

Board for Actuarial Standards

# Technical Standards for Modelling

Deniz Sumengen  
Financial Reporting Council

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## What does the BAS do?

- Independent body responsible for setting technical actuarial standards in the UK
- Set up in 2006; developing a new suite of standards from scratch
- Standards aimed at helping the users of actuarial information
- Some of its standards will be “generic” – across all areas of actuarial work
- Recently published an Exposure Draft for a Generic TAS on Modelling (TAS M)



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# Models in Actuarial Work

Models are a large part of what actuaries do

The BAS defines a model in very broad terms

It can range from simple calculations to very large and complex models

Along with commercial packages, spreadsheets are essential tools for actuarial models

PERCENTILE OF CONFIDENCE TO SHOW IN "FORM MEAN"					
ALL VALUES AT THIS INDEPENDENT PERCENTILE (P) OR TOTALS TO EQUAL SUM OF COMPONENTS (B)					
					95.0%
					B
CAPITAL ADEQUACY MODEL					
Projected Confidence Level: 85.0%					
All figures are in US\$000's					
PROJECTED UNDERWRITING ACCOUNTS AS AT 31st Dec 2007					
<b>PRINT</b>					
<b>Whole</b>					
Low level values at independent percentiles, shaded cells equal to sum of parts'					
<b>Income &amp; Expenditure Account</b>					
	2006	2007	2008	2009	2010
<b>INSURANCE RESULT</b>					
Premium A	8,736	10,335	10,354	10,636	10,914
Premium B	900	909	925	969	951
Premium C	101	99	101	102	103
Bad debts	(62)	(16)	(15)	(40)	(17)
Premium D	3,516	3,974	4,402	4,440	4,488
	14,099	15,000	15,545	15,833	16,125
RI commission	207	244	262	273	265
RI premium A	(174)	(196)	(192)	(192)	(192)
RI premium B	(191)	(199)	(193)	(192)	(193)
RI premium C	(2,306)	(2,225)	(1,843)	(1,969)	(1,903)
<b>Net Premiums</b>	<b>11,099</b>	<b>11,851</b>	<b>12,307</b>	<b>12,551</b>	<b>12,540</b>
Gross claims	(7,000)	(8,400)	(8,832)	(9,027)	(9,375)
RI recoveries	410	420	454	434	446
Net claims	(2,700)	(8,235)	(8,641)	(8,930)	(9,183)
<b>Insurance Result</b>	<b>5,109</b>	<b>5,530</b>	<b>5,279</b>	<b>5,575</b>	<b>5,415</b>
<b>OPERATING EXPENSES</b>					
Overseas	2,200	2,300	2,427	2,473	2,511
Domestic	2,659	2,777	2,593	2,665	2,635
Offices	613	621	631	641	648
Other	1	1	1	1	1
Op Risk - Loss of Business	0.0%	0.0%	0.0%	0.0%	0.0%
Operating Expenses	5,437	5,574	5,519	5,576	5,633
<b>Net Insurance Result after Operating Expenses</b>	<b>(31)</b>	<b>215</b>	<b>30</b>	<b>109</b>	<b>(11)</b>
<b>FINANCIAL INCOME</b>					
<b>Net Financial Income</b>	<b>968</b>	<b>1,004</b>	<b>1,101</b>	<b>1,293</b>	<b>1,581</b>
<b>SURPLUS / (DEFICIT) TO BALANCE SHEET</b>	<b>828</b>	<b>1,096</b>	<b>978</b>	<b>1,208</b>	<b>1,283</b>



# General Problems with Models

Lack of testing

Poor documentation

Misunderstanding

Over-reliance on an established view

Unrealistic assumptions



# Purpose of TAS M

Users should be able to understand how the models meet their needs and how the limitations affect the results.

Actuarial information based on models should

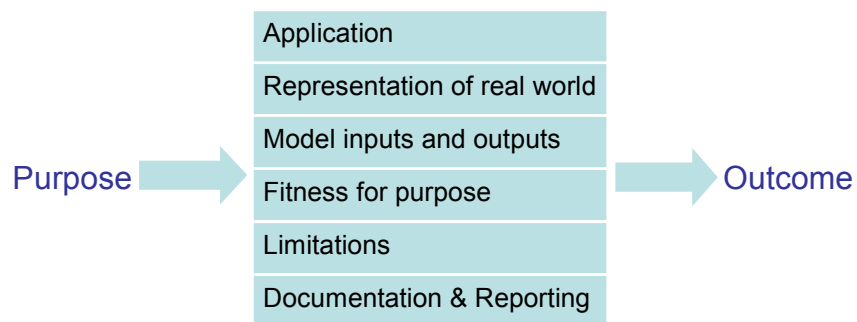
- include explanations of the purpose of models, how inputs are derived and what the outputs represent;
- explain limitations of the models;

Models should

- sufficiently represent relevant aspects of the world;
- be fit for purpose both in theory and in practice



# TAS M



Surprisingly, little of it is solely actuarial



# We want your views



Louise Pryor [l.pryor@frc.org.uk](mailto:l.pryor@frc.org.uk)

Deniz Sumengen [d.sumengen@frc.org.uk](mailto:d.sumengen@frc.org.uk)

Link for the Exposure Draft of TAS M

<http://www.frc.org.uk/bas/publications/pub1986.html>