

# THE CURRENT STATUS OF THE INDIAN ACTUARIAL PROFESSION

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*(Research in conjunction with the Actuarial Society of India)*

**Abstract.** This report is a presentation of the results of a survey carried out by D W Simpson jointly with Actuarial Society of India (ASI), amongst the membership of the ASI in order to find out if the current student numbers would be sufficient to cope with the rising demand for Actuaries as the insurance market in and around India expands into the future. It commences with an overview of the current market and a brief projection of future growth. It then presents the results of the survey with some analysis. The conclusion highlights the areas for which more research is needed and a useful list of books and papers that could be consulted for information.

**Key words:** India, actuary, education, exam, demographics.

## 1 Introduction

Since the opening of the Insurance market in India to private sector participation in 1999, and the passing of the Insurance Regulatory and Development Authority Act, 1999, there has been a rapid change in the size and structure of the insurance market. As a consequence of this, the former state owned companies have to adapt themselves to new competitive practices; and the joint ventures with foreign insurance participation have to adapt themselves to the Indian way of working, the regulatory regime and culture.

Not least among these changes is the sudden and accelerated demand for Actuarial expertise. India is fortunate in that it possesses a highly educated and ambitious workforce of intelligent and mathematically orientated individuals, keen to carry out further study to enter a professional career. On first sight, the numbers of students enrolling with the Actuarial Society of India is encouraging, however initial apocryphal evidence would seem to indicate that many were taking courses without working in an Actuarial environment and therefore could be at a disadvantage in being able to pass exams and obtain employment.

Working in conjunction with the Actuarial society of India, it was therefore decided to carry out a survey that would prove or disprove this theory and draw some conclusions as to the reality of the current student levels, the likely pass rate and thereby the likely numbers of qualified and experienced actuaries ready to take on the new challenges in the future. Opinions and views from students and from Fellows currently working in the India market were also sought to elicit some ideas for future actions.

For the assistance of those not currently working in India, some history and background of the local insurance market is provided. The results of the survey are then analysed and presented, and a conclusion drawn.

## 2 Background

### 2.1 Brief History of the Insurance market in India

Insurance started in the nineteenth century and was dominated by a few British insurance companies mainly in the large urban centres. Oriental Life Insurance Company was the first life entrant in 1818. However, they did not insure the lives of Indians, just those of the Europeans living in India. Later on, when insurance for Indians was introduced, they paid extra premiums of some 20%. This was only changed in 1871 by the Bombay Mutual who introduced “fair value” policies for Indians.

Property and Casualty (P&C) insurance or General Insurance (as is called in India) arrived in 1850 with Triton Insurance Ltd., owned and operated by the British. The first indigenous P & C insurance company was set up in 1907.

The market grew quickly and by 1938, there were 176 companies operating, 154 Indian companies, 16 non-Indian companies and 75 provident societies.

After 1947, the year India became an independent nation (from British control) the market was dramatically changed by national resurgence and the subsequent era of socialistic philosophy of governance.. Life companies were first to be nationalised in 1956 and then P & C insurance in 1972. Foreign insurers were not allowed back into the market until 1999 and then only as Joint ventures with local companies and were allowed a maximum ownership of 26%.

Nationalisation was justified by the government at the time for three reasons:

- The perception that private companies would not promote insurance in rural areas
- The government would be in a better position to channel resources for saving and investment
- Bankruptcies of life insurance companies was a big problem at the time

In December, 1999 the Insurance Regulatory and Development Authority (IRDA) Act was passed. The main features of this and the Regulations brought out by IRDA are:

- Separate licences for life, general (non-life) and reinsurance business
- Capital requirements for each line – US24m (Rs. 100/- crores) for life & non-life; US48m (Rs. 200/- crores) for reinsurance
- The “Appointed Actuary” mandated by IRDA regulations for life as well as non-life has to be a Fellow of the Actuarial Society of India (ASI)
- The Appointed Actuary responsible for reporting to the IRDA

- Insurance agents should have high school diploma plus 100 hours of training
- Strict guidelines issued for asset and liability management and solvency margin requirements.
- Increase in disclosure requirements
- All insurers are mandated to provide specified minimum coverage for the rural and social sector.

## 2.2 Size and Structure of the India Insurance market

As noted above, the Life Insurance Corporation of India and its P&C counterparts, the four general insurance companies, are still owned by the Government and dominate the market. The General Insurance Corporation of India, earlier the holding company of the four general insurers, has now been made a national reinsurer, with all general insurers mandated to cede at least 20% premium to it.

The annual premium income figures for the past three years is shown below, and clearly demonstrate the dominance of the LIC. Between 2001 and 2004 the total premium income written increased from RS50,094.46 Crore to RS66,287.93 Crore, an increase of 132% overall, with private insurers increasing over 11 times. However, they still only take 4.66% of a market place which is dominated by the Life Insurance Corporation of India (LIC).

<b>Life Insurer</b>	<b>2001-2002</b>	<b>2002-2003</b>	<b>2003-2004</b>
LIC	49821.91	54628.49	63167.6
ING Vysya	4.19	21.16	88.51
HDFC Std. Life	33.46	148.83	297.76
Birla Sun Life	28.26	143.92	537.64
ICICI Prudential	116.38	417.62	989.28
OM Kotak	7.58	40.32	150.72
Tata AIG	21.14	71.77	253.53
SBI Life	14.69	72.39	225.67
Allianz Bajaj	7.14	69.17	220.8
Max New York Life	38.95	96.59	215.25
Met Life	0.48	7.91	28.73
AMP Sanmar	0.28	6.47	31.06
Aviva	0	13.47	81.5
<b>Private total</b>	<b>272.55</b>	<b>1109.62</b>	<b>3120.33</b>
<b>Grand total</b>	<b>50094.46</b>	<b>55738.11</b>	<b>66287.93</b>
<b>Private as % of Grand total</b>	<b>0.54%</b>	<b>1.99%</b>	<b>4.66%</b>

Source: [www.irdaindia.com](http://www.irdaindia.com)

## 2.3 Regulatory Regime

This commenced with the Indian Life Assurance Act of 1912 (for life only) and followed with the Insurance Act of 1938 (for all classes of insurance) which created a supervisory and regulatory authority, the Controller of Insurance, who carried out a statutory function. However the Controller of Insurance functioned as part of

Ministry of Finance, the relevant ministry in the Central Government for the insurance industry.

The Malhotra Committee set up by the Government in 1993 to examine the subject of opening the insurance industry to private sector participation, came out with a recommendation to set up an independent Insurance Regulatory Authority concurrent with the opening of the insurance industry to the private sector. With the enactment of the IRDA Act, 1999, the IRDA as an independent insurance regulator (as against a Department of the Ministry of Finance) was established. The IRDA Act also withdrew the monopoly of the LIC and GIC (and its subsidiaries) and thereby opened up the insurance sector for private sector participation.

The functions and duties of the regulator are laid out on pages 358 – 360 of Palende (2003)<sup>1</sup>. The Regulator in India has included provision for adequate insurance products to be available to the rural market, thereby partially fulfilling its social responsibilities.

There is a now a shift by the regulator from the creation of rules and regulations to the compliance of them, and this has led to a discussion of “self-regulation”. Banerjee<sup>2</sup> notes that ineffective market discipline needs to be effectively tackled for the healthy growth of the insurance market. Informed and educated consumers are an effective means of enforcing commercial discipline.

#### **2.4 Financial Management and Capital issues**

One of the areas critical to a new company’s ability to comply with the solvency requirements of the legislation is the amount of capital they have to facilitate growth and remain competitive. Some of the main factors that affect the level of capital required are:

- Expenses
- Regulations
- Product mix and nature of products
- Business persistency
- Valuation assumptions

The following table<sup>3</sup> shows 12 ‘new’ private life insurance companies in India, the amount of capital that has been injected, how much it is expected that will be required in the next five years and what factors affect this level.

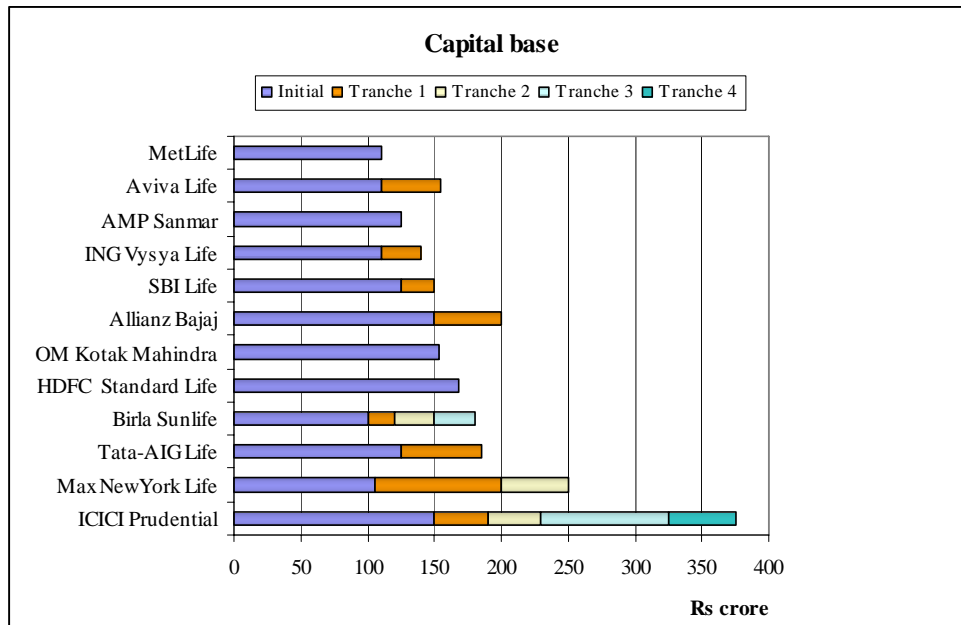
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1 Palande, P.S, Shah, R. S, Lunawat, M.L, 2003 Insurance in India, Changing policies and emerging opportunities, Response Books, New Delhi

2 Banerjee “Insurance regulations in India and future Directions” from: the Insurance Institute of India Journal July – December 2004 edition commencing page 8 obtainable from <http://www.insuranceinstituteofindia.com/journal/journal-july-dec-04/journal2004-7-12.pdf>

3 Vidyarthi, S, Maini, S, Kawatkar, S, Basu, H “Capital issues for new life insurers in India” Paper presented at Global Conference of Actuaries 2005. <http://www.actuariesindia.org/publication/Shweta.doc>

THE CURRENT STATUS OF THE INDIAN ACTUARIAL PROFESSION



Source: Vidyarthi<sup>3</sup>

By combining the above information with the premium income provided earlier, it is possible to produce a table showing the amount of capital invested as a percentage of premium income received as follows:

Insurer	2003-2004 premium income	capital injection	capital as % premium income
ING Vysya	88.51	140	158.00%
HDFC Std. Life	297.76	170	57.09%
<b>Birla Sun Life</b>	<b>537.64</b>	<b>180</b>	<b>33.47%</b>
ICICI Prudential	989.28	370	37.40%
OM Kotak	150.72	150	99.52%
Tata AIG	253.53	180	70.99%
SBI Life	225.67	150	66.46%
Allianz Bajaj	220.8	200	90.57%
Max New York Life	215.25	250	116.14%
Met Life	28.73	110	382.87%
AMP Sanmar	31.06	125	402.44%
Aviva	81.5	155	190.18%

All figures in Rs. Crore.

Table constructed by author from information in section 2.2 and 2.4 in this paper

Considering the huge change that the Insurance industry in India has undertaken in a very short period of time and the amount of money and determination that has been invested by new entrants, it is easy to predict that the future will be very different from that which existed before.

Whether it is 'better' or 'worse' depends of course on your point of view. Palende page 413 (2003)<sup>4</sup> notes that the prognosis ranges from "a sombre prediction for the existing Indian operators to a rosy picture of the private companies with foreign collaborations". The highlighted developments that will influence the insurance scene in the future in India are:

- Change in industry character as it moves from controlled to competition driven market
- Belief in continued growth of the insurance market of 15-20% per year
- Several new private market entrants
- Widened range of products and services
- Radical restructuring of public sector set-up
- Close regulation, but not control
- Shortage of qualified and experienced Actuaries

## 2.5 Indicators of future growth

As can be seen above, there has been quite significant growth in the premium income for a number of insurers, and logically one can assume that this results in the need for larger numbers of actuaries and analysts to cope with the increasing demands for competitive product development, financial management and regulatory compliance.

In order to attempt to predict the level of potential growth in a market, one simple measure is to assess the level of insurance penetration, which is premium income as a percentage of GDP. This figure can then be compared with more developed countries, or those that are further along the insurance growth track. Therefore in India with GDP at USD595 bn and premium income in 2003 of USD13,590m<sup>5</sup> insurance penetration is 2.28%. The chart below shows comparison with other markets and also with the UK and US.

Comparison of Asian life insurance markets in 2002

<b>Life insurer market</b>	<b>GNP per capita at PPP-US\$</b>	<b>Penetration (in %)</b>
China	4.390	2.22
India	2.570	2.28
Indonesia	2.990	0.66
Japan	26.070	5.12
Korea	16.480	8.52
Malaysia	8.280	3.00

<sup>4</sup> Palende, P.S, Shah, R. S, Lunawat, M.L, 2003 Insurance in India, Changing policies and emerging opportunities, Response Books, New Delhi

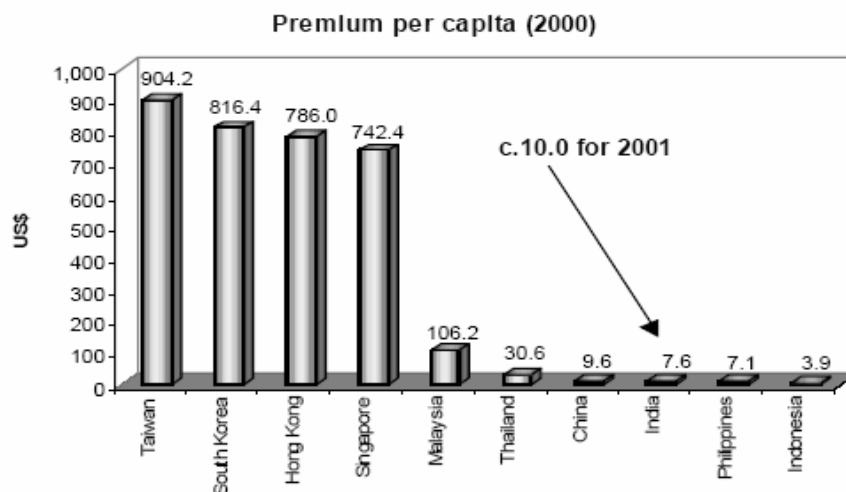
<sup>5</sup> Swiss Re Sigma 2004 "Exploiting the growth potential of emerging insurance markets - China and India in the spotlight" downloaded from website:www.swissre.com

Life insurer market	GNP per capita at PPP-US\$	Penetration (in %)
Philippines	4.280	0.88
Singapore	23.090	7.25
Taiwan	20.597	7.36
Thailand	6.680	2.09
Germany	26.220	3.09
UK	25.870	10.27
USA	35.060	3.87

Source: Ed Reiche<sup>6</sup>

Insurance density is the amount that is spent per capita on insurance, and is influenced by demographics, GDP, income spread in a country and other factors. In India in 2003 the figure is US\$12.9<sup>7</sup>, i.e. total premium in come divided by population size. The chart below shows figures for 2000 in other parts of Asia. It is noted in the Swiss Re research<sup>7</sup> that the figure for India increased from US\$10 in 2001 to US\$12.9 in 2003.

## Penetration indices



Source: Holloway and Akers download:

[http://www.actuaries.org.uk/files/pdf/life2002/Holloway\\_A13.pdf](http://www.actuaries.org.uk/files/pdf/life2002/Holloway_A13.pdf)

There is a clear relationship between economic growth and the amount of life insurance bought as well as the type of insurance product bought. As a market place becomes more sophisticated in its financial awareness and needs, so the

<sup>6</sup> Reiche, E "The development of life insurance companies in emerging Asian markets" paper presented at the 6th global conference of actuaries 2004

<sup>7</sup> Swiss Re Sigma 2004 "Exploiting the growth potential of emerging insurance markets – China and India in the spotlight" downloaded from website:www.swissre.com

insurance companies respond with more complex products to fill this demand. Another influencer of demand for life insurance products is the individuals' own life cycle. For example, there is a clear change in needs as the individual moves from being single, to married, to having a family and through into retirement. (see Asher 2005<sup>8</sup>)

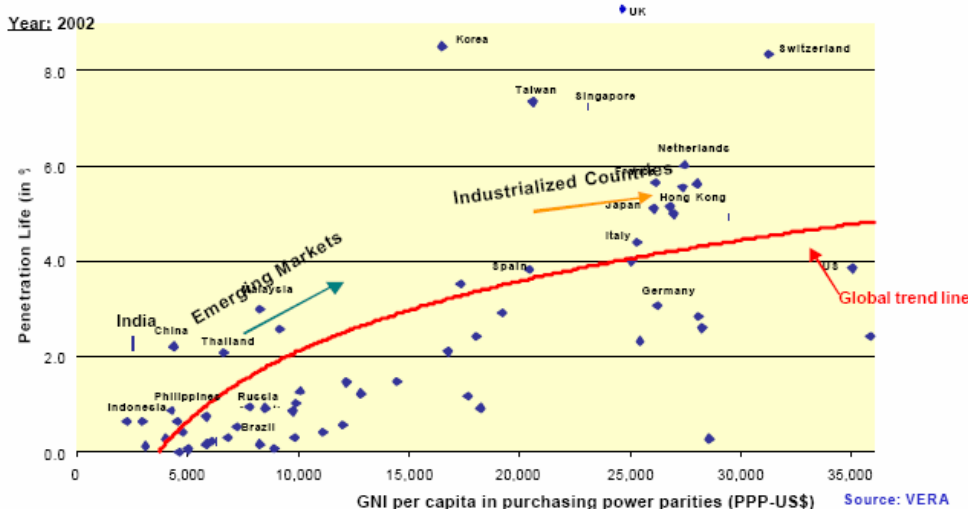
For a more detailed discussion of the relationship between income elasticity of demand, economic development and insurance markets, see Pearson 2002<sup>9</sup>

Workforce participation and individual income also have an influence on purchasing decisions. The specific demographics of a population influence demand, for example the percentage of population in the 20-59 age groups is predicted to increase from 46.6% in 1990 to 55.9% in 2025. The current level of insured population is 22% in the next five years this could rise to 30%.

The increase in an ageing population and currently an underdeveloped pensions market holds potential for the insurance market, but the problem of how to cover the unorganized sector remains. A lack of a comprehensive social security system accentuates this demand. In the US pension products account for 49% of the total insurance policies sold, while in India it is hardly 0.25%.

The illustrations below show: the relationship between wealth and life insurance penetration; the trajectory of product sophistication growth; some population indicators; and how India's market maturity is currently perceived.

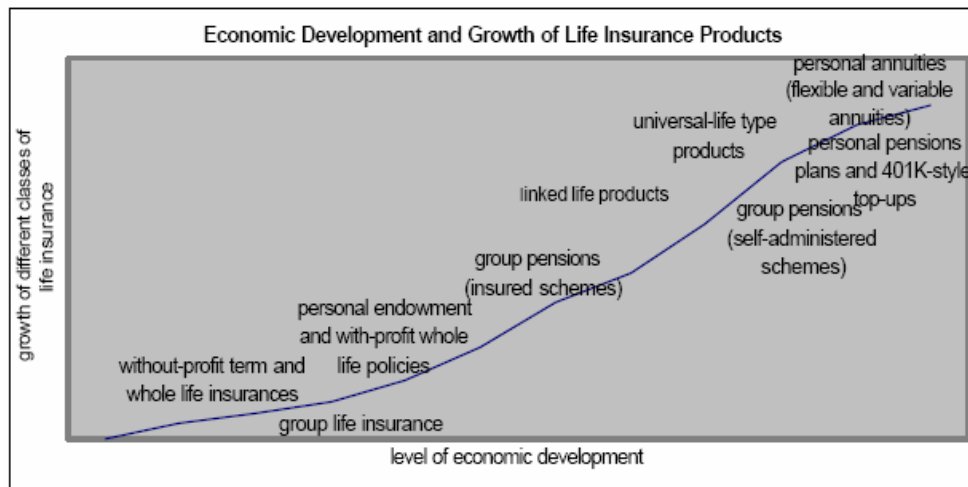
### Relation between wealth and Life insurance penetration in 2002



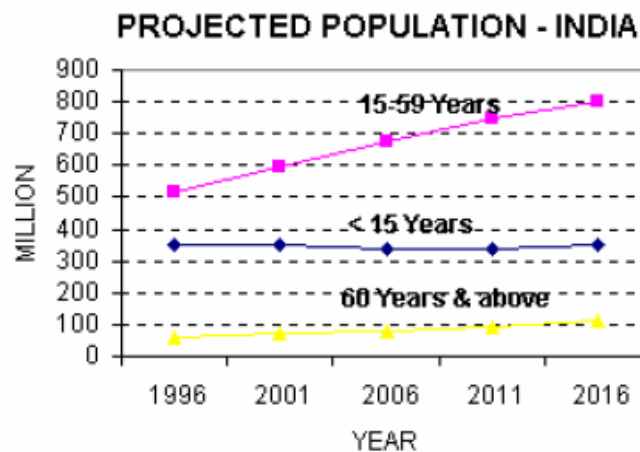
Source: Ed Reiche<sup>10</sup>

8 Asher, A 2005 "The major actuarial challenges: a partly idiosyncratic view" pages 4-8  
 9 Pearson, R 2002 pages 498 – 499 "Growth, crisis and change in the insurance industry: a retrospect" Accounting Business and Financial History 12:3 November 2002 487-504  
 10 Reiche, E "The development of life insurance companies in emerging Asian markets" paper presented at the 6th global conference of actuaries 2004





Source: Ed Reiche<sup>11</sup>



Source:- Registrar General India

**Table III. Populasi and Labour force Projections: 1997 – 2012**

	1997	2002	2007	2012
Population (Millions)	951.18	1028.93	1112.86	1196.41
Labour Force (Millions)	397.22	449.62	507.94	562.91

The above two tables of population statistics come from a report from the India Planning commission on “Population growth, trends, projections, challenges and opportunities” download from [www.planningcommission.nic.in](http://www.planningcommission.nic.in)

<sup>11</sup> Reiche, E “The development of life insurance companies in emerging Asian markets” paper presented at the 6th global conference of actuaries 2004

So, on this evidence there would be no doubt as to the fact that the Insurance market in India is predicted to increase quite substantially in the coming few years, thereby creating a demand for Actuarial expertise.

## 2.6 Background to the Actuarial profession in India

The Actuarial society of India was established in Bombay (now Mumbai) in 1944. IRDA regulations require that the Appointed Actuary has to be a Fellow of the Actuarial Society of India.

The ASI was initially started as a non-examining body when Actuaries used to get qualified from Institute of Actuaries or Faculty of Actuaries of UK. The Actuarial profession in India saw a downward trend in the early years of nationalization of the Indian insurance industry. This led to a reduction of actuarial inputs in both Life Insurance and General Insurance management and insignificant input in other areas like Pensions, Insurance Regulations, Academics, etc. The downward trend resulted in a reduction of number of students taking actuarial exams during this time, a trend that is now beginning to reverse.

The Actuarial Society of India started conducting Entrance Examinations in India for students of Institute of Actuaries, UK, in 1975. In 1989, it started conducting examinations for its Indian qualification up to Associateship level, and in 1992, it started conducting Fellowship level exams. The year 2000 saw a complete re-vamping of the Indian actuarial education system with a close alignment to that of the UK and yet retaining the Indian flavour.

ASI is a full Member Association of the International Actuarial Association (IAA). The IAA brought out an education policy in 1998 mandating it to be followed by its full member Associations and be compliant with it by year 2005. ASI took advantage of it and has brought out a comprehensive Education Policy document reflecting its global approach and international standards. (Ver. 3.00 in the appendix, ASI website [www.actuariesindia.org](http://www.actuariesindia.org))

The membership growth trajectory can be seen below:

Class of Membership	As at 31.3.99	As at 31.3.00	As at 31.3.01	As at 31.3.02	As at 31.3.03	As at 31.3.04	As at 31.08.04	As at 31.05.05
Fellows	146	143	218	204	200	204	205	203
Affiliates	-	-	4	19	23	24	22	18
Associates	87	106	122	122	118	120	124	136
Students other than Associates	442	471	604	1,494	1,905	2815	3412	3615
Total	675	720	948	1,839	2,246	3163	3763	3972
Hon. Fellows	0	0	5	6	6	6	6	6
Grand Total	675	720	953	1,845	2,252	3169	3769	3978

### 3 Current statistics of the Actuarial Society of India – total membership<sup>12</sup>

#### 3.1 Age and membership type demographic

Age Group	Fellows	Affiliates	Associates	Students other than Associates	Total
20 & less	0	0	0	269	269
21 - 25	0	0	0	1044	1044
26 - 30	4	6	8	710	726
31 - 35	20	7	64	805	893
36 - 40	24	3	20	419	466
41 - 45	16	4	10	100	130
46 - 50	11	1	6	28	46
51 - 55	21	0	11	24	56
56 - 60	10	1	2	7	20
61 - 65	25	0	0	4	29
66 - 70	28	0	2	0	30
71 - 75	23	0	0	2	25
76 - 80	14	0	1	0	15
81 - 85	2	0	0	0	2
86 - 90	4	0	0	0	4
91 - 95	3	0	0	0	3
96 & above	0	0	0	0	0
<b>Total</b>	<b>205</b>	<b>22</b>	<b>124</b>	<b>3412</b>	<b>3763</b>

#### 3.2 Sex demographic

Class of Members	Male	Female
Fellows	192	11
Associates	89	47
Students	2440	1175
Honorary Fellows	6	0
Affiliates	15	3
<b>Total</b>	<b>2742</b>	<b>1236</b>

#### 3.3 Geographic location

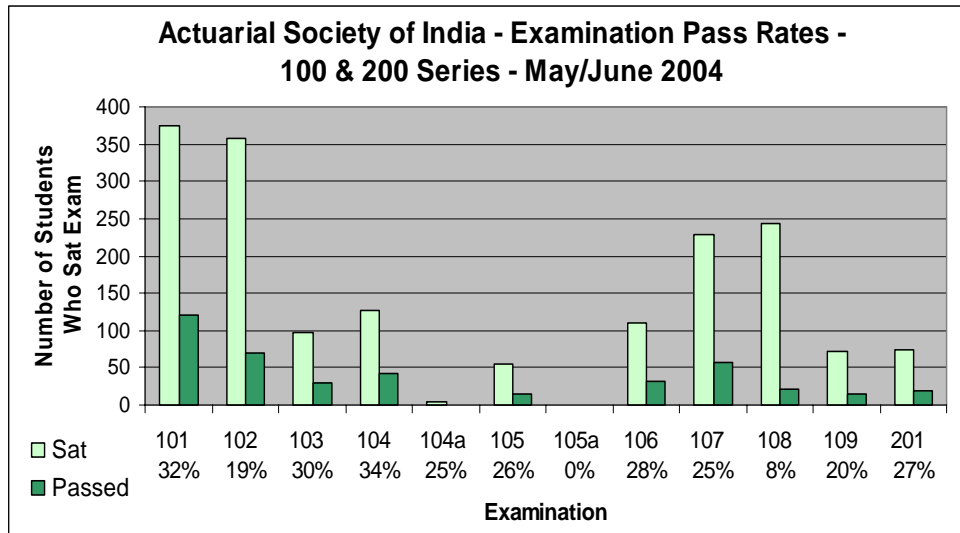
Class of Members	Resident in India	Resident in Rest of the World	Total
Fellows	137	66	203
Associates	128	8	136
Students	3566	39	3615
Honorary Fellows	3	3	6
Affiliates	5	13	18
<b>Total</b>	<b>3839</b>	<b>129</b>	<b>3968</b>

<sup>12</sup> Source: ASI

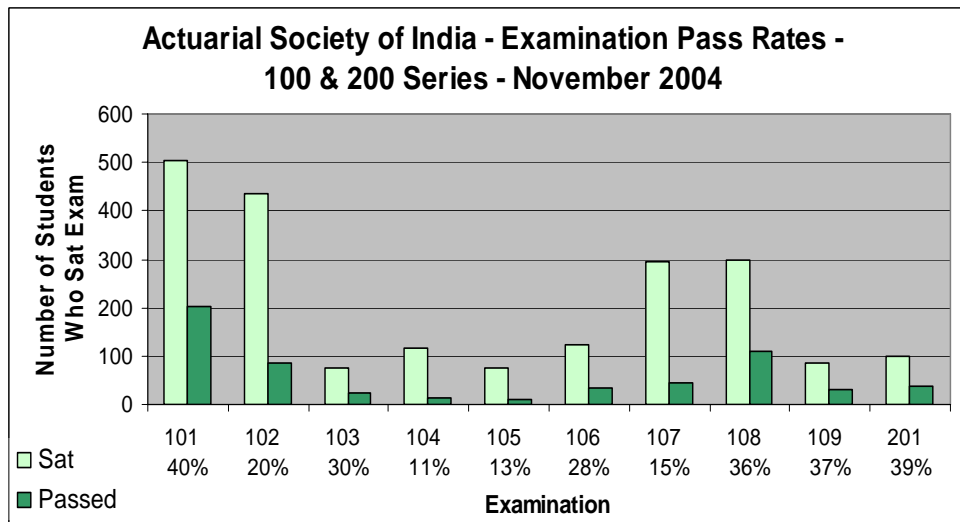
**Exam success rates in India, UK and Australia**

These have been presented here for ease of comparison, and will be referred to in the later section when comparisons and analysis is drawn.

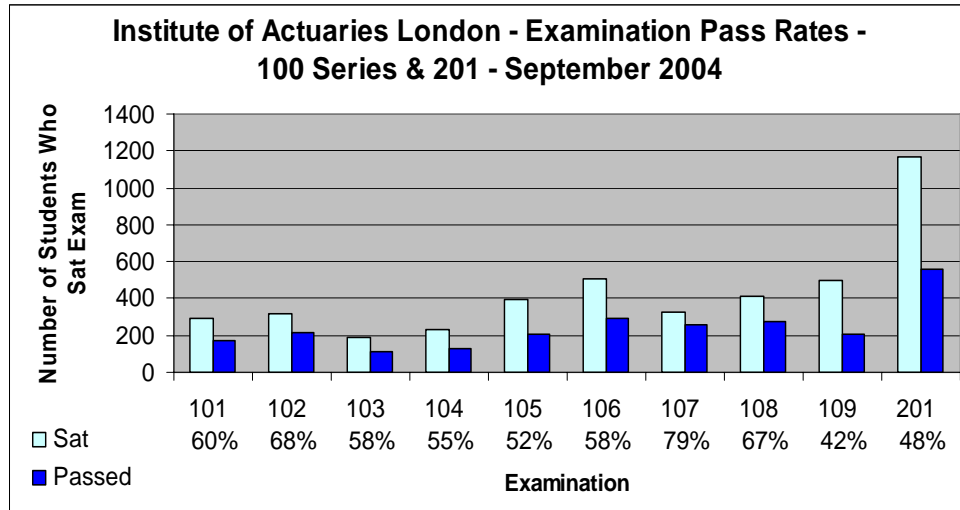
**3.1.1 100 and 200 series (corresponds now to CT and CA3)**



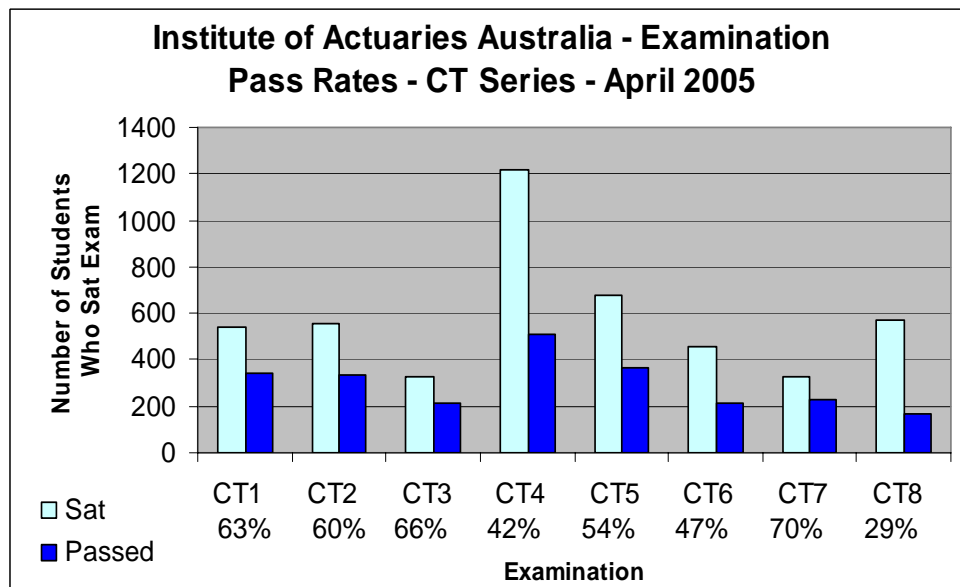
Note: In total there were 1741 sittings with 421 passes making the average pass rate for these exams 24%.



Note: In total there were 2110 sittings with 592 of these students passes making the average pass rate for these exams 28%

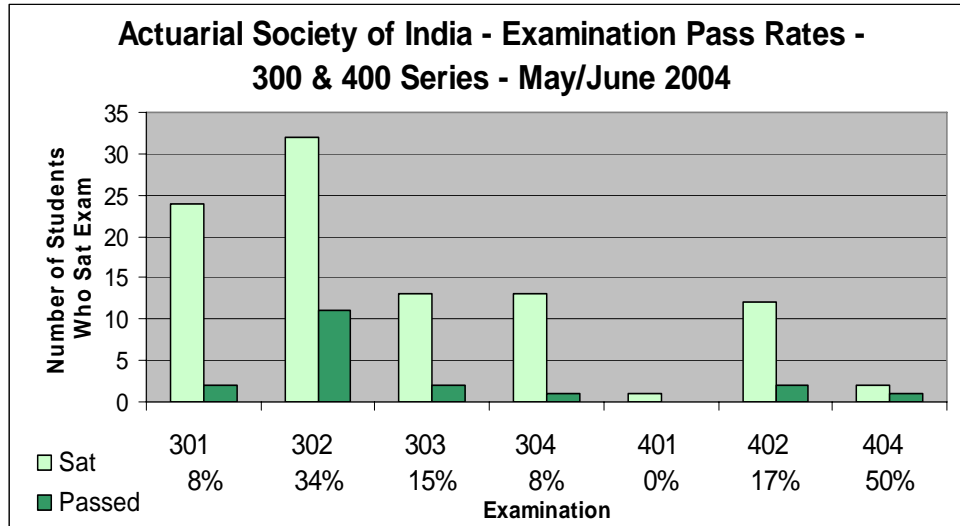


Note: In total there were 4325 sittings with 2417 passes making the average pass rate for these exams 56%.

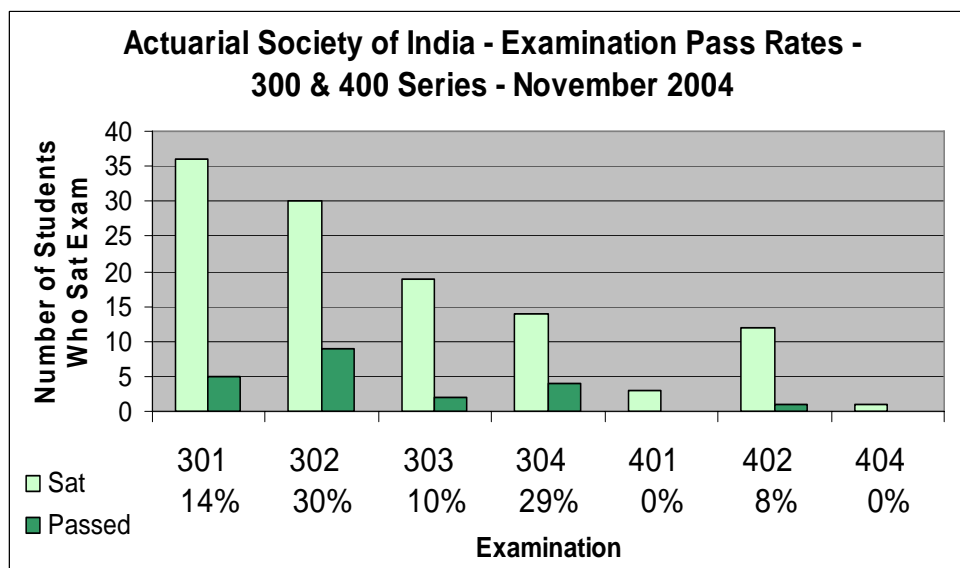


Note: In total there were 4673 sittings and 2376 passes making the average pass rate for these exams 51%

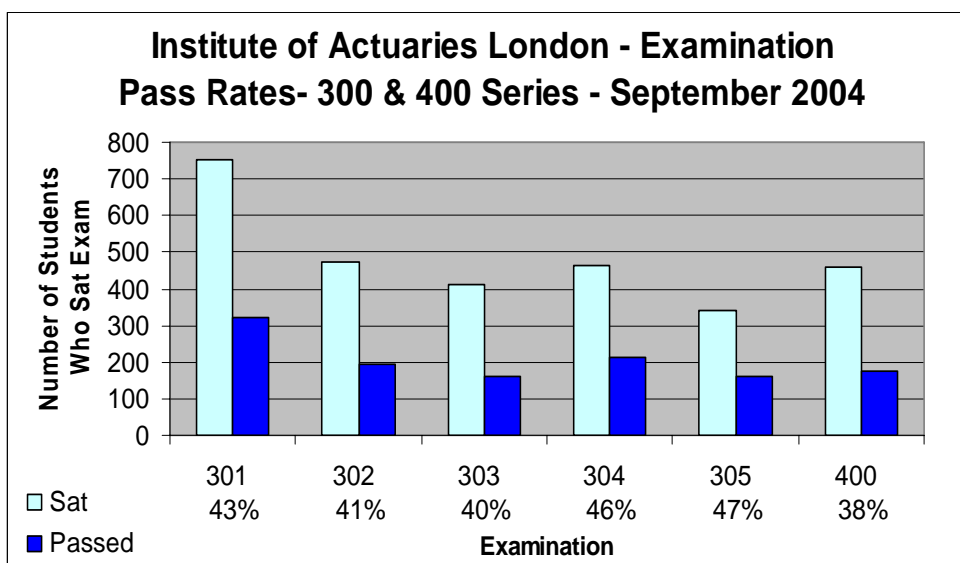
**3.1.2 300 and 400 series**



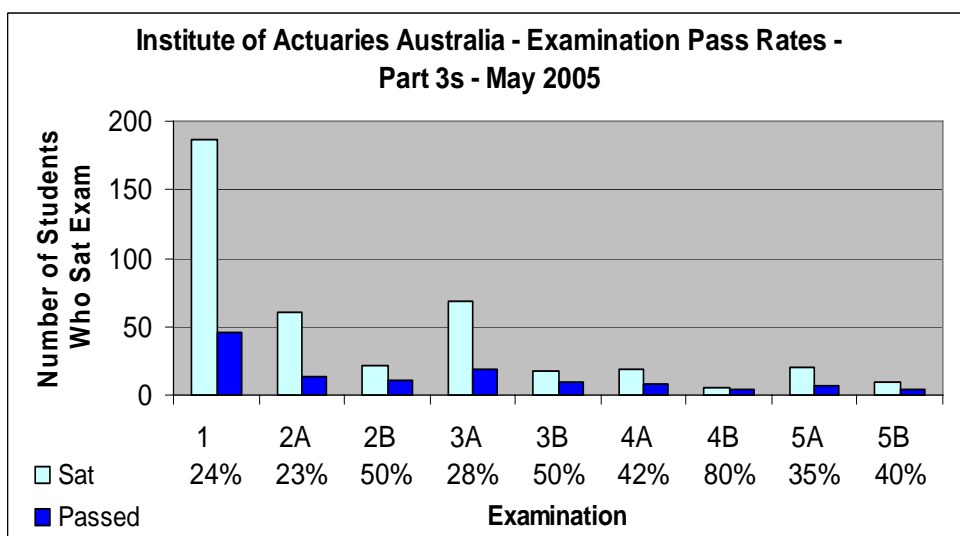
Note: In total there were 97 sittings and 19 passes making the average pass rate for these exams 19%.



Note: In total there were 115 sittings and 21 passes making the average pass rate for these exams 18%.

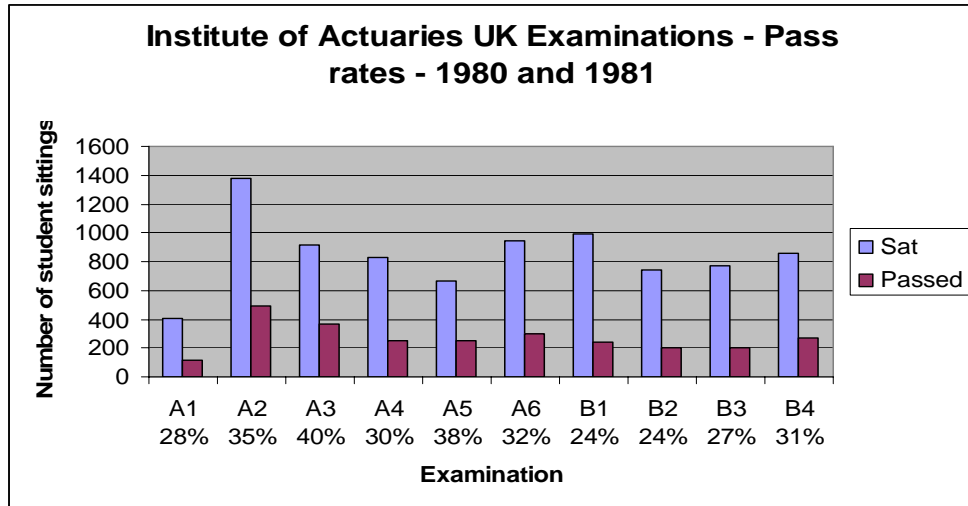


Note: In total there were 2897 sittings and 1226 passes making the average pass rate for these exams 42%.



Note: In total there were 410 sittings and 121 passes making the average pass rate for these exams 30%.

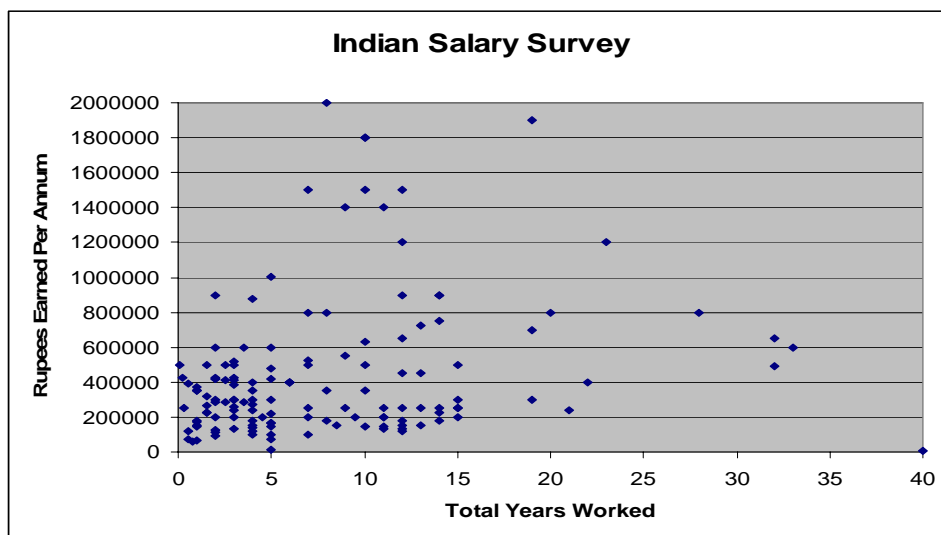
### 3.4 Historic pass rates – UK Institute



Note: In total there were 8510 sittings with 2694 passes, making an average pass rate of 32%

Source: Truckle 1982 "The Education and Training of Actuaries" Submitted to the UK Institute January 1982

### 3.5 Current Salary distribution



N.B This was derived from the survey, so has limitations as to the depth and accuracy of the findings.



## 4. Background to questionnaire

The author was interested to establish whether the work and study circumstances of the actuarial students responding to the DW Simpson website was indicative of the broader Indian actuarial student population. ***The author's view was that many of the students were working in non-actuarial positions and therefore the numbers of those who would eventually qualify would be less than anticipated and therefore be in contradiction to the view that the current shortage of actuaries would be 'solved' in a few years when 'all' these students became Fellows.***

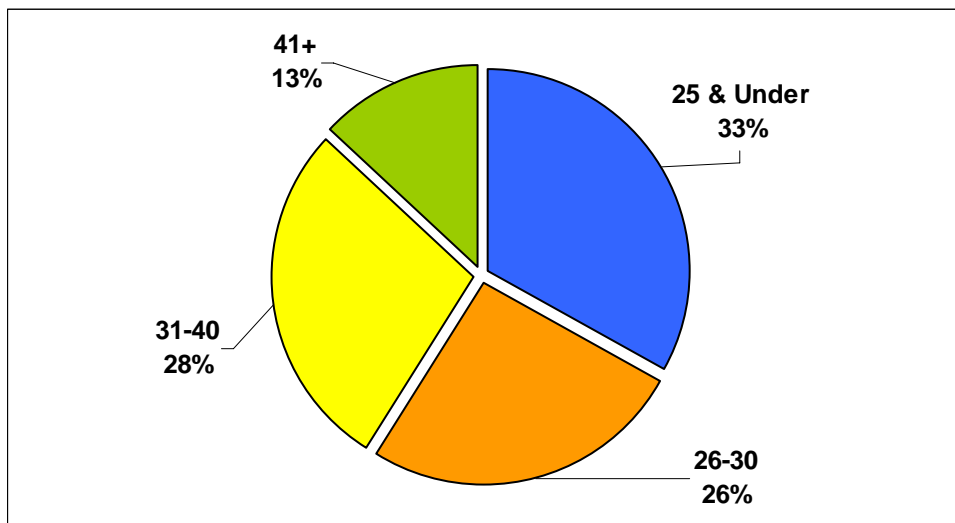
The Actuarial Society of India were interested to establish the views of their membership on this issue and ensure that they were able to provide quality education to students and if necessary put in place new measures to ensure a robust profession in the future, a step to fulfil the objectives of ASI Y 2005 Education Policy.

A copy of the questionnaire is provided in the Appendix.

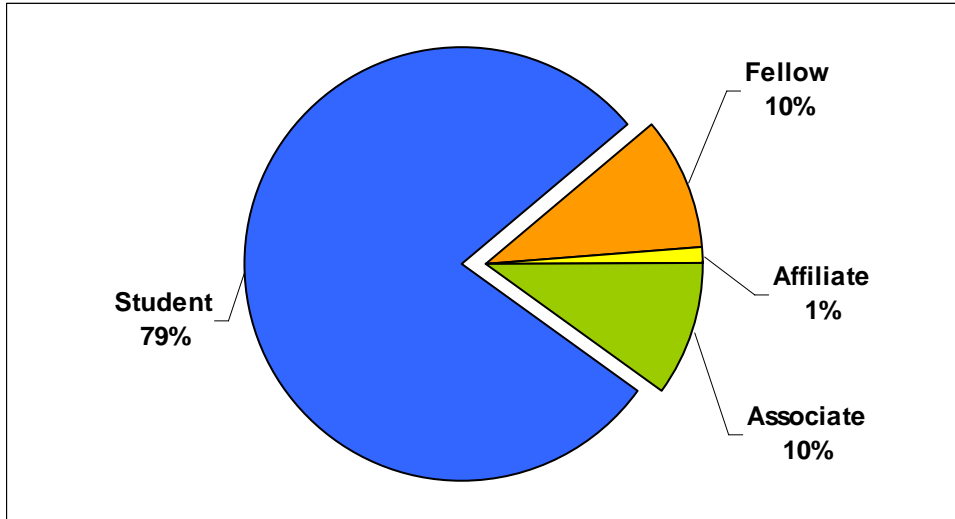
## 5 Results – demographic questions

The total number of respondees was 358 out of a total membership of 3968.

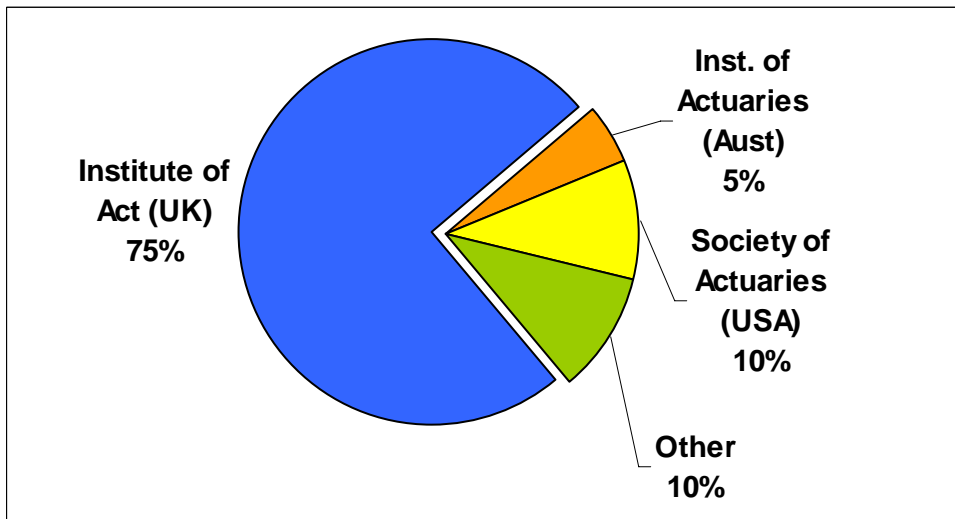
### 5.1 Age of Respondent



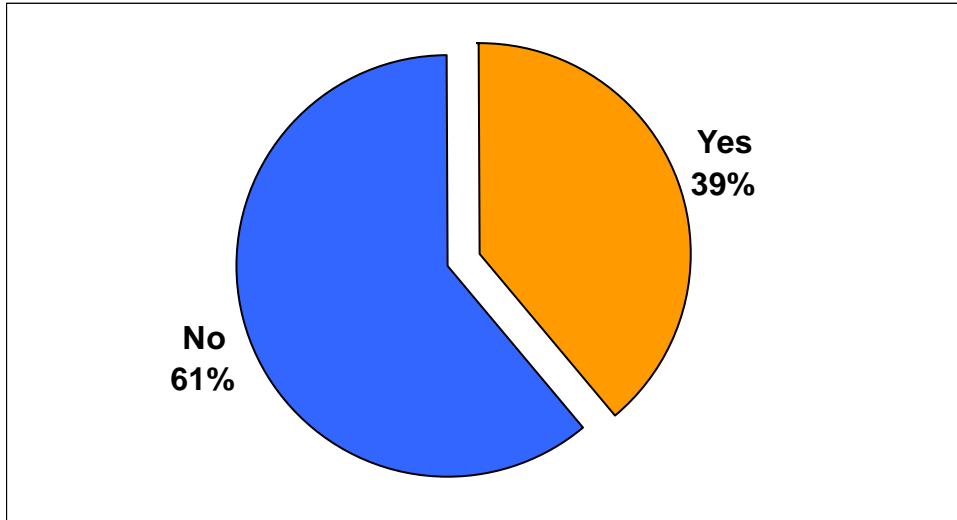
**5.2 Designation**



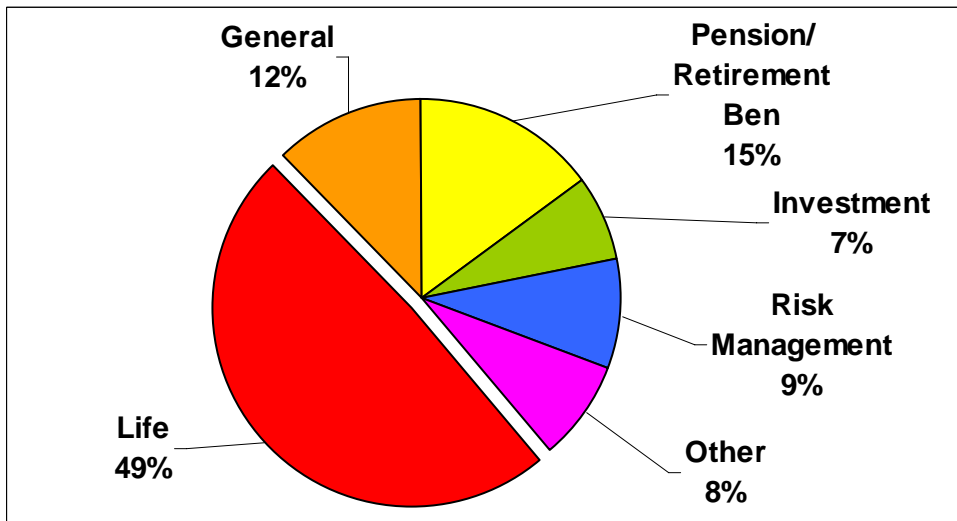
**5.3 Other Actuarial memberships**



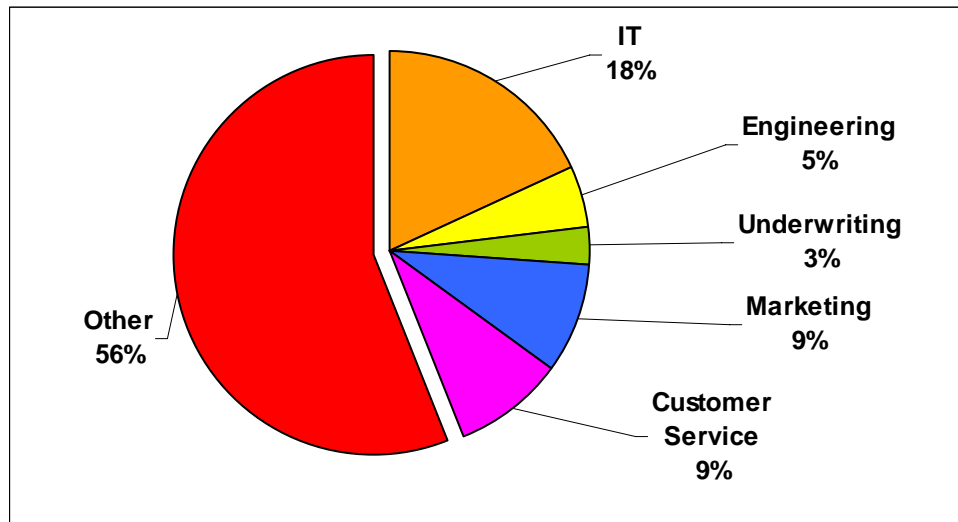
**5.4 In a specific actuarial role?**



**5.5 If in an actuarial role, which practice area?**

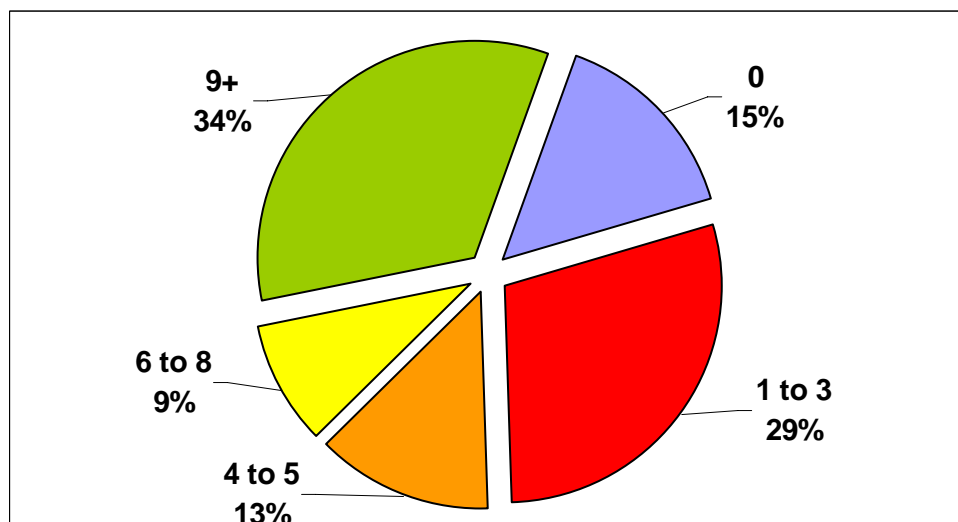


**5.6 If not, what type of work do you do?**

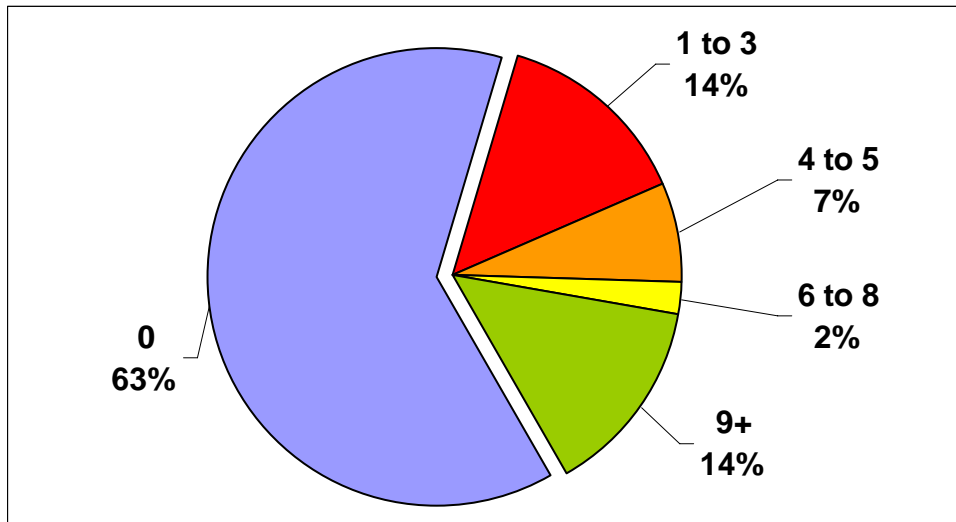


**Other fields listed included:** Academic, Surveyor & Loss, M Sc Operational Research, Banking, Costing and Budgeting, Teaching, Quality & Six Sigma, Statistical Modeling, Company Sec, Management, Merchant Navy, Student, Credit rating, Quality Assurance, finance & accounts, underwriting, auditing, Hospital Management, Clerical Based Accountancy work, Back Office, Retired, High End Financial BPOs, Database Management, Investment/Risk Management, Videocon, Social Service (HIV/AIDS), Techno Commercial, Cricketer, MIS & Financial Analysis, Accounts & Finance, Business Process Outsourcing, Derivatives Trading, Reinsurance Accounting

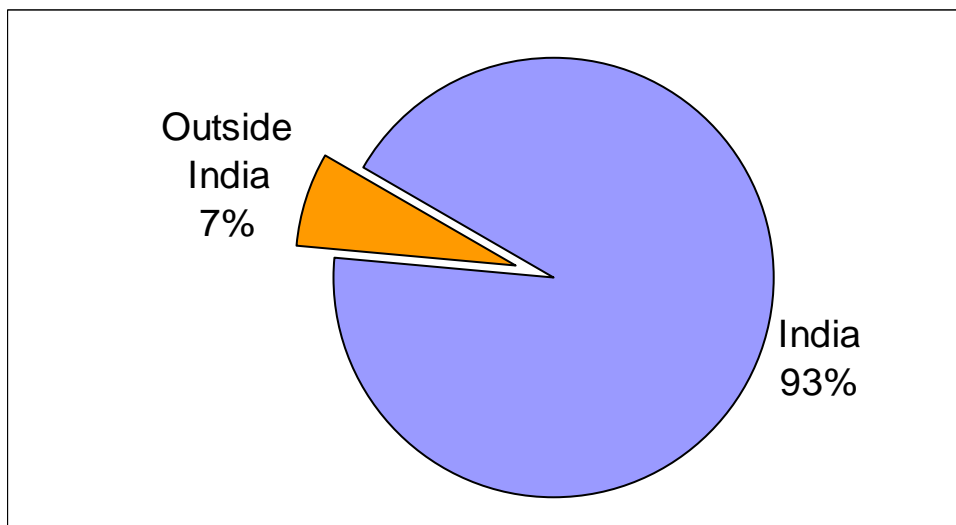
**5.7 How many years total working experience?**



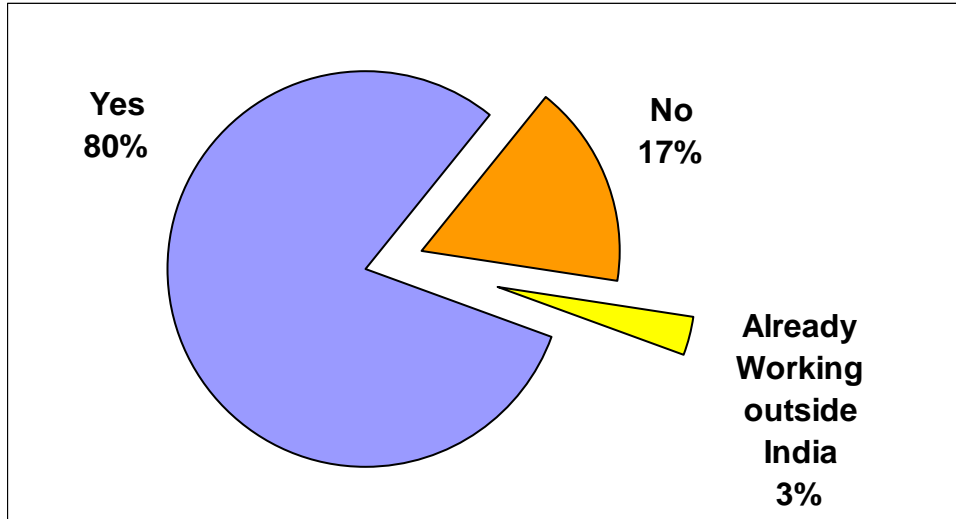
**5.8 How many years of Actuarial working experience?**



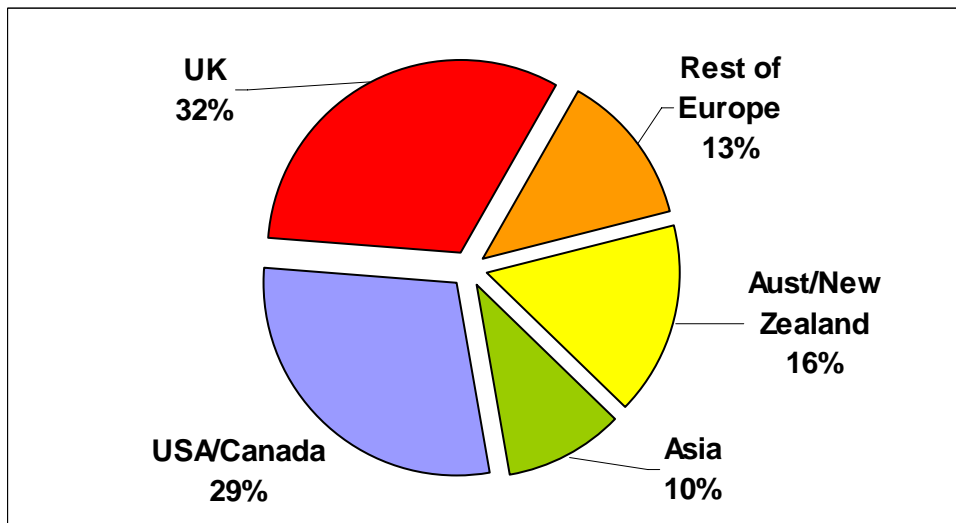
**5.9 Place of current work?**



**5.10 Would you be interested in working outside of India?**

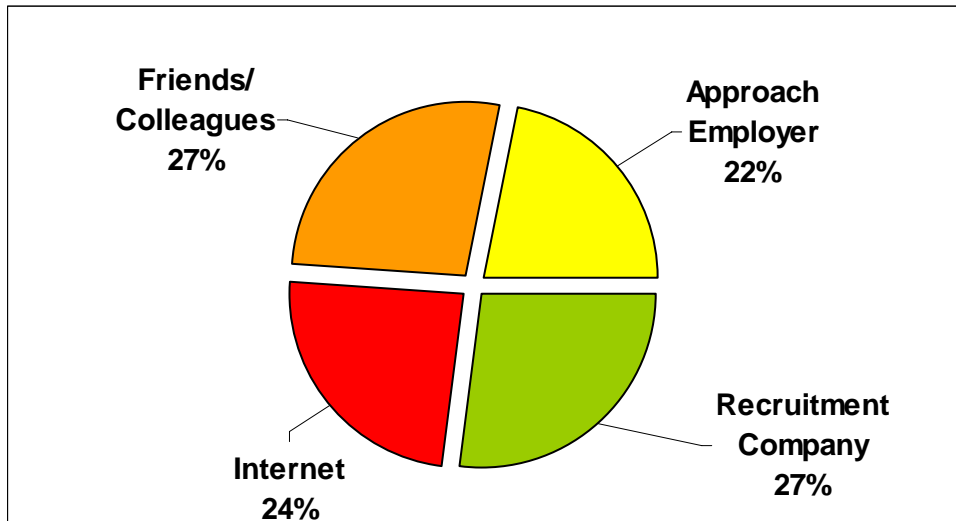


**5.11 If yes, where?**



**Other responses included:** "English speaking countries", "wherever required", "Any democracy", "Any where with good chance of growth", "In a safer area", "The world is home", "Africa", "Middle East".

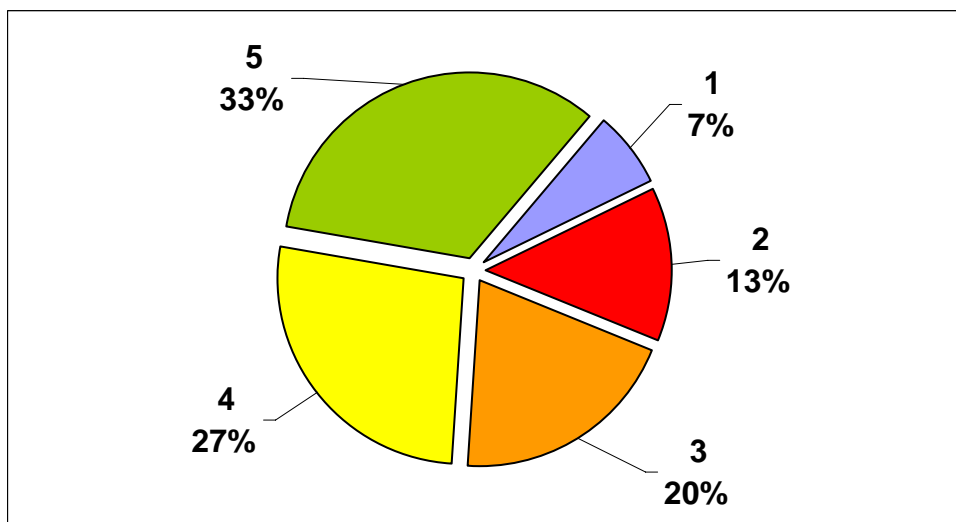
**5.12 If no, how would you find a new job locally?**



**Other responses included:** Campus recruitment, Newspapers, Business Magazines, Float resume on yahoo groups

**Internet sites mentioned included:** naukri.com – the most popular by far, jobsahead.com, monster.com, actuariesindia.org, timesjob.com, jobsahead.com, saturnjobs.com, actuarialjobs.com, wonsterindia.com, freshersjobs.com, efinancialcareers.com, insidecareers.co.uk, actuaries.org.uk

**5.13 Rate on a scale of 1 to 5 the level of efficiency of the ASI office (5 being highest)**



## 6 Results – specific comments

### 6.1 Students and Associate members

#### 6.1.1 We asked the students about the specific challenges they faced whilst studying for exams, giving three options –

Lack of time	203
Lack of financial resources	48
Lack of specific work experience	124

We then asked those that felt a lack of specific work experience was an issue to expand on their specific thoughts about this problem.

The majority of the answers were around the obvious one that without work experience in the field it makes it difficult to really grasp the concepts that are provided in text books. Several of the respondees were making a career changes and were therefore conscious of this particular constraint, for example –

*“Not being in specifically involved in actuarial work is certainly a constraint, however in my case, there is no simple solution to this problem as I am otherwise well settled as a xxxxxxx. Only if I get an opportunity as a CFO or equivalent in an insurance company perhaps there can be a match between my current career and keen interest in the field of actuarial science.”*

Also, there was a willingness to ‘get through’ the early stages to enable a career switch to be made at a later date -

*“Once I clear the first nine papers I would be able to switch the career and at present I prefer not to move out because with the present background I would be able to get too basic a level in the actuarial field. With some qualification, I am confident I can command a better career”.*

Many students commented on the study materials and their perceptions:

*“The study materials are not in tune with the examination papers and do not bring out the finer details which are sought to be examined”*

*“The course material provided is like a book written and copied from cramming and reproduction as in any other exam. The course material does not have any example to practically explain the need and usefulness of the subject and its application. The ASI simply photocopies the material from the ActEd and sends to students for cramming in fact the application into present day use is hardly explained. If the exam of SOA-CAS society is observed it will be seen that even for a subject like core mathematics the questions explain the need for the subject study invariably explaining the use of the subject matter.”*

Also on their ability to get the practical experience needed:

*“An actuarial science student is not welcomed by financial sector as a whole (banks, fund managers, etc besides insurance co’s) despite what we are taught it is difficult to get the first break”*



*“I have already cleared 4 papers of ASI and have done MBA (finance). I am trying my best to get an actuarial job but all the companies seek experienced candidates. Thus by continuing with my job I am unable to gain practical knowledge”.*

The desire and need for mentoring was a common theme that occurred in the next question section.

**6.1.2 The question called for bullet point answers as to what the Actuarial Society of India could do in a practical way to help students in general.**

Many of the respondents asked for the Society to arrange study sessions and mentoring opportunities, and also to focus more of its activities towards the needs of students. For example:

*“Start a student actuary magazine/journal which contains matter that is relevant and understandable to them”*

*“Spread awareness of the ASI particularly young students who love mathematics and don’t know of the opportunities to become an Actuary”*

*“Help students to get work experience as trainee actuaries”*

*“Arrange study sessions”*

*“Hold classes for students to clarify their doubts and study together”*

*“Improve the quality of the paper, photocopying and file/folders of study materials. The reports for past exams should be as detailed as that of the IOA.*

*“Encourage universities to start Actuarial courses”*

*“Arrange for tutorials/coaching on the lines of ActEd”*

*“Build a better communication between students of the same level”*

*“the response time is very bad from the Actuarial Society, if the matter is not urgent, we don’t even get a response at all”*

*“Instead of printing the ASI magazine on costly paper showing pictures of different officials, it would be better to reduce the cost for students”*

*“Provide a library of Actuarial books, journals etc at state level”*

*“Start up a full time/part-time course in Actuarial science in India”*

**6.1.3 State on a scale of 1 to 5 the usefulness of the Actuary India (in order of increasing usefulness)**

1	9
2	35
3	77
4	96
5	78

**6.1.4 State on a scale of 1 to 5 the level of efficiency of ASI in administering the education/examination (in order of increasing efficiency)**

0	1
1	10
2	28
3	89
4	94
5	60

**6.1.5 State any key points that you think ASI should be acting upon to assist you to pass the exams early and enhance your career.**

The issues of communication both with the Society, and amongst students by the creation of study groups was frequently mentioned, as was the lack of perceived support for students living outside of the main centres.

*“More energy, enthusiasm and innovative thinking for improving the exam system and driving the growth of the profession”*

*“ASI to print text book of previous exam papers”*

*“Publish lists of students appearing for examinations, subject wise, location wise so as to enable students to develop contact and help one another.”*

*“The Actuary should carry more articles relating to General Insurance”*

*“To communicate the contact points of other students taking exams on the website”*

*“To act as a platform to bring all the students in that city closer”*

There were also some comments about the quality of papers and the administration of them:

*“Past Q & A papers are a mess, the solutions are sometimes written by hand. Even if it is done on a computer, it is without explanation”*

*“There are some errors in the study material which should be removed.”*

**6.2 Current Fellows were asked their views as to the future of the Indian Actuarial profession, and what challenges were currently being faced.**

The responses fell into broad groupings of those around the supply/demand mismatch of actuarial students to future needs, the lack of attention paid to those students to help them to qualify, the lack of promotion of the image of the actuary to outsiders, the need to influence public policy in the areas of legislation, reserving techniques and solvency margins, the lack of robust data.

Some of those comments specifically relating to students follow:

*“The ASI conferences totally ignore the needs of students and are geared towards the needs of very few people. Most of the focus is on international fanfare”.*

*“Ensure that the profession is considered as a career option by school leavers but also increase the awareness so that the correct people enter the profession”*

*“Attract the right kind of students”*

*“Creating jobs for a very large number of students taking actuarial exams”*

*“Training younger actuaries to take senior positions”*

**6.2.1 They were then asked what they thought could be done to help students and associates qualify.**

Five options were given in tick-box format with space for further comment. The next question asked what their current organisation did to help (column two below)

Provide internships	8	5
Provide Job rotation	8	9
Provide extra study leave	12	15
Provide financial support	8	14
Provide funding for PG study	2	0

The other comments echoed those provided by the students themselves, i.e. the importance of providing access to mentors and tuition support, and introducing quality Actuarial Science courses at reputable Universities in India.

**6.2.2 The ASI were interested to find out how their attempts to globalise the Indian Actuarial profession had succeeded. The answers (from those who answered this question) were:**

Rate 1	0
Rate 2	3
Rate 3	10
Rate 4	12
Rate 5	2

There were some strong dissenting voices as to the appropriateness of this action:

*“I don’t think this should be the goal of the ASI at this time. I think that the ASI should concentrate on the Indian environment for actuaries and actuarial matters.”*

Additional comments were also garnered to find out what the ASI should be doing to enhance the status of its members globally:

*“ASI cannot enhance the status of its members. Rather it is members who can enhance the status of the ASI (e.g. Alumni of IITS and IIMS in India working abroad have enhanced the status of their institutions worldwide.”*

*“Encourage research on issues confronting the profession/industry in India”  
“Carry out ground breaking research that will attract publicity (e.g. HIV/AIDS)”*

*“Attract global actuarial professions to India”*

*“Invite more international speakers, coordinate with International Association of Actuaries”*

*“Help develop a sound insurance system in India that supports the nation’s growth and is free from financial scandal”*

*“Pursue mutual recognition”*

*“Too much politics going on in the affairs of the ASI. Does not create a good impression in the actuarial world. Need to focus on actuarial issues.”*

*“Invite outside help for Actuarial exam training”*

There were also some thought provoking comments for the future:

*“The way exams are conducted in India is pitiful. Stories about invigilators not keeping time, not being present in the room while the exam is going on, inappropriate infrastructure (desks/chairs etc) for conducting exams.”*

*“We need to make sure that the Actuaries Bill does not stifle the competition”*

## 7 Conclusions and more questions

This survey has highlighted some factors that could be a concern to a growing profession in a growing market. However, the challenges and issues are not necessarily new, just different from that which has occurred before in different locations.

To return to the original premise for the survey

***“many of the students were working in non-actuarial positions and therefore the numbers of those who would eventually qualify would be less than anticipated and therefore be in contradiction to the view that the current shortage of actuaries would be ‘solved’ in a few years when ‘all’ these students became Fellows”***

The survey revealed that 64% of current students were currently working in a non-actuarial role, and that pass rates for exams were significantly less than in other

locations, as well as less than another location 20 years ago when it was at an earlier stage of its examination history.

This would seem to confirm the premise that the numbers of students completing their Fellowship may be less than previously assumed. This would therefore lead on to the need to carry out further more detailed analytical analysis of the survey results and look more deeply into the implications and what could be done.

Some of the questions to ask next may include:

- how serious is the fact that 64% of current students are in a non-actuarial role currently
- will they radically affect the numbers of Actuaries qualifying in the future in India, are the projected numbers in tandem with the likely demand
- are the right students coming forward to start their training
- if more mentoring and tutoring is required how should that be provided
- how can communication be improved between students
- how can the profession be promoted to attract the right new starters
- can organisations currently operating in India (or planning to do so), do more to start to train students
- are there sufficient experienced actuaries willing to be mentors
- how do you stop (or should you?) new actuaries leaving to go overseas as 82% indicated they would wish to, or is this a clear confirmation of the globalisation of the actuarial profession (see Bellis 2002<sup>13</sup> and Iredale<sup>14</sup>)
- how do you help students to find suitable jobs to enable them to gain practical experience

It is not appropriate for this author to prescribe actions based on the results of the survey, just to deliver them. However, in order to assist the Society and its members the following provides some observations and a reading and research list that may give some useful information when discussing and formulating their action plan following this research.

## 8 Observations

### 8.1 Numbers of students, pass rates and learning styles

The charts provided in section 3.5 demonstrate the comparison of pass rates of the UK, Australia and Indian Institutes from information obtained on the relevant websites and separated between the exam types. It is appreciated that the ASI is in the early stages of administering exams, and there is not an established core of Universities providing the Part 1 and Part 2 level courses and exemptions as there are in Australia, for example. Therefore also included are the results of the early

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13 Bellis, C and Felipe, M. A "Actuarial Education in 2002 and beyond: A global perspective" Report prepared by the IAA Education Committee

14 Iredale, R "The migration of professionals: theories and typologies" International migration Vol 39 (5) 1/2001

exams from the UK Institute 20 years ago, to try and present a more realistic comparison.

Truckle's paper "The Education and Training of Actuaries" can be found at <http://www.actuaries.org.uk/files/pdf/library/JIA-109/0145-0188.pdf> and provides an interesting commentary on many of the issues brought out from this research. He also includes responses from a number of experienced actuaries and educators of the time.

Other papers regarding learning and education of actuarial students include:

- Shepherd, J "Actuaries: A narrow profession" Australian Institute of Actuaries Biennial convention May 2003
- Bellis, C.S., "A TER Analysis of the Macquarie University Actuarial degree" *Quarterly Journal of the Institute of Actuaries of Australia (June 19965), pp 2-21*
- Asher, A 1998 "The Education and Continuing Professional Development of Actuaries" *Transactions of the Actuarial Society of South Africa XII.I:1-37*

## **8.2 Mentoring, job searching**

It may be appropriate to ask the 100 or so members currently over 60 and therefore retired or nearly retired to each mentor 1 or 2 of the very best students in their geographic area.

D W Simpson is in the process of setting up an India operation for the purpose of assisting clients to find candidates to fill roles, at all levels, and to contribute to the growth of the profession.

## **8.3 Communication**

Many of the comments from the respondees were around communication. This included within the membership to facilitate study sharing, but also around how the Society communicates externally.

For example, the website could provide more information to aspiring Actuaries by incorporating a list of Universities currently offering courses, a few examples of "a day in the life" or similar. Equally more emphasis could be put on making sure that information about the actuarial profession is accurate on career websites, etc.

The other side of communication is around how the actuary communicates with his colleagues and business associates. The later part of the exam process is around this skill set, and the paper below provides some very good information to assist with this aspect.

Brown, A "The eighth habit of highly effective Actuaries" presented at the Australian Institute of Actuaries Biennial convention May 2005

## **8.4 Insurance in India**

There were several references quoted in the paper above, but two particular recommendations are made below which are ideal for the new observer of India.

Palande, P.S, Shah, R. S, Lunawat, M.L, 2003 *Insurance in India, Changing policies and emerging opportunities*, Response Books, New Delhi

A comprehensive overview of the insurance market in India is found on [www.swissre.com](http://www.swissre.com) "Exploiting the growth potential of emerging insurance markets – China and India in the spotlight"

### 8.5 Indian economy

A very comprehensive and easy to read explanation can be found from Thurwell, M.P. 2004 – "India, the next economic giant" from the Lowy Institute. There are two versions, the longer one is 172 pages, the shorter one provides sufficient information for those who wish to 'dip in'.

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- [2] Asher, A 2005 "The major actuarial challenges: a partly idiosyncratic view" pages 4-8
- [3] Banerjee "Insurance regulations in India and future Directions" from: the Insurance Institute of India Journal July – December 2004 edition commencing page 8 obtainable from <http://www.insuranceinstituteofindia.com/journal/journal-july-dec-04/journal2004-7-12.pdf>
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- [9] Pearson, R 2002 pages 498 – 499 "Growth, crisis and change in the insurance industry: a retrospect" *Accounting Business and Financial History* 12:3 November 2002 487-504
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- [15] Vidyarthi, S, Maini, S, Kawatkar, S, Basu, H “Capital issues for new life insurers in India” Paper presented at 7<sup>th</sup> Global Conference of Actuaries, 2005 <http://www.actuariesindia.org/publication/Shweta.doc>

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