

# **EMPLOYER MARKET SURVEY REPORT 2003**

Prepared For:  
**Society of Actuaries**

Prepared By:  
**Leading Solutions Group**

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## INTRODUCTION AND BACKGROUND

### Research Objectives

To provide the Society of Actuaries, the Strategic Planning Committee and Board with information from traditional and non-traditional employer markets (testing opportunities for non-traditional employer markets and for expanded roles in the broader financial service markets). This information will enable the SOA to better define the value of its credentials as well as that of future actuarial skill sets and attributes to these targeted employer markets.

### Data from Research

- ❖ Primary attributes/skills that drive employers to hire and promote individuals who manage risk/actuaries in places where financial instruments/products are developed, managed, controlled or measured
- ❖ The current risk manager/actuary skill set and its value to target employer markets.
- ❖ Description of future identity (attributes and skills) for individuals who manage risk/actuaries.
- ❖ Comparison of risk manager/actuary's current image with image of main competitors.
- ❖ Comparison of risk manager/actuary's future identity with future identity of main competitors.
- ❖ Demand for attributes/skill combination models (hypotheses) by target employer markets.

### Target Respondents

- ❖ Cross section of employers - individuals who directly hire, influence the hiring decision, or serve as gatekeepers to the hiring decision for multiple employment points of entry into a company (e.g. product line managers, chief actuaries, hiring managers, HR representatives, recruiters).
- ❖ Employers hiring actuaries as well as employers hiring competing professionals such as MBA's, Accountants, Finance PhD's.
- ❖ Employers from specific markets:
  - Insurance Industry
  - Reinsurance Industry
  - Consulting Firms
  - Broader Financial Services (BFS)  
(Including specifically commercial and investment banks, Mutual fund providers, other financial services)
- ❖ Employers hiring in the following practice areas:
  - Life Insurance
  - Health Insurance
  - Retirement / Pension
  - Finance

## INTRODUCTION AND BACKGROUND - Continued

### Methodology

Using data results from previous SOA research and specific questions from SOA's Strategic Planning Committee leadership, the SOA Staff and Leading Solutions Group (LSG) developed the research design and materials.

To be able to generalize trends by Employer Market, the research called for at least 30 respondents in each Employer Market (Insurance, Reinsurance, Consulting, and Broader Financial Services). As the Respondent Profile section of this report shows, the final count in each market significantly exceeded the 30 respondent requirements (Insurance 135, Reinsurance 42, Consulting 63, and BFS 64).

While the research was designed to generalize by Employer Market, it targeted the identified practice areas only to ensure a representative sample - one that reflects SOA membership. Additionally, to further ensure a representative sample, employers from Canada were also asked to participate in the completion of the survey. The research was not designed to generalize by practice area given the dramatic increase that this would have called for in terms of respondent levels.

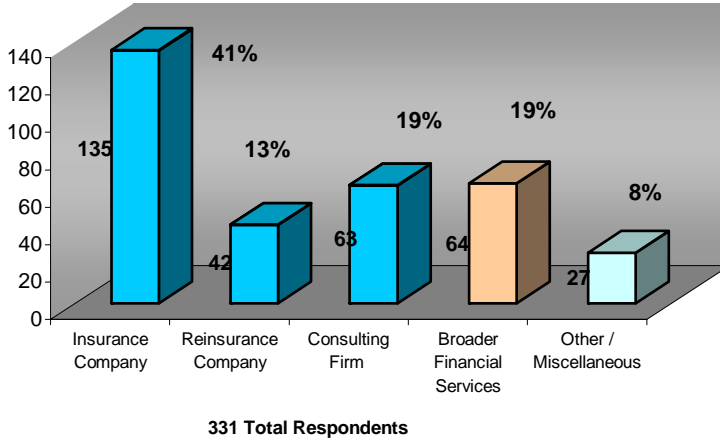
Given the information being collected, the necessary turnaround time, resources, cost, and potential sample size and availability, an online survey approach was chosen for conducting quantitative research. The online survey was launched on July 15, 2003 and closed on August 4, 2003. A total of 1,526 employers were invited to complete the survey and 331 responded (an approximate 22% response rate).

### Notes About the Report

- ❖ Given the research intention of stratifying the results, you will note that the majority of results throughout the report are displayed by Employer Market.
- ❖ Percentages throughout the report have been rounded individually and may not always add to 100.

## RESPONDENT PROFILE

RESPONDENTS BY EMPLOYER MARKET



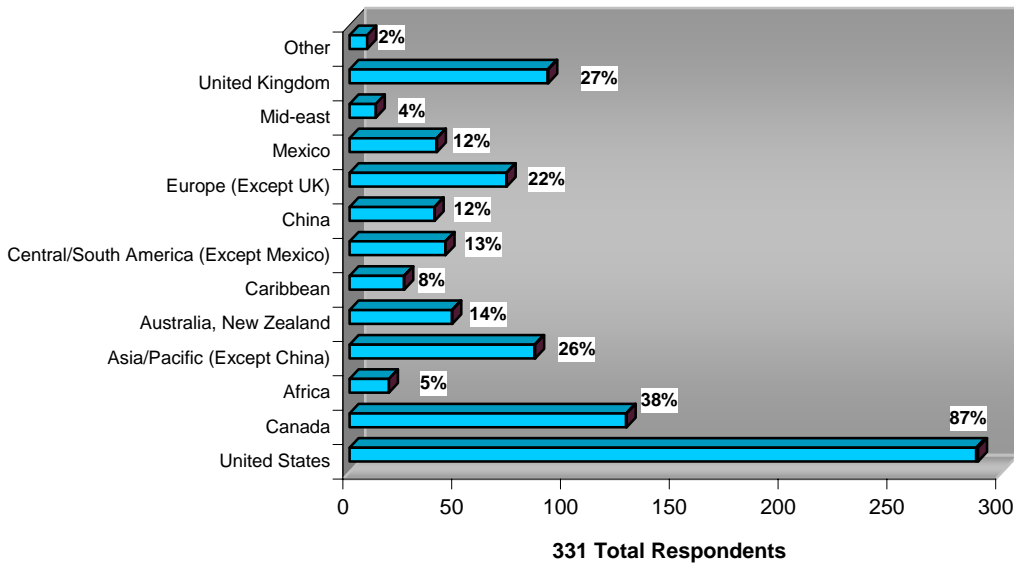
### EMPLOYER MARKETS

- The survey respondent profile by employer market resembles SOA's membership composition in that insurance is the largest market, followed by consulting and reinsurance.
- And the segments making up the *Broader Financial Services* represent the lower percentage of non-traditional SOA membership.

**Broader Financial Services** consists of following markets: commercial banks (16), investment banks (13), mutual fund providers (11) and other financial banks (24) such as venture capital firms, investment research, investment firms.

**Other / Miscellaneous** consists of recruiters (11) and miscellaneous markets (16) such as software developer, utility company, transportation, holding company.

RESPONDENTS HIRING IN FOLLOWING COUNTRIES / REGIONS



### COUNTRIES / REGIONS

- Percentages add to more than 100 because respondents were asked to identify *all* of the countries/regions that they conduct hiring.
- Overall the hiring profile resembles SOA's membership composition in that the USA and Canada make up the largest portion of the population.

## RESPONDENT PROFILE

Table 1

FULL TIME EMPLOYEES WITHIN ENTIRE ORGANIZATION													
Employer Market	< 75	%	76-150	%	151-300	%	301-500	%	501-1000	%	>1000	%	TOTALS:
Insurance	27	20%	4	3%	11	8%	12	9%	15	11%	65	48%	135
Reinsurance	13	31%	8	19%	4	10%	5	12%	4	10%	8	19%	42
Consulting	27	43%	9	14%	2	3%	2	3%	2	3%	21	33%	63
Broader Financial Services	11	17%	5	8%	5	8%	3	5%	4	6%	36	56%	64
													<b>304</b>

### SIZE OF ORGANIZATIONS

- Employers responding to the survey clearly represent a solid range of organization type and size.
- 48% and 56% of Insurance & BFS respondents identify themselves as coming from organizations with over 1000 employees.
- While 31% and 43% of Reinsurance and Consulting respondents report their organizations as having fewer than 75 employees.

Table 2

FULL TIME EMPLOYEES IN RISK MANAGEMENT / ACTUARIAL TYPE POSITIONS									
Employer Market	< 25	%	26-75	%	76-150	%	>151	%	TOTALS:
Insurance	91	67%	26	19%	10	7%	8	6%	135
Reinsurance	26	62%	11	26%	4	10%	1	2%	42
Consulting	32	52%	8	13%	5	8%	16	26%	61
Broader Financial Services	26	42%	7	11%	7	11%	22	35%	62
									<b>300</b>

### EMPLOYEES BY MARKET

- Employers identify how many employees perform the risk management / actuarial type of responsibilities that they hire for in their organizations.
- 26% and 35% of the BFS Market and Consulting Market employers report having over 151 employees performing these types of responsibilities.

## RESPONDENT PROFILE

Table 3

RESPONDENT ROLES IN HIRING													
Employer Market	Dept Head	%	Supervisor	%	Peer	%	Recruiter	%	Human Resources	%	Other	%	TOTALS:
Insurance	61	45%	50	37%	16	12%	3	2%	3	2%	2	1%	135
Reinsurance	12	29%	15	36%	11	26%	2	5%	0	0%	2	5%	42
Consulting	21	34%	22	36%	11	17%	1	2%	1	2%	5	8%	61
Broader Financial Services	16	27%	21	33%	18	28%	0	0%	4	6%	1	2%	60
												<b>298</b>	

### HIRING ROLES

- Employers were asked to identify their role in hiring as one of the following: Department / Unit Head, Direct Supervisor or Manager, Peer with input into hiring, Recruiter, Human Resource Manager or Other. Some of these individuals may also hold Executive level positions.
- The majority of respondents from each employer market are either a department head or direct supervisor - providing them with good visibility to employee performance. Department heads include a variety of levels from upper management through executive positions.
- Several respondents choose "Other" hiring roles (identifying themselves as CEO's, Executives, Senior Consultants / Advisors, Partners).

Table 4





RESPONDENT PRACTICE AREAS											
Employer Market	Life Insurance	%	Health Benefits	%	Retirement/Pension	%	Other Financial Services	%	Other	%	TOTALS:
Insurance	96	51%	51	27%	11	6%	26	14%	3	2%	187
Reinsurance	32	54%	12	20%	2	3%	9	15%	4	7%	59
Consulting	26	31%	15	18%	23	28%	14	17%	5	6%	83
Broader Financial Services	5	6%	1	1%	7	9%	52	68%	12	16%	77
											<b>406</b>

### PRACTICE AREAS

- Employers were asked to identify their primary specialization areas with "Other Financial Service" including: investments, banking, asset management, mutual funds, fixed income / equities research and valuation. Respondents were asked to choose *all* the practice areas that apply to them.
- Respondents choosing the remaining "Other" category identified practice areas such as annuity valuation, disability insurance, property & casualty, mergers & acquisitions, credit analysis, debt cancellation, commercial credit adjudication, software development, stock trading, audit / risk management, sales and marketing.

### EXECUTIVE SUMMARY OF MAJOR FINDINGS

The following chart displays major findings on primary responsibilities carried out in each employer market, the type of credentials sought by employers, and the skills/attribute ratings for actuaries and competing professionals.

CATEGORY OF RESULTS	EMPLOYER MARKETS			
	INSURANCE	REINSURANCE	CONSULTING	BFS
<b>Primary Responsibilities Typically Performed By Those Hired</b> (see Report Page ____ )	<ul style="list-style-type: none"> <li>➤ Product Development &amp; Pricing</li> <li>➤ Financial Valuation, Reporting, Planning &amp; Analysis</li> <li>➤ Risk Management</li> </ul>	<ul style="list-style-type: none"> <li>➤ Product Development &amp; Pricing</li> <li>➤ Financial Valuation, Reporting, Planning &amp; Analysis</li> <li>➤ Risk Management</li> </ul>	<ul style="list-style-type: none"> <li>➤ Pension Plan Design, Funding &amp; Accounting</li> <li>➤ Product Development &amp; Pricing</li> <li>➤ Financial Valuation, Reporting, Planning &amp; Analysis</li> <li>➤ Risk Management</li> </ul>	<ul style="list-style-type: none"> <li>➤ Asset / Fund Management &amp; Investment</li> <li>➤ Risk Management</li> <li>➤ Financial Valuation, Reporting, Planning &amp; Analysis</li> <li>➤ Financial Advising</li> </ul>
<b>Credentials Typically Sought When Hiring</b> (see Report Page ____ )	ASA FSA CFA Accountant MBA	ASA FSA Accountant CFA	ASA FSA CFA	MBA Finance MA or Ph.D. CFA Accountant
<b>Highest Actuary Performance Ratings *</b> (see Report Page ____ )	<ul style="list-style-type: none"> <li>➤ Ethical</li> <li>➤ Quantitative (Modeling)</li> <li>➤ Solving Complex Problems</li> <li>➤ Financial Assessment &amp; Reporting</li> </ul>			
<b>Lowest Actuary Performance Ratings *</b> (see Report Page ____ )	<ul style="list-style-type: none"> <li>➤ Bold, takes informed risks</li> <li>➤ Business Communications</li> <li>➤ Proactive</li> <li>➤ Can Focus on Big Picture</li> <li>➤ Business Acumen</li> </ul>			
<p>* Overall, employer responses for 'Importance to Improve' in these skill areas reflect the level of proficiency identified in these actuary performance ratings (e.g., when performance was rated low, importance to improve was rated high).</p>				
<b>Actuaries Rated Consistently Higher Than Non-Actuaries</b> (see Report Page ____ )	<ul style="list-style-type: none"> <li>➤ Quantitative (Modeling)</li> <li>➤ Financial Assessment &amp; Reporting</li> <li>➤ Industry Knowledge</li> <li>➤ Solving Complex Problems</li> </ul>			
<b>Actuaries Rated Consistently Lower Than Non-Actuaries</b> (see Report Page ____ )	<ul style="list-style-type: none"> <li>➤ Proactive</li> <li>➤ Bold, Takes Informed Risks</li> <li>➤ Can Focus On Big Picture</li> <li>➤ Business Communication Skills</li> </ul>			



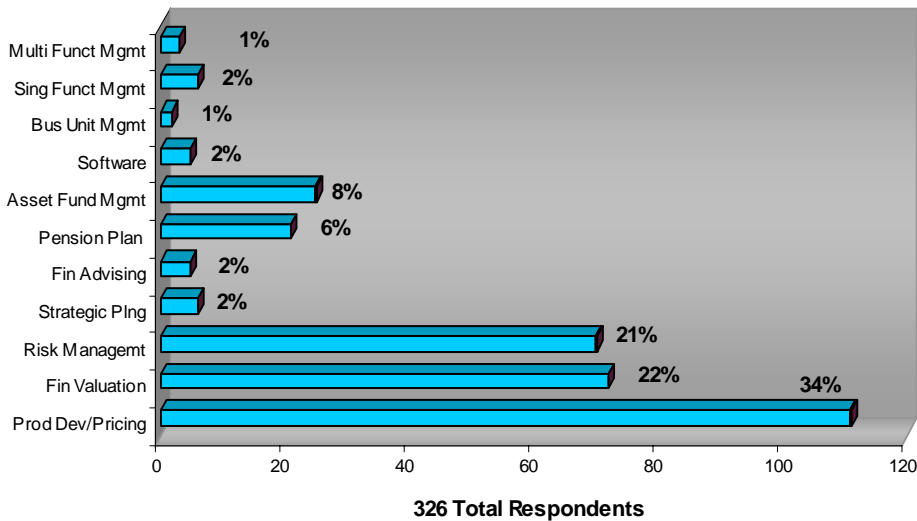
**EXECUTIVE SUMMARY OF MAJOR FINDINGS (Continued)**

The following chart displays additional findings on the top skills chosen by employers for mid and top level risk management positions.

CATEGORY OF RESULTS	EMPLOYER MARKETS			
	INSURANCE	REINSURANCE	CONSULTING	BFS
<b>Identified Top Skills for <u>Mid</u> Level Positions*</b> (see Report Page ____ )	<ul style="list-style-type: none"> <li>➤ Market / Financial Risk Management</li> <li>➤ Suitable Knowledge of Industry</li> </ul>	<ul style="list-style-type: none"> <li>➤ Market / Financial Risk Management</li> <li>➤ Suitable Knowledge of Industry</li> <li>➤ Strategic &amp; Environmental Risk Management</li> </ul>	<ul style="list-style-type: none"> <li>➤ Market / Financial Risk Management</li> <li>➤ Suitable Knowledge of Industry</li> <li>➤ Facility in Asset/Liability Management</li> <li>➤ Strategic &amp; Environmental Risk Management</li> <li>➤ Operation-Specific Risk Management</li> </ul>	<ul style="list-style-type: none"> <li>➤ Market / Financial Risk Management</li> <li>➤ Suitable Knowledge of Industry</li> <li>➤ Credit Risk Management</li> <li>➤ Facility in Asset/Liability Management</li> </ul>
<p>* In their comments (see Appendix with categorized comments) - respondents identify <i>communication skills and leadership skills</i> such as understanding the big picture and being proactive as non-technical skills that are also critical to both Mid and Top Level Positions.</p>				
<b>Identified Top Skills for <u>Top</u> Level Positions*</b> (see Report Page ____ )	<ul style="list-style-type: none"> <li>➤ Strategic/ Environmental Risk Management</li> <li>➤ Suitable Knowledge of Industry</li> <li>➤ Operation-Specific Risk Management</li> </ul>	<ul style="list-style-type: none"> <li>➤ Strategic / Environmental Risk Management</li> <li>➤ Market / Financial Risk Management</li> <li>➤ Suitable Knowledge of Industry</li> </ul>	<ul style="list-style-type: none"> <li>➤ Market / Financial Risk Management</li> <li>➤ Strategic / Environmental Risk Management</li> <li>➤ Suitable Knowledge of Industry</li> </ul>	<ul style="list-style-type: none"> <li>➤ Market / Financial Risk Management</li> <li>➤ Suitable Knowledge of Industry</li> <li>➤ Strategic / Environmental Risk Management</li> </ul>

**PRIMARY RESPONSIBILITIES TYPICALLY PERFORMED BY THOSE HIRED - Across All Markets**

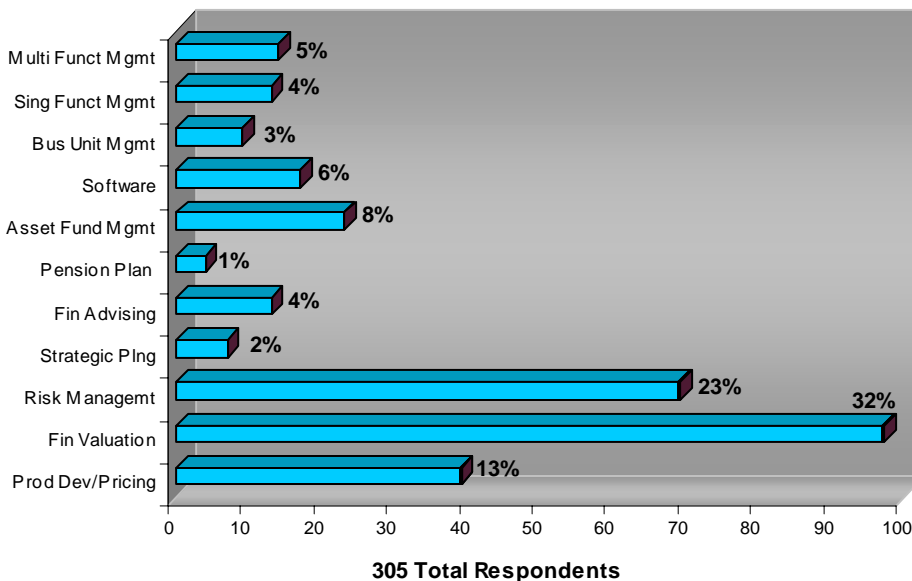
**PRIMARY RESPONSIBILITY 1 - Across All Markets**



**RESPONSIBILITIES:**

- **Multi-Functional Planning/Management** (Management of multiple operations) within a given business unit)
- **Single Function Management** (e.g., Underwriting, Lending, Mutual Funds, Bank Loans, Finance, New Product Development, Marketing, Sales, Service, Technology)
- **Business Unit Management** (Including heads of practice areas)
- **Software Development/ Programming**
- **Asset/Fund Management & Investment** (Including fixed income/equities research & valuation)
- **Pension Plan Design, Funding & Accounting**
- **Financial Advising** (e.g., corporate management/structures and mergers & acquisitions)
- **Strategic Planning**
- **Risk Management** (e.g., asset/liability management, enterprise risk management, capital management)
- **Financial Valuation, Reporting, Planning & Analysis**
- **Product Development and Pricing**

**PRIMARY RESPONSIBILITY 2 - Across All Markets**

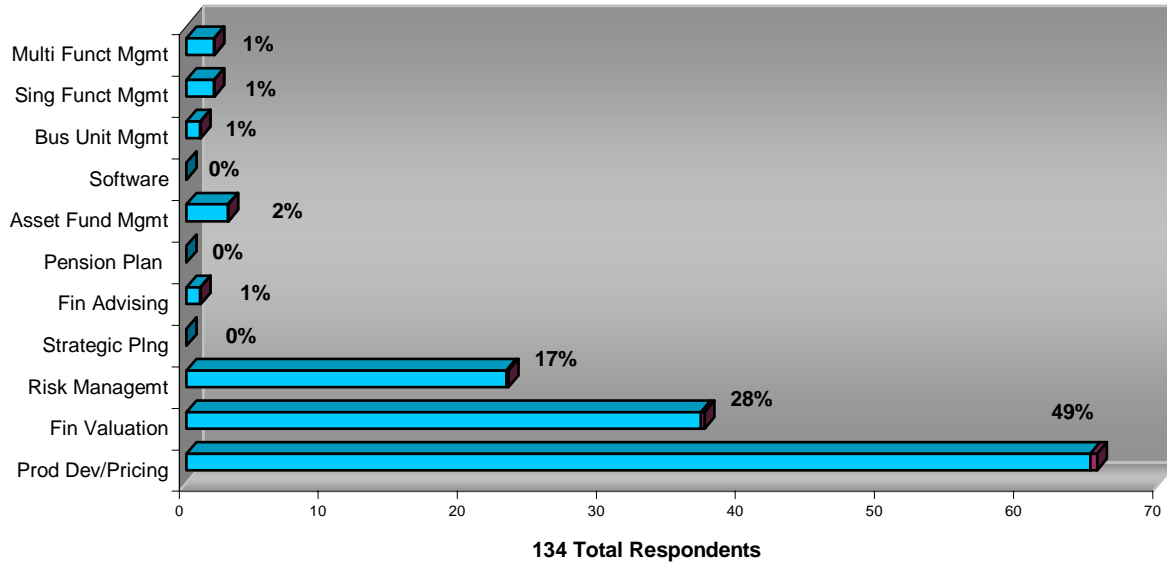


**Top Primary Responsibilities across all Employer Markets:**

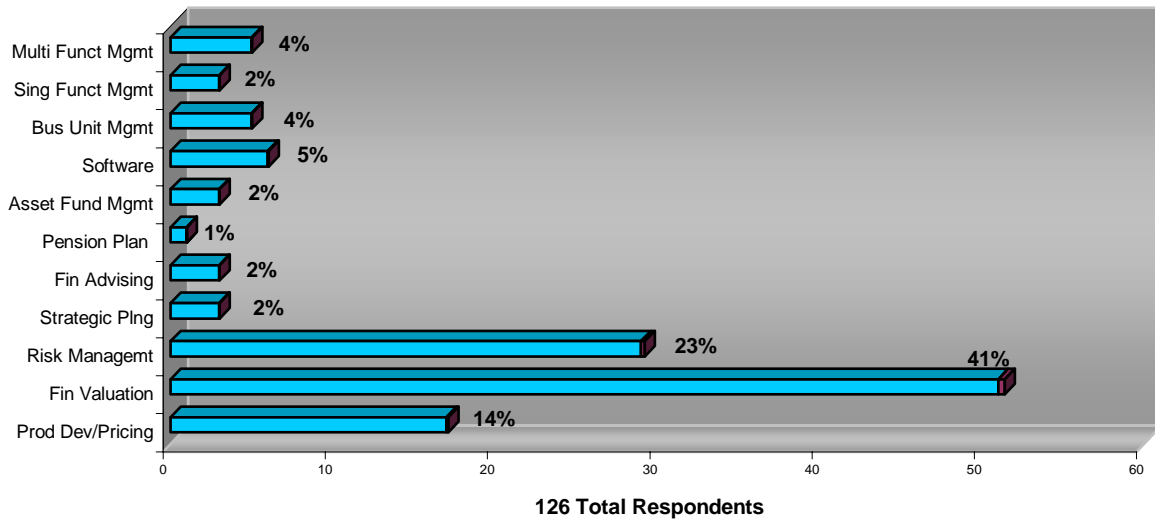
- Product Development and Pricing
- Financial Valuation, Reporting, Planning and Analysis
- Risk Management (e.g., asset/liability management, enterprise risk management, capital management)

**PRIMARY RESPONSIBILITIES TYPICALLY PERFORMED BY THOSE HIRED  
(Insurance Market)**

**PRIMARY RESPONSIBILITY 1 - Insurance Company Market**



**PRIMARY RESPONSIBILITY 2 - Insurance Company Market**

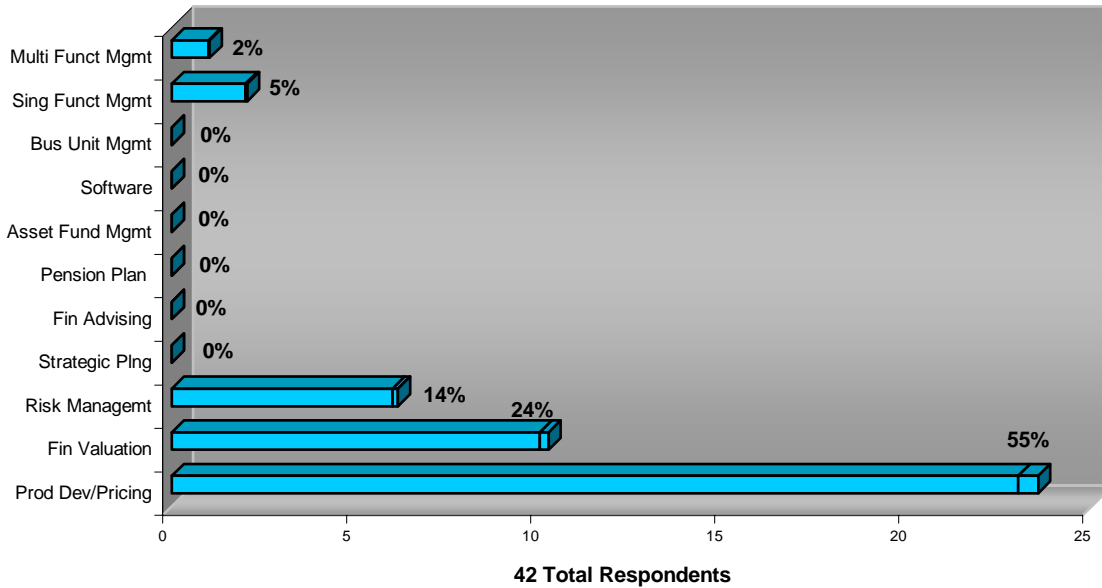


**Top Primary Responsibilities within Insurance Company Market:**

- Product Development and Pricing
- Financial Valuation, Reporting, Planning and Analysis
- Risk Management (e.g., asset/liability management, enterprise risk management, capital management)

**PRIMARY RESPONSIBILITIES TYPICALLY PERFORMED BY THOSE HIRED  
(Reinsurance Market)**

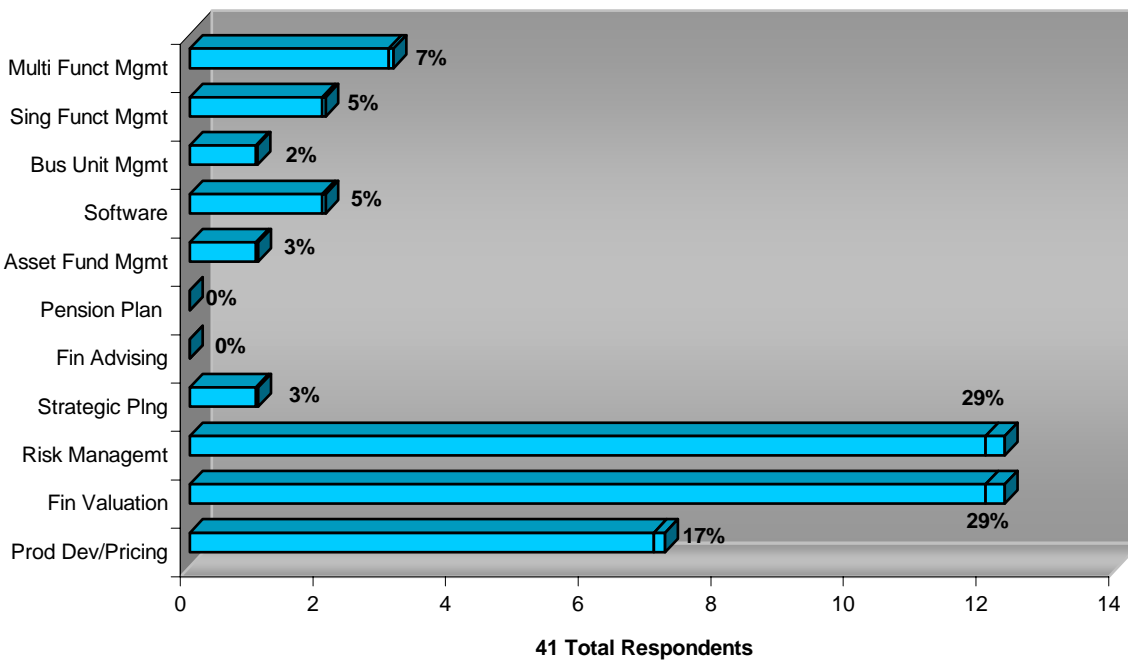
**PRIMARY RESPONSIBILITY 1 - Reinsurance Company Market**



**Top Primary Responsibilities within Reinsurance Company Market:**

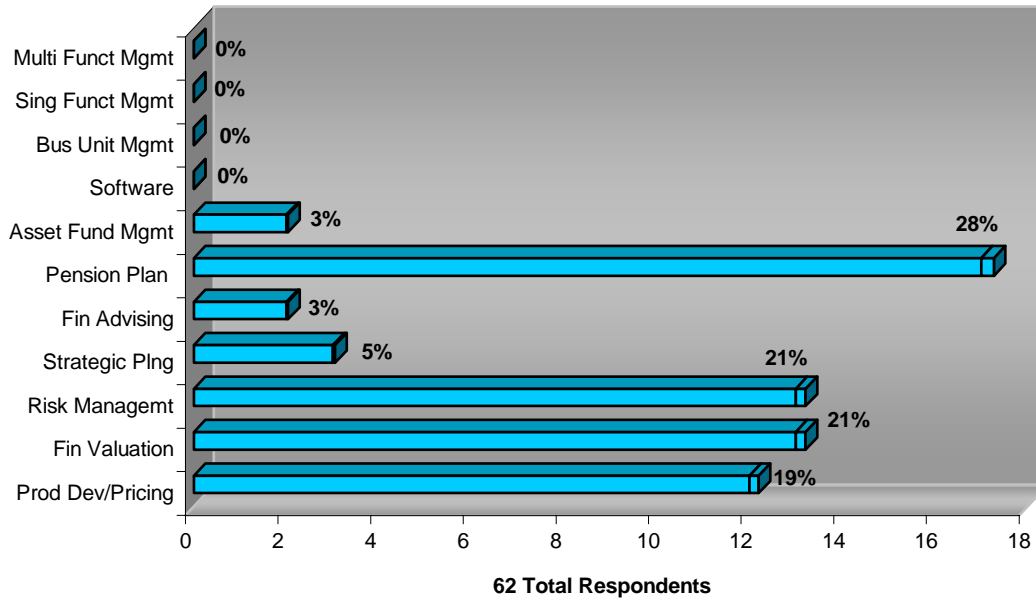
- Product Development and Pricing
- Financial Valuation, Reporting, Planning and Analysis
- Risk Management (e.g., asset/liability management, enterprise risk management, capital management)

**PRIMARY RESPONSIBILITY 2 - Reinsurance Company Market**

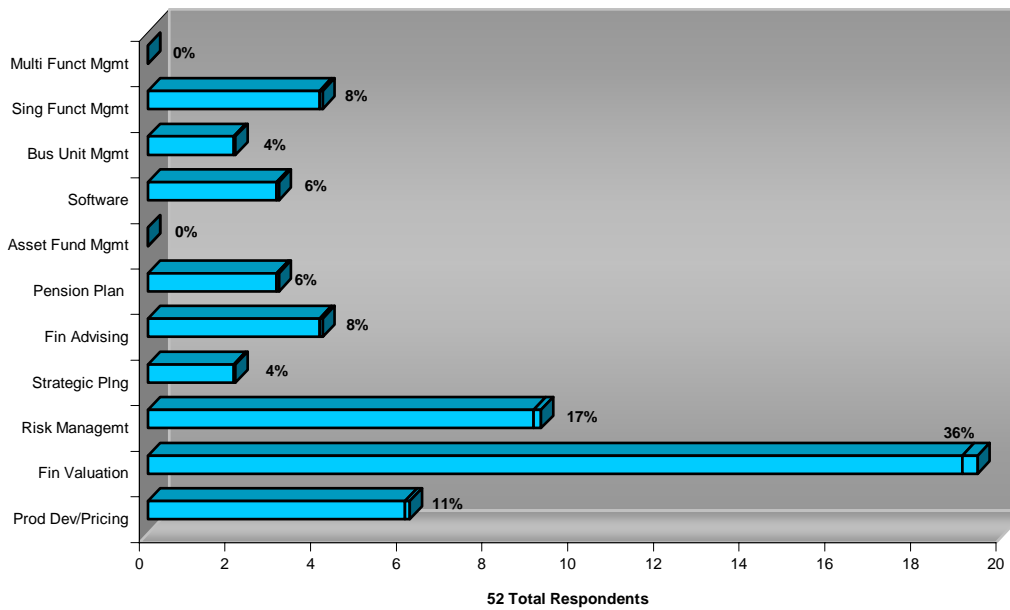


**PRIMARY RESPONSIBILITIES TYPICALLY PERFORMED BY THOSE HIRED  
(Consulting Market)**

**PRIMARY RESPONSIBILITY 1 - Consulting Market**



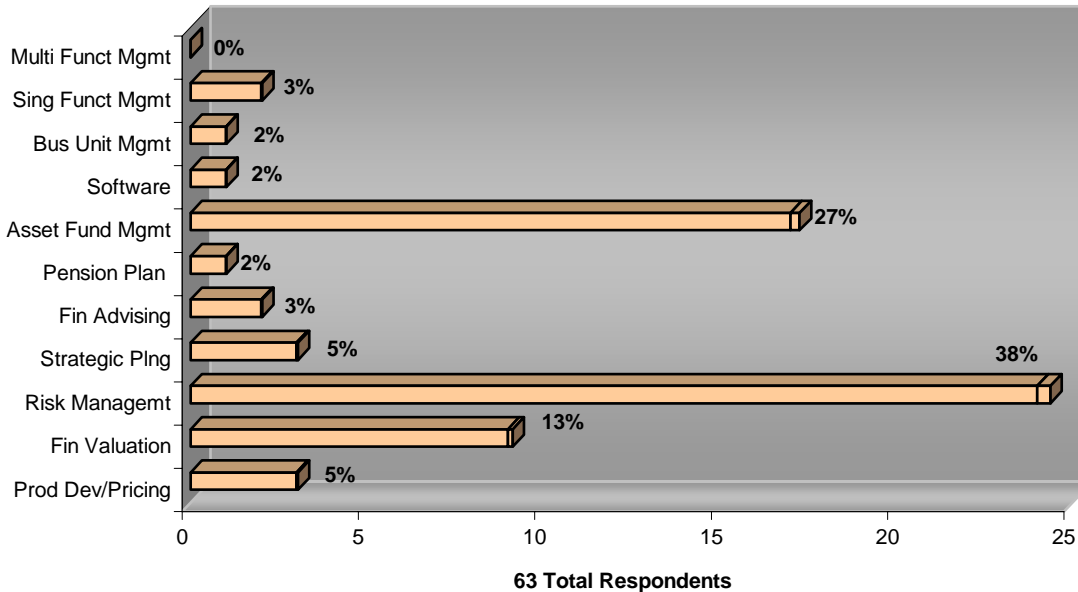
**PRIMARY RESPONSIBILITY 2 - Consulting Market**



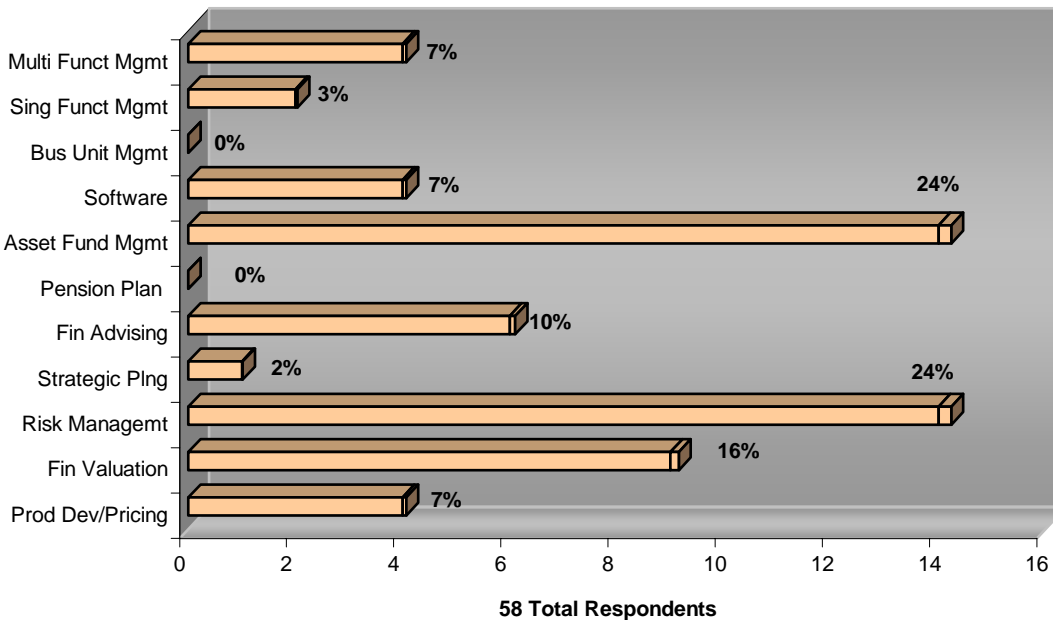
- Top Primary Responsibilities within Consulting Market:**
- Pension Plan Design, Funding & Accounting
  - Product Development and Pricing
  - Financial Valuation, Reporting, Planning and Analysis
  - Risk Management (e.g., asset/liability management, enterprise risk management, capital management)

**PRIMARY RESPONSIBILITIES TYPICALLY PERFORMED BY THOSE HIRED  
(Broader Financial Services Market)**

**PRIMARY RESPONSIBILITY 1 - Broader Financial Services Market**



**PRIMARY RESPONSIBILITY 2 - Broader Financial Services Market**



**Top Primary Responsibilities within Broader Financial Services Market:**

- Asset/Fund Management & Investment (Including fixed income/equities research & valuation)
- Risk Management (e.g., asset/liability management, enterprise risk management, capital management)
- Financial Valuation, Reporting, Planning and Analysis
- Financial Advising (e.g., corporate management/structures and mergers & acquisitions)

## CREDENTIALS TYPICALLY SOUGHT WHEN HIRING - Across All Markets

Table 5

Percentage of Employers Across All Markets Who Seek These Credentials When Hiring			
	Choice A	Choice B	Choice C
A. Accountant (CPA, CMA, CGA, CA, CMA)	4	4	11
B. Canadian Investment Manager (CIM)	0	0	0
C. Certified Employee Benefits Specialist (CEBS)	0	0	5
D. Certified Financial Planner (CFP)	0	0	0
E. Certified Human Resource Professional (CHRP)	0	0	0
F. Certified Property and Casualty Underwriter (CPCU)	1	0	0
G. Certified Risk Planner (CRP)	0	0	0
H. Chartered Financial Analyst (CFA)	10	12	14
I. Chartered Financial Consultant (ChFC)	0	0	1
J. Chartered Life Underwriter (CLU)	0	0	2
K. Fellow, Life Management Institute (FLMI)	2	1	3
L. Associate of Casualty Actuarial Society (ACAS)	0	1	0
M. Fellow of Casualty Actuarial Society (FCAS)	1	3	3
N. Financial Risk Managers (FRM)	1	2	3
O. NASD Series -7	1	0	2
P. Professional Risk Managers (PRM)	0	1	2
Q. Associate of Society of Actuaries (ASA)	21	27	10
R. Fellow of Society of Actuaries (FSA)	39	27	10
S. Enrolled Actuary (EA)	2	1	4
T. Fellow of Associate of the Canadian Institute of Actuaries (FCIA, ACIA)	7	2	4
U. Law, Jurisprudence Degree (JD, LLB)	0	1	2
V. Masters in Health Administration (MHA)	0	0	1
W. Masters in Health Policy (MHP)	0	0	1
X. Masters in Public Health (MPH)	0	0	0
Y. Masters of Business Administration (MBA)	7	7	15
Z. Financial Engineer, Masters or Ph.D. in Finance	2	3	4
AA. Masters or Ph.D. in Demography	0	0	0
BB. Masters or Ph.D. in Economics	0	1	2
CC. Masters or Ph.D. in Statistics	1	1	0
DD. Medical Doctor (MD)	0	0	0
EE. Masters or PhD of Mathematics	1	3	7
Respondent Totals:	289	271	198

### CREDENTIALS SOUGHT WHEN HIRING

- Employers were asked to choose up to 3 credentials that they typically seek when hiring.
- The largest percentage of employers chooses ASA & FSA as the top choices - with CFA's following as the next highest choice.
- A smaller percentage show an interest in hiring individuals with MBA's.

**CREDENTIALS TYPICALLY SOUGHT WHEN HIRING - Within Each Market**

**Table 6 - Percentage Choosing Credential**

Professional / Academic Credentials	INSURANCE Choice			REINSURANCE Choice			CONSULTING Choice			BFS Choice		
	A	B	C	A	B	C	A	B	C	A	B	C
A. Accountant (CPA, CMA, CGA, CA, CMA)	3	8	14	7	3	19	2	0	2	7	4	8
B. Canadian Investment Manager (CIM)	0	0	0	0	0	0	0	0	0	0	0	0
C. Certified Employee Benefits Specialist (CEBS)	0	0	1	0	0	4	0	0	2	0	0	2
D. Certified Financial Planner (CFP)	0	0	0	0	0	0	0	0	0	2	2	0
E. Certified Human Resource Professional (CHRP)	0	0	0	0	0	0	0	0	0	0	2	0
F. Certified Property and Casualty Underwriter (CPCU)	0	0	0	2	0	0	2	0	0	0	0	0
G. Certified Risk Planner (CRP)	0	0	0	0	0	0	0	0	0	0	0	0
H. Chartered Financial Analyst (CFA)	6	8	14	2	13	11	5	9	13	29	25	15
I. Chartered Financial Consultant (ChFC)	0	0	0	0	0	0	0	0	4	0	2	0
J. Chartered Life Underwriter (CLU)	1	0	4	0	3	4	0	0	0	0	0	0
K. Fellow, Life Management Institute (FLMI)	2	2	5	5	0	7	0	0	0	0	0	0
L. Associate of Casualty Actuarial Society (ACAS)	1	1	0	0	0	0	0	4	0	0	0	0
M. Fellow of Casualty Actuarial Society (FCAS)	0	1	4	0	5	0	5	9	4	0	0	0
N. Financial Risk Managers (FRM)	0	0	0	0	0	0	0	2	4	7	7	8
O. NASD Series -7	0	0	3	0	0	0	2	0	0	3	2	2
P. Professional Risk Managers (PRM)	0	1	0	0	0	0	0	0	2	0	4	4
Q. Associate of Society of Actuaries (ASA)	32	34	7	24	38	11	13	30	19	2	4	4
R. Fellow of Society of Actuaries (FSA)	49	38	11	43	30	19	42	27	11	10	4	4
S. Enrolled Actuary (EA)	0	1	1	0	0	4	8	5	11	0	0	0
T. Fellow of Associate of the Canadian Institute of Actuaries (FCIA, ACIA)	4	3	5	10	3	7	17	2	4	0	2	0
U. Law, Jurisprudence Degree (JD, LLB)	0	2	0	0	0	4	0	0	0	0	0	4
V. Masters in Health Administration (MHA)	0	0	0	0	0	0	0	2	2	0	0	0
W. Masters in Health Policy (MHP)	0	0	0	0	0	0	0	0	2	0	0	0
X. Masters in Public Health (MPH)	0	0	0	0	0	0	0	0	0	0	0	0
Y. Masters of Business Administration (MBA)	2	3	14	5	3	4	3	7	13	22	18	23
Z. Financial Engineer, Masters or Ph.D. in Finance	0	0	1	0	3	0	0	0	4	12	14	8
AA. Masters or Ph.D. in Demography	0	0	0	0	0	0	0	0	0	0	0	0
BB. Masters or Ph.D. in Economics	0	1	0	0	0	0	0	0	0	0	4	8
CC. Masters or Ph.D. in Statistics	1	0	3	0	3	7	0	2	0	2	0	2
DD. Medical Doctor (MD)	0	0	0	0	0	0	0	0	0	0	0	0
EE. Masters or PhD of Mathematics	0	1	12	2	0	0	2	2	2	3	9	6
<b>Respondent Totals:</b>	129	119	76	42	40	27	60	56	47	58	56	48

**FREQUENTLY SOUGHT HIRING CREDENTIALS IN EACH MARKET**

- The traditional employer markets (insurance, reinsurance & consulting) all seem to rely heavily on individuals with ASA & FSA credentials.
- Traditional markets also look to the CFA credential when hiring - with the insurance market periodically turning to CPA's, MBA's and employees with higher degrees in mathematics. Reinsurance also periodically seeks out CPA's and the consulting market does the same with MBA's.
- Meanwhile, the non-traditional markets (broader financial services) rely heavily on individuals with the CFA credential, an MBA and financial engineers with higher degrees in finance. Periodically, this market turns to the Accountant and FSA.



## PERFORMANCE OF COMPETING PROFESSIONALS MANAGING RISK

Table 7

MEAN SCORES FOR PERFORMANCE *					
Skills & Attributes	Insurance	Reinsurance	Consulting	Broader Financial Services	P Value < .05 = Difference
1. QUANTITATIVE (MODELING) SKILLS: Mathematical/ financial/ risk/ modeling for predictive decision making	4.5	4.8	5.5	5.3	0.002
2. FINANCIAL ASSESSMENT AND REPORTING: Financial statements, performance, projections; asset valuations, Asset/Liability Management	4.6	5.0	5.1	4.9	0.354
3. KNOWLEDGE OF FINANCIAL INSTITUTIONS AND MARKETS: Asset/portfolio pricing, measurement; analyze and model market sectors and funds	4.5	5.0	4.8	5.4	0.017
4. RISK MANAGEMENT SKILLS (GLOBAL OR ENTERPRISE): Identify, manage, measure, integrate and mitigate various enterprise risks ↓	4.0	4.6	4.3	4.7	0.031
5. BUSINESS COMMUNICATION SKILLS: Clear and persuasive written and verbal communication	4.8	5.1	5.3	5.0	0.267
6. INTELLECTUAL AGILITY: Synthesize/transform data and Insights into practical methods or solutions; ongoing self-development ↑	5.0	5.3	5.5	5.6	0.054
7. INDUSTRY KNOWLEDGE: Industry-specific processes, regulations, information ↓	4.6	4.9	4.7	4.9	0.375
8. BUSINESS ACUMEN: Organizational and business practice knowledge; balance between strategy and tactics	4.9	4.9	4.8	4.9	0.971
9. LEADERSHIP: Collaborative relationships; high ethical standards; handle conflict & subordinates effectively	5.0	4.8	4.9	4.9	0.886
10. PROACTIVE ↑	5.2	5.4	5.5	5.2	0.524
11. ETHICAL ↑	5.8	6.1	5.7	5.8	0.720
12. CAN FOCUS ON THE BIG PICTURE	5.1	5.2	5.3	5.3	0.723
13. BOLD, TAKES INFORMED RISKS ↓	4.5	4.7	4.8	4.9	0.181
14. TEAM PLAYER ↑	5.3	5.6	5.4	5.4	0.685
15. INNOVATIVE THINKER	4.9	4.9	5.4	5.2	0.189
16. RELIABLY GETS THE RIGHT SOLUTION ↑	5.2	5.3	5.6	5.4	0.619
17. ADVISOR ↓	4.5	4.6	5.1	4.9	0.102
18. SOLVES COMPLEX PROBLEMS	4.8	4.6	5.5	5.5	0.002

\*Performance Scale on Survey: 1 = Very Poor    2    3    4    5    6    7 = Very Good

### COMPETING PROFESSIONAL PERFORMANCE

- When asked to choose a *competing professional* individual to rate on these scales, the majority of employers chose CFA's, MBA's, Accountants and Financial Engineers with higher degrees in finance.
- Overall, mean scores for all areas range between 4.0 and 6.1 - with being *ethical, team player, reliably gets right solution, intellectual agility, and being proactive* as the highest rated areas and *risk management, bold, industry knowledge and being an advisor* as the lowest rated areas (all coded with ↑ for highest & ↓ for lowest).
- Performance in skill & attributes areas showing statistically significant differences ( $p = <.05$ ) between employer markets are shaded in dark grey. Given these statistical differences, the major contrasts are described below.
- Employers in the BFS Market rate performance with higher scores than employers in the Insurance Market in *quantitative skills, knowledge of financial institutions & markets, risk management skills and solving complex problems*.
- Consulting Market employers rate performance with higher scores in *quantitative skills* than employers in the Insurance Market.
- BFS Market employers identify higher scores in *complex problem solving* than employers in the Reinsurance.

## PERFORMANCE OF ACTUARIES MANAGING RISK

Table 8

MEAN SCORES FOR PERFORMANCE *					
Skills & Attributes	Insurance	Reinsurance	Consulting	Broader Financial Services	P Value < .05 = Difference
1. QUANTITATIVE (MODELING) SKILLS: Mathematical/ financial/ risk/ modeling for predictive decision making ↑	6.0	6.0	6.3	6.1	0.146
2. FINANCIAL ASSESSMENT AND REPORTING: Financial statements, performance, projections; asset valuations, Asset/Liability Management ↑	5.7	5.4	5.6	5.8	0.222
3. KNOWLEDGE OF FINANCIAL INSTITUTIONS AND MARKETS: Asset/portfolio pricing, measurement; analyze and model market sectors and funds	4.5	4.3	4.7	4.5	0.299
4. RISK MANAGEMENT SKILLS (GLOBAL OR ENTERPRISE): Identify, manage, measure, integrate and mitigate various enterprise risks	4.8	4.7	4.8	5.1	0.426
5. BUSINESS COMMUNICATION SKILLS: Clear and persuasive written and verbal communication ↓	4.2	4.3	4.6	3.6	0.001
6. INTELLECTUAL AGILITY: Synthesize/transform data and Insights into practical methods or solutions; ongoing self-development	5.5	5.4	5.5	5.1	0.229
7. INDUSTRY KNOWLEDGE: Industry-specific processes, regulations, information	5.5	5.5	5.5	5.1	0.151
8. BUSINESS ACUMEN: Organizational and business practice knowledge; balance between strategy and tactics ↓	4.6	4.4	4.6	4.1	0.037
9. LEADERSHIP: Collaborative relationships; high ethical standards; handle conflict & subordinates effectively	4.9	5.0	4.9	4.4	0.072
10. PROACTIVE ↓	4.6	4.2	4.4	4.3	0.227
11. ETHICAL ↑	6.3	6.1	6.3	6.2	0.552
12. CAN FOCUS ON THE BIG PICTURE ↓	4.8	4.4	4.3	4.1	0.007
13. BOLD, TAKES INFORMED RISKS ↓	4.1	3.8	3.9	3.6	0.175
14. TEAM PLAYER	5.2	4.9	4.8	4.7	0.012
15. INNOVATIVE THINKER	5.0	4.5	4.9	4.5	0.009
16. RELIABLY GETS THE RIGHT SOLUTION	5.5	5.2	5.4	5.3	0.582
17. ADVISOR	4.7	4.5	4.8	4.5	0.455
18. SOLVES COMPLEX PROBLEMS ↑	5.9	5.6	5.8	5.5	0.072

\*Performance Scale on Survey: 1 = Very Poor    2    3    4    5    6    7 = Very Good

### ACTUARY PERFORMANCE

- Overall, mean scores for all areas range between 3.6 and 6.3 - with being *ethical, quantitative, solving complex problems, and financial assessment* skills as the highest rated areas and being *bold, business communications, being proactive, focusing on the big picture* and *business acumen* as the two lowest (all coded with ↑ for highest & ↓ for lowest).
- Performance in skill & attributes areas showing statistically significant differences ( $p = <.05$ ) between employer markets are shaded in dark grey. Given these statistical differences, the major contrasts are described below.
- Employers in the BFS Market rate actuaries with lower scores than employers in the Insurance Market in *business communication skills, business acumen, focusing on the big picture* and *innovative thinking*.
- BFS Market employers also provide actuary performance with lower ratings in *business communication* than employers in Reinsurance and Consulting.

## IMPORTANCE FOR IMPROVING ACTUARY PERFORMANCE

Table 9

MEAN SCORES FOR IMPROVING PERFORMANCE *					
Skills & Attributes	Insurance	Reinsurance	Consulting	Broader Financial Services	P Value < .05 = Difference
1. QUANTITATIVE (MODELING) SKILLS: Mathematical/ financial/ risk/ modeling for predictive decision making ↓	4.6	4.5	4.7	3.7	<b>0.040</b>
2. FINANCIAL ASSESSMENT AND REPORTING: Financial statements, performance, projections; asset valuations, Asset/Liability Management ↓	4.8	4.7	4.8	3.7	<b>0.006</b>
3. KNOWLEDGE OF FINANCIAL INSTITUTIONS AND MARKETS: Asset/portfolio pricing, measurement; analyze and model market sectors and funds	5.2	4.9	5.0	4.8	<b>0.603</b>
4. RISK MANAGEMENT SKILLS (GLOBAL OR ENTERPRISE): Identify, manage, measure, integrate and mitigate various enterprise risks	5.3	5.6	5.1	4.4	<b>0.002</b>
5. BUSINESS COMMUNICATION SKILLS: Clear and persuasive written and verbal communication ↑	6.1	5.9	6.0	5.8	<b>0.527</b>
6. INTELLECTUAL AGILITY: Synthesize/transform data and Insights into practical methods or solutions; ongoing self-development	5.3	4.7	5.0	5.1	<b>0.167</b>
7. INDUSTRY KNOWLEDGE: Industry-specific processes, regulations, information	4.8	4.4	4.8	4.3	<b>0.274</b>
8. BUSINESS ACUMEN: Organizational and business practice knowledge; balance between strategy and tactics ↑	5.7	5.4	5.5	5.2	<b>0.158</b>
9. LEADERSHIP: Collaborative relationships; high ethical standards; handle conflict & subordinates effectively	5.7	5.2	5.3	5.4	<b>0.089</b>
10. PROACTIVE ↑	5.6	5.5	5.4	5.1	<b>0.302</b>
11. ETHICAL ↓	4.5	3.8	4.4	3.5	<b>0.006</b>
12. CAN FOCUS ON THE BIG PICTURE ↑	5.7	5.5	5.7	5.6	<b>0.639</b>
13. BOLD, TAKES INFORMED RISKS	5.4	4.8	5.1	5.0	<b>0.108</b>
14. TEAM PLAYER	5.1	4.7	4.9	4.3	<b>0.055</b>
15. INNOVATIVE THINKER	5.3	5.0	5.3	5.0	<b>0.420</b>
16. RELIABLY GETS THE RIGHT SOLUTION	4.8	4.8	4.9	4.0	<b>0.080</b>
17. ADVISOR	5.0	5.1	5.1	4.6	<b>0.424</b>
18. SOLVES COMPLEX PROBLEMS ↓	4.8	4.5	4.7	3.9	<b>0.059</b>

\*Importance to Improve Scale on Survey: 1 = Not Important At All      2      3      4      5      6      7 = Very Important

### IMPORTANCE FOR IMPROVING ACTUARY PERFORMANCE

- Mean scores for all areas range between 3.9 and 6.1 - with being *ethical, quantitative, financial assessment, solving complex problems* as the least important to improve and *business communication, focusing on the big picture, business acumen, and being proactive* as the most important to improve (all coded with ↑ for most important to improve & ↓ for least important to improve). Being *bold* was also rated as important for improving. Overall, the urgency for improvement reflects the level of proficiency identified in the previous actuary performance question on the survey.
- Importance ratings showing statistically significant differences ( $p < .05$ ) between employer markets are shaded in dark grey. Given these statistical differences, the major contrasts are described below.
- Insurance Market employers indicate a higher need to improve than BFS employers in *quantitative, financial assessment & reporting, risk management* skills and in being *ethical, a team player, and solving complex problems*.
- Consulting Market employers show a higher need to improve than BFS employers in *quantitative and financial assessment & reporting skills*.
- And employers in the Reinsurance Market identify a higher need to improve than BFS employers in *risk management* skills.

## ACTUARY VERSUS COMPETING PROFESSIONAL PERFORMANCE

Table 10

<b>ACTUARY PERFORMANCE RATED <u>HIGHER</u> THAN COMPETING PROFESSIONAL</b>					
<b>MEAN SCORES FOR PERFORMANCE *</b>					
<b>Skills &amp; Attributes</b>	<b>Insurance</b>	<b>Reinsurance</b>	<b>Consulting</b>	<b>Broader Financial Services</b>	<b>P Value &lt; .05 = Difference</b>
[ACTUARY] QUANTITATIVE (MODELING) SKILLS: Mathematical/ financial/ risk/ modeling for predictive decision making	6.0	6.0	6.3	6.1	0.146
[COMPETING PROFESSIONAL] QUANTITATIVE (MODELING) SKILLS	4.5	4.8	5.5	5.3	0.002
[ACTUARY] FINANCIAL ASSESSMENT AND REPORTING: Financial statements, performance, projections; asset valuations, Asset/Liability Management	5.7	5.4	5.6	5.8	0.222
[COMPETING PROFESSIONAL] FINANCIAL ASSESSMENT REPORTING	4.6	5.0	5.1	4.9	0.354
[ACTUARY] INDUSTRY KNOWLEDGE: Industry-specific processes, regulations, information	5.5	5.5	5.5	5.1	0.151
[COMPETING PROFESSIONAL] INDUSTRY KNOWLEDGE	4.6	4.9	4.7	4.9	0.375
[ACTUARY] SOLVES COMPLEX PROBLEMS	5.9	5.6	5.8	5.5	0.072
[COMPETING PROFESSIONAL] SOLVES COMPLEX PROBLEMS	4.8	4.6	5.5	5.5	0.002

<b>ACTUARY PERFORMANCE RATED <u>LOWER</u> THAN COMPETING PROFESSIONAL</b>					
<b>MEAN SCORES FOR PERFORMANCE *</b>					
<b>Skills &amp; Attributes</b>	<b>Insurance</b>	<b>Reinsurance</b>	<b>Consulting</b>	<b>Broader Financial Services</b>	<b>P Value &lt; .05 = Difference</b>
[ACTUARY] PROACTIVE	4.6	4.2	4.4	4.3	0.227
[COMPETING PROFESSIONAL] PROACTIVE	5.2	5.4	5.5	5.2	0.524
[ACTUARY] BOLD, TAKES INFORMED RISKS	4.1	3.8	3.9	3.6	0.175
[COMPETING PROFESSIONAL] BOLD, TAKES INFORMED RISKS	4.5	4.7	4.8	4.9	0.181
[ACTUARY] CAN FOCUS ON THE BIG PICTURE	4.8	4.4	4.3	4.1	0.007
[COMPETING PROFESSIONAL] CAN FOCUS ON THE BIG PICTURE	5.1	5.2	5.3	5.3	0.723
[ACTUARY] BUSINESS COMMUNICATION SKILLS: Clear and persuasive written and verbal communication	4.2	4.3	4.6	3.6	0.001
[COMPETING PROFESSIONAL] BUSINESS COMMUNICATION	4.8	5.1	5.3	5.0	0.267

\*Performance Scale on Survey: 1 = Very Poor    2    3    4    5    6    7 = Very Good

### ACTUARY VERSUS COMPETING PROFESSIONAL PERFORMANCE

- Given the 18 skill and attributes areas, employers consistently rated actuary performance higher than non-actuary performance in *quantitative modeling, financial assessment & reporting, industry knowledge and solving complex problems*.
- Employers Markets consistently rated actuary performance lower than competing professional performance in being *proactive, bold, focusing on the big picture* and in *business communication skills*. See respondent categorized comments "Image/Perception" in Appendix for additional insights into these ratings.
- While ratings are consistent across employer markets, note that the BFS Market does not rate the actuary and non-actuary all that differently in industry knowledge and solving complex problems.

## HIRING EXPECTATIONS IN THE FUTURE

Table 11

Employer Market	No Change At All	Not Much Change	Moderate Change	Significant Change	Respondents
<b>Insurance</b>	2%	37%	55%	6%	132
<b>Reinsurance</b>	3%	40%	52%	5%	42
<b>Consulting</b>	2%	31%	55%	12%	58
<b>Broader Financial Services</b>	2%	43%	49%	6%	63
					291

### ANTICIPATED CHANGES

- Respondents were asked, "To what degree do you believe your skill sets and characteristics expectations for hiring will change in the next 5 years?"
- The majority of respondents indicate "not much" to "moderate" change - with a small percentage anticipating "significant" change (and consulting showing highest percentage expecting "significant" change). See respondent categorized comments "Market / Competition" in Appendix for additional insights into these ratings.

## ACTUARIES AND COMPETITION

Table 12

MEAN SCORES FOR DEGREE OF COMPETITION*					
SURVEY QUESTION	Insurance	Reinsurance	Consulting	Broader Financial Services	P Value < .05 = Difference
<b>Are actuaries in your business facing more or less competition from related professions than they have in the past?</b>	4.9	4.9	5.000	5.220	<b>0.6492</b>

\*Competition Scale on Survey: 1 = Much Less Competition      2      3      4      5      6      7 = Much More Competition

### COMPETITION

- All employer markets show a mean score of about 5 on a scale of 1 to 7 (see scale above).
- There is no statistically significant difference between employer markets given a p value of .6492.
- See respondent categorized comments "Market / Competition" in Appendix for additional insights into these ratings.

## SKILLS FOR SUCCESSFUL PERFORMANCE IN MID TO TOP LEVEL POSITIONS

NOTE: This question was included to test how our ASA/FSA matched up to the marketplace.

Respondents were asked to rate the degree to which the skills below prepare individuals to be successful for the Mid and Top Level positions that they hire:

- Develop / manage financial & business risk models (statistical tools; valuation, financial reporting, investments, assets and management)
- Model interactions of relevant factors & adapt models to mimic financial environment.
- Problem solving (distinct & integrated assessment/management of business, financial & enterprise risk.
- In-depth knowledge of markets (major product/service lines or specific business)
- Risk environment assessment to recommend practical solutions that manage risk & volatility.
- Effective articulation of problems, options & decisions.
- Strong professional standards & code of conduct.

**MID LEVEL** - may have direct reports, responsible for function within line of business (e.g., Functional Head, Product Line Manager, Senior Consultant, Director, Manager)

**TOP LEVEL**- often has direct reports, strategic responsibilities, equity stake (e.g., Business Unit Head, Senior or Exec. VP/President, Managing Director, Principal)

**Table 13 - Percentages for MID LEVEL Position by Employer Market**

Employer Market	Do not Prepare At All 1	2	3	4	5	6	Prepare for Complete Success 7	Respondents
Insurance	0%	2%	0%	4%	35%	46%	14%	125
Reinsurance	0%	0%	0%	12%	22%	44%	22%	41
Consulting	0%	0%	2%	7%	36%	51%	5%	59
Broader Financial Services	0%	0%	2%	14%	30%	42%	12%	57

**Table 14 - Percentages for TOP LEVEL Position by Employer Market**

Employer Market	Do not Prepare At All 1	2	3	4	5	6	Prepare for Complete Success 7	Respondents
Insurance	1%	1%	9%	14%	25%	36%	14%	119
Reinsurance	0%	0%	8%	22%	22%	24%	24%	41
Consulting	0%	0%	8%	15%	40%	27%	10%	59
Broader Financial Services	3%	2%	12%	25%	22%	22%	14%	58

### SKILLS FOR MID TO TOP LEVEL POSITIONS

- For Mid Level Positions, 95% of the Insurance Employer Market places these skills on the higher end of the scale (between 5 and 7) toward preparing individuals for complete success. Only 84% of the BFS Market places these skills on the higher end of the scale.
- For Top Level Positions between 70% and 77% of respondents in the Insurance, Reinsurance and Consulting Markets place these skills on the higher end of the scale (between 5 and 7). Only 58% of the BFS Market places the same skills on the higher end of the scale.
- See respondent categorized comments "Skill Sets /Technical/Education" in Appendix for additional insights into these ratings.

## SKILLS FOR RISK MANAGEMENT LEADERSHIP POSITIONS

NOTE: This question was included to understand what other types of risk management skills would be desired in the marketplace beyond the ASA/FSA model.

**Respondents were asked to review the skills below for individuals in *risk management Mid to Top level leadership positions at major financial institutions*. Respondents then rated the degree to which the skills prepare individuals to be better candidates for these types of positions.**

**SKILLS**

1. Market/financial risk management – extensive knowledge of markets, capital products, asset/liability and financial environment risks
2. Facility in asset/liability management
3. Operation-specific risk management - risks associated with specific operations of the enterprise
4. Credit risk management – e.g., default rates, spreads by class, recovery upon default
5. Strategic and environmental risk management – e.g., competitive risks, customer and market trends, technology, legal/litigation
6. Suitable knowledge of industry – specific risks – e.g., regulations and regulatory agencies that affect enterprises' ability to manage/mitigate risk
7. Develop, manage and communicate effective strategy and tactics for successful management of enterprise and financial risk
8. Analyze, assess and manage risk to mitigate enterprise

**MID LEVEL** - may have direct reports, responsible for function within line of business (e.g., Functional Head, Product Line Manager, Senior Consultant, Director, Manager)

**TOP LEVEL**- often has direct reports, strategic responsibilities, equity stake (e.g., Business Unit Head, Senior or Exec. VP/President, Managing Director, Principal)

**Table 15 - Percentages for MID LEVEL Position by Employer Market**

Employer Market	Not Better Candidate At All 1	2	3	4	5	6	Extremely Better Candidate 7	Respondents
Insurance	2%	1%	6%	9%	26%	41%	15%	123
Reinsurance	0%	2%	2%	14%	24%	32%	26%	42
Consulting	0%	2%	5%	14%	21%	44%	14%	56
Broader Financial Services	0%	0%	2%	15%	18%	47%	18%	60

**Table 16 - Percentages for TOP LEVEL Position by Employer Market**

Employer Market	Not Better Candidate At All 1	2	3	4	5	6	Extremely Better Candidate 7	Respondents
Insurance	2%	2%	3%	5%	25%	44%	20%	118
Reinsurance	0%	5%	7%	7%	26%	29%	26%	42
Consulting	0%	0%	4%	18%	32%	32%	14%	56
Broader Financial Services	0%	3%	5%	17%	20%	37%	18%	60

### SKILLS FOR RISK MANAGEMENT LEADERSHIP POSITIONS

- For Mid Level Positions, 79% to 83% of *all four* Employer Markets place these skills on the higher end of the scale (between 5 and 7) toward preparing individuals as extremely better candidates.
- For Top Level Positions, 89% of respondents from the Insurance Employer Market place these skills on the higher end of the scale (between 5 and 7). However, only 75% from the BFS Market provide the same level of response (with 81% in Reinsurance and 78% in Consulting also showing scores on the higher end of the scale).
- See respondent categorized comments "Skill Sets /Technical/Education" in Appendix for additional insights into these ratings.

**TOP THREE SKILLS FOR MID AND TOP LEVEL POSITIONS**

**Table 17 - Percentage Choosing MID LEVEL POSITION - Skills by Employer Market**

SKILLS	INSURANCE Choice			REINSURANCE Choice			CONSULTING Choice			BFS Choice		
	1	2	3	1	2	3	1	2	3	1	2	3
A. Market/financial risk management – extensive knowledge of markets, capital products, asset/liability and financial environment risks	36%	11%	12%	34%	20%	3%	35%	18%	16%	78%	15%	2%
B. Facility in asset/liability management	14%	18%	14%	5%	10%	18%	14%	24%	7%	5%	17%	22%
C. Operation-specific risk management risks associated with specific operations of the enterprise	20%	12%	20%	30%	20%	26%	9%	12%	25%	5%	9%	18%
D. Credit risk management	0%	6%	7%	5%	3%	8%	2%	5%	2%	5%	25%	18%
E. Strategic and environmental risk management – e.g., competitive risks, customer and market trends, technology, legal/litigation	16%	16%	20%	8%	24%	13%	14%	16%	25%	5%	9%	16%
F. Suitable knowledge of industry – specific risks – e.g., regulations and regulatory agencies that affect enterprises' ability to manage/mitigate risk	14%	37%	27%	18%	23%	32%	26%	25%	25%	2%	25%	24%

**Table 18 - Percentage Choosing TOP LEVEL POSITION - Skills by Employer Market**

SKILLS	INSURANCE Choice			REINSURANCE Choice			CONSULTING Choice			BFS Choice		
	1	2	3	1	2	3	1	2	3	1	2	3
A. Market/financial risk management – extensive knowledge of markets, capital products, asset/liability and financial environment risks	28%	21%	23%	30%	32%	5%	34%	18%	23%	49%	18%	13%
B. Facility in asset/liability management	3%	7%	10%	0%	0%	11%	2%	9%	8%	4%	7%	7%
C. Operation-specific risk management risks associated with specific operations of the enterprise	5%	7%	34%	10%	13%	23%	13%	16%	19%	2%	9%	15%
D. Credit risk management	0%	2%	2%	8%	0%	8%	0%	0%	4%	5%	13%	13%
E. Strategic and environmental risk management – e.g., competitive risks, customer and market trends, technology, legal/litigation	46%	29%	9%	39%	25%	21%	30%	30%	21%	24%	24%	22%
F. Suitable knowledge of industry – specific risks – e.g., regulations and regulatory agencies that affect enterprises' ability to manage/mitigate risk	18%	34%	22%	13%	30%	32%	21%	27%	25%	16%	29%	30%

**TOP THREE SKILLS**

- Respondents were asked to review the identified skills and to identify the number one, two, and three most critical skills for individuals to be successful in Mid and Top Level positions.
- Skills chosen by the highest percentage of respondents in each Employer Market are shaded in grey.
- See respondent categorized comments "Skill Sets /Technical/Education" in Appendix for additional insights into these ratings.



## OBSERVATIONS AND CONCLUSIONS

Given the broad number of employers completing the survey and the various needs identified by each market segment, the following conclusions have been categorized by common themes:

### *Specific Needs of Employers*

- Employers in the Insurance and Reinsurance Markets seem to have similar needs - calling for similar skill sets for individuals managing risk. Given the more traditional focus on product development and pricing, financial valuation and risk management, employers in these markets are seeking individuals for mid-level positions that have extensive knowledge of markets, products and risks along with knowledge of specific industry risks, regulations, competitive risks, customer and market trends, technology and litigation. For top-level positions, Insurance and Reinsurance Markets call for these same set of technical skills - with the Insurance Market also looking for knowledge in operation-specific risks.
- The Consulting Market reflects similar needs and skill sets as Insurance and Reinsurance - except for its focus on pension plan design, funding and accounting. As a result, employers in the Consulting Market call for technical skill sets similar to the Insurance and Reinsurance Markets; however, they are also looking for skills in asset and liability management.
- Given the variety of financial products and services found in the Broader Financial Services (BFS) Employer Market, the needs and skill sets for individuals managing risk in this market are substantially different from all other markets. The BFS Market - similarly to all other markets - does point to financial valuation and risk management as major roles being performed. However, it also identifies asset & fund management / investment and financial advising as additional major roles that are not emphasized in the other markets. Given these additional roles, employers in the BFS Market call out for additional technical skills in asset & liability management plus credit risk management.
- Comments across all employer markets (see Appendix) clearly indicate that to be successful, technical skills identified as being necessary *must* be coupled with strong communication and leadership skills - being able to understand the big picture and being proactive.

### *Competitor Credentials*

- While the Insurance, Reinsurance and Consulting Employer Markets all rely heavily on individuals with ASA and FSA credentials, individuals with CFA credentials are a dominant competitive presence in all of these markets. Comments from respondents (see Appendix) indicate that CFA's are often perceived as having business acumen and leadership skills necessary to manage risk.
- Meanwhile, the BFS Market is significantly less apt to turn to individuals with ASA and FSA credentials. Instead, it typically seeks out MBA's, MA's or PhD's in Finance, CFA's or Accountants. This situation presents an opportunity for the SOA to understand and address the perception of actuaries in this employer market.

### *Image of Actuaries by Employer Markets*

- Across all employer markets, the skill / attributes rated the highest in performance were quantitative skills, being ethical, solving complex problems, and financial assessment skills. And once again, the lowest rated areas across all employer markets were being bold, proactive, business communications, focusing on the big picture and business acumen.
- Employers in the BFS Market rate actuaries with lower scores than employers in the Insurance Market in business communication skills, business acumen, focusing on the big picture and innovative thinking.
- BFS Market employers also provide actuary performance with lower ratings in business communication than employers in Reinsurance and Consulting.
- Employers in the Reinsurance Market identify lower ratings for actuaries in innovative thinking than the Insurance Market.
- These findings underscore the employer's image of the actuary: strong quantitative skills & ethics; less effective leadership and communication skills.
- Employers consider actuaries to be very strong in terms of being ethical, solving complex problems and quantitative modeling. These should be considered as key areas to leverage as part of any type of SOA marketing effort.
- Employers agree on necessary development areas for actuaries: business communications skills, business acumen and being bold, taking informed risks. These should be key areas for SOA educational and credentialing efforts and should be positioned carefully as part of the marketing efforts.

### *Image of Actuaries versus Competing Professionals*

- Overall, employers perceive competing professionals very differently than actuaries.
- Across employer markets, you'll typically find higher ratings for actuaries versus competitors in certain skill areas: quantitative (modeling), financial assessment and reporting, industry knowledge and solving complex problems. Note, however, that while these ratings are overall higher across markets, the BFS Market does not rate the actuary and competing professional all that differently in industry knowledge and solving complex problems. The BFS Market appears to have a similar confidence level in both professionals when it comes to industry knowledge and solving complex problems.
- Similarly, across employer markets, you'll typically find lower ratings for actuaries versus competitors in certain areas: being proactive, bold (taking informed risks), focusing on big picture and business communication skills (clear & persuasive written & verbal communication).
- Overall, employer markets perceive actuaries as having better technical and mathematical skills to solve problems than their competitors. However, employers (including the traditional markets) also feel that actuaries have less effective skills than competitors in areas such as being proactive, bold, focusing on big picture, and business communication skills.

- Meanwhile employers maintain a perception that factors into five dimensions:
  - **Financial skills** is a similar dimension from the perspective of both actuaries and employers.
  - Members' "Business skills" dimension splits into two separate dimensions in the employer image; these are termed
    - **Business leadership**, which includes "Business communication skills" and "Business acumen", and
    - **Intellectual leadership**, which includes "Proactive", "Innovative thinker" and "Bold, takes informed risks".
    - **Quantitative skills** composed of "Quantitative modeling skills", "Solves complex problems" and "Financial assessment and reporting"
    - A small factor termed **Honest player**, composed of "Team player" and "Ethical".
- Clearly, to be stronger candidates for hiring, actuaries must further develop their business and intellectual leadership skills - for both the traditional and non-traditional employer markets. The research results provide a strong case for expanding professional education and skills in this direction. The factor analysis showing the emphasis that employers have placed on the "Business communication skills" and "Business acumen" and being "Proactive", "Innovative thinker" and "Bold" demonstrates how important it is for the SOA to further integrate these areas into its education.

### *Hiring in the Future and Competition*

- The majority of employer market respondents report a "not much" to "moderate" change in skill set hiring expectations during the next 5 years.
- Meanwhile, employers across all markets report a substantial increase in competition for actuaries from related professions.
- Upon reviewing the respondent categorized comments in the Appendix, certain themes emerge in the areas of hiring and competition:
  - Potential new roles in the financial markets for actuaries will call for the current strong foundation that actuaries possess along with other skills such as different types of "risk management and trading" - overall, the "SOA needs to prepare the actuary for mitigating all kinds of risk" - not just insurance.
  - As actuaries enter new fields such as investments, they will need to become more "articulate and persuasive."
  - As "business continues to be more competitive and international" risk management individuals will have to clearly communicate "practical, efficient answers" and focus less on theory.
  - As companies are being asked to do "more with less" they want risk management individuals to "wear several hats over time." As a result, companies are looking for "overall business acumen, not just technical actuarial skills."
  - Actuaries today can't just be "great number crunchers" they must be problem solvers who "can articulate their solutions to directors and analysts." They must communicate well and have the ability to see the big picture and "the willingness to take a bold step" when needed.
  - "Accounting professionals appear "to be encroaching on actuarial functions" especially in the "post Enron" era.

- Competition is coming from multiple sources: computer software programs, other competitors (MBA's, MA's, PhD's) and other actuaries.
  - Other related professions are often perceived as striking a better "balance between math skills, business acumen and leadership - those with the CFA charter for one." Actuaries seem to be losing ground especially in areas where CFA's are practicing.
- Overall, actuaries are facing more competition. And as traditional opportunities decline, actuaries are seeking out more non-traditional options. They must be prepared to perform competitively in these new roles by developing broader risk management skills and stronger business and intellectual leadership skills.

## SUMMARY OF IMPLICATIONS AND RECOMMENDATIONS

Based on the Employer Market data analysis, this section contains a summary of the implications and recommendations necessary to better define the value of its credentials as well as that of future actuarial skill sets and attributes to these targeted employer markets.

- Given the necessary roles and skills discussed in the "Specific Needs of Employers" in this section of the report, it becomes critical for the SOA to address these different needs through its educational and marketing efforts.
  - The Insurance and Reinsurance Markets share similar needs with their focus on product development, pricing, financial valuation and risk management.
  - While the Consulting Market experiences many of the same needs as these other traditional markets, its focus on pension plan design, funding and accounting, introduces a slightly different set of required skills.
  - And the variety of financial products and services in the non-traditional BFS Market creates a requirement for an additional set of technical skills in areas such as asset & fund management, investment & financial advising, credit risk management.

As opportunities become available in the non-traditional as well as the traditional markets, the FSA credential must prepare actuaries for all of these different options if they are to compete successfully with other professionals.

Additionally, to become stronger candidates for both the traditional and non-traditional markets, the identified technical skills must be coupled with strong communication and leadership skills - business acumen, being proactive, bold, and an innovative thinker.

- The traditional markets continue to rely more heavily on the ASA and FSA credentials than the non-traditional BFS Market which is much more apt to hire other professionals such as MBA's. Additionally, the CFA seems to hold a presence across all markets as an individual with the necessary business acumen and leadership skills to manage risk. This presents the SOA with an opportunity to reshape the FSA credential for members who are clearly seeing the need to expand skills to become more valuable in the market.
- Given the strong agreement between SOA members and employers (across all markets) about the perception of actuaries in the workplace, it becomes apparent that skills and image must both be addressed to be successful in the traditional as well as non-traditional markets. While perceived as having strong ethics, quantitative skills and being able to solve complex problems, traditional markets would also like to see actuaries develop strengths in business communications, business acumen, being bold and proactive, and focusing on the big picture. The non-traditional BFS Market would also like to see these additional strengths along with others - more innovative thinking and skills for mitigating a variety of risks - moving areas such as asset & fund management, investment & financial advising, credit risk management.
- Since *all* employer markets call out for increased communication and leadership skills (business communications, business acumen, being bold and proactive, and focusing on the big picture) it would seem that this would be the most valuable change in credentialing in the first phase of educational and marketing efforts.

- The perception of competing professionals versus that of actuaries presents further need to reshape the FSA credential. Typically, competitors are perceived as being stronger in being proactive, bold (taking informed risks), focusing on big picture and communicating clearly & persuasively -verbally and in writing. Given these strengths, actuaries must become better prepared to compete successfully.
- The research also shows a reported substantial increase in competition for actuaries from related professionals. This increase is reported by both SOA members and employers and will probably continue to exist as competing professionals continue to apply stronger leadership and communication skills. And as companies continue to globalize and integrate new technologies, leadership and communication skills become more important than ever - for actuaries and all professionals.

➤ **APPENDIX I**

**On-Line Employer Market Survey**

**SECTION A. ORGANIZATION'S PROFILE**

1. Which of the following best describes your organization or the primary type of organization for which you hire? Please select only one of the following:
  - Insurance Company
  - Reinsurance Company
  - Consulting Firm
  - Commercial Bank
  - Investment Bank
  - Mutual Funds Provider
  - Other, Please Specify
  
2. How many full-time professional employees do you have in your entire organization?
  - Less than 75
  - 76-150
  - 151-300
  - 301-500
  - 501-1000
  - More than 1000
  
3. In what countries/regions do you hire? *Identify all that apply.*
  - A. United States
  - B. Canada
  - C. Africa
  - D. Asia/Pacific (except China)
  - E. Australia, New Zealand
  - F. Caribbean
  - G. Central/South America (except Mexico)
  - H. China
  - I. Europe (except UK)
  - J. Mexico
  - K. Mid-east
  - L. UK
  - M. Other? \_\_\_\_\_
  
4. What best describes your functional role in hiring?
  - Department/ Unit Head (2 or more levels above hiring position)
  - Direct Supervisor or Manager
  - Peer with input to hiring
  - Recruiter
  - Human Resources
  - Other? \_\_\_\_\_
  
5. What is the primary specialization area of those whom you hire? *Check all that apply.*
  - Life Insurance
  - Health Insurance
  - Retirement / Pension
  - Other Financial Services (e.g., investments, banking)
  - Other? \_\_\_\_\_

### SECTION B. PRIMARY RESPONSIBILITIES TYPICALLY PERFORMED BY INDIVIDUALS YOU HIRE

You will be asked to identify the TWO primary responsibilities you expect risk management hires to assume. This is an important question in that it provides a snapshot of the roles that you typically search for and hire. It is imperative that you maintain the focus of the two responsibilities that you chose as you complete the survey. So, please make every effort to continue to use these same two primary responsibilities as your 'hiring' frame of reference while completing the survey.

Identify NO MORE THAN TWO primary responsibilities from the list below.

- A. Product Development and Pricing
- B. Financial Valuation, Reporting, Planning and Analysis
- C. Risk Management (e.g., asset/liability management, enterprise risk management, capital management)
- D. Strategic Planning
- E. Financial Advising (e.g., corporate management/structures and mergers & acquisitions)
- F. Pension Plan Design, Funding & Accounting
- G. Asset/Fund Management & Investment (Including fixed income/equities research & valuation)
- H. Software Development/Programming
- I. Business Unit Management (Including heads of practice areas)
- J. Single Function Management (e.g., Underwriting, Lending, Mutual Funds, Bank Loans, Finance, New Product Development, Marketing, Sales, Service, Technology)
- K. Multi-Functional Planning/Management (Management of multiple operations within a given business unit)

6. Responsibility # (Identify letter choice from above)

7. Responsibility # 2 (Identify letter choice from above)

As mentioned in the introduction of this survey, please continue to use your choices here as your 'hiring' frame of reference for completing the remaining survey questions

8. How many full-time professional employees do you have in your organization who currently perform the primary responsibilities that you identified above in Question 5 & 6? (Recruiting/Consulting Respondents: How many full time professionals with the respective chosen responsibilities do you currently send to other organizations on an annual basis?)
- Less than 25
  - 26-75
  - 76-150
  - More than 151

### SECTION C: CREDENTIALS

You will be asked to provide information about credentials you use when hiring for the primary responsibilities identified above.

From the two lists below, identify NO MORE THAN THREE professional and/or academic credentials that you typically utilize in hiring for these responsibilities.

#### PROFESSIONAL CREDENTIALS:

- A. Accountant (CPA, CMA, CGA, CA, CMA)
- B. Canadian Investment Manager (CIM)
- C. Certified Employee Benefits Specialist (CEBS)
- D. Certified Financial Planner (CFP)
- E. Certified Human Resource Professional (CHRP)
- F. Certified Property and Casualty Underwriter (CPCU)
- G. Certified Risk Planner (CRP)
- H. Chartered Financial Analyst (CFA)
- I. Chartered Financial Consultant (ChFC)
- J. Chartered Life Underwriter (CLU)
- K. Fellow, Life Management Institute (FLMI)
- L. Associate of Casualty Actuarial Society (ACAS)
- M. Fellow of Casualty Actuarial Society (FCAS)
- N. Financial Risk Managers (FRM)
- O. NASD Series -7
- P. Professional Risk Managers (PRM)
- Q. Associate of Society of Actuaries (ASA)





## SECTION E. SKILLS SETS AND CHARACTERISTICS FOR ACTUARIES

15. SKILL SETS: Please provide your assessment of ACTUARIES in PERFORMING the following skill sets. Consider ACTUARIES that you may have hired or worked with. If you have not hired actuaries please skip to question #19.
- QUANTITATIVE (MODELING) SKILLS: Mathematical/financial/risk/modeling for predictive decision making
  - FINANCIAL ASSESSMENT AND REPORTING: Financial statements, performance, projections; asset valuations, Asset/Liability Management
  - KNOWLEDGE OF FINANCIAL INSTITUTIONS AND MARKETS: Asset/portfolio pricing, measurement; analyze and model market sectors and funds
  - RISK MANAGEMENT SKILLS (GLOBAL OR ENTERPRISE): Identify, manage, measure, integrate and mitigate various enterprise risks
  - BUSINESS COMMUNICATION SKILLS: Clear and persuasive written and verbal communication
  - INTELLECTUAL AGILITY: Synthesize/transform data and insights into practical methods or solutions; ongoing self-development
  - INDUSTRY KNOWLEDGE: Industry-specific processes, regulations, information
  - BUSINESS ACUMEN: Organizational and business practice knowledge; balance between strategy and tactics
  - LEADERSHIP: Collaborative relationships; high ethical standards; handle conflict & subordinates effectively
16. SKILL SETS: Given your assessment of ACTUARIES in PERFORMING the following skill sets, HOW IMPORTANT is it for them to IMPROVE in each area?
- QUANTITATIVE (MODELING) SKILLS: Mathematical/financial/risk/modeling for predictive decision making
  - FINANCIAL ASSESSMENT AND REPORTING: Financial statements, performance, projections; asset valuations, Asset/Liability Management
  - KNOWLEDGE OF FINANCIAL INSTITUTIONS AND MARKETS: Asset/portfolio pricing, measurement; analyze and model market sectors and funds
  - RISK MANAGEMENT SKILLS (GLOBAL OR ENTERPRISE): Identify, manage, measure, integrate and mitigate various enterprise risks
  - BUSINESS COMMUNICATION SKILLS: Clear and persuasive written and verbal communication
  - INTELLECTUAL AGILITY: Synthesize/transform data and insights into practical methods or solutions; ongoing self-development
  - INDUSTRY KNOWLEDGE: Industry-specific processes, regulations, information
  - BUSINESS ACUMEN: Organizational and business practice knowledge; balance between strategy and tactics
  - LEADERSHIP: Collaborative relationships; high ethical standards; handle conflict & subordinates effectively
17. CHARACTERISTICS: What is your assessment of ACTUARIES in DEMONSTRATING the following characteristics? (Consider ACTUARIES you may have hired or worked with)
- PROACTIVE
  - ETHICAL
  - CAN FOCUS ON THE BIG PICTURE
  - BOLD, TAKES INFORMED RISKS
  - TEAM PLAYER
  - INNOVATIVE THINKER
  - RELIABLY GETS THE RIGHT SOLUTION
  - ADVISOR
  - SOLVES COMPLEX PROBLEMS
18. CHARACTERISTICS: Give your assessment of ACTUARIES in DEMONSTRATING the following characteristics, HOW IMPORTANT is it for them to improve in each area?
- PROACTIVE
  - ETHICAL
  - CAN FOCUS ON THE BIG PICTURE
  - BOLD, TAKES INFORMED RISKS
  - TEAM PLAYER
  - INNOVATIVE THINKER
  - RELIABLY GETS THE RIGHT SOLUTION
  - ADVISOR
  - SOLVES COMPLEX PROBLEMS

# SOA Employer Report

19. To what degree do you believe your skill sets and characteristics expectations for hiring will change in the next 5 years?

No Change At All   Not Much Change   Moderate Change   Significant Change

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
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20. Are actuaries in your business facing more or less competition from related professions than they have in the past?

Much less competition Much more competition

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
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21. COMMENT/BRIEF EXPLANATION About Your Responses to Questions 19 & 20:

## SECTION F. DESIRABILITY OF SKILLS

This section explores your views about the skills needed for mid and top level positions. The following are definitions of mid and top level positions:

MID LEVEL - may have direct reports, responsible for function within line of business (e.g., Functional Head, Product Line Manager, Senior Consultant, Director, Manager)

TOP LEVEL- often has direct reports, strategic responsibilities, equity stake (e.g., Business Unit Head, Senior or Exec. VP/President, Managing Director, Principalle)

Please review the skills listed below that help to prepare individuals to be successful at a mid and top level position then complete question #22.

### MID/TOP LEVEL POSITIONS

- Develop/manage financial & business risk models (statistical tools; valuation, financial reporting, investments, assets and management)
- Model interactions of relevant factors & adapt models to mimic financial environment.
- Problem solving (distinct & integrated assessment/management of business, financial & enterprise risk.
- In-depth knowledge of markets (major product/service lines or specific business)
- Risk environment assessment to recommend practical solutions that manage risk & volatility.
- Effective articulation of problems, options & decisions.
- Strong professional standards & code of conduct.

22. Rate the degree to which the skills above prepare individuals to be successful for the positions that you hire.

1                      2                      3                      4                      5                      6                                      7

Does not Prepare At All Prepares for Complete Success

Mid-level Positions

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> N/A
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Top-level Positions

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> N/A
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**SECTION G. DESIRABILITY OF OTHER SKILLS**

Please review the skills below that prepare individuals for risk management leadership positions at major financial institutions in the mid and top level positions (e.g. banks, insurance, mutual fund providers, etc.) Please answer question #23 after reading the objectives and skills.

**SKILLS**

1. Market/financial risk management – extensive knowledge of markets, capital products, asset/liability and financial environment risks
2. Facility in asset/liability management
3. Operation-specific risk management - risks associated with specific operations of the enterprise
4. Credit risk management – e.g., default rates, spreads by class, recovery upon default
5. Strategic and environmental risk management – e.g., competitive risks, customer and market trends, technology, legal/litigation
6. Suitable knowledge of industry – specific risks – e.g., regulations and regulatory agencies that affect enterprises' ability to manage/mitigate risk
7. Develop, manage and communicate effective strategy and tactics for successful management of enterprise and financial risk
8. Analyze, assess and manage risk to mitigate enterprise risk and reduce volatility.
9. Create/price/manage financial products

23. Given your hiring needs, to what degree would the skills above help individuals to be better candidates for your mid and top level positions? Please rate for both categories:

1	2	3	4	5	6	7	
Not Better Candidate at All							Extremely Better Candidate
<hr/>							
Mid-level Positions							
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> N/A
<hr/>							
Top-level Positions							
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> N/A

Please review skills A through F below. In questions #24-30 you will then be asked to identify the top three skills from this list that would be the most valuable to individuals for both the MID LEVEL and TOP LEVEL positions for which you hire.

- A. Market/financial risk management – extensive knowledge of markets, capital products, asset/liability and financial environment risks
- B. Facility in asset/liability management
- C. Operation-specific risk management risks associated with specific operations of the enterprise
- D. Credit risk management
- E. Strategic and environmental risk management – e.g., competitive risks, customer and market trends, technology, legal/litigation
- F. Suitable knowledge of industry – specific risks – e.g., regulations and regulatory agencies that affect enterprises' ability to manage/mitigate risk

24. MID LEVEL: Choose the most critical skill you believe would be the most valuable to individuals whom you hire to this level of position. (Identify letter choice from above)
25. MID LEVEL: What is the next most critical skill? (Identify letter choice from above)
26. MID LEVEL: What is the third rated skill for mid level positions. (Identify letter choice from above)
27. TOP LEVEL: Choose the most critical skill you believe would be the most valuable to individuals you hire. (Identify letter choice from above)
28. TOP LEVEL: What is the next most critical skill? (Identify letter choice from above)
29. TOP LEVEL: What is the third rated skill for top level positions? (Identify letter choice from above)

30. Comment/Brief Explanation About Your Ratings for Section F and G (Entry to Top Level Position Ratings)?

**APPENDIX II**

**Analysis of Variance Statistical Test Results**

This information will be available upon request at a later date.

## APPENDIX III

### Categorized Comments from Survey Respondents

**NOTE:** Employer respondents provided the following on the on-line survey when asked to comment on skill expectations, competition in the marketplace, and necessary skills for success. Comments have been left in their original form and categorized by specific theme to facilitate analysis and future use.

Also, because respondents identified the need for communication and leadership skills (e.g., awareness of big picture, being proactive) across many of the categories, comments with these types of references / implications appear with an asterisk (\*).

#### Image / Perception

1. A general inability to think beyond the text book has caused other types of professionals to step forward with solutions while the actuaries I've worked with merely recite theory.
2. \* Actuarial thinking tends to be fairly narrow and often lacks the understanding of different view points of other professionals in the analytical area.
3. For #20, actuaries are offering more competition to the traditional MBA hire for this line of work.
4. \* Actuaries are too limited in their outlook and their ability to think big and broadly. However, I have some actuaries in RM roles who excel, but most actuaries would not perform well -- less than 15%, I think.
5. Actuaries must develop a higher profile and develop a forum for promoting their abilities in the financial marketplace
6. Actuaries need to 'sell' their talents better. Other professions are a little more marketing oriented.
7. Actuaries never had large presence in finance/investments. Actuarial degree is viewed as a demonstration of general ability, not as directly relevant qualification.
8. Actuaries tend to be a group of people with rather average intellectual skills who have an over-inflated view of their intellect based on passing a few hard tests.
9. \* Communication skill sets will be more important going forward. As actuaries assume more leadership roles they will need to conceptualize and relate their ideas to colleagues and clients alike.
10. \* Communication skills will be increasingly important if actuaries are successful in expanding our field of practice.
11. Too Many designations and too little understanding of significance by the public
12. When I started actuarial work, more than 30 years ago, actuaries sought to be scientifically based and regardless of the 'rules' to make 'good and sufficient provision for all immature obligations. The actuarial profession today, is a pack of rule arbitrageurs who rarely value the risks properly or have the courage to face management with likely consequence of the positions it has taken.
13. The department I work in at JPMorgan primarily does software related work (designing, coding, testing, implementing, and operating), which does not fit very well with the questions you are asking in this survey. I was hired at JPMorgan primarily because of my software development experience. My background as an actuary had at most a small influence in my getting a job here. JPMorgan is such a large company and is involved in so many different businesses that every skill listed both is and is not important to one or more departments. In summary, I think the primary problem actuaries face in gaining broader employment at companies like JPMorgan is the perception that actuaries are life and casualty insurance specialists and don't have knowledge or skills in investments or managing other types of risk. JPMorgan's hiring managers generally look for MBAs or Masters/PhDs in Math or Finance for these skills.

### **Market / Competition**

1. actuaries in my business are already in non-traditional, investment focused roles, so their competition is increasing because market is tighter and more actuaries are competing in non traditional roles.
2. market for risk s/w and services can change over the 5 years, so requirements for the consultants in this area will too. can't see whether it will be moderate or significant
3. Accountants taking more visible role in post-Enron era.
4. Actuaries are being relied on less for corporate decisions.
5. Actuaries are gradually being hired for investment management functions, and this trend will continue to increase as the actuarial skill-set improves.
6. Actuaries are not facing increasing numbers of professionals coming into the field. The issue is the field is shrinking on the insurance side creating a need for actuaries to use their skills in other industries and areas. This requires changing their traditional skill sets to include other skill areas and communication/business acumen.
7. Actuaries still compete mostly with actuaries. As the economy has cooled, opportunities in certain non-traditional venues, i.e. investment banking are less common. It will still be very important to understand different business models in overlapping industries, which will continue to converge with insurance, such as asset management. To be able to talk the language of other related professions is what is important.
8. Actuaries will continue to compete for air time and visibility with other senior management members of the corporation, whether that be by Info Tech, HR, Marketing or Ops Heads of Departments. This won't change dramatically.
9. Although they certainly have the foundation for all of the above work, actuaries do not have any specific advantage in any of these areas in the field of trading and risk management. Additionally, as a formerly practicing ASA, I've found that the pace in the financial markets/wholesale trading markets is substantially faster than that which actuaries typically operate in.
10. \* As actuaries enter other fields (i.e. investment) other experts will enter fields traditionally occupied by actuaries.  
With the bad returns on the market in the past few years, actuaries will get their share of the blame for not having forewarned their clients about the risk of asset/liability mismatch. Actuaries will have to be more articulate and persuasive in the future.
11. As risk measurement & actuarial science become more relevant to strategic planning, more people will cross over into the profession
12. At our company there has been an increasing emphasis on hiring the right person, so we have been more selective and more aware of the skill set/characteristics we want. Having recently done this, I don't expect much change in the next 5 years.
13. Being part of a large financial institution with over 90,000 employees, one can find many individuals with expertise in any single industry. Individuals have dedicated years of experience understanding the nuances of an industry. It would expect an actuary to provide the need financial analysis from the insurance industry.
14. Broader business functions needed as technology obviates much of analysis/data sifting that has been done in the past. Investment and accounting professionals encroaching on actuarial functions.
15. \* Business continues to be more competitive and more international. Companies must optimize the present value of after tax earnings. Theorists who are more interested in their exam score or nifty ideas may not recognize nor be able to communicate practical, efficient answers. If other professions have the right tools with a keener focus on applying and communicating knowledge and less focus on knowing every theory under the sun, these professionals will have an edge over actuaries.
16. \* Companies are being asked to do more with less. When they hire, they are not only looking to fill a position/current need, they are hiring an asset for the organization. They want this person to wear several hats over time. More and more, companies are looking for overall business acumen, not just technical

actuarial skills. Good communication skills are becoming almost mandatory rather than being considered a plus factor. Doors outside of insurance are cracking open for the actuary. However, the SOA needs to prepare the actuary for mitigating all kinds of risk. Actuaries are well suited beyond the insurance industry, but few people outside of insurance know how to utilize the talents of the actuary. I do see more banking opportunities available; in placing actuaries in banking, it is clear that the actuary knows little about banking and the bank knows little about the actuary. I've seen frustration set in on both sides.

17. Companies are being much more selective than 2 years ago when almost any actuary could be in demand. Now my clients are only considering the very best candidates and not likely to sponsor foreign students.
18. Company is rapidly changing in the area of risk management. Actuaries consistently fill roles that still do have competition from other professionals; valuation, ALM, product development.
19. Competition is coming from three primary sources. One, computers make it easier for many to do what actuaries can do. Two, a more educated society is producing many people from other disciplines with equivalent and sometimes better capability (Some of these were sources for actuaries in the past i.e. Math PhD's). Three, there are more and more actuaries.
20. Consultant Actuaries are currently in high demand. 'Greenshade Actuaries are becoming a 'dying breed'
21. Corporation recently hired someone high profile to do analysis of economic capital. They didn't hire an actuary. It was a mathematician from academia
22. CPAs and non-credentialed consultants are significantly expanding their areas of expertise and influence.
23. Experience is number one consideration...a good track record.
24. Hard to say it is less competition as it remains near zero.
25. I believe that as the financial services environment changes (i.e. consolidation, market conditions, client needs, etc.), the profession will have to adapt to those changes, while at the same time differentiating ourselves and proving the value of our services as compared with other competing professions.
26. I don't see the fundamental skill sets changing that much, nor do I anticipate others encroaching on traditional actuarial positions.
27. I expect significant change will occur between five and ten years from now, nearer to 10 years. The life insurance business has been changing from a focus on mortality risk to investment risk. There is a limit point at which life companies' characteristic products (insurance and annuities) will no longer be able to effectively compete, from an investment point-of-view, with the offerings of other financial institutions. That is, the only rational motivation for buying a life or annuity policy is the fear of dying too young or living too long. As an investment product, the consumer can do better elsewhere. When the world reaches this limit point, there will be a great crisis for those life insurance companies who been selling 'to the greed' rather than 'to the need'. We are close to this point now. Since everything to do with life insurance moves slowly, it will be several years before everyone catches on. My guess is more than five years. Hence, my answer to question 19.
28. I'm in Long Term Care Insurance which has proven more complicated than the MBA marketers had thought. Actuarial skill sets have proven themselves as critical in this industry.
29. In A &H, Medical staff and statisticians do much of the work!
30. limited opportunity, as the name actuaries always associate with insurance market... perhaps should collaborate with GARP to create a new certification (Certified or Chartered) on Finance/Quant/Risk modeling/Engineer.
31. Losing ground to the accountants and MBA within life insurance companies. Being relegated to middle management, financial reporting and analytical jobs, often jobs that require and actuary. No longer members of senior management or strategic planning groups.
32. More competition as price discovery and options based models are used more frequently, deterministic approaches are losing relevance



33. not yet using non-actuaries for core pricing/risk assessment activities. starting to use knowledgeable insurance professionals (non-actuaries) in business leader positions
34. Other financial areas (specifically accounting) are unsuccessfully trying to do analysis that actuaries naturally do (like 'flux' analyses). They identify differences, but are unable to explain them, so the actuaries are now being inundated with 'why did this change' questions, that if they new how the business drivers' relationships worked, they wouldn't be identifying nearly as many flux 'variances.'
35. Other professions cannot handle the full risk analysis process on pensions as readily as actuaries.
36. Other professions do not understand the interrelations. They only get the surface picture.
37. Since moving over to Investment Management, I have noticed that those individuals with a Masters in Quantitative Finance or a CFA designation have skill sets that are similar to those found among actuaries.
38. Skill set of financial engineer needs to be absorbed.
39. The complex nature of the insurance industry insulates actuaries from competition from other professions; however other technical backgrounds generally outperform actuaries in less insurance industry specific roles.
40. The Profession is changing and will be involved with all types of Risk involving all Industries not just the Insurance Industry. This could happen over the next 5, 10 or 15 years.
41. The world is changing. Actuaries need to change with it.
42. There are fundamental skills needed by actuaries (intelligence, integrity) which change little. I see actuaries perhaps competing with other professions outside typical actuarial areas more than the reverse.
43. There are very few actuaries in my business so they don't have competition. Many actuaries are trying to compete with MBAs etc for Wall Street positions and have been relatively unsuccessful.
44. Traditional actuaries are becoming less and less valuable as technology advances - we must find ways to add value by doing something other than crunching numbers. Many more professions are scene as striking a balance between math skills, business acumen and leadership - those with the CFA charter for one. The actuarial profession is losing ground in many areas, especially in the area where those holding the CFA charter are practicing.
45. We don't hire any actuaries in Risk Management at the bank. Their mathematical skills would be considered inadequate.
46. This survey is inadequate for the future of health actuaries. Our challenge is to incorporate all the technical developments of data mining, predictive modeling, the political elements of a rapidly changing health insurance environment and 'instant' changes in medical technology. Very few of these questions apply. Think again and re-send to the health actuaries.
47. While there are new opportunities for actuaries to expand into roles previously performed by other financial services professionals, and while those professionals may be encroaching on the actuarial profession to some degree, I believe there will always be a need for traditional actuarial functions (i.e., product development, pricing, financial reporting) to be performed by actuaries.
48. regulatory and investment environment is changing moderately, so I would expect skill sets to require similar amount of change.
49. Actuaries are facing greater challenges as the insurance industry and regulations change. They are having greater tools at their disposal and have more things to know and do with less time to do them.
50. In today's world understanding market risk, particularly given the rate at which it can change and the myriad of variables that can drive its volatility, is paramount. Many companies with many good actuaries are out of business because they didn't have a handle on this. Certainly to be in touch with what businesses a company is in and what are the risks in each of those and how does it balance out is key to making good business decisions.
51. China actuary industry is very elementary. China have a few actuaries.

52. The Pricing and product Development Function has not fundamentally changed much over time although one has to constantly keep up with new regulations and corporate marketing & profit objectives. The pricing and product design role filled by actuaries and the way they work with the admin and marketing people hasn't changed much nor do I foresee much change. Accordingly, I see the actuaries not being particularly challenged by other professionals for this particular actuarial role.

### **Skill Sets / Technical / Education**

1. just actuary skills are not sufficient in the risk s/w and services market
2. \* Actuaries in my nonstandard opinion are not so great at applying statistics in bold innovatives ways. They tend to be good with working with people and communicating
3. An exceptional actuary can succeed in this business; one FCAS recently retired and a life associate is coming up through the ranks. They succeed by focusing on the business rather than the application of their technical skills.
4. As financial markets have converged, actuaries have not kept pace with the skills sets of related professionals, particularly with regard to option pricing theory, risk management, technical skills
5. As Risk Managers, notably certified ones, tend to become more mathematically skilled, they can be considered for some positions that would, I guess, have been attributed automatically to 'Quants' (incl. Actuaries) a few year ago
6. CFAs are a force in my business. The best candidate, all other things being equal, may be someone with both a CFA and an ASA/FSA.
7. \* actuaries today can not be just great number crunchers. Business is looking for problem solvers who can articulate their solutions to directors and analysts. Communications, the ability to see the big picture and the willingness to take a bold step are needed.
8. \* Due to the changes occurring in the markets, actuaries are going to have to be better communicators and 'big picture' thinkers. This is not encouraged currently.
9. \* Effective interpersonal and communications skills will grow in importance as will big picture. Other responsibilities, Fincance, is also stepping up to be more effective here.
10. \* expect to place greater emphasis on communications and leadership skills
11. Find PhD Maths/ Physics with additional business training much better..
12. Given that organizations to survive must be sustainable or profitable, the results of each profession in leading an organization tend to reflect on that profession. In other words, the actuarial profession is absolutely core to our market focus (insurance and reinsurance companies); yet, those chosen to lead the organization will be those who have strong business acumen and a results orientation (regardless of other professional affiliations).
13. I am an CFA charter holder and with an MBA degree. Now I am the candidate for FRM and ASA. I have gone through a lot of knowledge requirements for risk management from different perspectives.
14. I believe that analysts and accountants are making a play at risk management/advisory role that actuaries could do as well or better at.
15. \* I continue to place more value on business skills rather than traditional technical skills. The ability to understand complex data and synthesize the results into actionable information is a key skill set.

With that said, my concern regarding competition from related professions stems from employers who overvalue business skills and undervalue the technical skills of actuaries. Insurance products are complex, and the thorough understanding and dependency of the risks involved is the key technical skill where the actuary continues to outshine related professions.

16. \* I have a few general job descriptions: 1. Great communicator, business person with above average technical skills.  
2. Moderate communicator, with superior technical skills.  
3. Day to day grinder.  
The average to below average actuary will be placed in the day to day grinder category. In the consolidating market, we have the luxury of being able to hire superstar and semi-superstar actuaries. We can also hire experienced actuaries that can do the day to day job at a reasonable cost. I think that unemployed actuaries are beginning to get the message that they need to upgrade their skill sets if they want to get a good job.
17. I look after the business development side of our organization, not the financial modeling side of it.
18. I try to hire people who are committed to continuous improvement, so this will continue. We are facing more competition in our areas but are up to the challenge by hiring the best possible staff.
19. In the next 5 years, the new CSO and continuing valuation actuary issues will keep emphasis on current skill sets. I don't see much competition in my environment.
20. Instead of just cranking out reports, need to develop ways of explaining data, making it into actionable information.
21. \* It is difficult to talk about an 'average' actuary. Many are outstanding, broad thinkers, while a significant number are mediocre and unable to do broad work (involving strategy or innovative thinking).
22. It starts at the student level - there are other ways to get this work done without having someone out of the office studying. This discourages hiring and training of students, which in turn, will lower the supply of FSA's in the future. Need to demonstrate that not only do students have value as good as peers, but better potential.
23. Lot more tools are available that you can purchase...in the past, it was actuaries who created/maintained these tools. To that end, actuaries have more competition today. However, I also see actuaries more able to move beyond basic problem solving to being a trusted advisor than they have in the past.
24. More emphasis on having MSc degrees as well as PhDs in the future which cover actuarial skills.
25. \* Our focus primarily in hiring is on behavioral characteristics such as analytical skills, teamwork, leadership, communication skills, work ethic, and I don't envision that ever changing. Depending on the role, there is clearly a technical side of the decision-making process but that is not primary. I don't honestly have enough data or knowledge to comment on the competition for actuaries in our business - we don't typically focus on credentials of that sort in making hiring decisions (we're not credential driven - we hire mostly from college or MBA schools as feeder to our organization).
26. Our primary function is credit analysis, and we do not typically hire actuaries - core skills required are a solid understanding of financial accounting and strong analytical skills
27. Primarily I am in the function of performing internal audits and reviews of operational, system and risk management areas, including review of models, checking for data integrity and security. To a lesser degree, myself and my peers have MBAs in finance and economics, as well as experience auditing in Treasury, capital markets and risk management areas. These skills, and the desire to learn more (for example, pursuing an FMR certification) is an important quality.
28. Problems and complex situations keep evolving. Today, too many people with a financial background consider themselves good risk managers...
29. Our hiring practices are focused around hiring high potential individuals with strong core skills, and this philosophy is unlikely to change.
30. Compared to the present, I would anticipate that Computer skills and better knowledge of economics would become even more important in the future. In our company, I have not noticed increased competition from other professions.
31. \* Really need to focus on people skill & macro, looking at the whole picture thinking.

32. Skills being developed by risk professionals within banks will become increasingly transferrable to insurance companies and their qualifications and experience more widely understood and appreciated. They can bring valuable skills and knowledge to a traditionally actuarial team.
33. Software programs and other mathematical approaches are commoditizing actuarial methodologies to a certain degree. There will continue to be more pressure on actuaries to justify their use.
34. The distinction between MBAs and actuarial people will become increasingly unclear. MBAs from top schools are better paid and have to put in FAR less work to get the designation. So why become an actuary?
35. The education and training of actuaries has become more focused on general business knowledge. I believe this has come at the expense of the technical expertise that make actuaries unique and has, in part, led to more direct competition from other professions. I expect hiring needs to be more in the area of technically sophisticated actuaries since this is the area where unique skills of actuaries present a competitive advantage in the consulting marketplace.
36. The future of health care consulting will require facility in constructing complex models from massive data bases, or subsets. This require statistical analysis as to the effects of analysis on medical cost projections, enrollment patterns, etc. Knowledge about sources of data bases will be critical. Familiarity with medical coding and patterns of care are necessary to project long term pattern changes. Monitoring governmental action vital.
37. the investment business will require the same skill sets as it does now, though technology might change things a little. There are more and more qualified candidates that aren't actuaries that are not as expensive.
38. The process of risk assessment needs to be responsive to changing times. As technologies evolve and affect the elements of risk, new methods must be developed and employed for more accurate assessments.
39. \* The value of the actuary's education has been extremely diminished in relation to those of other professions. One can obtain their Fellowship by memorizing 'a scullful of mush', and regergitating it on an examination. In contrast, the education afforded those pursuing Law and Business at the Graduate level enables one to develop critical thinking skills, and not just raw knowledge that won't be put to use in practice. In addition, too much time of an actuary's career is spent on performing menial tasks. In relation to the great amount of effort expended in getting an education, one's efforts should be channelled to developing business acumen and critical thinking skills, not just developing the agility to write Visual Basic code, or run a projection software program.
40. There are more complex products and financial reporting requirements, which will require different skills. Risk management is a hot topic of interest to non-actuaries. This, along with the proliferation of financial engineering programs, will put more pressure on actuaries to demonstrate unique value.
41. There are more risk professionals with expertise in stochastic modeling etc., and increasingly integrated views of risk beyond traditional actuarial views
42. There may be slightly more competition from other disciplines today than in the past but actuaries continue to be the most qualified employees to do this work.
43. Think that actuaries generally have the right skill set currently (some can do more on investment side).
44. \* TO be effective, actuaries will need to continue to broaden their knowledge base and exposure to things that are not traditionally actuarial territory (more investment, legal, IT, and HR)...the bigger picture one understands, the more value they can add.
45. To the degree that actuaries are focused on and performing traditional actuarial functions in insurance related businesses the key is to be more focused on insurance and less worried about becoming generalists.
46. Today, product innovation with risk management discipline requires a much more indepth knowledge of all aspects of the product, notably the asset side, the modelling techniques, and the GAAP developments. Because product dev't now requires in-depth expertise on many fronts and many actuaries still tend to be liability-focused, we are tending to look at other alternatives like investment professionals to provide us the expertise we need (e.g. hedging).

47. \* While I believe actuaries generally need to improve their ability to 'see the big picture', and not get too focused on the technical nitty-gritty, the reality is that I do not expect much change over the moderate term in hiring skill sets and competition in the pension industry. Pension plans must be valued by an actuary. So actuaries we are good only at pension valuations are still needed, and competition from other professions is limited. However, the pension market is mature and declining. Excessive complexity in pensions is an issue. Some of the excessive complexity is brought about by the actuaries themselves.
48. \* Will look even more for characteristics of future leaders. My work has become more business than actuarial, and other business professionals will be looking to fill those same roles.
49. Actuaries must be product aware from intitation to consumer, they must be aware of all costs to final delivery
50. Being strategic and understanding the industry in which one operates are the keys for most mid and upper level positions in companies.
51. Both Mid and Top level positions require and understanding of products, risks, markets and industry. While the Mid level should have a good understanding of all operating variables of enterprise segments, the Top level position should, in addition, have a firm handle of the big picture.
52. \* Clearly the actuarial profession is focused on a technical role. The items listed for review in Section F and G focus (in my thinking) on technical types of skillsets. Yet, in leading organization, my experience is that those who prove to have the greatest intuitive abilities and high degree of empathy for others will command leadership in their organizations. This may be considered in the category of 'business acumen'. Unfortunately, it is somewhat of an innate quality that may not be taught. Actuaries who exhibit those qualities are (based on my experience) typically most successful in leadership roles given that they already have the technical expertise to master any of the technical aspects of their duties. The great thing for the actuarial profession is that it is an essential profession and always will be to risk management. Team playing qualities are most important as not everyone will be able to assume the top leadership roles.
53. \* Communication and persuasion skills are not strong enough in the typical actuary.
54. Financial/market & credit risks will be paramount for mid or top level professionals - we are a risk taking enterprise and technical business skills remain the most important characteristic of success. Top level people likely need more knowledge and expertise in managing regulatory risks.
55. \* I believe the choices above do not represent the characteristics most important in mid and top level hires. While it is important for senior management to have 'on the ground' experience, it is personality characteristics such as innovative thinking, communication skills, interpersonal skills, etc. that distinguish a strong senior management candidate.
56. I see mid management as needing to be more operational and yet must understand the current factors affecting business deciiions outside of their enterprise. Top Level must have a keen eye on the outside but yet be intimately aqainted with hteir own operations.
57. \* I think the most important characteristics necessary for success in mid/top level positions are not even included in this survey - things like leadership ability and communication skills.
58. If the position for which I am hiring is in the Risk Management arena, the above skills are critical. Corporate, ALM, and Investment related positions would find the above skills attractive at either level. More depth and breadth of knowledge in the listed areas would be expected for the senior positions. the new FSA or advanced ASA is expected to dig deep in certain areas from a technical standpoint, but not necessarily expected to have the broad based big picture understanding. For standard product development or financial reporting/valuation roles, the above skills would not be viewed as critical; however, the person who had the above skills would most likely not be interested in pd or financial roles. Broad based business management positions or true risk management roles would be more desirous of the above skills. This survey did not specify which roles the actuary might be considered for; it was general to all actuaries. Also, my recruiting is strictly in the actuarial aren
59. In my organization, mid-level personnel are typically looking for and controlling risks from within the details of the trading operations themselves. Top level personnel are more concerned with external (regulatory, legal, rating agencies, etc) and corporate/parent interactions with the trading operations in aggregate.

60. \* Knowledge about risk management is necessary but insufficient to be at the top level. Communication skills, high ethical standards, the ability to lead and influence, being proactive and mature are some of the other critical qualities for success at the top level.
61. \* Industry knowledge is critical but not necessarily the ability to apply the latest models. He needs to have on board the talent to get the job done, Top Level, and be strategic in thinking. Communications skills are critical. Mid Level needs to know the mechanics of the models, regulations and ability to get the right answer mechanically. Communications skills in presenting and earning respect for the solution is critical also.
62. middle level management should be move involved in the actual daily activities of the business than top management; hence requiring more skills related to that. Top level individuals should be able to process that large amount of info given to them by middle level mgt and assess those with ease
63. Most of these Section G skills {risk management skills} are not directly applicable to pension work
64. MUST UNDERSTAND THE INDUSTRY AND THE COMPETITION IN THAT INDUSTRY.
65. Need broad base of understanding and appreciation for risks faced and the workings of the industry.
66. Need broad knowledge and understanding of industry issues
67. Need to understand environmental context in which the product portfolio is being developed and positioned for products to be competitive, profitable and manageable.
68. \* Section F: The list of skills is generally appropriate for mid level positions, but for top level positions, in addition to these skills, there is also a need for management and communication skills (which maybe individuals should acquire on their own). Section G: These skills are excellent. Mid positions require skills that are more task specific while top positions are expected to have a broader view of the operations.
69. Some critical skills are missing, including motivating people and being able to secure agreement of others on issues .
70. \* Success in top level positions requires a broad view of things. Technical expertise is secondary in that role-- helpful but not nearly so important as having a broad view of the total business.
71. The higher level one is, the more strategic a thinker one must be. Conversely, mid-level people generally have to focus on tactical/operational areas
72. \* the list of risk management skills was reasonably complete. however, teamwork and leadership are the more critical skills for a senior leader. managing a team to superior performance, leading change in an organization, coaching or eliminating underperformers, managing upward, creating and meeting expectations, fearless communication... these are what we look for at the higher levels. a candidate that focuses solely on his/her actuarial credentials and experience will not do well.
73. The medical care business has very rapid claim turnover so that asset mgt is not as critical as products that accumulate assets. Reinsurance, subcontracting, disease mgt., evaluation of frequent changes in drug regimens, medical devices and surgical procedures require constant adjustment to the immediate future. accurate and updated data is vital. The top level of consultants require broader experience in finances, A-L, merger, IPO and deversification analysis. There is probably required some continuing education for broader background (e.g. an MBA ???)
74. The most important skill for mid and top level positions is an ability to work with people. Management requires one to get things done through other people. This requires the executive/manager to be able to attract, engage and develop top level talent. The actuary that can do this well is a valuable asset.
75. The skills for the spectrum from entry level to top level move from largely technical to interactive with a huge knowledge base.
76. There is no category that emphasizes valuation and portfolio management, two of the most important skill sets.
77. There is no section dealing with Entry level. Since I am at the mid-level, I do not hire at top level. You may want to take that into consideration. I see mid-level as requiring more specific technical knowledge. Top-level as requiring more strategic overall knowledge.

78. This survey totally misses the key aspects of skills needed by future health actuaries -- too general, not knowledgeable about the challenges, etc. Try again!
79. Those in leadership positions need to be able to assess risk in all these categories.... from knowledge of financial markets and credit risk to specific risks and regulations more targeted to their own industry.
80. Top Level management needs to understand the relationship of a company to its market and what it needs to do to be better than the competition while the Mid Level management needs to understand the business and make sure that the company performs at the highest level possible.
81. top level positions are about business results -- middle level are about broad product and market issues, -- entry level are about technical analysis
82. \* Top level positions need leadership skills Mid-level position need analytic skills
83. Top level positions require overlapping skill set but with less emphasis on operational issues and greater focus on strategic issues.
84. Understanding of the dynamic nature of industry specific risks within the context of global socio-economic scenarios is critical. Being able to quantify and model mathematically these risks is the most important attribute of actuarial leadership.
85. \* Why is there no reference to 'soft' skills, an area where many technical professionals (including actuaries) are generally lacking? I would include leadership, managerial skills, impact and influence, etc. among these. These are the areas where the future successful leaders are going to be able to differentiate themselves from the competition.
86. \* THE TECHNICAL KNOWLEDGE AND SKILLS OF ACTUARIES SHOULD NOT REQUIRE MUCH CHANGE IN THE FUTURE. HOWEVER, WITH MORE COMPETITION FROM FINANCIAL, ACCOUNTING, LEGAL AND HR PROFESSIONALS ACTUARIES WILL NEED TO DEVELOP OR IMPROVE GENERAL BUSINESS AND COMMUNICATION KNOWLEDGE AND SKILLS.