

TRAVEL TIME REPORT

Casualty Actuarial Society Education Policy Committee October 2002

The Education Policy Committee is continuing its review of travel time. As reported last year, we eventually expect to see travel time to begin to decrease over time as the effect of departmenting of the exams begins to work its way through the system.

NEW ANALYSES

Travel Time from Employment Date

At the Board's request, the Education Policy Committee is also tracking a new definition of travel time from one's first date of employment in the property-casualty industry to Fellowship. **The initial report circulated in May 2002 concluded that for people starting their careers in the 60s, 70s, 80s, or early 90s, the median travel time from first full-time casualty actuarial job to FCAS was 7 to 8.5 years.** A median travel time of 5 to 7 years was not achieved by the CAS. The most recent estimate of median travel time is 8.5 years. The report is included with the other exhibits. The Committee will continue to collect the employment dates for both candidates and members and make this a permanent part of the annual travel time report. [Please note that the counts in the charts on page 3 differ from those on page 7 as the latter contains updated data.]

Additional Analysis

The Education Policy Committee is working on several different travel time studies, and we are working with the Society of Actuaries to get additional information regarding joint exams. We expect to release another report on travel time before next year's annual update.

UPDATE OF ANNUAL STATISTICS

Travel Time by ACAS/FCAS Class

Current travel times are still driven largely by the old (pre-2000) exam system because candidates recognized at both the Spring and Fall 2002 meetings had written most of their exams under the old system. We continue to see very long travel times with the partitioned exams, due, at least in part, to the fact that many candidates wrote only one part of an exam at any sitting.

The attached statistics provide two measures of the number of sittings to ACAS/FCAS. Under the "Old Calculation" the number of sittings required to obtain either ACAS or FCAS is set equal to the number of sittings available since the first CAS exam sat for, plus two. The "Actual Number of Sittings" is determined by reviewing the records of both the CAS and SOA and adding all exam sittings (passed and failed). If a candidate wrote more than one exam at a sitting this is counted as one sitting, irrespective of whether or not the exam(s) in question were partitioned or not. It is interesting to note that the actual number of sittings for ACAS is higher than the number of sittings determined by the old calculation while the situation is generally reversed for those qualifying as Fellows.

The actual number of sittings is a more accurate measure of travel time than the old calculation because it does not count exam sittings that were skipped for any reason. It also accounts for the complete history of joint exams.

ACAS – The 114 new Associates recognized in the Fall of 2002 showed an increase in average travel time from the previous years. Their travel times were 15.8 sittings (about 8 years) under the old calculation and 16.2 actual sittings (15.7 actual sittings excluding Fellowship Exams).

FCAS – The 145 new Fellows recognized in the Fall of 2002 also show an increase in average travel time with 19.5 sittings (nearly 10 years) under the old calculation and 18.2 actual number of sittings.

Travel Time: Exam Progress Statistics

CAS Exams – The Exam Progress Statistics continue to show that the departitioned exams starting in 2000 has increased the average candidate progress at each sitting. During the 1990's when some of our exams were partitioned, candidates were taking about 75-80% of an exam on average, making less progress towards membership qualification at each sitting.

Joint Exams – The exam progress for joint exam candidates has been steadily increasing since the 2000 exam began.

Pass Ratios for Exams

CAS Exams – The pass ratio for the Spring 2002 exams was significantly higher than previous years.

Joint Exams – The pass ratios for all of the joint exams continues to show an increase since Spring 2000.

Report of the CAS Education Policy Committee on the CAS Travel Time Survey Data, May 2002

This is the CAS Education Policy Committee's first analysis of a new data base of the travel time from the first full-time casualty actuarial job to Fellowship.

Conclusions:

- 1. For people starting their careers in the 60s, 70s, 80s, or early 90s, the median travel time was 7 to 8.5 years. A median travel time of 5 to 7 years was not achieved by the CAS.**
2. The most recent estimate of median travel time is 8 and a half years. For people currently starting their careers, the median travel time could differ from this by 1 or 2 years.
3. This information is valuable. The Education Policy Committee will try to fill the remaining holes in the data base, due to some CAS members failing to respond.
4. We have started to routinely collect the time of their first full-time casualty actuarial job as people become members of the CAS.
5. This data will be analyzed in the future at regular intervals.
6. This new data supplements, but does not replace the other travel time analysis based on exam history that we have been doing for a long time.
7. While this new data has the advantage of precisely measuring what we are interested in, it has the disadvantage of a long time delay.
8. It would be valuable for the CAS to collect date of first full-time casualty actuarial job from candidates prior to their becoming members, so as to reduce the delay in data collection. We will look into ways of doing this.

Data:

Members of the CAS were asked to supply the date of their first full-time casualty actuarial job. We have so far received responses from a little over two thirds of the Fellows. This report uses the information from about 1450 Fellows of the CAS. While the data has been checked for overall reasonableness, it has not been audited for accuracy.

"Please provide the date (month/year) of your first full-time casualty actuarial employment based on the following definition: Casualty actuarial employment is a job in the property and casualty industry where taking and passing actuarial exams is an expected part of the job. Do not count internships. Please do not adjust the date for any breaks in employment. Do not consider exams taken prior to your employment. If you started as a non-P&C actuary (life, health, pension, etc.), only indicate the date of your first full-time casualty job."

Travel time has been defined in this report as from the first full-time casualty actuarial job to the CAS meeting at which the member was honored as a Fellow. For example, Joe's first full-time casualty actuarial job was in January 1992, his last exam was taken in May 1997, he found out he passed in July 1997, was officially an FCAS in August 1997, and was honored at the November 1997 CAS meeting. Then Joe's data is recorded here as 1/92 and 11/97. For the purposes of this report, his travel time is: 5 years and 10 months = 5.83 years. **If a different ending date were chosen than the CAS meeting at which the Fellow was honored, then all of the listed travel times would be reduced by up to 1/2 year.**

Results:

The analysis worked with year starting cohorts: people whose first jobs were all in the same year. Unfortunately, for recent cohorts, the data is truncated from above; i.e., travel times above a certain number of years are missing. Only those who attained Fellowship by May 2002 are included. For example, someone whose first job was in 1995, but who will take 8 years to get his Fellowship, is not included in our current data on travel time to Fellowship.

Also it should be noted that this data provides no information on the percent of people who start out in the exam process but never attain Fellowship. (Nor does it have any information on the percent of people who start out in the exam process and would make good Fellows of the CAS, but never attain Fellowship.) Neither does it consider how the educational value of the exam process may have varied over time.

Medians were calculated for the data as reported. In addition, medians were calculated excluding all travel times that exceeded either 15 or 10 years. This allows a direct comparison of more recent cohorts with older cohorts.

<u>Starting Year</u>	<u>MEDIAN TRAVEL TIMES TO FCAS (Years)</u>		
	<u>As Reported</u>	<u>Truncated @ 15</u>	<u>Truncated @ 10</u>
1960 to 1964	8.3	8.3	6.4
1965 to 1969	7.5	7.4	6.9
1970 to 1974	6.9	6.8	6.3
1975 to 1979	7.8	7.4	6.4
1980 to 1984	8.4	8.3	7.2
1985 to 1989	8.4	8.3	6.9
1990 to 1994	7.2	7.2	6.8

For people starting in the mid 1960s the median travel time was about 8 years. This fell in the early 1970s to about 7 years. It increased until the early 1980s to about 8 and a half years. It appears to have remained approximately the same through the early 1990s. (People who started in the early 1990s would typically get their FCAS somewhere around the year 2001; many who will become Fellows have yet to do so.)

This data does not significantly reflect any impact of the major changes in the exam structure in the year 2000. We are looking out the rearview mirror about a decade back in time.

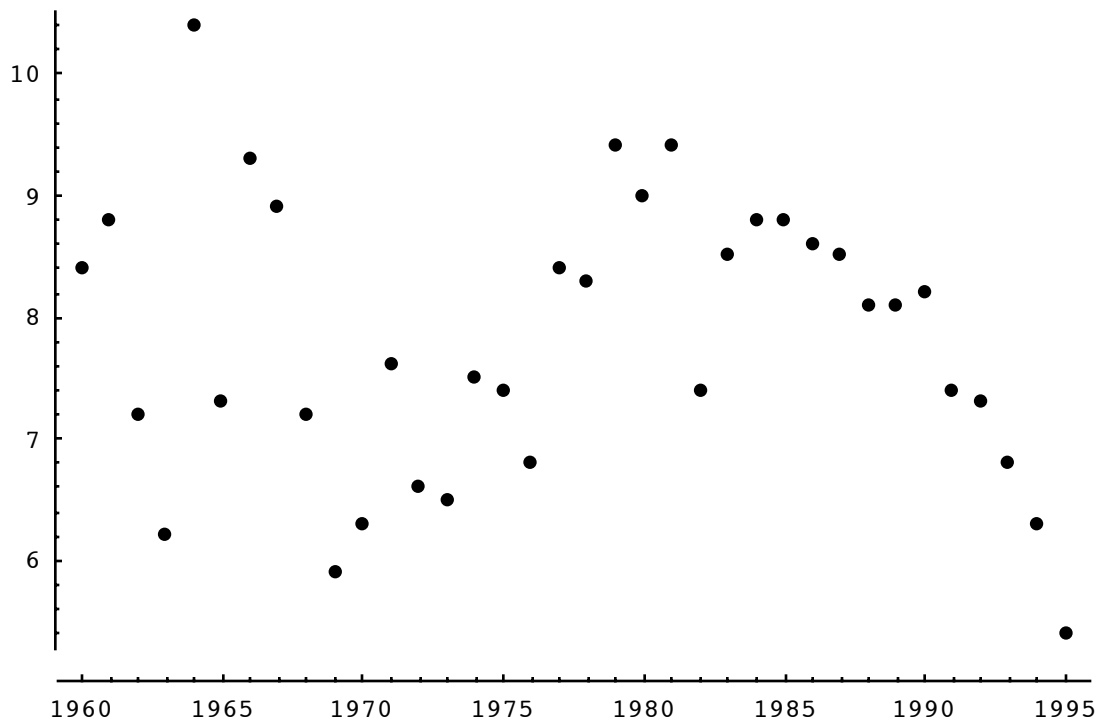
During the period of time studied there were many changes to the exams. For example, in 1975 a new Syllabus was put in effect that required 7 of 10 exams to become an Associate. In the early 1990s, partitioning of exams was introduced. The affects of any such changes are reflected in the data itself.

Further details on medians and means are provided below.

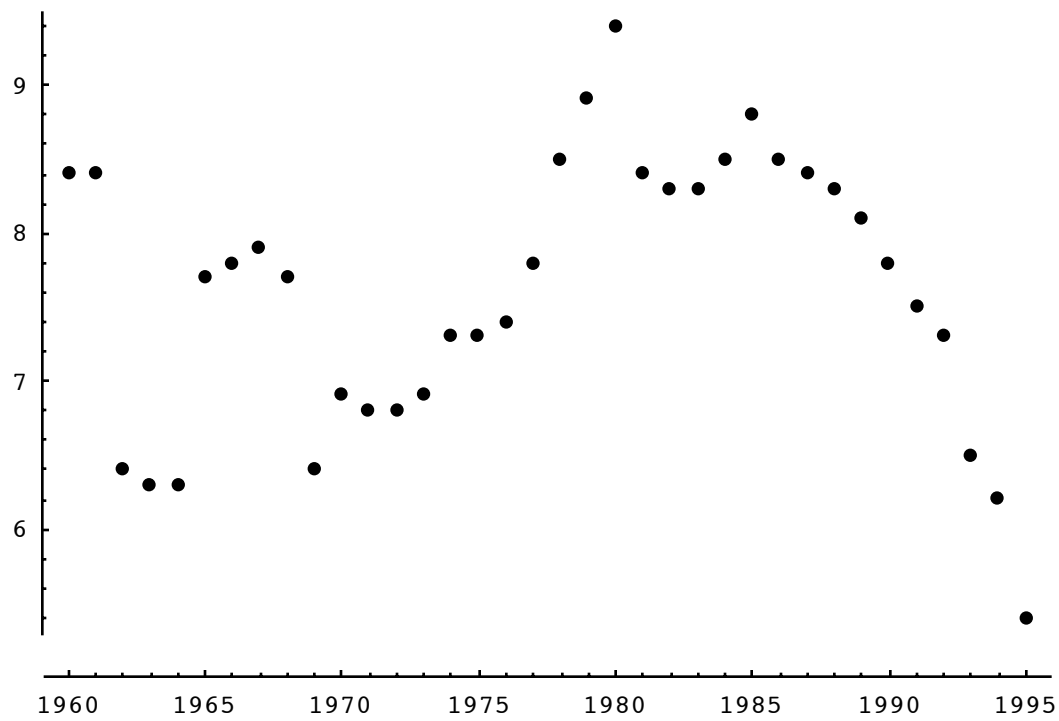
Detailed Results, Medians, Travel Time to FCAS:

Year	Number	Median	FCAS Median	FCAS Median
1st Job		to	Truncated	Truncated
		FCAS	@ 15	@ 10
1960	5	8.4	8.4	8.4
1961	4	8.8	8.8	8.4
1962	6	7.2	7.2	5.4
1963	5	6.2	6.2	6.2
1964	4	10.4	10.4	5.6
1965	3	7.3	7.3	7.3
1966	5	9.3	9.3	7.7
1967	9	8.9	8.9	7.6
1968	6	7.2	7.2	6.9
1969	5	5.9	5.4	4.9
1970	19	6.3	6.2	5.8
1971	28	7.6	7.6	6.8
1972	32	6.6	6.0	5.8
1973	40	6.5	6.4	6.3
1974	38	7.5	7.4	7.1
1975	35	7.4	7.4	7.2
1976	44	6.8	6.8	6.0
1977	41	8.4	7.2	5.8
1978	58	8.3	7.7	6.3
1979	57	9.4	8.6	6.8
1980	53	9.0	8.8	7.9
1981	34	9.4	9.4	6.2
1982	39	7.4	7.4	6.8
1983	44	8.5	8.5	7.4
1984	43	8.8	8.6	6.4
1985	41	8.8	8.4	7.3
1986	63	8.6	8.5	6.8
1987	83	8.5	8.5	7.3
1988	64	8.1	8.1	6.9
1989	77	8.1	8.1	6.5
1990	108	8.2	8.2	7.4
1991	68	7.4	7.4	7.3
1992	65	7.3	7.3	7.3
1993	65	6.8	6.8	6.8
1994	68	6.3	6.3	6.3
1995	35	5.4	5.4	5.4
1996	30	5.2	5.2	5.2
1997	21	4.3	4.3	4.3

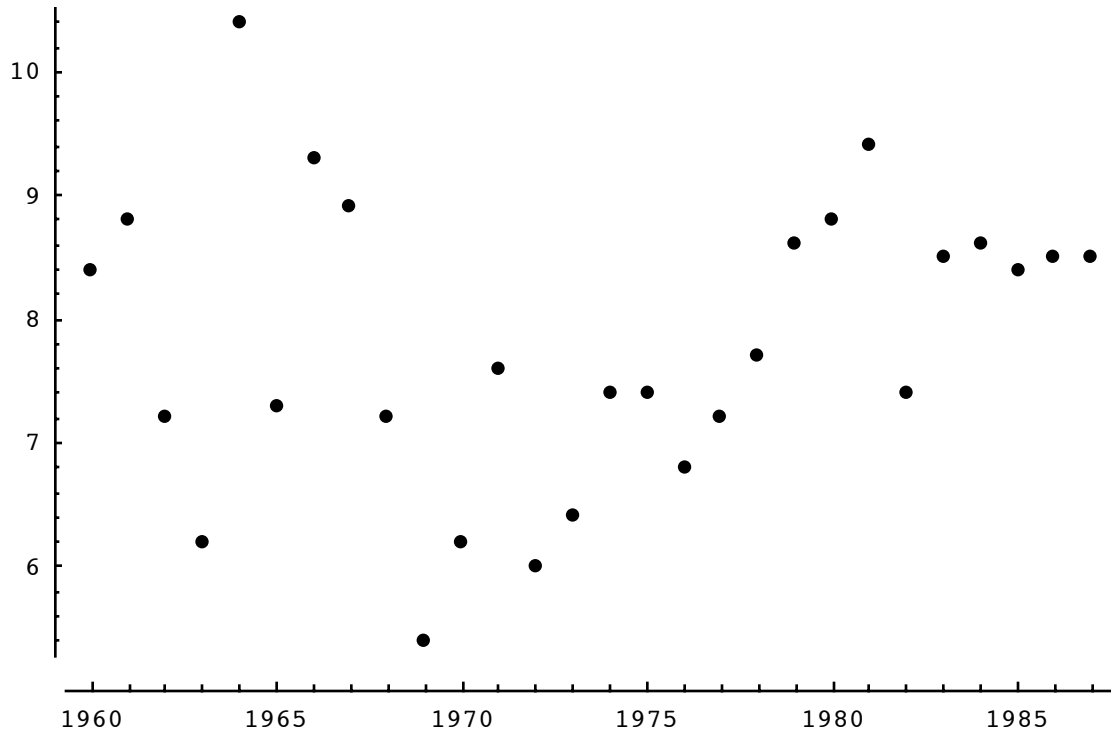
Median Travel Times to FCAS, by starting cohort, reported data.
(Recent years affected by truncation from above).



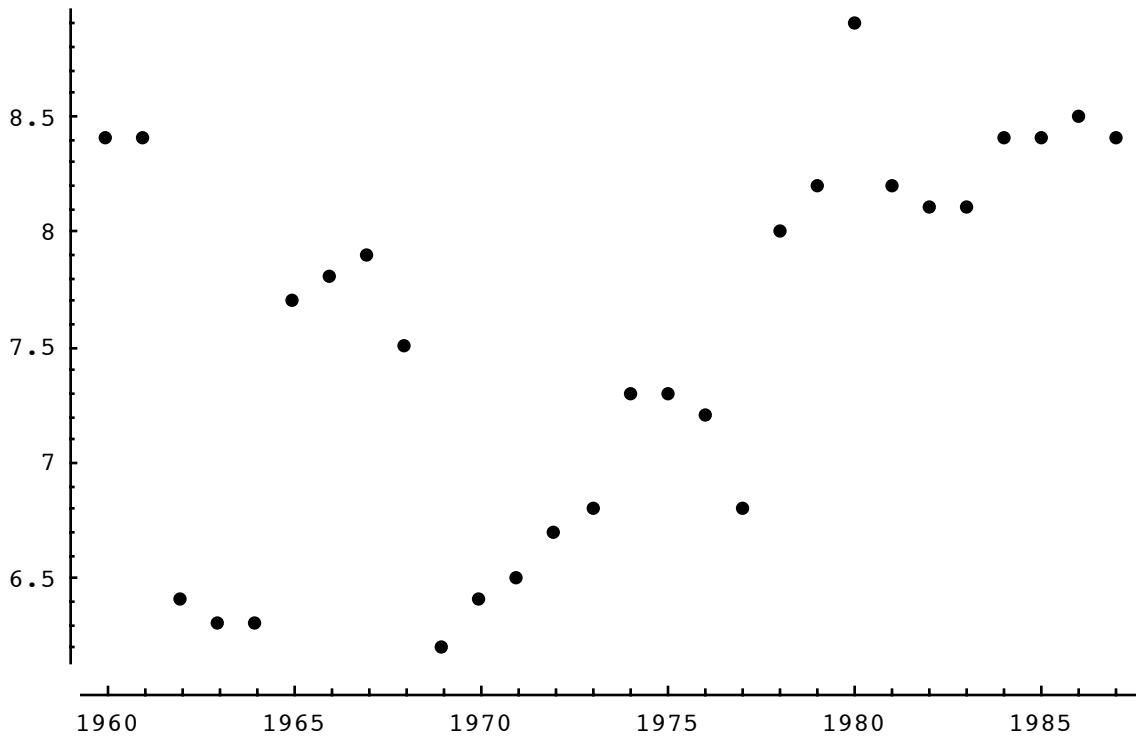
Median Travel Times to FCAS, by starting cohort, reported data.
Smoothed by grouping three years together centered on listed year.



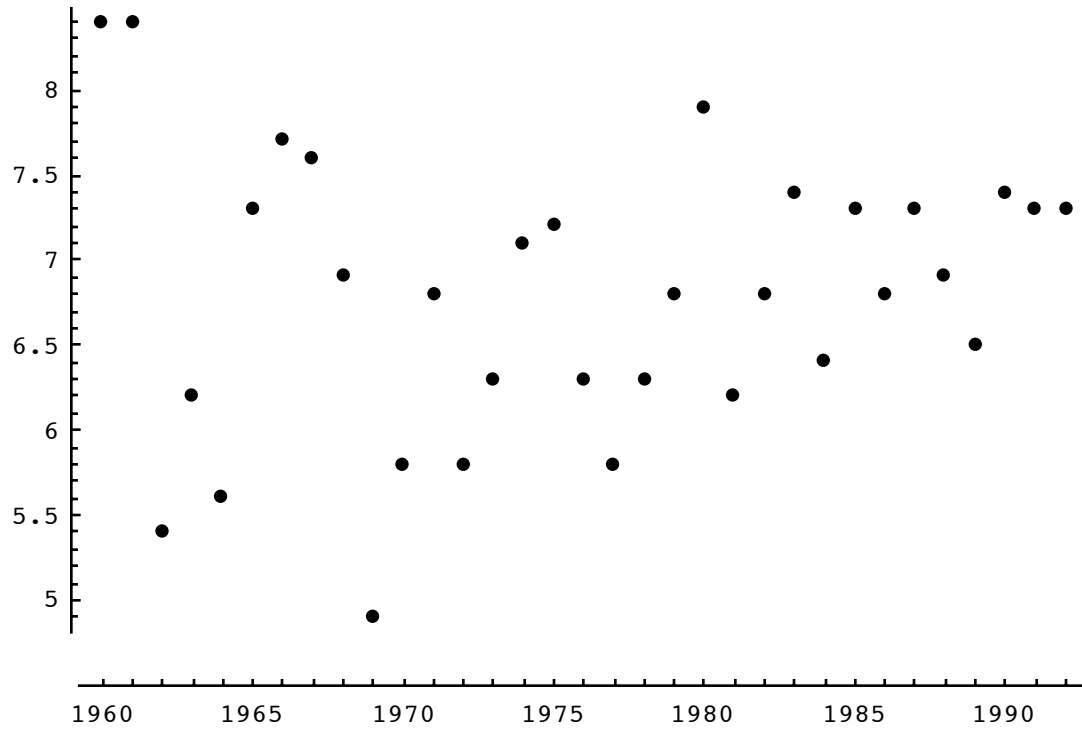
Median Travel Times to FCAS, by starting cohort, data truncated from above at 15 years.



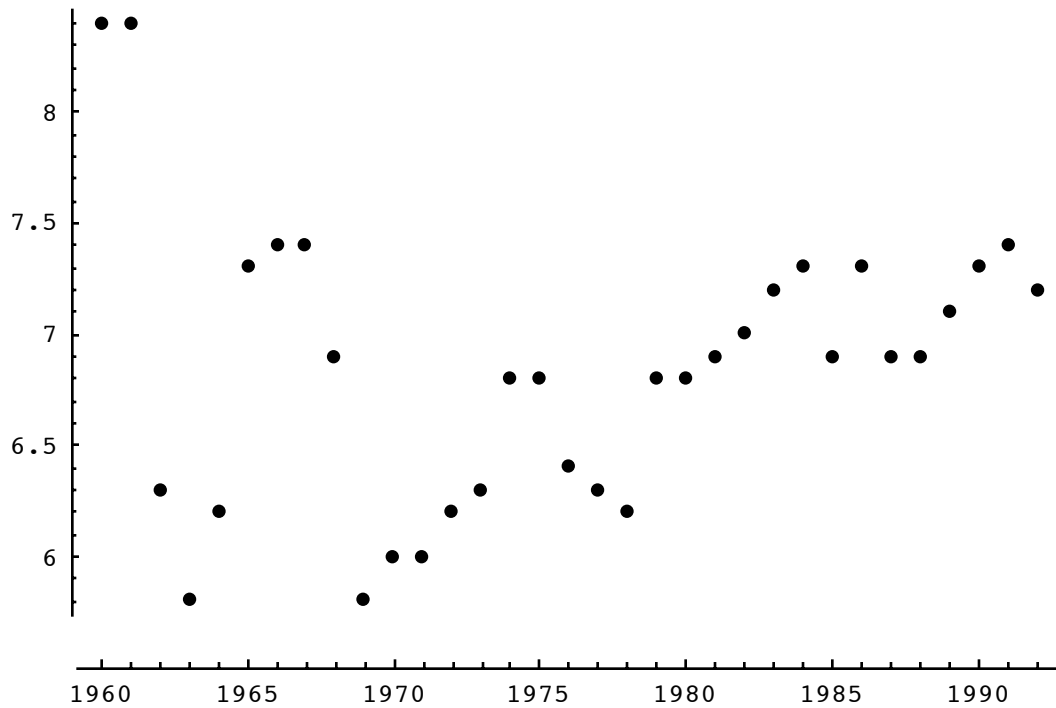
Median Travel Times to FCAS, by starting cohort, data truncated from above at 15 years. Smoothed by grouping three years together centered on listed year.



Median Travel Times to FCAS, by starting cohort, data truncated from above at 10 years.



Median Travel Times to FCAS, by starting cohort, data truncated from above at 10 years. Smoothed by grouping three years together centered on listed year.

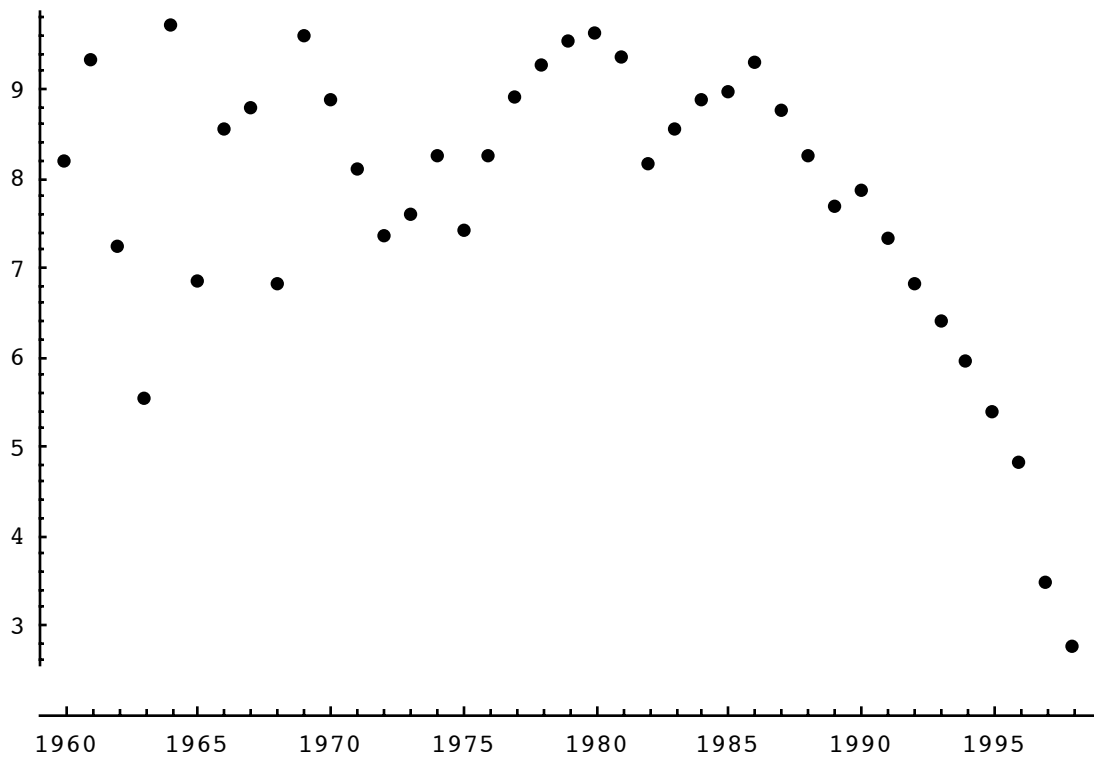


Detailed Results, Means:

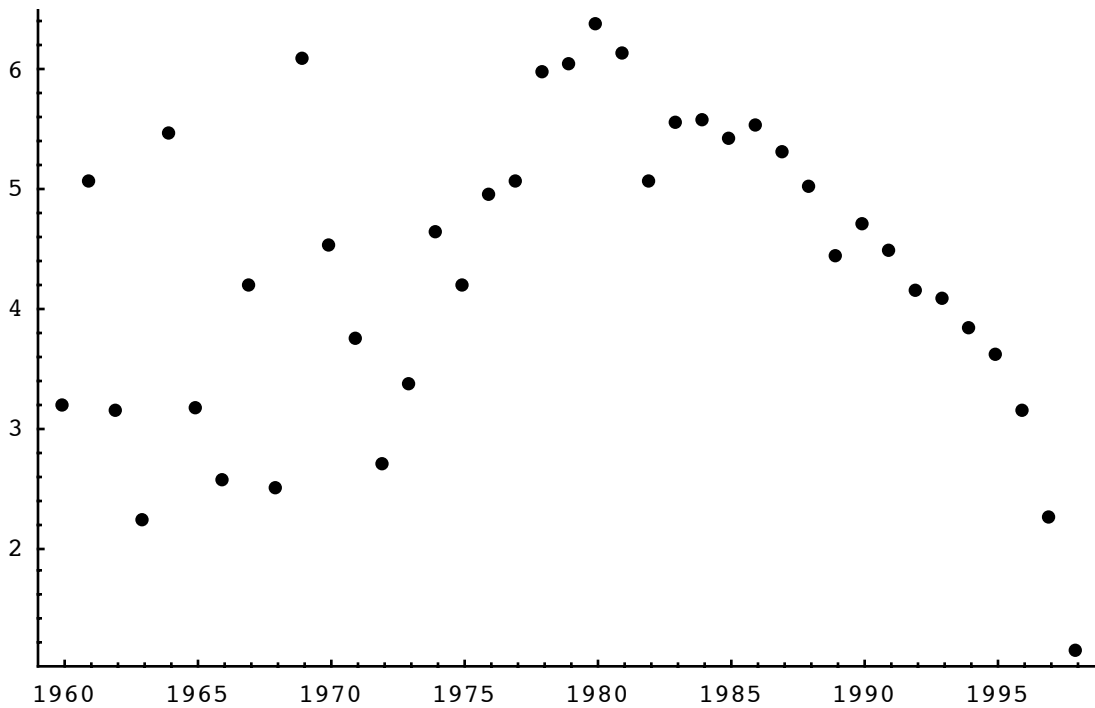
Year	Mean to	Mean to	Number
1st Job	ACAS	FCAS	
1960	3.2	8.2	5
1961	5.1	9.3	4
1962	3.1	7.2	6
1963	2.2	5.5	5
1964	5.5	9.7	4
1965	3.2	6.8	3
1966	2.5	8.5	5
1967	4.2	8.8	9
1968	2.5	6.8	6
1969	6.1	9.6	5
1970	4.5	8.9	19
1971	3.8	8.1	28
1972	2.7	7.4	32
1973	3.4	7.6	39
1974	4.6	8.2	36
1975	4.2	7.4	35
1976	4.9	8.2	43
1977	5.0	8.9	41
1978	6.0	9.3	58
1979	6.0	9.5	56
1980	6.4	9.6	52
1981	6.1	9.3	34
1982	5.0	8.2	38
1983	5.5	8.5	43
1984	5.6	8.9	43
1985	5.4	9.0	40
1986	5.5	9.3	63
1987	5.3	8.8	83
1988	5.0	8.3	64
1989	4.4	7.7	79
1990	4.7	7.9	109
1991	4.5	7.3	68
1992	4.1	6.8	66
1993	4.1	6.4	65
1994	3.8	5.9	68
1995	3.6	5.4	36
1996	3.1	4.8	30
1997	2.3	3.5	22
1998	1.1	2.7	10

Note more recent years have been affected by truncation from above.

Mean Travel Times to Fellowship, by starting cohort, reported data.
(Recent years affected by truncation from above).



Mean Travel Times to Associateship, by starting cohort, reported data.
(Recent years affected by truncation from above).



TRAVEL TIMES TO FCAS (Years)

<u>Starting Year</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Skewness</u>
1960 to 1964	7.8	3.0	0.7
1965 to 1969	8.3	3.7	1.4
1970 to 1974	7.9	3.7	2.4
1975 to 1979	8.8	4.0	1.0
1980 to 1984	9.0	3.5	0.7

TRAVEL TIMES TO FCAS (Years)

Truncated from above @ 15

<u>Starting Year</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Skewness</u>
1960 to 1964	7.8	3.0	0.3
1965 to 1969	7.8	2.8	0.1
1970 to 1974	7.4	2.6	0.6
1975 to 1979	7.8	2.9	0.4
1980 to 1984	8.5	2.9	0.2
1985 to 1989	8.5	2.8	0.2

TRAVEL TIMES TO FCAS (Years)

Truncated from above @ 10

<u>Starting Year</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Skewness</u>
1960 to 1964	6.7	2.1	-0.3
1965 to 1969	6.6	2.0	-0.3
1970 to 1974	6.5	1.7	0.1
1975 to 1979	6.5	1.8	0
1980 to 1984	6.9	1.8	-0.3
1985 to 1989	6.9	1.7	-0.2
1990 to 1994	6.7	1.7	-0.3

The mean travel times do not appear to have changed dramatically over this period of time. The average of the data truncated from above at 15 years was in the early 1970s about 7 and a half years and increased to about 8 and a half years in the 1980s.

Travel Time by Class

—Actual Number of Sittings—

Associateship Class

<u>Class</u>	<u>ACAS Class Size</u>	<u>Old Calculation to Achieve ACAS</u>	<u>Actual Number of Sittings to ACAS</u>	<u>Actual Number of Sittings to ACAS Excluding Any Fellowship Exams</u>
Fall 2000	33	11.9	15.3	13.2
Spring 2001	33	14.6	17.4	16.1
Fall 2001	92	12.7	13.7	13.3
Spring 2002	38	15.2	16.7	15.7
Fall 2002	114	15.8	16.2	15.7

Fellowship Class

<u>Class</u>	<u>FCAS Class Size</u>	<u>Old Calculation to Achieve FCAS</u>	<u>Actual Number of Sittings to FCAS</u>
Fall 2000	135	17.6	16.8
Spring 2001	29	18.1	16.7
Fall 2001	116	19.2	18.1
Spring 2002	19	18.5	19.3
Fall 2002	145	19.5	18.2

Notes

- *Class* refers to the CAS meeting when members are recognized (i.e., six months after the exam sitting).
- *Old Calculation to Achieve ACAS/FCAS* refers to the method of tracking travel time prior to the implementation of the 2000 education and examinations structure. It will be included in this report for a few years in order to make comparisons with the old method. [The old method tracked the number of potential examination sessions from the first CAS-specific examination until achieving the designation. Sittings for Parts 1 & 2 (pre-2000) were included, but only for the successful examination session.]
- *Actual Number of Sittings to ACAS/FCAS* shows the average number of exam sessions that the candidates actually sat for examinations to achieve the specified designation.
- *Differences between the old and new calculations:* The old method was consistent but only listed CAS-specific exams and added two additional sittings to represent successful completion of old Parts 1 and 2. It demonstrated how many potential sittings there were from the “staring point” until the attainment of the designation regardless of whether the candidate actually sat for an exam every session. Old Parts 3A and 3C were not included in the count—nor was the old pre-partitioned Part 3. In preparing the new class statistics that will be used for the classes of 2000 and beyond, the CAS Office obtains the complete history of joint examinations for each person and adds it to the CAS database. This new statistics accurately reflect the number of exam sessions in which the candidate actually participated, including joint exams.

Travel Time: Exam Progress Statistics

— CAS-Specific Exams —

<u>CAS Examination</u>	<u>Exam Progress</u> ¹	<u>Pass Ratio</u> ²	<u>Average Number of Exams Taken</u> ³
Spring 1983	0.36	0.35	1.02
Fall 1983	0.29	0.29	1.01
Spring 1984	0.38	0.38	1.01
Fall 1984	0.35	0.35	1.01
Spring 1985	0.36	0.36	1.02
Fall 1985	0.40	0.39	1.02
Spring 1986	0.37	0.37	1.02
Fall 1986	0.38	0.37	1.01
Spring 1987	0.37	0.36	1.02
Fall 1987	0.35	0.35	1.01
Spring 1988	0.35	0.34	1.02
Fall 1988	0.36	0.36	1.01
Spring 1989	0.36	0.35	1.01
Fall 1989	0.39	0.39	1.01
Spring 1990	0.33	0.33	1.01
Fall 1990	0.26	0.34	0.76
Spring 1991	0.33	0.38	0.87
Fall 1991	0.28	0.36	0.77
Spring 1992	0.30	0.38	0.80
Fall 1992	0.30	0.38	0.81
Spring 1993	0.29	0.38	0.78
Fall 1993	0.30	0.38	0.78
Spring 1994	0.30	0.38	0.79
Fall 1994	0.30	0.39	0.76
Spring 1995	0.29	0.37	0.78
Fall 1995	0.27	0.36	0.76
Spring 1996	0.31	0.40	0.78
Fall 1996	0.29	0.40	0.74
Spring 1997	0.30	0.38	0.79
Fall 1997	0.24	0.33	0.73
Spring 1998	0.31	0.38	0.81
Fall 1998	0.24	0.34	0.73
Spring 1999	0.30	0.40	0.77
Fall 1999	0.29	0.40	0.73
Spring 2000	0.38	0.38	1.01
Fall 2000	0.38	0.38	1.01
Spring 2001	0.39	0.39	1.01
Fall 2001	0.38	0.38	1.00
Spring 2002	0.46	0.46	1.00

¹ The number of full examination equivalents passed per candidate. (This is a product of the second and third columns.)

² The number of full examination equivalents passed per exam equivalent taken.

³ The number of full examination equivalents taken per candidate.

Notes

- A. This report was revised in March 1999 to reflect only CAS-specific examinations, not exams jointly administered with the SoA. In the past, only pass information was consistently recorded for joint exams; most unsuccessful attempts were not included. The revised statistics reflect consistent data from sitting to sitting.

- B. Partitioning of examinations began in Spring 1987 with Part 3 when it was partitioned into Parts 3a, 3b and 3c. In 1990, the CAS introduced Part 3B; Part 3b was replaced with CAS Part 5B. Part 4 was partitioned into Parts 4A and 4B beginning in Spring 1992. Parts 5A and 5B were not offered in Spring prior to Spring 1994.
- C. A new education and examination structure was implemented in Spring 2000. Data consistently reflects CAS-specific examinations.

Travel Time: Exam Progress Statistics

—Joint Exams—

All Candidates

<u>CAS/SoA Examination</u>	<u>Exam Progress</u> ¹	<u>Pass Ratio</u> ²	<u>Average Number of Exams Taken</u> ³
Spring 2000	0.28	0.27	1.03
Fall 2000	0.35	0.34	1.03
Spring 2001	0.37	0.36	1.04
Fall 2001	0.40	0.38	1.05
Spring 2002	0.44	0.42	1.07

CAS Candidates

<u>CAS/SoA Examination</u>	<u>Exam Progress</u> ¹	<u>Pass Ratio</u> ²	<u>Average Number of Exams Taken</u> ³
Spring 2000	0.23	0.23	1.02
Fall 2000	0.28	0.27	1.01
Spring 2001	0.28	0.27	1.01
Fall 2001	0.34	0.33	1.03
Spring 2002	0.37	0.36	1.04

¹ The number of full examination equivalents passed per candidate. (This is a product of the second and third columns.)

² The number of full examination equivalents passed per exam equivalent taken.

³ The number of full examination equivalents taken per candidate.

Note

The Exam Progress Statistics for exams jointly administered by the CAS and SoA are presented separately because the two societies maintain independent databases with different candidate identification numbers. This first chart provides statistics for all candidates who took joint Exams 1-4; the second chart represents only those candidates who indicate on their application forms that they work in the property-casualty industry.

CAS Examination Pass Statistics

Exam		<u>S2000</u>	<u>F2000</u>	<u>S2001</u>	<u>F2001</u>	<u>S2002</u>
1	Exams Taken	2667	2526	3498	3508	4860
	Passed	618	857	1167	1178	2096
	Ineffective Candidates	317	193	378	401	348
	Raw Pass Ratio	23.2%	33.9%	33.4%	33.6%	43.1%
	Effective Pass Ratio	26.3%	36.7%	37.4%	37.9%	46.5%
2	Exams Taken	1903	1952	2115	2115	2549
	Passed	509	629	676	860	949
	Ineffective Candidates	171	82	193	114	181
	Raw Pass Ratio	26.7%	32.2%	32.0%	40.7%	37.2%
	Effective Pass Ratio	29.4%	33.6%	35.2%	43.0%	40.1%
3	Exams Taken	1375	1466	1526	1450	1776
	Passed	438	528	651	605	745
	Ineffective Candidates	174	121	117	124	171
	Raw Pass Ratio	31.9%	36.0%	42.7%	41.7%	41.9%
	Effective Pass Ratio	36.5%	39.3%	46.2%	45.6%	46.4%
4	Exams Taken	913	963	1008	1149	1272
	Passed	309	356	409	491	564
	Ineffective Candidates	85	95	63	92	90
	Raw Pass Ratio	33.8%	37.0%	40.6%	42.7%	44.3%
	Effective Pass Ratio	37.3%	41.0%	43.3%	46.5%	47.7%
5	Exams Taken	606		524		458
	Passed	216		190		199
	Ineffective Candidates	103		89		55
	Raw Pass Ratio	35.6%		36.3%		43.4%
	Effective Pass Ratio	42.9%		43.7%		49.4%
6	Exams Taken		623		596	
	Passed		189		208	
	Ineffective Candidates		158		131	
	Raw Pass Ratio		30.3%		34.9%	
	Effective Pass Ratio		40.6%		44.7%	
7-Canada	Exams Taken	40		48		47
	Passed	18		19		19
	Ineffective Candidates	1		2		3
	Raw Pass Ratio	45.0%		39.6%		40.4%
	Effective Pass Ratio	46.2%		41.3%		43.2%
7-US	Exams Taken	516		494		442
	Passed	202		203		207
	Ineffective Candidates	85		43		30
	Raw Pass Ratio	39.1%		41.1%		46.8%
	Effective Pass Ratio	46.9%		45.0%		50.2%
8	Exams Taken	319		310		349
	Passed	129		124		175
	Ineffective Candidates	35		32		27
	Raw Pass Ratio	40.4%		40.0%		50.1%
	Effective Pass Ratio	45.4%		44.6%		54.3%
9	Exams Taken		324		308	
	Passed		126		135	
	Ineffective Candidates		49		34	
	Raw Pass Ratio		38.9%		43.8%	
	Effective Pass Ratio		45.8%		49.3%	

CAS Examination Pass Statistics

	<u>S2000</u>	<u>F2000</u>	<u>S2001</u>	<u>F2001</u>	<u>S2002</u>
Summary Exams Taken	8339	7854	9523	9126	11753
Passed	2439	2685	3439	3477	4954
Ineffective Candidates	971	698	917	896	905
Raw Pass Ratio	29.2%	34.2%	36.1%	38.1%	42.2%
Effective Pass Ratio	33.1%	37.5%	40.0%	42.2%	45.7%

CAS Examination Pass Statistics

Part		S1991	F1991	S1992	F1992	S1993	F1993	S1994	F1994	S1995	F1995	S1996	F1996	S1997	F1997	S1998	F1998	S1999	F1999
3B	Exams Taken	610	773	611	557	533	498	441	438	375	422	352	354	347	216	87	143	68	49
	Passed	261	335	252	246	223	210	186	192	160	162	177	153	145	88	26	51	28	23
	Ineffective Candidates	62	107	81	88	71	77	55	47	51	57	50	36	44	37	19	19	12	7
	Raw Pass Ratio	42.8%	43.3%	41.2%	44.2%	41.8%	42.2%	42.2%	43.8%	42.7%	38.4%	50.3%	43.2%	41.8%	40.7%	29.9%	35.7%	41.2%	46.9%
	Effective Pass Ratio	47.6%	50.3%	47.5%	52.5%	48.3%	49.9%	48.2%	49.1%	49.4%	44.4%	58.6%	48.1%	47.9%	49.2%	38.2%	41.1%	50.0%	54.8%
4A	Exams Taken	0	0	892	557	704	522	486	451	448	413	384	363	356	482	428	463	448	401
	Passed	0	0	316	164	243	236	211	166	177	135	141	125	125	176	186	120	159	182
	Ineffective Candidates	0	0	166	135	145	72	89	88	74	105	72	70	79	91	86	108	83	64
	Raw Pass Ratio	0	0	35.4%	29.4%	34.5%	45.2%	43.4%	36.8%	39.5%	32.7%	36.7%	34.4%	35.1%	36.5%	43.5%	25.9%	35.5%	45.4%
	Effective Pass Ratio	0	0	43.5%	38.9%	43.5%	52.4%	53.1%	45.7%	47.3%	43.8%	45.2%	42.7%	45.1%	45.0%	54.4%	33.8%	43.6%	54.0%
4B	Exams Taken	0	0	878	623	798	695	888	853	900	718	830	722	747	952	939	1052	1200	1188
	Passed	0	0	339	263	258	231	311	392	321	219	328	346	272	247	337	307	421	479
	Ineffective Candidates	0	0	182	95	136	124	158	131	111	180	142	72	136	257	175	290	246	247
	Raw Pass Ratio	0	0	38.6%	42.2%	32.3%	33.2%	35.0%	46.0%	35.7%	30.5%	39.5%	47.9%	36.4%	25.9%	35.9%	29.2%	35.1%	40.3%
	Effective Pass Ratio	0	0	48.7%	49.8%	39.0%	40.5%	42.6%	54.3%	40.7%	40.7%	47.7%	53.2%	44.5%	35.5%	44.1%	40.3%	44.1%	50.9%
5A	Exams Taken	0	464	0	226	0	472	359	397	361	368	320	316	331	282	140	141	109	85
	Passed	0	186	0	91	0	152	135	136	120	130	127	115	116	96	60	45	40	33
	Ineffective Candidates	0	44	0	20	0	94	47	69	62	64	51	37	59	49	21	51	21	21
	Raw Pass Ratio	0	40.1%	0	40.3%	0	32.2%	37.6%	34.3%	33.2%	35.3%	39.7%	36.4%	35.0%	34.0%	42.9%	31.9%	36.7%	38.8%
	Effective Pass Ratio	0	44.3%	0	44.2%	0	40.2%	43.3%	41.5%	40.1%	42.8%	47.2%	41.2%	42.6%	41.2%	50.4%	50.0%	45.5%	51.6%
5B	Exams Taken	0	10	0	4	0	389	343	402	372	402	359	379	368	356	288	376	296	251
	Passed	0	7	0	1	0	128	126	150	149	142	160	151	167	140	95	133	111	103
	Ineffective Candidates	0	0	0	1	0	56	50	61	46	59	31	41	36	63	63	73	64	44
	Raw Pass Ratio	0	70.0%	0	25.0%	0	32.9%	36.7%	37.3%	40.1%	35.3%	44.6%	39.8%	45.4%	39.3%	33.0%	35.4%	37.5%	41.0%
	Effective Pass Ratio	0	70.0%	0	33.3%	0	38.4%	43.0%	44.0%	45.7%	41.4%	48.8%	44.7%	50.3%	47.8%	42.2%	43.9%	47.8%	49.8%
SUMMARY																			
3B-5B	Exams Taken	610	1247	2381	1967	2035	2576	2517	2541	2456	2323	2245	2134	2149	2288	1882	2175	2121	1974
	Passed	261	528	907	765	724	957	969	1036	927	788	933	890	825	747	704	656	759	820
	Ineffective Candidates	62	151	429	339	352	423	399	396	344	465	346	256	354	497	364	541	426	383
	Raw Pass Ratio	42.8%	42.3%	38.1%	38.9%	35.6%	37.2%	38.5%	40.8%	37.7%	33.9%	41.6%	41.7%	38.4%	32.6%	37.4%	30.2%	35.8%	41.5%
	Effective Pass Ratio	47.6%	48.2%	46.5%	47.0%	43.0%	44.4%	45.8%	48.3%	43.9%	42.4%	49.1%	47.4%	46.0%	41.7%	46.4%	40.1%	44.8%	51.5%

CAS Examination Pass Statistics

Part		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999									
6	Exams Taken	434	490	555	725	628	629	622	592	863	602									
	Passed	141	177	196	244	233	229	246	217	316	265									
	Ineffective Candidates	78	55	88	85	57	80	50	76	139	70									
	Raw Pass Ratio	32.5%	36.1%	35.3%	33.7%	37.1%	36.4%	39.5%	36.7%	36.6%	44.0%									
	Effective Pass Ratio	39.6	40.7	42	38.1	40.8	41.7	43.4	42.1	43.7	49.8%									
7	Exams Taken	421	511	540	601	627	626	598	589	651	588									
	Passed	140	159	175	240	215	212	198	157	235	189									
	Ineffective Candidates	53	80	82	64	86	105	121	117	140	146									
	Raw Pass Ratio	33.3%	31.1%	32.4%	39.9%	34.3%	33.9%	33.1%	26.7%	36.1%	32.1%									
	Effective Pass Ratio	38.0%	36.9%	38.2%	44.7%	39.7%	40.7%	41.5%	33.3%	46.0%	42.8%									
8	Exams Taken	202	258	250	304	334	334	351	352	383	322									
	Passed	73	104	97	146	129	124	145	135	172	154									
	Ineffective Candidates	17	11	26	16	31	29	28	30	36	23									
	Raw Pass Ratio	36.1%	40.3%	38.8%	48.0%	38.6%	37.1%	41.3%	38.4%	44.9%	47.8%									
	Effective Pass Ratio	39.5%	42.1%	43.3%	50.7%	42.6%	40.7%	44.9%	41.9%	49.6%	51.5%									
9	Exams Taken	238	271	254	299	382	355	376	385	344	393									
	Passed	84	118	106	117	167	155	171	166	139	183									
	Ineffective Candidates	24	32	41	25	39	27	32	48	41	35									
	Raw Pass Ratio	35.3%	43.5%	41.7%	39.1%	43.7%	43.7%	45.5%	43.1%	40.4%	46.6%									
	Effective Pass Ratio	39.3%	49.4%	49.8%	42.7%	48.7%	47.3%	49.7%	49.3%	45.9%	51.1%									
10	Exams Taken	177	190	227	244	297	335	335	373	383	443									
	Passed	66	74	91	111	100	129	131	147	136	165									
	Ineffective Candidates	9	15	20	16	32	29	37	25	36	58									
	Raw Pass Ratio	37.3%	38.9%	40.1%	45.5%	33.7%	38.5%	39.1%	39.4%	35.5%	37.2%									
	Effective Pass Ratio	39.3%	42.3%	44.0%	48.7%	37.7%	42.2%	44.0%	42.2%	39.2%	42.9%									
SUMMARY																				
6-10	Exams Taken	1472	1720	1826	2173	2268	2279	2282	2291	2624	2348									
	Passed	504	632	665	858	844	849	891	822	998	956									
	Ineffective Candidates	181	193	257	206	245	270	268	296	392	332									
	Raw Pass Ratio	34.2%	36.7%	36.4%	39.5%	37.2%	37.3%	39.0%	35.9%	38.0%	40.7%									
	Effective Pass Ratio	39.0%	41.4%	42.4%	43.6%	41.7%	42.3%	44.2%	41.2%	44.7%	47.4%									
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