

CMI data by age and gender: Life assurance and annuities April 2009

Introduction

When underwriting insurance policies, insurance companies base their premiums on a wide variety of factors that may affect the claims cost they observe among their customers. One factor is gender.

From 6 April 2008, the Sex Discrimination (Amendment of Legislation) Regulations specify certain conditions under which insurance companies are allowed to differentiate premiums based on gender. One condition is that the use of gender as a factor in the assessment of risk for individual policies is based on relevant and accurate statistical data. A second condition is that this data must be compiled, published and regularly updated in accordance with guidance issued by HM Treasury.

This bulletin illustrates differences in mortality rates between men and women for life assurance and annuities written in the UK.

Data

The table below shows the ratio of male to female mortality rates based on CMI data for 2003-2006. This data is explained in the subsequent notes:

Age band	Ratio of male to female mortality rate	Age band	Ratio of male to female mortality rate
26-30	248%	56-60	145%
31-35	215%	61-65	163%
36-40	156%	66-70	165%
41-45	137%	71-75	154%
46-50	128%	76-80	142%
51-55	139%	81-85	137%

Important notes:

- 1 Insurance companies use mortality rates to calculate the terms they offer for their products. They base their rates on the mortality experience that they observe among their own customers, and also on collective industry data from bodies such as the CMI. By way of illustration, the impact of mortality on term life insurance is that, the longer the insurance provider expects an individual to live, the lower the life insurance premium. In contrast, the impact of mortality on annuities is that, the longer the annuity provider expects an individual to live, the lower the annuity income for a given fund value.
- 2 This table demonstrates a difference in male and female mortality: females are less likely to die than males in each age band. It follows from this that, on average, women live longer. Women may be charged lower life assurance premiums than men of the same age therefore, although premiums will also take account of health, smoking habits

and other factors. However women may receive a lower annuity income for the same amount invested because, on average, the annuity will be payable for a longer period.

- 3 It is not possible to draw conclusions from the information in this bulletin about an individual consumer's premium or annuity rate. This is due to a number of reasons, including:
 - The data included in this bulletin is an industry average whereas insurance companies may reflect their own data in their pricing;
 - Insurance companies will take account of factors other than age and gender when calculating premium and annuity rates. For example, these may include their expenses and investment returns.
 - Insurance companies will also take account of specific features of the policies they offer, such as guarantee periods and escalation.

Indeed the Treasury's guidance states: "This data must demonstrate the case for differing treatment based on gender, but it is highly unlikely to present a direct correlation with the premiums charged or the benefits obtained in individual cases."

- 4 Premium and annuity rates depend on differentials by age throughout the term of the policy, not just the age at the start. If you wish to obtain more details on how the premium or annuity rate for a particular policy reflects gender differentials in the underlying data, please contact your insurance company.
- 5 The data shown in the table are based on, and relevant to, the following types of policies:
 - 'Whole of Life' assurance policies
 - 'Endowment' assurance policies
 - 'Term' assurance policies
 - Annuities and
 - Individual pensions policies.

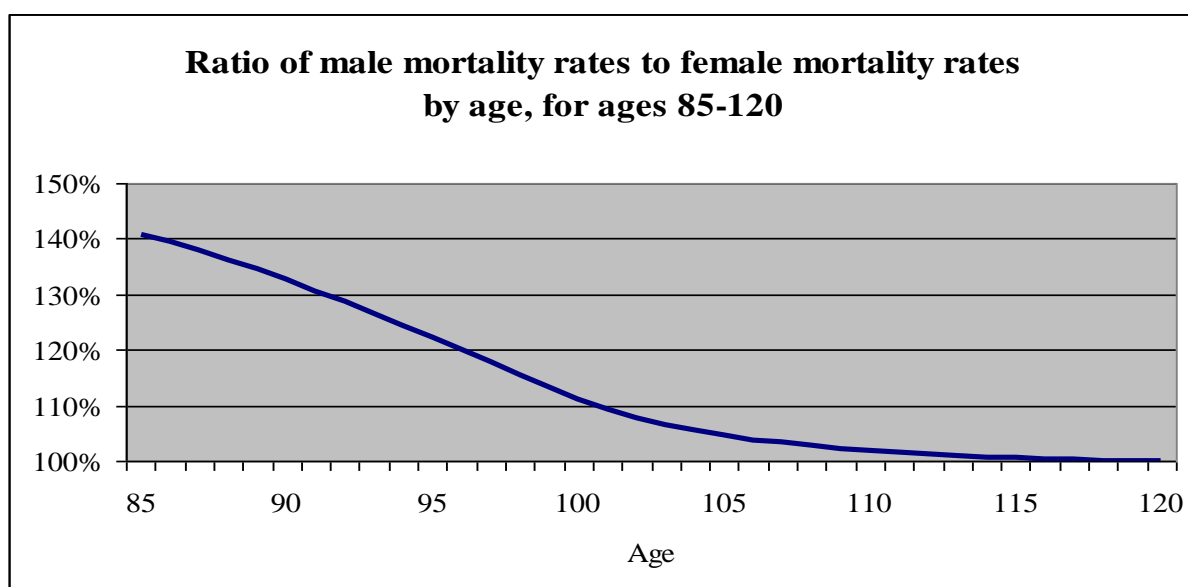
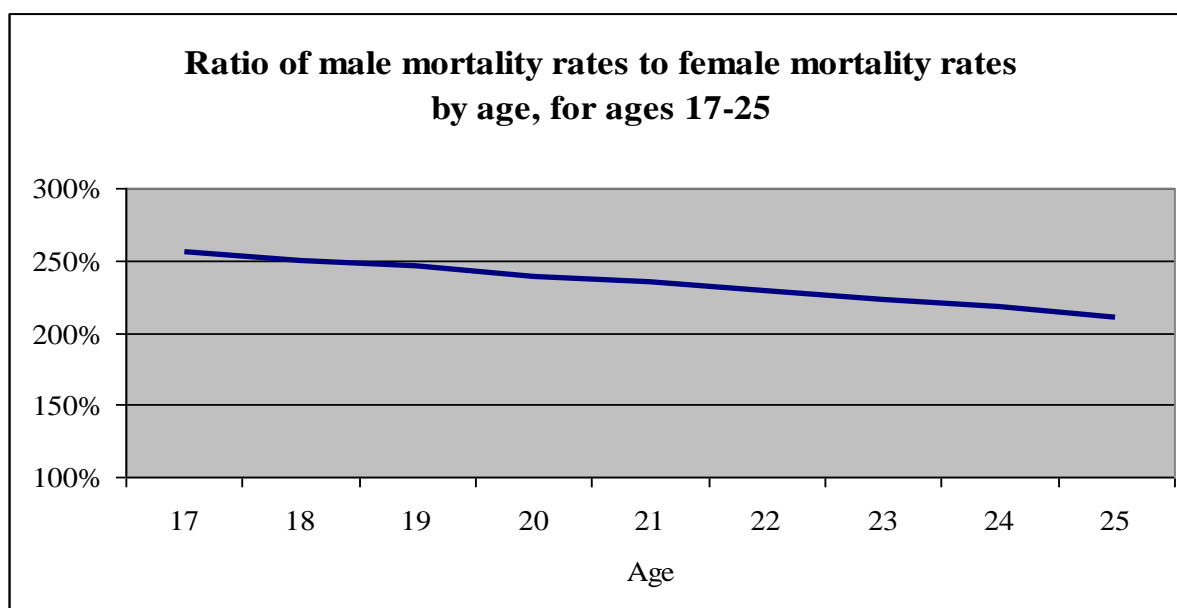
- 6 The data are based on aggregate figures from the following insurance providers:

AXA	RELIANCE MUTUAL
EQUITABLE LIFE	ROYAL BANK OF SCOTLAND
FRIENDS' PROVIDENT	ROYAL LONDON MUTUAL
GUARDIAN FINANCIAL SERVICES	SCOTTISH WIDOWS
LEGAL & GENERAL	STANDARD LIFE
NORWICH UNION	WESLEYAN
PEARL GROUP	WINDSOR LIFE
PRUDENTIAL	ZURICH FINANCIAL SERVICES

- 7 The insurance companies supplying data to the CMI are provided with a copy of each year's data and asked to correct any inaccuracies.

- 8 Data are collected annually but the table above uses data from 2003-2006, which is the most recently published.

The table above shows data from age 26 to age 85; outside that age range, the raw data can be quite volatile for a given age band in a given period. Insurance companies are then more likely to refer to a published mortality table, which graduates (or smoothes) the data by age. The following graphs illustrate gender differentials for ages up to 25 and from age 85 to age 120 derived from one of the mortality tables published by the CMI based on data from 1999-2002:



Source (both charts): Ratio of the male mortality rates from the table AMC00 to the female mortality rates from the table AFC00, both published in CMI Working Paper 21. Please click [here](#) to access this paper.