

## **SOA International Experience Study**

### **Estonia 2009**

#### **Introduction**

The 2009 Estonia experience study was undertaken as a joint research venture between the 4 Estonia insurance companies and the Society of Actuaries (SOA) International Experience Study (IES).

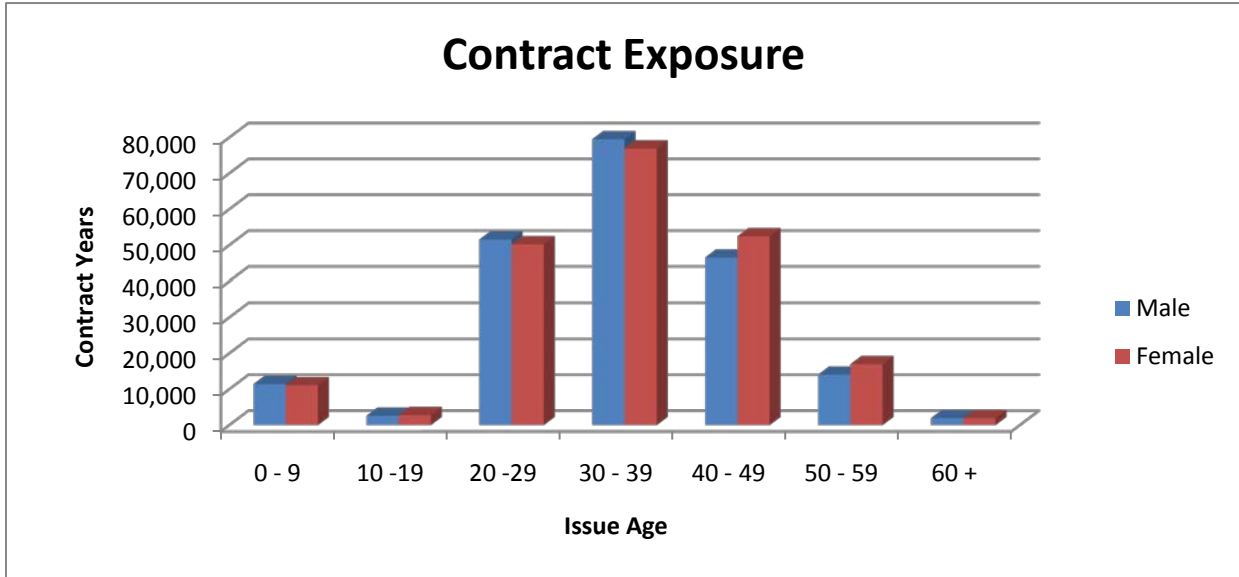
The 2009 Estonia experience study includes both mortality and persistency studies of policies in force any time during the 2006-2008 study period. The study applies to the entire portfolios of the contributing companies and these companies represent the vast majority of the Estonia individual life insurance market. Separate studies were performed based upon policy counts and insurance in force. Actual mortality was compared to expected mortality based upon the SOA 1975-80 select and ultimate mortality table.

Each of the contributing companies prepared a policy file of all policies in force during the study period that including policy, demographic and status information. These files were processed by each company using the SOA IES experience study tool and summary information was sent to the SOA Research Department for compilation. This report presents some of the summary information that was returned to the Estonia actuaries for their review.

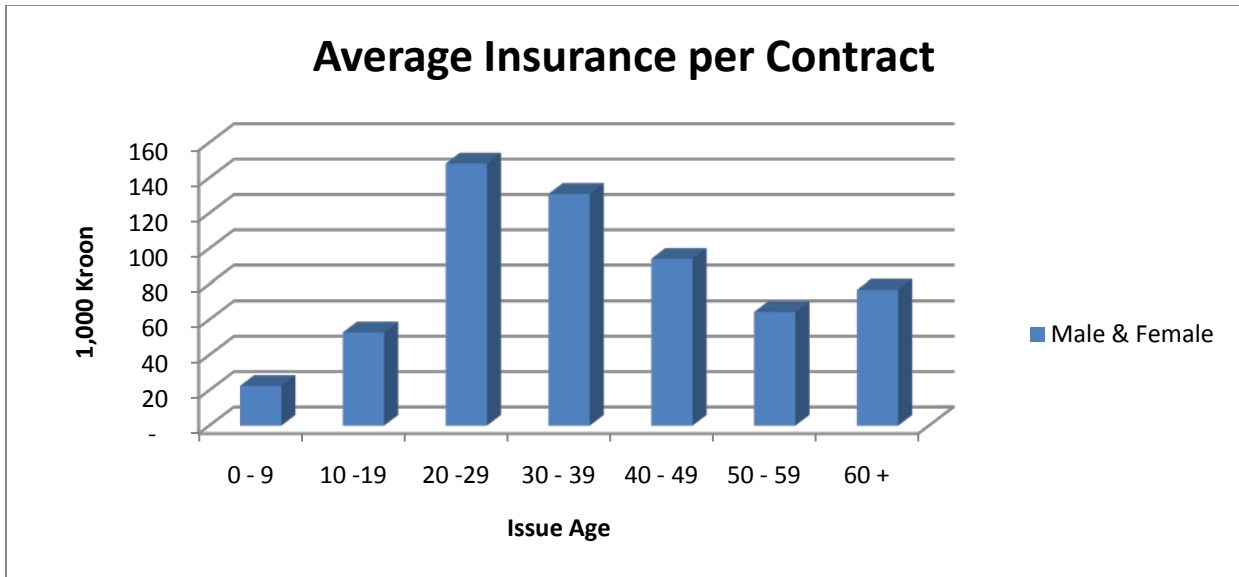
The study relied primarily upon the company actuaries to validate the quality of the data submitted although members of the SOA International Experience Study Working Group did review the data submissions for high level consistency. This study is the first study performed in Estonia and although there were no known data issues it is still expected that data quality is likely to improve as subsequent studies are performed.

## Results

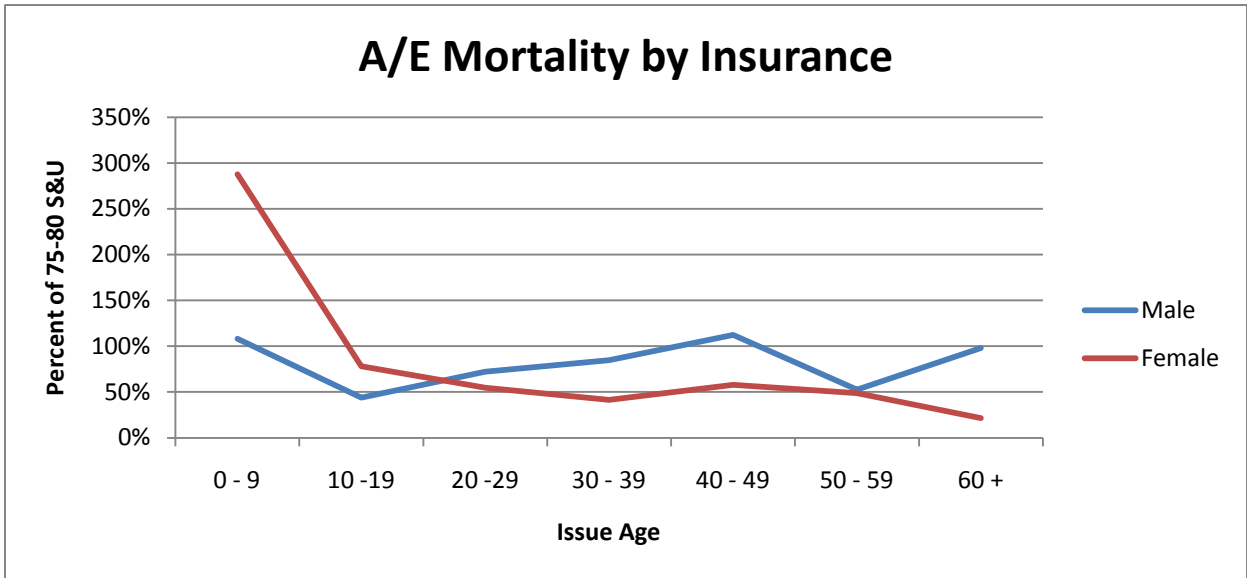
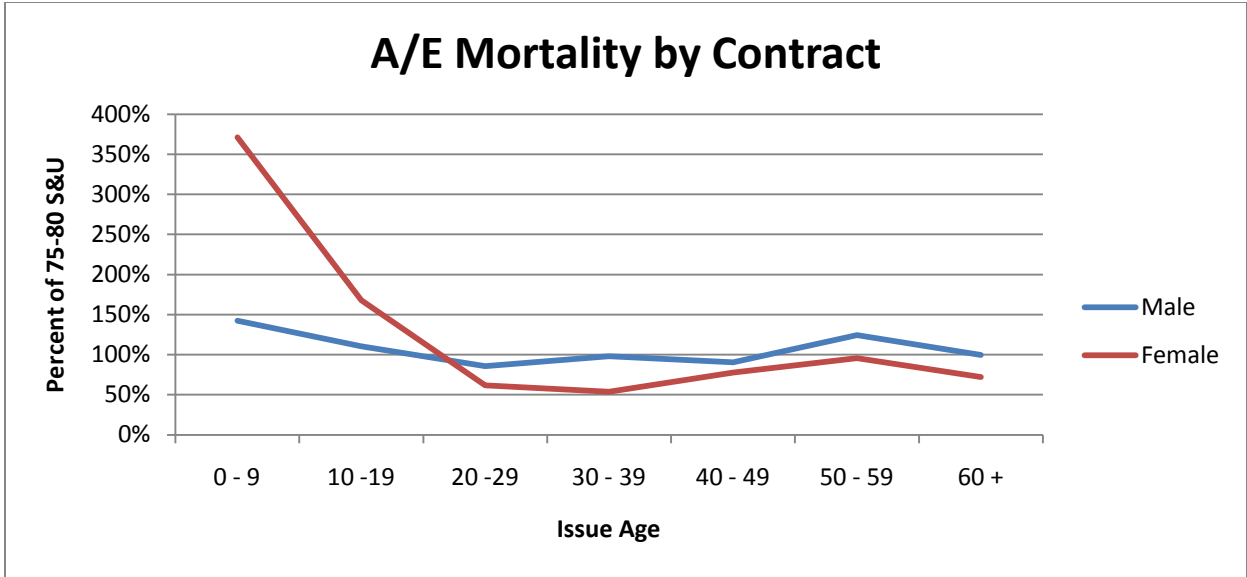
The graphs below illustrate results from the study. Additional detail is contained in the appendix to this report. The first graph shows the exposure to mortality risk based upon contracts. One contract year of exposure equals one contract in force for one year.



The next graph shows the average insurance (in thousand Kroons) per contract.

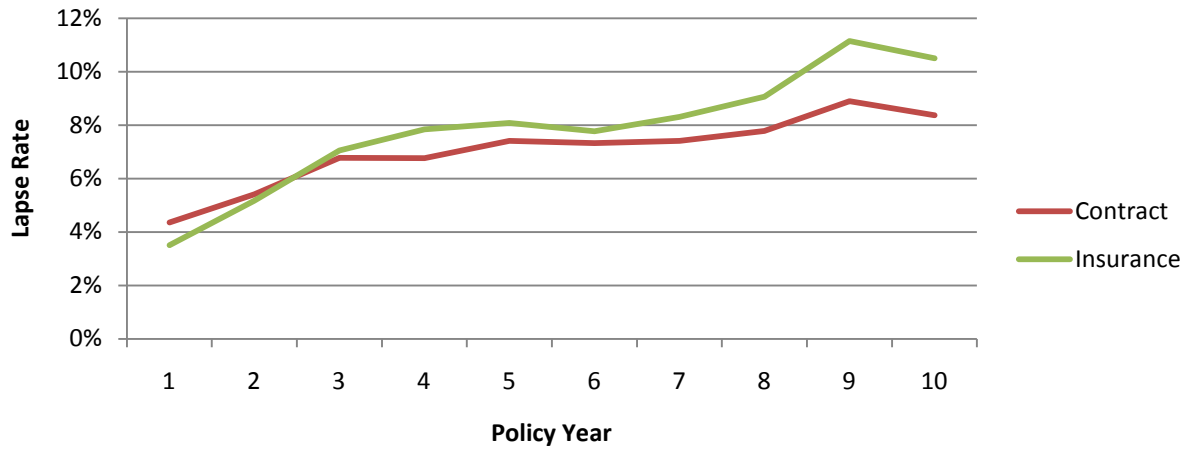


The next two graphs show the ratio of actual mortality to expected mortality based upon the SOA 1975-80 select & ultimate table. One graph is based upon contracts in force while the other is based upon insurance.



The final graph presents persistency by policy years

# Persistency



Appendix A: Mortality Data

Mortality By Contract - Males

Age At Issue	Exposure	Actual Claims	Expected Claims	Actual / Expected
0 - 9	11,432	11	8	143%
10-19	2,595	3	3	111%
20-29	51,562	34	40	86%
30-39	79,518	89	91	98%
40-49	46,559	109	120	91%
50-59	14,062	83	67	124%
60 +	1,958	20	20	100%
Total	207,686	349	348	100%

Mortality by Contract - Females

Age At Issue	Exposure	Actual Claims	Expected Claims	Actual / Expected
0 - 9	11,095	14	4	371%
10-19	2,793	2	1	168%
20-29	50,220	14	23	62%
30-39	76,937	36	67	54%
40-49	52,478	78	100	78%
50-59	16,973	47	49	96%
60 +	1,970	6	8	72%
Total	212,465	197	252	78%

Mortality by Insurance – Males

(Amounts in Kroon)

Age At Issue	Exposure	Actual Claims	Expected Claims	Actual / Expected
0 - 9	257,085,273	154,234	142,761	108%
10-19	146,493,994	65,992	150,828	44%
20-29	9,645,195,535	5,161,009	7,151,245	72%
30-39	13,030,590,469	11,208,194	13,207,852	85%
40-49	5,296,317,043	13,392,495	11,920,866	112%
50-59	1,175,782,074	2,935,585	5,575,418	53%
60 +	222,879,569	2,986,592	3,044,613	98%
Total	29,774,343,958	35,904,101	41,193,582	87%

Mortality by Insurance – Females  
(Amounts in Kroon)

<b>Age At Issue</b>	<b>Exposure</b>	<b>Actual Claims</b>	<b>Expected Claims</b>	<b>Actual / Expected</b>
0 - 9	249,170,125	219,890	76,421	288%
10-19	137,661,106	44,362	56,814	78%
20-29	5,424,555,333	1,223,698	2,240,138	55%
30-39	7,443,518,331	2,352,095	5,668,137	41%
40-49	4,024,506,534	3,889,780	6,719,317	58%
50-59	819,644,047	1,068,944	2,191,765	49%
60 +	78,752,150	83,829	388,511	22%
<b>Total</b>	<b>18,177,807,626</b>	<b>8,882,597</b>	<b>17,341,103</b>	<b>51%</b>

Appendix B: Persistency Data

Persistency by Contract

Policy Year	Exposure	Lapses	Lapse Rate
1	87,489	3,810	4.4%
2	67,322	3,644	5.4%
3	53,101	3,600	6.8%
4	44,814	3,030	6.8%
5	38,321	2,838	7.4%
6	36,904	2,701	7.3%
7	34,097	2,526	7.4%
8	27,533	2,141	7.8%
9	16,612	1,478	8.9%
10	8,134	681	8.4%
Total	414,328	26,449	6.4%

Persistency by Insurance  
(Amounts in Kroon)

Policy Year	Exposure	Lapses	Lapse Rate
1	14,480,711,685	506,811,511	3.5%
2	9,812,091,851	506,737,205	5.2%
3	6,779,898,429	478,333,422	7.1%
4	5,254,438,629	412,056,937	7.8%
5	3,755,569,694	303,504,738	8.1%
6	2,849,499,977	221,206,186	7.8%
7	2,326,087,949	193,122,217	8.3%
8	1,888,496,651	171,174,496	9.1%
9	1,199,676,609	133,674,486	11.1%
10	599,240,089	62,908,409	10.5%
Total	48,945,711,564	2,989,529,607	6.1%

## Appendix C: Contributing Companies

Compensa

Sampo

SEB

Swedbank