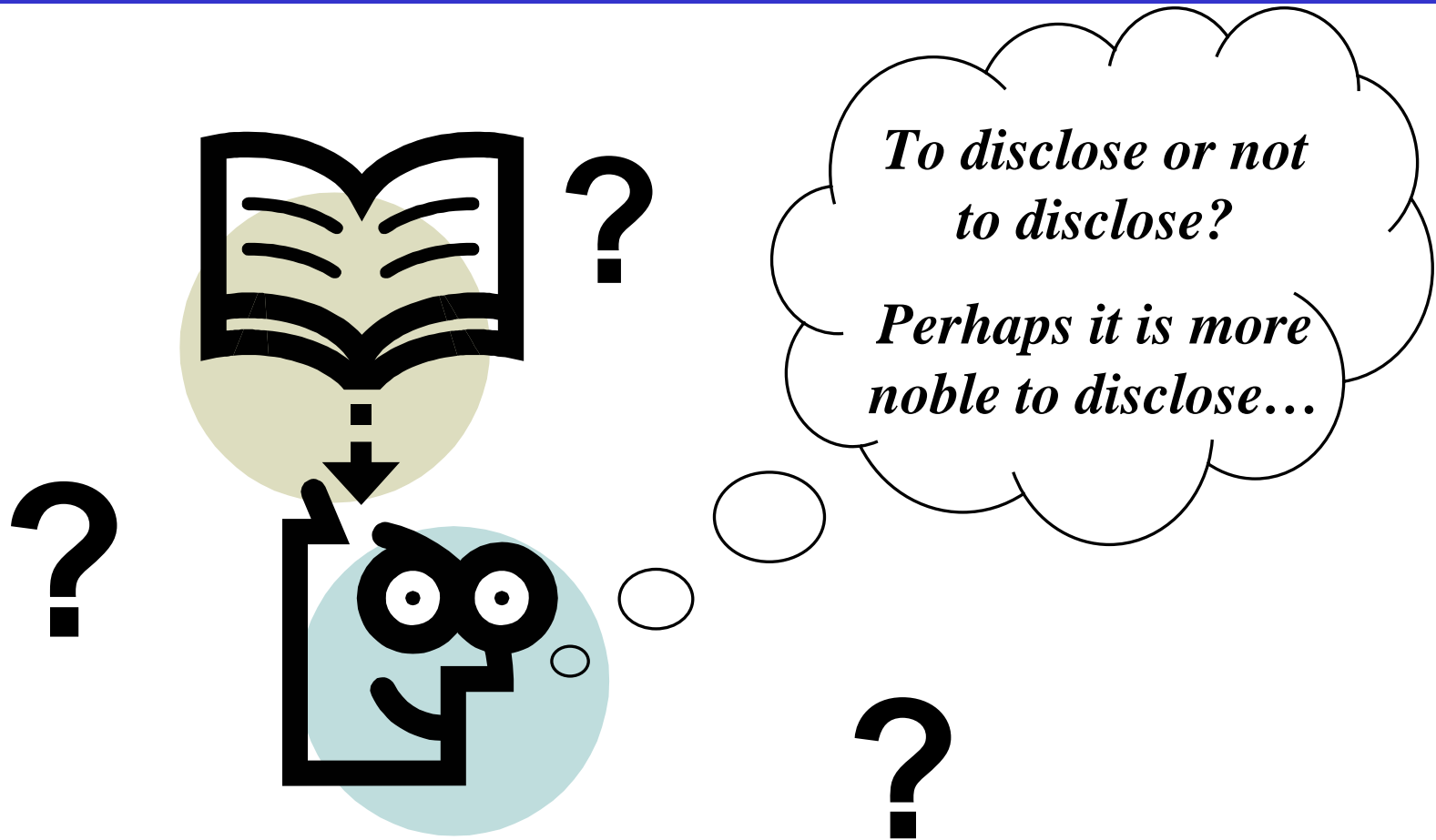


# **MoS 2**

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**Presented by Linda Caradus and Ian New  
to the New Zealand Society of Actuaries  
Conference  
16 November 2004**



# Introduction

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- Previous review November 2001
- Early view – increased transparency and comparability
- Now 5 years history of NZ MoS
- Published figures only
- Individual company circumstances

# The New Zealand market

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- 19 Companies included:

AIA

AMP Life

ANZ Life

Asteron

AXA

BNZ Life

Cigna Life

CML

Farmers' Mutual Life

Fidelity Life

ING Life

Medical Life

Metropolitan Life

NBNZ Life

Sovereign Assurance

Sovereign Life

Tower Health & Life

Tower Life

Westpac Life

# The New Zealand market

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- 18 Companies not included:

231 Rothwell Holdings  
American Bankers Life  
American Income Life  
Combined  
EIG-Ansvar Life  
Equitable Life  
Hallmark Life  
Kiwi  
Lumley Life

NPF Life  
NZ Assoc. of Credit Unions  
Pacific Life  
Pinnacle Life  
Save & Invest Life  
S.A.I. Life  
Sentinel Assurance  
Southsure Assurance  
Sovereign Group Ltd

# Assumptions

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- Greater disclosure prizes to
  - Asteron
  - Farmers' Mutual Life
- Non-projected business
  - 9 companies disclose non-projection methods
  - 3 disclose amounts of DAC
  - 7 disclose amounts of liabilities
  - Not always clear how profit disclosed
- Discount rates
  - Generally reduced

# Assumptions

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- Inflation
  - 6 of 18 have increased assumptions since 2000
  - All now in the range 2% to 2.5%
- Expenses
  - One-third of companies disclose dollar levels of per policy maintenance expenses
- Mortality
  - Majority now show percentage adjustment
- Morbidity
  - Still little detail given

# Assumptions

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- Lapses
  - Move to single-figure aggregate rather than wide ranges
- Participating business
  - Supportable bonuses generally reduced
  - Two companies don't disclose rates

# Operating profit

Aggregate figures for Life and General insurance industries:

Industry	Total Operating Profit after tax					5 years ,
	2003	2002	2001	2000	1999	total
Life \$m	281	159	64	199	110	813
General \$m	114	62	59	107	125	468
Ratio Life/General	2.45x	2.55x	1.08x	1.87x	0.88x	1.74x

*with thanks to Peter Davies for general insurance data*

# Total Life industry operating profit

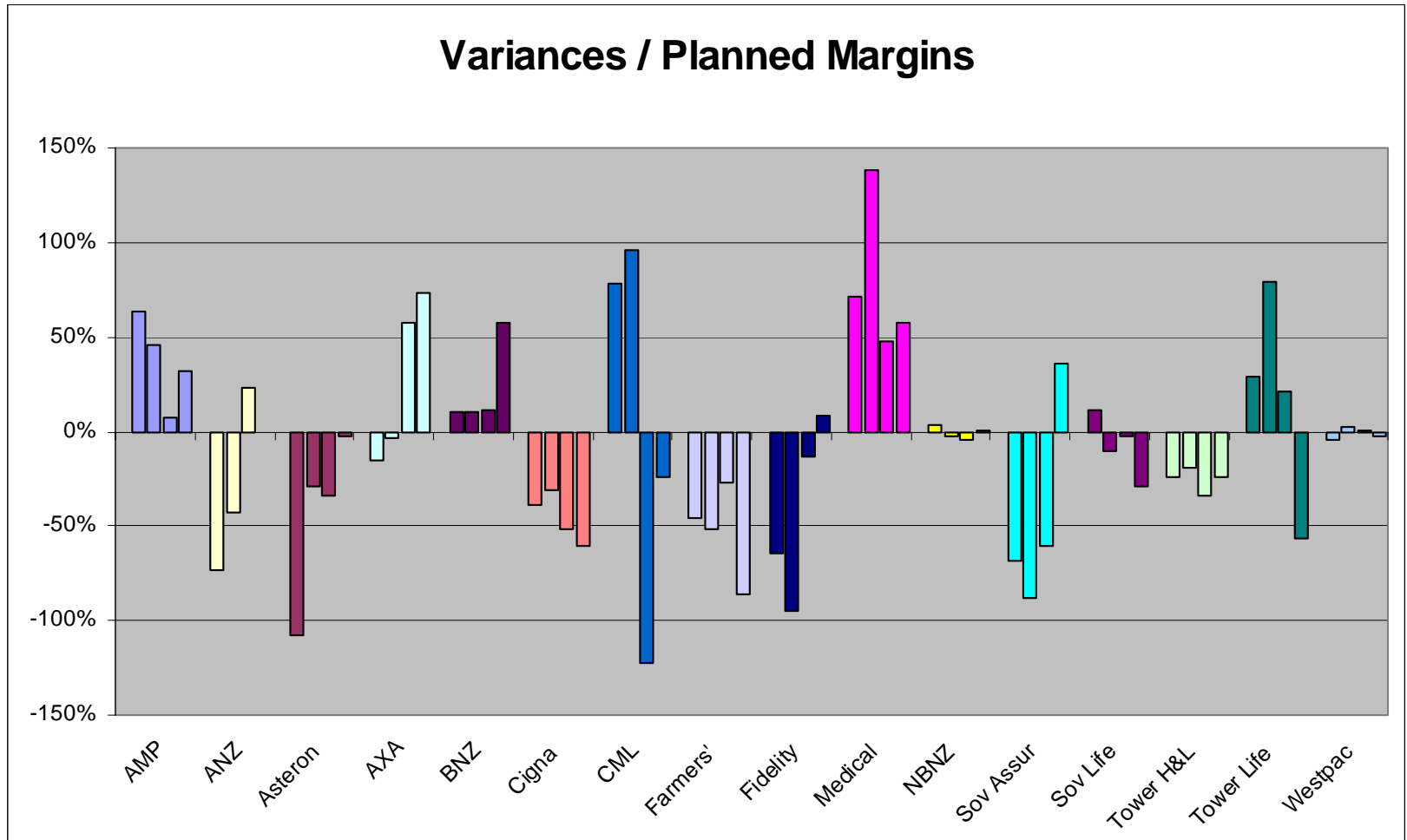
	2003	2002	2001	2000	2000-2003
	\$m	\$m	\$m	\$m	\$m
Planned margins	141	139	128	160	568
Experience variance	10	(5)	(12)	(12)	(19)
Change of assumptions	5	1	1	0	8
Capitalised losses	(16)	0	(2)	6	(12)
Other (regular)	4	2	(9)	(15)	(19)
Return on equity	137	23	27	73	261
<u>Total before one-off</u>	280	159	134	213	786
One-off	-	-	(70)	(14)	(83)
<u>Total</u>	281	159	64	199	703

# Experience variances

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- Are variances reducing?
- Are we getting better at setting “accurate” assumptions?

# Experience variances



# Experience variances – market totals

Life Industry	Absolute experience variances as % planned margins					5 years' total
	2003	2002	2001	2000	1999	99 - 03
Absolute experience variances \$m	42	41	50	60	33	226
Planned margins \$m	141	139	128	160	88	656
Ratio variances to margins	30%	30%	39%	38%	37%	35%

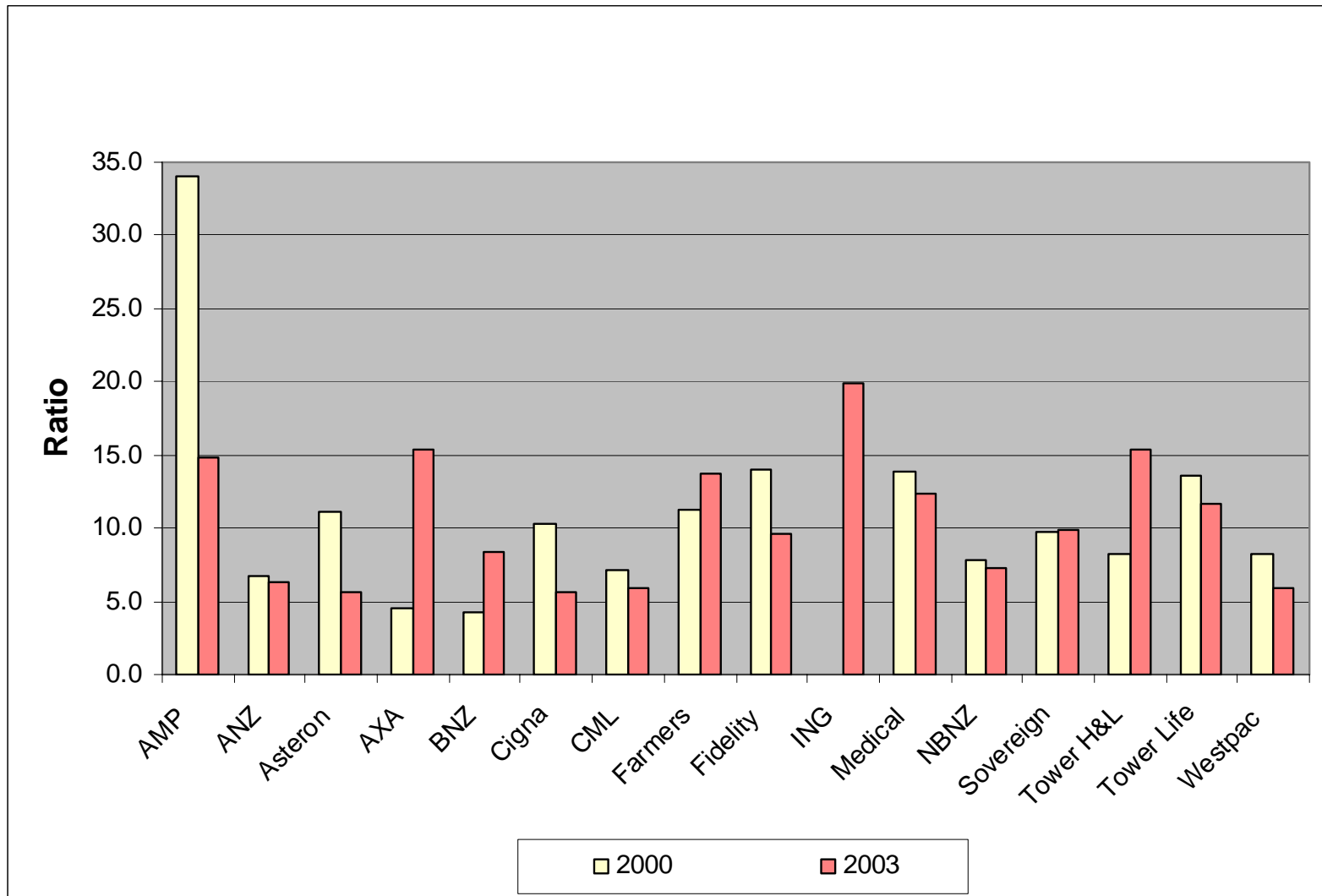
# Present value of Profit Margins

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	\$m	Change
2000	1,746	
2001	1,319	-25%
2002	1,393	+ 6%
2003	1,444	+ 4%

If AMP 2000/01 discontinuity removed, average market growth 2% pa

# PVPM / Margin emerging



# Expenses – 2003 industry totals

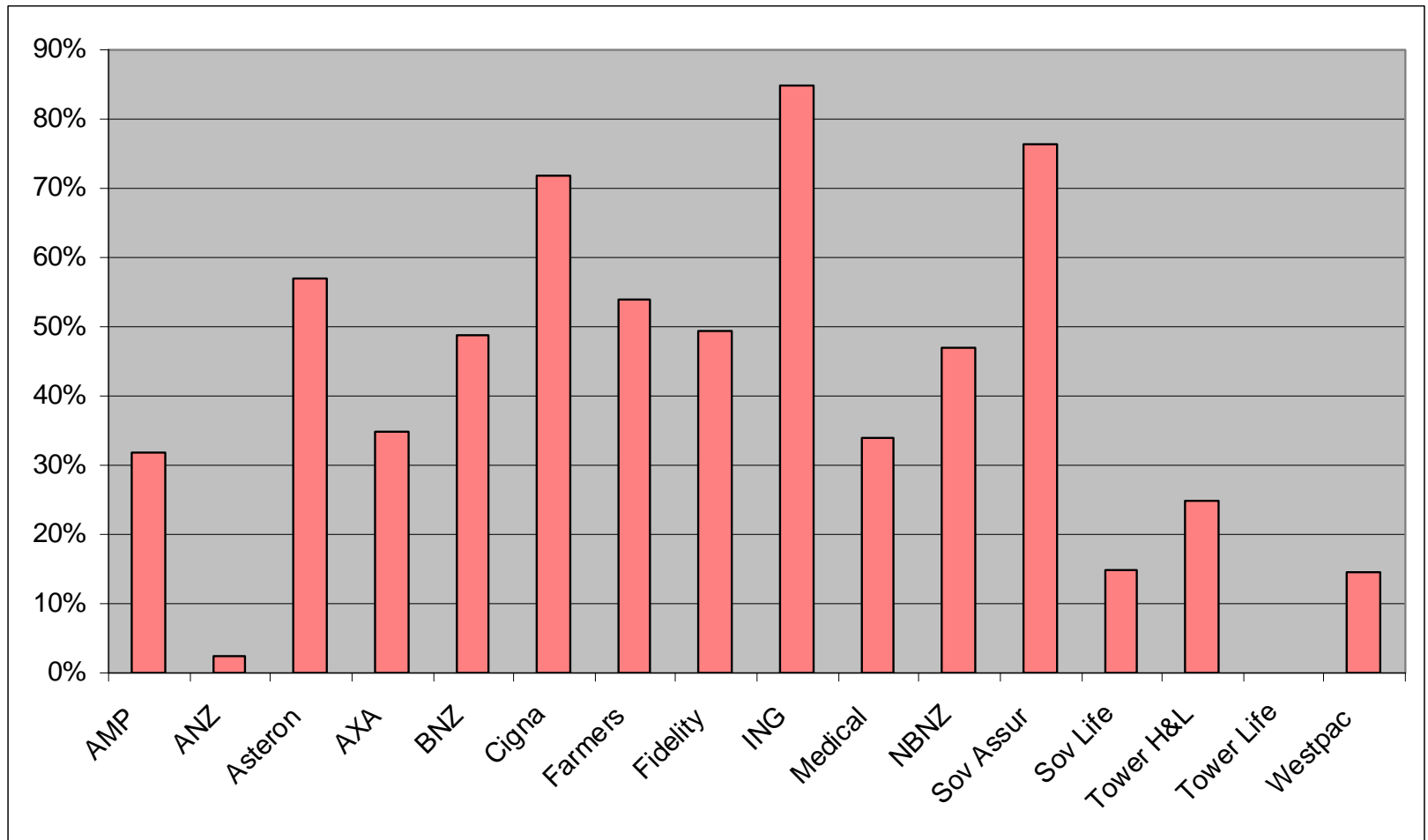
<u>Life</u>	Commission \$m	Other \$m	Total \$m
Acquisition	160	142 (38%)	302
Maintenance	92	197 (52%)	289
Investment	-	31 (8%)	31
Other	-	7 (2%)	7
<u>Total Life</u>	252	377 (100%)	629
<u>General</u>	278	370	648

# Acquisition costs

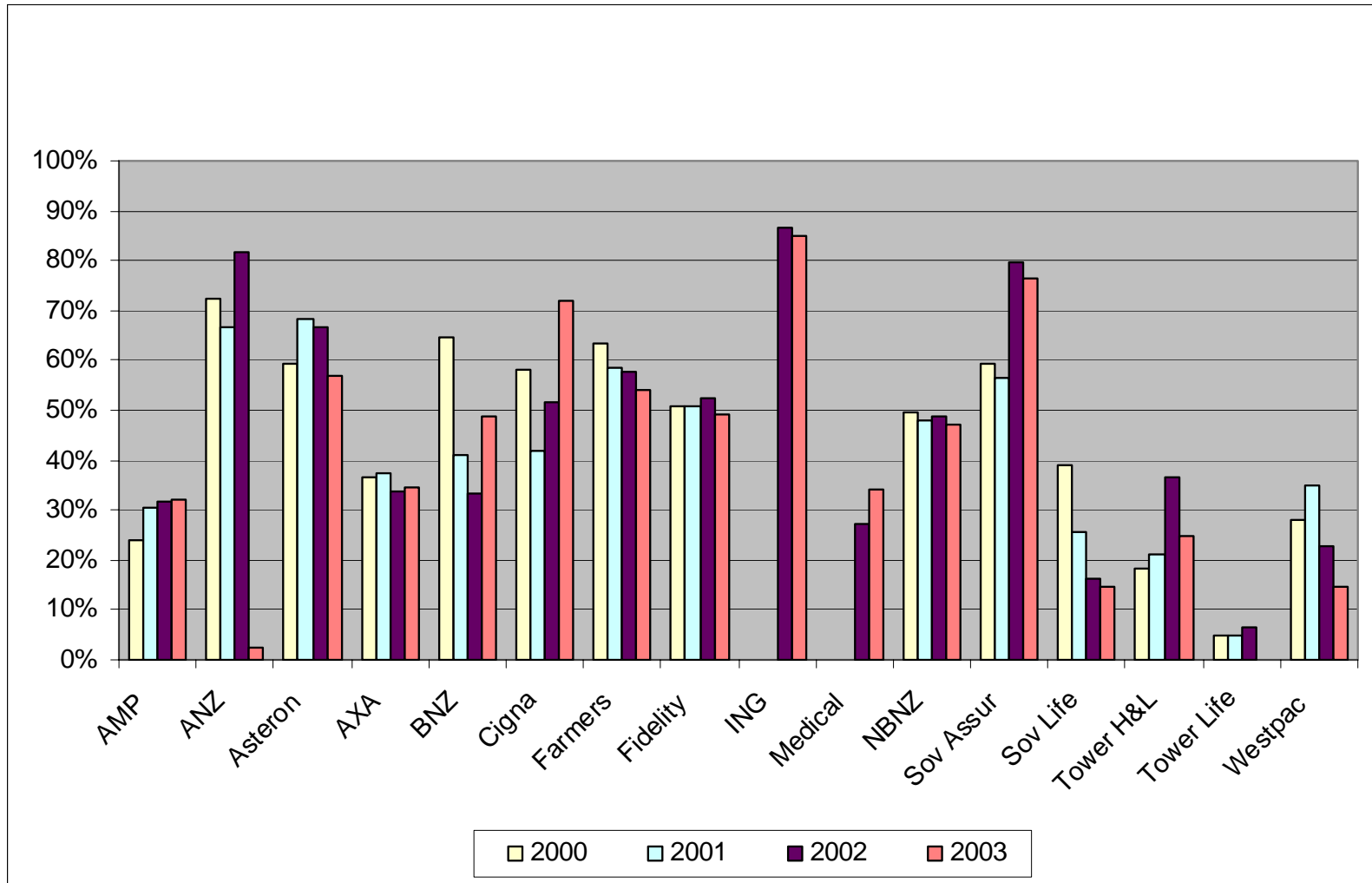
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- FRS-34 definition:
  - “the fixed and variable costs of acquiring new business, including commissions and similar distribution costs, and costs of accepting, issuing and initially recording policies”
- FRS-34 commentary:
  - “relate to the costs incurred in acquiring specific life insurance policies during the financial year”

# 2003 Acquisition Expenses %



# Acquisition Expenses % 2000 - 2003

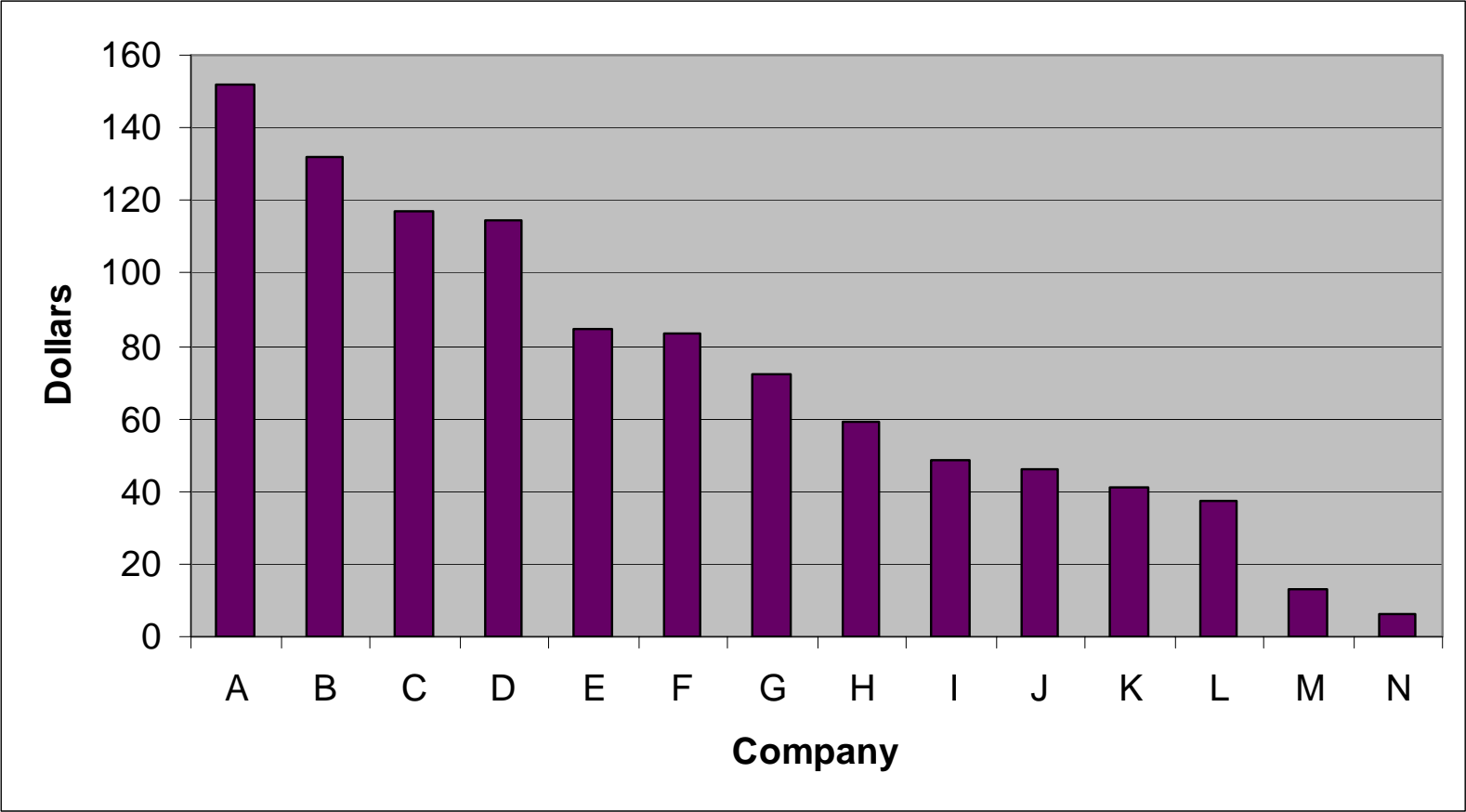


# Acquisition or maintenance ?

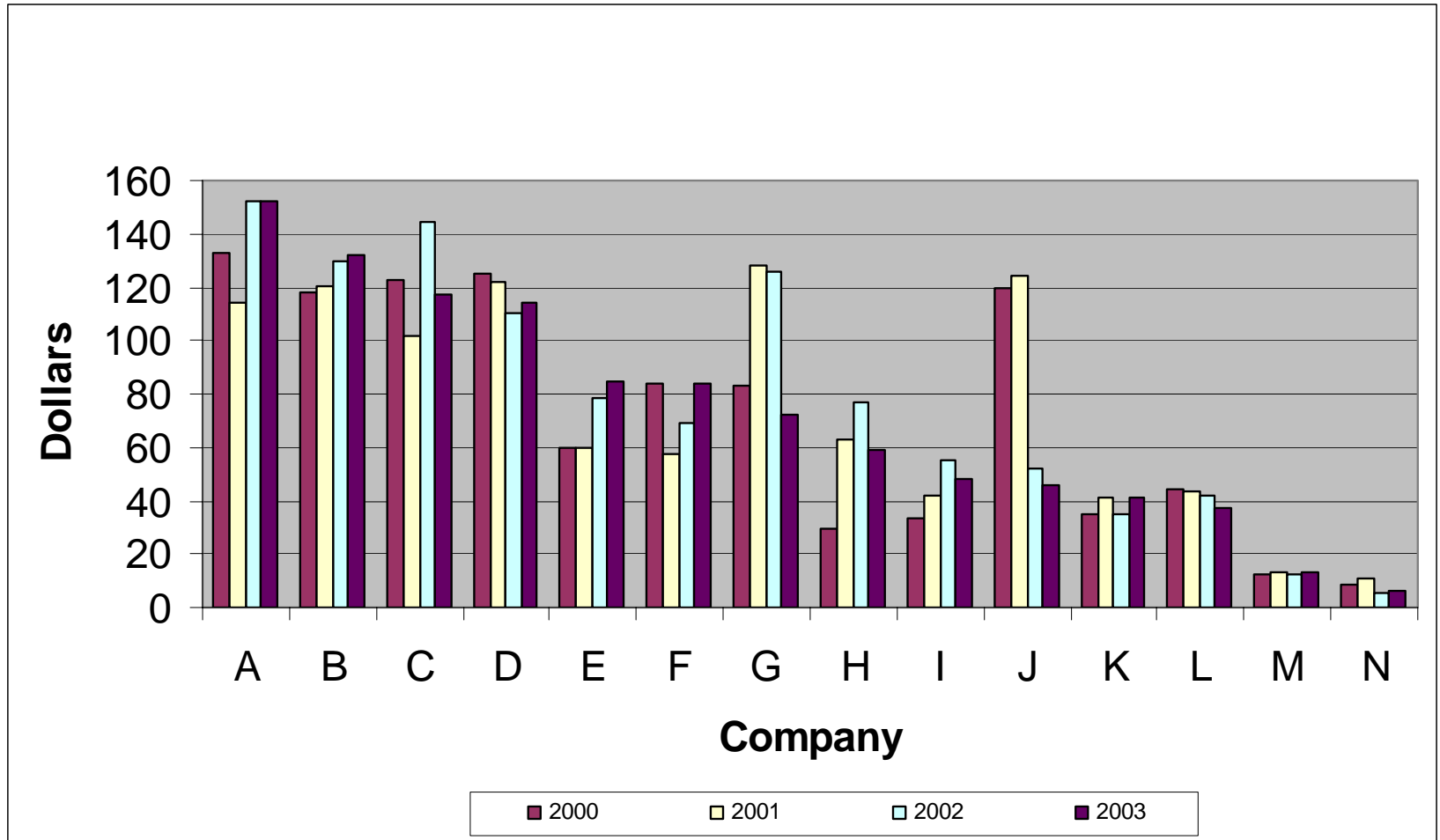
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- Why does it matter?
- Example:
  - \$10 expenses - acquisition or maintenance?
  - 5 year term
  - Margin ignoring expenses \$26 pa
  - Margin with \$10 acquisition exp = \$24 pa
  - Margin with \$10 maintenance exp = \$16 pa
- Possible differing interpretations

# Per Policy Maintenance 2003



# Per Policy Maintenance 2000 - 2003



# Tables

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# Operating Profit after Tax (p.10)

Company	Balance date	Operating Profit after tax				
		2003 \$000	2002 \$000	2001 \$000	2000 \$000	1999 \$000
AIA	30 Nov	(4,289)	4,155	(8,003)	(1,591)	(5,440)*
AMP Life	31 Dec	61,595	34,329	57,829	48,799	25,455
ANZ Life	30 Sep	3,266	6,144	2,309	1,864	4,246
Asteron	31 Dec	9,105	3,579	(44,474)	(10,743)	24,312
AXA	30 Sep	96,300	23,000	12,300	65,600	59,800*
BNZ Life	30 Sep	10,218	7,729	10,415	13,390	11,050
Cigna Life	31 Dec	3,047	4,194	4,008	5,301	2,703
CML	30 June	2,920	(1,519)	3,274	7,501	30,505
Farmers' Mutual Life	31 Mar	(675)	411	(115)	1,627	1,951*
Fidelity Life	30 June	4,344	2,480	3,186	3,156	2,407
ING Life	30 June	50	(579)	(1,162)	not applic	not applic
Medical Life	31 Mar	1,480	1,467	1,958	1,705	1,119
Metropolitan Life	30 June	2,200	1,865	(1,646)	(357)	(9,300)
NBNZ Life	31 Dec	15,627	13,042	12,431	13,024	5,947
Sovereign Assurance	30 June	30,853	12,703	(22,252)	7,737	(85,629)
Sovereign Life	30 June	9,200	18,321	5,976	12,230	15,253
Tower Health & Life	30 Sep	9,890	5,763	6,569	5,859	7,822
Tower Life	30 Sep	2,174	3,961	7,913	8,846	8,711
Westpac Life	30 Sep	23,648	18,134	13,477	15,392	8,858*

# Planned Margins (p.13)

Company	Balance date	Planned margins				
		2003 \$000	2002 \$000	2001 \$000	2000 \$000	1999 \$000
AIA	30 Nov	283	58	43	24	not avail
AMP Life	31 Dec	22,831	21,217	24,450	20,533	26,643
ANZ Life	30 Sep	2,830	4,336	3,172	2,980	3,817
Asteron	31 Dec	14,029	16,956	12,977	13,031	8,425
AXA	30 Sep	13,500	13,300	20,700	50,200	not avail
BNZ Life	30 Sep	4,420	4,727	7,325	8,066	not avail
Cigna Life	31 Dec	1,637	1,718	1,832	1,843	1,685
CML	30 June	2,790	2,905	1,714	3,722	3,580
Farmers' Mutual Life	31 Mar	702	709	624	602	not avail
Fidelity Life	30 June	2,528	2,030	1,219	988	565
ING Life	30 June	233	12	not applic	not applic	not applic
Medical Life	31 Mar	1,131	1,028	873	656	655
Metropolitan Life	30 June	0	59	70	77	115
NBNZ Life	31 Dec	14,252	11,360	10,012	8,272	4,031
Sovereign Assurance	30 June	12,368	13,500	11,171	9,500	10,680
Sovereign Life	30 June	18,600	19,312	7,800	17,951	17,529
Tower Health & Life	30 Sep	7,744	6,738	6,296	7,134	5,756
Tower Life	30 Sep	3,187	3,891	4,952	5,312	4,671
Westpac Life	30 Sep	17,678	15,133	12,950	9,247	not avail

# Experience variances (p.14)

Company	Balance date	Experience variances				
		2003 \$000	2002 \$000	2001 \$000	2000 \$000	1999 \$000
AIA	30 Nov	(3,571)	4,364	(7,566)	(1,595)	not avail
AMP Life	31 Dec	7,238	1,517	11,169	12,993	(2,666)
ANZ Life	30 Sep	(20)	994	(1,342)	(2,187)	(14)
Asteron	31 Dec	(393)	(5,710)	(3,783)	(14,043)	(1,714)
AXA	30 Sep	9,900	7,700	(800)	(7,900)	not avail
BNZ Life	30 Sep	2,544	544	728	848	not avail
Cigna Life	31 Dec	(993)	(892)	(576)	(721)	993
CML	30 June	(682)	(3,568)	1,645	2,895	(840)
Farmers' Mutual Life	31 Mar	(601)	(189)	(323)	(273)	not avail
Fidelity Life	30 June	208	(271)	(1,156)	(632)	(581)
ING Life	30 June	(380)	(717)	not applic	not applic	not applic
Medical Life	31 Mar	654	495	1,203	465	(200)
Metropolitan Life	30 June	900	1,748	(3,500)	3,145	(1,548)
NBNZ Life	31 Dec	131	(531)	(275)	267	(1,029)
Sovereign Assurance	30 June	4,434	(8,209)	(9,835)	(6,490)	(16,492)
Sovereign Life	30 June	(5,400)	(567)	(808)	1,949	4,206
Tower Health & Life	30 Sep	(1,902)	(2,271)	(1,193)	(1,706)	518
Tower Life	30 Sep	(1,806)	824	3,933	1,555	2,034
Westpac Life	30 Sep	(490)	20	326	(434)	not avail

# Experience variances/planned profit (p.15)

Company	Balance date	Experience variances as a percentage of planned profit				
		2003	2002	2001	2000	1999
AIA	30 Nov	large %	large %	large %	large %	not avail
AMP Life	31 Dec	32%	7%	46%	63%	-10%
ANZ Life	30 Sep	-1%	23%	-42%	-73%	0%
Asteron	31 Dec	-3%	-34%	-29%	-108%	-20%
AXA	30 Sep	73%	58%	-4%	-16%	not avail
BNZ Life	30 Sep	58%	12%	10%	11%	not avail
Cigna Life	31 Dec	-61%	-52%	-31%	-39%	59%
CML	30 June	-24%	-123%	96%	78%	-23%
Farmers' Mutual Life	31 Mar	-86%	-27%	-52%	-45%	not avail
Fidelity Life	30 June	8%	-13%	-95%	-64%	-103%
ING Life	30 June	-163%	large %	not applic	not applic	not applic
Medical Life	31 Mar	58%	48%	138%	71%	-31%
Metropolitan Life	30 June	large %	large %	large %	large %	large %
NBNZ Life	31 Dec	1%	-5%	-3%	3%	-26%
Sovereign Assurance	30 June	36%	-61%	-88%	-68%	-154%
Sovereign Life	30 June	-29%	-3%	-10%	11%	24%
Tower Health & Life	30 Sep	-25%	-34%	-19%	-24%	9%
Tower Life	30 Sep	-57%	21%	79%	29%	44%
Westpac Life	30 Sep	-3%	0%	3%	-5%	not avail

# Present Value of Profit Margins (p.17)

Company	Balance date	Present Value of Profit Margins at year end			
		2003	2002	2001	2000
		\$m	\$m	\$m	\$m
AIA	30 Nov	18	15	4	2
AMP Life	31 Dec	337	360	304	700
ANZ Life	30 Sep	18	18	19	20
Asteron	31 Dec	78	93	109	146
AXA	31 Dec	207	177	199	227
BNZ Life	30 Sep	37	36	31	35
Cigna Life	31 Dec	9	19	20	19
CML	30 June	16	22	25	27
Farmers' Mutual Life	31 Mar	10	9	9	7
Fidelity Life	30 June	24	22	26	14
ING Life	30 June	5	0	not applic	not applic
Medical Life	31 Mar	14	13	12	9
NBNZ Life	31 Dec	103	91	79	65
Sovereign Assurance	30 Jun	308	279	264	268
Tower Health & Life	30 Sep	119	88	71	59
Tower Life	30 Sep	37	50	60	72
Westpac Life	30 Sep	104	100	88	76
<b>Total</b>		<b>1,444</b>	<b>1,393</b>	<b>1,319</b>	<b>1,746</b>

# Margins released (p.18)

Company	Balance date	Margins released in 2003	Ratio of PVPM at year end to Margins released in year			
			2003	2002	2001	2000
		\$m				
AIA	30 Nov	0.3	62.8x	250.6x	97.4x	100.0x
AMP Life	31 Dec	22.8	14.8x	17.0x	12.4x	34.1x
ANZ Life	30 Sep	2.8	6.3x	5.2x	5.9x	6.7x
Asteron	31 Dec	14.0	5.6x	5.5x	8.4x	11.2x
AXA	31 Dec	13.5	15.3x	13.3x	12.0x	4.5x
BNZ Life	30 Sep	4.4	8.4x	8.9x	4.2x	4.3x
Cigna Life	31 Dec	1.6	5.6x	11.0x	11.2x	10.3x
CML	30 June	2.8	5.9x	7.6x	7.2x	7.2x
Farmers' Mutual Life	31 Mar	0.7	13.8x	13.8x	14.0x	11.3x
Fidelity Life	30 June	2.5	9.6x	10.8x	21.0x	13.9x
ING Life	30 June	0.2	19.9x	16.1x	not applic	not applic
Medical Life	31 Mar	1.1	12.3x	12.9x	13.6x	13.9x
NBNZ Life	31 Dec	14.3	7.2x	8.0x	7.9x	7.8x
Sovereign Assurance	30 June	31.0	9.9x	8.5x	13.9x	9.8x
Tower Health & Life	30 Sep	7.7	15.4x	13.1x	11.3x	8.3x
Tower Life	30 Sep	3.2	11.7x	12.8x	12.0x	13.6x
Westpac Life	30 Sep	17.7	5.9x	6.6x	6.8x	8.2x

# Ratio of PVPM to PV premiums (p.19)

Company	Balance date	Ratio of PVPM to PV Premiums at year end				
		2003	2002	2001	2000	1999
ANZ Life (non-linked)	30 Sep	43%	43%	44%	45%	46%
BNZ Life	30 Sep	17%	18%	20%	33%	37%
NBNZ Life	31 Dec	86%	86%	83%	86%	76%
Tower Health & Life	30 Sep	28%	27%	29%	28%	26%
Westpac Life	30 Sep	38%	42%	40%	41%	not avail

# Acquisition expenses (p.22)

Company	Balance date	Proportion of administration expenses that are acquisition expenses				
		2003	2002	2001	2000	1999
AIA	30 Nov	not avail	not avail	not avail	not avail	not avail
AMP Life	31 Dec	32%	32%	31%	24%	29%
ANZ Life	30 Sep	3%	82%	66%	59%	64%
Asteron	31 Dec	57%	67%	68%	59%	64%
AXA	31 Dec	35%	34%	38%	37%	40%
BNZ Life	30 Sep	49%	33%	41%	65%	not avail
Cigna Life	31 Dec	72%	52%	42%	58%	57%
CML	30 June	0%	0%	0%	0%	0%
Farmers' Mutual Life	31 Mar	54%	58%	58%	64%	not avail
Fidelity Life	30 June	49%	53%	51%	51%	48%
ING Life	30 June	85%	86%	not applic	not applic	not applic
Medical Life	31 Mar	34%	27%	not avail	not avail	not avail
Metropolitan Life	30 June	0%	0%	0%	0%	0%
NBNZ Life	31 Dec	47%	49%	48%	50%	49%
Sovereign Assurance	30 June	76%	80%	56%	60%	52%
Sovereign Life	30 June	15%	16%	26%	39%	39%
Tower Health & Life	30 Sep	25%	36%	21%	18%	28%
Tower Life	30 Sep	0%	7%	5%	5%	6%
Westpac Life	30 Sep	15%	23%	35%	28%	not avail
<b>Market average</b>		<b>42%</b>	<b>44%</b>	<b>41%</b>	<b>39%</b>	<b>39%</b>

# Maintenance expenses (p.25)

Company	Maintenance expense per policy			
	2003	2002	2001	2000
	\$	\$	\$	\$
A	152	152	114	133
B	132	130	121	118
C	117	145	102	123
D	115	110	122	125
E	113	81	60	60
F	84	69	58	84
G	72	126	128	83
H	59	77	63	29
I	48	55	42	34
J	46	52	124	120
K	41	35	41	35
L	13	12	14	12
M	6	5	11	8
<b>Market average</b>	<b>108</b>	<b>109</b>	<b>107</b>	<b>106</b>

# Ratio acq/maint per policy (p.26)

Company	Ratio of acquisition: maintenance expense per policy			
	2003	2002	2001	2000
A	8.9x	8.6x	12.7x	12.4x
B	11.6x	9.7x	9.4x	7.2x
C	1.9x	3.3x	3.6x	1.8x
D	5.6x	5.8x	4.6x	3.5x
E	0.5x	22.3x	16.1x	5.8x
F	16.9x	16.8x	18.0x	11.1x
G	13.5x	6.7x	7.0x	10.7x
H	7.0x	1.9x	2.8x	5.3x
I	0.8x	1.4x	3.1x	1.8x
J	12.5x	10.4x	3.1x	3.4x
K	41.6x	41.4x	21.9x	12.3x
L	3.0x	3.0x	2.8x	3.3x
M	0.1x	49.9x	11.2x	14.7x

# Solvency coverage (p.29)

Company	Basis	Solvency coverage at financial year end:				
		2003	2002	2001	2000	1999
AMP Life	AS2.03	1.9x	1.5x	1.7x	1.6x	1.6x
ANZ Life	AS2.03	4.2x	2.9x	2.3x	4.3x	3.7x
AXA	AS2.03	2.3x	2.3x	1.8x	2.3x	2.4x
Tower Health & Life	GN5	1.3x	1.1x	1.2x	1.3x	1.2x
Tower Life	GN5	10.3x	1.4x	3.0x	***	***
Asteron	AS2.03	1.2x	1.2x	1.3x	1.1x	1.3x
CML	AS3.03	1.2x	1.4x	1.5x	1.2x	1.8x
AIA	GN5*	0.3x	0.6x	0.4x	0.7x	0.0x
BNZ Life	GN5	12.0x	***	***	***	***
Cigna Life	GN5	1.5x	1.4x	1.4x	1.3x	1.3x
Farmers' Mutual Life	GN5	2.5x	7.6x	7.4x	2.0x	not applic
Fidelity Life	GN5	1.2x	1.2x	1.3x	1.4x	1.4x
ING Life	GN5	1.1x	1.3x	not applic	not applic	not applic
Medical Life	GN5	1.8x	1.8x	1.7x	2.7x	2.1x
Metropolitan Life	GN5	not applic	1.7x	1.4x	1.2x	1.1x
NBNZ Life	GN5	9.5x	6.5x	7.5x	15.1x	22.7x
Sovereign Assurance	GN5	1.2x	1.1x	1.1x	1.2x	1.2x
Sovereign Life	GN5	not applic	1.4x	1.5x	3.2x	1.7x
Westpac Life	GN5	5.2x	5.1x	3.1x	11.2x	not applic