

## 6.1 Net Single Premium of Immediate Whole Life Annuity-Dues

In the following tables we compare the net single premiums

$$\ddot{a}_x = \sum_{k=0}^{\infty} v^k {}_k p_x$$

of an immediate whole life annuity-due starting in the years  $t = 2005$  and  $2015$  for people aged from 20 to 100. As we can see the differences of the AVÖ 2005R to the AVÖ 1996R are from  $-14.5\%$  to  $18.6\%$  for male persons and from  $-19.0\%$  to  $10.1\%$  for female persons for individual contracts. The largest increases can be observed for the age ranges of 60 to 75 years, while for ages above 90 years the values even decrease compared to the AVÖ 1996R.

### Males

2005		Individual Contracts					Group contracts		
Age	Birth	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
20	1985	35.780	36.422	36.435	33.987	5.3%	35.640	33.860	5.3%
25	1980	34.575	35.202	35.343	32.639	5.9%	34.406	32.494	5.9%
30	1975	33.184	33.803	34.121	31.104	6.7%	32.979	30.939	6.6%
35	1970	31.582	32.199	32.696	29.391	7.5%	31.334	29.203	7.3%
40	1965	29.782	30.401	31.038	27.494	8.3%	29.481	27.280	8.1%
45	1960	27.799	28.408	29.134	25.443	9.3%	27.435	25.199	8.9%
50	1955	25.616	26.209	26.947	23.249	10.2%	25.188	22.969	9.7%
55	1950	23.245	23.802	24.502	20.898	11.2%	22.762	20.574	10.6%
60	1945	20.637	21.156	21.833	18.390	12.2%	20.123	18.028	11.6%
65	1940	17.785	18.292	18.979	15.764	12.8%	17.272	15.419	12.0%
70	1935	14.818	15.342	16.022	13.124	12.9%	14.340	12.809	11.9%
75	1930	11.835	12.415	13.083	10.526	12.4%	11.424	10.252	11.4%
80	1925	8.976	9.618	10.317	8.135	10.3%	8.657	7.912	9.4%
85	1920	6.490	7.196	7.879	6.138	5.7%	6.278	5.971	5.1%
90	1915	4.487	5.385	5.878	4.553	-1.5%	4.373	4.440	-1.5%
95	1910	3.021	4.172	4.357	3.323	-9.1%	2.981	3.253	-8.4%
100	1905	2.122	3.371	3.245	2.482	-14.5%	2.122	2.445	-13.2%

2015		Individual Contracts					Group contracts		
Age	Birth	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
20	1995	36.098	36.848	36.883	34.204	5.5%	35.975	34.080	5.6%
25	1990	34.940	35.686	35.840	32.872	6.3%	34.793	32.731	6.3%
30	1985	33.610	34.354	34.666	31.359	7.2%	33.434	31.198	7.2%
35	1980	32.087	32.827	33.305	29.669	8.2%	31.874	29.486	8.1%
40	1975	30.375	31.112	31.726	27.795	9.3%	30.117	27.587	9.2%
45	1970	28.479	29.201	29.914	25.762	10.5%	28.168	25.525	10.4%
50	1965	26.382	27.083	27.827	23.579	11.9%	26.017	23.307	11.6%
55	1960	24.088	24.752	25.483	21.232	13.5%	23.673	20.918	13.2%
60	1955	21.552	22.178	22.902	18.722	15.1%	21.107	18.371	14.9%
65	1950	18.762	19.374	20.110	16.085	16.6%	18.312	15.748	16.3%
70	1945	15.818	16.433	17.168	13.421	17.9%	15.391	13.113	17.4%
75	1940	12.800	13.436	14.180	10.790	18.6%	12.424	10.519	18.1%
80	1935	9.824	10.502	11.296	8.356	17.6%	9.525	8.134	17.1%

The Austrian Annuity Valuation Table AVÖ 2005R

2015		Individual Contracts					Group contracts		
Age	Birth	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
85	1930	7.137	7.907	8.689	6.308	13.1%	6.932	6.141	12.9%
90	1925	4.910	5.930	6.503	4.673	5.1%	4.798	4.559	5.2%
95	1920	3.253	4.610	4.811	3.400	-4.3%	3.214	3.330	-3.5%
100	1915	2.225	3.744	3.566	2.525	-11.9%	2.225	2.488	-10.5%

Females

2005		Individual Contracts					Group contracts		
Age	Birth	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
20	1985	36.683	37.322	37.016	35.773	2.5%	36.611	35.687	2.6%
25	1980	35.556	36.200	35.915	34.552	2.9%	35.470	34.452	3.0%
30	1975	34.266	34.920	34.669	33.170	3.3%	34.161	33.055	3.3%
35	1970	32.803	33.467	33.269	31.622	3.7%	32.675	31.490	3.8%
40	1965	31.157	31.837	31.702	29.899	4.2%	31.000	29.747	4.2%
45	1960	29.323	30.020	29.955	28.004	4.7%	29.133	27.829	4.7%
50	1955	27.281	27.994	28.009	25.929	5.2%	27.055	25.726	5.2%
55	1950	25.014	25.737	25.818	23.651	5.8%	24.755	23.416	5.7%
60	1945	22.470	23.227	23.347	21.140	6.3%	22.186	20.874	6.3%
65	1940	19.625	20.467	20.585	18.401	6.7%	19.327	18.131	6.6%
70	1935	16.544	17.488	17.558	15.512	6.7%	16.245	15.247	6.5%
75	1930	13.321	14.406	14.341	12.564	6.0%	13.043	12.317	5.9%
80	1925	10.135	11.330	11.098	9.717	4.3%	9.904	9.502	4.2%
85	1920	7.240	8.526	8.100	7.222	0.3%	7.075	7.051	0.3%
90	1915	4.911	6.406	5.663	5.286	-7.1%	4.819	5.167	-6.7%
95	1910	3.260	4.985	3.952	3.812	-14.5%	3.227	3.737	-13.6%
100	1905	2.258	3.911	2.851	2.788	-19.0%	2.258	2.749	-17.9%

2015		Individual Contracts					Group contracts		
Age	Birth	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
20	1995	36.892	37.647	37.237	35.975	2.6%	36.831	35.893	2.6%
25	1990	35.808	36.583	36.176	34.779	3.0%	35.734	34.685	3.0%
30	1985	34.572	35.363	34.978	33.429	3.4%	34.482	33.321	3.5%
35	1980	33.172	33.975	33.632	31.915	3.9%	33.064	31.790	4.0%
40	1975	31.598	32.416	32.124	30.227	4.5%	31.466	30.083	4.6%
45	1970	29.840	30.675	30.441	28.362	5.2%	29.680	28.197	5.3%
50	1965	27.878	28.728	28.563	26.313	5.9%	27.689	26.121	6.0%
55	1960	25.693	26.550	26.449	24.056	6.8%	25.475	23.834	6.9%
60	1955	23.239	24.121	24.061	21.564	7.8%	22.998	21.313	7.9%
65	1950	20.489	21.438	21.382	18.839	8.8%	20.234	18.582	8.9%
70	1945	17.486	18.515	18.423	15.951	9.6%	17.227	15.696	9.8%
75	1940	14.294	15.436	15.233	12.983	10.1%	14.048	12.742	10.2%
80	1935	11.055	12.291	11.940	10.092	9.5%	10.844	9.880	9.8%
85	1930	7.997	9.346	8.789	7.529	6.2%	7.841	7.359	6.6%
90	1925	5.428	7.043	6.128	5.510	-1.5%	5.339	5.390	-1.0%
95	1920	3.564	5.481	4.214	3.959	-10.0%	3.532	3.884	-9.1%
100	1915	2.412	4.326	2.986	2.873	-16.0%	2.412	2.833	-14.9%

## 6.2 Net Single Premiums of Immediate Temporary Life Annuity-Dues

In the following tables we compare the net single premiums

$$\ddot{a}_{x:\overline{20}|} = \sum_{k=0}^{19} v^k {}_k p_x$$

of an immediate 20-year temporary life annuity-due starting in the years  $t = 2005$  and 2015 for people aged from 20 to 90. As we can see the differences of the AVÖ 2005R to the AVÖ 1996R are from  $-1.5\%$  to  $16.2\%$  for male persons and from  $-7.1\%$  to  $9.6\%$  for female persons for individual contracts. Again, the largest increases happen for the age ranges 70 to 80 years.

### Males

2005		Individual Contracts					Group contracts		
Age	Birth	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
20	1985	16.237	16.259	16.158	16.232	0.0%	16.237	16.232	0.0%
25	1980	16.233	16.251	16.152	16.224	0.1%	16.233	16.224	0.1%
30	1975	16.212	16.230	16.161	16.187	0.1%	16.211	16.187	0.1%
35	1970	16.157	16.182	16.166	16.118	0.2%	16.153	16.118	0.2%
40	1965	16.072	16.111	16.151	16.003	0.4%	16.059	16.003	0.3%
45	1960	15.965	16.016	16.105	15.846	0.8%	15.931	15.838	0.6%
50	1955	15.818	15.881	15.989	15.622	1.3%	15.750	15.592	1.0%
55	1950	15.608	15.668	15.771	15.265	2.3%	15.489	15.187	2.0%
60	1945	15.230	15.284	15.389	14.667	3.8%	15.047	14.520	3.6%
65	1940	14.516	14.583	14.730	13.680	6.1%	14.259	13.490	5.7%
70	1935	13.299	13.407	13.647	12.208	8.9%	12.970	11.981	8.3%
75	1930	11.394	11.627	12.040	10.249	11.2%	11.035	10.009	10.3%
80	1925	8.921	9.372	9.991	8.087	10.3%	8.609	7.871	9.4%
85	1920	6.488	7.137	7.815	6.134	5.8%	6.276	5.968	5.2%
90	1915	4.486	5.374	5.871	4.553	-1.5%	4.373	4.440	-1.5%

2015		Individual Contracts					Group contracts		
Age	Birth	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
20	1995	16.259	16.275	16.190	16.245	0.1%	16.259	16.245	0.1%
25	1990	16.256	16.268	16.186	16.237	0.1%	16.256	16.237	0.1%
30	1985	16.239	16.252	16.194	16.205	0.2%	16.239	16.205	0.2%
35	1980	16.198	16.215	16.200	16.144	0.3%	16.195	16.144	0.3%
40	1975	16.133	16.160	16.193	16.041	0.6%	16.123	16.041	0.5%
45	1970	16.051	16.085	16.163	15.898	1.0%	16.025	15.891	0.8%
50	1965	15.938	15.978	16.078	15.692	1.6%	15.885	15.664	1.4%
55	1960	15.775	15.813	15.914	15.360	2.7%	15.682	15.288	2.6%
60	1955	15.478	15.518	15.622	14.796	4.6%	15.335	14.660	4.6%
65	1950	14.909	14.966	15.098	13.853	7.6%	14.704	13.673	7.5%
70	1945	13.893	13.976	14.193	12.419	11.9%	13.621	12.201	11.6%
75	1940	12.177	12.339	12.759	10.479	16.2%	11.863	10.244	15.8%
80	1935	9.734	10.116	10.798	8.300	17.3%	9.444	8.086	16.8%
85	1930	7.132	7.798	8.575	6.304	13.1%	6.928	6.137	12.9%
90	1925	4.910	5.905	6.487	4.673	5.1%	4.798	4.559	5.2%

**Females**

2005		Individual Contracts					Group contracts		
Age	Birth	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
20	1985	16.296	16.298	16.298	16.296	-0.0%	16.296	16.296	-0.0%
25	1980	16.289	16.289	16.284	16.288	0.0%	16.289	16.288	0.0%
30	1975	16.270	16.269	16.262	16.267	0.0%	16.270	16.267	0.0%
35	1970	16.237	16.236	16.232	16.231	0.0%	16.235	16.231	0.0%
40	1965	16.190	16.194	16.196	16.177	0.1%	16.184	16.177	0.0%
45	1960	16.134	16.140	16.158	16.110	0.1%	16.120	16.107	0.1%
50	1955	16.063	16.066	16.118	16.021	0.3%	16.035	16.009	0.2%
55	1950	15.960	15.946	16.048	15.869	0.6%	15.912	15.835	0.5%
60	1945	15.748	15.726	15.897	15.560	1.2%	15.672	15.490	1.2%
65	1940	15.284	15.306	15.558	14.932	2.4%	15.166	14.826	2.3%
70	1935	14.343	14.468	14.802	13.775	4.1%	14.168	13.622	4.0%
75	1930	12.599	12.972	13.277	11.938	5.5%	12.374	11.746	5.3%
80	1925	10.024	10.794	10.858	9.579	4.6%	9.802	9.380	4.5%
85	1920	7.234	8.372	8.074	7.207	0.4%	7.070	7.039	0.4%
90	1915	4.911	6.370	5.662	5.285	-7.1%	4.819	5.166	-6.7%

2015		Individual Contracts					Group contracts		
Age	Birth	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
20	1995	16.303	16.305	16.303	16.302	0.0%	16.303	16.302	0.0%
25	1990	16.297	16.297	16.292	16.295	0.0%	16.297	16.295	0.0%
30	1985	16.283	16.281	16.274	16.278	0.0%	16.283	16.278	0.0%
35	1980	16.258	16.254	16.250	16.249	0.1%	16.257	16.249	0.1%
40	1975	16.223	16.220	16.222	16.204	0.1%	16.218	16.204	0.1%
45	1970	16.180	16.178	16.193	16.148	0.2%	16.169	16.145	0.2%
50	1965	16.126	16.121	16.164	16.070	0.3%	16.105	16.060	0.3%
55	1960	16.047	16.028	16.116	15.936	0.7%	16.011	15.907	0.7%
60	1955	15.887	15.860	16.009	15.661	1.4%	15.829	15.600	1.5%
65	1950	15.534	15.538	15.760	15.092	2.9%	15.443	14.997	3.0%
70	1945	14.793	14.866	15.173	14.015	5.5%	14.654	13.875	5.6%
75	1940	13.307	13.565	13.879	12.256	8.6%	13.118	12.073	8.7%
80	1935	10.876	11.520	11.604	9.924	9.6%	10.677	9.729	9.7%
85	1930	7.985	9.093	8.749	7.510	6.3%	7.831	7.343	6.6%
90	1925	5.428	6.975	6.126	5.509	-1.5%	5.338	5.389	-0.9%

**6.2.1 Future Trends**

In the following tables we compare the evolution of the net single premiums of immediate 20-year temporary life annuities issued to 60-year old male and female persons in the years 2005 to 2050. As we can see the differences of the AVÖ 2005R to the AVÖ 1996R grows over time from 12.8% to more than 20% for male persons and from 7% to more than 11% for female persons for individual contracts as well as for group contracts.

**Males**

Year	Individual Contracts					Group contracts		
	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
2005	17.785	18.292	18.979	15.764	12.8%	17.272	15.419	12.0%
2010	18.292	18.843	19.557	15.928	14.8%	17.811	15.588	14.3%

Year	Individual Contracts					Group contracts		
	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
2015	18.762	19.374	20.110	16.085	16.6%	18.312	15.748	16.3%
2020	19.195	19.887	20.638	16.240	18.2%	18.775	15.907	18.0%
2025	19.593	20.381	21.142	16.393	19.5%	19.200	16.064	19.5%
2030	19.956	20.858	21.623	16.544	20.6%	19.589	16.219	20.8%
2035	20.287	21.319	22.081	16.693	21.5%	19.944	16.372	21.8%
2040	20.588	21.765	22.518	16.840	22.3%	20.267	16.524	22.7%
2045	20.861	22.196	22.935	16.986	22.8%	20.561	16.673	23.3%
2050	21.109	22.614	23.332	17.129	23.2%	20.827	16.821	23.8%

### Females

Year	Individual Contracts					Group contracts		
	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
2005	19.625	20.467	20.585	18.401	6.7%	19.327	18.131	6.6%
2010	20.075	20.961	20.998	18.623	7.8%	19.800	18.360	7.8%
2015	20.489	21.438	21.382	18.839	8.8%	20.234	18.582	8.9%
2020	20.868	21.897	21.740	19.051	9.5%	20.632	18.799	9.8%
2025	21.212	22.339	22.071	19.257	10.2%	20.995	19.012	10.4%
2030	21.526	22.766	22.380	19.459	10.6%	21.325	19.220	11.0%
2035	21.810	23.179	22.667	19.656	11.0%	21.623	19.423	11.3%
2040	22.067	23.577	22.933	19.849	11.2%	21.894	19.621	11.6%
2045	22.300	23.962	23.182	20.037	11.3%	22.139	19.815	11.7%
2050	22.511	24.333	23.414	20.221	11.3%	22.361	20.004	11.8%

### 6.3 Deferred Life Annuities (No Refund of Premium)

In the following tables we compare the net yearly premiums

$$P_x = \frac{{}_n|\ddot{a}_x}{\ddot{a}_{x:\overline{n}|}} = \frac{{}_nE_x \ddot{a}_{x+n}}{\ddot{a}_x - {}_nE_x \ddot{a}_{x+n}}$$

of deferred life annuities (no refund of premiums) issued in 2005 to a person aged 20 to 65 and with an annuitization age of 55 to 70 years. The symbol  ${}_nE_x$  denotes the net single premium of an  $n$ -year term insurance and can thus be calculated as  ${}_nE_x = v^n {}_np_x$ . As one can see, the differences of the AVÖ 2005R to the AVÖ 1996R are strongly dependent on the length of the accumulation phase, with the largest increases of 18% to 38% for long accumulation phases, while for short accumulation phases of 5 years the increase is only 13% to 18% for males. For females, again the increases are roughly half as large as the male increases.

### Males

Net PV		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
55	20	11.423	12.018	12.225	9.683	18.0%	11.284	9.555	18.1%
	25	12.644	13.236	13.523	10.757	17.5%	12.477	10.612	17.6%
	30	13.976	14.566	14.960	11.946	17.0%	13.774	11.781	16.9%
	35	15.425	16.017	16.531	13.273	16.2%	15.181	13.085	16.0%
	40	17.024	17.620	18.242	14.765	15.3%	16.728	14.552	15.0%

The Austrian Annuity Valuation Table AVÖ 2005R

Net PV		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
	45	18.819	19.414	20.119	16.482	14.2%	18.460	16.239	13.7%
	50	20.860	21.448	22.177	18.497	12.8%	20.434	18.217	12.2%
60	20	9.294	9.878	10.101	7.592	22.4%	9.158	7.464	22.7%
	25	10.266	10.847	11.143	8.419	21.9%	10.103	8.274	22.1%
	30	11.320	11.898	12.291	9.332	21.3%	11.123	9.167	21.3%
	35	12.461	13.038	13.538	10.349	20.4%	12.223	10.162	20.3%
	40	13.710	14.289	14.887	11.490	19.3%	13.422	11.277	19.0%
	45	15.103	15.681	16.356	12.801	18.0%	14.755	12.557	17.5%
	50	16.675	17.248	17.953	14.335	16.3%	16.260	14.056	15.7%
	55	18.499	19.050	19.742	16.161	14.5%	18.021	15.838	13.8%
65	20	7.406	7.979	8.211	5.760	28.6%	7.276	5.636	29.1%
	25	8.159	8.729	9.027	6.374	28.0%	8.003	6.233	28.4%
	30	8.971	9.536	9.921	7.049	27.3%	8.783	6.888	27.5%
	35	9.842	10.404	10.883	7.798	26.2%	9.616	7.616	26.3%
	40	10.789	11.349	11.916	8.637	24.9%	10.515	8.430	24.7%
	45	11.834	12.391	13.029	9.597	23.3%	11.504	9.361	22.9%
	50	13.002	13.554	14.225	10.719	21.3%	12.609	10.448	20.7%
	55	14.345	14.880	15.552	12.051	19.0%	13.888	11.738	18.3%
	60	15.903	16.417	17.089	13.675	16.3%	15.398	13.321	15.6%
70	20	5.736	6.299	6.533	4.177	37.3%	5.615	4.061	38.3%
	25	6.299	6.858	7.152	4.608	36.7%	6.154	4.477	37.5%
	30	6.900	7.453	7.823	5.081	35.8%	6.726	4.932	36.4%
	35	7.539	8.086	8.539	5.604	34.5%	7.330	5.435	34.9%
	40	8.224	8.768	9.297	6.186	32.9%	7.973	5.995	33.0%
	45	8.973	9.510	10.103	6.852	31.0%	8.671	6.633	30.7%
	50	9.798	10.329	10.958	7.627	28.5%	9.438	7.377	27.9%
	55	10.734	11.251	11.891	8.544	25.6%	10.314	8.257	24.9%
	60	11.804	12.307	12.960	9.660	22.2%	11.334	9.334	21.4%
	65	13.081	13.585	14.264	11.093	17.9%	12.584	10.760	16.9%

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
55	20	0.469	0.492	0.505	0.398	17.7%	0.463	0.393	17.9%
	25	0.577	0.603	0.620	0.492	17.3%	0.569	0.485	17.3%
	30	0.728	0.757	0.781	0.624	16.7%	0.717	0.615	16.6%
	35	0.955	0.990	1.023	0.823	15.9%	0.940	0.812	15.8%
	40	1.334	1.379	1.426	1.160	15.0%	1.312	1.143	14.7%
	45	2.096	2.159	2.232	1.839	13.9%	2.057	1.812	13.5%
	50	4.385	4.504	4.650	3.893	12.7%	4.298	3.834	12.1%
60	20	0.351	0.372	0.384	0.288	22.0%	0.346	0.283	22.3%
	25	0.422	0.445	0.460	0.348	21.5%	0.416	0.342	21.7%
	30	0.518	0.543	0.563	0.429	20.8%	0.509	0.421	20.9%
	35	0.652	0.680	0.707	0.544	19.9%	0.640	0.534	19.8%
	40	0.853	0.887	0.922	0.718	18.8%	0.836	0.705	18.6%
	45	1.190	1.232	1.280	1.013	17.5%	1.164	0.993	17.1%
	50	1.865	1.925	1.996	1.608	16.0%	1.821	1.577	15.5%
	55	3.897	4.008	4.147	3.411	14.2%	3.801	3.343	13.7%
65	20	0.261	0.281	0.291	0.204	27.9%	0.257	0.200	28.5%
	25	0.309	0.330	0.343	0.243	27.3%	0.303	0.237	27.7%
	30	0.370	0.393	0.410	0.293	26.4%	0.363	0.286	26.7%
	35	0.453	0.477	0.499	0.361	25.4%	0.443	0.353	25.5%
	40	0.568	0.596	0.623	0.458	24.0%	0.554	0.447	24.0%
	45	0.741	0.774	0.809	0.606	22.4%	0.722	0.591	22.2%
	50	1.031	1.071	1.118	0.856	20.5%	1.002	0.834	20.1%
	55	1.612	1.668	1.738	1.362	18.3%	1.565	1.328	17.8%

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
	60	3.359	3.464	3.602	2.900	15.8%	3.259	2.830	15.2%
70	20	0.191	0.209	0.218	0.140	36.3%	0.187	0.136	37.2%
	25	0.223	0.242	0.254	0.164	35.5%	0.218	0.160	36.3%
	30	0.263	0.283	0.297	0.195	34.5%	0.256	0.190	35.1%
	35	0.314	0.335	0.353	0.236	33.1%	0.305	0.229	33.5%
	40	0.381	0.405	0.428	0.290	31.4%	0.371	0.282	31.6%
	45	0.477	0.503	0.531	0.369	29.3%	0.462	0.357	29.3%
	50	0.619	0.650	0.685	0.488	26.9%	0.599	0.473	26.7%
	55	0.858	0.896	0.943	0.692	24.0%	0.829	0.670	23.6%
	60	1.336	1.391	1.461	1.107	20.8%	1.290	1.074	20.1%
65	2.781	2.886	3.025	2.375	17.1%	2.684	2.310	16.2%	

Females

Net PV		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
55	20	12.185	12.823	12.523	11.282	8.0%	12.114	11.195	8.2%
	25	13.511	14.157	13.880	12.514	8.0%	13.425	12.414	8.1%
	30	14.966	15.620	15.379	13.877	7.8%	14.862	13.763	8.0%
	35	16.566	17.230	17.037	15.391	7.6%	16.440	15.259	7.7%
	40	18.334	19.012	18.878	17.081	7.3%	18.180	16.930	7.4%
	45	20.303	20.998	20.933	18.988	6.9%	20.116	18.813	6.9%
60	50	22.511	23.223	23.236	21.160	6.4%	22.287	20.957	6.3%
	20	10.020	10.659	10.359	9.124	9.8%	9.951	9.038	10.1%
	25	11.094	11.741	11.465	10.105	9.8%	11.010	10.005	10.0%
	30	12.268	12.923	12.681	11.187	9.7%	12.166	11.073	9.9%
	35	13.553	14.217	14.022	12.387	9.4%	13.430	12.255	9.6%
	40	14.967	15.644	15.506	13.722	9.1%	14.816	13.570	9.2%
65	45	16.534	17.225	17.155	15.225	8.6%	16.350	15.050	8.6%
	50	18.281	18.989	18.996	16.933	8.0%	18.060	16.731	7.9%
	55	20.249	20.971	21.048	18.887	7.2%	19.992	18.652	7.2%
	20	8.092	8.733	8.430	7.207	12.3%	8.025	7.122	12.7%
	25	8.942	9.591	9.311	7.966	12.3%	8.861	7.868	12.6%
	30	9.867	10.525	10.277	8.800	12.1%	9.769	8.687	12.4%
	35	10.875	11.541	11.338	9.722	11.9%	10.756	9.592	12.1%
	40	11.976	12.654	12.506	10.746	11.5%	11.832	10.596	11.7%
70	45	13.189	13.880	13.797	11.894	10.9%	13.013	11.722	11.0%
	50	14.532	15.239	15.230	13.195	10.1%	14.320	12.996	10.2%
	55	16.032	16.755	16.817	14.678	9.2%	15.783	14.448	9.2%
	60	17.710	18.469	18.582	16.384	8.1%	17.430	16.122	8.1%
	20	6.377	7.021	6.710	5.511	15.7%	6.313	5.428	16.3%
	25	7.029	7.682	7.393	6.074	15.7%	6.952	5.979	16.3%
	30	7.735	8.396	8.138	6.692	15.6%	7.642	6.583	16.1%
	35	8.498	9.168	8.951	7.371	15.3%	8.386	7.246	15.7%
	40	9.325	10.006	9.840	8.122	14.8%	9.190	7.979	15.2%
	45	10.229	10.923	10.816	8.961	14.1%	10.064	8.796	14.4%
75	50	11.218	11.929	11.891	9.908	13.2%	11.020	9.718	13.4%
	55	12.312	13.041	13.071	10.983	12.1%	12.078	10.764	12.2%
	60	13.520	14.286	14.370	12.215	10.7%	13.253	11.964	10.8%
	65	14.881	15.724	15.830	13.665	8.9%	14.589	13.401	8.9%

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
55	20	0.497	0.523	0.511	0.461	8.0%	0.495	0.457	8.2%

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
	25	0.613	0.642	0.630	0.568	7.9%	0.609	0.563	8.1%
	30	0.775	0.809	0.797	0.719	7.8%	0.770	0.713	7.9%
	35	1.020	1.061	1.050	0.948	7.6%	1.013	0.940	7.7%
	40	1.430	1.482	1.472	1.333	7.3%	1.418	1.321	7.4%
	45	2.251	2.327	2.320	2.106	6.9%	2.231	2.087	6.9%
	50	4.720	4.867	4.869	4.437	6.4%	4.674	4.394	6.3%
60	20	0.376	0.400	0.389	0.342	9.8%	0.373	0.339	10.1%
	25	0.454	0.480	0.469	0.413	9.7%	0.450	0.409	10.0%
	30	0.558	0.588	0.577	0.509	9.6%	0.553	0.504	9.8%
	35	0.704	0.739	0.729	0.644	9.3%	0.698	0.637	9.5%
	40	0.924	0.966	0.957	0.848	9.0%	0.915	0.839	9.1%
	45	1.293	1.346	1.340	1.191	8.5%	1.279	1.178	8.6%
	50	2.031	2.109	2.108	1.882	7.9%	2.008	1.860	8.0%
	55	4.249	4.400	4.413	3.965	7.2%	4.197	3.915	7.2%
65	20	0.283	0.305	0.295	0.252	12.2%	0.281	0.249	12.6%
	25	0.336	0.360	0.350	0.300	12.1%	0.333	0.296	12.5%
	30	0.404	0.431	0.421	0.361	12.0%	0.400	0.357	12.3%
	35	0.496	0.526	0.517	0.444	11.7%	0.491	0.438	12.0%
	40	0.624	0.660	0.651	0.561	11.3%	0.617	0.553	11.6%
	45	0.817	0.860	0.854	0.738	10.7%	0.807	0.728	10.9%
	50	1.140	1.195	1.192	1.036	10.0%	1.124	1.021	10.1%
	55	1.785	1.865	1.868	1.636	9.1%	1.759	1.611	9.2%
	60	3.721	3.882	3.899	3.445	8.0%	3.665	3.392	8.0%
70	20	0.210	0.232	0.221	0.182	15.5%	0.208	0.179	16.1%
	25	0.246	0.269	0.259	0.213	15.5%	0.244	0.210	16.1%
	30	0.292	0.317	0.307	0.253	15.3%	0.288	0.249	15.9%
	35	0.350	0.377	0.368	0.304	15.0%	0.345	0.299	15.5%
	40	0.427	0.458	0.450	0.373	14.5%	0.421	0.367	15.0%
	45	0.536	0.572	0.565	0.471	13.8%	0.528	0.462	14.2%
	50	0.698	0.742	0.738	0.618	12.9%	0.687	0.607	13.2%
	55	0.969	1.027	1.025	0.867	11.8%	0.953	0.851	12.0%
	60	1.511	1.598	1.601	1.369	10.4%	1.484	1.343	10.5%
	65	3.136	3.315	3.329	2.886	8.7%	3.079	2.833	8.7%

## 6.4 Deferred Life Annuities (Refund of Premium)

In the following tables we compare the net yearly premiums

$$P_x^{\text{ref}} = \frac{{}_n|\ddot{a}_x}{\ddot{a}_{x:\overline{n}|} - \alpha (IA)_{x:\overline{n}|}^1} = \frac{{}_nE_x \ddot{a}_{x+n}}{\ddot{a}_x - {}_nE_x \ddot{a}_{x+n} - \alpha (IA)_{x:\overline{n}|}^1}$$

of deferred life annuities issued in 2005 to a person aged 20 to 65 and with an annuitization age of 55 to 70 years. On death before the end of the accumulation phase, a fraction  $\alpha$  of the accumulated premium payments so far is paid back at the end of the year of death. This refund of the accumulated premiums can be modelled by a standard increasing  $n$ -year term insurance  $(IA)_{x:\overline{n}|}^1 = \sum_{k=0}^{n-1} (k+1)v^{k+1} {}_k p_x \cdot q_{x+k}$  of an amount  $\alpha P_x^{\text{ref}}$ . In our examples, the extreme case  $\alpha = 1$  will be used. As one can see, the differences of the AVÖ 2005R to the AVÖ 1996R are similar to the case without refund, but the relative changes are a little smaller than without refund.

### Males



Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
55	20	0.475	0.498	0.511	0.407	16.7%	0.470	0.402	16.9%
	25	0.585	0.610	0.627	0.503	16.3%	0.578	0.496	16.4%
	30	0.739	0.767	0.789	0.638	15.8%	0.729	0.629	15.8%
	35	0.970	1.003	1.033	0.842	15.2%	0.956	0.830	15.1%
	40	1.355	1.397	1.438	1.185	14.4%	1.334	1.167	14.2%
	45	2.124	2.183	2.249	1.872	13.5%	2.087	1.844	13.2%
	50	4.427	4.540	4.675	3.937	12.4%	4.343	3.878	12.0%
60	20	0.357	0.378	0.389	0.297	20.3%	0.352	0.292	20.7%
	25	0.430	0.453	0.467	0.359	19.8%	0.424	0.353	20.1%
	30	0.529	0.553	0.571	0.443	19.2%	0.521	0.436	19.4%
	35	0.666	0.694	0.716	0.563	18.4%	0.655	0.553	18.6%
	40	0.872	0.904	0.934	0.742	17.5%	0.857	0.729	17.5%
	45	1.215	1.255	1.297	1.044	16.4%	1.192	1.025	16.3%
	50	1.900	1.955	2.020	1.649	15.2%	1.860	1.618	14.9%
55	3.946	4.051	4.183	3.467	13.8%	3.856	3.401	13.4%	
65	20	0.267	0.286	0.296	0.213	25.0%	0.263	0.209	25.6%
	25	0.316	0.337	0.349	0.255	24.3%	0.311	0.250	24.8%
	30	0.381	0.403	0.418	0.308	23.5%	0.374	0.302	23.9%
	35	0.466	0.490	0.509	0.380	22.5%	0.458	0.373	22.8%
	40	0.586	0.613	0.636	0.483	21.4%	0.574	0.473	21.5%
	45	0.765	0.796	0.826	0.637	20.0%	0.749	0.624	20.0%
	50	1.062	1.100	1.143	0.896	18.5%	1.038	0.877	18.3%
55	1.653	1.707	1.772	1.415	16.8%	1.612	1.385	16.4%	
60	3.417	3.520	3.654	2.974	14.9%	3.327	2.910	14.3%	
70	20	0.197	0.215	0.223	0.150	31.2%	0.193	0.146	32.1%
	25	0.230	0.249	0.260	0.177	30.3%	0.226	0.172	31.0%
	30	0.272	0.292	0.305	0.211	29.2%	0.267	0.206	29.8%
	35	0.326	0.348	0.364	0.255	27.9%	0.320	0.249	28.3%
	40	0.398	0.422	0.441	0.315	26.4%	0.390	0.308	26.7%
	45	0.499	0.525	0.549	0.400	24.6%	0.488	0.391	24.7%
	50	0.649	0.680	0.711	0.529	22.7%	0.633	0.516	22.6%
	55	0.898	0.936	0.978	0.745	20.5%	0.874	0.727	20.2%
	60	1.391	1.445	1.511	1.178	18.1%	1.353	1.150	17.6%
65	2.863	2.968	3.101	2.477	15.6%	2.777	2.418	14.9%	

## Females

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
55	20	0.501	0.527	0.515	0.464	7.8%	0.498	0.461	8.0%
	25	0.617	0.647	0.635	0.573	7.8%	0.614	0.568	8.0%
	30	0.782	0.816	0.804	0.726	7.6%	0.777	0.720	7.8%
	35	1.029	1.070	1.058	0.957	7.4%	1.022	0.949	7.6%
	40	1.441	1.494	1.483	1.345	7.2%	1.430	1.333	7.3%
	45	2.267	2.343	2.334	2.123	6.8%	2.248	2.103	6.9%
	50	4.743	4.889	4.888	4.460	6.3%	4.698	4.417	6.4%
60	20	0.379	0.403	0.392	0.346	9.5%	0.377	0.343	9.8%
	25	0.458	0.485	0.473	0.419	9.4%	0.455	0.414	9.7%
	30	0.564	0.594	0.582	0.516	9.3%	0.559	0.511	9.6%
	35	0.712	0.747	0.736	0.653	9.1%	0.706	0.646	9.3%
	40	0.935	0.977	0.967	0.860	8.7%	0.927	0.851	9.0%
	45	1.307	1.361	1.352	1.207	8.3%	1.295	1.193	8.5%
	50	2.050	2.128	2.123	1.902	7.8%	2.029	1.880	7.9%
55	4.275	4.427	4.434	3.992	7.1%	4.226	3.944	7.2%	
65	20	0.286	0.309	0.298	0.256	11.6%	0.284	0.253	12.1%

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
	25	0.340	0.365	0.354	0.305	11.6%	0.337	0.301	12.0%
	30	0.410	0.438	0.426	0.368	11.4%	0.406	0.364	11.8%
	35	0.503	0.535	0.523	0.453	11.2%	0.499	0.447	11.5%
	40	0.634	0.671	0.660	0.573	10.8%	0.628	0.565	11.1%
	45	0.830	0.874	0.865	0.753	10.3%	0.822	0.743	10.5%
	50	1.157	1.213	1.205	1.055	9.6%	1.143	1.041	9.8%
	55	1.807	1.890	1.886	1.661	8.8%	1.784	1.638	8.9%
	60	3.752	3.918	3.925	3.480	7.8%	3.700	3.431	7.9%
70	20	0.213	0.235	0.224	0.186	14.5%	0.212	0.184	15.1%
	25	0.250	0.274	0.263	0.219	14.4%	0.248	0.216	15.0%
	30	0.297	0.323	0.311	0.260	14.2%	0.294	0.256	14.8%
	35	0.357	0.385	0.374	0.313	13.9%	0.353	0.309	14.4%
	40	0.437	0.469	0.458	0.385	13.4%	0.432	0.379	13.9%
	45	0.548	0.586	0.575	0.486	12.8%	0.542	0.479	13.1%
	50	0.715	0.761	0.750	0.639	11.9%	0.706	0.629	12.2%
	55	0.991	1.052	1.042	0.894	10.9%	0.977	0.879	11.1%
	60	1.541	1.632	1.624	1.405	9.7%	1.518	1.382	9.8%
	65	3.182	3.365	3.365	2.939	8.3%	3.130	2.890	8.3%

## 6.5 Deferred Life Annuities (Refund of Premium and Guarantee Period)

In the following tables we compare the net yearly premiums

$$P_x^{\text{guarantee}} = \frac{{}_nE_x \cdot \ddot{a}_{\overline{m}|} + {}_{n+m}E_x \cdot \ddot{a}_{x+n+m}}{\ddot{a}_{x:\overline{m}|} - \alpha (IA)_{x:\overline{m}|}^1}$$

of deferred life annuities with  $m$  years of guaranteed payments, issued in 2005 to a person aged 20 to 65 and with an annuitization age of 55 to 70 years. On death before the end of the accumulation phase, a fraction  $\alpha$  of the premium payments so far is payed back at the end of the year of death. In our examples, the extreme case  $\alpha = 1$  will be used. After annuitization has started, payments are guaranteed for a period of length  $m$  regardless of the death of the insured. In the examples,  $m = 15$  years is used. A typical Austrian annuity contract offers both these features, a premium refund as well as a certain guarantee period, so the values of these comparisons can give insurance companies the best estimate of the changes compared to the previous valuation table.

As the mortality improvement is irrelevant for the payments during the guaranteed period, the relative differences of the AVÖ 2005R to the AVÖ 1996R are considerably smaller than for the case without such a guaranteed payment period.

### Males

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
55	20	0.478	0.501	0.513	0.414	15.4%	0.473	0.409	15.6%
	25	0.589	0.614	0.630	0.512	15.0%	0.582	0.506	15.1%
	30	0.745	0.773	0.793	0.650	14.5%	0.736	0.642	14.5%
	35	0.979	1.011	1.039	0.860	13.9%	0.966	0.849	13.8%
	40	1.369	1.410	1.448	1.210	13.1%	1.350	1.195	13.0%

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
	45	2.150	2.207	2.267	1.915	12.3%	2.118	1.890	12.0%
	50	4.490	4.597	4.720	4.033	11.3%	4.416	3.980	11.0%
60	20	0.360	0.381	0.391	0.306	17.8%	0.356	0.302	18.0%
	25	0.435	0.457	0.470	0.371	17.3%	0.429	0.366	17.4%
	30	0.535	0.559	0.575	0.458	16.6%	0.528	0.452	16.7%
	35	0.675	0.702	0.723	0.582	15.9%	0.666	0.574	15.9%
	40	0.886	0.917	0.945	0.770	15.0%	0.872	0.759	14.9%
	45	1.237	1.275	1.314	1.085	14.0%	1.217	1.070	13.8%
	50	1.938	1.992	2.051	1.717	12.9%	1.905	1.693	12.6%
55	4.039	4.140	4.260	3.618	11.6%	3.966	3.566	11.2%	
65	20	0.271	0.290	0.299	0.226	20.1%	0.268	0.222	20.3%
	25	0.322	0.342	0.353	0.270	19.4%	0.318	0.266	19.5%
	30	0.388	0.409	0.423	0.327	18.5%	0.383	0.323	18.6%
	35	0.476	0.500	0.517	0.405	17.6%	0.469	0.399	17.6%
	40	0.600	0.626	0.648	0.515	16.5%	0.591	0.508	16.4%
	45	0.787	0.817	0.845	0.682	15.3%	0.774	0.673	15.1%
	50	1.097	1.134	1.172	0.963	14.0%	1.079	0.949	13.6%
	55	1.716	1.768	1.827	1.525	12.5%	1.686	1.504	12.1%
60	3.571	3.669	3.787	3.218	11.0%	3.506	3.174	10.4%	
70	20	0.202	0.219	0.227	0.166	21.4%	0.199	0.164	21.7%
	25	0.237	0.255	0.265	0.197	20.5%	0.234	0.194	20.6%
	30	0.281	0.301	0.313	0.236	19.4%	0.278	0.232	19.4%
	35	0.339	0.359	0.374	0.287	18.2%	0.334	0.283	18.1%
	40	0.416	0.438	0.456	0.356	16.8%	0.410	0.351	16.7%
	45	0.524	0.549	0.571	0.454	15.4%	0.516	0.448	15.1%
	50	0.687	0.715	0.743	0.603	13.8%	0.676	0.596	13.5%
	55	0.958	0.993	1.031	0.854	12.2%	0.942	0.843	11.7%
	60	1.500	1.550	1.607	1.357	10.5%	1.475	1.342	10.0%
	65	3.123	3.218	3.332	2.871	8.8%	3.072	2.839	8.2%

## Females

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
55	20	0.502	0.529	0.516	0.467	7.6%	0.500	0.463	7.8%
	25	0.619	0.649	0.636	0.576	7.5%	0.616	0.572	7.7%
	30	0.785	0.819	0.806	0.731	7.4%	0.780	0.725	7.6%
	35	1.033	1.075	1.061	0.964	7.2%	1.026	0.956	7.4%
	40	1.449	1.502	1.488	1.355	6.9%	1.438	1.344	7.1%
	45	2.280	2.357	2.344	2.140	6.6%	2.262	2.121	6.7%
	50	4.774	4.922	4.912	4.499	6.1%	4.734	4.459	6.2%
60	20	0.381	0.405	0.393	0.349	9.0%	0.378	0.346	9.3%
	25	0.460	0.487	0.475	0.423	8.9%	0.457	0.419	9.2%
	30	0.567	0.597	0.584	0.521	8.7%	0.563	0.516	9.0%
	35	0.716	0.752	0.739	0.660	8.5%	0.711	0.654	8.7%
	40	0.942	0.985	0.972	0.871	8.2%	0.935	0.862	8.4%
	45	1.318	1.373	1.360	1.223	7.8%	1.307	1.211	7.9%
	50	2.069	2.149	2.137	1.930	7.2%	2.051	1.911	7.3%
55	4.322	4.478	4.469	4.055	6.6%	4.280	4.013	6.6%	
65	20	0.288	0.311	0.299	0.261	10.5%	0.286	0.258	10.8%
	25	0.343	0.368	0.355	0.311	10.3%	0.340	0.308	10.7%
	30	0.414	0.442	0.429	0.376	10.1%	0.411	0.372	10.4%
	35	0.508	0.540	0.527	0.463	9.8%	0.505	0.458	10.1%
	40	0.642	0.678	0.665	0.586	9.4%	0.636	0.580	9.7%
45	0.842	0.886	0.872	0.773	8.9%	0.834	0.765	9.1%	

Net Prem.		Individual Contracts					Group contracts		
Start	Age	AVÖ05	DAV04	ERM99	AVÖ96	'96→'05	AVÖ05	AVÖ96	'96→'05
	50	1.175	1.232	1.218	1.085	8.3%	1.164	1.073	8.4%
	55	1.841	1.925	1.910	1.712	7.5%	1.822	1.693	7.6%
	60	3.834	4.001	3.984	3.595	6.6%	3.793	3.556	6.7%
70	20	0.216	0.238	0.226	0.194	11.7%	0.215	0.192	12.1%
	25	0.254	0.278	0.265	0.228	11.5%	0.252	0.226	11.9%
	30	0.302	0.327	0.314	0.272	11.2%	0.300	0.269	11.5%
	35	0.364	0.392	0.378	0.328	10.8%	0.361	0.325	11.1%
	40	0.446	0.478	0.464	0.405	10.2%	0.443	0.400	10.5%
	45	0.562	0.600	0.585	0.513	9.6%	0.557	0.507	9.8%
	50	0.736	0.782	0.765	0.676	8.8%	0.729	0.669	9.0%
	55	1.026	1.086	1.067	0.951	7.9%	1.016	0.940	8.0%
	60	1.605	1.693	1.670	1.501	6.9%	1.588	1.485	7.0%
	65	3.338	3.514	3.479	3.155	5.8%	3.302	3.122	5.8%

## 7 Methodic Changes Compared to the AVÖ 1996R

The following table shows all changes compared to the AVÖ 1996R at a quick glance, together with a classification as first- or second-order effects:

Effect	2 <sup>nd</sup> O (real)	1 <sup>st</sup> O (secur.)
No long-term trend decline (Section 4.6.2)	+	
Corrected selection factors (Section 4.3.1)	+	
Higher future selection for females (Section 4.3.3)	(+)	+
No security margin on the selection <sup>17</sup>		-
0.2% additive selection effect on trend (Section 4.6.1) <sup>18</sup>	+	
0.3% additive security margin on trend (Section 4.7)		+
Increase of the hump in the trend for old ages (Section 4.7.2)	+	+
Linearization of the trend to ensure monotone $q_x$ (Section 4.7.3)		(+) <sup>19</sup>

## 8 Acknowledgements

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<sup>17</sup>The DAV 2004-R table uses a 10% security margin on the base table to account for model and parameter risk.

<sup>18</sup>Accounts only for the selection due to social status, not due to personal health.

<sup>19</sup>In real-life calculations this modification has no effect, as it happens mostly in the deferral time.