

## EAAC Country Report – Singapore

1. Geography
2. Demography

<b>Geography</b>					
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
Area( Square kilometres)	682.70	682.30	685.40	697.10	699.00
<b>Demography</b>					
Total Population ('000)	4,017.70	4,131.20	4,171.30	4,185.20	4,240.30
Growth of Population (Per Cent)	1.30	1.70	1.80	1.70	1.30
Crude Death Rate (Per 1,000 population)	4.5	4.4	4.4	4.4	4.3
Life Expectancy	78.1	78.4	78.6	78.9	79.3
Fertility Rate ( Per Female Aged 15-44 years)	1.60	1.41	1.37	1.26	1.25
Labour Force ( '000)	2,192.3	2,119.7	2,128.5	2,150.1	n/a
Males	1,324.3	1,190.4	1,202	1,188.1	n/a
Females	868.0	929.2	926.5	962.0	n/a
Employed( '000)	2,094.8	2,046.7	2,017.4	2,033.7	n/a
Males	1,270.8	1,148.7	1,137.1	1,122.6	n/a
Females	824.0	898.0	880.3	911.1	n/a
Unemployed ( '000)	97.5	72.9	111.2	116.4	n/a
Males	53.5	41.7	65	65.6	n/a
Females	44.0	31.2	46.2	50.8	n/a
Occupation					
Legislators, Senior Officers and Managers	249.3	275.5	268.8	271.4	n/a
Professionals	186.6	241.7	231.6	247.8	n/a
Technicians and Associate Professionals	313.1	339.9	339.7	339.5	n/a
Clerical Workers	231.5	274.9	270.9	270.1	n/a
Service Workers, Shop and Market Sales Workers	211.9	230.6	228.3	218.0	n/a
Agricultural and Fishery Workers	1.5	2.0	1.8	1.6	n/a
Production Craftsmen, Plant and Machine Operators, Cleaners and Labourers	847.7	607.3	604.8	606.0	n/a
Others	53.3	74.8	71.4	79.3	n/a
Total	2,094.8	2,046.7	2,017.4	2,033.7	n/a

*Source: Yearbook of Statistics Singapore 2004 Table 1.8, 1.9, 1.10, 3.1,3.2, 3.3, 4.1, 4.6*

<b>Population by sex and age</b>									
	<b>2000</b>			<b>2001</b>			<b>2002</b>		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
0--4	213.3	110.3	102.9	212.3	110.0	102.3	208.8	108.0	100.8
5--9	252.1	129.9	122.1	249.5	128.4	121.1	249.4	128.8	120.6
10--14	235.4	121.7	113.7	247.0	127.5	119.5	257.8	132.6	125.2
15--19	211.3	109.0	102.3	211.1	109.1	102.0	210.0	108.3	101.7
20--24	212.6	106.5	106.1	215.0	107.7	107.3	216.7	108.5	108.2
25--29	267.6	129.5	138.1	263.2	127.0	136.2	263.2	126.5	136.7
30--34	290.9	142.2	148.7	287.5	139.4	148.1	290.2	140.0	150.2
35--39	323.1	162.3	160.7	323.7	162.1	161.6	321.9	160.8	161.1
40--44	313.0	158.0	155.1	318.7	161.0	157.7	321.8	162.4	159.3
45--49	262.6	132.7	129.9	275.1	138.9	136.2	287.4	145.1	142.3
50--54	207.0	104.1	103.0	224.5	112.8	111.7	231.0	116.1	114.9
55--59	125.5	62.2	63.3	126.0	62.7	63.3	143.6	71.6	72.0
60--64	111.1	54.4	56.7	119.1	58.1	61.0	123.9	60.1	63.8
65 & Above	237.7	107.4	130.2	246.7	111.4	135.3	252.7	113.8	138.8
Total	3263.2	1630.3	1632.9	3319.4	1656.0	1663.2	3,378.3	1,682.8	1,695.5
	<b>2003</b>			<b>2004</b>					
	Total	Males	Females	Total	Males	Females			
0--4	203.8	105.3	98.5	199.2	102.7	96.5			
5--9	248.1	127.8	120.3	241.7	124.8	116.9			
10--14	262.2	135.0	127.3	261.3	134.3	126.9			
15--19	216.3	111.3	105.0	230.1	118.3	111.8			
20--24	220.2	110.7	109.6	219.4	110.7	108.7			
25--29	256.3	122.5	133.8	252.3	120.4	131.9			
30--34	295.9	142.1	153.8	299.7	143.7	156.0			
35--39	319.4	159.0	160.4	312.5	154.3	158.2			
40--44	325.6	164.3	161.3	329.6	166.1	163.5			
45--49	298.0	150.4	147.6	306.5	154.5	152.0			
50--54	240.1	121.0	119.1	250.6	126.6	124.0			
55--59	162.3	80.8	81.4	179.2	89.4	89.7			
60--64	125.5	60.9	64.5	126.2	61.6	64.6			
65 & Above	263.5	118.9	144.7	278.7	125.6	153.1			
Total	3,437.3	1,710.1	1,727.2	3,487.0	1,733.0	1,753.8			

Source: Yearbook of Statistics Singapore 2004 Table 3.3, Monthly Digest of Statistics Singapore Table 2.2

### 3. Economy

	2000	2001	2002	2003	2004
Per Capita GDP at Current Market Prices					
\$	39,723	37,222	37,971	38,451	42,581
US\$	23,043	20,775	21,206	22,070	25,191
Per Capita GNI at Current Market Prices					
\$	39,405	37,228	37,065	37,853	41,513
US\$	22,858	20,778	20,700	21,727	24,560
Exchange Rate, S\$/US\$					
Average for period	1.7239	1.7917	1.7906	1.7422	1.6903
End of period	1.7315	1.8510	1.7365	1.7008	1.6338
Inflation Rate (Per Cent)	1.3	1.0	-0.4	0.5	1.7
Balance of Payments					
	2000	2001	2002	2003	2004p
A Current Account Balance	22,834.0	25,803.2	28,099.6	46,955.9	47,122.5
B Capital and Financial Account Balance	-10,202.6	-30,450.4	-18,507.8	-34,519.4	-22,133.5
C Net Errors and Omissions	-796.0	3,045.3	-7,305.3	-662.0	-4,556.0
D Overall Balance	11,835.4	-1,601.9	2,286.5	11,744.5	20,433.0
E Official Reserves (Net)	-11,835.4	1,601.9	-2,286.5	-11,744.5	-20,433.0

p = preliminary

Source: [www.singstat.gov.sg](http://www.singstat.gov.sg), *Yearbook of Statistics Singapore 2004* (Year 2000 Balance of Payments Table 5.10)

### Yield Rates

#### SGS Yields – Benchmark Issues

End of Period	Average Buying Rates of Govt Securities Dealers							
	Overnight Repo	3-Month T-Bill Yield	1-Year T-Bill Yield	2-Year Bond Yield	5-Year Bond Yield	7-Year Bond Yield	10-Year Bond Yield	15-Year Bond Yield
2000	2.48	2.48	2.57	2.9	3.44	3.78	4.09	-
2001	1.23	0.85	1.15	2.08	3.42	3.65	3.97	4.28
2002	0.84	0.67	0.79	1.07	1.74	2.11	2.55	2.86
2003	0.57	0.71	0.83	1.01	2.74	3.19	3.75	4.05
2004	1.46	1.26	1.32	1.58	2.07	2.25	2.58	3.03

- Yield is quoted as % p.a.
- Source: [www.sgs.gov.sg](http://www.sgs.gov.sg)

## **4. Insurance Industry**

### **a. Development**

#### **Life Insurance Industry**

The industry implemented the recommendations of the Committee on Efficient Distribution of Life Insurance (CEDLI) in 2001. This improved the quality and efficiency in the distribution of life insurance products. This is because all agents are now formally trained and disciplined in delivering sales on a needs basis and in a consistent and documented way through the processes of fact-find and financial needs analysis.

Singapore's insurance industry launched the Insurance Disputes Resolution Organisation (IDRO) on 27 February 2003 as part of its ongoing efforts to make its services more professional, transparent, customer focused and service oriented. IDRO is a one-stop centre for insurance enquiries, complaints and claim disputes. It was created by insurance companies in Singapore to address disputes involving consumers in a fast and cost-effective manner, avoiding the need for time-consuming and costly legal proceedings.

The Life Insurance Association of Singapore (LIA) also launched a consumer life insurance education programme in 16 October 2003. This is in line with the Monetary Authority of Singapore's (MAS) national financial education programme, MoneySENSE. It aims to help consumers gain a comprehensive working knowledge of how to manage their finances from the life insurance perspective.

The Life Insurance Association, Singapore (LIA) has affirmed its commitment to work with the Monetary Authority of Singapore (MAS) and other stakeholders to facilitate achievement of the regulator's supervisory objective in 19 April 2004. The life insurance industry will continue to set best practice standards that support MAS' vision for Singapore as a sound and progressive financial services sector.

The Life Insurance Association, Singapore (LIA) has taken the lead to set compulsory minimum standards pertaining to key areas of market conduct for distributors of life insurance products in 1 June 2004. The utmost concern over the best interests of the consumer was a key motivation behind these standards, as is the application of these standards to all channels of distribution in the Singapore financial services industry.

#### **Health Insurance Industry**

##### ElderShield

ElderShield was launched in September 2002. ElderShield is an affordable severe disability insurance scheme to help elderly Singaporeans and permanent residents who have become severely disabled and who require long term care. ElderShield will provide them with basic financial protection and help defray out-of-pocket expenses. Two private insurers, The Great Eastern Life Assurance Company Limited and NTUC Income Insurance Co-operative Limited have successfully won the tenders to administer ElderShield. Singaporeans and Permanent Residents who are CPF members and who reach the age of 40 are automatically covered under ElderShield unless they opt out of the scheme.

##### Dependants' Protection Scheme

The recent privatizing of the Dependants' Protection Scheme (DPS) contribute to the development of the health insurance industry as it generates healthy competition among the private insurers and provide better benefits and services to CPF members.

DPS was introduced in 1989 to provide some financial help to the families of CPF members who have passed away or are no longer able to work for medical reasons. It is an optional insurance scheme which covers CPF members for an insured sum of \$44,000 up to age 60. CPF savings may be used to pay DPS premiums. Great Eastern Life Assurance Company Limited (Great Eastern Life) and NTUC Income Insurance Co-operative Limited (NTUC Income) have been appointed as insurers for the DPS.

#### MediShield

MediShield was introduced in 1990 as a basic medical insurance scheme to help Singaporeans cope with very large hospital bills at the class B2/C level. However, it has become less effective because its key parameters like premiums, deductibles and benefits have not been sufficiently updated to reflect the current cost of hospitalisation.

The Ministry of Health (MOH) is reforming MediShield with the key objective of protecting Singaporeans against the financial burden of large hospital bills, at least at the Class B2/C level.

The reformed MediShield will provide significantly higher payouts for large hospital bills. Specifically, it will half the patients' share of the large hospital bills from 60% to about 30%, on average. To achieve this, MediShield claim limits will be raised substantially:

- Lifetime claim limits from \$120,000 to \$200,000;
- Annual claim limits from \$30,000 to \$50,000;
- Daily claim limits for normal hospital stays from \$150 to \$250, and for ICU stays from \$300 to \$500;

To fund these substantial increases in benefits and payouts, MediShield premiums will be raised. To restore MediShield's focus on catastrophic hospital bills, the deductibles will need to be re-calibrated. They need to be reset periodically to reflect the current cost of hospitalization. In particular, MOH will raise the MediShield deductibles from \$1,000 to \$1,500 for Class B2 wards and from \$500 to \$1,000 for Class C wards.

A few insurers will provide enhancement plans to integrate with the reformed MediShield Basic Plan as an integrated plan. These enhancement plans will offer benefits above those provided MediShield Basic plan such as coverage for stays in Class A/B1 and private wards.

*Source:*<http://www.moh.gov.sg>

## Annuity

The annuity market is still underdeveloped as it accounts only about 1% of the premiums in 2004.

Source : <http://asp.lia.gov.sg> , <http://www.mas.gov.sg>, <http://moh.gov.sg>

### b. No of insurance companies

Category		Total
Life Insurer		6 ( Asia Life, AXA Life, China Life, Manulife, Transamerica Occidental Life, UOB Life)
	• Limited	6 ( Asia Life, AXA Life, China Life, Manulife, Transamerica Occidental Life, UOB Life)
	• Local	2 (Asia Life, UOB Life)
	• State Own	0
	• Joint Venture	0
	• Mutual	0
General Insurer		42
Composite Insurer		7 ( AIA, Aviva, Great Eastern, HSBC, NTUC Income, OAC, Prudential)
	• Limited	6 (AIA, Aviva, Great Eastern, HSBC, OAC, Prudential)
	• Local	1 (Great Eastern, NTUC Income, OAC)
	• Mutual	1 (NTUC Income)
	• State Own	0
	• Joint Venture	0

Source : <http://www.mas.gov.sg>

**c. Various Products**

<b>Life</b>	<b>Non Life</b>
Health ( Long Term)	Motor Insurance
• Medical Expense	All Risks Insurance
• Disability Income	Glass Insurance
• Long-Term Care	Money Insurance
• Critical Illness	Fidelity Guarantee Insurance
Life	Goods in Transit Insurance
• Whole Life	Hospital and Surgical Expenses Insurance
• Term	Personal Liability Insurance
• Endowment	Workmen's Compensation Insurance
• Investment Linked	Household Building and Contents Insurance
• Annuity	Fire Insurance
Personal Accident (Long Term)	Consequential Loss Insurance
	Theft Insurance
	Public Liability Insurance
	Machinery Breakdown Insurance
	Machinery and Equipment All Risks Insurance
	Computer Material Damage Insurance
	Contractors All Risks Insurance
	Marine Insurance

Source: <http://gia.org.sg>

**d. Experience Mortality Table and Mortality Rates**  
**Graduated Rates Per Mille for Singapore Mortality Assured lives experience 1997-2002 (S9702)**

Age Nearest Birthday	Male	Female	Age Nearest Birthday	Male	Female
15	0.1662	0.1535	58	4.7864	2.9105
16	0.2038	0.1570	59	5.3584	3.1716
17	0.2503	0.1658	60	5.9895	3.4507
18	0.2974	0.1767	61	6.6878	3.7484
19	0.3804	0.1861	62	7.4809	4.0655
20	0.4692	0.1876	63	8.4011	4.4026
21	0.5402	0.1885	64	9.4809	4.7700
22	0.5344	0.1894	65	10.7515	5.2189
23	0.5058	0.1904	66	12.2409	5.8119
24	0.4891	0.1919	67	13.9616	6.6195
25	0.4725	0.1939	68	15.8862	7.7127
26	0.4559	0.2046	69	17.9177	9.1330
27	0.4394	0.2171	70	19.8969	10.8417
28	0.4230	0.2317	71	21.6888	12.7053
29	0.4067	0.2488	72	23.3060	14.5726
30	0.4066	0.2678	73	24.9440	16.3981
31	0.4011	0.2892	74	26.8669	18.3032
32	0.4060	0.3103	75	29.2517	20.4436
33	0.4201	0.3318	76	31.7079	22.4868
34	0.4456	0.3544	77	35.3640	25.4772
35	0.4843	0.3787	78	39.2543	28.7284
36	0.5373	0.4054	79	43.4614	32.3121
37	0.6020	0.4350	80	48.1079	36.3345
38	0.6743	0.4684	81	53.2372	40.8469
39	0.7505	0.5061	82	58.8964	45.9062
40	0.8269	0.5487	83	65.1361	51.5751
41	0.9007	0.5970	84	72.0112	57.9226
42	0.9741	0.6515	85	79.5806	65.0241
43	1.0504	0.7130	86	87.9073	72.9621
44	1.1330	0.7821	87	97.0583	81.8261
45	1.2251	0.8594	88	107.1048	91.7125
46	1.3300	0.9456	89	118.1215	102.7252
47	1.4511	1.0413	90	130.1866	114.9746
48	1.5916	1.1472	91	143.3807	128.5771
49	1.7549	1.2640	92	157.7866	143.6543
50	1.9443	1.3923	93	173.4879	160.3311
51	2.1588	1.5327	94	190.5676	178.7339
52	2.4098	1.6859	95	209.1062	198.9876
53	2.6968	1.8525	96	229.1799	221.2118
54	3.0230	2.0333	97	250.8578	245.5165
55	3.3917	2.2288	98	274.1985	271.9965
56	3.8063	2.4398	99	299.2470	300.7207
57	4.2701	2.6668			



**e and f : Growth of Business in force, growth of new business, premium income**

**Total Business in Force**

	<b>Policies</b>		<b>Annual Premiums</b>		<b>Sum Insured</b>	
<b>Year</b>	<b>Number</b>	<b>% Change</b>	<b>\$million</b>	<b>% Change</b>	<b>\$million</b>	<b>% Change</b>
<b>2000</b>	4,009,071	12.8	5,071.6	8.4	252,591.0	9.7
<b>2001</b>	4,745,926	18.4	5,221.9	3.0	283,205.9	12.1
<b>2002</b>	5,888,447	24.1	5,417.9	3.8	301,282.1	6.4
<b>2003</b>	6,136,136	4.2	5,547.9	2.4	315,450.1	4.7
<b>2004</b>	n/a	n/a	n/a	n/a	n/a	n/a

**Total New Business**

	<b>Policies</b>		<b>Annual Premiums</b>		<b>Single Premiums</b>		<b>Sum Insured</b>	
<b>Year</b>	<b>Number</b>	<b>% Change</b>	<b>\$million</b>	<b>% Change</b>	<b>\$million</b>	<b>% Change</b>	<b>\$million</b>	<b>% Change</b>
<b>2000</b>	617,204	49.3	705.6	27.7	3,337.7	87.0	41,292.9	6.6
<b>2001</b>	918,785	48.9	455.1	-35.5	8,961.6	168.5	48,002.2	16.2
<b>2002</b>	1,426,327	55.2	686.7	50.9	5,948.3	-33.6	42,006.9	-12.5
<b>2003</b>	637,346	-55.3	499.8	-27.2	4,613.4	-22.4	39,029.2	-7.1
<b>2004</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

**Premium Income  
( in million)**

<b>Year</b>	
<b>2000</b>	211.5
<b>2001</b>	481.3
<b>2002</b>	599.0
<b>2003</b>	516.9
<b>2004</b>	n/a

Source : Insurance Statistics 2003 ([www.mas.gov.sg](http://www.mas.gov.sg))

#### **g. Cost realization**

Don't know what this is

#### **h. Distribution Channels**

##### **2001**

The bulk of new business continued to come from the traditional tied agency channel. Tied agents brought in 82.3% of all new individual business sales (weighted) for the year in review. Bancassurance accounted for 15.1% of the sales, while brokers and others handled the remaining 2.6%.

##### **2002**

Although the bulk of new business premiums continued to come from the tied agency, bancassurance is rapidly gaining a foothold as an important distribution channel in the life insurance industry. On a weighted premium basis (excluding ElderShield), bancassurance sales grew from 15% in 2001 to 25% this year while tied agencies contributed 73%.

##### **2003**

Tied agents brought in 69% of all new individual business sales (weighted) for the year in review while bancassurance accounted for 26% of the sales. Bancassurance has rapidly gained a foothold as an important distribution channel in the life insurance industry. On a weighted premium basis, its share grew from 20% in 2002 to 26% this year. As a distribution channel, it has succeeded in attracting bank customers to consider insurance products.

##### **2004**

The bulk of new business continued to come from the traditional distribution channel, i.e. tied representatives. Agency force brought in 66% of new business sales. Bancassurance, an increasingly important distribution channel, was responsible for 29%. This represented an increase of 3%, up from last year's 26%.

*Source : <http://asp.lia.org.sg>*

## 5 Actuarial Association

### a. Foundation & Office Address

The **Singapore Actuarial Society** was formed in 1976. At that time, the profession was little known in Singapore and there were only a handful of qualified actuaries. The adoption of the new Constitution in July 1996, the Code of Professional Conduct in November 1997, the Disciplinary Scheme in August 1998 and Guidance Notes in November 2004 is the fruition of efforts made in the past two decades to promote the study of actuarial science and professional standards.

The Society is the recognised representative body of the actuarial profession in Singapore, having the final authority in setting professional standards. The objectives of the Society are:

- To uphold the highest professional standards among members;
- To promote the study, discussion, publication and research into the application of economic, financial and statistical principles to practical problems, the actuarial, economic and allied aspects of life assurance, non-life insurance, employee retirement benefits, finance and investment with particular reference to Singapore and the ASEAN region;
- To assist students in the course of their actuarial studies, and
- To foster and encourage social relationship among the members.

**The Singapore Actuarial Society**  
**Robinson Road Post Office**  
**P O Box 376**  
**Singapore 900726**

*Source :<http://www.actuaries.org.sg>*

### b. Number of members

#### **Actuarial Employment of SAS Members**

Breakdown of Membership by Employment Sector

<b>Sector</b>	<b>Fellows</b>	<b>Others</b>	<b>Total</b>
Direct Life	33	77	110
Direct Non-Life	1	1	2
Reinsurance	17	15	32
Consultancy	15	12	27
Regulators	2	4	6
Investment	3	0	3
Banks	0	2	2
Academia	2	1	3
Others	2	4	0
<b>TOTAL</b>	<b>75</b>	<b>116</b>	<b>191</b>

### c and d . Professional Activity, Educational Activities

The Society organises the following activities for the benefit of members:

- **Actuarial Forums** : seminars on current actuarial issues, presented by both distinguished local actuaries, or visiting actuaries renowned in their fields. Speakers include Presidents of various actuarial associations.

- **Social Activities**

**Standing Committees**

The Society has 6 Standing Committees to look into the actuarial development in various areas in Singapore:

- Life Insurance
- General Insurance
- Health Insurance
- Membership
- Professional Affairs
- Administration

**Monetary Authority of Singapore Working Groups**

The Society was also represented on various MAS Working Groups:

- Risk-based Capital (Life)
- Risk-based Capital (Non-Life)
- Participating Fund Business Review (Life)

**Guidance Notes Adopted on 18 November 2004:**

The Society issued the following Guidance Notes to assist its members in their statutory duties:

- L01** Appointed Actuaries of Singapore Life Insurance Funds
- G01** Actuaries Investigating the Policy Liabilities Relating to General Insurance Business

**Statutory Recognition**

On 23 August 2004, an “actuary” for the purpose of the Insurance Act was defined as a Fellow of the Society. Hence, any actuary wishing to perform a statutory function in Singapore must become a Fellow of the Society and be governed by its Constitution, Code of Conduct and Guidance Notes.

**International Actuarial Association**

In May 2003, the Society was granted Full Membership of the IAA.

Members represent the Society in the following IAA Committees:

- Financial Risks
- Insurance Accounting (& Actuarial Standards Sub-committee)

and IAA Section:

- Health.

**Career Talks**

The Society also conducts career talks for high school students, to educate them on the actuarial profession.

**e. Conduct and status appointed actuary**

The statutory duties of the Appointed Actuary are to:

- Ensure appropriateness of premium rates (section 24);
- Investigate the financial condition of a company’s life insurance business (section 37). This investigation must include a valuation of liabilities and a prospective test of the financial condition of each insurance fund under such economic and business conditions as the Authority may specify;
- Provide a written recommendation to the directors of the insurer on the allocation of the par fund by way of bonus to the participating policies and to the surplus account;

- Carry out other requirements contained in the Insurance (Actuaries) Regulations 2004 such as advising the insurer on the appropriate investment policy for each insurance fund and reporting on matters which have an adverse effect on each insurance fund.

Source : *SAS GN L01 - Guidance Note for Appointed Actuaries of Singapore Life Insurance Funds*  
(<http://www.actuaries.org.sg>)

#### **f. Other actuarial professions involvement in areas**

Current Employers of SAS Members (in Singapore Only)

- See section b

#### **g. Future Prospects for the actuarial profession**

Actuaries are now employed by a wide range of institutions including investment houses, banks and government. These institutions recognise the actuaries' skills in building financial models and using them to help their clients to make financial decisions which are prudent, while maintaining competitiveness.

##### **Insurance Companies**

When working for a life and/or general insurance company, an actuary is primarily responsible for the management of the financial condition of the company. He or she has to ensure that the company has sufficient assets and reserves to meet the potential liabilities of the company. He or she must also be concerned that the products of the company are designed and priced so that it will always be likely to meet its obligations. Actuaries (called Appointed Actuaries) also have statutory duties under the Insurance Act.

##### **Re-insurance Companies**

Actuaries working for re-insurance companies are mainly concerned with the analysis and pricing of insurance risks (e.g. mortality, claim rates). They deal with clients, which are life and/or general insurance companies, to arrange reinsurance contracts which allow these companies to manage their risks by sharing these risks with the re-insurance companies. In Singapore, re-insurers tend to have clients in several countries.

##### **Consultancies**

Actuaries engaged by actuarial consultancy firms provide actuarial services to life and general insurance companies which may have insufficient actuarial expertise internally. They also advise other financial institutions and pension funds in management of future financial risks. In recent years, computation of shareholder values for mergers and acquisitions of insurance companies, in particular, has generated demand for their services.

##### **Others**

Other than pension funds, banks and investment companies, actuaries may also move into academia, or even set off in totally new directions like management, marketing and system development work lending their unique understanding of financial risks to these areas.

## 6. Regulation

### **Changes since June 2003**

#### *Risk Based Capital Framework*

Risk based capital framework was adopted for the insurance industry in Singapore with effect from 1 Jan 2005. The framework was formed through in depth studies into emerging international standards and good practices in developed countries. The Singapore Actuarial Society is involved in the work groups formed by Monetary Authority of Singapore in developing the framework. A brief summary of the changes to the valuation and capital framework in Singapore is given below:

	Old Framework	New RBC Framework
Asset Valuation	Lower of book or market value	Fair/ Market value
Life Insurance Liability Valuation	Net premium reserving with prescribed assumptions	Prospective valuation using best estimate assumptions and explicit margins
General Insurance Liability Valuation	Unearned premium reserves plus case reserves plus IBNR	Premium liabilities and Claims liabilities valued with best estimate assumptions and explicit margins. For premium liabilities, the value would also be subjected to the lower of Unearned premium reserves
Solvency margin	Life business: fixed percentages of reserves and sums at risk General business: fixed percentages of outstanding claims reserves or net written premiums	Explicit risk charges for liability risk, credit and market risk of assets, asset liability mismatching risk, currency risk and asset concentration risk.

Singapore Actuarial Society has implemented professional guidelines for its members in the discharge of their statutory responsibilities.

#### *Accident and Health Insurance Regulatory Framework*

In January 2004, Singapore introduced a new accident and health insurance regulatory framework. Under this framework, accident and health insurance business are segregated into long term and short term categories depending on the duration of policy and the insurer's right to cancel the coverage.

Long term accident and health policies will have duration of more than 5 years and insurer has no right to cancel the coverage unilaterally. Life insurers are allowed to write both long term and short term A&H policies which general insurers are only allowed to write short term policies.

The regulatory framework also addresses the sales practices of accident and health insurance products.

#### *Alignment of Regulatory Requirements of Investment-Linked Products with Unit Trusts*

In September 2004, the regulatory requirements for investment-linked insurance products are changed to be more aligned with that of unit trusts. The regulatory requirements address the following:

- Unit pricing
- Asset valuation
- Classes of approved assets
- Disclosure to consumers
- Information to be filed to the regulator

#### *Sound Risk Management Guidelines*

These are risk management guidelines that apply across financial institutions. The guidelines comprise of several sections. The sections that are officially launched touch on business continuity, technology and outsourcing of functions. The other sections on board and senior management oversight, internal controls, market, credit and liquidity risk management will be issued in due course.

#### **Future Outlook**

##### *Par Fund Review*

A workgroup comprising of representatives from the Singapore life insurance industry, Monetary Authority of Singapore and Singapore Actuarial Society was formed to review the operations of the participating fund business in Singapore and to recommend measures to address any inadequacy. The workgroup have made a proposal to enhance the governance framework and improve disclosure for participating business. Regulatory requirements in relation to the workgroup's recommendations may include the formalization of individual insurer's internal policies for the management of par fund and additional disclosure requirements on the investment strategy and ongoing disclosure of the performance of the par fund to affected policyholders.