



**GROUPE CONSULTATIF ACTUARIEL EUROPEEN**  
EUROPEAN ACTUARIAL CONSULTATIVE GROUP

## **Survey on Gender Differentiation in Insurance**

*Prepared on behalf of Groupe Consultatif's Insurance Committee*

**Editor: Manuel Peraita**

*November 2007*

# **SURVEY ON SEX DIFFERENTIATION IN INSURANCE**

## **Context and Main findings (April 2007)**

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### **Context**

In 12/2004 the European Community adopted Council Directive 2004/113/EC implementing the principle of equal treatment of men and women in the access to and supply of goods and services. Member States are obliged to bring into force the laws, regulations and administrative procedures necessary to comply with this Directive at latest by 21 December, 2007.

The Directive outlaws gender discrimination in the provision of goods and services, including in the provision of insurance and related financial services. However, the Directive also provides that Member States may permit insurance companies to treat men and women differently, when it comes to premiums and benefits, if gender is a factor in determining risk.

Article 5.1 of the Directive requires Member States to ensure that, in all new contracts concluded after the transposition date, the gender as a factor in calculating premiums and benefits for the purposes of insurance and related financial services shall not result in differences in individuals' premiums and benefits.

Article 5.2 of the Directive then permits Member States to allow proportionate differences in individuals' premiums and benefits in limited situations. These situations occur when use of gender is a determining factor in the assessment of risk, based on relevant and accurate actuarial and statistical data. The Member State must notify the Commission of the permitted exemptions before the date of transposition of the Directive. Member States must also ensure that accurate data, relevant to the use of gender as a determining factor, are compiled, published and regularly updated.

### **Survey of the Groupe Consultatif Actuariel Européen**

Over the past months the Insurance Committee of the Groupe Consultatif Actuariel Européen has organised a survey with respect to the use of gender differentiation in the different insurance branches in Europe. The areas covered are individual life, disability, occupational pensions, health care and other non life insurances (motor, accident, critical illness).

The aim of this survey is not to try to reach any type of conclusion in favour or against gender differentiation in insurance, but to offer objective and reliable information on the situation in the different Member States regarding the topic. Besides more detailed information with respect to the different insurance branches, we also asked some general questions, for instance one on the state of implementation of, and the option chosen for the Gender Directive.

## **Main findings**

Based on the answers received, we can summarize a number of main findings. The more detailed responses can be found in the country by country survey.

### **Life insurance, private and occupational pensions**

- Regarding the mortality of the general population, in all Countries the observed mortality of men is significantly different from the mortality of women.
- Consequently in most countries life insurance coverage and private pensions are offered at premium rates that differentiate by gender.
- Because of these different patterns of mortality, death coverage is cheaper for women than for men and annuity rates are cheaper for men than for women.
- In a limited number of countries (France, Portugal) life insurance and pensions premium rates always are “unisex”. However these countries are considering the introduction in the future of rates that will differentiate by gender.
- In Denmark the rates for compulsory life and pension insurances must be the same for both sexes. In other countries, like Sweden, most of the death coverage and pension premiums related to occupational schemes are determined without differentiation of gender.
- The difference (in proportional terms) between the rates used for men and women vary from country to country and in many cases, from company to company within the same country. This difference also changes depending on the age because of the shape of the different patterns of mortality.

### **Health insurance and disability**

- Concerning health insurance and disability, the situation about sex differentiation on premium rates is very similar to life insurance.

### **Non life insurance**

- On the side of non-life insurances, motor insurance is the main branch that shows in most cases different rates for men and women when subscribing contracts. After some years of experience, in the case of bonus-malus rating methods, the main factor for the premium rating is the actual experience of the driver.

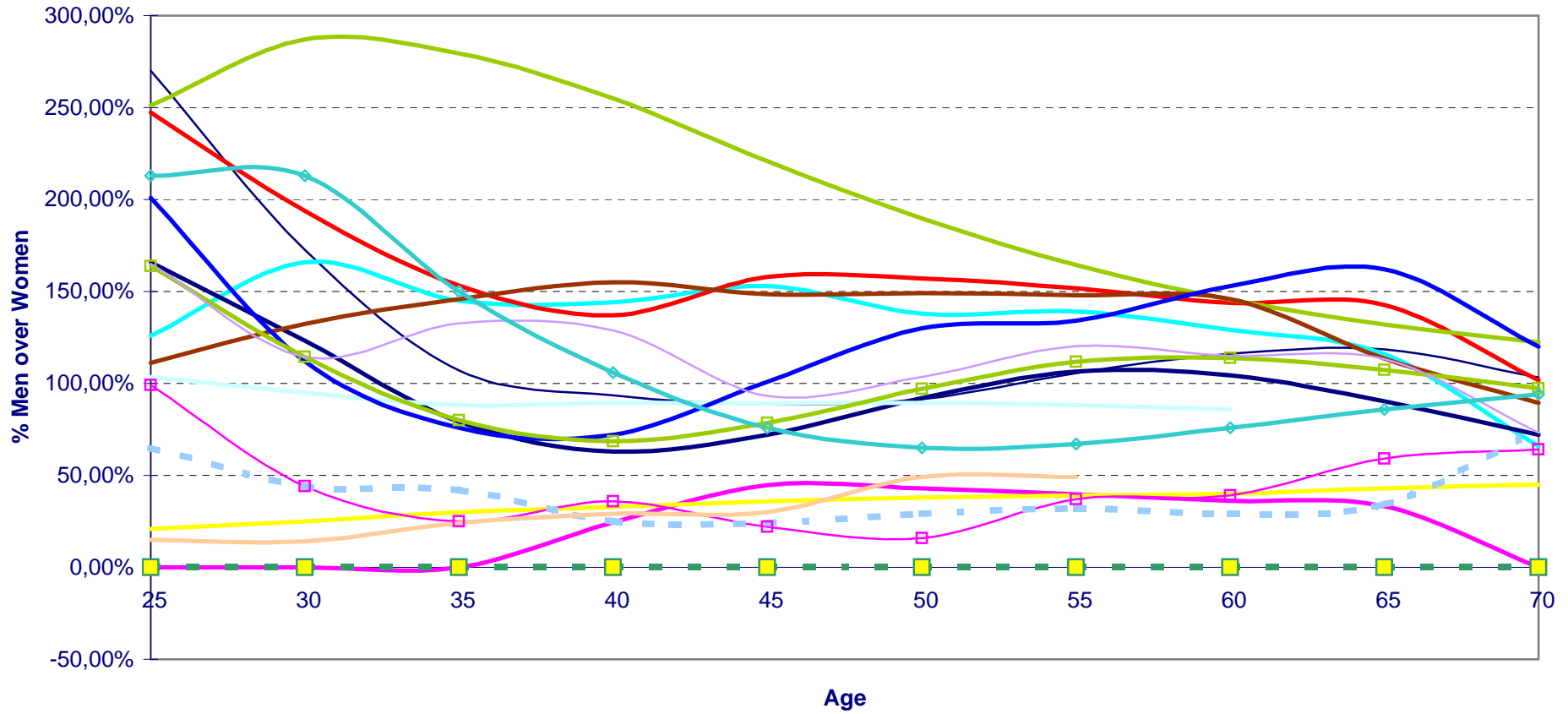
### **Other remarks**

- Some countries have set up “observatories” to analyse gender differentiation on insurance although these bodies have adopted different legal forms and representations. We have not received any official position paper from any of such bodies.
- We have summarised the information on life insurance premiums in three graphics, and the information about motor insurance in one table.

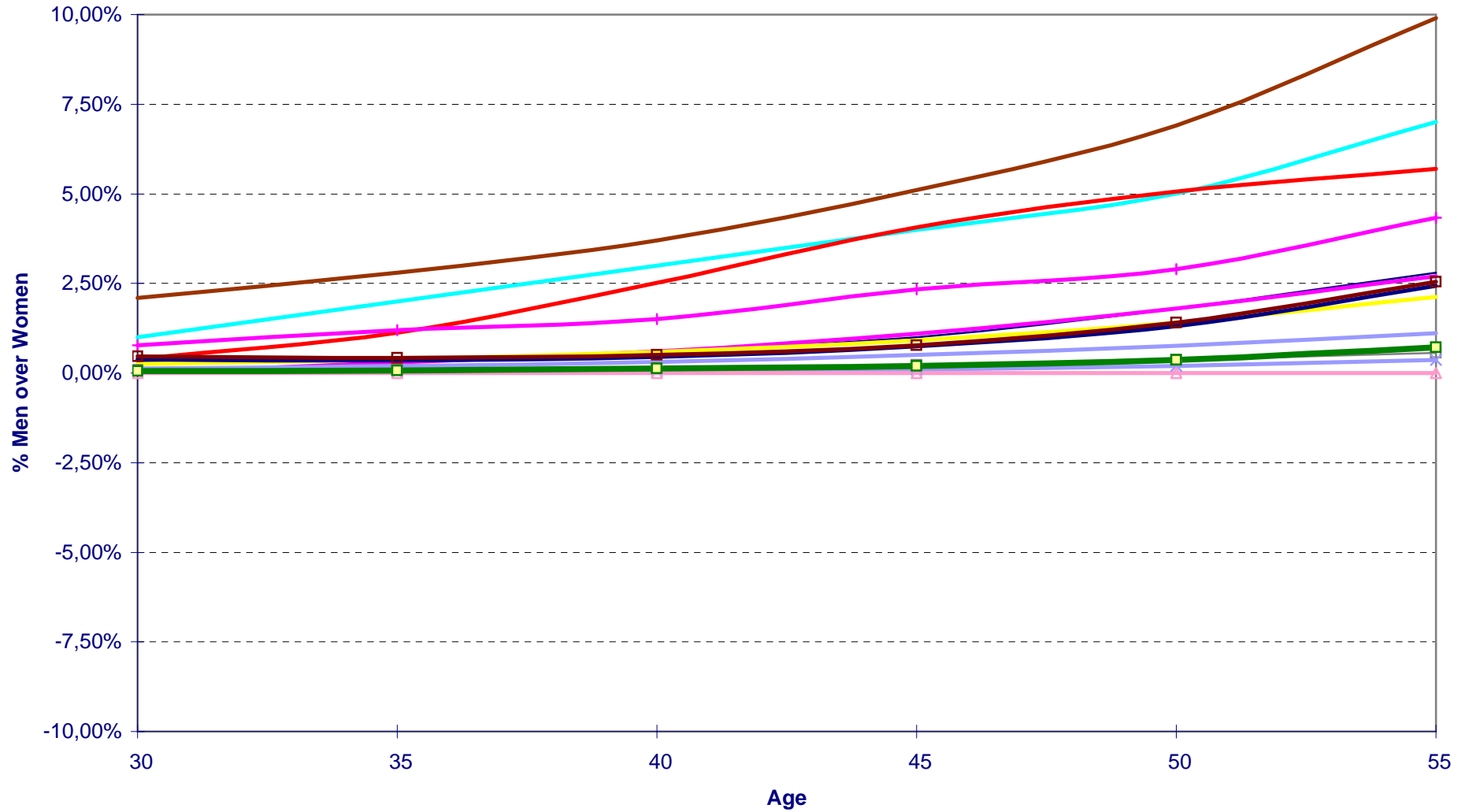
## **Future**

It is our intention to update this survey on a regular base, in order to provide an as accurate as possible overview of the way gender differentiation is practiced within Europe and its different Member States.

### Death Cover Individual Insurance

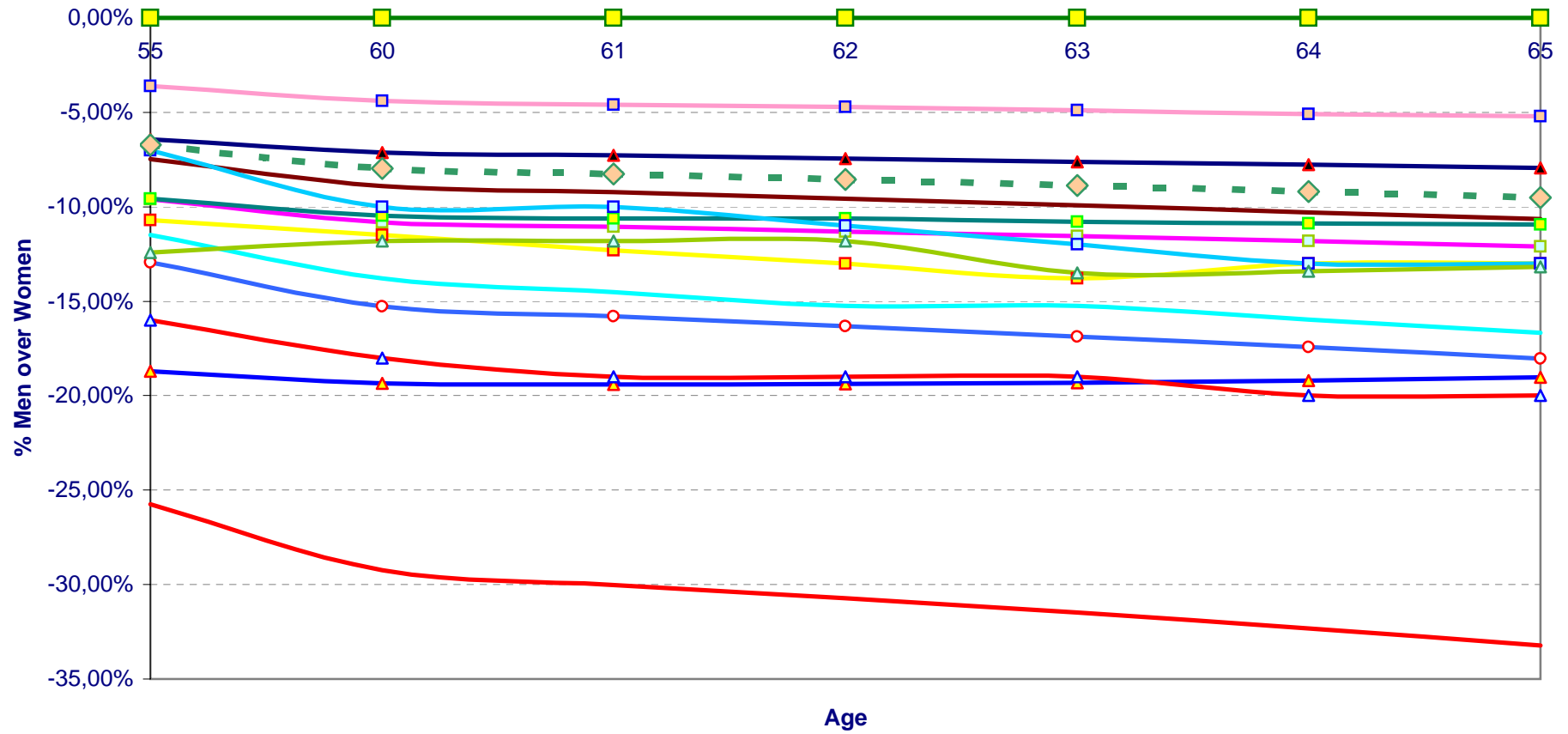


## Endowment



Retirement

Retirement



**SUMMARY OF INFORMATION RECEIVED ON SEX DIFFERENTIATION IN MOTOR INSURANCE**

<b>Country</b>	<b>Sect 1.3</b>	<b>Sect 2.4</b>
<b>Austria</b>	some differentiation by sex	nil return
<b>Belgium</b>	some differentiation by sex particularly under age 30	differentiation very small order of 1% to 5%
<b>Cyprus</b>	no comment	no differentiation by sex
<b>Czech</b>	differentiation by sex	nil return
<b>Denmark</b>	no comment	no differentiation by sex
<b>Estonia</b>	no comment	no differentiation by sex
<b>Finland</b>	no comment	no differentiation by sex
<b>France</b>	differentiation by sex	nil return
<b>Germany</b>	differentiation by sex	nil return
<b>Greece</b>	no comment	no differentiation by sex
<b>Hungary</b>	no comment	differentiation very small not significant
<b>Ireland</b>	private cover sex differentiated, commercial on unisex rates	small table ages 25 to 55 showing differentiation in the range of 77% to 21%
<b>Italy</b>	implied nil differentiation	nil return
<b>Latvia</b>	nil differentiation	nil return
<b>Lithuania</b>	some differentiation by sex	nil return
<b>Luxembourg</b>	no comment	nil return
<b>Malta</b>	no comment	nil return
<b>Netherlands</b>	no comment	nil return
<b>Poland</b>	no comment	nil return
<b>Portugal</b>	nil differentiation	differentiation by some companies in the area of No Claims Bonus rates
<b>Slovak</b>	differentiation occurs	only 2 companies out of 9 differentiate and order is small in the range 5% to 10%
<b>Slovenia</b>	no comment	nil return
<b>Spain</b>	some differentiation by sex	no values given - many companies differentiate
<b>Sweden</b>	experience based differentiation (no statement about sex specific)	nil return
<b>United Kingdom</b>	differentiation by sex	table ages 17 to 80 showing differentiation in the range of 56% to -21%

(UPDATED 2006)

COUNTRY : **Austria**Actuarial  
Organization **AVÖ Austrian Actuarial Association**Contact Person | Name: **Klaus Wegenkittl**  
E-mail: **klaus.wegenkittl@bacav-union.at**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?*

*Please provide a sample of " $q_x$ ".*

Yes, general population mortality tables are computed and published by the "Statistik Austria" (on [www.statistik-austria.at](http://www.statistik-austria.at)) and differentiate sexes.

Mortality according to the most recent table ÖVM/F 2000/2002  $q_x$  per thousand

Age	Male	Female
30	0,879	0,323
35	1,116	0,539
40	1,840	0,950
45	2,950	1,565
50	4,917	2,566
55	7,761	3,777
60	11,115	5,142
65	17,451	7,982
70	28,254	13,914
75	45,399	25,606
80	75,935	48,913

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes – not only mortality rates differ, but also the factors for the projection of future increases in life expectancy.

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

„Statistik Austria" (Statistics Austria) provides mortality tables each 10 years for population mortality (see [www.statistik.at](http://www.statistik.at)).

At the beginning of 2000, the former Austrian Central Statistical Office was separated from Government Services by a new Federal Statistics Act. It is now an independent and non-profit-making federal institution under public law and is called Statistics Austria. It is responsible for performing scientific services in the area of federal statistics.

The Federal Statistics Act of 2000 defines federal statistics as a (non-personal) information system of the government providing data on the economic, demographic, social, ecological and cultural situation in Austria. This information helps administrative bodies in planning and political decision-making procedures and in controlling the measures they have taken. Moreover, data are made available to the scientific and economic community and to the general public. Federal statistics comprises the compilation of statistics of all kinds as well as



**(UPDATED 2006)**

analyses, prognoses and statistical models which reach beyond the interests of an individual Austrian province. The statistics are decreed by international legal acts of the European Community, by federal laws and by regulations.

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

Statistik Austria provides mortality tables each 10 years for population mortality, which are used in term insurance and endowment. The AVÖ (Austrian Actuarial Association) develops mortality tables for annuities which are based on the tables published by Statistik Austria, but include safety margins and projections of future increases in life expectancy.

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

There are no official, commonly used accident rates. Some insurers differentiate by sex, some do not.

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

There are no official, commonly used sickness rates. All insurers differentiate by sex. The only risk that is not allowed to differentiate by sex is coverage of birth.

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

It will be the FMA (Finanzmarktaufsicht, which is the supervisory authority).

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	270,10 %
30	172,70 %
35	107,00 %
40	93,60 %
45	88,50 %
50	91,60 %
55	105,50 %
60	116,20 %
65	118,60 %
70	103,10 %

Net premiums without any costs and without profit participation.

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,30 %
35	0,40 %
40	0,60 %
45	1,00 %
50	1,80 %
55	2,80 %

Net premiums without any costs and without profit participation at interest rate 2,75%.

**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	-5,69 %
60	-6,32 %
61	-6,47 %
62	-6,63 %
63	-6,78 %
64	-6,94 %
65	-7,10 %

Net premiums without any costs and without profit participation at interest rate 2,75%.

**2.2. Disability**

There are no official, commonly used disability rates.

**2.3. Health Care**

There are no official, commonly used sickness rates

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

**(UPDATED 2006)**

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-6,43 %
60	-7,13 %
61	-7,28 %
62	-7,44 %
63	-7,61 %
64	-7,77 %
65	-7,93 %

Net premiums without any costs and without profit participation at interest rate 2,75%.

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	na
30	na
35	na
40	na
45	na
50	na
55	na
60	na
65	na
70	na

There are no specific rates for death (group life)

#### 3.3. Disability

There are no official, commonly used disability rates

(UPDATED 2006)

COUNTRY : **Belgium**Actuarial  
Organization **KVBA-ARAB**Contact Person | Name: **Eric DAOUT**  
| E-mail: **eric.daout@agf.be**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of "q<sub>x</sub>".*

Yes

Legal mortality tables, death cover

- Male q<sub>30</sub> = 0.001797 ; Female q<sub>30</sub> = 0.001118

- Male q<sub>50</sub> = 0.007388 ; Female q<sub>50</sub> = 0.004487

Updated market information as well as prospective mortality tables have also been computed with a difference based on sex.

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes.

Note: The Belgian federal planning bureau has also produced estimates of prospective mortality rates in a working paper dated November 2004. This market-wide analysis of prospective mortality rates has been differentiated by sex.

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

-Regulatory information

-Market information gathered by the Belgian association of insurance companies

-Company experience

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

Mortality tables used by insurers must comply with the following legal features:

- upper bonds on mortality rates for life operations and lower bonds on mortality rates for death operation

- differentiation based on sex authorized (different mortality rates are available)

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

P&C (excl. health)

Companies elaborate accident rates based on their own statistics.

Sex is usually used for differentiating in Motor, especially under the age of 30.

Health

Companies elaborate accident rates based on their own statistics for hospitalization and accident covers.

For disability, mortality tables are legal whereas revalidation rates can be based on market or own statistics.

**(UPDATED 2006)**

Globally,

- in individual lines rates vary according to sex
- in collective lines it is common market practice to apply unisex rates

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

*Has any document been already issued on this matter (if available please provide it)?*

**The Belgian Government adopted the Directive in April 2007 NOT USING the option to permit differentiation between men and women even if actuarially or statistically data could show differences.**

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

Several potential consequences of unisex tariffs have been identified by the Royal Belgian Actuarial Association, among those are:

- Upwards trend in premium rates
- Risk of a loss of global market GWP volume
- Sex discrimination issue might spread out to age and other rate making factors

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	41,00 %
30	na
35	53,20 %
40	na
45	56,30 %
50	na
55	43,60 %
60	na
65	na
70	na

Figures are based on AGF Belgium's tariff (assumed to be representative of the market)

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	na
35	na
40	na
45	na
50	na
55	na

**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability**

N.A.

**2.3. Health Care**

Based on AGF Belgium's rates (assumed to be representative of the market)

- Yearly premium, hospitalization, men 30 years w/o franchise, out of Brussels: 264 EUR
- Yearly premium, hospitalization, women 30 years w/o franchise, out of Brussels: 484 EUR
- Ratio (Men/Women) = 183%
- Yearly premium, hospitalization, men 50 years w/o franchise, out of Brussels: 608 EUR
- Yearly premium, hospitalization, women 50 years w/o franchise, out of Brussels: 611 EUR
- Ratio (Men/Women) = 100.5%

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

Based on average rate of Axa, Fortis, AGF, Winterthur & La Baloise. Other factors than sex remaining equal. Figures in EUR.

Type of cover	Male 45 y	Female 45 y	Men/Women
Motor Liability	450	445	101%
Motor Damage	740	730	101%
Type of cover	Male 25 y	Female 25 y	Men/Women
Motor Liability	530	500	106%
Motor Damage	895	850	105%



(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	na
60	na
61	na
62	na
63	na
64	na
65	na

Figures in EUR are based on AGF Belgium's tariff (assumed to be representative of the market)

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	51,40 %
30	na
35	68,30 %
40	na
45	70,60 %
50	na
55	55,80 %
60	na
65	34,90 %
70	na

Figures in EUR are based on AGF Belgium's tariff (assumed to be representative of the market)

#### 3.3. Disability

N.A.

(UPDATED 2006)

COUNTRY : **Cyprus**Actuarial  
Organization **Cyprus Association of Actuaries**Contact Person | Name: **Nicos Koullapis**  
E-mail: **n.koullapis@minerva.com.cy**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of "q<sub>x</sub>".*

No local mortality tables exist at the moment. Only life expectancy figures are published by the government's Department of Statistics.

Most Companies in Cyprus are using a proportion of the UK mortality table A67/70. The proportion for rates charged to the client is in most cases between 75% and 100%, although there may be cases with rates below the 75% (or higher for older policies). Sample rates (per mille) based on 90% of the table are:

Age	Males	Females
35	0,77	0,60
45	2,37	1,46
50	4,31	2,68
55	7,60	4,84
60	12,98	8,48

Note: For females a 4 year deduction in age is used in most cases although this is not a general rule. The rates are in Cyprus pounds.

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*  
Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

Own clients database, U.K. mortality tables, reinsurers' experience rates and data from the Department of Statistics.

The data is collected by the internal or the appointed actuaries.

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

The internal or the appointed actuaries in co-ordination with the Reinsurers. Yes, they do differentiation by sex.

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

The internal or the appointed actuaries in co-ordination with the Reinsurers.  
No differentiation by sex is done for accident rates.

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

The internal or the appointed actuaries in co-ordination with the Reinsurers.

**(UPDATED 2006)**

Yes, they do differentiation by sex.

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

Most likely for matters such as inequality in salaries and working status the information is gathered by the Departments of Work and Social Insurance. For insurance matters the information will be collected in co-ordination with the Superintendent of Insurance. We do not know whether any consultation has taken place and whether any 'observatory' has been created.

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

No other comments.

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

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By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	0,00 %
30	0,00 %
35	0,00 %
40	24,40 %
45	44,70 %
50	43,00 %
55	39,80 %
60	36,10 %
65	33,10 %
70	na

Based on sample rates for a particular life insurance company now operating in Cyprus

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,00 %
35	0,30 %
40	0,60 %
45	1,10 %
50	1,80 %
55	2,70 %

**(UPDATED 2006)**

Based on sample rates for a particular life insurance company now operating in Cyprus. This type of policies is not marketed in the Cyprus market any more

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

Single Premium Rates (immediate annuity, interest rate 2.5%)	
Age	Men/Women %
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability**

No differentiation exists for disability rates

**2.3. Health Care**

There is differentiation in health care rates. Some sample rates (per thousand) for a particular plan of a Company now operating in Cyprus are:

Age	Males	Females
35	117	144
60	268	330

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

No differentiation exists for motor and accident rates. There is differentiation though in critical illness rates. Some sample rates (per thousand) for a particular plan of a Company now operating in Cyprus are:

Age	Duration	Males	Females
35	20	4.99	4.63
50	15	17.60	12.29

**(UPDATED 2006)**

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-9,61 %
60	-10,83 %
61	-11,06 %
62	-11,31 %
63	-11,54 %
64	-11,81 %
65	-12,09 %

A discount rate of 2.5% and the U.K. mortality table A(90) have been used to derive the above whole life annuity due rates.

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	0,00 %
30	0,00 %
35	0,00 %
40	52,70 %
45	62,10 %
50	60,90 %
55	56,80 %
60	53,20 %
65	50,10 %
70	na

#### 3.3. Disability

No differentiation exists for group disability rates. The important factor here is occupation.

(UPDATED 2006)

COUNTRY : **Czech republic**Actuarial  
Organization **Czech Society of Actuaries**Contact Person | Name: **Jiri Fialka**  
E-mail: **jfialka@kpmg.cz**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes? Please provide a sample of "q<sub>x</sub>".*

Yes and there are significant difference.

Podrobné úmrtnostní tabulky za rok 2001 - qx per thousand

věk	muži	ženy
Age	Male	Female
30	1,08	0,40
35	1,47	0,57
40	2,27	1,23
45	4,23	1,66
50	7,11	3,19
55	11,76	4,91
60	17,34	7,52

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

Population stats gathered by the national stat office

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

Company actuary. Yes

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

Company actuary. Yes

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

Company actuary. Yes

(UPDATED 2006)

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

Ministry of Labour and Social Affairs. Little consultation has taken place. No "observatory" yet created.

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

Association of insurance companies and pension funds are trying to explain this to government.



(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	na
30	na
35	na
40	na
45	na
50	na
55	na
60	na
65	na
70	na

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	na
35	na
40	na
45	na
50	na
55	na

(UPDATED 2006)

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates</b> <b>(immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability****2.3. Heath Care****2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	na
60	na
61	na
62	na
63	na
64	na
65	na

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	na
30	na
35	na
40	na
45	na
50	na
55	na
60	na
65	na
70	na

#### 3.3. Disability

(UPDATED 2006)

COUNTRY : **Denmark**Actuarial  
Organization **Den Danske Aktuarforening**Contact Person | Name: **Steen Ragn Andersen**  
E-mail: **ragn@sbaktuar.dk**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of "q<sub>x</sub>".*

Life table(2 years tables) (2004-2005 pr. 000)

Age	male	female
30	0,78	0,38
35	1,04	0,63
40	1,75	0,97
45	2,91	1,97
50	4,85	3,09
55	7,30	4,71
60	11,33	7,78
65	17,74	10,99
70	28,25	20,12
75	47,87	32,66
80	80,87	51,67

by Statistics Denmark ([www.statistikbanken.dk](http://www.statistikbanken.dk))

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

Each company collects own data and uses the population development as well.

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

Each company elaborates the tables. They differentiate by sex if it is not a part of an occupational pension scheme (prohibited by law to differentiate in compulsory parts of occupational pension schemes if policies are issued July 1999 or later).

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

Each company elaborates the tables. They differentiate by sex if it is not a part of an occupational pension scheme (prohibited by law to differentiate in compulsory parts of occupational pension schemes if policies are issued July 1999 or later).

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

**(UPDATED 2006)**

Each company elaborates the tables. They differentiate by sex if it is not a part of an occupational pension scheme (prohibited by law to differentiate in compulsory parts of occupational pension schemes if policies are issued July 1999 or later).

***1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.***

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

No Knowledge of any governmental action

*Has any document been already issued on this matter (if available please provide it)?*

***1.5. Any other general comment on sex differentiation in Insurance in your Country.***

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered "usual" or "competitive" in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	21,00 %
30	25,00 %
35	30,00 %
40	33,00 %
45	36,00 %
50	38,00 %
55	39,00 %
60	40,00 %
65	43,00 %
70	45,00 %

Note:  $my(x)/my(y) - 1$  på TB99

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,25 %
35	0,38 %
40	0,59 %
45	0,91 %
50	1,40 %
55	2,13 %

Note:  $E(65) / a(x:x+10)$  på TB99 - 2.50%

(UPDATED 2006)

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

Single Premium Rates (immediate annuity, interest rate 2.5%)	
Age	Men/Women %
55	--
60	--
61	--
62	--
63	--
64	--
65	--

Note: TB99 - 2.50%

**2.2. Disability**

Normally women pay rate of men + 50%. However the proportion of the profit sharing may be bigger for women. Many company schemes are unisex.

**2.3. Health Care**

No sex differentiation (but small business in Denmark)

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

No sex differentiation

(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	
60	
61	
62	
63	
64	
65	

Prohibited by law to differentiate in compulsory parts of occupational pension schemes if policies are issued July 1999 or later. Most occupational pension schemes use unisex premiums of all coverage

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	na
30	na
35	na
40	na
45	na
50	na
55	na
60	na
65	na
70	na

#### 3.3. Disability



(UPDATED 2006)

COUNTRY : **Estonia**Actuarial  
Organization **Estonian Actuarial Society**Contact Person | Name: **Raine Talvet**  
E-mail: **raine.talvet@ergo.com.ee**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of " $q_x$ ".

Yes.

$q_x$  per thousand

Age	Male	Female
30	3.07	0,77
35	4.20	1.47
40	7.28	2.18
45	11.49	3.43
50	15.24	4.80
55	19.98	7.38
60	29.14	9.98

### 1.2. Differentiation of sex in projections of future evolution of population

Is sex taken into account when making projections of the general population?

Yes, sex is taken into account

### 1.3. Information used by insurers to differentiate on sex for pricing

What are the main sources of information used by insurers? Who gathers the data?

Statistical Office of Estonia, mother-companies, reinsurers, companies own data

Who elaborates the mortality tables used by insurers? Do they differentiate by sex?

Insurers themselves, mother-companies. Mortality tables are differentiated by sex.

Who elaborates the accident rates used by insurers? Do they differentiate by sex?

Insurers themselves, mother-companies. Most companies differentiate accident rates by sex.

Who elaborates the sickness rates used by insurers? Do they differentiate by sex?

Insurers themselves, mother-companies. Most companies differentiate sickness rates by sex.

**(UPDATED 2006)**

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

Estonian governmental bodies, the Ministry of Finance and the Ministry of Social Affairs, and the public office, Financial Supervision Authority, have not adopted the methodology to establish the article 5 of the EU directive 2004/113/EC.

Obviously the Ministry of Finance in collaboration with Financial Supervision Authority will constitute the working group to develop the methodology and to establish this according to the article 5 of the EU directive 2004/113/EC

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

*Clarification: the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country*

*By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.*

*The percentages that are shown have been determined in the following way:*

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

*If Dif(%) > 0 this means that men would pay more than women.*

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	126,00 %
30	166,00 %
35	145,00 %
40	144,00 %
45	153,00 %
50	138,00 %
55	139,00 %
60	129,00 %
65	116,00 %
70	66,00 %

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	1,00 %
35	2,00 %
40	3,00 %
45	4,00 %
50	5,00 %
55	7,00 %

**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability**

Age	Men/Women %
25	35%
30	33%
35	31%
40	28%
45	25%
50	23%
55	48%
60	80%

This means that at age 25 the men's rate is 35% higher than the women's rate

**2.3. Health Care**

The volume of private health insurance in Estonia is very small (<0.5% of total insurance premiums). In the case of private insurance rates are mostly differentiated by sex, but in state system rates are not differentiated by sex.

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

In Non Life most rates are not differentiated by sex (no differentiation in motor). The only line of business, where rates are mostly differentiated by sex is Personal Accident (the rates for men are approximately 1/3 higher than for women).

Critical Illness in Estonia is sold only by Life companies. Critical Illness rates are differentiated by sex

**(UPDATED 2006)**

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-10,70 %
60	-11,50 %
61	-12,30 %
62	-13,00 %
63	-13,80 %
64	-13,00 %
65	-13,00 %

In Estoniathere are not special products for groups. Occupational pensions are sold very rarely to groups.

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	na
30	na
35	na
40	na
45	na
50	na
55	na
60	na
65	na
70	na

In Estoniathere are not special products for groups. Occupational pensions are sold very rarely to groups.

#### 3.3. Disability

(UPDATED 2006)

COUNTRY : **Finland**Actuarial  
Organization **Actuarial Society of Finland**Contact Person | Name: **Esko Kivisaari**  
E-mail: **esko.kivisaari@vakes.fi**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of "q<sub>x</sub>".

Yes.

qx per thousand

Age	Male	Female
30	1.21	0.38
35	1.72	0.94
40	2.34	0,95
45	4.01	1.71
50	6.08	2.77
55	8.43	3.5
60	11,52	4,38

Source: SF, Population Statistics:Demographics

### 1.2. Differentiation of sex in projections of future evolution of population

Is sex taken into account when making projections of the general population?

Yes, as you see mortalities and life expectancies differ by sex substantially

### 1.3. Information used by insurers to differentiate on sex for pricing

What are the main sources of information used by insurers? Who gathers the data?

Basically insurers gather the data by themselves. The Actuarial Society of Finland has, however, recently produced a new model for "net" mortality. By the word "net" we mean here that no safety loading to any direction has not been specified. This means that companies must use their own safety loadings (higher longevity in pensions, shorter longevity in life cover in case of death). The companies are, however, in no way obliged to use the model of the Actuarial Society

Who elaborates the mortality tables used by insurers? Do they differentiate by sex?

As stated above, the Actuarial Society has just produced a "table" or in fact a model that certainly differentiates by sex. The model is given below:

K2004 mortality for an insured born in year "sv" and aged now "x" years is  
 $\mu_{sp}(x,sv) = \max\{0.0001, asp(sv)\} + \exp\{csp(x,sv)\}$

where  $asp(sv)$  are gender dependent functions.

Mortality does not include safety loading in either way.

Who elaborates the accident rates used by insurers? Do they differentiate by sex?

**(UPDATED 2006)**

The accident rate is basically on the responsibility of each company. We however have a statutory workman's compensation scheme underwritten by private insurance companies. The central body of this scheme collects data from this area and publishes it regularly. Therefore, companies have good data for their use. The data exists separately for males and females and differences are high enough to motivate different tariffs for different sexes.

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

The sickness rate is on the responsibility of each company. They usually (apparently always) differentiate by sex.

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

The Insurance Unit of the Ministry of Social Affairs and Health is in charge of this. There has been informal consultation. No "observatory" has been created.

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

The Insurance Unit of the Ministry of Social Affairs and Health is in charge of this. There has been informal consultation. No "observatory" has been created.

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	213,00 %
30	213,00 %
35	150,00 %
40	106,00 %
45	76,00 %
50	65,00 %
55	67,00 %
60	76,00 %
65	86,00 %
70	94,00 %

Premiums differ from company to company

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	na
35	na
40	na
45	na
50	na
55	na

Premiums differ from company to company



**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability**

Premiums differ from company to company

**2.3. Health Care**

Premiums differ from company to company

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

Apparently no differences between sexes in other lines of business

**(UPDATED 2006)**

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-11,50 %
60	-13,79 %
61	-14,53 %
62	-15,25 %
63	-15,25 %
64	-15,97 %
65	-16,67 %

Annuity factors differ from company to company, we can only refer to the model above

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	213,00 %
30	213,00 %
35	150,00 %
40	106,00 %
45	76,00 %
50	65,00 %
55	67,00 %
60	76,00 %
65	86,00 %
70	94,00 %

Premiums differ from company to company, we can only refer to the model above

#### 3.3. Disability

Premiums differ from company to company

(UPDATED 2006)

COUNTRY : **France**Actuarial  
Organization **Institut des Actuaires**Contact Person | Name: **Thierry Poincelin**  
E-mail: **tpoincelin@agirc-arrco.fr**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?*

*Please provide a sample of "q<sub>x</sub>".*

The National Institute of Statistics (Institut National de la Statistique et des Etudes Economiques) issues regularly mortality tables for men and women.

Insurance companies are not allowed to use male mortality tables for men and female mortality tables for women. But they use prospective female tables for annuities.

In health care insurance, insurers and mutuals use disability tables by sex.

Contracts (or risk): Population on which the table has been calculated: Age	Examples of q <sub>x</sub> (per 000)			Year of birth
	TD 88 90	TV 88 90	TPRV 93	
	death male	life female	annuities female (1)	
30	1,674	0,620	0,634	1975
35	2,107	0,908	0,752	1970
40	2,850	1,241	1,033	1965
45	4,359	1,942	1,524	1960
50	6,687	2,757	2,246	1955
55	10,601	3,895	3,152	1950
60	15,656	5,725	3,834	1945

(1) the age is calculated in 2005

New tables based on statistics for years 2002 to 2004 are expected soon but they are not yet completed.

The French Federation of Insurance Companies (FFSA), by the National Federation of French Mutuality (FNMF) and by the technical committee of precaution (CTIP), and the government are thinking to use new mortality tables and to distinguish males and females. This could be achieved before the end of 2005.

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

The projections of future evolutions in population made by the national institute of statistics, by the basic pension scheme and by the mandatory additional pensions schemes (pay as you go schemes), use mortality tables by sex. INSEE tables for the basic pensions scheme and additional for workers (ARRCO), the mandatory additional pensions scheme for managers (AGIRC) uses its own mortality tables by sex.

(UPDATED 2006)

**1.3. Information used by insurers to differentiate on sex for pricing***What are the main sources of information used by insurers? Who gathers the data?*

The main sources of information are the results observed in companies and national statistics. The data are gathered by the French Federation of Insurance Companies (FFSA), by the National Federation of French Mutuality (FNMF) and by the technical committee of precaution (CTIP).

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

The prospective table has been calculated by the French Federation of Insurance Companies. (FFSA). These tables are calculated by differences between the observed mortality in insured population and general population. One table for males and females (see point 1.1)

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

The accident rates are calculated either by the insurers (or mutual insurance companies) themselves or by their federations. They differentiate by sex.

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

The disability rates are fixed by the regulators, but a company (or a mutual company or a precaution institution) may use its own table if it is certified by an independent actuary.

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.***Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

The Ministry for Finances is in charge of this matter. The consultation was established between the government and FFSA mainly. France succeeded to show that the distinction between males and females is not a discrimination in life, health care and motor insurance (for example). Distinguishing males and females in such cases is a result of the statistics. France has tried to demonstrate to the Commission that gathering sexes in life insurance leads to increase in fact the premiums of annuities for men, idem for health care, and in motor insurance to increase the premiums for women, so everybody loses!

I believe there no official "observatory"

However the Prime Minister has settled a Minister for the Parity and the Professional Equality (Ministère de la Parité et de l'Égalité Professionnelle)

*Has any document been already issued on this matter (if available please provide it)?***1.5. Any other general comment on sex differentiation in Insurance in your Country.**

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered "usual" or "competitive" in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	0,00 %
30	0,00 %
35	0,00 %
40	0,00 %
45	0,00 %
50	0,00 %
55	0,00 %
60	0,00 %
65	0,00 %
70	0,00 %

Contrats temporaires table TD 88/90

Interest rate: 2,4%

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,00 %
35	0,00 %
40	0,00 %
45	0,00 %
50	0,00 %
55	0,00 %

Capitaux différés table TV 88/90 durée 10 ans

**(UPDATED 2006)**

Interest Rate: 2,4%

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability****2.3. Health Care****2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

**(UPDATED 2006)**

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	0,00 %
60	0,00 %
61	0,00 %
62	0,00 %
63	0,00 %
64	0,00 %
65	0,00 %

Pure conversion without loadings TPRV93

Interest rate: 3%

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	0,00 %
30	0,00 %
35	0,00 %
40	0,00 %
45	0,00 %
50	0,00 %
55	0,00 %
60	0,00 %
65	0,00 %
70	0,00 %

In death group life it is usual to use a discount from 25% to 50% on the legal mortality table (TD 88/90).

Interest rate: 2,4%

#### 3.3. Disability

(UPDATED 2006)

COUNTRY : **Germany**Actuarial  
Organization **DAV Deutsche Aktuarvereinigung e.V.**Contact Person | Name: **Horst Loebus**  
E-mail: **horst.loebus@hamburg-mannheimer.de**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of " $q_x$ ".

$q_x$  per thousand

Age	Male	Female
30	0,69	0,34
35	0,95	0,50
40	1,49	0,82
45	2,65	1,49
50	4,48	2,52
55	7,09	3,78
60	10,81	5,56
65	16,79	7,76
70	26,88	13,48
75	44,98	24,46
80	71,43	46,59

### 1.2. Differentiation of sex in projections of future evolution of population

Is sex taken into account when making projections of the general population?

Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

What are the main sources of information used by insurers? Who gathers the data?

Databases of the Federal Statistical Office Germany: official statistical agencies of the Federal Statistical Office Germany

Databases of Deutsche Rentenversicherung: Deutsche Rentenversicherung

Gesamtverband der Deutschen Versicherungswirtschaft e.V. (GDV): Members of GDV

Who elaborates the mortality tables used by insurers? Do they differentiate by sex?

Teams of actuaries, which consist of members of the DAV. Yes

Actuaries of Insurance Companies. Yes

Who elaborates the accident rates used by insurers? Do they differentiate by sex?

Teams of actuaries, which consist of members of the DAV. Yes

Actuaries of Insurance Companies. Yes

Who elaborates the sickness rates used by insurers? Do they differentiate by sex?

Teams of actuaries, which consist of members of the DAV. Yes



**(UPDATED 2006)**

Actuaries of Insurance Companies. Yes

***1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.***

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

*Has any document been already issued on this matter (if available please provide it)?*

***1.5. Any other general comment on sex differentiation in Insurance in your Country.***

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If Dif(%) > 0 this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	163,74 %
30	114,29 %
35	79,94 %
40	68,53 %
45	78,65 %
50	97,13 %
55	111,87 %
60	113,89 %
65	107,39 %
70	97,28 %

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,47 %
35	0,42 %
40	0,50 %
45	0,78 %
50	1,41 %
55	2,54 %

**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates</b> <b>(immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability****2.3. Health Care**

Sample of Health Care Premiums, year 2004 (in Euros)

Age	Male	Female
30	179,95	233,41
35	202,89	249,55
40	230,68	265,25
45	261,85	284,85
50	296,95	306,47
55	333,42	328 54
60	373,45	351,22

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-7,48 %
60	-8,91 %
61	-9,23 %
62	-9,57 %
63	-9,93 %
64	-10,29 %
65	-10,64 %

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	na
30	na
35	na
40	na
45	na
50	na
55	na
60	na
65	na
70	na

#### 3.3. Disability

(UPDATED 2006)

COUNTRY : **Greece**Actuarial  
Organization **Hellenic Actuarial Society**Contact Person | Name: **Costa J. Koutsopoulos**  
E-mail: **jckou@hellasnet.gr**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of "q<sub>x</sub>".*

Yes.

1990 Raw rates (published by the National Statistical Service, graduated by the Hellenic Actuarial Society)

qx per thousand

Age	Male	Female
30	1,03	0,48
35	1,27	0,55
40	1,85	0,81
45	2,60	1,35
50	4,05	1,99
55	6,84	3,10
60	11,54	5,37

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

In the past foreign tables were used. Recently, the Hellenic Actuarial Society constructed and graduated domestic mortality tables based on insured lives. These will presumably be adopted and they differentiate both by sex and by insurance and pensions (i.e., four different tables). Projection scales have also been developed. The insured lives "qx" will be available soon.

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

The market's mortality experience will be henceforth monitored by the Hellenic Actuarial Society

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

These are empirically determined (company experience), though in the future there may be continuing disability investigation similar to the continuing mortality investigation initiated recently.

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

**(UPDATED 2006)**

These are also empirically determined (company experience).

***1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.***

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

No consultaion and no observatory on the Government side. The Association of Insurers in Greece and the Hellenic Actuarial Society will jointly be monitoring the issue.

*Has any document been already issued on this matter (if available please provide it)?*

***1.5. Any other general comment on sex differentiation in Insurance in your Country.***

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	165,00 %
30	114,40 %
35	132,70 %
40	128,90 %
45	93,20 %
50	103,50 %
55	120,20 %
60	114,90 %
65	113,10 %
70	73,30 %

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,40 %
35	0,50 %
40	0,70 %
45	1,00 %
50	1,70 %
55	3,00 %

**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability**

The rates are "occupation driven" with no differentiation by sex

**2.3. Health Care**

Definitely differentiated by sex based on company and marketwide experience

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

Normally no differentiation by sex. There may be extra premium for accident in the case of young males.



(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-9,58 %
60	-10,47 %
61	-10,63 %
62	-10,63 %
63	-10,79 %
64	-10,87 %
65	-10,95 %

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	165,00 %
30	114,40 %
35	132,70 %
40	128,90 %
45	193,20 %
50	103,50 %
55	120,20 %
60	114,90 %
65	113,10 %
70	73,30 %

These rates do not differ materially from the rates for individuals. There is often a "reduction" both for men and women in the group (e.g. use of 0,9.qx instead of the Tabular male or female qx)

#### 3.3. Disability

No differentiation by sex

(UPDATED 2006)

**COUNTRY :** Hungary

Actuarial Organization: Hungarian Actuarial Society (MAT)

Contact Person: Name: Istvan Kerenyi  
E-mail: istvan.kerenyi@khab.hu

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes? Please provide a sample of "q<sub>x</sub>".*

qx per thousand

Age	Male	Female
30	1,28	0,44
35	2,03	0,80
40	4,40	1,86
45	8,10	3,14
50	13,16	5,12
55	17,87	7,10
60	24,50	10,05
65	34,47	14,20
70	46,52	23,06
75	69,97	39,40
80	98,73	67,94

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Insurance Companies do not project general population

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

A central Government office gathers, most of the cases national statistics

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

No nationwide mortality table of insured people is available. Big companies might use own statistics others use national mortality tables

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

See next

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

No nationwide accident and sickness table of insured people is available. Companies use nation wide very broad data or buy statistics from a firm who prepares statistics for one county (approx 4% of the country) both are differentiated by sex.

In all pro

(UPDATED 2006)

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

We don't have any new about how the government is tackling this matter.

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

*Clarification: the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country*

*By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.*

*The percentages that are shown have been determined in the following way:*

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

*If Dif(%) > 0 this means that men would pay more than women.*

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	247,32 %
30	193,94 %
35	153,35 %
40	136,99 %
45	157,86 %
50	157,12 %
55	151,91 %
60	143,82 %
65	142,68 %
70	101,69 %

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,40 %
35	1,12 %
40	2,52 %
45	4,07 %
50	5,06 %
55	5,70 %

**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	-18,70 %
60	-19,35 %
61	-19,40 %
62	-19,39 %
63	-19,32 %
64	-19,19 %
65	-19,02 %

**2.2. Disability**

Rates differ by sex similarly to difference in mortality.

**2.3. Health Care**

Rates differ by sex

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

Critical Illness rates differ by sex

Accident rates do not differ ( except for some group contracts)

Motor: Some market players distinguish by sex but difference is not significant.

(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-18,70 %
60	-19,35 %
61	-19,40 %
62	-19,39 %
63	-19,32 %
64	-19,19 %
65	-19,02 %

Remark: No real market yet

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	247,32 %
30	193,94 %
35	153,35 %
40	136,99 %
45	157,86 %
50	157,12 %
55	151,91 %
60	143,82 %
65	142,68 %
70	101,69 %

#### 3.3. Disability

Rates differ by sex similarly to difference in mortality

(UPDATED 2006)

COUNTRY : **Ireland**Actuarial  
Organization **Society of Actuaries in Ireland (SAI)**Contact Person | Name: **Jim Murphy**  
E-mail: **jim.murphy@lifestrat.ie**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of “ $q_x$ ”.*

Yes.

ILT14  $q_x$  per thousand

Age	Male	Female
30	1,07	0,35
35	1,15	0,63
40	1,56	0,97
45	2,30	1,45
50	3,84	2,52
55	6,37	3,84
60	10,75	6,25

The Central Statistics Office (CSO) in Ireland publishes general population mortality tables. The latest table available is Irish Life Table 14 (ILT14), which covers the period 2001 – 2003. Mortality rates are published separately for males and females. As ILT14 is based on the population rather than insured lives, it is not used directly for pricing or reserving purposes by life insurers in Ireland.

The SAI has also produced various papers on mortality and morbidity, including a paper on population mortality and morbidity, a copy of which is available on request.

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes, the CSO publishes population projections by sex (and by age group).

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

Life insurers use a variety of data sources, primarily published tables, reinsurers and internal data. Published tables include, in particular, data published by the Continuous Mortality Investigation Bureau (CMIB) in the UK, which has developed tables based on UK insured lives data and UK annuitant data.

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

Life insurers in Ireland typically use mortality tables published by the CMIB in the UK, with adjustments to reflect estimated differences between UK and Irish insured lives/annuitant mortality experience. Different tables are available for insured lives and annuitants and rates are published separately for males and females.

**(UPDATED 2006)**

For Group Life insurance, scheme profile and experience may have a bearing on the premium rates charged depending on the size of the scheme.

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

Non-life insurers will typically determine accident rates based on an analysis of their own claims experience. A multivariate analysis will normally be conducted to take account of all identified factors at the same time (sex, age, size of car etc.). Advice from reinsurers may also be taken into account.

For private motor insurance, rates are differentiated by sex. For small commercial policies and/or motor fleet policies, a unisex rate generally applies but taking account of scheme experience.

Rates for accident benefit riders on life insurance policies are typically based on advice from reinsurers and taking own company experience into account, depending on the size and credibility of the data.

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

For critical illness business, reinsurers are the main source of data for pricing purposes, as critical illness benefits tend to be more heavily reinsured than life cover benefits and as there is no standard table for critical illness pricing purposes. T

#### **1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

The Department of Justice, Equality and Law Reform (JELR) in Ireland has been responsible for coordinating the Irish input at European level to date and will be responsible for implementing the Directive into Irish Law. The Department of JELR established an implementation steering group which comprised representatives from various interested parties including the insurance industry and the Society of Actuaries in Ireland

*Has any document been already issued on this matter (if available please provide it)?*

The steering group (Working Group) made a number of recommendations including that Ireland should avail of the derogation. This will allow Ireland to permit differences in:

- \* Premiums and benefits in Life Assurance and Mortgage protection
- \* Critical Illness cover
- \* Income protection cover
- \* Annuities
- \* Pensions
- \* Motor Insurance

The Government has accepted the recommendations of the Working Group and has authorised the drafting of legislation for their implementation, by way of amendments to the Civil Law (Miscellaneous Provisions) Bill 2006, which is at present awaiting committee stage in the Dáil.

The full report of the Working Group is published on the Department's website, [www.justice.ie](http://www.justice.ie)



**(UPDATED 2006)**

***1.5. Any other general comment on sex differentiation in Insurance in your Country.***

The SAI prepared a briefing note that provides further background on the topic in the context of the Irish insurance market.

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	15,00 %
30	14,00 %
35	24,00 %
40	29,00 %
45	30,00 %
50	49,00 %
55	49,00 %
60	na
65	na
70	na

One year standard cover not available in the market for individual business, we have used term assurance – Life Cover- for 10 years for a non-smoker.

If we considered critical illness cover in addition to life the percentages would change significantly at

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	na
35	na
40	na
45	na
50	na
55	na

**(UPDATED 2006)**

Endowment business is not a particular feature of the Irish market in new business terms.

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability**

A typical differential of 50% applies between males and females for disability insurance in Ireland i.e. premiums for females are usually based on morbidity rates that are 50% heavier than those used for males.

**2.3. Health Care**

Private health insurance in Ireland is subject to community rating by law (see SAI briefing note) and therefore males and females are charged the same premium.

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

The premium rate differential between males and females for motor insurance in Ireland is greatest at younger ages reducing gradually for older ages. The following table shows the male/female differential based on the average of sample quotations from leading motor insurers:

Age	Third Party Fire & Theft Cover	
	Comprehensive Cover	Comprehensive Cover
25	77%	46%
30	29%	30%
35	31%	31%
40	28%	28%
45	24%	24%
50	21%	21%
55	21%	21%

(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-7,00 %
60	-10,00 %
61	-10,00 %
62	-11,00 %
63	-12,00 %
64	-13,00 %
65	-13,00 %

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	na
30	na
35	na
40	na
45	na
50	na
55	na
60	na
65	na
70	na

Group Life cover rates are not readily available as rates will vary by, among other things, scheme size

#### 3.3. Disability

Group Disability rates are not readily available as rates will vary by, among other things, scheme size

(UPDATED 2006)

COUNTRY : **Italy**Actuarial  
Organization **Instituto Italiano Attuari**Contact Person | Name: **Claudio Tomassini**  
E-mail: **c.tomassini@gruppoina.it**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of " $q_x$ ".

Yes.

2000 ISTAT  $q_x$  per thousand

Age	Male	Female
30	0,96	0,36
35	1,09	0,50
40	1,46	0,79
45	2,18	1,24
50	3,61	2,04
55	6,00	3,02
60	9,68	4,64

### 1.2. Differentiation of sex in projections of future evolution of population

Is sex taken into account when making projections of the general population?

Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

What are the main sources of information used by insurers? Who gathers the data?

Main sources are public entities (ISTAT, national statistic; Minister of Economy)  
Insurers use national data and/or in-house or market statistics (portfolio experience)  
Sex differentiation mostly in mortality and sickness coverages

Who elaborates the mortality tables used by insurers? Do they differentiate by sex?

Main sources are public entities (ISTAT, national statistic; Minister of Economy)  
Insurers use national data and/or in-house or market statistics (portfolio experience)  
Sex differentiation mostly in mortality and sickness coverages

Who elaborates the accident rates used by insurers? Do they differentiate by sex?

Main sources are public entities (ISTAT, national statistic; Minister of Economy)  
Insurers use national data and/or in-house or market statistics (portfolio experience)  
Sex differentiation mostly in mortality and sickness coverages

Who elaborates the sickness rates used by insurers? Do they differentiate by sex?

Main sources are public entities (ISTAT, national statistic; Minister of Economy)  
Insurers use national data and/or in-house or market statistics (portfolio experience)  
Sex differentiation mostly in mortality and sickness coverages

(UPDATED 2006)

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

No information about consultation or observatory.

ISTAT will prepare the data

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

Differences in motor insurance rates.

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	165,96 %
30	123,33 %
35	79,01 %
40	62,99 %
45	71,98 %
50	91,94 %
55	106,48 %
60	104,36 %
65	90,31 %
70	72,18 %

This rates are for 10 years term insurance. No individual cover is offered on the basis of one year term.

This rates are for non smokers.

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,38 %
35	0,35 %
40	0,45 %
45	0,74 %
50	1,31 %
55	2,43 %

(UPDATED 2006)

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

Single Premium Rates (immediate annuity, interest rate 2.5%)	
Age	Men/Women %
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability****2.3. Heath Care****2.4. Other Non Life (Motor, Accident, Critical Illness,...)**



**(UPDATED 2006)**

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-12,94 %
60	-15,27 %
61	-15,79 %
62	-16,32 %
63	-16,88 %
64	-17,44 %
65	-18,03 %

Technical interest rate: 2%

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	0,00 %
30	0,00 %
35	0,00 %
40	0,00 %
45	0,00 %
50	0,00 %
55	0,00 %
60	0,00 %
65	0,00 %
70	0,00 %

In the market some insurers use also rates that differentiate by sex.

#### 3.3. Disability

(UPDATED 2006)

COUNTRY : **Latvia**Actuarial  
Organization **Latvian Actuarial Association**Contact Person | Name: **Gaida Pettere**  
E-mail: **gaida@latnet.lv**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?*

*Please provide a sample of " $q_x$ ".*

The general population mortality is computed and published by the State Statistical Bureau. On a continuing basis the probabilities are computed and published differentiating by sexes.

$q_x$  per thousand

Age	Male	Female
30		
35		
40		
45		
50		
55		
60		

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Sex is taken into account when making projections of the gender populations. Particularly with projection of a life expectancy, as the difference between male and female mortality rates are significant. There is no trend for the life expectancies of males and females to come closer. The differences in life style and health, as well as incidence of some particular diseases, like heart diseases, predefines the difference in the gender life expectancy and it is not prognosed that those differences will vanish.

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

The State Statistical bureau gathers data and produces the mortality tables also used by insurers and state social system.

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

Each insurer may elaborate the mortality tables, for example models some specific pattern that is particular for insurable population. For all insurers mortality rates used differs between males and females.

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

Each insurer produces accident rates basing of the statistics available. Usually they do not differ by sex.

**(UPDATED 2006)**

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

Each insurer produces sickness rates basing of the statistics available. Usually they do not differ by sex.

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

Ministry of Social affairs are officially reporting to the Commission regarding implementation of Directive on equal treatment between women and men in the access to and supply of goods and services. Still there is no methodology adopted and no governmental office has taken direct responsibility of gender issue in mortality rates.

Mortality studies are made by the State Statistical Bureau by producing actual statistics for men and female; Latvian Actuarial Association and Association of Statisticians evaluate standard (population) mortality rates and produce mortality prognoses. Latvian Actual Association provides their point of view to the Ministry of Welfare by using state supervisory body (Finance and Capital Market Commission) as an intermediary as the state supervisory body compiles the opinion of the market players (Latvian Association of Insurers) and Latvian Actuarial Association.

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

Due to considerably different mortality statistics between males and females, usage of different tariffs in life insurance is not considered as sex discrimination.

As life insurance is voluntary the insurer have to take into account the possible antiselection. Thus all risk factors having statistical evidence has to be taken into account when evaluating and accepting insured risk. Gender is the most important risk. If gender caused differences shall be omitted in the mortality tables, due to the antiselection risk insurance tariff will not be averaged but rather the higher tariff shall be used: women will have to pay considerably more for term life, while men will have to contribute more to cover extra 5 years over their standard pension time.

Certainly there are several social, demographic and economical factors having influence the difference. Resulting in on average 250% difference between mortality rates that does not exceed to exist aver the years. These statistical facts are undoubted. Objective facts and obstacles cannot be acknowledged as prepossession promoting non-equal treatment against some particular gender group.

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	251,22 %
30	286,96 %
35	279,52 %
40	255,00 %
45	220,85 %
50	189,83 %
55	164,31 %
60	145,45 %
65	132,17 %
70	122,47 %

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	na
35	na
40	na
45	na
50	na
55	na

**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability****2.3. Heath Care****2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

**(UPDATED 2006)**

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-25,74 %
60	-29,23 %
61	-30,02 %
62	-30,72 %
63	-31,49 %
64	-32,33 %
65	-33,23 %

We do not have differences. Accumulated money is divided by average expected length of life

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	0,00 %
30	0,00 %
35	0,00 %
40	0,00 %
45	0,00 %
50	0,00 %
55	0,00 %
60	0,00 %
65	0,00 %
70	0,00 %

No differences in rates.

#### 3.3. Disability

(UPDATED 2006)

COUNTRY : **Lithuania**Actuarial  
Organization **Lithuanian Actuarial Society**Contact Person | Name: **Gintaras Bakstys**  
E-mail: **gintaras.bakstys@maf.vu.lt**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of "q<sub>x</sub>".*

Approximately 4 different sets of life tables are used, but no one of them is published. At least two sets of annuitants' death probabilities are to be used. Authority one might be reconstructed using published obligatory annuities values. All tables in use are separate for males and females

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*  
Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

Main sources are following: own experience, official statistics, data provided by other insurers and reinsurers. Every company collects its data itself.

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

All tables in use are produced by companies itself or by reinsurers. All they differentiate by sex

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

All tables in use are produced by companies itself or by reinsurers. Not all of them the differentiate by sex

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

All tables in use are produced by companies itself or by reinsurers. All they differentiate by sex

### 1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

**(UPDATED 2006)**

Ministry of Social Security and Labour is responsible for all questions concerning gender discrimination

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

No



(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	111,20 %
30	132,50 %
35	146,00 %
40	155,10 %
45	148,60 %
50	149,20 %
55	147,80 %
60	146,00 %
65	113,40 %
70	89,40 %

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	2,10 %
35	2,80 %
40	3,70 %
45	5,10 %
50	6,90 %
55	9,90 %

**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability**

Unisex rates are to be applied in case of accidental disability

**2.3. Health Care**

Rates are different for males and females

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

Critical illness tables are different for males and females

**(UPDATED 2006)**

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-12,43 %
60	-11,82 %
61	-11,82 %
62	-11,82 %
63	-13,49 %
64	-13,42 %
65	-13,19 %

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	111,10 %
30	132,90 %
35	146,20 %
40	154,90 %
45	148,70 %
50	149,20 %
55	147,80 %
60	145,90 %
65	113,40 %
70	89,30 %

Individual rates with rebate are to be used in case of group business

#### 3.3. Disability

No local figures available

(UPDATED 2006)

COUNTRY : **Poland**Actuarial Organization **Polskie Stowarzyszenie Aktuariuszy (Polish Society of Actuaries)**Contact Person | Name: **Dr. Krzysztof Stroiński**  
E-mail: **kstroinski@deloittece.com**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes? Please provide a sample of "q<sub>x</sub>".*

Yes, it is published in Polish Population Mortality Tables.

Sample probabilities of death for Polish Population Mortality Table 2002

qx per thousand

Age	Male	Female
0	8,13	6,79
30	1,49	0,41

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes it is. GUS (Główny Urząd Statystyczny), statistical office in Poland takes gender into account when making population projections

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

The statistical office is the only source of demographic data for Polish population. Some companies use modified mortality tables of insured lives of mother companies from more developed markets.

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

Actuarial departments prepare databases with mortality data and based on the combined sources of information perform pricing and valuations.

Recently the Society of Actuaries started in Poland an exercise of calculation of mortality tables of insured lives from data of insurance companies that agreed to contribute. The exercise results will be distributed to the participating insurance companies.

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

### 1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal

**(UPDATED 2006)**

***treatment between women and men in the access to and supply of goods and services.***

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any “observatory” been created?*

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	-17,00 %
30	-27,00 %
35	-32,00 %
40	na
45	na
50	na
55	na
60	na
65	na
70	na

Monthly premiums, for 5 years contract

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,77 %
35	1,20 %
40	1,51 %
45	2,33 %
50	2,90 %
55	4,33 %

(UPDATED 2006)

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

Single Premium Rates (immediate annuity, interest rate 2.5%)	
Age	Men/Women %
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability**

Sample monthly premiums payable for disability insurance with PLN 1000 sum assured, 5 years contract

Age	Male	Female
25	0,11	0,18
30	0,18	0,28
35	0,34	0,43
40	0,89	0,93
45	1,55	1,43

#

**2.3. Health Care**

Health insurance is not yet developed in the Polish market, hence no data is available. The only insurance available is one year renewable group contract. The premium is set up on a group basis and is the same for all participants. The premium rate can change on regular basis.

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

Accident insurance, dread disease insurance, partial or permanent disability insurance are offered as riders to life insurance and are typically differentiated by age. When sold as non-life insurance separate products, especially accident in a package with motor insurance or for a group, no sex differentiation is made.

Example of dread disease insurance premium for 5 year contract with PLN 1000 Sum Assured.

Age	Male	Female	Difference(*)
25	0,27	0,20	35,00%
30	0,39	0,26	50,00%
35	0,52	0,36	44,44%
40	0,83	0,54	53,70%
45	1,18	0,75	57,33%
50	1,76	1,02	72,55%
55	2,65	1,49	77,85%

(\*) percentage of higher premium for men

(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	na
60	na
61	na
62	na
63	na
64	na
65	na

Occupational Pensions are based on Defined Contribution Schemes and the contribution rate is the same for males/females. Benefits will be calculated on retirement, based on the accumulated capital. There are no annuity conversion rates yet available. The

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	na
30	na
35	na
40	na
45	na
50	na
55	na
60	na
65	na
70	na

No death benefit is offered in the area of occupational pensions. The benefits are available under social insurance basic scheme and contributions rate is the same for males/females.

For group insurance segment there are usually two approaches depending



**(UPDATED 2006)****3.3. Disability**

No disability benefit is offered in the area of occupational pensions. The benefits are available under social insurance basic scheme and contributions rate is the same for males/females.

For group insurance segment, premium rates for disability differ b

(UPDATED 2006)

COUNTRY : **Portugal**Actuarial  
Organization **Instituto dos Actuários Portugueses (IAP)**Contact Person | Name: **Maria de Nazaré Barroso**  
E-mail: **mnebarroso@iseg.utl.pt**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of " $q_x$ ".

Yes.

pm/pf 94  $q_x$  per thousand

Age	Male	Female
30	2,55	0,67
35	2,77	0,98
40	3,52	1,34
45	4,47	2,14
50	5,84	2,85
55	10,53	4,37
60	16,22	8,54

### 1.2. Differentiation of sex in projections of future evolution of population

Is sex taken into account when making projections of the general population?

Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

What are the main sources of information used by insurers? Who gathers the data?

INE - Instituto Nacional de Estatística

ISP - Instituto de Seguros de Portugal

APS - Associação Portuguesa de Seguradores

Who elaborates the mortality tables used by insurers? Do they differentiate by sex?

Universities or Reinsurers.

Yes

Who elaborates the accident rates used by insurers? Do they differentiate by sex?

Reinsurers.

No

Who elaborates the sickness rates used by insurers? Do they differentiate by sex?

Reinsurers.

No

(UPDATED 2006)

***1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.***

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

Instituto de Seguros de Portugal (ISP)

No.

No.

*Has any document been already issued on this matter (if available please provide it)?*

***1.5. Any other general comment on sex differentiation in Insurance in your Country.***

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	0,00 %
30	0,00 %
35	0,00 %
40	0,00 %
45	0,00 %
50	0,00 %
55	0,00 %
60	0,00 %
65	0,00 %
70	0,00 %

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,00 %
35	0,00 %
40	0,00 %
45	0,00 %
50	0,00 %
55	0,00 %

**(UPDATED 2006)****2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	0,00 %
60	0,00 %
61	0,00 %
62	0,00 %
63	0,00 %
64	0,00 %
65	0,00 %

**2.2. Disability**

Equal for men and women.

**2.3. Heath Care**

Some companies do differentiation

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

In Motor, there are some Insurance Companies that are reducing the rates of premiums of Women with a consistent basis behind, because companies have statistics that show women's cost of claims are lower, when compared with men.

The reduction in premiums rates is done, in some Companies, using the Bonus/Malus system, by making women's being in Bonus faster than men.

Generally no differentiation is used on Personal Accidents.

(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	0,00 %
60	0,00 %
61	0,00 %
62	0,00 %
63	0,00 %
64	0,00 %
65	0,00 %

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	0,00 %
30	0,00 %
35	0,00 %
40	0,00 %
45	0,00 %
50	0,00 %
55	0,00 %
60	0,00 %
65	0,00 %
70	0,00 %

#### 3.3. Disability

Equal for men and women.

(UPDATED 2006)

**COUNTRY :** **Slovak Republic**

Actuarial Organization **Slovak Society of Actuaries**

Contact Person | Name: **Jelica Klucovska**  
E-mail: **jkluovska@kpmg.sk**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of "q<sub>x</sub>".*

Mortality tables are published by Demographic Research Centre with cooperation of Statistical Office of the Slovak Republic. The published tables differentiate sexes and in year 2005 was mortality as follows (qx per thousand):

Age	Male	Female
30	1,068	0,457
35	1,875	0,702
40	3,048	1,138
45	5,639	2,216
50	8,989	3,197
55	14,402	5,026
60	21,527	7,919
65	31,096	12,356
70	45,943	21,815
75	168,632	38,488
80	106,647	73,789

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

Population statistics are gathered by the Statistical Office of the Slovak Republik

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

Company actuary

Yes

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

Company actuary

Yes

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

Company actuary

Yes

(UPDATED 2006)

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

Ministry of labour and social affairs.

No

No

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**



(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

*Clarification: the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered "usual" or "competitive" in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country*

*By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.*

*The percentages that are shown have been determined in the following way:*

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

*If Dif(%) > 0 this means that men would pay more than women.*

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	103,66 %
30	94,86 %
35	88,32 %
40	89,50 %
45	89,21 %
50	89,28 %
55	88,17 %
60	85,99 %
65	78,31 %
70	66,68 %

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,12 %
35	0,19 %
40	0,31 %
45	0,50 %
50	0,76 %
55	1,11 %

(UPDATED 2006)

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

<b>Single Premium Rates (immediate annuity, interest rate 2.5%)</b>	
<b>Age</b>	<b>Men/Women %</b>
55	-15,25 %
60	-16,42 %
61	-16,57 %
62	-16,69 %
63	-16,79 %
64	-16,85 %
65	-16,88 %

**2.2. Disability****2.3. Heath Care****2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

There is differentiation by sex in Critical Illness rates and Motor Third Party Liability rates.

For Critical Illness:

Age	% increase of men over women
30	-8,60%
35	0,73%
40	18,36%
45	37,40%
50	66,05%
55	88,68%

In Motor Third Party Liability Insurance only two companies out of 9 are differentiating rates by sex. The rates for men are about 5 to 10% higher than for women.

(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	na
60	na
61	na
62	na
63	na
64	na
65	na

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	na
30	na
35	na
40	na
45	na
50	na
55	na
60	na
65	na
70	na

#### 3.3. Disability

(UPDATED 2006)

COUNTRY : **Spain**Actuarial  
Organization **Instituto de Actuarios Españoles**Contact Person | Name: **Manuel Perais**  
E-mail: **manuelperais@actuarios.org**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of "q<sub>x</sub>".*

Yes.

The general population mortality is computed by the Instituto Nacional de Estadística (INE) differentiating by sexes.

qx per thousand (1998-1999)

Age	Male	Female
30	1,29	0,43
35	1,64	0,61
40	2,18	0,94
45	3,11	1,33
50	4,82	1,94
55	7,34	2,68
60	10,55	3,92

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

Life Insurers rely in published Tables. For annuities the Tables used were elaborated in 2000: PERM/PERF 2000. These were based on general population information with some safety loadings. They are generational tables: qx depends on year of birth.

For death coverage (individual and group) and other type of insurance the most frequently used tables are the Swiss GKM/F 95.

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

The main participant in the elaboration of mortality tables used by insurers is the Insurer's Association (UNESPA) with the assistance of some Reinsurers.

Yes

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

Non- life insurers will typically determine accident rates based on their own claim experience and information provided by the insurers association and Reinsurers.

Traditionally there has been no sex differentiation on accident rating.

**(UPDATED 2006)**

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

Health insurers will typically determine accident rates based on their own claim experience.

Yes, most insurers differentiate by sex in their rates.

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

In principle the Ministry of Finance, through the Dirección General de Seguros y Fondos de Pensiones, DGSFP (Insurance and Pensions Regulator). The DGSFP has created a specific Committee with representatives from different interested parties.

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered "usual" or "competitive" in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	201,00 %
30	112,00 %
35	76,00 %
40	72,00 %
45	101,00 %
50	130,00 %
55	134,00 %
60	153,00 %
65	162,00 %
70	120,00 %

Percentages based on the mortality table frequently used by insurers:GKM/F 95

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,08 %
35	0,08 %
40	0,12 %
45	0,22 %
50	0,37 %
55	0,56 %

Percentages based on the mortality table frequently used by insurers:GRM/F 95

Interest rate : 2,42%

Charges:4 per 000 of Sum assured + 10% of gross premium

(UPDATED 2006)

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

Single Premium Rates (immediate annuity, interest rate 2.5%)	
Age	Men/Women %
55	--
60	--
61	--
62	--
63	--
64	--
65	--

**2.2. Disability**

This cover comes usually as a rider in life insurance policies with no differentiation by sex in the rates

**2.3. Health Care**

Most Insurers differentiate by sex.

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

Many insurers differentiate by sex in their rates for motor insurance.

Accidental death differentiate by profession or occupation but not by sex.

**(UPDATED 2006)**

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-16,00 %
60	-18,00 %
61	-19,00 %
62	-19,00 %
63	-19,00 %
64	-20,00 %
65	-20,00 %

Table GRM/F 95  
Interest rate:2,42%

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	201,00 %
30	112,00 %
35	76,00 %
40	72,00 %
45	101,00 %
50	130,00 %
55	134,00 %
60	153,00 %
65	162,00 %
70	120,00 %

Group rates are frequently based on the same mortality tables than rates for individuals. Charges are different and there is often a "reduction", both for men and women, in the probability of death used (e.g.  $0,9 \cdot q_x$  instead of the  $q_x$  values from the tab

#### 3.3. Disability



(UPDATED 2006)

COUNTRY : **Sweden**Actuarial  
Organization **Svenska Aktuari föreningen**Contact Person | Name: **Åsa Larson**  
E-mail: **asa.larson@skandia.se**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

Is the general population mortality computed and published differentiating sexes?  
Please provide a sample of " $q_x$ ".

Yes, by Statistics Sweden, a governmental organization.

$q_x$  per thousand (2000-2004)

Age	Male	Female
30	0,64	0,31
35	0,78	0,46
40	1,24	0,71
45	1,91	1,27
50	3,21	2,35
55	5,11	3,28
60	8,35	5,47
65	14,10	8,34
70	23,75	14,05
75	40,02	23,24
80	70,00	44,87

### 1.2. Differentiation of sex in projections of future evolution of population

Is sex taken into account when making projections of the general population?

Yes, it is made per sex and different trend factors are used for males and females

### 1.3. Information used by insurers to differentiate on sex for pricing

What are the main sources of information used by insurers? Who gathers the data?

Information on insurance mortality is gathered by Förskringstekniska Forskningsnämnden (Research Council for Actuarial Science), an organisation under the Swedish Insurance Federation. This leads to suggested mortality tables used by most companies. Also the company's own experience is used.

Who elaborates the mortality tables used by insurers? Do they differentiate by sex?

Försäkringstekniska Forskningsnämnden, yes.

Who elaborates the accident rates used by insurers? Do they differentiate by sex?

Done by each company from own experience

Who elaborates the sickness rates used by insurers? Do they differentiate by sex?

Done by each company following own experience and official statistics published by different governmental organisations. Yes, female rates are in most cases higher.

**(UPDATED 2006)**

**1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.**

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any "observatory" been created?*

The Department of Labour Market has discussed the question from a gender perspective. The insurance industry and labour market representatives (both from employer's and employee's organisations) were asked to participate in the discussion as a reference group.

As at the 1st of June 2005 the Directive has been implemented in Swedish Law, however insurance products were granted an exemption. The intention was to further investigate the effect of gender differentiation in insurance premiums, and the insurance industry was meant to participate in this investigation. So far, no work has started.

*Has any document been already issued on this matter (if available please provide it)?*

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	99,00 %
30	44,00 %
35	25,00 %
40	36,00 %
45	22,00 %
50	16,00 %
55	37,00 %
60	39,00 %
65	59,00 %
70	64,00 %

The premium rates differ very much by company. Our example is based on population mortality adjusted for insurance mortality.

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,06 %
35	0,07 %
40	0,13 %
45	0,19 %
50	0,37 %
55	0,72 %

The premium rates differ very much by company. Our example is based on population mortality adjusted for insurance mortality.

(UPDATED 2006)

**2.1.3. Individual Annuity**

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

Single Premium Rates (immediate annuity, interest rate 2.5%)	
Age	Men/Women %
55	-8,11 %
60	-9,91 %
61	-10,31 %
62	-10,72 %
63	-11,16 %
64	-11,59 %
65	-11,99 %

The premium rates differ very much by company. Our example is based on population mortality adjusted for insurance mortality.

**2.2. Disability**

Age	men/women
25	-39%
30	-35%
35	-30%
40	-27%
45	-24%
50	-21%
55	-17%

The premium rates differ very much by company. Our example is based on the average of two companies.

**2.3. Heath Care**

No differentiation of premiums

**2.4. Other Non Life (Motor, Accident, Critical Illness,...)**

Motor: Differentiated premiums (normally lower for females)

Accident: No differentiation

Critical illness: Differentiated premiums (higher for females).

(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-6,72 %
60	-7,98 %
61	-8,27 %
62	-8,56 %
63	-8,87 %
64	-9,19 %
65	-9,52 %

NORMALLY, THERE IS NO PREMIUM DIFFERENTIATION BETWEEN MALES AND FEMALES IN THE AREA OF OCCUPATIONAL PREMIUMS. However, for some occupational products there is premium differentiation (see this section and 3.2- 3.3).

Our example is based on insurance mort

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	30,70 %
30	31,30 %
35	32,30 %
40	33,90 %
45	36,40 %
50	39,70 %
55	43,20 %
60	46,20 %
65	48,20 %
70	49,10 %

Our example is based on insurance mortality recently gathered from different companies.

(UPDATED 2006)

### 3.3. Disability

Age	$\Delta$ men/women
25	-39%
30	-35%
35	-30%
40	-27%
45	-24%
50	-21%
55	-17%

The premium rates differ very much by company. Our example is based on the average of two companies.

(UPDATED 2006)

COUNTRY : **United Kingdom**Actuarial  
Organization**Actuarial Profession**

Contact Person

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**uhc.email@virgin.net**

## 1. General Background

### 1.1. Availability of population probabilities of death/survival differentiating by sex

*Is the general population mortality computed and published differentiating sexes?*

*Please provide a sample of "q<sub>x</sub>".*

UK Interim Life Tables 2003-2005

qx per '000

Age	Male	Female
30	0,90	0,44
35	1,21	0,60
40	1,62	0,95
45	2,40	1,54
50	3,93	2,63
55	6,01	3,88
60	10,10	6,14
65	16,03	10,02
70	25,85	16,01
75	44,09	29,21
80	73,96	50,58

Source: Government Actuaries Department

### 1.2. Differentiation of sex in projections of future evolution of population

*Is sex taken into account when making projections of the general population?*

Yes, sex is taken into account in general population projections

### 1.3. Information used by insurers to differentiate on sex for pricing

*What are the main sources of information used by insurers? Who gathers the data?*

1. Life insurance company itself.
2. Life insurance industry mortality tables which are collated by the Continuous Mortality Investigation (CMI).
3. General Population mortality tables - collated by GAD
4. For projections of mortality improvements rates and models are provided by CMI (Direct insurers would often get rates from a reinsurer but the reinsurer would be using the sources above)

**(UPDATED 2006)**

*Who elaborates the mortality tables used by insurers? Do they differentiate by sex?*

- Assuming elaborates means derives then it would be a reinsurer or the life insurer itself.
- Certainly life insurance companies will almost always differentiate by sex.

*Who elaborates the accident rates used by insurers? Do they differentiate by sex?*

- For Motor (the main GI class that differentiates by sex – cf 1.5 for others), differentiation by sex is based on relative probabilities of having a claim, and the relative costs of claims.
- There are no standard population analyses of frequency and severity of claims.
- Individual insurers tend to analyse their own data, and use this to produce “premium rates”, considering advice from consultants and reinsurers as well.
- They will also compare their rates with those of their competitors – either using a commercial rate monitoring service, such as What-if, or by a “mystery shopping” exercise – to ensure that they are not out of line to an undesirable degree.

*Who elaborates the sickness rates used by insurers? Do they differentiate by sex?*

- For medical expenses, income protection (“IP”) & critical illness (“CI”), insurers will base “premium rates” on their own claims experience, on advice from consultants and on market comparisons. For IP & CI advice from reinsurers is also used. These are produced by insurers, and by consultants.
- There are no published tables, except for those prepared by CMI for income protection and critical illness policies.
- For medical expenses insurance, unisex rates are the market norm.
- For IP and CI premium rates will differentiate by sex.

***1.4. Methodology adopted in the Country to prepare the information to be provided to the Commission in accordance with the Directive on equal treatment between women and men in the access to and supply of goods and services.***

*Which Governmental Office (if any) has taken care of this matter? Has any consultation taken place? Has any “observatory” been created?*

- Overall responsibility for the transposition of the Directive falls to the Women and Equality Unit in the Department for Community and Local Government, but the Treasury is in the lead on the insurance aspects of the Directive.
- Treasury has been in informal discussions with the industry to:
  - a) determine whether existing published data was sufficient to meet the terms of the Directive and
  - b) the type of data industry would be prepared to publish if existing data were deemed insufficient
- The Department for Trade and Industry will be publishing its Discrimination Law Review Green Paper in March 2007, reviewing all areas of discrimination law in the UK. We expect draft regulations on the EU Equal Treatment Directive to appear in the paper, a 3-months consultation period will follow.

*Has any document been already issued on this matter (if available please provide it)?*



(UPDATED 2006)

**1.5. Any other general comment on sex differentiation in Insurance in your Country.**

- The other GI classes where sex differentiation exists in some respect are:
  1. Travel insurance - only relating to pregnant women where heavily pregnant women are denied travel cover. This practice will have to stop under the pregnancy and maternity ban that the Directive introduces.
  2. Motor Breakdown insurance - we note that some but not all companies also differentiate by gender in their premium rates for this insurance. It is therefore not clear at this stage whether this class will be highlighted as an opt out class.
- It is noted that there is published data from sources like the NHS, ONS, and the Department of Transport statistics on road deaths, to get a view of the broader picture behind gender related accident rates for Motor.
- Further, up until about 10 years ago the Association of British Insurers (“ABI”) collected insurance claims data for, amongst other classes of business, motor insurance. This the ABI aggregated and then shared with contributing insurers. The aggregated data was split by major risk grouping, including the gender of the insured. This arrangement ceased when several of the larger insurers declined to participate as they felt they gained little additional insight from the aggregated data and indeed that their competitors were benefiting. As more insurers dropped out, the aggregated data became increasingly unrepresentative and the scheme was wound up.
- Annual industry-wide collection and publication of the type of data required by the Directive feels onerous from a company perspective – every other year is the preferred maximum frequency with some feeling five-yearly makes more sense.

(UPDATED 2006)

## 2. Differentiation of Insurance Premiums according to Sex (as of 2006)

**Clarification:** the premiums that we requested do not necessarily correspond to the rates used by any specific Insurer in the Country, but rather respond to the mortality table that would be considered “usual” or “competitive” in that market. In the case of products that involve some kind of accumulation or savings we suggested to use in all cases an interest rate of 2.5% in order to avoid having different financial effects from Country to Country

By the same token, in some countries the following insurance products might not correspond to the products actually offered in those markets, but to make results more comparable we have tried to standardise the type of insurance for which premiums are provided by all participating countries.

The percentages that are shown have been determined in the following way:

$$\text{Dif}(\%) = 100 \times [(\text{premium of males} / \text{premium of females}) - 1]$$

If  $\text{Dif}(\%) > 0$  this means that men would pay more than women.

### 2.1. Individual Life Insurance

#### 2.1.1. Death Coverage

In the case of this contract the amount covered (1000 units) is paid only if the insured dies before expiration of the policy. The duration is one year, we have excluded the value of the option of renewing the coverage year after year in order to obtain more homogeneous results (in some countries this option is priced while in others they don't).

Premium Rates (one year renewable term)	
Age	Men/Women %
25	0,65
30	0,44
35	42,00 %
40	25,00 %
45	24,00 %
50	29,00 %
55	32,00 %
60	29,00 %
65	34,00 %
70	75,00 %

- We have used 5 year term rates for non-smoker lives for 1 provider in Table 2.1.1. One-year term business is not commonly conducted in the UK.

#### 2.1.2. Endowment Type

In the case of this contract the amount covered (1000 units) is paid if the insured dies before expiration of the policy or at that date if he survives. The duration considered is ten years.

Annual Premium Rates (ten year term, interest rate 2.5%)	
Age	Men/Women %
30	0,02 %
35	0,03 %
40	0,05 %
45	0,10 %
50	0,19 %
55	0,37 %

- Using AM00 mortality

(UPDATED 2006)

### 2.1.3. Individual Annuity

When Insurers offer annuity products on an individual basis, these figures state the cost of buying a pension of 1000 per year, payments in arrear (at the end of each policy year).

Single Premium Rates (immediate annuity, interest rate 2.5%)	
Age	Men/Women %
55	-3,60 %
60	-4,40 %
61	-4,60 %
62	-4,70 %
63	-4,90 %
64	-5,10 %
65	-5,20 %

- Basis PCMA00/PCFA00 with adjusted MC improvements.

## 2.2. Disability

- CMI publishes gender specific disability experience on a regular basis. For example, refer to:
  1. Sickness experience 1995-98 for individual income protection policies. Continuous Mortality Investigation report 20 / CMI. 01 Jan 00.
  2. Sickness experience 1995-98 for group income protection policies. Continuous Mortality Investigation report 20 / CMI. 01 Jan 00.
- The male / female differentials for income protection policies are published in the CMI reports, the latest being in CMIR 22. The authors of CMIR 22 concluded that “The female inception experience remains significantly heavier than the male for all deferred periods, the differences being more pronounced for the longer deferred periods”.
- Table 5 from CMIR 22 is shown below.

Table 5. Comparison of female with male inception rates (as measured by 100A/E). Individual IP business 1991-94, 1995-98 and 1999-2002. Standard\* experience. 100A/E comparisons using C.M.I.R. 12 model parameterised using the males, individual policies, Standard experience for 1975-78. Occupational Class 1 and all business.

Deferred Period	Occupational Class	100 × Female 100A/E ÷ Male 100A/E		
		1991-94 %	1995-98 %	1999-2002 %
DP 1	Class 1	123	137	117
	All business	127	140	119
DP 4	Class 1	195	152	126
	All business	145	143	120
DP 13	Class 1	206	159	168
	All business	154	149	147
DP 26	Class 1	261	199	221
	All business	291	208	218
DP 52	Class 1	216	192	193
	All business	237	202	197

This shows a consistent pattern over all three quadrennia of female inception experience being heavier than male experience for all deferred periods. The differential tends to increase with increasing deferred period, with female inception rates being roughly double the male rates for the two longer deferred periods. There is some evidence of a reduction of the observed male-female differentials since 1991-94.

(UPDATED 2006)

### 2.3. *Health Care*

- For medical expenses insurance, unisex rates are the market norm.

### 2.4. *Other Non Life (Motor, Accident, Critical Illness,...)*

#### a. Motor

The gender differentiation in premium rates varies by company and by other rating factors such as age but a typical example is given in the table below.

Source: Submission by the AA Motoring Trust to the Inquiry on the Proposed EU Directive on Equal Treatment by Gender in April 2004

Premium Rates

Age	$\Delta$ Men/Women %
17	56
21	40
25	16
30	11
35	5
40	3
45	1
50	0
55	-2
60	-6
65	-9
70	-6
75	0
80	-21

Notes:

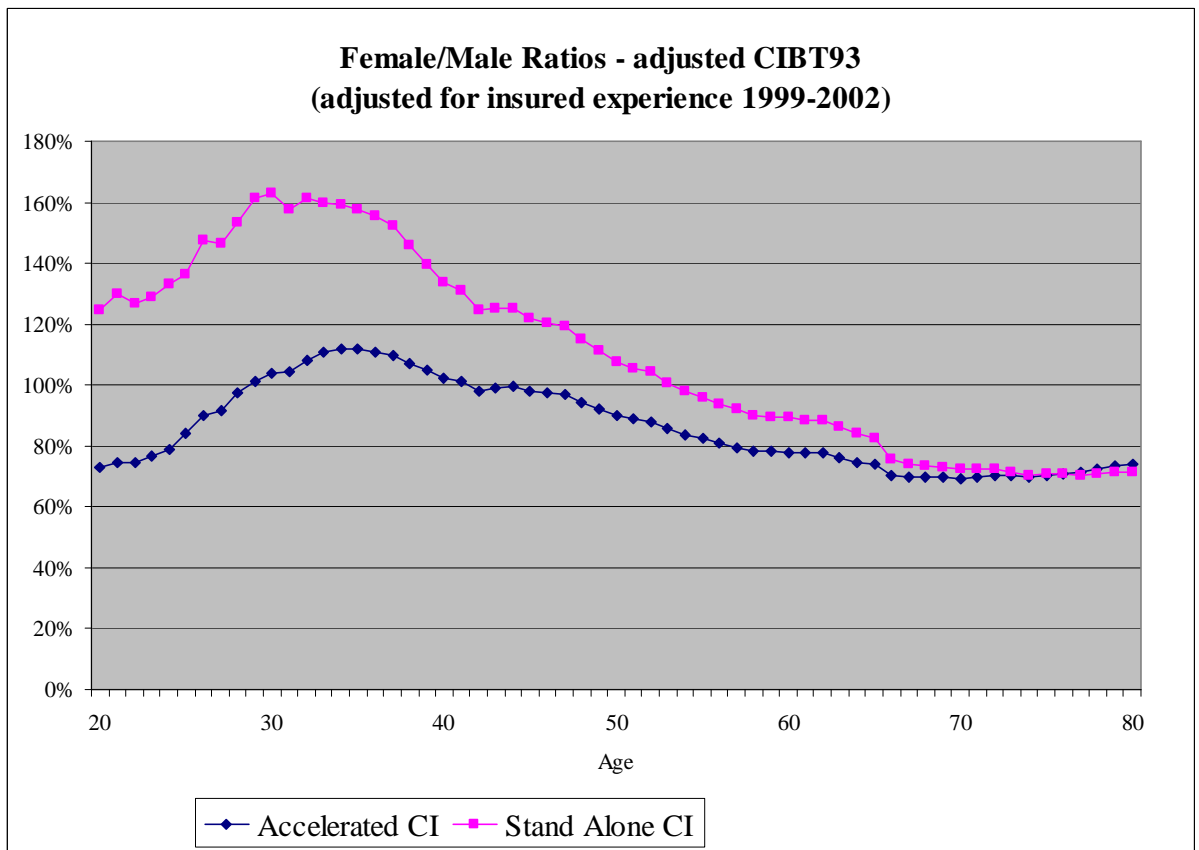
The premiums are for comprehensive cover for an S reg. (1998) 1.4 litre Ford Focus CL5 door. All ages had maximum no-claims discount (ie full premium for 17 year old, 1 year for 18 year old, etc)

- Living in Cambridge (CBI)
- 5 years no claims for 25 yr old and above (no NCD for 17 and 21 yr old)
- Occupation is clerical/admin staff (except the 65, 75 and 85 yr old – all retired)
- Car is garaged with standard security
- Car is 1998 (S reg) value = approx £5,800

#### b. Critical Illness

- The first UK insured CI experience data was collected by the Institute of Actuaries Healthcare Study Group and published in "A Critical Review" in March 2000. This covered the time period 1991-97 and was gender specific.
- The CMI took over this investigation in 1998. They now publish gender specific critical illness experience on a regular basis. Results are available for:
  - 1998
  - 1999-2002 (see graph below for ratio of female/male insured experience)
  - 2003 (draft results).

(UPDATED 2006)



(UPDATED 2006)

### 3. Differentiation of Premiums/Benefits according to Sex, in the Area of Occupational Pensions (as of 2006)

#### 3.1. Retirement

Conversion rate of a lump sum of 1000 into a monthly annuity due	
Age	Men/Women %
55	-3,60 %
60	-4,40 %
61	-4,60 %
62	-4,70 %
63	-4,90 %
64	-5,10 %
65	-5,20 %

cf answer to 2.1.3.

#### 3.2. Death (group life)

Premium Rates (one year renewable term)	
Age	Men/Women %
25	111,00 %
30	80,00 %
35	53,00 %
40	36,00 %
45	27,00 %
50	27,00 %
55	31,00 %
60	37,00 %
65	43,00 %
70	47,00 %

• used TM00, TF00 aggregate ultimate rates, as estimate for Group Life rates.

#### 3.3. Disability

cf answer to 2.2