Intermediate Quality Report
Relating to the
EU-SILC 2007 Operation

Austria

Vienna, December 10th 2008

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Preface

This document presents the Intermediate Quality Report of EU-SILC 2007 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 2007. 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 2007 data with external sources.

In addition to chapters and sections presented in the preceding Intermediate Quality Reports for EU-SILC operations 2004, 2005 and 2006 this report also presents separate chapters on the introduction of CATI interviews in the fieldwork of EU-SILC 2007 and on the calculation of imputed rents and interest repayments on mortgages.

1. Common cross-sectional indicators

Table 1: Common cross-sectional indicators EU-SILC 2007

	Indicator	Value	Achieved sample size	Total item non response
1	At-risk-of-poverty rate after social transfers - total	12.0	16684	0
2	At-risk-of-poverty rate after social transfers - men total	10.6	8037	0
3	At-risk-of-poverty rate after social transfers - women total	13.4	8647	0
4	At-risk-of-poverty rate after social transfers - 0-17 years	14.8	3721	0
5	At-risk-of-poverty rate after social transfers - 18-24 years	12.3	1384	0
6	At-risk-of-poverty rate after social transfers - 25-49 years	10.1	5836	0
7	At-risk-of-poverty rate after social transfers - 50-64 years	10.7	3082	0
8	At-risk-of-poverty rate after social transfers - 65+ years	14.4	2661	0
9	At-risk-of-poverty rate after social transfers - 18+ years	11.4	12963	0
10	At-risk-of-poverty rate after social transfers - 18-64 years	10.6	10302	0
11	At-risk-of-poverty rate after social transfers - 0-64 years	11.6	14023	0
12	At-risk-of-poverty rate after social transfers - men 18-24 years	9.3	682	0
13	At-risk-of-poverty rate after social transfers - men 25-49 years	9.0	2807	0
14	At-risk-of-poverty rate after social transfers - men 50-64 years	10.2	1452	0
15	At-risk-of-poverty rate after social transfers - men 65+ years	9.6	1161	0
16	At-risk-of-poverty rate after social transfers - men 18+ years	9.4	6102	0
17	At-risk-of-poverty rate after social transfers - men 18-64 years	9.4	4941	0
18	At-risk-of-poverty rate after social transfers - men 0-64 years	10.7	6876	0
19	At-risk-of-poverty rate after social transfers - women 18-24 years	15.4	702	0
20	At-risk-of-poverty rate after social transfers - women 25-49 years	11.2	3029	0
21	At-risk-of-poverty rate after social transfers - women 50-64 years	11.3	1630	0
22	At-risk-of-poverty rate after social transfers - women 65+ years	17.9	1500	0
23	At-risk-of-poverty rate after social transfers - women 18+ years	13.2	6861	0
24	At-risk-of-poverty rate after social transfers - women 18-64 years	11.8	5361	0
25	At-risk-of-poverty rate after social transfers - women 0-64 years	12.4	7147	0
26	At-risk-of-poverty rate after social transfers - employed	6.0	6906	0
27	At-risk-of-poverty rate after social transfers - unemployed	42.4	345	0
28	At-risk-of-poverty rate after social transfers - retired	12.3	3581	0
29	At-risk-of-poverty rate after social transfers - other inactive	20.5	2000	0
30	At-risk-of-poverty rate after social transfers - men, employed	6.3	3848	0
31	At-risk-of-poverty rate after social transfers - men, unemployed	42.6	182	0
32	At-risk-of-poverty rate after social transfers - men, retired	9.8	1677	0
33	At-risk-of-poverty rate after social transfers - men, other inactive	14.6	338	0
34	At-risk-of-poverty rate after social transfers - women, employed	5.6	3058	0
35	At-risk-of-poverty rate after social transfers - women, unemployed	42.2	163	0
36	At-risk-of-poverty rate after social transfers - women, retired	14.3	1904	0
37	At-risk-of-poverty rate after social transfers - women, other inactive	21.9	1662	0
38	At-risk-of-poverty rate after social transfers - single, < 65 years	18.1	1212	0
39	At-risk-of-poverty rate after social transfers - single, 65+ years	24.4	802	0
40	At-risk-of-poverty rate after social transfers - single, male	14.3	754	0
41	At-risk-of-poverty rate after social transfers - single, female	24.9	1260	0
42	At-risk-of-poverty rate after social transfers - single, total	20.4	2014	0
43	At-risk-of-poverty rate after social transfers - 2 adults, no children, both < 65	10.2	2004	0
44	At-risk-of-poverty rate after social transfers - 2 adults, no children, at least one 65+	9.5	1730	0
45	At-risk-of-poverty rate after social transfers - other households without children	4.4	1891	0
46	At-risk-of-poverty rate after social transfers - single parent, at least one child	31.1	883	0
47	At-risk-of-poverty rate after social transfers - 2 adults, 1 child	8.9	1863	0
48	At-risk-of-poverty rate after social transfers - 2 adults, 2 children	10.8	2832	0
49	At-risk-of-poverty rate after social transfers - 2 adults, 3+ children	18.7	1579	0
50	At-risk-of-poverty rate after social transfers - other households with children	6.8	1891	0
51	At-risk-of-poverty rate after social transfers - households without children	11.6	7636	0

	Indicator	Value	Achieved sample size	Total item non response
52	At-risk-of-poverty rate after social transfers - households with children	12.5	9048	0
53	At-risk-of-poverty rate after social transfers - owner or rent-free	8.9	11418	0
54	At-risk-of-poverty rate after social transfers - tenant	17.9	5266	0
55	At-risk-of-poverty rate after social transfers - households without children, w = 0[1]	23.4	1322	1907*
56	At-risk-of-poverty rate after social transfers - households without children, 0 < w < 1	6.9	2078	1907*
57	At-risk-of-poverty rate after social transfers - households without children, w = 1	4.5	2345	1907*
58	At-risk-of-poverty rate after social transfers - households with children, w = 0	55.6	347	1907*
59	At-risk-of-poverty rate after social transfers - households with children, 0 < w < 0.5	29.1	511	1907*
60	At-risk-of-poverty rate after social transfers - households with children, 0.5 < w < 1	12.0	3969	1907*
61	At-risk-of-poverty rate after social transfers - households with children, w = 1	5.7	4205	1907*
62	Median of the equivalised disposable household income	18242.15	16684	0
63	At-risk-of-poverty threshold - single	10945.29	16684	0
64	At-risk-of-poverty threshold - 2 adults, 2 children	22985.11	16684	0
65	Inequality of income distribution S80/S20 income quintile share ratio	3.8	16684	0
66	Relative median at-risk-of-poverty gap - total	17.3	1908	0
67	Relative median at-risk-of-poverty gap - men total	19.1	811	0
68	Relative median at-risk-of-poverty gap - women total	16.1	1097	0
69	Relative median at-risk-of-poverty gap - 0-17 years	19.1	522	0
70	Relative median at-risk-of-poverty gap - 18-64 years	21.4	998	0
71	Relative median at-risk-of-poverty gap - 65+ years	12.1	388	0
72	Relative median at-risk-of-poverty gap - 18+ years	16.4	1386	0
73	Relative median at-risk-of-poverty gap - men, 18-64 years	22.6	417	0
74	Relative median at-risk-of-poverty gap - men, 65+ years	12.1	114	0
75	Relative median at-risk-of-poverty gap - men, 18+ years	19.6	531	0
76	Relative median at-risk-of-poverty gap - women, 18-64 years	20.1	581	0
77	Relative median at-risk-of-poverty gap - women, 65+ years	12.4	274	0
78	Relative median at-risk-of-poverty gap - women, 18+ years	15.2	855	0
79	Median income below the at-risk-of-poverty threshold - total	9050.95	1908	0
80	Median income below the at-risk-of-poverty threshold - men total	8859.52	811	0
81	Median income below the at-risk-of-poverty threshold - women total	9184.00	1097	0
82	Median income below the at-risk-of-poverty threshold - 0-17 years	8859.52	522	0
83	Median income below the at-risk-of-poverty threshold - 18-64 years	8598.44	998	0
84	Median income below the at-risk-of-poverty threshold - 65+ years	9615.33	388	0
85	Median income below the at-risk-of-poverty threshold - 18+ years	9151.24	1386	0
86	Median income below the at-risk-of-poverty threshold - men, 18-64 years	8470.00	417	0
87	Median income below the at-risk-of-poverty threshold - men, 65+ years	9615.33	114	0
88	Median income below the at-risk-of-poverty threshold - men, 18+ years	8800.00	531	0
89	Median income below the at-risk-of-poverty threshold - women, 18-64 years	8750.00	581	0
90	Median income below the at-risk-of-poverty threshold - women, 65+ years	9590.00	274	0
91	Median income below the at-risk-of-poverty threshold - women, 18+ years	9276.13	855	0
92	Dispersion around the risk-of-poverty threshold - 40%	3.4	16684	0
93	Dispersion around the risk-of-poverty threshold - 50%	6.2	16684	0
94	Dispersion around the risk-of-poverty threshold - 70%	19.4	16684	0
	Before social transfers except old-age and survivors' benefits			
95	At-risk-of-poverty rate before social transfers - total	24.8	16684	0
96	At-risk-of-poverty rate before social transfers - men total	23.5	8037	0
97	At-risk-of-poverty rate before social transfers - women total	26.0	8647	0
98	At-risk-of-poverty rate before social transfers - 0-17 years	36.1	3721	0
99	At-risk-of-poverty rate before social transfers - 18-64 years	23.2	10302	0
100	At-risk-of-poverty rate before social transfers - 65+ years	17.4	2661	0
101	At-risk-of-poverty rate before social transfers - 18+ years	22.0	12963	0
102	At-risk-of-poverty rate before social transfers - men, 18-64 years	21.9	4941	0
103	At-risk-of-poverty rate before social transfers - men, 65+ years	12.4	1161	0
104	At-risk-of-poverty rate before social transfers - men, 18+ years	20.2	6102	0
105	At-risk-of-poverty rate before social transfers - women, 18-64 years	24.5	5361	0

	Indicator	Value	Achieved sample size	Total item non response
106	At-risk-of-poverty rate before social transfers - women, 65+ years	21.0	1500	0
107	At-risk-of-poverty rate before social transfers - women, 18+ years	23.7	6861	0
	Before social transfers including old-age and survivors' benefits			
108	At-risk-of-poverty rate before social transfers - total	43.5	16684	0
109	At-risk-of-poverty rate before social transfers - men total	40.1	8037	0
110	At-risk-of-poverty rate before social transfers - women total	46.7	8647	0
111	At-risk-of-poverty rate before social transfers - 0-17 years	39.0	3721	0
112	At-risk-of-poverty rate before social transfers - 18-64 years	33.1	10302	0
113	At-risk-of-poverty rate before social transfers - 65+ years	89.1	2661	0
114	At-risk-of-poverty rate before social transfers - 18+ years	44.5	12963	0
115	At-risk-of-poverty rate before social transfers - men, 18-64 years	30.2	4941	0
116	At-risk-of-poverty rate before social transfers - men, 65+ years	87.8	1161	0
117	At-risk-of-poverty rate before social transfers - men, 18+ years	40.4	6102	0
118	At-risk-of-poverty rate before social transfers - women, 18-64 years	35.9	5361	0
119	At-risk-of-poverty rate before social transfers - women, 65+ years	90.0	1500	0
120	At-risk-of-poverty rate before social transfers - women, 18+ years	48.4	6861	0
121	Gini coefficient	26.15	16684	0
122	Mean equivalised disposable income	20399.49	16684	0

*29 Student households, 1878 with total workable months=0

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. 2004 was the forth year of EU-SILC in Austria as a panel survey. Accordingly, the sample included for the first time a panel over four years. Each rotational group entered the survey in a different year: 2004, 2005, 2006 and 2007.

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 3) of the sample 3,380 addresses were selected with a simple random procedure.

Due date for the sample selection from the ZMR was the 31st of December 2006.

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 and 2006).

2.1.3. Stratification

In the first wave of 2007 the sample was stratified by geographical units ("Sprengel"). These units are used in the Austrian microcensus to distribute addresses among the pool of interviewers. Implicitly this procedure achieves both a regionally stratified sample and control of the number of addresses allocated to each interviewer.

It was planned to selected 3,380 addresses for the first wave rotational group. To distribute these addresses among the geographical units, the number of selected households was determined as 0.094‰ of all addresses (3,380 / 3,603,319).

The table below presents the strata with the number of identified dwellings and the according number of selected addresses. Initially, 3382 addresses were selected due to rounding. 2 addresses turned out to be invalid and had to be excluded before the fieldwork.

Table 2: Strata of the first wave sample EU-SILC 2007

Stratum Number	Stratum ID	Number of dwellings	Number of selected addresses	selection probability (x 1.000)
1	001-1	12,586	12	0.95
2	001-2	13,022	12	0.92
3	002-1	10,778	10	0.93
4	003-1	6,423	6	0.93
5	004-1	7,251	7	0.97
6	004-2	7,463	7	0.94
7	005-1	8,849	8	0.90
8	006-1	13,063	12	0.92
9	007-1	6,708	6	0.89
10	007-2	10,577	10	0.95
11	008-1	8,739	8	0.92
12	009-1	10,008	9	0.90
13	009-2	8,512	8	0.94
14	010-1	22,090	21	0.95
15	010-2	14,675	14	0.95
16	010-3	22,652	21	0.93
17	011-1	13,721	13	0.95

Stratum Number	Stratum ID	Number of dwellings	Number of selected addresses	selection probability (x 1.000)
18	011-2	17,835	17	0.95
19	011-3	16,029	15	0.94
20	011-4	11,271	11	0.98
21	012-1	7,328	7	0.96
22	013-1	7,028	7	1.00
23	014-1	11,259	11	0.98
24	015-1	14,132	13	0.92
25	016-1	10,636	10	0.94
26	016-2	14,112	13	0.92
27	017-1	17,231	16	0.93
28	018-1	8,175	8	0.98
29	019-1	14,080	13	0.92
30	020-1	17,762	17	0.96
31	021-1	17,109	16	0.94
32	021-2	18,481	17	0.92
33	022-1	13,006	12	0.92
34	022-2	19,365	18	0.93
35	022-3	16,079	15	0.93
36	023-1	19,118	18	0.94
37	024-1	25,030	24	0.96
38	024-2	25,598	24	0.94
39	025-1	29,793	28	0.94
40	026-1	26,958	25	0.93
41	026-2	27,790	26	0.94
42	027-1	19,295	18	0.93
43	028-1	43,387	41	0.94
44	029-1	14,295	13	0.91
45	030-1	39,426	37	0.94
46	031-1	20,873	20	0.96
47	032-1	26,747	25	0.93
48	033-1	16,886	16	0.95
49	034-1	24,639	23	0.93
50	035-1	28,690	27	0.94
51	036-1	20,655	19	0.92
52	036-2	13,483	13	0.96
53	036-3	18,295	17	0.93
54	037-1	38,104	36	0.94
55	038-1	17,039	16	0.94
56	039-1	42,535	40	0.94
57	040-1	8,575	8	0.93
58	041-1	24,868	23	0.92
59	042-1	15,485	15	0.97
60	043-1	34,052	32	0.94
61	043-2	49,403	46	0.93
62	043-3	37,915	36	0.95
63	043-4	22,687	21	0.93
64	043-5	25,449	24	0.94
65	044-1	42,484	40	0.94
66	045-1	32,981	31	0.94
67	045-2	28,514	27	0.95
68	046-1	19,319	18	0.93
69	046-2	20,537	19	0.93
70	047-1	19,234	18	0.94
71	048-1	19,012	18	0.95
72	049-1	27,523	26	0.94
73	050-1	29,205	27	0.92
74	051-1	18,715	18	0.96
75	052-1	26,915	25	0.93
76	053-1	19,626	18	0.92
77	054-1	19,420	18	0.93
78	054-2	14,360	13	0.91
79	055-1	22,436	21	0.94
80	056-1	13,353	13	0.97
81	057-1	21,286	20	0.94
82	057-2	20,539	19	0.93
83	058-1	7,792	7	0.90
84	058-2	10,911	10	0.92
85	058-3	11,596	11	0.95

Stratum Number	Stratum ID	Number of dwellings	Number of selected addresses	selection probability (x 1.000)
86	058-4	18,297	17	0.93
87	058-5	9,164	9	0.98
88	058-6	17,026	16	0.94
89	058-7	18,019	17	0.94
90	059-1	10,690	10	0.94
91	059-2	10,601	10	0.94
92	060-1	15,477	15	0.97
93	061-1	7,684	7	0.91
94	062-1	13,666	13	0.95
95	063-1	10,972	10	0.91
96	063-2	11,051	10	0.90
97	063-3	8,849	8	0.90
98	064-1	8,959	8	0.89
99	065-1	7,943	7	0.88
100	066-1	12,687	12	0.95
101	067-1	13,962	13	0.93
102	068-1	33,803	32	0.95
103	068-2	19,201	18	0.94
104	068-3	27,837	26	0.93
105	068-4	24,566	23	0.94
106	068-5	31,396	30	0.96
107	068-6	36,249	34	0.94
108	069-1	33,262	31	0.93
109	070-1	23,584	22	0.93
110	071-1	29,893	28	0.94
111	072-1	9,073	9	0.99
112	073-1	23,644	22	0.93
113	074-1	32,409	30	0.93
114	075-1	34,292	32	0.93
115	076-1	25,807	24	0.93
116	077-1	18,914	18	0.95
117	078-1	14,512	14	0.96
118	079-1	15,722	15	0.95
119	080-1	8,429	8	0.95
120	081-1	25,073	24	0.96
121	082-1	28,085	26	0.93
122	083-1	21,884	21	0.96
123	083-2	21,658	20	0.92
124	083-3	20,836	20	0.96
125	083-4	20,100	19	0.95
126	084-1	16,089	15	0.93
127	085-1	14,853	14	0.94
128	086-1	16,980	16	0.94
129	087-1	17,983	17	0.95
130	088-1	20,103	19	0.95
131	089-1	18,575	17	0.92
132	090-1	14,453	14	0.97
133	091-1	18,933	18	0.95
134	092-1	11,917	11	0.92
135	093-1	15,937	15	0.94
136	093-2	22,301	21	0.94
137	094-1	4,338	4	0.92
138	094-2	6,635	6	0.90
139	094-3	6,890	6	0.87
140	094-4	6,559	6	0.91
141	095-1	9,546	9	0.94
142	095-2	7,205	7	0.97
143	095-3	8,381	8	0.95
144	096-1	11,165	10	0.90
145	097-1	5,381	5	0.93
146	098-1	9,350	9	0.96
147	098-2	9,344	9	0.96
148	099-1	7,471	7	0.94
149	099-2	7,293	7	0.96
150	100-1	12,735	12	0.94
151	101-1	11,668	11	0.94
152	101-2	6,062	6	0.99
153	102-1	10,860	10	0.92

Stratum Number	Stratum ID	Number of dwellings	Number of selected addresses	selection probability (x 1.000)
154	103-1	22,662	21	0.93
155	103-2	70,348	66	0.94
156	104-1	41,798	39	0.93
157	105-1	44,246	42	0.95
158	106-1	38,116	36	0.94
159	107-1	63,455	60	0.95
160	107-2	37,875	36	0.95
161	107-3	27,959	26	0.93
162	108-1	43,248	41	0.95
163	109-1	28,334	27	0.95
164	110-1	15,816	15	0.95
165	110-2	30,071	28	0.93
166	111-1	52,993	50	0.94
167	111-2	35,532	33	0.93
168	112-1	29,311	28	0.96
169	113-1	27,126	25	0.92
170	113-2	13,012	12	0.92
171	113-3	50,673	48	0.95
172	114-1	36,777	35	0.95
173	114-2	32,407	30	0.93
174	**115-1**	31,812	30	0.94
175	115-2	32,417	30	0.93
176	116-1	16,268	15	0.92
177	116-2	25,917	24	0.93
		3,603,319	3,382	

2.1.4. Sample size and allocation criteria

The necessary sample size for Austria was determined in view of framework regulation (1177/2003) to guarantee an effective sample size with regard to the at-risk-of-poverty indicator of 4,500 Households. The longitudinal sample for two successive waves should at least comprise 3,250 households.

A new sample of 3.380 addresses was started. Together with the follow up addresses a total of 8.791 addresses were to be contacted in the EU-SILC operation 2007. The number of addresses exceeds the nominal minimum sample size to compensate for an expected increase of the design effect resulting from non-response and weighting.

For EU-SILC 2007 the fieldwork was shared by Statistics Austria and a subcontractor. The fieldwork institute SPECTRA already conducted the fieldwork in 2005 and 2006. The decision to divide the fieldwork was influenced by two decisions: (1) to incrementally take the responsibility for the fieldwork in-house, i.e. within the Statistics Austria (2) to interview a small sample of follow-up interviews with CATI (CATI test).

In order to take the fieldwork incrementally in-house, it was decided that the fieldwork division of Statistics Austria should conduct the first wave interviews of EU-SILC 2007. Additionally, this division should carry out the CATI test in order to prepare for the take over of the responsibility for the whole fieldwork in the following year (2008). SPECTRA was responsible for the remaining part of the follow-up interviews.

The fieldwork division of Statistics Austria was responsible for the 3,380 first wave households, the 750 households of the CATI test (plus 30 split households); the other fieldwork institute was responsible for the remaining 4,661 interviews. The following table provides an overview on the sample by fieldwork institute.

Table 3: Sample EU-SILC – rotational groups by fieldwork institute (without split households)

Rotational group	R1		R2		R3		R4		Total	
First wave	2005		2006		2007		2004			
	N	%	N	%	N	%	N	%	N	%
SPECTRA	1,438	80.3	1,677	80.8			1,546	100.0	4,661	53.0
STATISTICS AUSTRIA	352	19.7	398	19.2	3,380	100.0			4,130	47.0
Total	**1,790**	**100.0**	**2,075**	**100.0**	**3,380**	**100.0**	**1,546**	**100.0**	**8,791**	**100.0**

Source: EU-SILC 2007

Table 4: Sample EU-SILC – rotational groups by fieldwork institute (with split households)

Rotational group	R1		R2		R3		R4		Total	
First wave	2005		2006		2007		2004			
	N	%	N	%	N	%	N	%	N	%
SPECTRA	1,479	80.2	1,710	80.5			1,573	100.0	4,762	53.4
STATISTICS AUSTRIA	365	19.8	415	19.5	3,380	100.0			4,160	46.6
Total	**1,844**	**100.0**	**2,125**	**100.0**	**3,380**	**100.0**	**1,573**	**100.0**	**8,922**	**100.0**

Source: EU-SILC 2007

Including the 131 split-off households the total number of addresses in the sample amounted to 8,922, 118 of these addresses turned out to be non existent (not a proper dwelling unit, dwelling unit is not occupied etc). Accordingly, 8,804 addresses constituted the gross sample of EU-SILC 2007. From these, 8,710 addresses were successfully contacted. 6,862 of the 8,710 addresses provided a successful interview; the remaining 1,848 households refused to cooperate or were not available for an interview. From the bulk of completed household interviews, 56 interviews had to be rejected, so that the dataset of EU-SILC 2007 consists of 6,806 successful household interviews.

Table 5: Sample size EU-SILC 2007

	Total		First wave addresses		Follow-up addresses	
	N	%	N	%	N	%
Used Addresses	8,922	100.0	3,380	100.0	5,542	100.0
Addresses existent	8,804	98.7	3,274	96.9	5,530	99.8
Addresses not existent	118	1.3	106	3.2	12	0.2
					0	
Gross Sample	8,804	100.0	3,274	100.0	5,530	100.0
Adresses successfully contacted	8,710	98.9	3,263	99.7	5,447	98.5
Adresses not successfully contacted	94	1.1	11	0.3	83	1.5
					0	
Successfully contacted addresses	8,710	100.0	3,263	100.0	5,447	100.0
Household questionnaire completed	6,862	78.8	2,167	66.4	4,695	86.2
Entire household entirely away for the duration of fieldwork	286	3.3	145	4.4	141	2.6
Refusal to co-operate	1,324	15.2	876	26.8	448	8.2
Household unable to respond	28	0.3	26	0.8	2	0.0
Other reasons	210	2.4	49	1.5	161	3.0
Successful household questionnaire	6,862	100.0	2,167	100.0	4,695	100.0
Interview accepted for the database	6,806	99.2	2,124	98.0	4,682	99.7
Interview rejected	56	0.8	43	2.0	13	0.3

Source: EU-SILC 2007

16,684 persons were living within the 6,806 successfully interviewed households. 19.7% or 3,293 persons were younger than 16 years, 80.3% or 13,391 were 16 years or older. For all these 13,391 individuals, data is available: 10,682 interviews were gathered by a personal interview, 2,650 interviews by proxy interviews and 59 interviews were fully imputed.

2.1.5. Sample selection schemes

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

2.1.6. Sample distribution over time

With SPECTRA it was agreed as in the preceding years to deliver fieldwork reports every fortnight and provide the finished interviews in three tranches. Principally, a similar agreement was made with the

fieldwork division of Statistics Austria. However, since the fieldwork division faced serious problems with the processing of the interviews after completion, fieldwork reports and the delivery of data came infrequent.

The fieldwork of SPECTRA started on the 16th of March and ended on the 23rd of September. The fieldwork of the first wave interviews conducted by Statistics Austria started on the 13th of April, the interviews of the follow-up interviews of Statistics Austria started on the 18th of June. The fieldwork of Statistics Austria ended on the 10th of September. The following table provides an overview of the cumulative sample development during the fieldwork period.

Table 6: Sample development over time

	Total			Statistics Austria - follow-up			Statistics Austria - first wave			Spectra - Follow-up		
	Completed	Cum. %	%	Completed	Cum. %	%	Completed	Cum. %	%	Completed	Cum. %	%
March	389	5.7	5.7	0	0.0	0.0	0	0.0	0.0	389	9.4	9.4
April	1,096	21.8	16.1	0	0.0	0.0	161	7.6	7.6	935	32.1	22.7
May	1,277	40.6	18.8	0	0.0	0.0	486	30.5	22.9	791	51.3	19.2
June	1,412	61.3	20.7	112	20.0	20.0	729	64.8	34.3	571	65.2	13.9
July	1,566	84.3	23.0	308	74.9	54.9	603	93.2	28.4	655	81.1	15.9
August	842	96.7	12.4	125	97.1	22.3	136	99.6	6.4	581	95.2	14.1
September	224	100.0	3.3	16	100.0	2.9	9	100.0	0.4	199	100.0	4.8
Total	6,806		100.0	561		100.0	2,124		100.0	4,121		100.0

Source: EU-SILC 2007

2.1.7. Renewal of sample: rotational groups

2007 was the forth year of EU-SILC in Austria, thus each of the four rotational groups entered the sample at a different year and the oldest rotational groups was interviewed for the forth time. The following tables give an overview on the performance of each rotational group in EU-SILC 2007.

Table 7: Rotational groups (with split households)

Rotational groups	Total	R1	R2	R3	R4
First wave		2005	2006	2007	2004
Used addresses	8,922	1,844	2,125	3,380	1,573
Successfully contacted addresses	8,710	1,803	2,082	3,263	1,562
Accepted household interviews	6,806	1,519	1,731	2,124	1,432

Source: EU-SILC 2007

Rotational groups R1, R2 and R4 contained overall 131 split households. These split households provided 76 household interviews. The following table provide information on the performance of the rotational groups without split households.

Table 8: Rotational groups (without split households)

Rotational groups	Total	R1	R2	R3	R4
First wave		2005	2006	2007	2004
Used addresses	8,791	1,790	2,075	3,380	1,546
Successfully contacted addresses	8,600	1,760	2,042	3,263	1,535
Accepted household interviews	6,730	1,491	1,703	2,124	1,412

Source: EU-SILC 2007

2.1.8. Weightings

This chapter describes the procedure to obtain the cross-sectional weights of the Austrian sample of EU-SILC 2007. The calculations comply in general with the EUROSTAT recommendations on the calculation of weights. Main document of reference was the current version of EU-SILC Doc. 65[1].

2007 was the fourth 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 had to be weighted separately first and special treatment in a final step was required to reach a combined cross sectional weight.

[1] EU-SILC 065/05.1

The cross sectional sample consisted of all four subsamples: one cross-sectional sample in 2007 and three longitudinal samples which were traced from the samples introduced in 2004, 2005 and 2006. The main objective of the weighting procedure was to make sure that the combined sample was 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 was calculated with reference to the design of the sample to take into account the inclusion probability of the selection unit. The idea was that if the inclusion probability of an element is low, it should be assigned a higher weight. The design weight then was calculated as the inverse of the inclusion probability of the selection unit.

As in previous years, sampling elements were households. To obtain selection probabilities, the number of selected households per stratum (cf. chapter 2.1.3.) was divided by the number eligible households. The inverse of this probability finally provided the design weight. Initially, a universal sampling fraction was used and differences in inclusion probabilities result only from rounding the number of selected addresses to integers. The resulting variation of design weights between the 177 strata is modest.

2.1.8.2. Non-response adjustment for sample selected in 2007 (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 could then be re-weighted by the inverse of this probability. The estimation strategy applied for the first wave households by Statistics Austria was similar to the strategy for the first wave households in 2006. However, in 2007 a new predictor variable for non-response was added, the type of building to which the address of a household belongs.

Nonetheless the information which was available appeared to have at least some (modest) predictive power to explain unit-non-response among the 3.274 households in the gross sample (non existing addresses excluded).

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. Those specifications which provided the estimate for the response probability for each household are presented in the subsequent table[2].

[2] Note that the categories of the variables were recoded as dichotomous dummy variables. For every group of dummy variables, originating from the same categorical variable, this recoding produces a redundant category which is a linear combination of the other dummy variables. Such dummies were automatically omitted in the logistic regression model.

Table 9: Variables for the non-response adjustment procedure (first wave 2007)

Parameter	Coefficient	Std. Error	Chi^2 Wald	df	Sig.	Exp(B)
NUTSII(1)	0.174	0.26	0.46	1	0.50	1.190
NUTSII(2)	0.003	0.19	0.00	1	0.99	1.003
NUTSII(3)	-0.039	0.15	0.06	1	0.80	0.962
NUTSII(4)	0.101	0.15	0.46	1	0.50	1.106
NUTSII(5)	0.522	0.19	7.23	1	0.01	1.685
NUTSII(6)	-0.051	0.15	0.11	1	0.74	0.951
NUTSII(7)	0.243	0.18	1.77	1	0.18	1.275
NUTSII(8)	0.305	0.22	1.92	1	0.17	1.356
NUTSII(9)	redundant					
db100_1	-0.459	0.13	13.39	1	0.00	0.632
db100_2	-0.244	0.10	5.66	1	0.02	0.783
db100_3	redundant					
Number of foreigners(0)	0.177	0.12	2.16	1	0.14	1.193
Number of foreigners(1)	redundant					
Type of building(1)	-0.194	0.12	2.56	1	0.11	0.823
Type of building(2)	-0.010	0.14	0.01	1	0.94	0.990
Type of building(3)	-0.305	0.12	6.26	1	0.01	0.737
Type of building(4)	redundant					
Number of children(0)	-0.359	0.17	4.69	1	0.03	0.699
Number of children(1)	0.024	0.17	0.02	1	0.88	1.025
Number of children(2)	redundant					
Number of females(0)	-0.115	0.18	0.41	1	0.52	0.891
Number of females(1)	-0.004	0.14	0.00	1	0.98	0.996
Number of females(2)	redundant					
Number of males(0)	0.001	0.16	0.00	1	1.00	1.001
Number of males(1)	0.092	0.14	0.44	1	0.51	1.096
Number of males(2)	redundant					
Minimum Age(1)	0.158	0.23	0.49	1	0.49	1.171
Minimum Age(2)	0.064	0.23	0.08	1	0.78	1.066
Minimum Age(3)	0.126	0.18	0.48	1	0.49	1.134
Minimum Age(4)	0.116	0.19	0.38	1	0.54	1.123
Minimum Age(5)	redundant					
Maximum Age(1)	-0.110	0.30	0.13	1	0.72	0.896
Maximum Age(2)	-0.166	0.22	0.59	1	0.44	0.847
Maximum Age(3)	-0.240	0.16	2.19	1	0.14	0.786
Maximum Age(4)	-0.088	0.16	0.32	1	0.57	0.916
Maximum Age(5)	redundant					
Constant	1.044	0.35	9.05	1	0.00	2.840

Source: EU-SILC 2007

The final model was obtained using a stepwise optimisation algorithm to exclude insignificant explanatory variables and identify significant interaction terms. For example, the age of the oldest person in the household (according to the administrative records) did not appear to be a sufficiently reliable predictor for non-response. The final model consisted of the five predictors (and the constant) highlighted in the table above (total final model chi^2 = 57.194, df=5; final model maxed-rescaled R^2 = 0.0238).

Non-response adjustment between 2005 and 2006, between 2004 and 2006 and between 2004 and 2007

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 could not successfully be traced, even if their former households remained in the sample. Those individuals who left the target population due to natural mortality or migration were 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 was 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 distributed 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 was 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 could be reasonably sophisticated. Again the rationale is to distribute previous year's base weights for 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 the household 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 were 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 it becomes a cumbersome and time consuming task to choose between competing alternatives, involving decisions each time. Further, the optimization algorithm model would automatically select variables with many categories which combine the predictive power of several dummies. 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 do not necessarily have clear-cut reference categories. While these kinds of models are certainly not ideal to improve the understanding of the substantial process leading to non-response, it could 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 involved hardly substantial intervention by the researcher and could be fully automatised.

In principle, the procedure to obtain longitudinal non-response weights was identical for the two year panel started in 2006, the three year panel launched in 2005 and the four year panel launched in 2004, only that it would 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 the two year panel, the three year panel and the four year panel became slightly more complex. The tracing rules imply that respondents who were missed in one year remained eligible in one subsequent wave. In the case of the 2005 first wave sample this referred to individuals who did not respond in 2006 but re-entered the sample in 2007. For the four year panel another problem arised. Since respondents who refused to answer the questionnaire for two consecutive waves were not followed up, two scenarios of re-entries were possible. That is an absence in 2005 or 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 was 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 had 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 400 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) and between the first and fourth wave (i.e. 2004 and 2007). Thus, the information on the intermediate year 2005 and the intermediate years 2005 & 2006 respectively were omitted for estimating response probabilities.

The model for response probabilities between 2006 and 2007 produced coefficients which differed significantly[3] from zero (total chi^2 = 448.00; df = 49). The models for the non-response rates 2005-2007 (total chi^2 = 446.92; df = 46) and 2004-2007(total chi^2 = 439.41; df = 46) yield similar results.

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.

[3] $\alpha = 5\%$

Table 10: Significant variables for predicting non-response 2006 → 2007, rotational group 2:

	2006 -> 2007			
	non-response rate	eligible persons	Regression Coefficient	Significance
TOTAL	16.9	4,891		
Carinthia	24.2	335	0.31	0.00
Lower Austria	17.1	960	0.14	0.02
Vorarlberg	2.4	210	-0.86	0.00
Income decile 1	13.7	540	-0.21	0.01
Income decile 3	12.7	504	-0.20	0.01
Income decile 4	14.5	447	-0.14	0.08
Income decile 7	10.8	409	-0.36	<.0001
Income decile 9	24.0	421	0.14	0.05
Household size: 4+	15.7	2,042	0.21	0.00
region: population > 10.000	18.3	800	-0.24	0.00
region: population <= 10.000	13.3	2,636	-0.43	<.0001
HH former Yoguslavia citizenship	14.0	329	-0.32	0.00
HH Turkey citizenship	14.3	112	-0.31	0.05
HH type: Single parent, no pension	17.0	218	-0.32	0.00
HH type: More than 1 adult, 2 children, no pension	13.9	945	-0.29	0.00
HH type: More than 1 adult, 3+ children, no pension	8.8	520	-0.57	<.0001
Main income: Pensions / Private Income	12.1	1,025	-0.22	0.01
Type of building: other	40.9	44	0.79	<.0001
Since 3 years in the household	13.3	249	-0.23	0.03
Since 4 years in the household	9.8	214	-0.51	<.0001
Number of rooms: 4+	16.2	2,746	0.15	0.01
Crime, violence or vandalism in the neighbourhood: No	17.0	4,327	0.23	0.00
Houseowner	13.8	2,268	-0.22	<.0001
Lodger	3.8	79	-1.21	0.00
Landline telephone: Yes	15.2	3,472	0.25	0.05
Landline telephone: Not wanted	22.7	1,209	0.43	0.00
Mobile phone: Not affordable	28.3	53	0.61	0.00
PC / Laptop: Not wanted	17.4	1,290	0.31	<.0001
Internet access: Yes	16.6	2,573	0.13	0.05
Internet access: Not affordable	22.2	468	0.41	<.0001
Washing machine: Yes	17.1	4,745	0.35	0.02
Dishwasher: Not affordable	25.1	191	0.41	0.00
Private car: Not wanted	12.9	533	-0.19	0.02
Inviting guests for a meal affordable: Yes	16.5	4,393	-0.17	0.02
Spending of 800€ affordable (equity capital)	17.4	3,468	0.14	0.01
Living with net-household income: very easy	12.5	257	-0.19	0.07
Age group: 10-19	18.4	629	0.22	0.00
Age group: 20-29	25.9	580	0.33	<.0001
Age group: 40-49	21.7	803	0.19	0.00
Age group: 70 and older	13.9	541	0.23	0.01
Main activity status: Retired	12.0	1,093	-0.21	0.01
Education: University	13.5	414	-0.20	0.02
State of health: good	18.1	1,664	0.16	0.00
State of health: mediocre	15.3	946	0.12	0.06
Not satisified with main activity	20.9	301	0.23	0.01
Not satisfied with income	14.3	678	-0.22	0.00
Duration of household interview < 10	19.0	2,672	0.12	0.01
Number of contact attempts: 1	9.9	700	-0.22	0.00
Number of contact attempts: 7	31.1	350	0.28	<.0001

Source: EU-SILC 2007, Note: positive signs of regression coefficients indicate increased non-response propability

Table 11: Significant variables for predicting non-response 2005 → 2007, rotational group 1:

	2005 -> 2007			
	non-response rate	eligible persons	Regression Coefficient	Significance
	24.7	4,669		
Carinthia	19.5	339	-0.18	0.02
Upper Austria	20.8	814	-0.18	0.00
Salzburg	15.9	333	-0.36	<.0001
Vorarlberg	17.1	210	-0.40	0.00
Thinly populated area	19.0	1,825	-0.13	0.00
Income decile 2	28.7	467	0.16	0.01
Income decile 3	16.9	414	-0.19	0.01
Deprived	28.7	889	0.18	0.00
Household size: 2	29.5	1,216	0.19	0.00
Naturalized mirgrant HH	47.9	192	0.33	0.00
HH former Yoguslavia citizenship	36.9	198	0.17	0.05
HH with Turkey citizenship	7.0	57	-0.94	0.00
HH type: More than 1 adult, no children, no pension	31.0	1,147	0.16	0.00
HH type: More than 1 adult, 2 children, no pension	26.9	877	0.18	0.00
Main income: Employment	27.1	3,034	0.14	0.00
Type of building: Apartment building: 10+ apartments	35.2	1,280	0.13	0.01
Type of building: Other	10.7	56	-0.50	0.03
Since 1 year in houshold	21.2	179	-0.19	0.06
Number of rooms: 2	34.3	636	0.15	0.00
Dwelling with dampness, rottenness or leakage	22.0	413	-0.14	0.04
Noise caused by neighbours or streets	24.6	932	-0.14	0.01
Water-/ airpollution, grime caused by industry or traffic	20.9	421	-0.21	0.01
Crime, violence or vandalism in the neighbourhood	33.6	633	0.11	0.05
Rent: Non-profit housing association*	25.1	582	-0.11	0.07
Rent: Other	37.9	752	0.16	0.00
No rent, but not owner of apartment / house	12.8	258	-0.25	0.01
Landline telephone: Yes	21.8	3,558	-0.20	<.0001
DVD-Player: Not wanted	21.6	1,502	-0.11	0.01
Main dish affordable every 2nd day	24.3	3,198	-0.18	0.01
Spending of 800€ affordable (equity capital)	25.3	2,660	0.15	0.00
Living with net-household income: difficult	15.4	234	-0.35	0.00
Living with net-household income: rather easy	26.7	1,687	0.08	0.06
Age-group: 20-29	33.1	608	0.12	0.03
Main activity status: No employment for other reasons	41.0	78	0.32	0.01
Employment class: Employee, not in executive position	29.5	842	0.12	0.01
Employment class: Self-employed	26.8	392	0.19	0.01
State of health: Good	20.6	1,614	-0.09	0.03
State of health: Mediocre	27.4	789	0.19	0.00
Chronic Illness	21.2	852	-0.11	0.05
Not satisfied with income	24.9	551	0.12	0.05
Married	23.3	2,859	-0.15	0.00
Person currently living in hh	24.5	4,544	-0.20	0.07
Duration of household interview < 10 min	26.8	1,608	-0.11	0.01
Duration of personal interview: 10-20 min	18.1	315	-0.27	0.00
Number of contact attempts: 1	20.1	1,652	-0.16	<.0001
Number of contact attempts: 4	34.3	338	0.20	0.00

Source: EU-SILC 2007, Note: positive signs of regression coefficients indicate increased non-response propability

*In Austria this kind of rental housing is not confined to low to moderate incomes

Table 12: Significant variables for predicting non-response 2004 → 2007, rotational group 4:

	2004 -> 2007			
	non-response rate	eligible persons	Regression Coefficient	Significance
	23.9	4,447		
Vorarlberg	12.8	195	-0.30	0.01
Vienna	37.0	802	0.28	<.0001
thinly populated area	19.2	1,844	-0.15	0.00
Income decile 4	16.5	424	-0.26	0.00
Income decile 7	31.9	401	0.27	<.0001
Income decile 9	17.3	450	-0.25	0.00
Income decile 10	29.2	439	0.16	0.01
Deprived	30.7	863	0.13	0.02
Manifest poverty	36.0	239	0.17	0.06
Household size: 3	22.5	976	-0.12	0.01
Naturalized mirgrant HH	35.9	206	0.22	0.01
HH type: More than 1 adult, no children, with pension	16.9	503	0.18	0.08
HH type: Singel male, no pension	28.1	192	-0.24	0.02
HH type: More than 1 adult, no children, no pension	31.8	1,059	0.15	0.00
HH type: More than 1 adult, 3+ children, no pension	16.0	482	-0.16	0.03
Main income: Pensions / Private Income	18.7	836	-0.33	0.00
Type of building: One-family house	21.1	1,888	0.09	0.04
Type of building: Other	45.1	71	0.63	<.0001
Since 3 years in household	37.2	215	0.18	0.04
Since 6 or more years in household	21.2	3,369	-0.19	0.00
Number of rooms: 1	34.1	129	-0.25	0.03
Environmental problems	31.8	415	0.15	0.03
Landline telephone: Yes	21.6	3,490	-0.11	0.04
Landline telephone: Not affrodable	42.2	211	0.23	0.01
Mobile phone: Yes	23.4	3,924	-0.22	0.00
Colour television set: Yes	23.7	4,330	-0.22	0.05
PC / Laptop: Yes	22.7	2,978	0.29	0.00
PC / Laptop: Not wanted	25.8	1,193	0.41	<.0001
DVD-Player: Not wanted	25.9	1,992	-0.19	<.0001
Washing machine: Yes	23.6	4,350	-0.23	0.05
Private car: Not wanted	34.1	346	0.18	0.02
Age-group: 20-29	36.7	537	0.15	0.01
Age-group: 30-39	26.0	722	0.13	0.01
Main activity status: Student / Trainee	28.3	244	-0.17	0.05
Employment class: Employee, not in executive position	21.2	915	-0.15	0.00
Education: University	21.6	319	-0.17	0.04
State of health: Good	20.3	1,628	-0.11	0.01
State of health: very bad	41.9	62	0.31	0.03
Not satisfied with life	38.5	161	0.20	0.04
Not satisfied with income	25.9	711	-0.13	0.02
Married	20.3	2,743	-0.28	<.0001
Divorced	20.6	243	-0.34	0.00
Person currently living in hh	23.0	3,820	-0.15	0.01
Duration of personal interview < 10 min	25.9	2,185	0.13	0.00
			-0.15	0.00

Source: EU-SILC 2007, Note: positive signs of regression coefficients indicate increased non-response propability

*In Austria this kind of rental housing is not confined to low to moderate incomes

Trimming

After response probabilities were estimated, the attrition weights were trimmed such that the condition stated in Doc 65/05.1:

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

is fulfilled for a value of 2 for C.

Base weight

The base weights for all further calculation were produced by multiplying the design weights by the inverse of the response rate. The basis for the cross-sectional weights had to be on household level. In order to achieve that the mean of the personal base weights within a household had to assigned to each individual. However, before this could be done, non-sample persons, i.e. new-borns and new entrants, had to receive personal base weights too.

New borns and new entrants

Following EUROSTAT'S guidelines, individuals who were newly born between 2004 and 2007 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 were assigned zero weights.

2.1.8.3. Adjustment to external data (Calibration)

In accordance with the guidelines of EUROSTAT described in the EU-SILC doc 65/05.1 all the four rotational subsamples were adjusted to external marginal distributions in 2007. Like in EU-SILC 2006 the calibration was done using the SAS macro "CALMAR" developed by INSEE.

As in previous years the main data source for calibration was 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 2007 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. Additionally data from the association of the national social-security incurances ("Hauptverband der österreichischen Sozialversicherungsträger") were used to provide an accurate number of people who were receiving social security benefits due to unemployment[4].

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 more than one months

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.

[4] People who received benefits for more than one month during the income reference period were counted. Due to insufficient data, this number was over-estimated in EU-SILC 2006.

2.1.8.4. Final cross-sectional weights

Combination of the four subsamples

The three subsamples were representative of slightly different target populations, since the initial samples of 2004, 2005 and 2006 could not represent individuals who were not in the target population at the time the sample was drawn. This can be referred to as "IN-Population" and consists mostly of migrants of the years 2005 or 2006. Their weights need to be inflated accordingly to give an unbiased representation of the population in scope. Consequently, when subsamples were combined those parts of the population which came into the population needed to be given higher weights.[5] In the case of four subsamples the inflation factors were 4/1, 4/2 and 4/3 respectively if the new entrants were represented in two, three or four subsamples. All initial samples were drawn from a population register which contains information on the previous population status. Such it was 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.

Final calibration

Adjustments in general were done to reduce bias in the data. At this stage household weights of the combined subsamples were again adjusted to external marginal distributions using the procedure described in section 2.1.8.3.

2.1.9. Substitutions

Not applicable, no substitutions were necessary for EU-SILC 2007

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

In the following, standard errors of the rotational design are approximated by the same procedure applied already in EU-SILC operations 2004-2006. This may not capture the full complexity of the variance of estimates.

The design of the rotations varies slightly, in particular with regard to the duration of the panel. For this reason, the design effect (Deff) for the at-risk–of poverty rate refers to the value published for the EU-SILC operation 2006 where it amounted to 1,33. Dividing the actual sample size of 6.806 households by this figure yields the effective sample size of the EU-SILC operation 2007 as 5.117 households.

To estimate the standard errors for the cross-sectional indicators Statistics Austria applied the linearization method.[6] 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.

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[5] Currently the population status of individuals can only be determined with a certain propensity for all household members. Register data from the original sample is used to determine whether a household contains individuals who entered the population after the previous sample had been drawn, i.e. who were not in the sampling frame in t-1. Since no unique matching on the individual level is possible, the weights of all members living in such households are be inflated by the same factor, proportional to the share of new entrants in the household.

[6] Computationally intensive boot-strapping methods were not applied this year. The reliability of the algorithm especially with regard to calibration remains unclear and it is subject to further revision. Differences in the results between linearized and bootstrapped results are generally difficult to interpret.

2.2.2. Variance estimation

Table 13: Variance estimation for the common cross-sectional indicators EU-SILC 2007

Indicator	Value	Std. Error	lower bound	upper bound
At-risk-of-poverty rate after social transfers - total	12.04	0.45	11.16	12.91
At-risk-of-poverty rate after social transfers - men total	10.58	0.46	9.68	11.48
At-risk-of-poverty rate after social transfers - women total	13.42	0.49	12.46	14.38
At-risk-of-poverty rate after social transfers - 0-17 years	14.77	0.95	12.92	16.63
At-risk-of-poverty rate after social transfers - 18-24 years	12.28	0.95	10.43	14.14
At-risk-of-poverty rate after social transfers - 25-49 years	10.08	0.49	9.12	11.04
At-risk-of-poverty rate after social transfers - 50-64 years	10.74	0.63	9.51	11.97
At-risk-of-poverty rate after social transfers - 65+ years	14.43	0.87	12.73	16.13
At-risk-of-poverty rate after social transfers - 18+ years	11.37	0.38	10.63	12.12
At-risk-of-poverty rate after social transfers - 18-64 years	10.59	0.40	9.79	11.38
At-risk-of-poverty rate after social transfers - 0-64 years	11.56	0.49	10.61	12.52
At-risk-of-poverty rate after social transfers - men 18-24 years	9.30	1.09	7.16	11.44
At-risk-of-poverty rate after social transfers - men 25-49 years	8.96	0.53	7.93	10.00
At-risk-of-poverty rate after social transfers - men 50-64 years	10.18	0.69	8.82	11.54
At-risk-of-poverty rate after social transfers - men 65+ years	9.59	0.93	7.76	11.42
At-risk-of-poverty rate after social transfers - men 18+ years	9.40	0.39	8.64	10.15
At-risk-of-poverty rate after social transfers - men 18-64 years	9.36	0.42	8.54	10.18
At-risk-of-poverty rate after social transfers - men 0-64 years	10.74	0.51	9.75	11.74
At-risk-of-poverty rate after social transfers - women 18-24 years	15.41	1.35	12.77	18.04
At-risk-of-poverty rate after social transfers - women 25-49 years	11.20	0.56	10.10	12.29
At-risk-of-poverty rate after social transfers - women 50-64 years	11.28	0.81	9.69	12.86
At-risk-of-poverty rate after social transfers - women 65+ years	17.88	1.03	15.86	19.90
At-risk-of-poverty rate after social transfers - women 18+ years	13.21	0.44	12.36	14.06
At-risk-of-poverty rate after social transfers - women 18-64 years	11.81	0.47	10.89	12.73
At-risk-of-poverty rate after social transfers - women 0-64 years	12.39	0.54	11.34	13.44
At-risk-of-poverty rate after social transfers - employed	5.99	0.34	5.32	6.66
At-risk-of-poverty rate after social transfers - unemployed	42.41	2.99	36.56	48.27
At-risk-of-poverty rate after social transfers - retired	12.26	0.64	11.00	13.51
At-risk-of-poverty rate after social transfers - other inactive	20.52	1.02	18.51	22.52
At-risk-of-poverty rate after social transfers - men, employed	6.30	0.39	5.53	7.07
At-risk-of-poverty rate after social transfers - men, unemployed	42.55	4.37	33.99	51.11
At-risk-of-poverty rate after social transfers - men, retired	9.80	0.74	8.34	11.26
At-risk-of-poverty rate after social transfers - men, other inactive	14.55	1.94	10.74	18.36
At-risk-of-poverty rate after social transfers - women, employed	5.57	0.43	4.73	6.42
At-risk-of-poverty rate after social transfers - women, unemployed	42.23	3.95	34.48	49.98
At-risk-of-poverty rate after social transfers - women, retired	14.34	0.80	12.77	15.92
At-risk-of-poverty rate after social transfers - women, other inactive	21.92	1.12	19.71	24.12
At-risk-of-poverty rate after social transfers - single, < 65 years	18.06	1.09	15.92	20.20
At-risk-of-poverty rate after social transfers - single, 65+ years	24.44	1.60	21.31	27.57
At-risk-of-poverty rate after social transfers - single, male	14.26	1.19	11.94	16.59
At-risk-of-poverty rate after social transfers - single, female	24.92	1.22	22.53	27.31
At-risk-of-poverty rate after social transfers - single, total	20.43	0.88	18.70	22.16
At-risk-of-poverty rate after social transfers - 2 adults, no children, both < 65	10.16	0.79	8.61	11.71
At-risk-of-poverty rate after social transfers - 2 adults, no children, at least one 65+	9.45	1.08	7.34	11.56
At-risk-of-poverty rate after social transfers - other households without children	4.39	0.80	2.83	5.95
At-risk-of-poverty rate after social transfers - single parent, at least one child	31.15	2.63	26.00	36.30
At-risk-of-poverty rate after social transfers - 2 adults, 1 child	8.91	1.08	6.80	11.02
At-risk-of-poverty rate after social transfers - 2 adults, 2 children	10.78	1.19	8.45	13.11

Indicator	Value	Std. Error	lower bound	upper bound
At-risk-of-poverty rate after social transfers - 2 adults, 3+ children	18.68	3.17	12.46	24.89
At-risk-of-poverty rate after social transfers - other households with children	6.80	1.40	4.05	9.55
At-risk-of-poverty rate after social transfers - households without children	11.60	0.45	10.71	12.48
At-risk-of-poverty rate after social transfers - households with children	12.48	0.73	11.05	13.90
At-risk-of-poverty rate after social transfers - owner or rent-free	8.88	0.49	7.92	9.85
At-risk-of-poverty rate after social transfers - tenant	17.87	0.90	16.10	19.64
At-risk-of-poverty rate after social transfers - households without children, w = 0[1]	23.38	1.44	20.56	26.20
At-risk-of-poverty rate after social transfers - households without children, 0 < w < 1	6.92	0.89	5.18	8.67
At-risk-of-poverty rate after social transfers - households without children, w = 1	4.46	0.52	3.44	5.48
At-risk-of-poverty rate after social transfers - households with children, w = 0	55.58	5.55	44.69	66.46
At-risk-of-poverty rate after social transfers - households with children, 0 < w < 0.5	29.14	5.39	18.57	39.70
At-risk-of-poverty rate after social transfers - households with children, 0.5 < w < 1	11.99	1.26	9.51	14.47
At-risk-of-poverty rate after social transfers - households with children, w = 1	5.69	0.69	4.34	7.05
Median of the equivalised disposable household income	18,242	141	17,966	18,518
At-risk-of-poverty threshold - single	10,945	84	10,780	11,111
At-risk-of-poverty threshold - 2 adults, 2 children	22,985	177	22,638	23,333
Inequality of income distribution S80/S20 income quintile share ratio - total	3.76	0.18	3.42	4.11
Relative median at-risk-of-poverty gap - total	17.31	0.94	15.46	19.16
Relative median at-risk-of-poverty gap - men total	19.06	1.35	16.41	21.71
Relative median at-risk-of-poverty gap - women total	16.09	0.80	14.53	17.66
Relative median at-risk-of-poverty gap - 0-17 years	19.06	1.49	16.14	21.97
Relative median at-risk-of-poverty gap - 18-64 years	21.44	1.37	18.75	24.13
Relative median at-risk-of-poverty gap - 65+ years	12.15	0.69	10.79	13.51
Relative median at-risk-of-poverty gap - 18+ years	16.39	0.80	14.82	17.96
Relative median at-risk-of-poverty gap - men, 18-64 years	22.62	2.05	18.60	26.63
Relative median at-risk-of-poverty gap - men, 65+ years	12.15	1.54	9.14	15.16
Relative median at-risk-of-poverty gap - men, 18+ years	19.60	1.62	16.43	22.77
Relative median at-risk-of-poverty gap - women, 18-64 years	20.06	1.33	17.45	22.66
Relative median at-risk-of-poverty gap - women, 65+ years	12.38	0.70	11.01	13.76
Relative median at-risk-of-poverty gap - women, 18+ years	15.25	0.68	13.91	16.59
Median income below the at-risk-of-poverty threshold - total	9,051	120	8,815	9,287
Median income below the at-risk-of-poverty threshold - men total	8,860	164	8,539	9,180
Median income below the at-risk-of-poverty threshold - women total	9,184	100	8,989	9,379
Median income below the at-risk-of-poverty threshold - 0-17 years	8,860	171	8,525	9,194
Median income below the at-risk-of-poverty threshold - 18-64 years	8,598	170	8,265	8,932
Median income below the at-risk-of-poverty threshold - 65+ years	9,615	83	9,452	9,779
Median income below the at-risk-of-poverty threshold - 18+ years	9,151	105	8,945	9,357
Median income below the at-risk-of-poverty threshold - men, 18-64 years	8,470	237	8,005	8,935
Median income below the at-risk-of-poverty threshold - men, 65+ years	9,615	174	9,275	9,956
Median income below the at-risk-of-poverty threshold - men, 18+ years	8,800	192	8,424	9,176
Median income below the at-risk-of-poverty threshold - women, 18-64 years	8,750	156	8,445	9,055
Median income below the at-risk-of-poverty threshold - women, 65+ years	9,590	81	9,431	9,749
Median income below the at-risk-of-poverty threshold - women, 18+ years	9,276	85	9,110	9,442
Dispersion around the risk-of-poverty threshold - 40%	3.39	0.24	2.91	3.87
Dispersion around the risk-of-poverty threshold - 50%	6.16	0.34	5.49	6.83
Dispersion around the risk-of-poverty threshold - 70%	19.38	0.54	18.32	20.45
Before social transfers except old-age and survivors' benefits				
At-risk-of-poverty rate before social transfers - total	24.76	0.56	23.66	25.87
At-risk-of-poverty rate before social transfers - men total	23.46	0.59	22.29	24.63
At-risk-of-poverty rate before social transfers - women total	26.00	0.60	24.83	27.18
At-risk-of-poverty rate before social transfers - 0-17 years	36.10	1.17	33.81	38.38

Indicator	Value	Std. Error	lower bound	upper bound
At-risk-of-poverty rate before social transfers - 18-64 years	23.21	0.53	22.17	24.24
At-risk-of-poverty rate before social transfers - 65+ years	17.41	0.93	15.59	19.24
At-risk-of-poverty rate before social transfers - 18+ years	22.02	0.48	21.08	22.96
At-risk-of-poverty rate before social transfers - men, 18-64 years	21.92	0.57	20.81	23.03
At-risk-of-poverty rate before social transfers - men, 65+ years	12.41	0.95	10.54	14.28
At-risk-of-poverty rate before social transfers - men, 18+ years	20.24	0.50	19.26	21.23
At-risk-of-poverty rate before social transfers - women, 18-64 years	24.48	0.57	23.36	25.61
At-risk-of-poverty rate before social transfers - women, 65+ years	20.98	1.15	18.73	23.22
At-risk-of-poverty rate before social transfers - women, 18+ years	23.67	0.52	22.65	24.69
Before social transfers including old-age and survivors' benefits				
At-risk-of-poverty rate before social transfers - total	43.45	0.64	42.19	44.71
At-risk-of-poverty rate before social transfers - men total	40.07	0.68	38.74	41.40
At-risk-of-poverty rate before social transfers - women total	46.67	0.66	45.37	47.97
At-risk-of-poverty rate before social transfers - 0-17 years	38.98	1.17	36.67	41.28
At-risk-of-poverty rate before social transfers - 18-64 years	33.07	0.59	31.91	34.22
At-risk-of-poverty rate before social transfers - 65+ years	89.07	7.14	75.07	103.07
At-risk-of-poverty rate before social transfers - 18+ years	44.53	0.57	43.42	45.65
At-risk-of-poverty rate before social transfers - men, 18-64 years	30.21	0.63	28.96	31.45
At-risk-of-poverty rate before social transfers - men, 65+ years	87.80	6.33	75.39	100.21
At-risk-of-poverty rate before social transfers - men, 18+ years	40.38	0.61	39.18	41.57
At-risk-of-poverty rate before social transfers - women, 18-64 years	35.92	0.63	34.69	37.15
At-risk-of-poverty rate before social transfers - women, 65+ years	89.97	7.91	74.48	105.47
At-risk-of-poverty rate before social transfers - women, 18+ years	48.40	0.58	47.26	49.54
Gini coefficient	26.15	0.37	25.42	26.88
Gender pay gap	19.11	0.01*	19.09	19.14
Mean equivalised disposable income	20,399	146	20,114	20,685
* doubtful linearisation 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 2007 was, like for the previous waves of EU-SILC in Austria, the ZMR. In 2007, 3.380 addresses were selected at the beginning of the fieldwork to constitute the rotational group 3.

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 2007 the reference date for the ZMR was the 31st December 2006. Households of the previous waves of EU-SILC (2003, 2004, 2005 and 2006) 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. However, the ZMR is regarded as the most reliable source for drawing representative samples and is also used in other surveys in Austria like the Microcensus (Labour Force Survey).

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 2007 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 mainly using the CAPI technique (Computer Assisted Personal Interviewing). A small sample of follow-up interviews was interviewed using the CATI technique to assess the suitability of this technique for long and complex interviews as in EU-SILC. Though it was aspired to keep differences between questionnaire implementations as small as possible, some differences can be mentioned:

- Between CATI and CAPI interviews – in order to adapt the questionnaire to CATI requirements, some questions and answer categories were adjusted.

- Between the SPECTRA and Statistics Austria implementations of the questionnaire: the fieldwork organisations used different programmes to implement the questionnaire, COMPASS (SPECTRA) and BLAISE (Statistics Austria). Since these programmes feature differences in the processing of questions and entries, minor differences between the questionnaire versions occurred.

However, the differences between questionnaire versions are expected to be small and are not expected to affect the interview results. Additionally, the parallel implementation with two fieldwork organisations is restricted to 2007 (in 2008 the whole fieldwork is conducted by Statistics Austria).

In order to reduce interviewer effects it is necessary to provide interviewers with sufficient trainings an supporting measures. Theses trainings help to ensure that all respondents are interviewed under similar conditions (as far as the interviewer behaviour is concerned) and help to familiarise the interviewers with the questionnaire. The responsible fieldwork organisations of SPECTRA and Statistics Austria conducted interview trainings in cooperation with the EU-SILC project team. SPECTRA organised 3 training sessions (one day-long training and two half-day trainings) and Statistics Austria organised 7 trainings sessions (6 for the CAPI interviewer, 1 for CATI interviewer; all training sessions took a whole day). SPECTRA trained 66 interviewer (76 interviewer provided successful interviews)[7], at the Statistics Austria 137 CAPI interviewer and 13 CATI interviewer participated in the training sessions.

Compared to the last year, the response rate of household that are interviewed by the same interviewer increased slightly from 94,4% to 96,0%. Overall, 3,550 successful interviews have been conducted by the same interviewer and 1,132 successful interviews have been conducted by an different interviewer. The duration in the panel does not seem to make any considerable effect on the response rate.[8]

Table 14: Response rate and change of interviewer

Rotational groups	Total	R1	R2	R4
First wave		2005	2006	2004
Same interviewer as last year	96.00	96.04	95.59	95.87
change of interviewer	59.86	61.10	67.70	61.56
Total response rate	82.38	81.46	91.04	84.48

Source: EU-SILC 2007

The ratio of households that were interviewed by the same interviewer as in the last year is not equally distributed among regions, though the differences between regions decreased compared with the last year. Overall, the share of households interviewed by the same interviewer increased from 69% to almost 76%, although a part of the follow-up sample was interviewed by Statistics Austria which made a continuation of the interview person impossible. Additionally, differences between regions are not as articulated as in the last year.

[7] Ten interviewers of SPECTRA did not participated in the training sessions; these interviewers already interviewed for previous wave of EU-SILC.

[8] The significantly higher total response rate of rotational group 2 can be explained by a higher proportion of interviews with the same interviewer as in the last year compared to the other rotational groups.

Table 15: Percentage of households interviewed by the same interviewer as last year by region (Bundesland)

	Same interviewer as last year	
	N	%
Carinthia	232	69.7
Vienna	536	69.7
Salzburg	223	75.6
Styria	551	76.2
Upper Austria	679	76.8
Vorarlberg	172	77.8
Lower Austria	683	78.1
Burgenland	140	81.4
Tyrol	334	81.5
Total	3,550	75.8

Source: EU-SILC 2007

Proxy interviewers are in general not desired, since proxy interviews are a possible source of bias. However, keeping the rate of proxy interviews low is in conflict with the aim of collecting as much individual information as possible. Compared to the last year, the proxy rate did not change significantly, remaining below 20%.

Table 16: Distribution of proxy interviews by rotational group

Rotational groups	Total		R1		R2		R3		R4	
First wave			2005		2006		2007		2004	
	N	%	N	%	N	%	N	%	N	%
Personal interview	10,682	80.1	2,412	80.0	2,646	78.3	3,275	81.5	2,349	80.4
Proxy interview	2,650	19.9	602	20.0	734	21.7	743	18.5	571	19.6
Total	13,332	100.0	3,014	100.0	3,380	100.0	4,018	100.0	2,920	100.0

Source: EU-SILC 2007

The picture of the proxy rates is differentiated if the data are divided by fieldwork organisation. Admittedly, the follow-up interviews conducted by Statistics Austria feature a clearly higher proxy rate than all other groups. The rotational group with the first wave interviews, rotational group three, features a proxy rate of 18,5%.

Table 17: Distribution of proxy interviews by fieldwork institute

	Statistics Austria								SPECTRA total		TOTAL	
	First wave		CATI follow-up		CAPI follow-up		Total follow-up					
	N	%	N	%	N	%	N	%	N	%	N	%
Personal interview	3,275	81.5	620	71.4	173	73.3	793	71.8	6,614	80.6	10,682	80.1
Proxy interview	743	18.5	248	28.6	63	26.7	311	28.2	1,596	19.4	2,650	19.9
Total	4,018	100.0	868	100.0	236	100.0	1,104	100.0	8,210	100.0	13,332	100.0

Source: EU-SILC 2007

As repeatedly shown in prior quality report, the proxy rate differs significantly with the basic activity status of the respondent for whom a proxy interview had to be conducted. Retired ad unemployed persons are more likely to give a personal interview than persons in employment or self-employment.

Table 18: Distribution of proxy interviews by basic activity status

	Total	Personal interviews		Proxy interviews	
		N	%	N	%
At work	6,975	5,429	77.8	1,546	22.2
Unemployment	444	362	81.5	82	18.5
Retirement / Early retirement	3,787	3,339	88.2	448	11.8
Other Inactive	2,185	1,611	73.7	574	26.3
Total	13,391	10,741	80.2	2,650	19.8

Source: EU-SILC 2007

2.3.2.2. Processing errors

As already during fieldwork, checking of data quality is an important part of the post-data-collection editing process. Basic principles of this process are standardisation and transparency. Hence, all relevant tasks are included in a predefined process and data editing rules are generalized for subgroups to avoid single case solutions. Transparency of data changes is ensured by documentation such as programme code, copies of data files at various stages, flag variables for the collected variables and written documentations and descriptions.

Flags for collected Austrian income variables:

-2 not applicable

-1 no answer and not (yet) imputed

1 value according to survey

2 value from category imputation

3 value from net-gross or gross-net conversion

4 value logically deduced

5 value statistically imputed with longitudinal method

6 value statistically imputed with cross-sectional method

7 value from survey was corrected

8 value computed from a monthly income (this code applies only to variables of yearly income)

The data editing process consists of several checking procedures and the respective solutions:

- Assessment of unit and item non-response on household level: Households with too much lacking information are not included in the final database
- Formal data checks (e.g. checking of completeness of data copies, correctness of routings, ranges of entered values): If required new data copies are made. Formal errors in the dataset are either corrected according to the formal requirements or in case of missing data labelled to be imputed later.
- Cross-sectional and longitudinal plausibility checks: Detected implausible values are either recoded, imputed or – for income variables – corrected through net-gross or gross-net conversion

Imputation and weighting complete the data editing process.

With the final datasets on the macro-level the distribution of income variables and indicators are checked with various data sources (previous EU-SILC waves, ECHP, microcensus, LFS, HBS, tax statistics and national accounts) to identify implausible distributions due to errors in the data editing process.

Before transmitting the datasets to Eurostat the Eurostat SAS checking programme were run to detect errors in the computation and coding of target variables. These require mostly formal corrections as at this point all checking and editing regarding content has already been implemented earlier in the editing process. Cases which are identified by the checking programme as probably implausible but are considered correct were commented and sent to Eurostat with the first data transmission.

For the Austrian EU-SILC cross-sectional data 2007 so far four data and indicator transmissions were made, thereof two transmissions due to data problems that where not covered by the latest checking programme available (Version 380, 17.06.2008):

31.07.2008 First transmission

23.09.2008 Additional editing due to implausible educational variables

03.10.2008 For some cases certain gross values had not been computed

21.10.2008 New transmission to comply with a slightly changed definition of the total household income

2.3.3. Non-response errors

2.3.3.1. Achieved sample size

Table 19: Sample size and accepted interviews

Rotational groups	Total	R1	R2	R3	R4
First wave		2005	2006	2004	2004
Accepted household interviews	6,806	1,519	1,731	2,124	1,432
Accepted household interviews (%)	100.00	22.32	25.43	31.21	21.04
Number of persons 16 and older	13,391	3,018	3,388	4,059	2,926
Number of persons 16 and older (%)	100.00	22.54	25.30	30.31	21.85
Accepted personal interviews	13,391	3,018	3,388	4,059	2,926
Accepted personal interviews (%)	100.00	22.54	25.30	30.31	21.85

Source: EU-SILC 2007

2.3.3.2. Unit non-response

Table 20: Household and individual non-response rate

Rotational groups	Total	R1	R2	R3	R4
First wave		2005	2006	2004	2004
Ra - Address contact rate	0.989	0.981	0.981	0.997	0.994
Rh - proportion of accepted household interviews	0.781	0.842	0.831	0.651	0.917
NRh - Household non-response rate	22.694	17.311	18.426	35.125	8.848
RB250 = 11 + 12 + 13	13,332	3,014	3,380	4,018	2,920
RB245 = 1 + 2 + 3	13,391	3,018	3,388	4,059	2,926
Rp	0.996	0.999	0.998	0.990	0.998
NRp - overall Individual non-response rate	23.035	17.420	18.619	35.781	9.035

Source: EU-SILC 2007

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

Interviews that were not accepted for the Austrian database are coded as “Refusal to co-operate” (DB130 = 21) instead of as interview rejected (DB135 = 2). The reason for this decision was that households/persons that are rejected are considered as refusing the interview, and hence should not be traced in subsequent waves.

Table 21: Distribution of DB120, DB130 and DB135

Rotational groups	Total		R1		R2		R3		R4	
First wave			2005		2006		2007		2004	
	N	%	N	%	N	%	N	%	N	%
DB120										
Total	8,922	100.0	1,844	100.0	2,125	100.0	3,380	100.0	1,573	100.0
Address contacted (11)	8,710	97.6	1,803	97.8	2,082	98.0	3,263	96.5	1,562	99.3
Address non-contacted (21 - 24)	212	2.4	41	2.2	43	2.0	117	3.5	11	0.7
Total address non-contacted (21 - 24)	212	100.0	41	100.0	43	100.0	117	100.0	11	100.0
Address cannot be kocated (21)	91	42.9	34	82.9	40	93.0	9	7.7	8	72.7
Address unable to access (22)	3	1.4	0	0.0	0	0.0	2	1.7	1	9.1
Address does not exist etc. (23)	118	55.7	7	17.1	3	7.0	106	90.6	2	18.2
non-contacted addresses	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
DB130										
Total	8,710	100.0	1,803	100.0	2,082	100.0	3,263	100.0	1,562	100.0
Household questionnaire completed (11)	6,806	78.1	1,519	84.2	1,731	83.1	2,124	65.1	1,432	91.7
Interview not completed (21 - 24)	1,904	21.9	284	15.8	351	16.9	1,139	34.9	130	8.3
Total interviews not completed (21 - 24)	1,904	100.0	284	100.0	351	100.0	1,139	100.0	130	100.0
Refusal to co-operate (21)	1,387	72.8	167	58.8	225	64.1	925	81.2	70	53.8
Entire household temporarily away (22)	286	15.0	55	19.4	57	16.2	145	12.7	29	22.3
Household unable to respond (23)	76	4.0	11	3.9	11	3.1	46	4.0	8	6.2
Other reasons (24)	155	8.1	51	18.0	58	16.5	23	2.0	23	17.7
DB135										
Total	6,806	100.0	1,519	100.0	1,731	100.0	2,124	100.0	1,432	100.0
Interview accepted for database	6,806	100.0	1,519	100.0	1,731	100.0	2,124	100.0	1,432	100.0
Interview rejected	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Source: EU-SILC 2007

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

Not applicable.

2.3.3.5. Item non-response

Table 22: 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	6,806		0	0.0	6,806	100.0	0	0.0
hy020	Total disposable household income	6,806		4,688	68.9	2,076	30.5	42	0.6
hy022	Total disposable household income before social transfers other than old-age and survivors' benefits	6,704		4,678	69.8	1,961	29.3	65	1.0
hy023	Total disposable household income including old-age and survivors' benefits	6,178		4,372	70.8	1,567	25.4	239	3.9
	Net income components at household level								
hy030n	Imputed rent	4789		0	0.0	4,789	100.0	0	0.0
hy040n	Income from rental of a property or land	280		272	97.1	0	0.0	8	2.9
hy050n	Family/child related allowances	2,437		2,425	99.5	12	0.5	0	0.0
hy060n	Social exclusion not elsewhere classified	185		180	97.3	1	0.5	4	2.2
hy070n	Housing allowances	267		256	95.9	6	2.2	5	1.9
hy080n	Regular inter-household cash transfer received	518		495	95.6	3	0.6	20	3.9
hy090n	Interest, profits from capital investments	4,547		3,347	73.6	223	4.9	977	21.5
hy100n	Interest repayments on mortgages	1,792		0	0.0	1,792	100.0	0	0.0
hy110n	Income received by people aged under 16	65		58	89.2	0	0.0	7	10.8
hy130n	Regular inter-household cash transfer paid	468		436	93.2	10	2.1	22	4.7
hy145n	Repayments/receipts for tax adjustment	2,964		2,899	97.8	26	0.9	39	1.3
	Gross income components at household level								
hy030g	Imputed rent	4,789		0	0.0	4,789	100.0	0	0.0
hy040g	Income from rental of a property or land	280		0	0.0	0	0.0	280	100.0
hy050g	Family/child related allowances	2437		2,378	97.6	54	2.2	5	0.2
hy060g	Social exclusion not elsewhere classified	185		180	97.3	1	0.5	4	2.2
hy070g	Housing allowances	267		256	95.9	6	2.2	5	1.9
hy080g	Regular inter-household cash transfer received	518		495	95.6	3	0.6	20	3.9
hy090g	Interest, profits from capital investments	4,547		3,347	73.6	223	4.9	977	21.5
hy100g	Interest repayments on mortgages	1,792		0	0.0	1,792	100.0	0	0.0
hy110g	Income received by people aged under 16	65		45	69.2	0	0.0	20	30.8
hy130g	Regular inter-household cash transfer paid	468		436	93.2	10	2.1	22	4.7
hy140g	Tax on Income and Social Contributions	6,688		2,242	33.5	4,319	64.6	127	1.9

Source: EU-SILC 2007

Table 23: 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	7,012	52.4	6,300	89.8	443	6.3	269	3.8
py035n	Contributions to individual private pension plans	3,036	22.7	2,822	93.0	1	0.0	213	7.0
py050n	Cash benefits or losses from self-employment	1,297	9.7	1,158	89.3	19	1.5	120	9.3
py070n	Value of goods produced by own-consumption	411	3.1	376	91.5	0	0.0	35	8.5
py080n	Pension from individual private plans	41	0.3	39	95.1	0	0.0	2	4.9
py090n	Unemployment benefits	901	6.7	836	92.8	42	4.7	23	2.6
py100n	Old-age benefits	3,447	25.7	3,110	90.2	203	5.9	134	3.9
py110n	Survivor's benefits	122	0.9	112	91.8	1	0.8	9	7.4
py120n	Sickness benefits	241	1.8	219	90.9	4	1.7	18	7.5
py130n	Disability benefits	377	2.8	365	96.8	6	1.6	6	1.6
py140n	Education-related allowances	179	1.3	167	93.3	3	1.7	9	5.0
	Gross income components at personal level								
py010g	Employee cash or near cash income	7,012	52.4	4,131	58.9	427	6.1	2,454	35.0
py030g	Employers social contributions	7,012	52.4	0	0.0	7,012	100.0	0	0.0
py035g	Contributions to individual private pension plans	3,036	22.7	2,822	93.0	1	0.0	213	7.0
py050g	Cash benefits or losses from self-employment	1,297	9.7	29	2.2	55	4.2	1,213	93.5
py070g	Value of goods produced by own-consumption	411	3.1	376	91.5	0	0.0	35	8.5
py080g	Pension from individual private plans	41	0.3	28	68.3	0	0.0	13	31.7
py090g	Unemployment benefits	901	6.7	822	91.2	45	5.0	34	3.8
py100g	Old-age benefits	3,447	25.7	1,579	45.8	620	18.0	1,248	36.2
py110g	Survivor's benefits	122	0.9	43	35.2	31	25.4	48	39.3
py120g	Sickness benefits	241	1.8	92	38.2	36	14.9	113	46.9
py130g	Disability benefits	377	2.8	224	59.4	42	11.1	111	29.4
py140g	Education-related allowances	179	1.3	167	93.3	3	1.7	9	5.0
py200g	Gross monthly earnings for employees	6,335	47.3	4,464	70.5	2	0.0	1,869	29.5

Source: EU-SILC 2007

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

For the total non-response and the number of observations in the sample of the cross-sectional European Union Indicators, the equivalised disposable income 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.

Table 24: Distribution of RB250 by rotational groups

Rotational groups	Total		R1		R2		R3		R4	
First wave			2005		2006		2007		2004	
	N	%	N	%	N	%	N	%	N	%
RB250 = 11	13,332	99.6	3,014	99.9	3,380	99.8	4,018	99.0	2,920	99.8
RB250 = 14	59	0.4	4	0.1	8	0.2	41	1.0	6	0.2
Total	13,391	100.0	3,018	100.0	3,388	100.0	4,059	100.0	2,926	100.0

Source: EU-SILC 2007

The main mode of data collection in EU-SILC 2007 was CAPI, however, a test of CATI interviewing was conducted by Statistics Austria with an sample of 750 households (780 with split households). Additionally, some CATI interviews were also conducted by SPECTRA.

Table 25: Distribution of RB260 by rotational groups

Rotational groups	Total		R1		R2		R3		R4	
First wave			2005		2006		2007		2004	
	N	%	N	%	N	%	N	%	N	%
CAPI RB260 = 2	10,040	75.3	2,096	69.5	2,323	68.7	3,275	81.5	2,346	80.3
CATI RB260 = 3	642	4.8	316	10.5	323	9.6	0	0.0	3	0.1
Proxy RB260 = 5	2,650	19.9	602	20.0	734	21.7	743	18.5	571	19.6
Total	13,332	100.0	3,014	100.0	3,380	100.0	4,018	100.0	2,920	100.0

Source: EU-SILC 2007

The difference between the total of 13,391 interviews displayed for the distribution of RB250 and the total of 13,332 interviews for the distribution of RB260 are the 59 interviews that are totally imputed.

2.4.1. EU-SILC 2007 CATI test

As mentioned above, in EU-SILC 2007, Statistics Austria conducted a part of the follow-up interviews with CATI interviewing technique to evaluate the suitability of CATI interviews for EU-SILC.[9] Therefore 750 households were selected (30 split households supplement that sample) for CATI interviews, 365 of rotational group 1 and 415 of rotational group 2. Households from rotational group 4 that were interviewed for the first time in 2004 were not selected for the CATI test. If a household refused to get interviewed by telephone or could not be contacted by telephone, a CAPI interviewer was sent to make the interview. The following table provides an overview.

[9] For details on the computation of the imputed rents see the final report of the EU-SILC Study on Comparability of National Implementation, Part 1, Analysis of the CATI test.

Table 26: Sample size by fieldwork institute, interview mode and rotational group

Rotational group		R1		R2		R3		R4		Total	
First wave		2005		2006		2007		2004			
		N	%	N	%	N	%	N	%	N	%
SPECTRA	CAPI	1,472	99.5	1,699	99.4	0	0.0	1,570	99.8	4,741	99.6
	CATI	7	0.5	11	0.6	0	0.0	3	0.2	21	0.4
Total SPECTRA		1,479	100.0	1,710	100.0	0	0.0	1,573	100.0	4,762	100.0
STATISTICS AUSTRIA	CAPI	92	25.2	135	32.5	3,380	100.0	0	0.0	3,607	86.7
	CATI	273	74.8	280	67.5	0	0.0	0	0.0	553	13.3
Total STATISTICS AUSTRIA		365	100.0	415	100.0	3,380	100.0	0	0.0	4,160	100.0
Total		**1,844**		**2,125**		**3,380**		**1,573**		**8,922**	

Source: EU-SILC 2007

From the 780 interviews designated for CATI interviews finally 541 were successfully contacted by a CATI interviewer, 189 households were successfully contacted by a CATI interviewer. Of these successfully contacted households 441 households were successfully interviewed by CATI and 120 households by CAPI.

	Statistics Austria								SPECTRA total		TOTAL	
	First wave		CATI follow-up		CAPI follow-up		Total follow-up					
	N	%	N	%	N	%	N	%	N	%	N	%
Total	3,380	100.0	553	100.0	227	100.0	780	106.8	4,762	100.0	8,922	102.4
Household successfully contacted	3,263	96.5	541	97.8	189	83.3	730	100.0	4,717	99.1	8,710	100.0
Address untraceable	9	0.3	11	2.0	35	15.4	46	6.3	36	0.8	91	1.0
No access to address	2	0.1	0	0.0	0	0.0	0	0.0	1	0.0	3	0.0
Address non existent	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Address is not a private household	9	0.3	1	0.2	0	0.0	1	0.1	2	0.0	12	0.1
Dwelling uninhabited	73	2.2	0	0.0	2	0.9	2	0.3	5	0.1	80	0.9
Not a main residence	24	0.7	0	0.0	1	0.4	1	0.1	1	0.0	26	0.3
Total	3,263	100.0	541	100.0	189	100.0	730	100.0	4,717	100.0	8,710	100.0
Successful interview	2,124	65.1	441	81.5	120	63.5	561	76.8	4,121	87.4	6,806	78.1
of the fieldwork	145	4.4	1	0.2	24	12.7	25	3.4	116	2.5	286	3.3
Refusal to cooperate	876	26.8	45	8.3	33	17.5	78	10.7	370	7.8	1,324	15.2
Cooperation abandoned	49	1.5	7	1.3	2	1.1	9	1.2	5	0.1	63	0.7
sufficient enough	12	0.4	0	0.0	1	0.5	1	0.1	3	0.1	16	0.2
Household unable to respond	46	1.4	0	0.0	3	1.6	3	0.4	27	0.6	76	0.9
Other reasons	11	0.3	47	8.7	6	3.2	53	7.3	75	1.6	139	1.6

Source: EU-SILC 2007

The analysis of the interviews reveals that households interviewed by CATI and CAPI are rather similar apart from characteristics that refer to the integration into the working life and to the social stratum of the respondents. The willingness to give an interview via telephone increases with the integration into working life, schooling level and occupational position.

With regard to the quality of the interviews, the comparison of item non-response rates reveals that the CATI interviews are more affected by item non-response, particularly for income questions. On average, missing answers occur mostly due to nescience and not refusals to answer. CATI interviews are significantly shorter, thus imply a lesser burden for the interviewees.

Generally, the experience with the CATI test affirmed that CATI techniques can be used relatively complex survey with a focus on income questions. Thus, Statistics Austria decided to use CATI interviewing more intensely in the following years. Nevertheless, Statistics Austria will have to ensure that the quality of CATI interviews does not deteriorate compared to CAPI interviews.

2.5. Interview Duration

Rotational groups	Total	R1	R2	R3	R4
First wave		2005	2006	2007	2004
Personal questionnaire	10.92	8.99	9.42	15.57	8.26
Household questionnaire	13.93	12.06	12.75	17.41	12.17
Total mean interview duration per household	35.32	29.89	31.14	46.87	29.01

Source: EU-SILC 2007

Compared to the last years' interviews, the interview duration is considerably shorter in EU-SILC 2007, so that the average interview duration is 2007 again closer to the average duration of EU-SILC 2005 (EU-SILC 2006: 47,56; EU-SILC 2005: 36,02). Reason for differences are the questions for the

module and whether these questions are incorporated in the household or in the personal questionnaire, and possible effects of the changes in the fieldwork in EU-SILC 2007 (interview division by Statistics Austria and CATI interviews).

2.6. Imputation procedure

The following chapter describes the imputation procedures applied in EU-SILC 2007. 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 2007, which are similar to the procedures in the previous waves of EU-SILC in 2005 and 2006. 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 deterministic and stochastic imputation methods use an algorithm to estimate a value that is imputed. 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 2007 refer to procedures intended to complete missing information because of missing personal interviews or because of item-non response in the personal or the household questionnaire.

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[10]

The imputation strategy allowed for two possibilities: the person has been interviewed in the 2006 or the person was interviewed for the first time in 2007. 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 2006 was then used to impute the required information. The variables that were used to compute the distance function are listed below.

- Sex

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

- 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
- 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 2007 59 personal interviews had to be imputed. 10 interviews were imputed using information from the previous survey, 49 interviews were imputed for persons entering the survey in 2007.

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 previous waves. 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[11]. 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.

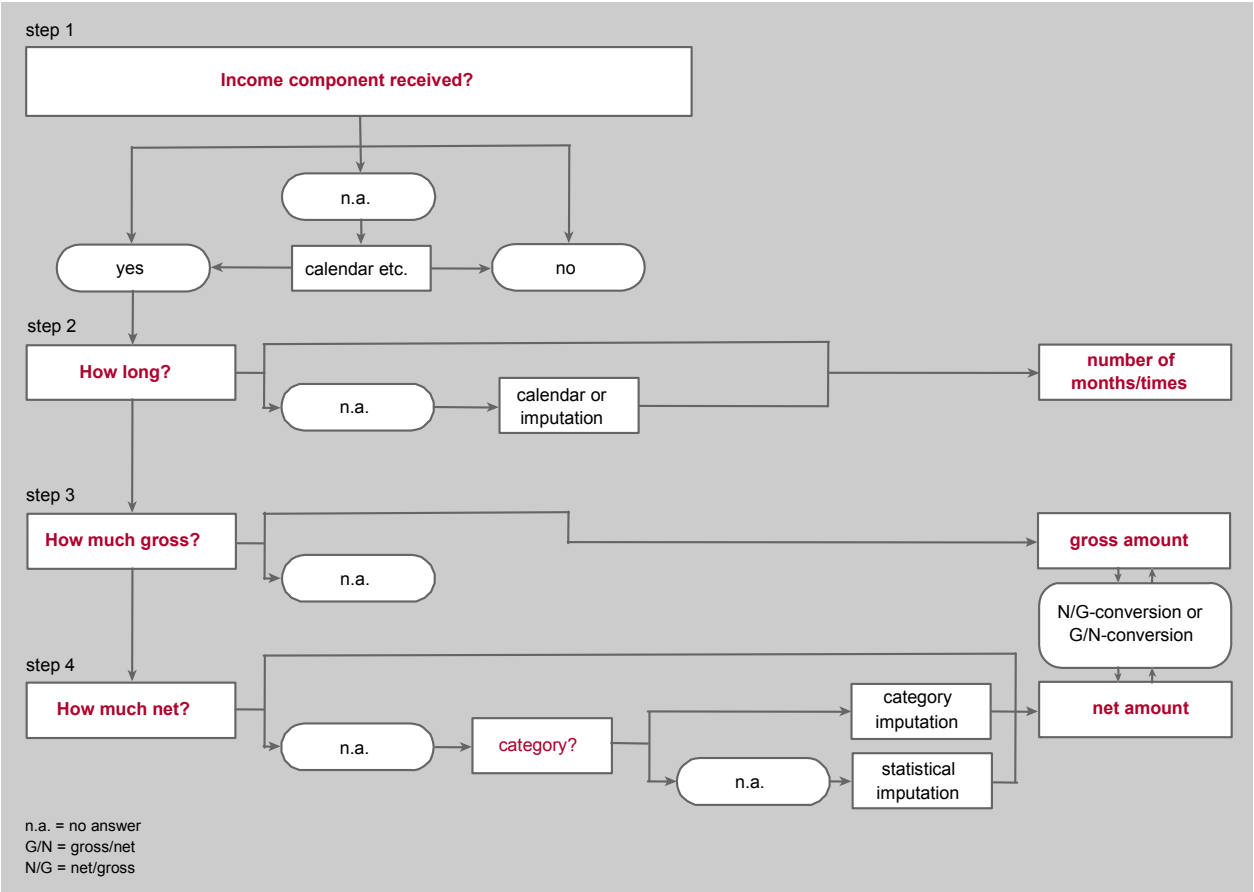
As cross-sectional imputation Statistics Austria used regression models as estimation procedures. The estimated values were then added with a residual term to prevent the attenuation of the variance. This estimation procedure required the specification of several regression models per income component 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.

[11] 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

Figure 1: Editing procedure for income data



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 2006.

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

No difference to the common definition. The period was 2006, 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 16th of April and ended on the 23rd 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. In 2007 no gross variables were asked, but the respondents were asked to give the amount paid for social security and income tax for their self-employment. These payments were added to the net amounts to receive the gross amounts.

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

This component is mandatory from 2007 on. PY070 was not included in the household income yet to allow for comparisons with the last years' results. 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.

2.10. New income components

The following describes the new income components that are calculated for the first time for EU-SILC 2007. The income components are: imputed rents (HY030), interest repayments on mortgages (HY100) and employer's social contributions (PY030).

2.10.1. Imputed rent (HY030)

Households living in a self-owned dwelling or in a rent-free dwelling of in a dwelling that is rented at a reduced rate enjoy a financial advantage compared to households living in a rented dwelling. The idea of imputed rents is, then, to quantify and estimate that financial advantage and consider this financial advantage for the computation of household incomes. The aim, then, is to estimate the virtual rent for self-owned dwellings (and rent-free dwellings and dwellings rented at a reduced rate), that a household would have to pay on the free market for its dwelling. This virtual rent, then, is used as a proxy for the financial advantage and is calculated as the imputed rent.

In EU-SILC 2007, the imputed rent is in short calculated on the basis of the data of the Austrian microcensus. On the basis of the microcensus data linear regression models are used to estimate the rent for those dwellings, for which no rent information is available (including those dwellings that are rented at a reduced price). This estimate is than used as imputed rent. For dwellings that are rented at a reduced rate, the imputed rent equals the difference between the actually paid rent and the estimated virtual rent for the dwelling.[12]

For a total of 2,374,000 households (67% of all households) an imputed rent has been calculated: for 1,838,000 owner-occupied dwellings, for 264,000 rent-free dwellings and for 272,000 dwellings that are rented at a reduced rate. The dwellings for which a rent has been imputed differ considerably from rented dwellings: dwellings for which a rent was calculated were mainly in single family houses or semi-detached houses (71% of all dwelling with imputed rent), whereas only less than 10 percent of all rented dwellings belong to these building types.

Overall, the median imputed rent per household is 3,440 Euro per year. In sum, the imputed rent accounts for 8.650 billon Euro; this is about 7.5% of the sum of the total disposable household income. There is no difference between net and gross imputed rent.

[12] For details on the computation of the imputed rents see the final report of the EU-SILC Study on Comparability of National Implementation, Part 2, Computation of imputed rents.

2.10.2. Interest repayments on mortgages (HY100)

The variable HY10N/G estimates the interest repayments on mortgages, thus the costs of a mortgage for dwelling. Thus, if the imputed rent consider the self-owned, rent-free and dwellings rented at a reduced rate as a financial advantage of the household, the variable HY100N/G takes into account the costs of the purchase of the dwelling. EU-SILC in Austria collects the parameters of up to three different mortgages. These details are then used to calculated the interests payments as part of the total payments for the mortgage. This calculation is based on a model of interest payments since a direct question on the interest payments resulted in questionable results.

Table 27: Distribution of HY030 and HY100, weighted and unweighted

	HY030G	HY100N/G	Difference HY030G-HY100G	Ratio of HY030G / HY100G
Weighted				
Households	2,373,334	871,897	2,373,334	787,156
Minimum	34	1	-10,742	0.000
Maximum	27,966	16,600	26,637	5.655
Mean	3,645	1,519	3,113	0.392
Median	3,440	910	2,908	0.240
Sum (in Mio. Eur)	8,650	1,325	7,388	-
Gini	31.55	56.08	-	-
Unweighted				
Households	4,789	1,792	4,789	1,629
Minimum	34	1	-10,742	0.000
Maximum	27,966	16,600	26,637	5.655
Mean	3,741	1,543	3,188	0.383
Median	3,550	933	3,015	0.235
Sum	17,915,051	2,764,521	15,265,525	-
Gini	30.78	55.45	-	-

Source: EU-SILC 2007

2.10.3. Employer's social contributions (PY030)

Employer's social contributions are calculated as a percentage of employee cash or near cash income (PY010G/N). According to the type of employment (manual workers, clerks, civil servants and tenured civil servants) different percentage rates for health insurance, accident insurance, pension insurance, unemployment insurance and contributions for the severance pay account (*Betriebliche Mitarbeitervorsorge*).

The employer's social contribution equals about 20% of the income for manual workers and clerks, and about 8% for employees in the civil service. However, the employer's social contributions are not added to the household incomes.

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 2006 and EU-SILC 2007

EU-SILC 2006 was the third regular wave of EU-SILC in Austria with a rotational design and therewith the first wave in which households were interviewed for a third time. The sample of EU-SILC 2006 consisted of 8,450 addresses (including 168 split households), resulting in 6,028 accepted interviews in the data set.

Again, only few changes or adaptations were implemented with regard to the questionnaire in EU-SILC 2007. 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 2006

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 1.17% (96,613 of 8,281,948 persons).
- 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 2007.
- 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 2006 3,909 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 2006

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. As in the last year, all of these indicators are relatively stable between 2006 and 2007. The at-risk-of-poverty rate decreases from 12,3% to 12,0%, the mean equivalised income rises from 19,674 Euro to 19,894 Euro (+1,1%) and the risk-of-poverty threshold simultaneously rises from 10,711 Euro to 10,945 Euro.

The lack of dramatic changes of concepts and again slightly better response rates 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 28) present the comparison of net incomes recorded in EU-SILC 2006 and EU-SILC 2007.

The medians of the gross and disposable household incomes rise by around 1% and 2%, while the number of households does not change notably whilst the aggregated sum of these variables rises by 6% and 5%.

The income components with the greatest impact on the household income, income from employment and pension incomes[13], do not change significantly between 2006 and 2007. However, the aggregated sums of these variables rise slightly by 2% and 7% respectively.

Remarkable changes can be observed for pensions from individual private plans and the value of goods produced for own-consumption. Both income components do not contribute to the household income. The value of goods produced for own consumption is from 2007 onwards collected compulsorily. However, the variable was also collected in the last years with different approaches and

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

further analysis will help to evaluate how to best collect the information needed for this income component.

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 2006 and 2006. This comparison is shown in Table 29. 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 28: Comparison of income target variables – EU-SILC 2006 and EU-SILC 2007 (weighted)

		Median			Households/Persons			Sum (in million Euros)		
		EU-SILC 2006	EU-SILC 2007	Δ %	EU-SILC 2006	EU-SILC 2007	Δ %	EU-SILC 2006	EU-SILC 2007	Δ %
hy010	Total household gross income	35,210	35,583	1.1	3,508,442	3,537,022	0.8	146,357	154,452	5.5
hy020	Total disposable household income	27,371	27,971	2.2	3,508,442	3,537,022	0.8	110,635	115,653	4.5
	Net income components at household level									
hy030n	Imputed rent	-	2,015	-	-	3,537,022	-	-	8,650	-
hy040n	Income from rental of a property or land	3,960	3,600	-9.1	123,239	137,859	11.9	1,185	1,161	-2.0
hy050n	Family/child related allowances	4,171	4,080	-2.2	1,082,567	1,118,834	3.4	5,091	5,166	1.5
hy060n	Social exclusion not elsewhere classified	1,456	1,200	-17.6	78,423	106,477	35.8	241	284	17.6
hy070n	Housing allowances	1,356	1,296	-4.4	134,686	150,109	11.5	198	218	10.3
hy080n	Regular inter-household cash transfer received	3,240	3,360	3.7	232,620	255,824	10.0	1,094	1,201	9.8
hy090n	Interest, profits from capital investments	67	120	78.5	2,589,627	2,286,276	-11.7	875	1,296	48.2
hy100n	Interest reapyments on mortgages	-	910	-	-	871,897	-	-	1,325	-
hy110n	Income received by people aged under 16	1,400	1,700	21.4	28,309	27,259	-3.7	47	89	88.5
hy130n	Regular inter-household cash transfer paid	3,000	3,000	0.0	239,306	247,530	3.4	897	938	4.6
hy145n	Repayments/receipts for tax adjustment	-260	-300	15.4	1,398,084	1,461,988	4.6	-334	-453	35.8
	Net income components at personal level									
py010n	Employee cash or near cash income	16,603	16,510	-0.6	3,590,363	3,589,351	0.0	61,797	63,226	2.3
py035n	Contributions to individual private pension plans	840	800	-4.8	1,511,467	1,489,789	-1.4	1,647	1,597	-3.1
py050n	Cash benefits or losses from self-employment	10,800	10,800	0.0	598,153	659,999	10.3	8,659	10,087	16.5
py070n		150	200	33.3	131,744	191,260	45.2	31	119	277.3
py080n	Pension from individual private plans	1,800	3,360	86.7	16,950	25,912	52.9	62	226	263.7
py090n	Unemployment benefits	3,500	3,360	-4.0	636,837	614,841	-3.5	2,874	2,879	0.2
py100n	Old-age benefits	14,026	14,296	1.9	1,657,060	1,706,017	3.0	25,494	27,273	7.0
py110n	Survivor's benefits	8,120	6,370	-21.6	54,858	57,344	4.5	465	382	-17.8
py120n	Sickness benefits	1,493	1,440	-3.6	125,305	139,777	11.5	347	405	16.8
py130n	Disability benefits	12,600	11,200	-11.1	199,876	186,143	-6.9	2,508	2,172	-13.4
py140n	Education-related allowances	1,800	2,040	13.3	104,969	104,096	-0.8	323	298	-7.7
py200g	Gross monthly earnings for employees	1,700	1,800	5.9	3,252,714	3,232,045	-0.6	6,242	6,425	2.9

Source: EU-SILC 2007 and EU-SILC 2006

Table 29: Comparison of the median of income target variables: EU-SILC 2006 and EU-SILC 2007 (households/persons participated in both waves)

		Median		
		EU-SILC 2006	EU-SILC 2007	Δ %
hy010	Total household gross income	35,510	36,278	2.2
hy020	Total disposable household income	27,676	28,346	2.4
	Net income components at household level			
hy030	Imputed rents	-	3,442	-
hy040n	Income from rental of a property or land	3,960	3,840	-3.0
hy050n	Family/child related allowances	4,298	4,135	-3.8
hy060n	Social exclusion not elsewhere classified	1,806	2,000	10.7
hy070n	Housing allowances	1,440	1,440	0.0
hy080n	Regular inter-household cash transfer received	3,240	3,240	0.0
hy090n	Interest, profits from capital investments	67	120	78.7
hy100n	Interest reapyments on mortgages	-	900	-
hy110n	Income received by people aged under 16	1,408	1,657	17.6
hy130n	Regular inter-household cash transfer paid	3,360	3,000	-10.7
hy145n	Repayments/receipts for tax adjustment	-270	-280	3.7
	Net income components at personal level			
py010n	Employee cash or near cash income	16,603	16,800	1.2
py035n	Contributions to individual private pension plans	800	800	0.0
py050n	Cash benefits or losses from self-employment	10,564	10,800	2.2
py070	Value of goods produced by own consumption	150	191	27.4
py080n	Pension from individual private plans	1,800	2,208	22.7
py090n	Unemployment benefits	3,600	3,600	0.0
py100n	Old-age benefits	14,026	14,201	1.2
py110n	Survivor's benefits	7,560	7,000	-7.4
py120n	Sickness benefits	1,700	1,300	-23.5
py130n	Disability benefits	12,600	11,760	-6.7
py140n	Education-related allowances	2,040	2,163	6.0
py200g	Gross monthly earnings for employees	1,700	1800	5.9

Source: EU-SILC 2007 and EU-SILC 2006

(b) Wage Tax Statistics 2006

Overall, the estimates of the employees' income in EU-SILC 2007 fit to the numbers of the wage tax statistics. EU-SILC 2007 gives about 3,590 million employees, thus about 111.000 employees less than the wage tax statistics. Compared to the last year the difference between the total number of employees has increased clearly.

EU-SILC 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 the 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, making the EU-SILC income distribution more equally distributed. 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 of low income employments).

Table 30: Comparison of gross annual incomes of employees 2006 – wage tax statistics 2006 and EU-SILC 2007

	WTS			EU-SILC 2006		
	Total	Male	Female	Total	Male	Female
10% …	4,122	6,321	2,930	4,500	7,034	3,492
20% …	9,566	15,067	6,532	9,650	14,206	7,200
25% …	12,234	18,548	8,637	12,150	17,775	8,687
30% …	14,766	21,215	10,573	14,303	19,667	10,383
40% …	19,368	25,187	14,067	18,200	23,400	13,869
50% …	23,572	28,767	17,332	22,376	26,600	16,800
60% …	27,703	32,756	20,981	25,800	30,600	19,600
70% …	32,414	38,043	25,130	30,400	35,000	23,100
75% …	35,457	41,530	27,671	32,900	37,800	25,270
80% …	39,276	45,994	30,661	36,000	42,000	28,396
90% …	51,767	60,664	40,080	46,816	53,800	36,400
Mean	27,451	33,645	20,273	25,235	30,275	19,090
Persons	3,571,243	1,917,041	1,654,202	3,589,351	1,972,192	1,617,159

Source: EU-SILC 2007, Wage Tax Statistics 2006

The assumption that shorter employment spells are underreported in EU-SILC is underpinned by the comparison of the wage tax statistics and EU-SILC for persons that were employed for at least 11 month in 2006. Here, the congruence of the statistics rises, though the deviance of the income distribution, particularly in the top end of the income scale, remains.

Table 31: Comparison of gross annual incomes of employees 2006 – wage tax statistics 2006 and EU-SILC 2007 (only persons employed at least for 11 months)

	WTS			EU-SILC 2006		
	Total	Male	Female	Total	Male	Female
10% …	10,368	18,902	6,966	10,800	17,775	7,560
20% …	16,233	23,793	11,651	16,100	21,600	11,764
25% …	18,599	25,450	13,398	18,000	22,800	13,300
30% …	20,829	26,977	15,001	19,600	24,252	14,700
40% …	24,460	29,928	17,898	22,620	27,385	17,500
50% …	27,926	33,266	21,001	25,854	30,400	19,600
60% …	31,651	37,387	24,312	29,400	33,700	22,471
70% …	36,478	42,954	28,362	33,600	38,549	26,441
75% …	39,636	46,632	30,802	36,400	42,000	28,985
80% …	43,642	51,164	33,821	39,600	45,344	31,500
90% …	56,392	66,562	43,400	50,400	56,994	39,200
Mean	32,467	40,020	23,922	29,574	35,176	22,464
Persons	2,746,280	1,457,767	1,288,513	2,723,367	1,523,362	1,200,005

Source: EU-SILC 2007, Wage Tax Statistics 2006

(c) National accounts 2006

As in the previous years, the difference between the estimates of the national accounts and EU-SILC are considerable. Compared to the last year, the difference got slightly smaller. The difference is 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 32: 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	202,408	181,953	155,387
Deduction for non-profit organisations 1)			3,635
Deduction for persons not living in private households 2)	2,368	2,129	1,818
Deduction for value of goods self-consumption 3)	2,631	2,365	2,020
Deduction for imputed rents 4)	6,788	6,788	6,788
Estimate from national accounts	190,621	170,671	141,126
Estimate from EU-SILC 2006	154,452	151,995	115,653
Difference between NA and EU-SILC 2006	18.97	10.94	18.05

Source: EU-SILC 2007 and national accounts 2006

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; 1.17% in 2006

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

4) NA 2006