

Actuaries of the New Millennium

Some thoughts from those qualifying in
2000, 2001 and 2002

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1. Introduction

“2000 and 2001 were unprecedented years for the actuarial profession in New Zealand. Six candidates qualified as actuaries in 2000 (surely then the most ever in one year) and then in 2001, eleven candidates qualified. You are one of these 17 New Zealand actuaries of the new millennium.”

So wrote Peter Brown, the convener of this conference’s organising committee, when he asked us to put this paper together. Since then, a further two New Zealand candidates have qualified FIA.

18 of these 19 newly qualified actuaries have participated in a survey to collect information on them, their path to qualification, and their views on the future of the profession. The information from these surveys has provided the backbone of this paper.

In Section 2 of this report, we set the context by looking at the changing demographics of the New Zealand actuarial profession.

In Sections 3 and 4 we analyse the survey responses and try to look for some reasons for the huge increase in the number of qualifiers. In Section 5, we look to expand upon some of the ideas which came out of the surveys, in particular, in relation to the future of the profession and the role of the New Zealand Society of Actuaries.

Whilst Sections 3 and 4 reflect the views of the survey respondents, the opinions expressed in Section 5 are solely those of the authors.

2. Some history of the New Zealand actuarial profession

To set a context for the demographics of the recent new qualifiers, we have conducted some research into the history of the New Zealand actuarial profession. The information we have used has come from the Secretariat's files and historical publications.

2.1. Number of actuaries in New Zealand

Candidates in New Zealand usually qualify to be an actuary by following one of two paths. They can qualify FIA from the Institute of Actuaries (London) or FIAA from the Institute of Actuaries of Australia.

The first English examinations conducted in New Zealand were held in Wellington in 1890. These were held once a year, as close as possible to the date on which they were being held in England. In 1980, examinations for the FIAA were introduced.

2.1.1. Numbers qualifying each year

In the nineties, the number of actuaries qualifying in New Zealand each year could be counted on one hand, with the exception of 1997 when seven New Zealand candidates qualified FIAA. This large influx can be attributed to the change in the Australian syllabus. In 1996, the requirements changed from sitting two exams at "ordinary" level and two at "specialist" level. A new subject, the Actuarial Control Cycle, replaced the ordinary level papers. The Control Cycle subject gave some candidates a fresh opportunity to finish the exams, while the impending removal of the ordinary papers gave others the incentive to finish.

2.1.2. Numbers of actuaries

The following graph shows the growth in the number of actuaries practicing in New Zealand over the last fifty years. Note that the eleven actuaries completing their exams in 2001 are not included in the graph.

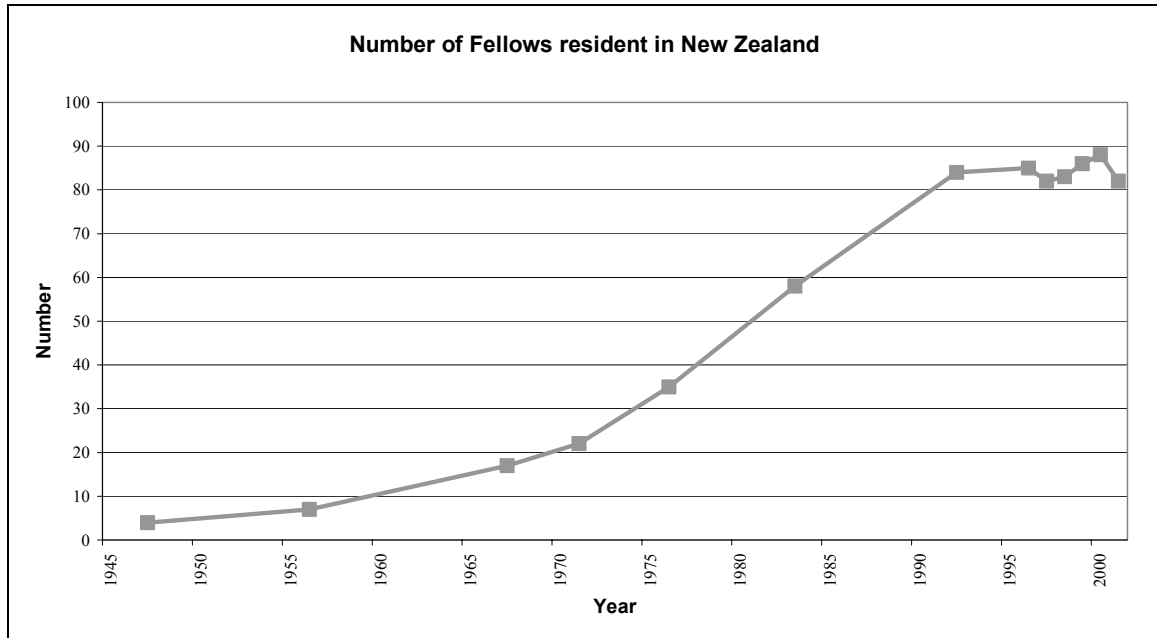


Figure 1 Number of Fellows resident in New Zealand

The numbers doubled approximately every ten years, but flattened out in the 1990s. The last few years have seen some movement out of the profession, most likely overseas. For example, of the seven actuaries qualifying in 1997, only two are still in New Zealand.

2.2. Actuarial employers

We have analysed the membership lists of the New Zealand Society of Actuaries over the last thirty years to investigate the changes in the types of firms employing actuaries and actuarial students.

2.2.1. Actuaries

The following table shows the breakdown of the Fellows resident in New Zealand by employer type:

Employer type	1971	1983	1992	2001
Consultancy	3	14	25	37
General insurer			1	5
Government	2	1	2	1
Funds manager			4	8
Life office	13	30	47	30
Reinsurer		4	1	
Not specified/ other/not working	4	9	4	1
Total	22	58	84	82

Table 1 Historical employers of actuaries

The split between consultants and life office actuaries has changed markedly over the last thirty years, and actuaries have moved into the “wider fields” of general insurance and funds management, as shown in the following table.

Employer type	1971	1983	1992	2001
Consultancy	14%	24%	30%	45%
Life office/ reinsurer	59%	59%	57%	37%
General insurer/ funds manager			6%	16%
Other	27%	17%	7%	2%

Table 2 Change in employer types

2.2.2. Actuarial students

It is more difficult to analyse numbers of actuarial students, as until recently student membership of the New Zealand Society was optional. Also, those who have decided to give up the exams and move into another career may keep up their student membership of the Society. The data we have been able to collect from Society records shows employers of students as follows:

Employer type	1971	1983	1992	2001
Consultancy	1	9	20	30
General insurer				12
Government	5	1	1	
Funds manager			8	10
Life office	28	47	74	39
Not specified/ other/not working	3	4	10	11
Total	37	62	113	102

Table 3 Historical employers of actuarial students

Again the movement from life offices to consultancies and into general insurance and investment management can be seen from the percentages shown in the following table:

Employer type	1971	1983	1992	2001
Consultancy	3%	15%	18%	29%
Life office/ reinsurer	76%	76%	65%	38%
General insurer/ funds manager			7%	22%
Other	22%	8%	10%	11%

Table 4 Changes in actuarial student employer types

2.2.3. Trends

It is clear from the tables above that there has been a significant increase in the numbers of actuarial staff employed by actuarial consultancies and general insurers (primarily ACC), whilst the numbers at life offices have decreased markedly. For example, AXA New Zealand, which has traditionally been one of the larger actuarial employers, now has only a couple of actuaries in New Zealand. The remainder of its actuarial work is performed in Melbourne.

2.3. Women

The actuarial profession has always been male dominated, but the number of women actuaries is increasing, as shown in the following table.

	1971	1983	1992	2001
Women actuaries	0	1	8	16
Total actuaries	22	58	84	82
Percentage women	0%	2%	10%	20%

Table 5 Female actuaries

These can be compared with the figures for female actuarial students, as shown below:

	1971	1983	1992	2001
Women actuarial students	1	6	24	30
Total actuarial students	37	62	113	102
Percentage women	3%	10%	21%	29%

Table 6 Female actuarial students

It appears to have taken about ten years for the increasingly higher proportion of female actuarial students to have translated into a similar proportion of female actuaries. The pace of this effect has been helped by the relatively higher proportion of males leaving the New Zealand profession.

2.4. The drift north

In the 1970s, the actuarial profession in New Zealand was clearly based in Wellington, with only a few actuaries in Auckland. Times have changed. North Shore based Sovereign has replaced a number of Wellington based life offices, and Auckland actuarial consultancies now employ more staff than Wellington consultancies. The figures are summarised in the following graphs for actuaries and actuarial students:

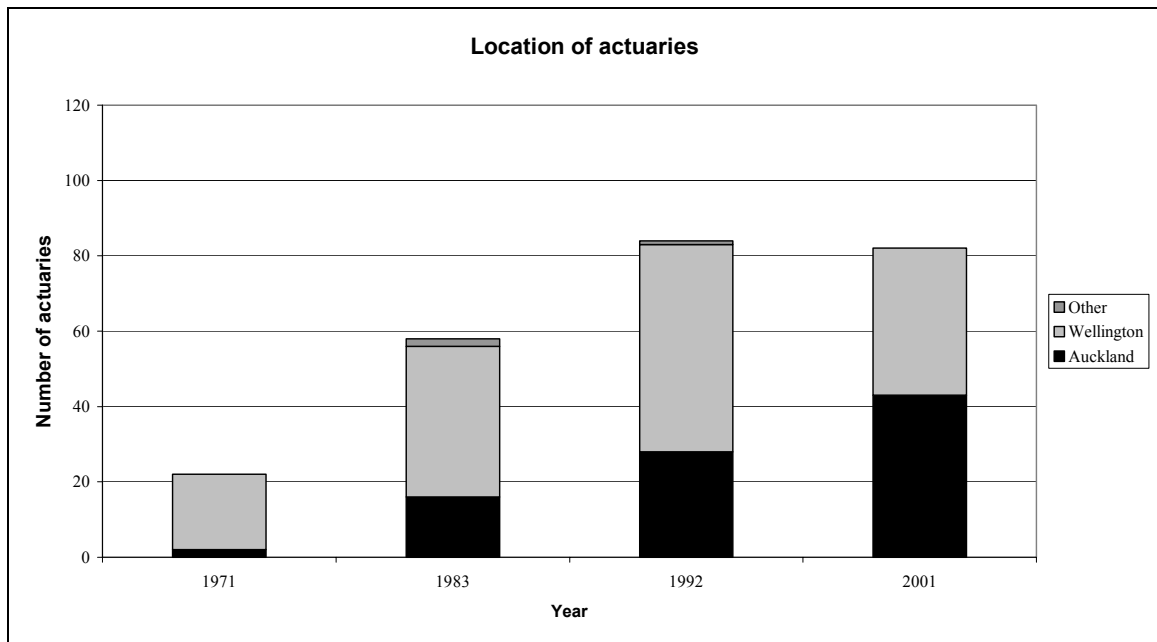


Figure 2 Location of actuaries

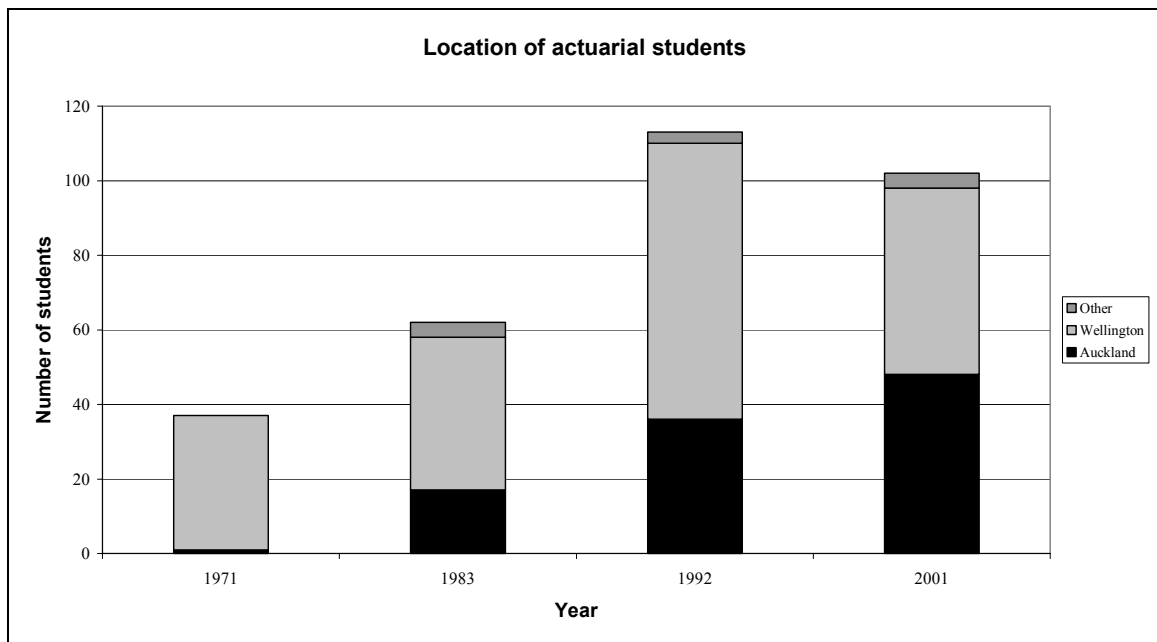


Figure 3 Location of actuarial students

The decrease in numbers working in the profession has occurred almost entirely in Wellington. The effect is similar for both actuaries and students.

We have further analysed this data by type of employer. The following tables show the split between employer types for actuaries working in Auckland and Wellington (where this could be determined). As this is historical data, we are defining funds management and general insurance as being wider fields, although these would not necessarily be defined as such today.

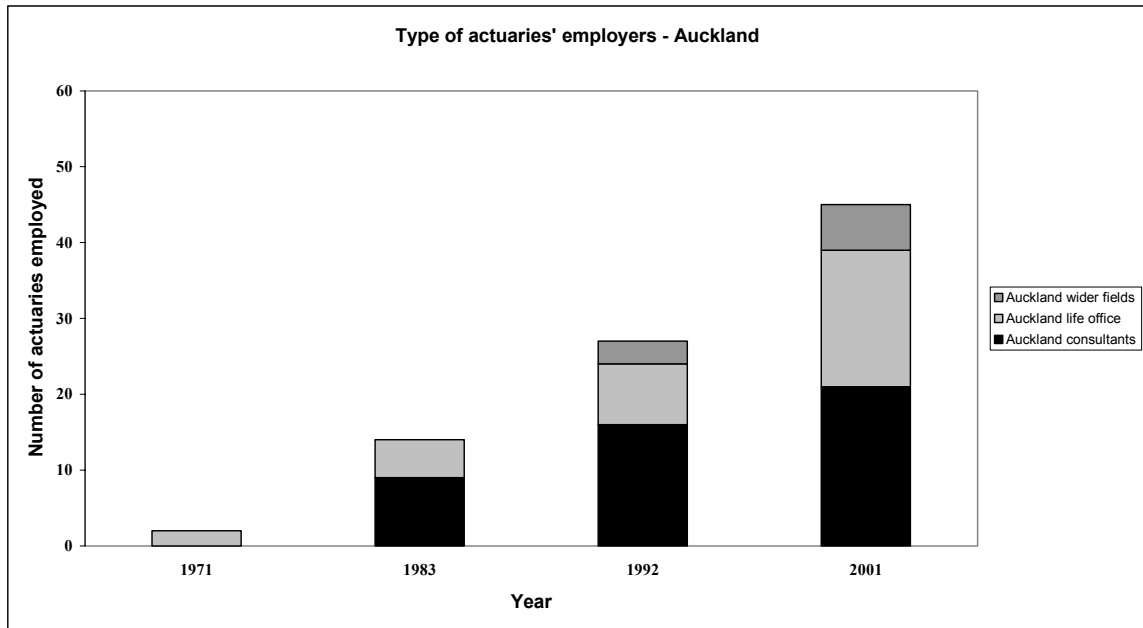


Figure 4 Auckland actuarial employers

This graph shows the growth in Auckland in all three fields: life office, consultancy, and our wider fields definition of funds management and general insurance.

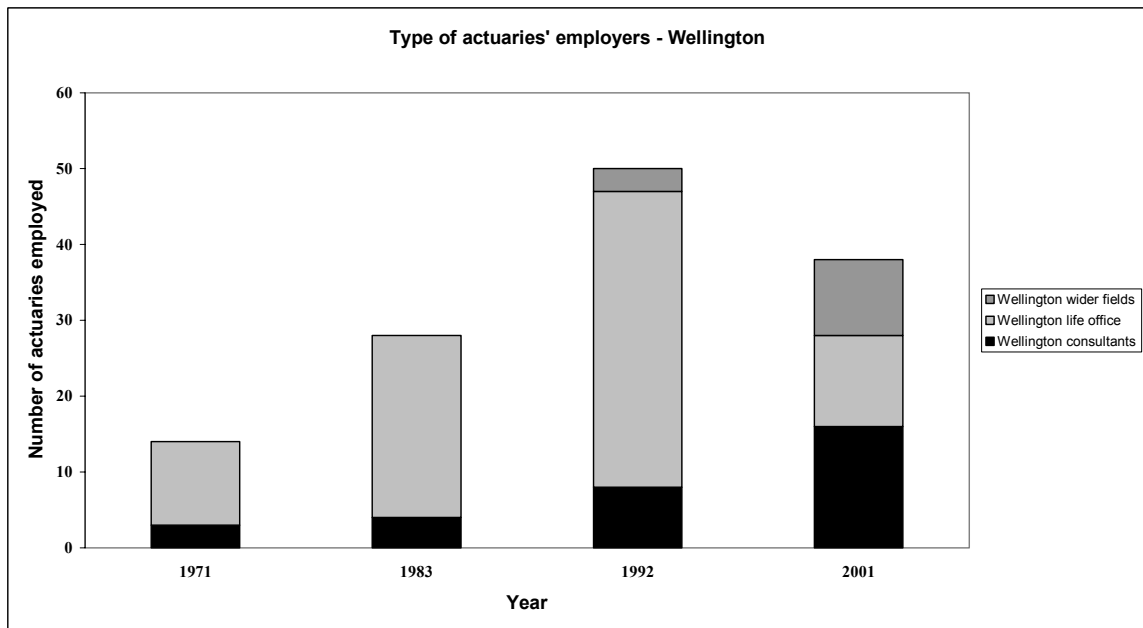


Figure 5 Wellington actuarial employers

The graph shows:

- the cutbacks and relocations undergone by Wellington life offices
- an increase in Wellington consultants
- a substantial increase in Wellington “wider fields”, primarily due to the set-up of the ACC in-house actuarial team.

3. Who are the “Actuaries of the New Millennium¹”?

We now move on to look at the new actuaries, those qualifying in 2000, 2001 and 2002. The data and opinions in this and the next section are gathered together from the surveys completed by 18 of the 19 new qualifiers.

3.1. Facts and figures

There is a joke about an actuary being someone who can take rough assumptions and data and calculate figures with micrometric precision. To show that we are worthy of our designations, we have taken the data from our survey respondents and drawn a range of conclusions as set out below. Read on at your own peril!

Note that we have treated year of qualification as being the year in which the last exam was passed. In fact Australian students do not become FIAAs until they have completed the professionalism course in the following February.

3.1.1. Year of commencement

To investigate why so many people qualified in such a short space of time, we looked at the year in which each actuary began to study. The following table illustrates this, by year of qualification.

¹ We acknowledge that the Millennium did not begin until 1 January 2001, but “Actuaries of 2000 and the New Millennium” just wasn’t as catchy.

Year commenced study	Qualified in 2000	Qualified in 2001	Qualified in 2002
1989	1	1	1
1990			
1991		1	
1992	2		1
1993	2	1	
1994			
1995	1	2	
1996		2	
1997		1	
1998		2	
	6	10	2

Table 7: Date of commencing and completing the examinations

It can be seen that that in 2001 a number of students qualified who had completed the exams in a particularly short length of time.

Unfortunately, we have been unable to obtain historical information on the number of students entering the profession to investigate the completion rate of each cohort.

3.1.2. Time taken to qualify

This is always of interest to those joining the profession, as well as those advising others of how difficult it is to get through. We have calculated the time taken to qualify, that is, the actual time elapsed between beginning to study for the first exam sat and sitting the last. To add to the debate, we have sorted the responses by the qualification gained. Will this address the question “Which is the easier qualification?”

Where the exams have been completed in April (effectively a half year), the time has been rounded up to the next whole number of years for this table, but used exactly in later analyses. The quickest qualifier in fact took only 3½ years, and the longest 13½ years from entering the profession.

Elapsed time to qualification (years)	FIA	FIAA
4		2
5	1	
6	1	2
7	1	1
8	1	1
9	2	1*
10		
11	1	1*
12		1
13		1*
14	1	
Average	8.4 years	8.0 years (6.6 years excl *)

Table 8: Time taken to complete the examinations

We have marked three FIAAs with asterisks. These three changed from the UK exams to the Australian exams in 1997 after the IAAust had revised its syllabus from four subjects to three, and the Actuarial Control Cycle was available for the first time by distance education. This time spent studying the UK exams is likely to have added to the total time taken to qualify, and thus it is perhaps more valid to exclude these people from the analysis of average time taken.

3.1.3. Effective time taken to qualify

60% of us have taken breaks from study at some stage during the course of qualification. Reasons for these breaks include:

- sick of studying or disheartened with (lack of) progress
- family or personal reasons
- marriage or pregnancy
- timing of the exam sessions, ie being unable to sit the next subject at a particular sitting, and

- in one case, thinking an exam had been failed and leaving it too late to start studying another subject by the time the pass list had come out!

We have recalculated the time taken to qualify, but this time breaks from study have been deducted to determine an “effective” time to qualify. Half years have again been rounded up, and syllabus changers are again marked with an asterisk.

Elapsed time to qualification (years)	FIA	FIAA
4		2
5	2	2
6	1	1
7	1	1
8	3	
9	1	1*
10	1	2*
11	1	1*
Average	7.3 years	7.0 years (5.7 years excl *)

Table 9: Effective time taken to complete the examinations

The above table appears to indicate that students are qualifying through the Australian exams faster than through the UK exams. Perhaps this has contributed a little to the higher numbers of qualifiers in the last few years since the changes were made to the Australian system – it has brought forward the qualification date for the more recent entrants to the profession, or perhaps it has encouraged more people to complete the exams.

3.1.4. “Alone, alone, all, all alone!”²

Alone seems to be the way to do it. Those with no partner or children qualified more quickly than their peers. Partners added two years to qualification time, and children nearly a further year. Obviously, the fewer distractions, the better!

² “...Alone on a wide wide sea
And never a saint took pity on
My soul in agony”
– This verse from *The Rime of the Ancient Mariner* seemed appropriate while we were talking about actuarial exams!

Family Status	Number of actuaries	Average effective time to qualify	Average elapsed time to qualify	Average age at time of qualification
Single	3	5.2 years	5.8 years	31 years
Partner	8	7.1 years	8.3 years	30 years
Partner and children	7	7.9 years	8.9 years	33 years

Table 10 Effect of family status

There was one exception to this. Closer analysis shows that the fastest group of qualifiers are in fact those who have a spouse who is also studying to be an actuary.

3.1.5. Age at beginning and finishing actuarial studies

The age of newly qualified actuaries (taken as the age turned during the year of qualification) is shown in the following table, as is the age at which we started to study. Those marked with an asterisk came to actuarial study from other careers, and thus perhaps should be treated separately in the analysis.

Age	Number of Starters	Number of Qualifiers
20	1	
21	3	
22	5	
23		
24	3	1
25	1*	
26	1	
27	1	
28	1	2
29		2
30	1*	2*
31		3
32	1*	2
33		1
34		2
35		2**
36		
37		
38		1
Average	24 years	31 years
Average (excl *)	23 years	31 years
Median	23 years	31 years
Median (excl *)	22 years	31 years

Table 11: Age at commencing and completing the examinations

3.1.6. Second time lucky?

As mentioned above, three of our qualifiers have come to actuarial studies from other fields (teaching, engineering, and banking). Interestingly, although the three were

relatively older when they qualified, they tended to have taken a shorter time to complete the exams. Is this better self-selection or merely more determination and better focus?

	Average elapsed time to qualification	Average effective time to qualification	Average age at qualification
Always an actuarial student	8.6 years	7.6 years	30.9 years
Tried something else first	5.0 years	4.3 years	33.3 years

Table 12: Comparison between those with prior careers and those without

3.1.7. Women

Five of the survey respondents, 28%, are women. This is approximately equal to the proportion of female actuarial students in 2001, and can be compared with the proportion of women actuaries in 2001 of 20%.

At the time of qualifying, all of these women were married or with a partner, and one had children.

On average, the women took longer to qualify than the men, and were slightly older by the time they qualified. None of the women had come to actuarial studies from other fields.

The following table illustrates the differences in qualification time for actuaries who did not come from a previous career.

Sex	Number	Average time to qualify (years)	Average effective time to qualify (years)	Average age at qualification (years)
Female	5	9.70	8.50	31.6
Male	10	8.25	7.15	30.6

3.2. Getting that qualification

3.2.1. Why become an actuary?

Almost all of us were attracted to the profession by the prospect of a career utilising our skills in mathematics (but which wasn't teaching). The career and salary prospects were also attractive. One respondent mentioned rather ruefully:

“A friend’s father was an actuary and he told me over dinner what he earned. I know in retrospect that he can’t have been being entirely honest...”

3.2.2. Qualifications

All of us have university degrees, with one person also having completed the Diploma in Financial Mathematics from Victoria University, the closest thing New Zealand has to university based actuarial education. The majority hold a degree in Mathematics and/or Statistics; BSc (6), BSc(Hons) (5), BA (1), BA(Hons) (1) or Masters (1). One has a BA in Economics, while two have double degrees in Science and Commerce. One has a BE(Hons).

In terms of time to qualify, those with a background in Economics or Commerce appear to have done well relative to those without, qualifying on average just over a year quicker. Possibly this has been influenced by exemptions gained from the Economics exams although no analysis has been done on this.

3.2.3. Choice of qualification

Eight of us completed the UK exams, and ten the Australian exams.

Those choosing the UK exams did so for the following reasons:

- they felt that the FIA would be better recognised internationally
- they wanted the ability to sit the final exams twice a year rather than waiting a whole year to resit
- it was an employer requirement or preference
- they had worked or wanted to work in the UK
- they were not aware of the Australian system until they were too far down the track to change
- they liked the approach of covering all four traditional practice areas specifically.

One respondent felt that the FIA was harder to obtain and wished he had completed the FIAA instead.

Those choosing the Australian exams did so because:

- they were sick of receiving Fail A grades under the UK exams
- they felt Australian legislation was more relevant to work in New Zealand
- they felt the Australian syllabus was taught more internationally and was less country specific than the UK syllabus

- they liked the fact that there were fewer exams to sit
- they felt the Australian Institute was more progressive and forward thinking in its education process
- they wanted the opportunity to specialise in both Investment Management and Finance
- they appreciated the opportunity to avoid the Pensions and/or Life Insurance exams.

3.2.4. How relevant were the exams?

We asked each actuary how relevant he or she found the exams to their current role.

Wider fields actuaries

Those working outside the fields of insurance and actuarial consultancy commented that the majority of the exams had little relevance to their current work. The only exceptions to this were the investment management and finance exams which directly relate to the fields in which these actuaries are now involved.

100 series or Part I exams

The 100 series or Part I exams were generally thought to be fairly relevant, and to provide a useful base of knowledge. Often they were relevant to the job that was being done at the time, if not the current job.

UK exams

The majority of UK qualifiers felt that the UK 200, 300 and 400 exams held little relevance to their current role apart from the 300 level subject in the area in which they were working (generally life insurance or general insurance). Several commented that the 400 level paper (specialist level) was too UK specific to be useful. Although some actuaries felt they had benefited from the communications paper, several questioned if a 1½ hour exam was the appropriate method of assessing communication skills.

Australian exams

The Australian qualifiers are split on the value of the Control Cycle. Some thought it was a great overview of the work of the profession whilst a number of others found it a complete waste of time. Some commented that it was too high level to be of any practical use.

Practical skills

Actuaries from both Institutes commented that the material in the exams did not include sufficient practical techniques to assist them in their day-to-day work. Several also

commented that they learned the skills relevant to their role on the job. This was reinforced by this comment:

“The stage 3 courses contained relevant material although my job was of more use to me in my Life exam than the other way around.”

3.2.5. What would you change about the exams?

Several common themes came through in recommendations for changes to the exams:

- ability to do (more of) the exams at university rather than whilst working and on top of a degree
- choice for the later UK exams
- half-yearly sittings for the Australian exams
- more support for students to ease the burden of studying alone, eg newsgroups, tutorials, and
- more practical techniques taught as part of the courses.

A number of people also commented on the length of time and uncertainty of getting through the exams. They felt that many people who would have made excellent actuaries were deterred from the profession because of the burden of the exams and the low pass rates.

3.2.6. Play it again, Sam

Would you do it all again, if you found yourself transported back in time? Were the rewards, prospects and satisfaction worth the long hours of study?

We were fairly evenly split between yes and no, with a few hugging the middle ground of “don’t know”. Not surprisingly, those who said “yes” tended to have completed the exams in slightly shorter time. One respondent perhaps summed up the feelings of the rest:

“There are better ways to spend a decade of your life.”

However, all the respondents working as actuaries had positive things to say about why they enjoyed their jobs. Perhaps it is like childbirth - we should ask again when time has erased the memories of the pain.

3.3. Employers and employment

3.3.1. Employer types

Our employer type and areas of work are shown in the following table:

Type of employer	Number of new qualifiers
Health insurer	1
ACC	3
General insurer	1
Life office	8
Bank	2
Funds manager	1
Consultancy	2

Table 13: Newly qualified actuaries' employers

3.3.2. Now that we are here...

The things we most enjoy about our jobs are:

- the mental stimulation and challenge
- the opportunities for interaction with interesting people
- the way in which actuarial work is core to the business of the (insurance) company
- the work environment and financial rewards.

3.3.3. What's changed now that we are real life actuaries?

There was a time in the not so distant past (about the time some of us started studying) when the passing of exams was a most momentous occurrence. A newly qualified actuary was a rare and precious commodity to be fêted and cosseted. There would be an immediate promotion, a new office, perhaps dancing girls and a marching band. Certainly, a qualified actuary was someone of importance, who was likely be responsible for a team of students.

Times have changed. The pyramidal structure formerly gracing New Zealand's actuarial departments appears to have flattened considerably.

The roles of eight of our respondents did not change at all on receiving their qualification, five reported gradual or progressive changes, mainly in level of responsibility, which may have been occurring regardless. Of the five who reported actual changes in their roles, three changed companies to achieve this, and one was due to a resignation, leaving one true promotion.

Only seven of our respondents officially supervise staff.

4. The future of the New Zealand profession

We surveyed the newly qualified actuaries on their views on the following:

- How is the profession perceived?
- What should the profession be trying to achieve?
- What is the future of the profession in New Zealand?
- Should we have closer ties with the Australian Institute or any other body?
- Should there be a New Zealand experience requirement to gain the designation FNZSA?

The responses are outlined below. As similar themes came through on several questions, there are fewer answers below than questions above.

4.1. The perception of the profession, and the profession's goals

We generally feel that the profession is largely unknown outside its traditional areas of practice, and that the low understanding of what we do is an issue for the future growth of the profession. We believe that the profession needs to raise its profile with the public and gain influence with government and corporate decision makers. Making informed public comments on issues where actuaries can contribute was recognised as a way of doing this.

As one respondent put it:

“Demystify or die!”

Many are also keen for the Society to increase the opportunities it provides for CPD, and to encourage (or even require) members to keep their CPD up-to-date.

4.2. The future of the profession

A fairly large proportion of survey respondents saw the future of the profession as somewhat grim. Reasons for this were fairly obvious:

- contraction of the superannuation market
- trends away from with profits business,
- life office mergers, and centralisation overseas.

A number believe that the limited potential in New Zealand will see more New Zealand actuaries moving overseas.

The more optimistic saw the profession rescuing itself in general insurance (and it must be admitted that the majority of these respondents had positioned themselves accordingly in general insurance enterprises) or in the wider fields. Central to this is the need for actuaries to think of innovative ways in which to apply their skills.

4.3. Closer ties with the Australian Institute or other bodies

Three quarters of respondents agree with enhancing ties with the Australian Institute, and in particular, making greater use of Australian papers for our own CPD. However, there was also a view that we need to maintain our own identity.

4.4. A New Zealand experience requirement to gain the designation FNZSA

Two thirds of respondents thought that this was a good idea. Current rules require that that FNZSA be granted only to an actuary resident in New Zealand or overseas actuaries who are, in the opinion of the Council, familiar with New Zealand conditions and legislation. As the New Zealand Society is not an examining body, the designation must recognise familiarity with New Zealand conditions, and it could be argued that this is not gained simply by living here, but by working here in the actuarial field.

Those in favour of an experience requirement believe that it would reinforce the status of the FNZSA and add credence to the recognition that FNZSAs receive under New Zealand legislation. It would also protect the profession from difficulties that could occur if individuals who are not experienced with local conditions are involved in an insolvency or major fraud.

Furthermore, the UK and Australian Institutes have local experience requirements before actuaries from other actuarial bodies can gain Fellowship.

On the other hand, a number of respondents thought that there was no need for such a requirement, as actuaries are already bound by the Code of Conduct to act only where they have appropriate knowledge.

5. Where to from here?

As shown in our figures, there has been a huge consolidation of the New Zealand life insurance industry in the last few years, and this trend is likely to continue. The current political environment surrounding superannuation means we do not expect employment opportunities in this area to grow in the next few years. Actuaries are making some inroads into general insurance, and it is to be hoped that this will be a growth area. However, we believe that there will be a significant movement of actuaries overseas if New Zealand actuaries are not able to extend their expertise into new arenas.

Clearly, the New Zealand Society of Actuaries and actuaries working both within and outside the profession have a role to play in increasing the demand for actuaries outside the traditional fields. We believe the profession should be:

- marketing the actuarial skill base to potential employers and clients
- promoting the need for continuing education to maintain and enhance the skill set
- encouraging and supporting members seeking employment in non-traditional fields.

The broadening of current practice areas to non-traditional roles can be approached from two angles:

- qualified actuaries can broaden their horizons through applying their analytical, modelling and risk measurement skills to wider fields; or
- people working in wider fields can be encouraged to view an actuarial qualification as a way to improve their career prospects within their chosen field.

In the following sections we look at each of these alternatives. We have also looked at what the actuarial profession is doing in other countries to see how this could apply to New Zealand.

Where have all the actuaries gone?

Over the last 10 years there has been much change in the insurance and superannuation industries. Merger and acquisition activity has seen the number of employers of actuaries decline. The superannuation environment has been such that there has been a sharp decline in the number of employer sponsored superannuation schemes, further reducing the demand for actuaries in New Zealand.

Yet there are still not many Actuaries working outside traditional areas and very few unemployed actuaries in New Zealand. So where are they all going? Eleven of the eighteen respondents to our survey believe that they, too, will end up overseas, due to better job prospects.

5.1. Actuaries moving into the wider fields

5.1.1. New actuarial employers in New Zealand

In 1995 a NZSA strategy paper “A Review of and Recommendations on the Actuarial Profession” recognised that the profession in New Zealand was under pressure. Since then, what progress has been made in broadening the practice areas for actuaries?

Professional services firms

Internationally, and now in New Zealand, there has been a trend for large professional services firms (formerly the domain of accountants) to establish expertise in further related disciplines such as IT, law, and actuarial services. In Australia, the “Big 4” are all now actuarial employers, particularly in the general and life insurance areas. The centralisation of a large variety of specialists in one firm provides enhanced opportunities for actuaries to work in multi-disciplinary teams, particularly in non-traditional areas. In turn this increases other professions’ awareness of actuarial skills. Large multi-disciplinary firms also offer wide client bases and thus the opportunity to introduce actuaries to companies that might otherwise never have heard of them, and opportunities for actuaries to apply their skills to new problems. Over time it is to be hoped that more organisations will be engaging actuaries to assist with an increasing variety of undertakings.

ACC

Over the last two years the ACC has established an in-house actuarial team to value the liabilities and cost the future provision of this business. This move is extremely positive for the profession in New Zealand. The transfer of this work from Australia will not only see cost savings to ACC, but increases the awareness of actuaries in the government and corporate environments. It also significantly enhances the opportunities for actuaries in New Zealand to practice in general insurance.

What’s next?

In Australia actuaries are working in a far wider range of industries. The shorter route to qualification through the universities means that graduating actuaries are not so entrenched in the insurance, superannuation and investment industries. Actuaries use their numerical and risk management skills in other areas such as electricity, airlines, banking, finance houses, infrastructure funding, telecommunications, environmental industries and scientific modelling. 16% of IAAust members are now identified as working outside the mainstream areas of general insurance, life insurance, superannuation, banking and investment, health insurance and education. Can actuaries in New Zealand move into these new areas as well?

5.1.2. Do we want to work in wider fields?

There appears to be a fair amount of support for the suggestion that actuaries should be finding new fields in which to apply their skills. However, it takes individuals actually making the move to truly establish our credentials in those new fields. Unless individuals are interested in doing so little progress will be made. This interest will be influenced by a number of factors including:

- believing the skill base is appreciated and adds value in other fields
- accepting the challenge of applying actuarial skills in another field
- interest in learning the new skills and knowledge required for work in the new industry
- finding the remuneration in wider fields is attractive
- having a professional body that supports people in other practice areas
- accepting the possible necessity of taking a junior role until the new skills and industry knowledge are built up
- analysing the opportunities (or lack of opportunities) in traditional fields, both in New Zealand and overseas.

5.1.3. How hard is it to break into “the wider fields”

The Institute of Actuaries completed a survey in 1999/2000 of its 60 members then working in non-traditional areas. Just under half of these members responded with some interesting results:

- 60% of respondents moved from an insurance company into wider fields
- for those who had made a deliberate plan of obtaining work in the wider fields, this was not unduly difficult to achieve (usually three to six months of looking around)
- in 70% of cases the respondents were competing against people from other fields, predominantly investment bankers and marketing people.

The most frequently mentioned skills respondents felt they contributed were financial rigour, modelling and assessment of risk.

The skills they felt they needed to develop were report writing, people management,

Moving, moving, moving...

Of the 18 respondents to our survey, ten felt they would, at some stage of their career, work in wider fields. This reflects the single most frequently identified challenge for the NZ profession: consolidation of the job market.

communication and selling skills.

While this was a small survey, the positive messages to come out of it are that the inherent skills base of the actuary are attractive, and actuaries can compete successfully in the wider employment market.

The skills that these respondents said they have needed to develop are not skills that are core to any other profession. The lack of these skills will not necessarily put the actuary at a disadvantage in the competitive market.

In general the respondents felt that in the wider fields, it was one's own individual qualities that counted, not the "club" of which you were a member. The actuaries working in wider fields generally found their own way and did not feel that the Institute did much to support them.

5.1.4. Show me the money

One of the issues for actuaries moving into the wider fields is the perception that there will be a drop in remuneration. Actuaries are well paid within the New Zealand insurance and superannuation industry. Would this skill set be so well remunerated in non-traditional fields?

Young bright individuals in the banking and investment arenas are extremely well remunerated, especially after they have a few years' experience in their chosen industry. Given the similarities in the skill sets, it is likely that these opportunities would be available to actuaries also.

If the Society is seriously interested in helping members move into other fields, it could commission a report on the remuneration of individuals with similar skill sets in other industries.

For those with a true interest in another field, the possibilities are there. What you make of them is up to you.

5.2. And the wider fields coming to the actuaries

Currently students in New Zealand enter the actuarial education process "to become an Actuary". The students have generally commenced work at an insurance or superannuation organisation with this in mind. Of the qualifiers surveyed only one has commenced actuarial studies from outside the insurance/superannuation industry.

A training and development opportunity?

People management skills are seen as valuable for a move to the wider fields. However, fewer than half of our newly qualified actuaries (who have a current average age of 33) have roles where they are responsible for staff.

In order for professionals from other industries to recognise an actuarial qualification as a valuable addition to their skill set, there probably need to be changes. The qualification should be:

- more widely recognised so that an individual considering a MBA or CFA might equally consider an actuarial qualification
- considerably less arduous. Very few people in this situation want to consider another 5-10 years of study. They need to come away with a qualification from a few years' study.

5.3. Changes to the examinations

The NZ Society does not have its own examination process and is therefore reliant on (usually) the Australian and English qualification processes. Both of these countries have seen significant changes in their education syllabi and structure over last 7-10 years, at times to the significant frustration of the students in the middle of the qualification process.

Both the IAAust and the Institute of Actuaries are changing their education processes to be more relevant to people working, or wishing to work, in wider fields. This will have an inevitable flow on effect to New Zealand as new qualifiers over the next ten years have increasingly different expectations as to what it means to be “an Actuary”.

5.3.1. Early exams

An international group of actuarial associations, led by the Society of Actuaries, is considering a new strategy for the early exams. At the Stage 1 level a new qualification “Quantitative Risk Analyst” would be created. Where possible, this syllabus will be common across a range of actuarial bodies. This qualification will cover:

- Probability and Mathematical Statistics
- Financial Mathematics
- Modelling
- Statistical Methods
- Economics
- Financial Accounting
- Investment Mathematics

Thus a global qualification in the basic technical skills would be developed. The proposed qualification intentionally excludes the study of actuarial mathematics and

therefore has application for individuals in a wide range of careers including accounting, business studies, investment and finance.

The sponsors argue that if this qualification can be promoted and gain recognition within areas such as finance and investment it could be used to attract individuals outside the traditional practice areas. Even if they do not go on to complete the full actuarial qualification, this exposure to the actuarial profession, it is hoped, will lead to a wider understanding in the market place of both actuaries and the skill base they have.

In Australia the papers associated with this qualification (and the other Part 1 papers) are available as under-graduate courses. This may be an attractive option for New Zealand students interested in an actuarial or similar career. It is therefore particularly important that college age students are aware of the possibility of an actuarial career so they can choose to significantly reduce the post-university time to qualification.

5.3.2. Broadening the appeal of the 400 Series/Part III exams

Both Institute of Actuaries and the IAAust are considering changes to the specialist (400 Series or Part III) stage of qualification.

The IAAust exposure draft “Proposed Strategy for Future Part III Education” released in May 2002 suggests the most radical changes to date. Consideration is being given as to whether examination is the best way to establish competence, and the possibility of alternative forms of assessment such as dissertations.

Modules in Investments and Business Applications will be compulsory. Two other modules will involve detailed study of a particular practice area selected by the student. Students may be allowed to study in a new practice area, for which formal course material has not been developed, by preparing a thesis or completing an accredited external course.

It is possible that in ten years time the majority of new actuaries qualifying will have no experience in the insurance/superannuation industry. In Australia a significant number of students, around 10%, are already taking Investment and Finance as their two specialist subjects.

5.4. Some challenges for the NZSA

In order to best support the actuarial profession in New Zealand, we suggest that the Society continue to:

- offer support, as appropriate, to the examining bodies in recognition of the service they provide us
- keep abreast of developments and be involved to ensure the education programme is applicable to students studying by distance education
- promote the profession and the education process to colleges and universities,

- promote the actuarial skill set to wider field industries and employers, so its value is understood
- ensure individuals going through and completing the education process are offered relevant continuing education opportunities.

5.4.1. The ability to practice in new areas

Given the small size of the New Zealand Society, not only do we need to encourage and support members in seeking employment in wider fields, but we need to remain relevant to these members once they have successfully made this transition otherwise the active membership will further decline.

Section 14 of the New Zealand Society of Actuaries Code of Conduct states:

14 Many problems submitted to members require considerable experience for their solution. A member with insufficient relevant experience should not act except in co-operation with, or with the guidance of, an experienced actuary."

This appears to severely hamper the ability of an actuary who wishes to work in the wider fields. Whilst it may be feasible to obtain assistance from an overseas actuary with the relevant experience, an actuary working in a truly new field should be encouraged to promote skills they have developed during their actuarial training and experience as "actuarial". To do otherwise is a disservice to the profession.

The IAAust and the Institute of Actuaries have recognised the need to embrace individuals working in areas where there are no experienced actuaries. The IAAust and Institute of Actuaries wording for this issue is included in the Appendix for comparison.

5.5. CPD

The IAAust and Institute of Actuaries offered a varied programme of continuing education opportunities to their members. These papers and regular meetings allow:

- traditional and non traditional practice areas to share developments in core technical areas such as modelling, valuation and risk management
- the chance for members to develop their actuarial skills by challenging themselves to apply actuarial techniques to new ideas.
- the opportunity for members to network.

The small size of the New Zealand Society means it is unrealistic to expect the membership to prepare a programme of papers and meetings with the frequency of the overseas bodies. But we could do more, by leveraging off the continuing education programmes of our sister bodies, and using these papers to stimulate discussion at our own meetings. Although the New Zealand Society continues to have no compulsory CPD

requirements of our own, most, if not all, of our members will need to meet CPD requirements under their qualifying body. In any case, there is a role for the New Zealand Society in facilitating CPD. Perhaps this is something the Education Committee or a new purpose-built Committee could take up.

At the professionalism course attended by the majority of new qualifiers, the need for continuing professional development was vividly illustrated. In an increasingly litigious world, actuaries have so far been lucky to keep their noses relatively clean and to have stayed out of trouble. But the day will come here, as it has already in Australia, where the work of the actuary is placed under the microscope of public opinion and tested in the courts. The profession's best defence is to ensure its members continue to keep their skills and knowledge up to date.

Appendix

Institute of Actuaries of Australia Code of Conduct

“18 Many problems submitted to an actuary in a professional capacity arise in fields of work which are well established and which have been in existence for a number of years. An actuary with insufficient practical experience in relation to such a problem must not act except in co-operation with, or with the guidance of, an experienced actuary.

“19. Some problems arise in areas of work that are new. Even though an actuary may not have particular experience in such an area, the actuary may give advice if he or she has reasonable grounds for considering that he or she is competent to do so.”

The IAA code of conduct also reminds the actuary that the “duty of care extends to all persons or organisations who rely on the advice given.”

Institute of Actuaries Code of Conduct

“3.2 Many assignments offered to members require considerable knowledge and experience for proper completion. Requisite knowledge includes methodology, relevant legislation and local conditions. Members must not give advice, unless:

- *satisfied of personal competence in the relevant matters, or*
- *acting in co-operation with, or with the guidance of, someone (not necessarily a member) with the requisite competence.”*

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New Zealand Society of Actuaries Code of Conduct

Institute of Actuaries of Australia Code of Conduct

Institute of Actuaries Code of Conduct