
41	At-risk-of-poverty rate after social transfers - single, female	**25.9**	1148	0
42	At-risk-of-poverty rate after social transfers - single, total	**22.1**	1755	0
43	At-risk-of-poverty rate after social transfers - 2 adults, no children, both < 65	**10.3**	1804	0

	Indicators	Value	Achieved sample size	Total item non response
44	At-risk-of-poverty rate after social transfers - 2 adults, no children, at least one 65+	11.8	1518	0
45	At-risk-of-poverty rate after social transfers - other households without children	6.3	1748	0
46	At-risk-of-poverty rate after social transfers - single parent, at least one child	28.8	683	0
47	At-risk-of-poverty rate after social transfers - 2 adults, 1 child	9.0	1683	0
48	At-risk-of-poverty rate after social transfers - 2 adults, 2 children	11.2	2428	0
49	At-risk-of-poverty rate after social transfers - 2 adults, 3+ children	19.4	1440	0
50	At-risk-of-poverty rate after social transfers - other households with children	5.3	1825	0
51	At-risk-of-poverty rate after social transfers - households without children	13.0	6824	0
52	At-risk-of-poverty rate after social transfers - households with children	12.1	8059	0
53	At-risk-of-poverty rate after social transfers - owner or rent-free	9.0	10236	0
54	At-risk-of-poverty rate after social transfers - tenant	19.2	4647	0
55	At-risk-of-poverty rate after social transfers - households without children, $w = 0$[1]	22.0	1172	1628*
56	At-risk-of-poverty rate after social transfers - households without children, $0 < w < 1$	10.5	1822	1628
57	At-risk-of-poverty rate after social transfers - households without children, $w = 1$	4.7	2208	1628
58	At-risk-of-poverty rate after social transfers - households with children, $w = 0$	54.8	358	1628
59	At-risk-of-poverty rate after social transfers - households with children, $0 < w < 0.5$	26.7	416	1628
60	At-risk-of-poverty rate after social transfers - households with children, $0.5 < w < 1$	11.6	3529	1628
61	At-risk-of-poverty rate after social transfers - households with children, $w = 1$	4.5	3750	1628
62	Median of the equivalised disposable household income	17852.36	14883	0
63	At-risk-of-poverty threshold - single	10711.42	14883	0
64	At-risk-of-poverty threshold - 2 adults, 2 children	22493.98	14883	0
65	Inequality of income distribution S80/S20 income quintile share ratio	3.65	14883	0
66	Relative median at-risk-of-poverty gap - total	15.5	1727	0
67	Relative median at-risk-of-poverty gap - men total	17.5	724	0
68	Relative median at-risk-of-poverty gap - women total	14.1	1003	0
69	Relative median at-risk-of-poverty gap - 0-17 years	17.3	435	0
70	Relative median at-risk-of-poverty gap - 18-64 years	19.0	895	0
71	Relative median at-risk-of-poverty gap - 65+ years	13.3	387	0
72	Relative median at-risk-of-poverty gap - 18+ years	15.0	1282	0
73	Relative median at-risk-of-poverty gap - men, 18-64 years	19.0	385	0
74	Relative median at-risk-of-poverty gap - men, 65+ years	12.5	112	0
75	Relative median at-risk-of-poverty gap - men, 18+ years	17.5	497	0
76	Relative median at-risk-of-poverty gap - women, 18-64 years	19.2	510	0
77	Relative median at-risk-of-poverty gap - women, 65+ years	13.3	275	0
78	Relative median at-risk-of-poverty gap - women, 18+ years	13.8	785	0
79	Relative median at-risk-of-poverty gap - total	9056.31	1727	0
80	Relative median at-risk-of-poverty gap - men total	8833.78	724	0
81	Relative median at-risk-of-poverty gap - women total	9198.79	1003	0
82	Relative median at-risk-of-poverty gap - 0-17 years	8861.90	435	0
83	Relative median at-risk-of-poverty gap - 18-64 years	8680.00	895	0
84	Relative median at-risk-of-poverty gap - 65+ years	9282.00	387	0
85	Relative median at-risk-of-poverty gap - 18+ years	9100.40	1282	0
86	Relative median at-risk-of-poverty gap - men, 18-64 years	8680.00	385	0
87	Relative median at-risk-of-poverty gap - men, 65+ years	9371.13	112	0
88	Relative median at-risk-of-poverty gap - men, 18+ years	8833.78	497	0
89	Relative median at-risk-of-poverty gap - women, 18-64 years	8651.48	510	0
90	Relative median at-risk-of-poverty gap - women, 65+ years	9282.00	275	0

	Indicators	Value	Achieved sample size	Total item non response
91	Relative median at-risk-of-poverty gap - women, 18+ years	**9230.00**	785	0
92	Dispersion around the risk-of-poverty threshold - 40%	**3.1**	14883	0
93	Dispersion around the risk-of-poverty threshold - 50%	**6.1**	14883	0
94	Dispersion around the risk-of-poverty threshold - 70%	**20.1**	14883	0
	Before social transfers except old-age and survivors' benefits			
95	At-risk-of-poverty rate before social transfers - total	**25.1**	14883	0
96	At-risk-of-poverty rate before social transfers - men total	**23.8**	7178	0
97	At-risk-of-poverty rate before social transfers - women total	**26.3**	7705	0
98	At-risk-of-poverty rate before social transfers - 0-17 years	**36.7**	3207	0
99	At-risk-of-poverty rate before social transfers - 18-64 years	**23.2**	9291	0
100	At-risk-of-poverty rate before social transfers - 65+ years	**18.5**	2331	0
101	At-risk-of-poverty rate before social transfers - 18+ years	**22.3**	11622	0
102	At-risk-of-poverty rate before social transfers - men, 18-64 years	**22.3**	4488	0
103	At-risk-of-poverty rate before social transfers - men, 65+ years	**12.4**	1010	0
104	At-risk-of-poverty rate before social transfers - men, 18+ years	**20.6**	5498	0
105	At-risk-of-poverty rate before social transfers - women, 18-64 years	**24.1**	4803	0
106	At-risk-of-poverty rate before social transfers - women, 65+ years	**22.8**	1321	0
107	At-risk-of-poverty rate before social transfers - women, 18+ years	**23.8**	6124	0
	Before social including old-age and survivors' benefits			
108	At-risk-of-poverty rate before social transfers - total	**42.8**	14883	0
109	At-risk-of-poverty rate before social transfers - men total	**39.7**	7178	0
110	At-risk-of-poverty rate before social transfers - women total	**45.7**	7705	0
111	At-risk-of-poverty rate before social transfers - 0-17 years	**38.9**	3207	0
112	At-risk-of-poverty rate before social transfers - 18-64 years	**32.5**	9291	0
113	At-risk-of-poverty rate before social transfers - 65+ years	**88.2**	2331	0
114	At-risk-of-poverty rate before social transfers - 18+ years	**43.7**	11622	0
115	At-risk-of-poverty rate before social transfers - men, 18-64 years	**30.0**	4488	0
116	At-risk-of-poverty rate before social transfers - men, 65+ years	**88.0**	1010	0
117	At-risk-of-poverty rate before social transfers - men, 18+ years	**40.0**	5498	0
118	At-risk-of-poverty rate before social transfers - women, 18-64 years	**35.0**	4803	0
119	At-risk-of-poverty rate before social transfers - women, 65+ years	**88.4**	1321	0
120	At-risk-of-poverty rate before social transfers - women, 18+ years	**47.1**	6124	0
121	Gini coefficient	**25.33**	14883	0
122	Mean equivalised disposable income	**19673.86**	14883	0
123	Gender pay gap	**19.83**	3023 men, 2354 women	42 men, 35 women

*27 Student households, 1601 with total workable months=0

**No Linearization, but standard estimation for mean value

***Doubtful linearization formula

2. Accuracy

Accuracy refers to the closeness of computations or estimates to the exact or true value. Hence, this chapter reports on all circumstances affecting the difference between the estimates and the true value.

2.1. Sampling design

2.1.1. Type of sampling

EU-SILC in Austria uses an integrated rotational design which means that about one fourth of the sample is replaced by a new quarter. 2006 was the third year of EU-SILC in Austria as a panel survey. Accordingly, the sample of EU-SILC 2006 consists of 2 quarters that entered the survey in 2004, one quarter that started in 2005 and a further quarter that entered the survey in 2006.

Like in the previous years, the first wave subsample was drawn from the central residence register ZMR (*Zentrales Melderegister*), a constantly updated population register based on the registration of residence. For this new quarter (rotational group 2) of the sample 3,588 addresses were selected with a simple random procedure.

Due date for the sample selection from the ZMR was the 31st of December 2005.

2.1.2. Sampling units

Sampling units are dwelling units registered in the ZMR. The sampling frame consisted of all accommodations with at least one person aged 16 or older who has her/his main residence (*Hauptwohnsitzmeldung*) in these accommodations. The following units were excluded: institutional housing facilities, dwelling units, in which all persons with their main residence in this unit were younger than 16 years and units which have been selected for the prior samples of EU-SILC (2003, 2004, 2005[1]).

2.1.3. Stratification

Not applicable, since Statistics Austria used a simple random sample.

2.1.4. Sample size and allocation criteria

The necessary sample size for Austria was calculated according to the Commission regulation to guarantee 4,500 Households cross-sectionally and 3,250 household longitudinally under simple random sampling (deff = 1). Under this requirement a longitudinal response rate of 93% per rotation and a 60% response rate for first wave households were envisaged.

For EU-SILC 2006 Statistics Austria commissioned the same fieldwork institute as in 2005 to conduct the fieldwork. The institute initially received 8,450 addresses, from which 3,588 were first wave addresses newly drawn from the population register, and 4,862 addresses which were the retaining sample of EU-SILC 2005. Having learned from the experiences from the fieldwork in 2005, problems with the fieldwork organisation could be avoided and no substitute samples were necessary.

The fieldwork institute was provided with a total of 8,450 addresses, 75 of these addresses turned out to be non existent (not a proper dwelling unit, dwelling unit is not occupied etc). Accordingly, 8,375 addresses constituted the gross sample of EU-SILC 2006. From these, 8,338 addresses were successfully contacted, and in principally available for an interview. 6,064 of the 8,338 addresses provided a successful interview; the remaining 2,274 households refused to cooperate or were not available for an interview. From the bulk of completed household interviews, 36 interviews had to be rejected, so that the dataset of EU-SILC 2006 consists of 6,028 successful household interviews.

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[1]   Including the subsitute samples of EU-SILC 2005

Table 2: Sample size

	Total		First wave addresses		Follow-up addresses	
	N	%	N	%	N	%
Used Addresses	8,450	100.00	3,588	100.00	4,862	100.00
Addresses existent	8,375	99.11	3,534	98.49	4,841	99.57
Addresses not existent	75	0.89	54	1.51	21	0.43
Gross Sample	8,375	100.00	3,534	100.00	4,841	100.00
Adresses successfully contacted	8,338	99.56	3,515	99.46	4,823	99.63
Adresses not successfully contacted	37	0.44	19	0.54	18	0.37
Successfully contacted addresses	8,338	100.00	3,515	100.00	4,823	100.00
Household questionnaire completed	6,064	72.73	2,079	59.15	3,985	82.62
Entire household entirely away for the duration of fieldwork	615	7.38	397	11.29	218	4.52
Refusal to co-operate	1,465	17.57	964	27.43	501	10.39
Household unable to respond	11	0.13	10	0.28	1	0.02
Other reasons	183	2.19	65	1.85	118	2.45
Successful household questionnaire	6,064	100.00	2,079	100.00	3,985	100.00
Interview accepted for the database	6,028	99.41	2,058	98.99	3,970	99.62
Interview rejected	36	0.59	21	1.01	15	0.38

Source: EU-SILC 2006

Within the 6,028 interviewed households 14,883 residents were living at the time of the fieldwork of which 2,873 were younger than 16 years, and 12,010 persons were 16 years or older. For all these 12,010 persons a personal questionnaire is available in the files; 11,974 personal interviews were gathered either by a personal interview or via proxy-interviews, 36 interviews had to be imputed.

2.1.5. Sample selection schemes

Not applicable, since Statistics Austria employed a simple random sample.

2.1.6. Sample distribution over time

The fieldwork institute delivered reports on the progress of the fieldwork every fortnight and provided the interviews in three tranches. The fieldwork of EU-SILC 2006 started on the 6th of April and initially should have ended on the 23rd of July. The field reports prior to this date revealed that the fieldwork institute would not be able to achieve the demanded interview results until the expected end of the fieldwork, so the fieldwork period was extended to the 24th of September. Particularly the number of required interviews for the first wave sample was lacking behind. The following table provides an overview of the cumulative sample development during the fieldwork period.

Table 3: Sample development over time

	Total			First wave interviews			Follow-up interviews		
	Completed	Cumulated %	%	Completed	Cumulated %	%	Completed	Cumulated %	%
April	1,001	16.51	16.51	205	9.86	9.86	796	19.97	19.97
May	1,601	42.91	26.40	393	28.76	18.90	1,208	50.29	30.31
June	1,290	64.18	21.27	400	48.00	19.24	890	72.62	22.33
July	1,117	82.60	18.42	453	69.79	21.79	664	89.28	16.66
August	658	93.45	10.85	363	87.25	17.46	295	96.69	7.40
September	397	100.00	6.55	265	100.00	12.75	132	100.00	3.31
Total	6,064		100.00	2,079		100.00	3,985		100.00

Source: EU-SILC 2006

2.1.7. Renewal of sample: rotational groups

2006 was the third year of EU-SILC in Austria. Addresses of rotational group 2 were interviewed for the first time, addresses of rotational group 2 for the second time, and addresses of the rotational groups 3 and 4 that have entered the survey in 2004, for the third time. The following table gives an overview on the performance of these rotational groups in 2006.

Table 4: Rotational groups (with split households)

Rotational groups	Total	R1	R2	R3	R4
First wave		2005	2006	2004	2004
Used addresses	8.450	2.011	3.588	970	1.881
Successfully contacted addresses	8.338	1.996	3.515	962	1.865
Accepted household interviews	6.028	1.707	2.058	784	1.479

Source: EU-SILC 2006

Since rotational groups R!, R3 and R$ contained 168 split households, the following tables provides information on the performance of the rotational groups without split households.

Table 5: Rotational groups (without split households)

Rotational groups	Total	R1	R2	R3	R4
First wave		2005	2006	2004	2004
Used addresses	8.282	1.986	3.588	921	1.787
Successfully contacted addresses	8.176	1.972	3.515	913	1.776
Accepted household interviews	5.933	1.693	2.058	752	1.430

Source: EU-SILC 2006

2.1.8. Weightings

This chapter describes the procedure to obtain the cross-sectional weights of the Austrian sample of EU-SILC 2006. The calculations comply in general with the EUROSTAT recommendations on the calculation of weights. Main document of reference was the revised version of EU-SILC Doc. 65. Following this document the weighting procedure appears modified and improved against the previous years in several respects.

2006 was the third year of the integrated cross-sectional and longitudinal survey. The Austrian EU-SILC follows the EUROSTAT recommendation for a rotational design with four subsamples (upon its full implementation). Each subsample has to be weighted separately first and special treatment in a final step is required to reach a combined cross sectional weight.

As 2006 is the third year of the survey the full cross sectional sample consists of three subsamples: one cross-sectional sample in 2006 and two longitudinal samples which were traced from the samples introduced in 2004 and 2005. The main objective of the weighting procedure is to make sure that the combined sample is representative of the total cross sectional target population living in private households in Austria in the reference period.

2.1.8.1. Design factor

The design weight is calculated with reference to the design of the sample to take into account the inclusion probability of the selection unit. The idea is that if the inclusion probability of an element is low, it should be assigned a higher weight. The design weight then is calculated as the inverse of the inclusion probability of the selection unit.

As in previous years, sampling elements are households. Given that the Austrian sample of the EU-SILC is based on simple random sampling without stratification the design factor is uniform and can be obtained simply by the ratio of the total number of eligible elements (households in the population) and the number of elements selected (households in the sample).

Apart from some variation in size due to the necessity to obtain a sufficiently large initial sample, the design of the three initial subsamples distinguished above (2004, 2005, 2006) is practically identical.

2.1.8.2. Non-response adjustment for sample selected in 2006 (first wave)

The aim of non-response weights is the reduction of the bias caused by unit non-response on household level. The correction of this bias ideally requires knowledge on the response probability of each of the responding households. The households can then be re-weighted by the inverse of this probability. The estimation strategy applied for the first wave households by Statistics Austria was thoroughly revised and improved.

While for earlier first wave samples, empirical response rates for only 24 classes defined by region and degree of urbanisation were available, the modified procedure exploits full information from the sampling frame to estimate response probabilities. In particular, the frame gives additional information on the number of household members and their distribution according to gender, age and citizenship.

It is important to note that this information is not necessarily identical to that which is obtained during fieldwork. Mostly discrepancies arise from the fact that the frame is established upon administrative data of a certain reference date in the past. True household composition may either have changed or may never have been recorded properly in administrative data.

Nonetheless the information which is available appears to have at least some (modest) predictive power to explain unit-nonresponse among the 3.534 households in the gross sample (non existing addresses exckuded). For the estimation of weights a logistic regression model was set up to predict response probabilities. Since this technique adjusts for marginal effects (and some interactions), it avoids the extreme dispersion of weights which typically occurred with the formerly used method of adjustment cells. The final model was obtained using a stepwise optimisation algorithm to exclude insignificant explanatory variables and identify significant interaction terms. For example, the presence of individuals with foreign citizenship (according to the administrative records) did not appear to be a sufficiently reliable predictor for non-response. Those specifications which provided the estimate for the response probability for each household are presented in the subsequent table (Total chi^2 = 4.803; Model chi^2 = 116; df = 33)

Table 6: Variables for the non-response adjustment procedure (first wave 2006)

	Coefficient	Standard Error	Wald	df	Sig.	Exp(B)
NUTSII			18,47	8	0,02	
NUTSII(1)	1,58	0,55	8,32	1	0,00	4,83
NUTSII(2)	1,52	0,53	8,41	1	0,00	4,58
NUTSII(3)	1,29	0,51	6,47	1	0,01	3,62
NUTSII(4)	1,71	0,52	10,99	1	0,00	5,54
NUTSII(5)	1,31	0,54	5,90	1	0,02	3,70
NUTSII(6)	1,41	0,51	7,73	1	0,01	4,09
NUTSII(7)	1,69	0,52	10,57	1	0,00	5,43
NUTSII(8)	0,76	0,27	7,90	1	0,00	2,13
db100			5,95	2	0,05	
db100(1)	0,95	0,49	3,84	1	0,05	2,60
db100(2)	1,28	0,54	5,63	1	0,02	3,61
NUTSII * db100			19,92	13	0,10	
NUTSII(1) by db10	-1,78	0,71	6,24	1	0,01	0,17
NUTSII(2) by db10	-1,17	0,61	3,68	1	0,06	0,31
NUTSII(2) by db10	-1,88	0,62	9,27	1	0,00	0,15
NUTSII(3) by db10	-0,64	0,56	1,30	1	0,25	0,53
NUTSII(3) by db10	-1,47	0,57	6,80	1	0,01	0,23
NUTSII(4) by db10	-1,10	0,54	4,15	1	0,04	0,33
NUTSII(4) by db10	-1,39	0,58	5,73	1	0,02	0,25
NUTSII(5) by db10	-1,03	0,58	3,17	1	0,07	0,36
NUTSII(5) by db10	-1,12	0,65	3,00	1	0,08	0,33
NUTSII(6) by db10	-1,05	0,54	3,84	1	0,05	0,35
NUTSII(6) by db10	-1,13	0,60	3,49	1	0,06	0,32
NUTSII(7) by db10	-0,46	0,59	0,61	1	0,44	0,63
NUTSII(7) by db10	-1,71	0,62	7,56	1	0,01	0,18
number of children in HH			8,08	2	0,02	
number of children	-0,77	0,34	5,07	1	0,02	0,46
number of children	-0,59	0,35	2,86	1	0,09	0,55
number of males in HH			1,28	2	0,53	
number of males in	-0,31	0,28	1,28	1	0,26	0,73
number of males in	-0,12	0,22	0,27	1	0,60	0,89
number of females in HH			2,44	2	0,29	
number of females	-0,29	0,32	0,83	1	0,36	0,75
number of females	0,16	0,21	0,58	1	0,45	1,17
number of males in HH * number of females in HH			1,80	4	0,77	
number of males in	0,64	0,71	0,82	1	0,37	1,89
number of males in	-0,02	0,31	0,01	1	0,94	0,98
number of males in	-0,02	0,36	0,00	1	0,95	0,98
number of males in	-0,22	0,26	0,70	1	0,40	0,80
Constant	-0,08	0,61	0,02	1	0,90	0,92

2.1.8.3. Non-response adjustment between 2005 and 2006 and between 2004 and 2006

Unlike the non-response weighting in the initial first wave sample, weighting for longitudinal non-response is oriented towards individuals. Between two waves a certain amount of respondents can not successfully be traced, even if their former households remain in the sample. Those individuals which left the target population due to natural mortality or migration are of no further concern for weighting since these processes reflect true changes in the target population (i.e. residents in private households in the reference period).

What is of concern, however, is the selectivity of participation in the survey over time either due to refusals or difficulties in tracing particularly mobile individuals. In essence, the procedure distributes the base weights of these attritors among similar individuals in the sample. Such, longitudinal non-

response weights are multipliers for the previous waves' weights (i.e. non-response adjusted design weights).

The weighting procedure is based upon a model which predicts response probabilities among those individuals who were enumerated in the previous wave and who were eligible in the current wave. Given the vast information available in the personal and household questionnaire such a model can be reasonably sophisticated. Again the rationale is to distribute previous years base weights' of the attritors among similar respondents remaining in the sample.

A few methodological refinements were implemented for the preparation of such a model. In order to include all eligible respondents some explanatory variables had to be imputed, using a straightforward hot deck procedure using age and sex as stratification variables. Given the vast number of potential explanatory variables a stepwise optimisation algorithm was employed to identify significant predictors in a logistic regression model in which predictors are recoded into dichotomous dummy variables. Normally, when the objective of a model is to identify the dimensions according to which a phenomenon can be best characterised, categorical variables are treated blockwise, i.e. the respective dummy variables are entered into or removed from a model simultaneously. Categories with too few observations to produce significant differences in response rates would then usually be collapsed by eyeballing the data. With a large number of predictors this is likely to become a cumbersome and time consuming task to choose between competing alternatives. Further, the optimization algorithm model would automatically select variables with many categories which combine the predictive power of several dummies.

Since attrition models are to be specified annually for all longitudinal subsamples the model specification was identified in a more routinised yet somewhat experimental procedure which may be subject to future revision. First, all categorical variables were automatically transformed into dummy variables. Hence the degrees of freedom for each predictor were equal. Then all the potential dummy predictors were entered separately into the stepwise algorithm, filtering only those categories which appeared to significantly improve the chi square statistic. The parameter estimates obtained from such a model are somewhat difficult to interpret as they to not necessarily have clear-cut reference categories. While these kind of models are certainly not ideal to improve the understanding of the substantial process leading to non-response, it can still be held as a useful reduction of the vast number of potential predictors to obtain a reasonable ratio between the model's degrees of freedom and its chi square statistic. Further, it involves hardly substantial intervention by the researcher and can be fully automatized.

In principle, the procedure to obtain longitudinal non-response weights is identical for the original sample of 2005 and the three year panel launched in 2004, only that it will be advisable to estimate response probabilities separately because the reasons (and thus relevant predictors) for attrition may shift away from deliberate refusals to more mobility related problems the more mature the panel becomes. In practice however, weighting the initial sample of three year panel started in 2004 becomes slightly more complex. The tracing rules imply that respondents who were missed in one year remain eligible in one subsequent wave. In the case of the 2004 sample this refers to individuals who did not respond in 2005 but re-entered the sample in 2006. Thereby EUROSTAT's recommendations distinguish clearly between those individuals who were absent in the target population (e.g. temporarily abroad, or institutionalized) or those who were not in the sample for other reasons. The former case inevitably augments the total of weights as it will augment the population total and can be treated analogously to new borns by receiving the weight of another household member or the average of other household members. In practice the population status of absent individuals is difficult to determine as respondents do currently not provide such retrospective information.

The second case is somewhat more complex since the weight of temporary attritors has already been distributed among other sample persons. If such returnees should regain their weight this could only be achieved by reducing other respondent's weights. According to EUROSTAT'S guidelines this could be solved by sharing the weights within the household into which the returnee enters. In the Austrian situation however returnees are practically always complete households and there are no weights to be shared. Assigning these households a zero weight would come next to a massive waste of effort and money spent to collect information of the 425 returning individuals concerned.

The alternative solution followed in the Austrian survey was to re-estimate response probabilities directly upon attrition between the first and the third wave (i.e. 2004 and 2006), thus omitting information on the intermediate year 2005. The procedure starts from 2004 non-response adjusted design weights and appears justified also because the longitudinal weighting procedure 2005 did not

yet comply fully with EUROSTAT's recommendations (e.g. regarding the treatment of "neutral" attrition due to death and migration as describe in the EU-SILC 2005 intermediate quality report).

The model used to estimate response probabilities between 2005 and 2006 yielded a chi^2 of with degrees of freedom (total chi^2 = 273.9857; df = 13), whereas the chi^2 of the response model between 2004 and 2006 was with degrees of freedom (total chi^2 = 678.7905; df = 58). The following table presents longitudinal response rates for all characteristics which have been investigated together with the respective coefficient in the logistic regression model used to obtain longitudinal weights.

Table 7: Significant variables for the model 2005 - 2006

	2005 -> 2006			
	non-response rate	eligible persons	Regression Coefficient	Significance
TOTAL	14.1	4749		
Burgenland	21.1	210	0.61	<,0001
Carinthia	12.2	373	0.34	<,0001
Styria	18.1	784	0.41	<,0001
Tyrol	22.6	394	0.49	<,0001
densely populated area	15.8	1462	0.25	<,0001
Income decile 2	19.2	506	0.28	<,0001
Pensionist	9.3	997	-0.28	<,0001
Household size: 3	10.7	992	-0.27	<,0001
3,00 HH aus Restjugosl.	26.0	181	0.28	0.002
Household type: More than 1 adult, no pension, no children	19.9	1123	0.30	<,0001
Household type: More than 1 adult, 3+ children	4.7	493	-0.68	<,0001
Since 2 year in the household	24.2	222	0.30	0.000
Since 3 year in the household	24.4	193	0.36	<,0001

Source: EU-SILC 2006

Table 8: Significant variables for the model 2004 - 2006

	2004->2006			
	non-response rate	eligible persons	Regression Coefficient	Significance
TOTAL	35.6	8372		
Lower Austria	33.4	1584	0.08	0.023
Salzburg	40.1	521	0.13	0.007
Vienna	47.1	1496	0.14	0.005
Densely populated area	42.4	2727	0.18	<,0001
Age group: 50 - 60	32.2	1060	-0.10	0.018
Age group: 70 +	40.5	762	0.16	0.001
Income decile 6	37.7	844	0.11	0.009
Income decile 7	39.9	832	0.14	0.001
Income decile 8	37.9	835	0.08	0.071
Income decile 9	30.5	808	-0.08	0.063
Income decile 10	38.0	842	0.09	0.048
not poor	33.1	5735	-0.15	<,0001
Unemployed	46.9	308	0.16	0.011
not employed - handicapped			0.36	0.075
not employed - because of other reasons			-0.41	0.004
Household size: 4+	33.2	3676	0.13	0.003
region: population >100.000	34.5	610	-0.16	0.011
HH Austrian/EU/EFTA citizenship	33.9	7251	-0.18	<,0001
HH from Turkey	53.4	140	0.21	0.033
HH other citizenship	38.6	177	-0.17	0.054
Household type: Single Female	44.6	215	0.14	0.043
Household type: More than 1 adult, no pension, no	41.7	1994	0.13	0.000
Household type: More than 1 adult, 2 children	32.5	1761	-0.09	0.056
Household type: More than 1 adult, 3+ children	26.2	951	-0.30	<,0001
Main income: Pensions / Private Income	32.7	1648	-0.11	0.012
Employment class: Executive Position	40.2	473	0.14	0.005
Education: Apprentice/lower secondary	35.7	3795	0.07	0.005
Chronic Illness	34.0	1638	-0.09	0.008
Not satisfied with life			0.25	0.000
Not satified with income			-0.07	0.063
Married	33.4	5457	-0.10	0.001
Divorced	30.5	419	-0.23	<,0001
Since 1 year in the household	39.7	355	-0.15	0.021
Since 4 years in the household	40.5	378	-0.12	0.041
Since 6 and more years in the household	33.4	6404	-0.20	<,0001
One room	43.1	198	-0.16	0.037
Three Rooms	36.0	1887	-0.05	0.071
Noise: Yes	35.4	1734	-0.10	0.002
Pollution: Yes	43.2	744	0.18	0.000
Flat owned	31.4	813	-0.14	0.002
Hired flat or house: other	41.1	1014	-0.12	0.002
subjective housing cost: severe difficulties	33.8	1154	-0.11	0.004
Arrears: No			0.20	0.010
Telephone: Yes	33.7	6717	-0.07	0.041
Telephone: No, because of financial reasons	47.8	360	0.11	0.082
Mobile phone: Yes	34.6	7331	-0.17	<,0001
TV: Yes	35.3	8185	-0.13	0.087
Dishwasher: No, household does not want	39.8	1663	0.07	0.038
Eating meat: yes			0.14	0.003
Warm home: yes			-0.08	0.096
Method of interview: personal	35.0	7190	-0.07	0.039
Duration of household interview: 0-10 minutes	39.0	5070	0.12	<,0001
Duration of household interview: 30-40 minutes	42.0	139	0.38	<,0001
Duration of household interview: 40+ minutes	28.5	44		
Duration of individual interview: 0-10 minutes	39.0	3492	0.08	0.002
Number of contacts: 3	44.2	957	0.20	<,0001
Number of contacts: 4	42.4	203	0.15	0.042
Number of contacts: 6	60.9	50	0.49	0.001
Number of contacts: 7	50.3	55	0.38	0.006

Source: EU-SILC 2006

2.1.8.4. Trimming

After response probabilities were estimated, the attrition weights were trimmed such that the condition stated in Doc 65:

$$1/C \leq \frac{\omega_i^{(2)} / \overline{\omega}^{(2)}}{\omega_i^{(1)} / \overline{\omega}^{(1)}} \leq C$$

is fulfilled for a value of 3 for C.

2.1.8.5. New borns and new entrants

Following EUROSTAT'S guidelines, individuals who were newly born between 2004 and 2006 receive their mother's weight or, alternatively the average weight of sample persons in the household. In principle new entrants from outside the target population should be treated analogously. In absence of the required information of their former population status all other cohabitants are assigned zero weights.

2.1.8.6. Combination of the three subsamples

The three subsamples are representative of slightly different target populations, since the initial samples of 2004 and 2005 can not represent individuals who were not in the target population at the time the sample was drawn. Consequently, when subsamples are combined, those parts of the population which came into the population, need to be given higher weights. In the case of three subsamples the inflation factors are 3/1 and 3/2 respectively if the new entrants are represented in two or three subsamples. All initial samples are drawn from a population register which contains information on the previous population status. Such it is possible to identify that part of a sample which could not have been selected into earlier samples as these individuals were only later added to the sample frame.

2.1.8.7. Weight share method for non sample persons

With this method non-sample persons receive the average weight of the household. If a person moves into the household, the base weight of the household is divided by the new number of household's members, and then equally assigned to each household member. As a result this procedure increase the variation of weights substantially.

2.1.8.8. Final cross-sectional weight

Adjustments in general are done to improve the accuracy of the data, meaning the closeness of estimations or computations on the basis of the survey to the 'true' value. At this stage household weights of the combined subsamples are finally adjusted to external marginal distributions. This procedure differs from that in previous years in two important aspects. Firstly, the calibration was implemented using the SAS macro CALMAR which allows setting boundaries to extreme values. Secondly, the range of variables was extended to compensate for the known underrepresentation of the unemployed and migrant population.

As in previous years the main data source for calibration is the microcensus, a quarterly household survey with a sample of more than 22,000 randomly selected households. As a reference data base the average of the four quarters of the microcensus 2006 was chosen. The microcensus operates with a rotational design like EU-SILC. The microcensus incorporates the Labour Force Survey, and due to the size of the sample it is also one of the most important sources for socio-demographic information in Austria. The adjustments were carried out on household level and on individual level and were done with reference to the following variables:

> Household level: the household size (four categories: 1, 2, 3 household members and households with 4 and more household members), tenure status (two categories: rented flat/house or owned), and region (nine categories: Nuts II level).

> Individual level: Sex, age

In addition to these variables adjustments were implemented to achieve coherence in

> the number of foreign citizens using microcensus data

the number of recipients of unemployment benefits for a duration of at least 2 months, using data from administrative sources

An "integrative" calibration design was applied with the target that on individual level every person of the household should be assigned the same weight. The individual characteristics were aggregated on household level, and dummy variables were constructed for every parameter of the individual adjustment characteristics.

The adjustment process was carried out in an iterative raking procedure meaning that the weights were first adjusted to the first raking dimension (the first variable), then the second, third etc. Then this process was repeated until the totals of the sample and the data source converged.

Children weights were simply adjusted to the population of 1-year age bands also originating from the microcensus. The personal intergenerational cross-sectional weight from the module 2006 for persons at the age of 25-65, was adjusted in the same way.

2.1.8.9.   Effects of the adaptation of the weighting scheme

The new calculation of the weights, particularly the provision for recipients of unemployment benefits and the citizenship, has certain consequences for the outcomes of EU-SILC 2006. Therefore, weights have been calculated following the procedure applied in the last year to compare the outcomes with the data weighted with the weights of EU-SILC 2006.

The adjustment for persons receiving unemployment benefits clearly increases the number of recipients of unemployment benefits, but it also affects simultaneously the distribution of the current main activity status. This is shown in the following table. The number of persons currently unemployed is increased by 1.2 percentage points whilst the rates of particularly persons in full-time employment and of persons in education drop.

Table 9: Current main activity status with different weights

	Weights new		Weights old	
	N	%	N	%
Employment: full-time	2,914,538	43.1	2,954,458	43.5
Employment: part-time	630,205	9.3	640,939	9.4
Pension	1,800,129	26.6	1,819,865	26.8
Unemployed	309,565	4.6	227,665	3.4
Not working	705,593	10.4	705,977	10.4
In Education	408,939	6.0	437,747	6.5
Total	6,768,970	100.0	6,786,652	100.0

Source: EU-SILC 2006

weights new: weights calculated by the new weighting scheme

weights old: weights calculated by the old weighting scheme

The following table compares the different weights applied to the income target variables. To disentangle the different effects, two additional weights were calculated: the weights taking into account only the number of recipients of unemployment benefits and the weights only taking into account the number of foreigners.

Significant changes are visible particularly for employee's incomes, the incomes of self-employed, incomes from unemployment, recipients of sickness benefits and incomes from interests and the like. These changes are mostly affected by the provision for unemployment recipients. Effects due to the incorporation of the number of foreigners into the weighting scheme are only visible for the incomes of persons under 16.

The provision for the number of recipients of unemployment benefits in the weighting scheme – as expected – raises the number of recipients of unemployment benefits and therefore increases the sum of incomes of this kind. Simultaneously, the sum of employee's and self-employed incomes and, to a smaller degree, the sum of incomes from interests and the like drops mainly due to the decrease of recipients of these incomes. An increase of recipients and, therefore, an increase of the sum is also visible for sickness benefits and household allowances. However, the latter incomes do not affect the total household income decisively.

Table 10: Comparison of income target variables in EU-SILC with different weights

		Median				Anzahl				Sum (in millions Euros)			
		weights new	weights old	weights A	weights B	weights new	weights old	weights A	weights B	weights new	weights old	weights A	weights B
hy010	Total household gross income	35,210	35,917	35,675	35,343	3,508,442	3,508,442	3,508,442	3,508,442	146,357	149,082	148,530	146,807
hy020	Total disposable household income	27,371	27,660	27,594	27,430	3,508,442	3,508,442	3,508,442	3,508,442	110,635	112,260	111,875	110,953
	Net income components at household level												
hy040n	Income from rental of a property or land	3,960	4,014	4,014	3,960	123,239	124,807	124,268	123,686	1,185	1,225	1,219	1,189
hy050n	Family/child related allowances	4,171	4,211	4,225	4,153	1,082,567	1,081,292	1,085,261	1,077,120	5,091	5,099	5,117	5,062
hy060n	Social exclusion not elsewhere classified	1,456	1,680	1,680	1,456	78,423	72,822	72,710	78,701	241	234	232	243
hy070n	Housing allowances	1,356	1,356	1,356	1,356	134,686	120,642	121,269	133,832	198	176	178	196
hy080n	Regular inter-household cash transfer received	3,240	3,240	3,360	3,240	232,620	225,061	225,728	230,995	1,094	1,071	1,081	1,080
hy090n	Interest, profits from capital investments	67	70	70	69	2,589,627	2,626,125	2,617,551	2,594,540	875	913	906	880
hy110n	Income received by people aged under 16	1,400	1,408	1,408	1,400	28,309	25,098	27,686	25,139	47	41	45	42
hy130n	Regular inter-household cash transfer paid	3,000	3,000	3,000	3,000	239,306	239,685	239,916	239,285	897	907	907	898
hy145n	Repayments/receipts for tax adjustment	-260	-260	-260	-260	1,398,084	1,410,303	1,404,190	1,401,352	-334	-332	-329	-336
	Net income components at personal level												
py010n	Employee cash or near cash income	16,603	16,800	16,800	16,660	3,590,363	3,604,738	3,596,716	3,600,129	61,797	63,529	63,291	62,007
py035n	Contributions to individual private pension plans	840	840	840	836	1,511,467	1,563,851	1,545,474	1,524,028	1,647	1,714	1,695	1,660
py050n	Cash benefits or losses from self-employment	10,800	10,896	10,800	10,800	598,153	619,597	613,023	603,259	8,659	9,163	9,072	8,737
py080n	Pension from individual private plans	1,800	1,800	1,800	1,800	16,950	17,266	17,263	16,973	62	62	62	62
py090n	Unemployment benefits	3,500	3,400	3,402	3,480	636,837	427,334	431,202	636,707	2,874	1,945	1,965	2,872
py100n	Old-age benefits	14,026	14,026	14,026	14,026	1,657,060	1,673,953	1,668,853	1,661,116	25,494	25,777	25,718	25,537
py110n	Survivor's benefits	8,120	8,120	8,120	7,700	54,858	55,707	55,585	54,919	465	468	467	464
py120n	Sickness benefits	1,493	1,600	1,560	1,493	125,305	104,601	105,103	125,807	347	308	308	349
py130n	Disability benefits	12,600	12,600	12,600	12,600	199,876	201,133	198,978	201,498	2,508	2,555	2,526	2,530
py140n	Education-related allowances	1,800	1,920	1,920	1,800	104,969	108,248	107,372	105,970	323	330	327	326
py200g	Gross monthly earnings for employees	1,700	1,750	1,750	1,700	3,252,714	3,281,885	3,275,704	3,260,130	6,242	6,410	6,389	6,260

Source: EU-SILC 2006

weights new: weights calculated by the new weighting scheme

weights old: weights calculated by the old weighting scheme

weights A: weights calculated taking into account the citizenship but not unemployment

weights B: weights calculated taking into account unemployment but not citizenship

Overall, the total household incomes decreases by 2% because of the new weighting scheme compared to the old weighting scheme. The following table compares the effects of the different weights on main indicators of EU-SILC: the median of the equivalised disposable household income, the at-risk-of-poverty threshold and the at risk-of-poverty rate after social transfers. The at-risk-of-poverty rate slightly increases due to the different weighting scheme. Main reasons here also seems to be the provision for unemployment benefit recipients. Also the at-risk-of-poverty threshold decreases; here the change is more noticeable, but not dramatically.

Table 11: Comparison of indicators of EU-SILC 2006 with different weights

	weights new	weights old	weights A	weights B
Median of the equivalised disposable household income	17,852	18,152	18,050	17,914
at-risk-of-poverty threshold	10,711	10,891	10,830	10,748
at-risk-of-poverty rate	12.6	12.3	12.3	12.5

Source: EU-SILC 2006

weights new: weights calculated by the new weighting scheme

weights old: weights calculated by the old weighting scheme

weights A: weights calculated taking into account the citizenship but not unemployment

weights B: weights calculated taking into account unemployment but not citizenship

2.1.9. Substitutions

Not applicable, no substitutions were necessary for EU-SILC 2006

2.2. Sampling errors

Sampling errors refer to the variability of estimates that occurs at random because of the use of a sample rather than a census. The guidelines for the quality reports require reporting on the effective sample size and the standard errors for the common cross-sectional indicators.

2.2.1. Standard errors and effective sample size

To estimate the standard errors for the cross-sectional indicators Statistics Austria applied two different approaches: bootstrapping methods and linearization. Both methods were already applied for EU-SILC 2005.

The bootstrapping approach exploits the idea to take a multitude of samples from the present sample and calculate the parameters in question for each sample. The variation of the parameter, then, gives an estimate of the variation of the parameter in the population. The linearization approach is based on the idea to find a linear representation for the respective parameter, and compute the confidence intervals on the basis of this linear representation. For a more detailed description please compare the Austrian intermediate quality report of EU-SILC 2005.

Generally speaking, the bootstrapping method is more straight forward and easier to understand, but demanding in terms of computer capacity. Therefore, no design effects (deff) were calculated with this method as it would require simulating unweighted random samples. In contrast, linearization is not intuitively understood and requires many severe assumptions, but the final implementation is comparatively easy.

2.2.2. Variance estimation

Table 12: Variance estimation for th common cross-sectional indicators EU-SILC 2006

	Indicators	Value	Achieved sample size	Total item non response	Variance Estimation - Linearization 95% CI					Variance Estimation - Bootstrap 95% CI		
					Std. error	lower bound	upper bound	eff. sample size	deff	Std. error	lower bound	upper bound
1	At-risk-of-poverty rate after social transfers - total	12.6	14883	0	0.47	11.63	13.47	11184	1.33	0.48	11.61	13.49
2	At-risk-of-poverty rate after social transfers - men total	11.0	7178	0	0.49	10.05	11.98	5153	1.39	0.56	9.92	12.12
3	At-risk-of-poverty rate after social transfers - women total	14.0	7705	0	0.51	13.01	15.02	6028	1.28	0.57	12.91	15.12
4	At-risk-of-poverty rate after social transfers - 0-17 years	14.7	3207	0	0.98	12.79	16.61	2503	1.28	1.02	12.69	16.70
5	At-risk-of-poverty rate after social transfers - 18-24 years	11.4	1252	0	0.95	9.58	13.31	775	1.61	1.39	8.72	14.17
6	At-risk-of-poverty rate after social transfers - 25-49 years	11.0	5201	0	0.54	9.96	12.08	3689	1.41	0.61	9.83	12.21
7	At-risk-of-poverty rate after social transfers - 50-64 years	10.6	2838	0	0.65	9.36	11.90	1966	1.44	0.80	9.06	12.20
8	At-risk-of-poverty rate after social transfers - 65+ years	16.2	2331	0	0.94	14.39	18.09	2091	1.11	0.92	14.44	18.04
9	At-risk-of-poverty rate after social transfers - 18+ years	12.0	11622	0	0.41	11.23	12.82	8632	1.35	0.45	11.15	12.91
10	At-risk-of-poverty rate after social transfers - 18-64 years	11.0	9291	0	0.43	10.13	11.81	6375	1.46	0.51	9.98	11.96
11	At-risk-of-poverty rate after social transfers - 0-64 years	11.8	12498	0	0.51	10.84	12.85	8926	1.40	0.54	10.79	12.90
12	At-risk-of-poverty rate after social transfers - men 18-24 years	9.1	633	0	1.07	7.01	11.21	357	1.77	1.57	6.04	12.18
13	At-risk-of-poverty rate after social transfers - men 25-49 years	10.2	2524	0	0.58	9.04	11.32	1744	1.45	0.73	8.76	11.60
14	At-risk-of-poverty rate after social transfers - men 50-64 years	10.1	1331	0	0.74	8.63	11.54	910	1.46	0.97	8.19	11.99
15	At-risk-of-poverty rate after social transfers - men 65+ years	10.5	1010	0	1.05	8.46	12.59	909	1.11	1.00	8.56	12.49
16	At-risk-of-poverty rate after social transfers - men 18+ years	10.1	5498	0	0.42	9.26	10.92	3886	1.41	0.52	9.07	11.11
17	At-risk-of-poverty rate after social transfers - men 18-64 years	10.0	4488	0	0.46	9.10	10.90	2994	1.50	0.60	8.83	11.17
18	At-risk-of-poverty rate after social transfers - men 0-64 years	11.1	6140	0	0.54	10.03	12.16	4251	1.44	0.63	9.86	12.33
19	At-risk-of-poverty rate after social transfers - women 18-24 years	13.8	619	0	1.41	11.06	16.58	412	1.50	2.12	9.66	17.98
20	At-risk-of-poverty rate after social transfers - women 25-49 years	11.8	2677	0	0.61	10.65	13.05	1950	1.37	0.75	10.38	13.32
21	At-risk-of-poverty rate after social transfers - women 50-64 years	11.2	1507	0	0.76	9.67	12.65	1061	1.42	0.96	9.28	13.04

	Indicators	Value	Achieved sample size	Total item non response	Variance Estimation - Linearization					Variance Estimation - Bootstrap		
					95% CI					95% CI		
					Std. error	lower bound	upper bound	eff. sample size	deff	Std. error	lower bound	upper bound
22	At-risk-of-poverty rate after social transfers - women 65+ years	**20.2**	1321	0	1.12	18.04	22.42	1202	1.10	1.15	17.97	22.49
23	At-risk-of-poverty rate after social transfers - women 18+ years	**13.8**	6124	0	0.46	12.92	14.71	4733	1.29	0.55	12.73	14.89
24	At-risk-of-poverty rate after social transfers - women 18-64 years	**11.9**	4803	0	0.48	10.98	12.88	3385	1.42	0.62	10.72	13.13
25	At-risk-of-poverty rate after social transfers - women 0-64 years	**12.6**	6358	0	0.56	11.50	13.70	4689	1.36	0.63	11.36	13.84
26	At-risk-of-poverty rate after social transfers - employed	**6.4**	6327	95	0.36	5.64	7.07	4678	1.35	0.41	5.55	7.17
27	At-risk-of-poverty rate after social transfers - unemployed	**43.6**	282	95	3.41	36.90	50.27	248	1.14	3.67	36.40	50.78
28	At-risk-of-poverty rate after social transfers - retired	**13.3**	3181	95	0.69	11.90	14.61	2769	1.15	0.71	11.87	14.65
29	At-risk-of-poverty rate after social transfers - other inactive	**21.5**	2124	95	1.09	19.33	23.60	1737	1.22	1.29	18.95	23.99
30	At-risk-of-poverty rate after social transfers - men, employed	**6.4**	3573	37	0.42	5.60	7.26	2879	1.24	0.47	5.51	7.35
31	At-risk-of-poverty rate after social transfers - men, unemployed	**50.3**	140	37	5.24	40.01	60.57	131	1.07	5.27	39.96	60.62
32	At-risk-of-poverty rate after social transfers - men, retired	**10.3**	1482	37	0.83	8.64	11.90	1321	1.12	0.83	8.65	11.90
33	At-risk-of-poverty rate after social transfers - men, other inactive	**17.8**	478	37	2.06	13.78	21.87	357	1.34	2.49	12.94	22.70
34	At-risk-of-poverty rate after social transfers - women, employed	**6.3**	2755	58	0.47	5.34	7.18	1823	1.51	0.59	5.10	7.42
35	At-risk-of-poverty rate after social transfers - women, unemployed	**35.8**	142	58	4.10	27.75	43.82	118	1.20	4.51	26.94	44.63
36	At-risk-of-poverty rate after social transfers - women, retired	**15.8**	1699	58	0.87	14.09	17.50	1473	1.15	0.99	13.85	17.73
37	At-risk-of-poverty rate after social transfers - women, other inactive	**22.3**	1646	58	1.18	20.02	24.63	1365	1.21	1.41	19.55	25.10
38	At-risk-of-poverty rate after social transfers - single, < 65 years	**19.6**	1046	0	1.13	17.40	21.83	806	1.30	1.37	16.92	22.31
39	At-risk-of-poverty rate after social transfers - single, 65+ years	**26.1**	709	0	1.67	22.85	29.39	660	1.07	1.75	22.69	29.55
40	At-risk-of-poverty rate after social transfers - single, male	**16.4**	607	0	1.40	13.65	19.13	476	1.28	1.70	13.05	19.72
41	At-risk-of-poverty rate after social transfers - single, female	**25.9**	1148	0	1.23	23.44	28.28	1036	1.11	1.42	23.07	28.65
42	At-risk-of-poverty rate after social transfers - single, total	**22.1**	1755	0	0.93	20.28	23.94	1494	1.17	1.09	19.98	24.24
43	At-risk-of-poverty rate after social transfers - 2 adults, no children, both < 65	**10.3**	1804	0	0.91	8.53	12.08	1117	1.62	1.33	7.70	12.90
44	At-risk-of-poverty rate after social transfers - 2 adults, no children, at least one 65+	**11.8**	1518	0	1.24	9.40	14.25	1415	1.07	1.18	9.51	14.14
45	At-risk-of-poverty rate after social transfers - other households without children	**6.3**	1748	0	0.92	4.44	8.06	1203	1.45	1.30	3.70	8.80

	Indicators	Value	Achieved sample size	Total item non response	Variance Estimation - Linearization 95% CI					Variance Estimation - Bootstrap 95% CI		
					Std. error	lower bound	upper bound	eff. sample size	deff	Std. error	lower bound	upper bound
46	At-risk-of-poverty rate after social transfers - single parent, at least one child	**28.8**	683	0	3.43	22.09	35.52	567	1.20	3.82	21.31	36.30
47	At-risk-of-poverty rate after social transfers - 2 adults, 1 child	**9.0**	1683	0	1.14	6.72	11.19	1327	1.27	1.30	6.41	11.50
48	At-risk-of-poverty rate after social transfers - 2 adults, 2 children	**11.2**	2428	0	1.23	8.76	13.57	1667	1.46	1.64	7.96	14.38
49	At-risk-of-poverty rate after social transfers - 2 adults, 3+ children	**19.4**	1440	0	2.74	14.01	24.77	1242	1.16	2.58	14.34	24.43
50	At-risk-of-poverty rate after social transfers - other households with children	**5.3**	1825	0	1.23	2.88	7.71	1557	1.17	1.25	2.84	7.75
51	At-risk-of-poverty rate after social transfers - households without children	**13.0**	6824	0	0.51	11.99	13.99	5291	1.29	0.59	11.83	14.16
52	At-risk-of-poverty rate after social transfers - households with children	**12.1**	8059	0	0.75	10.63	13.59	5924	1.36	0.83	10.48	13.73
53	At-risk-of-poverty rate after social transfers - owner or rent-free	**9.0**	10236	0	0.49	8.02	9.93	8748	1.17	0.46	8.08	9.87
54	At-risk-of-poverty rate after social transfers - tenant	**19.2**	4647	0	1.00	17.19	21.12	3503	1.33	1.14	16.93	21.38
55	At-risk-of-poverty rate after social transfers - households without children, w = 0[1]	**22.0**	1172	1628*	1.52	19.04	24.99	863	1.36	1.80	18.49	25.54
56	At-risk-of-poverty rate after social transfers - households without children, 0 < w < 1	**10.5**	1822	1628	1.09	8.38	12.65	1187	1.53	1.37	7.82	13.21
57	At-risk-of-poverty rate after social transfers - households without children, w = 1	**4.7**	2208	1628	0.59	3.56	5.87	1772	1.25	0.64	3.47	5.96
58	At-risk-of-poverty rate after social transfers - households with children, w = 0	**54.8**	358	1628	5.63	43.76	65.82	242	1.48	7.11	40.86	68.72
59	At-risk-of-poverty rate after social transfers - households with children, 0 < w < 0.5	**26.7**	416	1628	6.17	14.56	38.76	340	1.22	4.98	16.90	36.41
60	At-risk-of-poverty rate after social transfers - households with children, 0.5 < w < 1	**11.6**	3529	1628	1.23	9.20	14.03	3034	1.16	1.18	9.30	13.93
61	At-risk-of-poverty rate after social transfers - households with children, w = 1	**4.5**	3750	1628	0.67	3.16	5.78	3147	1.19	0.72	3.05	5.89
62	Median of the equivalised disposable household income	**17852.36**	14883	0	139.97	17578.01	18126.71	12339	1.21	135.86	17586.08	18118.64
63	At-risk-of-poverty threshold - single	**10711.42**	14883	0	83.98	10546.81	10876.03	12339	1.21	81.52	10551.65	10871.19
64	At-risk-of-poverty threshold - 2 adults, 2 children	**22493.98**	14883	0	176.37	22148.30	22839.65	12339	1.21	171.18	22158.46	22829.50
65	Inequality of income distribution S80/S20 income quintile share ratio	**3.65**	14883	0	0.07	3.51	3.79	11822	1.26	0.07	3.52	3.78
66	Relative median at-risk-of-poverty gap - total	**15.5**	1727	0	0.81	13.87	17.04	1230	1.40	1.29	12.97	18.03
67	Relative median at-risk-of-poverty gap - men total	**17.5**	724	0	1.15	15.28	19.78	491	1.48	1.39	14.78	20.22
68	Relative median at-risk-of-poverty gap - women total	**14.1**	1003	0	0.66	12.83	15.41	729	1.38	1.02	12.11	16.09
69	Relative median at-risk-of-poverty gap - 0-17 years	**17.3**	435	0	1.69	13.96	20.57	311	1.40	1.83	13.72	20.88

Indicators	Value	Achieved sample size	Total item non response	Variance Estimation - Linearization						Variance Estimation - Bootstrap		
						95% CI					95% CI	
				Std. error	lower bound	upper bound	eff. sample size	deff		Std. error	lower bound	upper bound
70 Relative median at-risk-of-poverty gap - 18-64 years	**19.0**	895	0	1.18	16.65	21.28	578	1.55		1.44	16.19	21.81
71 Relative median at-risk-of-poverty gap - 65+ years	**13.3**	387	0	0.74	11.90	14.79	360	1.07		0.68	11.97	14.63
72 Relative median at-risk-of-poverty gap - 18+ years	**15.0**	1282	0	0.66	13.74	16.34	901	1.42		1.22	12.61	17.39
73 Relative median at-risk-of-poverty gap - men, 18-64 years	**19.0**	385	0	1.42	16.17	21.76	254	1.52		1.66	15.74	22.26
74 Relative median at-risk-of-poverty gap - men, 65+ years	**12.5**	112	0	1.72	9.15	15.88	105	1.07		1.36	9.84	15.16
75 Relative median at-risk-of-poverty gap - men, 18+ years	**17.5**	497	0	1.17	15.24	19.82	340	1.46		1.56	14.45	20.55
76 Relative median at-risk-of-poverty gap - women, 18-64 years	**19.2**	510	0	1.36	16.56	21.90	336	1.52		1.71	15.86	22.54
77 Relative median at-risk-of-poverty gap - women, 65+ years	**13.3**	275	0	0.72	11.93	14.76	259	1.06		0.66	12.00	14.60
78 Relative median at-risk-of-poverty gap - women, 18+ years	**13.8**	785	0	0.58	12.70	14.96	564	1.39		0.89	12.05	15.55
79 Relative median at-risk-of-poverty gap - total	**9056.31**	1727	0	94.65	8870.80	9241.82	1242	1.39		142.60	8776.82	9335.80
80 Relative median at-risk-of-poverty gap - men total	**8833.78**	724	0	136.91	8565.43	9102.12	508	1.43		146.85	8545.95	9121.61
81 Relative median at-risk-of-poverty gap - women total	**9198.79**	1003	0	78.94	9044.07	9353.51	740	1.36		111.68	8979.89	9417.69
82 Relative median at-risk-of-poverty gap - 0-17 years	**8861.90**	435	0	188.38	8492.68	9231.13	315	1.38		196.85	8476.08	9247.72
83 Relative median at-risk-of-poverty gap - 18-64 years	**8680.00**	895	0	144.89	8396.02	8963.98	603	1.48		156.98	8372.32	8987.68
84 Relative median at-risk-of-poverty gap - 65+ years	**9282.00**	387	0	84.85	9115.69	9448.31	358	1.08		24.45	9234.09	9329.91
85 Relative median at-risk-of-poverty gap - 18+ years	**9100.40**	1282	0	82.32	8939.06	9261.74	921	1.39		134.02	8837.72	9363.08
86 Relative median at-risk-of-poverty gap - men, 18-64 years	**8680.00**	385	0	165.28	8356.06	9003.94	261	1.48		175.64	8335.75	9024.25
87 Relative median at-risk-of-poverty gap - men, 65+ years	**9371.13**	112	0	188.86	9000.97	9741.28	104	1.08		133.37	9109.72	9632.54
88 Relative median at-risk-of-poverty gap - men, 18+ years	**8833.78**	497	0	138.43	8562.44	9105.11	349	1.42		165.93	8508.56	9159.00
89 Relative median at-risk-of-poverty gap - women, 18-64 years	**8651.48**	510	0	156.05	8345.62	8957.34	343	1.49		189.18	8280.70	9022.26
90 Relative median at-risk-of-poverty gap - women, 65+ years	**9282.00**	275	0	80.74	9123.75	9440.25	258	1.07		11.01	9260.43	9303.57
91 Relative median at-risk-of-poverty gap - women, 18+ years	**9230.00**	785	0	69.90	9093.01	9366.99	574	1.37		93.78	9046.19	9413.81
92 Dispersion around the risk-of-poverty threshold - 40%	**3.1**	14883	0	0.24	2.60	3.54	10529	1.41		0.26	2.60	3.60
93 Dispersion around the risk-of-poverty threshold - 50%	**6.1**	14883	0	0.35	5.43	6.79	10650	1.40		0.37	5.37	6.83

	Indicators	Value	Achieved sample size	Total item non response	Variance Estimation - Linearization						Variance Estimation - Bootstrap		
							95% CI					95% CI	
					Std. error	lower bound	upper bound	eff. sample size	deff		Std. error	lower bound	upper bound
94	Dispersion around the risk-of-poverty threshold - 70%	**20.1**	14883	0	0.57	19.01	21.25	12061	1.23		0.59	18.94	21.26
	Before social transfers except old-age and survivors' benefits												
95	At-risk-of-poverty rate before social transfers - total	**25.1**	14883	0	0.61	23.91	26.30	12158	1.22		0.61	23.91	26.29
96	At-risk-of-poverty rate before social transfers - men total	**23.8**	7178	0	0.65	22.56	25.12	5715	1.26		0.71	22.40	25.20
97	At-risk-of-poverty rate before social transfers - women total	**26.3**	7705	0	0.63	25.07	27.55	6434	1.20		0.69	24.95	27.65
98	At-risk-of-poverty rate before social transfers - 0-17 years	**36.7**	3207	0	1.26	34.20	39.12	2802	1.14		1.29	34.17	39.23
99	At-risk-of-poverty rate before social transfers - 18-64 years	**23.2**	9291	0	0.57	22.09	24.34	7154	1.30		0.64	21.95	24.45
100	At-risk-of-poverty rate before social transfers - 65+ years	**18.5**	2331	0	0.99	16.60	20.50	2054	1.13		1.01	16.53	20.47
101	At-risk-of-poverty rate before social transfers - 18+ years	**22.3**	11622	0	0.52	21.26	23.30	9190	1.26		0.57	21.19	23.41
102	At-risk-of-poverty rate before social transfers - men, 18-64 years	**22.3**	4488	0	0.62	21.12	23.55	3371	1.33		0.76	20.81	23.79
103	At-risk-of-poverty rate before social transfers - men, 65+ years	**12.4**	1010	0	1.12	10.20	14.60	855	1.18		1.18	10.09	14.71
104	At-risk-of-poverty rate before social transfers - men, 18+ years	**20.6**	5498	0	0.55	19.54	21.71	4181	1.31		0.67	19.29	21.91
105	At-risk-of-poverty rate before social transfers - women, 18-64 years	**24.1**	4803	0	0.60	22.90	25.26	3780	1.27		0.72	22.69	25.51
106	At-risk-of-poverty rate before social transfers - women, 65+ years	**22.8**	1321	0	1.17	20.55	25.14	1181	1.12		1.26	20.33	25.27
107	At-risk-of-poverty rate before social transfers - women, 18+ years	**23.8**	6124	0	0.55	22.73	24.87	4994	1.23		0.64	22.54	25.06
	Before social including old-age and survivors' benefits												
108	At-risk-of-poverty rate before social transfers - total	**42.8**	14883	0	0.71	41.38	44.18	12973	1.15		0.66	41.50	44.10
109	At-risk-of-poverty rate before social transfers - men total	**39.7**	7178	0	0.77	38.18	41.21	6159	1.17		0.76	38.20	41.20
110	At-risk-of-poverty rate before social transfers - women total	**45.7**	7705	0	0.72	44.31	47.11	6826	1.13		0.73	44.26	47.14
111	At-risk-of-poverty rate before social transfers - 0-17 years	**38.9**	3207	0	1.50	35.98	41.88	2838	1.13		1.29	36.37	41.43
112	At-risk-of-poverty rate before social transfers - 18-64 years	**32.5**	9291	0	0.67	31.22	33.85	7821	1.19		0.69	31.15	33.85
113	At-risk-of-poverty rate before social transfers - 65+ years	**88.2**	2331	0	0.77	86.72	89.76	2194	1.06		0.80	86.63	89.77
114	At-risk-of-poverty rate before social transfers - 18+ years	**43.7**	11622	0	0.62	42.51	44.93	9976	1.17		0.66	42.40	45.00
115	At-risk-of-poverty rate before social transfers - men, 18-64 years	**30.0**	4488	0	0.73	28.61	31.48	3734	1.20		0.81	28.42	31.58

Indicators	Value	Achieved sample size	Total item non response	Variance Estimation - Linearization					Variance Estimation - Bootstrap		
				95% CI					95% CI		
				Std. error	lower bound	upper bound	eff. sample size	deff	Std. error	lower bound	upper bound
116 At-risk-of-poverty rate before social transfers - men, 65+ years	**88.0**	1010	0	1.00	86.06	89.97	915	1.10	1.07	85.90	90.10
117 At-risk-of-poverty rate before social transfers - men, 18+ years	**40.0**	5498	0	0.67	38.71	41.33	4640	1.18	0.76	38.51	41.49
118 At-risk-of-poverty rate before social transfers - women, 18-64 years	**35.0**	4803	0	0.68	33.66	36.33	4087	1.18	0.78	33.47	36.53
119 At-risk-of-poverty rate before social transfers - women, 65+ years	**88.4**	1321	0	0.91	86.62	90.18	1272	1.04	0.92	86.60	90.20
120 At-risk-of-poverty rate before social transfers - women, 18+ years	**47.1**	6124	0	0.62	45.92	48.35	5345	1.15	0.72	45.69	48.51
121 Gini coefficient	**25.33**	14883	0	0.35	24.64	26.02	12286	1.21	0.36	24.63	26.03
122 Mean equivalised disposable income	**19673.86**	14883	0	174.672165**	19331.50	20016.22	12991	1.15	147.49	19384.77	19962.95
123 Gender pay gap	**19.83**	3023 men, 2354 women	42 men, 35 women	1.11278***	17.65	22.01	4478	1.20	1.21	17.46	22.20

*27 Student households, 1601 with total workable months=0

**No Linearization, but standard estimation for mean value

***Doubtful linearization formula

2.3. Non-sampling errors

2.3.1. Sampling frame and coverage errors

The sampling frame of the first wave households of EU-SILC 2006 was, like for the previous waves of EU-SILC in Austria, the ZMR. In 2006, 3,588 addresses were selected at the beginning of the fieldwork to constitute the rotational group 2.

The ZMR is a continuously updated population register based on the registration of the main residence. It contains information on the person (date of birth, place of birth etc.) and on the address(es) of a person. The ZMR is administrated by the federal ministry of the interior (BMI). Data of the ZMR are delivered quarterly to Statistics Austria. For the sampling procedure of EU-SILC 2006 the reference date for the ZMR was the 31st December 2005. Households of the previous waves of EU-SILC (2003, 2004 and 2005) were excluded from the sample frame.

Though the ZMR is expected to provide an updated image of the resident population of Austria, the sample nevertheless contained obsolete units, mainly due to changes that occurred between the reference date and the fieldwork. These changes are for example persons who emigrated or died since the reference date or persons who did not report changes of their main residence in time. Other units, for example accommodations newly built since the reference date, were not included in the sampling frame.

One problem connected with the sampling frame is the construction of the connection of persons living in one dwelling unit. The entries of the ZMR comprise information on individuals and there is no key or link to identify all persons that are living in a dwelling. So the connection of dwelling units has to be constructed by the individual address characteristics. The connections constructed in this way are not always correct, mainly because of spelling errors or differences of the spelling of the addresses[2].

2.3.2. Measurement and processing errors

2.3.2.1. Measurement errors

Measurement errors are defined as the difference between the value of a variable (provided by the respondent) and the true but unknown value of a variable. These errors originate from four basic sources:

> the questionnaire (effects of the design, content and wording)
>
> the data collection method (effects of the modes of interviewing)
>
> the interviewer (effects of the interviewer on the response to a question including errors of the interviewer)
>
> the respondents (effects of the respondent on the interpretation of items)

The occurrence of these errors and their effects is almost unavoidable. However, Statistics Austria implemented various routines to reduce such effects and errors.

The questionnaire for EU-SILC 2006 was developed on the basis of the EU-SILC regulations and the EU-SILC doc 65/04 (*Description of Target variables: Cross-sectional and Longitudinal*). Some changes and adaptations to the prior questionnaire were made according to the changes of EUROSTATs requirements and experiences with last year's surveys, like feedback by the interviewers or data checking procedures which indicated misinterpretations of particular items.

Like for the previous EU-SILC surveys, the data collection was conducted using the CAPI technique (Computer Assisted Personal Interviewing). Informed by the experience from the prior surveys it was possible to expand the range of checks on the surface of the input devices (laptop or handheld computer), so that errors, inconsistencies and incompatibilities within a household or within an interview could be clarified and fixed already during the interview.

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[2]   Cf. „Standard-Dokumentation Metainformationen zu EU-SILC 2003"; In 2004 1,359,000 single person households were registered from a total of 3,569,000 households (about 38%), the microcensus recorded about 1,168,000 single households from a total of 3,429,000 households (about 34%)

To reduce interviewer effects it was necessary to provide the interviewers with sufficient trainings and support measures. These trainings and measures helped to ensure that all respondents were interviewed under similar conditions as far as the interviewer behaviour is concerned. The trainings also facilitated a common understanding among interviewers of definitions of concepts and questions of the survey. The responsible fieldwork institute conducted the interviewer training in cooperation with the EU-SILC project team of Statistics Austria. The fieldwork institute organised 4 training sessions for the interviewers. These group-training sessions were organised before the fieldwork. After the start of the fieldwork period, the fieldwork institute also organised additional trainings if necessary. Overall, 121 interviewers participated in these interviewer trainings. However, 15 of these trained interviewers were not successful in providing any interviews.

Assuming that experience with the survey helps to avoid errors on the side of the interviewers, the attention should be drawn on those interviewers that repeatedly worked on the survey. Overall, 2,753 of the successful 3,985 household interviews were conducted by the same interviewer as in the previous wave. Whether a household is interviewed by the same interviewer as in the last year (or years) or not, has a considerable effect on the response rate: The response rates of those households which have been interviewed by the same interviewer in the last year are higher than the rates of those households that were interviewed by a different interviewer. The response rates for the rotational groups 3 and 4 are slightly lower than the response rate of rotational group 1, although these rotational groups entered the survey in 2004. But these household experienced the change of the fieldwork institute and, therefore, a change of the interviewer between 2004 and 2005, so that the positive effect of a longer experience with the panel on the response rate was somewhat disturbed.

Table 13: Response rate and change of interviewer

Rotational groups	Total	R1	R3	R4
First wave		2005	2004	2004
Same interviewer as last year	94,43	95,66	93,11	93,47
change of interviewer	62,64	62,31	65,59	61,42
Total response rate	81,65	84,88	80,82	78,63

Source: EU-SILC 2006

Admittedly, the ratio of households that were interviewed by the same interviewer as in the last year is not equally distributed among regions. This may as well - at least partly - explain the different response rates in Austrian regions. The percentage of households interviewed by the same interviewer, which is on average about 69%, ranges from 90% in Burgenland to meagre 44% in Vorarlberg.

Table 14: Percentage of households interviewed by the same interviewer as last year by region (Bundesland)

	Same interviewer as last year	
	N	%
Vorarlberg	80	44.44
Vienna	425	58.78
Upper Austria	430	60.73
Lower Austria	558	73.52
Tyrol	225	75.50
Styria	475	75.76
Carinthia	219	76.84
Salzburg	187	82.38
Burgenland	147	90.18
Total	2,746	69.17

Source: EU-SILC 2006

Since proxy interviews are a possible source of bias, Statistics Austria and the fieldwork institute aimed at keeping the rate of proxy interviews low. Having learned from the experiences from the last

years' survey[3], the fieldwork institute managed to reduce the ratio of proxy interviews from 24% in 2005 to 20% in 2006. As in the last years, the ratio of proxy interviews varies considerably with the basic activity status of the respondent for whom a proxy interview had to be conducted. Retired and unemployed persons are more likely to give a personal interview (and/or are more accessible for interviews), than people in employment or self-employment.

Table 15: Distribution of proxy interviews by basic activity status

	Total	Personal interviews		Proxy interviews	
		N	%	N	%
At work	6,161	4,807	78.02	1,354	21.98
Unemployment	393	336	85.50	57	14.50
Retirement / Early retirement	3,390	3,004	88.61	386	11.39
Other Inactive	2,066	1,511	73.14	555	26.86
Total	12,010	9,658	80.42	2,352	19.58

Source: EU-SILC 2006

2.3.3.   Non-response errors

2.3.3.1.   Achieved sample size

Table 16: Sample size and accepted interviews

Rotational groups	Total	R1	R2	R3	R4
First wave		2005	2006	2004	2004
Accepted household interviews	6.028	1.707	2.058	784	1.479
Accepted household interviews (%)	100,00	28,32	34,14	13,01	24,54
Number of persons 16 and older	12.010	3.379	4.047	1.553	3.031
Number of persons 16 and older (%)	100,00	28,13	33,70	12,93	25,24
Accepted personal interviews	12.010	3.379	4.047	1.553	3.031
Accepted personal interviews (%)	100,00	28,13	33,70	12,93	25,24

Source: EU-SILC 2006

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[3]   The negative or problematic aspects of proxy interviews were also communicated in the interview trainings.

2.3.3.2.   Unit non-response

Table 17: Household and individual non-response rate

| Rotational groups | Total | R1 | R2 | R3 | R4 |
First wave		2005	2006	2004	2004
Ra - Address contact rate	0,996	0,998	0,995	0,995	0,995
Rh - proportion of accepted household interviews	0,723	0,855	0,585	0,815	0,793
NRh - Household non-response rate	27,998	14,650	41,766	18,925	21,078
RB250 = 11 + 12 + 13	12.010	3.379	4.047	1.553	3.031
RB245 = 1 + 2 + 3	12.010	3.379	4.047	1.553	3.031
Rp	1,000	1,000	1,000	1,000	1,000
NRp - overall Individual non-response rate	27,998	14,650	41,766	18,925	21,078

Source: EU-SILC 2006

2.3.3.3.   Distribution of households by record of contact at address, by household questionnaire result and by household interview acceptance

| Rotational groups | Total | | R1 | | R2 | | R3 | | R4 | |
| First wave | | | 2005 | | 2006 | | 2004 | | 2004 | |
	N	%	N	%	N	%	N	%	N	%
Total	8.450	100,00	2.011	100,00	3.588	100,00	970	100,00	1.881	100,00
Address contacted (11)	8.338	98,67	1.996	99,25	3.515	97,97	962	99,18	1.865	99,15
Address non-contacted (21 - 24)	112	1,33	15	0,75	73	2,03	8	0,82	16	0,85
Total address non-contacted (21 - 24)	112	100,00	15	100,00	73	100,00	8	100,00	16	100,00
Address cannot be kocated (21)	33	29,46	4	26,67	17	23,29	4	50,00	8	50,00
Address unable to access (22)	4	3,57	0	0,00	2	2,74	1	12,50	1	6,25
Address does not exist etc. (23)	75	66,96	11	73,33	54	73,97	3	37,50	7	43,75
non-contacted addresses	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00

Source: EU-SILC 2006

2.3.3.4.   Distribution of substituted units by DB120, DB130 and DB135

Not applicable

2.3.3.5.   Item non-response

Table 18: Item non-response on household level

		Households having received an amount		Full Information		Partial Information		Missing Value	
		N	%	N	%	N	%	N	%
hy010	Total household gross income	6,028	100.00	2,045	33.93	3,532	58.59	451	7.48
hy020	Total disposable household income	6,028	100.00	3,688	61.18	2,286	37.92	54	0.90
hy022	Total disposable household income before social transfers other than old-age and survivors' benefits	5,951	98.72	3,670	61.67	2,194	36.87	87	1.46
hy023	Total disposable household income including old-age and survivors' benefits	5,589	92.72	3,515	62.89	1,747	31.26	327	5.85
	Net income components at household level								
hy040n	Income from rental of a property or land	226	3.75	193	85.40	5	2.21	28	12.39
hy050n	Family/child related allowances	2,120	35.17	2,110	99.53	9	0.42	1	0.05
hy060n	Social exclusion not elsewhere classified	120	1.99	113	94.17	3	2.50	4	3.33
hy070n	Housing allowances	204	3.38	195	95.59	7	3.43	2	0.98
hy080n	Regular inter-household cash transfer received	410	6.80	398	97.07	0	0.00	12	2.93
hy090n	Interest, profits from capital investments	4,588	76.11	3,075	67.02	291	6.34	1,222	26.63
hy110n	Income received by people aged under 16	53	0.88	40	75.47	0	0.00	13	24.53
hy130n	Regular inter-household cash transfer paid	392	6.50	372	94.90	9	2.30	11	2.81
hy145n	Repayments/receipts for tax adjustment	2,499	41.46	2,437	97.52	27	1.08	35	1.40
	Gross income components at household level								
hy040g	Income from rental of a property or land	225	3.73	111	49.33	39	17.33	75	33.33
hy050g	Family/child related allowances	2,120	35.17	2,110	99.53	9	0.42	1	0.05
hy060g	Social exclusion not elsewhere classified	120	1.99	113	94.17	3	2.50	4	3.33
hy070g	Housing allowances	204	3.38	195	95.59	7	3.43	2	0.98
hy080g	Regular inter-household cash transfer received	410	6.80	398	97.07	0	0.00	12	2.93
hy090g	Interest, profits from capital investments	4,588	76.11	3,075	67.02	291	6.34	1,222	26.63
hy110g	Income received by people aged under 16	53	0.88	31	58.49	0	0.00	22	41.51
hy130g	Regular inter-household cash transfer paid	392	6.50	372	94.90	9	2.30	11	2.81
hy140g	Tax on Income and Social Contributions	5,923	98.26	2,061	34.80	3,678	62.10	184	3.11

Source: EU-SILC 2006

Table 19: Item non-response on individual level

		Persons having received an amount		Full Information		Partial Information		Missing Value	
		N	%	N	%	N	%	N	%
	Net income components at personal level								
py010n	Employee cash or near cash income	6,254	52.07	5,497	87.90	451	7.21	306	4.89
py035n	Contributions to individual private pension plans	2,732	22.75	2,537	92.86	2	0.07	193	7.06
py050n	Cash benefits or losses from self-employment	1,098	9.14	908	82.70	27	2.46	163	14.85
py070n	Value of goods produced by own-consumption	259	2.16	222	85.71	0	0.00	37	14.29
py080n	Pension from individual private plans	29	0.24	26	89.66	0	0.00	3	10.34
py090n	Unemployment benefits	724	6.03	667	92.13	26	3.59	31	4.28
py100n	Old-age benefits	3,045	25.35	2,715	89.16	200	6.57	130	4.27
py110n	Survivor's benefits	105	0.87	99	94.29	0	0.00	6	5.71
py120n	Sickness benefits	181	1.51	143	79.01	5	2.76	33	18.23
py130n	Disability benefits	366	3.05	352	96.17	4	1.09	10	2.73
py140n	Education-related allowances	178	1.48	154	86.52	1	0.56	23	12.92
	Gross income components at personal level								
py010g	Employee cash or near cash income	6,254	52.07	3,768	60.25	362	5.79	2,124	33.96
py035g	Contributions to individual private pension plans	2,732	22.75	2,537	92.86	2	0.07	193	7.06
py050g	Cash benefits or losses from self-employment	1,098	9.14	524	47.72	69	6.28	505	45.99
py070g	Value of goods produced by own-consumption	259	2.16	222	85.71	0	0.00	37	14.29
py080g	Pension from individual private plans	29	0.24	12	41.38	0	0.00	17	58.62
py090g	Unemployment benefits	724	6.03	659	91.02	30	4.14	35	4.83
py100g	Old-age benefits	3,045	25.35	1,289	42.33	683	22.43	1,073	35.24
py110g	Survivor's benefits	105	0.87	41	39.05	27	25.71	37	35.24
py120g	Sickness benefits	181	1.51	63	34.81	29	16.02	89	49.17
py130g	Disability benefits	366	3.05	213	58.20	43	11.75	110	30.05
py140g	Education-related allowances	178	1.48	154	86.52	1	0.56	23	12.92
py200g	Gross monthly earnings for employees	5,682	47.31	4,141	72.88	43	0.76	1,498	26.36

Source: EU-SILC 2006

2.3.3.6. Total item non-response and number of observations in the sample at unit level of common cross-sectional European indicators based on the cross-sectional component of EU-SILC, for equivalised disposable income and for the unadjusted gender pay gap

For the total non-response and the number of observations in the sample of the cross-sectional European Union Indicators, the equivalised disposable income and the unadjusted gender pay gap see chapter 1.

2.4. Mode of data collection

Austria uses a sample of households, so for the variable RB245 only the codes 1 and 4 are eligible. All persons are coded '1' in RB245. According to an agreement with EUROSTAT code 12 for the variable RB250 in Austria means that total cases have been imputed.

Table 20: Distribution of RB250 by rotational groups

Rotational groups	Total		R1		R2		R3		R4	
First wave			2005		2006		2004		2004	
	N	%	N	%	N	%	N	%	N	%
RB250 = 11	11.974	99,70	3.363	99,53	4.040	99,83	1.549	99,74	3.022	99,70
RB250 = 12	36	0,30	16	0,47	7	0,17	4	0,26	9	0,30
Total	12.010	100,00	3.379	100,00	4.047	100,00	1.553	100,00	3.031	100,00

Source: EU-SILC 2006

The mode of data collection was CAPI, only in a few exceptional cases (n=63) when requested by the household telephone interviews were conducted. No first wave interview (rotational group R2) was conducted as CATI interview.

Table 21: Distribution of RB260 by rotational groups

Rotational groups	Total		R1		R2		R3		R4	
First wave			2005		2006		2004		2004	
	N	%	N	%	N	%	N	%	N	%
CAPI RB260 = 2	9.559	79,83	2.708	80,52	3.236	80,10	1.215	78,44	2.400	79,42
CATI RB260 = 3	63	0,53	21	0,62	0	0,00	21	1,36	21	0,69
Proxy RB260 = 5	2.352	19,64	634	18,85	804	19,90	313	20,21	601	19,89
Total	11.974	100,00	3.363	100,00	4.040	100,00	1.549	100,00	3.022	100,00

Source: EU-SILC 2006

The difference between the total of 12,010 interviews displayed for the distribution of RB250 and the total of 11,974 interviews for the distribution of RB260 are the 36 interviews totally imputed.

2.5. Interview Duration

Rotational groups	Total	R1	R2	R3	R4
First wave		2005	2006	2004	2004
Personal questionnaire	19,18	17,37	20,79	18,41	19,45
Household questionnaire	9,46	8,73	10,12	9,31	9,45
Total mean interview duration per household	47,56	42,95	50,93	45,68	49,19

Source: EU-SILC 2006

The interview duration is considerably longer compared to the last year (EU-SILC 2005: 36,02). Main reason is possibly the number of questions for the module which were asked for each person of the household which was eligible for a personal interview (16 years and older). Notwithstanding, the duration of the interviews does not exceed the limit set by the regulation.

2.6. Imputation procedure

The following chapter describes the imputation procedures applied in EU-SILC 2006. Although not foreseen in the framework of the intermediate report, we would like to outline the Austrian imputation approach to provide a comprehensive picture of the data production process. The imputation process

and the imputation strategies in EU-SILC 2006 resemble the procedures and strategies applied for EU-SILC 2005.

2.6.1. General remarks

The following describes the imputation procedures applied in EU-SILC 2006, which are similar to the procedures in 2005. Imputation refers to all procedures to estimate and insert variable values that are missing due to item non-response. These procedures comprise

deductive methods

deterministic methods

stochastic methods

Deductive methods refer to imputation procedures in which the true value of a missing item is logically deduced. This means that the value is either deduced from other variables of the survey or is derived from legal regulations. An example for the first mode of deductions is the net-gross-net conversion, when either the gross value or the net value is given and the corresponding missing value is calculated by applying general rules.

The difference between deterministic and stochastic methods is whether the calculation procedure to calculate the missing item includes a residual term or not. Deterministic methods were primarily used in cases when the integration of a residual term seemed not to be reasonable. Stochastic methods were mainly used to estimate missing income variables.

In general the imputation procedures in EU-SILC 2006 refer to procedures intended to complete missing information because of missing personal interviews or because of item-non response.

2.6.2. Procedure to handle missing personal interviews

Statistics Austria replaces missing personal interviews of persons which could not be interviewed because of temporary absence, because of refusal of cooperation or because of other reasons. The general idea was to apply a distance function to determine an appropriate donor case to complete the information for the missing interview. The distance function uses a given set of variables to compute the similarity of interviews and ranks the interviews accordingly. Then the nearest neighbour was determined as a donor, given that a set of minimum requirements is fulfilled:

The donor case and the case with the missing personal interview share the same sex.

The interview is not a proxy interview.

The donor case should share the same employment status[4]

The imputation strategy allowed for two possibilities: the person has been interviewed in the 2005 or the person was interviewed for the first time in 2006. When the person was interviewed in the preceding surveys, the information of the last years' interview was used to calculate the distance function. The interviews of the previous year were ranked and the nearest neighbour was identified as the donor for the missing interview. The information of the donor in 2005 was then used to impute the required information. The variables that were used to compute the distance function are listed below.

Sex

Age

Current employment situation

Household size

Number of children under 18 in the household

Number of persons over 60 in the household

Federal state / NUTS 2

Highest level of education attained

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[4] This was done by determining the number of ranks up until this constraint must be fulfilled.

Suffer from any chronic illness or condition / limitation in activities because of health problems

Household income

Number of months in employment / self-employment

Number of months in self-employment

When the person with the missing personal interview was not interviewed in the last year, thus no previous interview can be used to calculate the distance function. Only the information from the household and personal registers can be used. Hence the number of variables for the distance function was shorter. The variables are listed below.

Density of population

Sex

Age

Household size

Employment status

Federal state / NUTS 2

Number of children under 18 in the household

Number of persons over 60 in the household

Household income

In 2006 only 36 personal interviews had to be imputed. 19 interviews were imputed using information from the previous survey, 17 interviews were imputed for persons entering the survey in 2006.

2.6.3. Procedures to handle item non-response

As far as item non-response is concerned, Statistics Austria in general only imputed net income variables, missing gross variables were calculated by the net-gross conversion. Item non-response of income variables occurred because of three reasons: either the information whether an income of a particular type was received or not was missing, or the information about the months an income component was received was missing, or the amount of the income was missing.

If the information whether an income component had been received was missing, Statistics Austria tried to deduce this information from other variables (e.g. the information on main activity). If it was not possible to derive this information from other questions of the questionnaire, it was assumed that no income of this kind was received.

If the information about the number of months was missing, Statistics Austria again tried to derive the length of a period an income component has been received from other variables of the survey. If this was not possible, a random value was imputed.

The question of missing income values received special attention. Basically, the respondents had more than one possibility to provide information about their income: they could provide either the gross or the net income amount, or they could provide information about their income by declaring an income category. The latter possibility was foreseen to reduce the number of missing income values. The interviewer presented show cards to support the respondent to identify the approximate range, and in case of unwillingness to respond, to reduce the burden to give an answer. If an income variable was missing but either the gross or the net amount was declared, the corresponding missing value was computed according to a model based on Austrian tax data. If the respondent declared an income category to give the information about the income received, Statistics Austria then assigned an income value by selecting a random value from within this income category.

If the respondent refused to give any information about the income, Statistics Austria applied deductive, stochastic and deterministic methods of imputation. Deductive methods were applied when the 'correct' value could be calculated from information from the questionnaire or the legal regulations. Estimations made by these methods produce comparatively exact results that are relatively close to the missing true value.

For other missing income information Statistics Austria applied two approaches: longitudinal and cross-sectional imputation. The longitudinal method was used when the person with the missing

information has declared a value in 2004 or 2005. For all other cases the cross-sectional imputation method was used.

The longitudinal imputation procedure is based on the row-and-column-method of Little and Su[5]. As suggested by the name, the method uses the row effects and the column effects of the data to identify an appropriate donor case. The row effect, then, is the development of the variable between waves, and the column effect quantifies the relation of one case to all other observations in the sample. This results in a total effect that is used to sort the data file. The nearest neighbour is then used as a donor value.

As cross-sectional imputation Statistics Austria used regression models as estimation procedures. The estimated values were then added with a residual term to prevent the attenuation of the variance. This estimation procedure required the specification of several regression models per income component to ensure that a value can be estimated in case of missing values in predictor variables in the most sophisticated models.

The predictors were selected according to their predictive capability (variation of the R^2) and / or according to theoretical assumptions about the response variable. In cases where no regression model could be specified the missing information was estimated by using the group mean or the group median of the distribution added with a random residual term.

The following figure describes the procedure for missing information for income questions.

Figure 1: Editing procedure for income data

_____
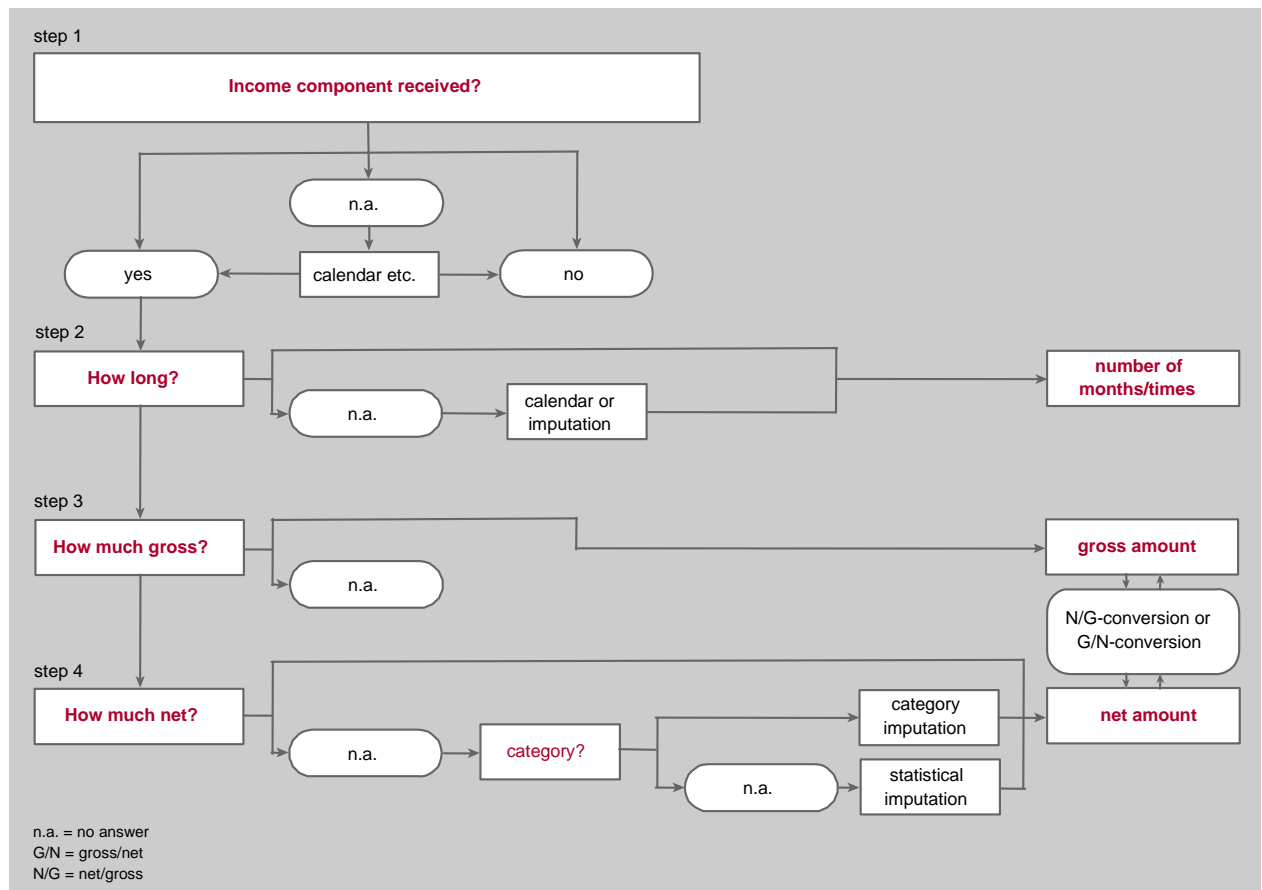
[5] Little, Roderick J.A. / Su, Hong-Lin (1989) , *Item Non-response in Panel Surveys*. In: Kasprzyk/Duncan/Kalton/Singh (1989), *Panel Surveys.* New York, p. 400-425

2.7.   Comparability

This chapter reports on the differences between EUROSTAT definitions and the definitions applied in EU-SILC 2006 in Austria. It also reports on the impact of these differences in terms of comparability.

2.8.   Basic concepts and definitions

(a)   Reference population

No difference to the common definition

(b)   Private household

Private households were generally defined as a person living alone or a group of persons living in the same dwelling. All persons at a dwelling form the household as shared expenses were assumed.

Household members thus are:

> All Persons who are actually living in the dwelling unit. The question whether these residents have their main residence in this particular dwelling is not relevant. Only those dwellings are included in the sampling frame in which at least one person age 16 years or older has his or her main residence.

> Lodgers, visitors, au-pairs and guests are considered members of the household if they stay or intend to stay 6 months or longer in the household, or if they do not have any other home address.

> Persons who are temporarily away for less than 6 months and are not members of other private households.

> Household members who are absent for 6 months or longer who are not members of other private households and are children or partners of actual household members.

> Under the assumption of sharing expenses only one household per dwelling was counted.

> From 2007 the definition will be applied more precisely to better comply with the Eurostat definition: If there is more than one household living in one dwelling and not sharing expenses, they will be collected as different households. If the persons living at the particular address clearly do not share their expenses (meaning for example a lodger is paying for his or her rent and does not share utility costs or food with the rest of the household), a separate additional household will be registered at the same address. Flat-sharing communities are in most of the cases considered as one household because in the majority of cases the members of such communities are sharing their living costs. If the expenses of the flat-sharing community are not shared, meaning that the payments for rent, operating costs and daily expenses are paid individually, the members would constitute individual households.

The following groups of persons connected to the household are not considered as household members:

> Persons 6 months or longer away from the household and not partners or children of actual household members

> Persons less than 6 months away from the household but living in or constituting another private household.

(c)   Household membership

The definition of household membership follows from the above definition of the household.

(d)   Income reference period(s) used

No difference to the common definition. The income reference year was 2005.

(e)   The period for taxes on income and social insurance contributions

No difference to the common definition. The period was 2005, meaning that repayments and receipts of tax adjustments are measured if the money was paid or received in this year.

(f)   The reference period for taxes on wealth

There are no taxes on wealth in Austria.

(g)   The lag between the income reference period and current variables

This refers to the lag between the income reference period and the date when the household was interviewed. The fieldwork period started on the 6th of April and ended on the 24th of September. The gap between the income reference period and the current period exceeded the prescribed duration of the fieldwork of 8 month by 3 weeks.

(h)   The total duration of the data collection of the sample

The data collection period lasted 23 weeks. Additionally, until the middle of October several call-backs were carried out, so that the final files were transmitted to Statistics Austria on the 24th of October 2006.

(i)   Basic information on activity status during the income reference period

This information was collected with the questionnaire by an activity calendar covering each month of the income reference period.

2.9.   Components of income

Income components where no difference between national and standard definitions can be found are not mentioned. Please note that not all differences mentioned automatically affect the comparability of the variables.

(a)   Total household gross income (HY010)

The Austrian questionnaire comprised questions on two income components that are not target variables of EU-SILC. These components were, first, the income received by persons doing their military service or civilian service, and, second, "other income, not elsewhere classified". The latter question was integrated to avoid under-recording caused by misunderstandings. The total disposable household (gross) income contains these two income components. On individual level, the income from military / civilian service was integrated with the income for employees and the "other income" was merged either with the employee income, the income from self-employment or old-age benefits, depending on plausibility. This way of calculating the household income is seen a practical solution to collected and account for more complete data and does not affect the comparability of the variable.

(b)   Total disposable household income (HY020)

See above (HY010)

(c)   Total disposable household income, before social transfers other than old-age and survivors' benefits (HY022)

See above (HY010)

(d)   Total disposable household income, before social transfers including old-age and survivors' benefits (HY023)

See above (HY010)

(e)   Cash-or near-cash employee income (PY010)

This variable additionally includes payments in kind for the private use of company cars, income from compulsory military or civilian service, other income not elsewhere classified (if plausible) and proportional lump-sum payments if the person is employed for more than 1 month.

(f)   Non-cash employee income (PY020)

Payments in kind for the private use of a company car are included in PY010. Other payments in kind were recorded according to the regulation they will only be included in PY020 (or PY010) from 2007 on: free lodging, free meals, fuel/electricity, other non-cash income.

(g)   Cash profits or losses from self-employment (PY050)

This income component includes additionally other income not elsewhere classified, if plausible (see above (HY010)). Additionally, sales revenues from privately sold goods (like sold fruits from the own garden) were added to this income component:

(h)   Value of goods produced for own consumption (PY070)

This component will only be mandatory from 2007 on and we therefore have not included it in household income yet. However, we collected it from 2005 on. We think that it is only possible to ask this question in the household questionnaire, otherwise we are not sure to avoid double reporting. To report it as a personal variable as foreseen by the regulation we therefore have taken the decision to transfer the whole amount to the person with the highest income from self-employment or, in case that there is no self-employed within the household, to the person with the lowest personal income. However, this procedure can pose problems of comparability when other countries survey this kind of income either on the personal level or adopt other methods to redistribute the household value to persons in the household. Different from the last year, only really own-consumed goods were added to this income component and not sales revenues from privately sold goods (see PY050).

(i)   Unemployment benefits (PY090)

This income component includes proportional lump-sum payments, if the person is unemployed (for at least 2 months).

(j)   Old-age benefits (PY100)

This component also includes other income not elsewhere stated, if plausible and proportional lump-sum payments if the person is retired (at least 2 monthly regular payments, up to the total lump-sum payments). Since the standard retirement age in Austria is 65 years for men and 60 years for women, it contains all pension benefits paid to persons aged 65/60 or over.

3.   Coherence

Coherence refers to the comparison of target variables with external sources. The target variables of EU-SILC are a set of compulsory variables defined by the respective regulation and by EUROSTAT. The member states are liable to deliver these target variables and can decide how to obtain these target variables. In Austria the structure of the questionnaire and the items were influenced by the structure of social security benefits, tax benefits and other legal circumstances.

3.1.   Comparison of income target variables and number of persons who receive income from income component with external sources

3.1.1.   Description of the data sources

(a)   EU-SILC 2005 and EU-SILC 2006

EU-SILC 2005 was the second regular wave of EU-SILC in Austria with a rotational design and therewith the first wave in which households were interviewed for a second time. The sample of EU-SILC 2005 consists of 8,794 addresses (including 150 split households), resulting in 5,148 accepted interviews in the data set.

Compared to the changes from 2004 to 2005, only few changes or adaptations were implemented in EU-SILC 2006. Changes were implemented mainly with regard to the routing of the questionnaire and with regard to checks of the CAPI programme.

(b)   Wage tax statistics 2005

The Austrian Wage Tax Statistics (WTS) contains information on the incomes from employees and pensioners if the income is gained at source in Austria. This makes the WTS a valuable source for the comparison of the most important income component at personal level, the income from employment. The comparison with pensions is more complex due to conceptual reasons: the WTS covers all pensions regardless of the age of the beneficiary and the type of pension but in EU-SILC the pension income is only accounted as such when the beneficiary has reached the normal retirement age (for men 65, for women 60). Due to that the comparison of pensions accounted in the WTS and pensions in EU-SILC 2006 is omitted.

But there are also conceptual differences regarding income from employment. An important share of these differences can be explained by the different coverage of EU-SILC and the WTS. The main differences of the coverage are:

> EU-SILC does not cover persons outside private households;

> EU-SILC cannot cover persons who have died or moved to another country between the tax reference period and the time of the survey;

> EU-SILC does not cover incomes received by persons who are aged 15 years or younger;

> Some lump-sum payments are registered in the WTS but only partially in EU-SILC.

> WTS includes an unknown number of fictitious income records by which taxpayers attempt to achieve a more advantageous tax base.

(c)   National accounts

The Austrian national accounts (NA) provide data on the income approach of the GDP. The sector accounts are available only for the combined sectors S14 and S15 (households and non-profit organisations serving households). The disposable income in that sector can be used for comparison with the EU-SILC total income amounts.

For comparison the values of the national accounts have to be adjusted. This means that from the basic value provided from the national accounts, we have to deduct the following:

> The estimated income value of NPISHs (sector 15) in the case of disposable income. Separated figures for sector 14 (private households) and sector 15 are only calculated for gross income. The total amount of individual consumption of NPISHs (P3) is used as a proxy for disposable income of NPISHs and therefore deducted here.

The estimated income value of persons not living in private households. The proportion of persons not living in private households is estimated 1.13 %.

The estimated income value of transfers from reserves. This value is estimated on the basis of the household budget survey (HBS) 2004/05 as 1.3% of the total expenditures of private households.

The income relevant part of imputed rents. These data also come from the NAs (B2N).

However, some other relevant conceptual differences between the income concepts of the national accounts and EU-SILC cannot be quantified.

For example, non-cash income and lump-sum payments are included in the national accounts but not to the same extent in EU-SILC 2006.

The NA uses estimates for black economy, income from tips for employees in the hotel, restaurant and cab driver sector, missing incomes due to time lags in the registers, value of self production for construction sites, car repair and house keeping. The total of the estimates was 9,4% of the GDP in 2002 (~19,000 million Euro). The proportion relevant for disposable income of private households was not estimated in this comparison but might explain some differences

Self employed income in the NA is a balancing item. There are some difficulties to differ between self employed income for private households and not withdrawn gains from enterprises.

Charity donations and membership fees are deducted in the NA disposable income concept

Transnational transfers are included in the NA.

For the net lending/net borrowing for NPISHs no estimate was available and was assumed to be zero.

Property incomes paid (D5) are 2005 2,321 Million Euros. These incomes refer in particular to interests for mortgages and are not reflected in the income target variables of EU-SILC (HY020)

3.1.2. Comparisons

(a) EU-SILC 2005

One of the most important indicators of EU-SILC are the at-risk-of-poverty rate, the mean equivalised income and the risk-of-poverty threshold. Different from the last year, all of these indicators are relatively stable between 2005 and 2006. The at-risk-of-poverty rate rises insignificantly from 12,3% to 12,6%, the mean equivalised income drops also insignificantly from 20,079 Euro to 19,674 Euro (1,6%) and the risk-of-poverty threshold simultaneously drops from 10,796 Euro to 10,711 Euro.

The lack of serious changes of concepts and better response rates (particularly for the second and third-wave households) contribute to the stability of estimates between 2005 and 2006. Nonetheless, some changes occur between the two waves and should be considered.

The following table (Table 22) present the comparison of net incomes recorded in EU-SILC 2005 and EU-SILC 2006.

The medians of the gross and disposable household incomes rise by 5% and 4%, while the number of households and the aggregated sum of these variables do not change notably. This suggests that the distribution of the household income has slightly changed to the favour of the middle class.

The income components with the greatest impact on the household income, income from employment and pension incomes[6], do not change significantly between 2005 and 2006. But the number of recipients and the median of self-employed incomes dropped noticeably from 2005.

Remarkable changes can be observed for unemployment incomes and the value of goods produced for own-consumption. The latter income component does not contribute to the household income and is from 2007 onwards collected compulsorily. However, the variable was collected in the last years with different approaches and further analysis will help to evaluate how to best collect the information

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[6]   These two income components constitute more than ¾ of household incomes.

needed for this income component. As mentioned above, in 2006 the weighting scheme was adapted to better account for higher non-response and a higher attrition of unemployed persons.

Real changes of incomes can be better shown, if only the incomes of those households and persons are compared that participated in two consecutive waves 2005 and 2006. This comparison is shown in Table 23. Here, only the median is presented: the number of recipients and the sums can not be compared meaningfully. For those households and persons that participated in both years the medians also do not change drastically. A rise can be observed particularly for unemployment incomes. Overall, the income development of these households and persons is not different from the total cross-sectional development. Divergence from this can be observed for smaller income components like education related allowances and incomes received by persons under 16 years.

Table 22: Comparison of income target variables – EU-SILC 2005 and EU-SILC 2006 (weighted)

		Median			Households/Persons			Sum (in million Euros)		
		EU-SILC 2005	EU-SILC 2006	%	EU-SILC 2005	EU-SILC 2006	%	EU-SILC 2005	EU-SILC 2006	%
hy010	Total household gross income	36,425	35,210	96.7	3,482,116	3,508,442	100.8	151,821	146,357	96.4
hy020	Total disposable household income	27,915	27,371	98.0	3,482,116	3,508,442	100.8	112,519	110,635	98.3
	Net income components at household level									
hy040n	Income from rental of a property or land	3,600	3,960	110.0	139,412	123,239	88.4	1,221	1,185	97.1n
hy050n	Family/child related allowances	4,080	4,171	102.2	1,117,030	1,082,567	96.9	5,270	5,091	96.6
hy060n	Social exclusion not elsewhere classified	2,000	1,456	72.8	73,604	78,423	106.5	202	241	119.6
hy070n	Housing allowances	1,260	1,356	107.6	138,654	134,686	97.1	199	198	99.3
hy080n	Regular inter-household cash transfer received	3,600	3,240	90.0	218,222	232,620	106.6	955	1,094	114.6
hy090n	Interest, profits from capital investments	100	67	67.2	2,698,868	2,589,627	96.0	1,023	875	85.5
hy110n	Income received by people aged under 16	1,750	1,400	80.0	16,091	28,309	175.9	43	47	110.4
hy130n	Regular inter-household cash transfer paid	3,000	3,000	100.0	288,209	239,306	83.0	1,114	897	80.5
hy145n	Repayments/receipts for tax adjustment	-250	-260	104.0	1,440,500	1,398,084	97.1	-329	-334	101.4
	Net income components at personal level									
py010n	Employee cash or near cash income	16,144	16,603	102.8	3,619,394	3,590,363	99.2	62,498	61,797	98.9
py035n	Contributions to individual private pension plans	800	840	105.0	1,559,756	1,511,467	96.9	1,653	1,647	99.6
py050n	Cash benefits or losses from self-employment	11,856	10,800	91.1	636,806	598,153	93.9	10,091	8,659	85.8
py080n	Pension from individual private plans	2,400	1,800	75.0	29,449	16,950	57.6	134	62	46.3
py090n	Unemployment benefits	3,066	3,500	114.2	444,173	636,837	143.4	1,900	2,874	151.3
py100n	Old-age benefits	14,107	14,026	99.4	1,640,795	1,657,060	101.0	26,330	25,494	96.8
py110n	Survivor's benefits	7,392	8,120	109.8	60,927	54,858	90.0	478	465	97.3
py120n	Sickness benefits	1,500	1,493	99.5	115,712	125,305	108.3	303	347	114.5
py130n	Disability benefits	12,600	12,600	100.0	194,936	199,876	102.5	2,478	2,508	101.2
py140n	Education-related allowances	1,575	1,800	114.3	111,485	104,969	94.2	314	323	103.1
py200g	Gross monthly earnings for employees	1,700	1,700	100.0	3,290,013	3,252,714	98.9	6,272	6,242	99.5

Source: EU-SILC 2006 and EU-SILC 2005

Table 23: Comparison of the median of income target variables: EU-SILC 2005 and EU-SILC 2006 (households/persons participated in both waves)

		Median		
		EU-SILC 2005	EU-SILC 2006	Veränderung %
hy010	Total household gross income	35,648	35,756	100.3
hy020	Total disposable household income	27,368	27,804	101.6
	Net income components at household level			
hy040n	Income from rental of a property or land	3,600	4,200	116.7
hy050n	Family/child related allowances	4,098	4,080	99.6
hy060n	Social exclusion not elsewhere classified	2,000	1,200	60.0
hy070n	Housing allowances	1,464	1,236	84.4
hy080n	Regular inter-household cash transfer received	3,480	3,480	100.0
hy090n	Interest, profits from capital investments	99	80	81.1
hy110n	Income received by people aged under 16	1,750	1,408	80.5
hy130n	Regular inter-household cash transfer paid	3,000	3,000	100.0
hy145n	Repayments/receipts for tax adjustment	-250	-270	108.0
	Net income components at personal level			
py010n	Employee cash or near cash income	16,350	16,800	102.8
py035n	Contributions to individual private pension plans	792	840	106.1
py050n	Cash benefits or losses from self-employment	10,944	10,035	91.7
py080n	Pension from individual private plans	2,400	1,800	75.0
py090n	Unemployment benefits	3,110	3,280	105.5
py100n	Old-age benefits	14,107	14,069	99.7
py110n	Survivor's benefits	8,400	7,700	91.7
py120n	Sickness benefits	1,500	1,560	104.0
py130n	Disability benefits	12,600	12,600	100.0
py140n	Education-related allowances	1,683	1,400	83.2
py200g	Gross monthly earnings for employees	1,750	1,750	100.0

Source: EU-SILC 2006 and EU-SILC 2005

(b) Wage Tax Statistics 2005

Overall, the estimates of the employees' income in EU-SILC 2006 fit to the numbers of the wage tax statistics. EU-SILC 2006 gives about 3,590 million employees, thus about 54.000 employees less than the wage tax statistics. Compared to the last year the difference between the total number of employees has slightly decreased.

However, EU-SILC still underestimates the number of employees compared to the WTS. This may be due to coverage differences between EU-SILC and the WTS as well as an underestimation of very short employment periods. These short employment spells may not be suitably reminded by the respondents or are not reported in proxy interviews.

The comparison of the income distribution shows that EU-SILC fits well to the distribution of incomes in the WTS particularly around the median. This means differences between EU-SILC and WTS are somewhat greater on the edges of the distribution. EU-SILC, then, overestimates significantly small incomes and, to a lesser extent, underestimates higher incomes. This is possibly also biased by lack of memory or incorrect proxy information in EU-SILC, but possibly also biased by artificial over-reporting in the tax registers (fake of wrong registrations).

Table 24: Comparison of gross annual incomes of employees 2005 – wage tax statistics 2005 and EU-SILC 2006

	WTS			EU-SILC 2006		
	Total	Male	Female	Total	Male	Female
10% …	2,567	3,778	1,921	4,800	7,634	3,758
20% …	7,620	12,050	5,086	10,200	15,167	7,118
25% …	10,451	16,246	7,326	12,600	18,000	9,000
30% …	13,093	19,470	9,350	14,700	19,600	10,500
40% …	17,931	23,800	12,961	18,302	23,100	14,000
50% …	22,320	27,375	16,296	22,120	26,400	16,802
60% …	26,394	31,205	19,911	25,200	29,400	19,600
70% …	30,937	36,180	23,951	29,322	33,960	22,800
75% …	33,814	39,487	26,407	31,942	36,400	24,500
80% …	37,441	43,729	29,285	35,000	40,500	27,403
90% …	49,476	57,914	38,299	44,800	50,400	35,309
Mean	25,704	31,426	19,005	24,478	29,118	18,815
Persons	3,644,382	1,965,500	1,678,882	3,590,363	1,973,424	1,616,939

Source: EU-SILC 2006, Wage Tax Statistics 2005

If the assumption ist true, that shorter employment spells are not well represented in EU-SILC and are a cause for derivations of the income distribution in EU-SILC and the WTS, it can be consequently assumed that the comparison is getting better, when shorter employment spells are left out. The following table compares the only employments that lasted at least 11 months in the last year – both for the WTS and for EU-SILC. The deviation of the income distribution is getting considerable smaller, but the number of persons employed still does not match exactly.

Table 25: Comparison of gross annual incomes of employees 2005: wage tax statistics 2005 and EU-SILC 2006 (only persons employed at least for 11 months)

	WTS			EU-SILC 2006		
	Total	Male	Female	Total	Male	Female
10% …	9,351	15,997	6,219	10,021	15,600	7,000
20% …	14,749	21,260	10,585	15,358	20,400	10,970
25% …	16,866	22,964	12,209	17,227	22,000	12,740
30% …	18,909	24,539	13,709	18,570	23,100	14,070
40% …	22,498	27,492	16,502	21,700	26,371	16,872
50% …	25,883	30,623	19,500	24,333	28,710	19,320
60% …	29,458	34,448	22,708	28,000	32,333	21,944
70% …	33,982	39,611	26,601	32,200	36,400	24,520
75% …	36,932	43,056	28,963	34,800	39,372	26,880
80% …	40,700	47,464	31,816	37,179	42,679	29,400
90% …	52,919	62,160	40,978	47,100	53,998	37,048
Mean	30,180	36,795	22,382	27,766	32,826	21,388
Persons	2,986,274	1,615,703	1,370,571	2,907,134	1,621,155	1,285,979

Source: EU-SILC 2006, Wage Tax Statistics 2005

(c) National accounts 2005

As in the recent years, the difference between the estimates of the national accounts and EU-SILC are considerable. The difference gets smaller, when property incomes are not taken into account. This gives a hint on the difficulties of collecting and estimating property incomes in EU-SILC and the national accounts likewise.

Table 26: Comparison of national accounts 2005 and EU-SILC 2006 (in million Euro)

	Gross incomes of private households		Disposable income
	Total	Without property income	
Basic Value from national accounts	195,693	174,505	151,055
Deduction for non-profit organisations 1)			4,616
Deduction for persons not living in private households 2)	2,211	1,908	1,706
Deduction for value of goods self-consumption 3)	2,544	2,269	1,964
Deduction for imputed rents 4)	6,113	6,113	6,113
Estimate from national accounts	184,825	164,215	136,656
Estimate from EU-SILC 2006	146,357	144,297	110,635
Difference between NA and EU-SILC 2006	20.81	12.13	19.04

Source: EU-SILC 2006 and national accounts 2005

1) estimated value, as for disposable income only one estimate is produced for NPOs and private households

2) estimated on the basis of the population prognosis; 1.13% in 2005

3) estimate for 1.3% of the total consumption expenditures, HBS 2004/05

4) NA 2005