The Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM) extends a heartfelt thank you to the 761 members who responded to the survey. This document, prepared by the Salary Research Committee of the APEGM, presents survey information on the compensation received y APEGM members (including EITs and GITs) employed in Manitoba. The information is based on data collected from a membership survey and reflects members' salaries as of December 31, 2001. This report provides information of salaries, education, benefits, and the workplace. This report is available at our website: www.apegm.mb.ca.

Membership Response

The membership survey questionnaire was mailed to 3114 APEGM members resident in Manitoba in early April. Responses were accepted until April 30. The reference date for the survey was December 31, 2001. Responses were received from 761 members for a response rate of 24.4%, compared to 23.7% in 2001, 19.3% in 2000, and 17.2% in 1999. Of the 761 responses, 19 were not useable as they arrived after the results were tabulated.

Salary

The primary purpose of the salary survey is to report base salary information as a function of job ratings. Jobs are rated using the APEGM Job Classification Rating Guide, which provides typical job ratings of 140 for a recent Engineering graduate, 320 for a Design Engineer, 480 for a Senior Design Engineer, and 715 for a Division Executive for a large corporation.

Base Salary Exclusions

The results of this survey presenting base salaries were determined after including only the respondents employed full time or on a contract basis. This resulted in the exclusion of 10 surveys because the respondents were either unemployed or worked on a part-time basis. Another five surveys were also excluded on the basis that the respondents were graduate students or retired. In addition eight surveys were excluded as income was not stated. This resulted in a total exclusion of 23 surveys from the original 742 based on the above criteria Of the 23 respondents excluded, 13% were female, 13% were Geoscientists and 23% were employed in the public sector.

In the calculation of averages and representative equations, statistical processes required the removal of some outlier values. These values were excluded in order to minimize the event of having outliers in the data which would have an effect on reporting the average base salary relationships and means. The approach used to determine which data would be removed from the population consisted of using the following equations to determine an upper cut off and a lower cut off point for base salary:

$$\text{Upper cut off of base salary} = \text{Upper Quartile} + 3 \bullet \text{Inter-Quartile Range}$$

$$\text{Lower cut off base salary} = \text{Lower Quartile} - 3 \bullet \text{Inter-Quartile Range}$$

$$\text{Inter-Quartile Range} = \text{Upper Quartile} - \text{Lower Quartile}$$

The upper cut off salary was determined to be $168,000. The lower cut off was negative in magnitude and thus did not apply. A total number of 9 respondents exceeded the upper cut off salary and were thus excluded from further base salary analyses. The total number of surveys thus considered for the base salary analyses was 709.

Of the 9 respondents excluded, 0% were female, 0% were Geoscientists and 11% were employed in the public sector.

Figure 2
Figure 2 provides a comparison of the 2002 APEGM salary data with the most recent salary data from British Columbia, Alberta, Saskatchewan, and Ontario. Caution should be exercised with comparisons due to the subjective manner in which equivalent points ranges were matched. Years presented in Figure 2 indicate the fiscal year in which the salary survey data is represented for each survey. Values from British Columbia were adjusted from the original values of total income reported in that province's salary survey report using the percentage difference of total income over base annual salary found in that same survey report.

Complete salary survey information for other provinces can be found at: www.apeg.bc.ca, www.apegga.com, www.apegs.sk.ca, and www.peo.on.ca.

Employment Sector
Of the base salary respondents, 65% of Engineers were employed in the private sector compared to 59% of Geoscientists.

Education
There were 23 Geoscientists (56%) and 155 Engineers (23%) with postgraduate degrees.

Gender

Overall there were 680 male respondents, 48% which had graduated since 1985, and 62 female respondents, 85% of which had graduated since 1985.

Workplace Information

The average official work week was 38.3 h. The typical number of hours worked was 44.2 h. The average number of hours worked by part-time employees was 19.2 h. The average weeks of vacation reported was 3.7. The average respondent has been with their current employer for 9.4 years. This year, 17.2% of respondents reported being covered by a collective agreement, as compared with 21.9%, 19.4%, and 22%, reported in the previous three surveys.

Comments
This year, 7% provided written comments on their APEGM Salary Survey, and this value did not change over the previous year. In the comments, 8% of the respondents stated additional improvements to the newly adopted classification rating guide were needed, 14% of the respondents stated that the profession is underpaid and 27% of the respondents made suggestions for changing or improving the survey. The remaining 51% were general comments:

Additional Improvements to Classification Guide

- Class rating guide should be easier to find on website or exact address given in this document
- The section "D" of the classification rating B a bit vague. I don't make administrative decisions, but

sometime deal with major problems. Points system B hard to choose for this section.
- Qu 20 is not well thought out for application to a private consultant
- 1. I consider anytime that a report or document is signed by myself or is under my name that my seal is being used. 2. I disagree with the model used for calculation of remuneration; it does not represent modern organizational structure in which organizations are mostly flat and projects are organized then displaced.

Engineers are Underpaid

- Feeling grossly underpaid, but unwilling to press issue as other employment opportunities do not seem abundant
- In general, engineers in Manitoba are still receiving less income as compared to some other places. Should APEGM not try to improve this? There are a lot of cases where we, engineers are only making marginally more than a technical personnel.
- EIT wages paid by my employer is considered in my opinion not high enough to attract top qualifying graduates all the Work Site (54"40')at Flin Flon
- Salary 15% of counter parts in Ontario
- I am aware that starting salaries even those with graduate degrees in the civil field can be extremely low
- I do not know what to tell you. As you can see, immigrant professionals have no reasons to be "happy" in the Canadian private sector at all.
- Our RRSP program is really crappy. It amounts to employer contribution of $450/yr (based on 37K)

Suggestions for Improving Survey

- Section #12 takes too much time to research and fill out, suggest it be deleted or simplified
- Clarify what % of employees work overtime and what % get paid for that and their correlation
- Develop a standard of pay various engineering disciplines and post this on your web site. This can be done using the data from post salary surveys
- Discuss benefits and salaries with EITs from our consulting firm and others.
- Survey results nice to know but is of no use in terms of my salary betterment. This is obviously is my responsibility. You need to establish wage guidelines which employers could use
- Job function could add mgf engineering
- APEGM dues should be separated into EIT and P.Eng dues in sec. 12. Paid Benefits. Also in sec12 Paid Benefits, membership or professional societal dues should be mentioned
- Questions 14 and 15 do not have enough choices.
- Include in your report female vs. male statistics How many females are working and are they making less?
- Does use of engineering (professional) seal truly/actually indicate a level of responsibility today?
- Is a telecommunications company in the communications sector or in a utilities sector?
- With regard to the principal work location, the majority of work is done in WPG, but the projects are approx. 50% from other parts of North America.
- Review question 12 - some are not applicable - some have northing to do with cost sharing.

General

- Another survey?
- Promote the use of engineering co-op students by working with the university and publishing average salaries by co-op year, and average government subsidies. This would promote the employment of young grads and make pay scales more equitable so more grads stay in Manitoba. Employers would be more willing to pay published standard wages, which (from personal experience) offer hiring comp.sci. Co-op's has been the result.
- My principle job function is a combination of design, planning, production, project management and quality assurance.
- Employer not supportive of professional development in the North. No chances made available for working outside the box.
- This survey is hard for us people who are in a master program and not working , some questions do not apply
- Thank you, Thank you, Thank you for simplifying this form
- Have a job site for member looking for work. Can review available listing
- As a student doing occasional work, some of these fields seem odd
- Nice easy format!
- Firms, employers typically say that EITs are paid less then EITs working for non-consulting sectors. Why is that so?
- This format of salary survey is much simpler to deal with. It is a good format and required very little time to complete
- Like other professional engineers, need some type of collective bargaining force. Public recognition will not help as we do not serve individual people on a daily basis as do health workers, teachers, etc
- Identifying particular area of specialization or expertise. Especially within the consulting category. Not all salaries are relative to corporate levels - rather experience and level of expertise determines value of professional services
- Not sure on most of #12 benefits, as don't apply to me
- My job required extensive travel about 2 weeks per month throughout CDA and US. Sales is technically oriented. Marketing technical systems to structural and maintenance engineers typically
- Encourage better participation in the survey by offering prizes for participating.
- The reason for the decline in employer participation is quite laughable (to put it politely!!).
- Is this information available so that prospective employees/employers know what to expect for income/cost
- I am a M. Sc. Student right now. I am completing this considering my work as a student as a job
- A legislated pay-scale needs to be exposed otherwise we will continue to be underpaid as a professional (relative to doctors, lawyers, etc)
- I work on contract
- EIT guidelines are too restrictive - should adopt a system similar to other provinces
- Under section 6 income not stated with comment "Actually none of your business"
- Stop being "anal" about the "Engineer" job title. It doesn't apply in situations already and to the general public it is just petty. It's also a waste of your (and therefore my) resources.
- Could you remind us all what the purpose of this survey is?

Table 1: Mean Base Salary Equations (vs. APEGM Points)

Year	Base Salary
1995	96P + 11800
1996	84P + 15700
1998	87P + 17000
1999	93P + 14600
2000	89P + 18200
2001	84P + 20613
2002	86P + 22226

Table 2: Salary at Different APEGM Point Levels (Based on Mean Base Salary Equations)

Year	Mean Salary at 200 APEGM Points	% Increase	Mean Salary at 400 APEGM Points	% Increase	Mean Salary at 600 APEGM Points	% Increase	Cost of Living % Increase
2002	39,426	5.3	56,626	4.5	73,826	4.0	3.2**
2001	37,413	3.9	54,213	0.8	71,013	-0.8	2.5
2000	36,000	8.4	53,800	3.9	71,600	1.7	2.3
1999	33,200	-3.5	51,800	0.0	70,400	1.7	1.4
1998	34,400	5.8	51,800	5.1	69,200	4.7	1.2
1996	32,500	4.8	49,300	-1.8	66,100	-4.8	1.9
1995	31,000	-3.1	50,200	2.9	69,400	5.8	3.0

** Based on Statistics Canada Consumer Price Index for December 31, 2001

Table 3: Industry Sector Statistics

Industry sector	# Reported	%	Mean Points	Based on Base Salary				Mean Total Income
				Mean	Lower Quartile	Median	Upper Quartile	
Aerospace	38	5	465	65204	44745	65000	70988	67979
Agricultural Equipment	17	2	463	57042	40000	52000	66600	62759
Agriculture/Food	18	3	554	74694	55000	67496	82625	78655
Biochemical	2	0	758	82500	81750	82500	83250	82500
Chemical	6	1	570	77667	68300	76811	93705	81899
Communications	28	4	490	67130	59750	65052	75250	97541
Construction	58	8	490	66846	48125	65201	78250	71838
Consulting	127	18	512	62031	40750	58240	76000	69169
Electronics	21	3	477	66648	53500	68000	77000	68790
Heavy Electrical	13	2	543	66598	48000	66000	83000	71428
Mechanical Equipment	19	3	487	59782	44500	52000	63750	66914
Metal - Fabricating	18	3	593	62829	39550	67000	78750	71968
Metals - Primary	11	2	627	73392	70643	76000	80500	86077
Mineral Exploration	16	2	573	70728	60675	72500	85250	72048
Mining	22	3	495	71110	60000	68600	83410	76314
Other	108	15	545	67716	50325	65000	78563	72682
Petroleum	4	1	586	60500	33000	54000	81500	62675
Research and Development	23	3	528	73850	63000	78000	82000	75850
Transportation	44	6	495	58788	47250	58000	68000	60285
Transportation Equipment	12	2	523	71963	45750	64400	90000	75279
Utilities	104	15	485	71654	56666	70694	85250	80885

Table 3a: Industry Sector Statistics (Engineers)

Industry sector	# Reported	%	Mean Points	Based on Base Salary				Mean Total Income
				Mean	Lower Quartile	Median	Upper Quartile	
Aerospace	38	5	465	65204	44745	65000	70988	67979
Agricultural Equipment	17	2	463	57042	40000	52000	66600	62759
Agriculture/Food	18	3	554	74694	55000	67496	82625	78655
Biochemical	2	0	758	82500	81750	82500	83250	82500
Chemical	6	1	570	77667	68300	76811	93705	81899
Communications	28	4	490	67130	59750	65052	75250	97541
Construction	58	8	572	66846	48125	65201	78250	71838
Consulting	122	17	515	62686	42250	59285	76150	70002
Electronics	21	3	477	66648	53500	68000	77000	68790
Heavy Electrical	13	2	543	66598	48000	66000	83000	71428
Mechanical Equipment	19	3	487	59782	44500	52000	63750	66914
Metal - Fabricating	18	3	593	62829	39550	67000	78750	71968
Metals - Primary	11	2	627	73392	70643	76000	80500	86077
Mineral Exploration	3	0	698	78333	73000	83000	86000	78333
Mining	14	2	506	75859	64250	72947	84585	80608
Other	98	14	537	67799	51250	65200	78450	72425
Petroleum	4	1	586	60500	33000	54000	81500	62675
Research and Development	18	3	523	70975	62000	75000	80000	73253
Transportation	44	6	495	58788	47250	58000	68000	60285
Transportation Equipment	12	2	523	71963	45750	64400	90000	75279
Utilities	104	15	485	71654	56666	70694	85250	80885

Table 3b: Industry Sector Statistics (Geoscientists)

Industry sector	# Reported	%	Mean Points	Based on Base Salary				Mean Total Income
				Mean	Lower Quartile	Median	Upper Quartile	
Consulting	5	1	438	46040	40000	40000	50000	48840
Mineral Exploration	13	2	545	68972	60000	70000	84000	70598
Mining	8	1	476	62800	58125	61500	69425	68800
Other	10	1	621	66900	45250	60000	89250	75200
Research and Development	5	1	544	84200	78000	78000	84000	85200

Table 4: Job Function Statistics

Job Function	# Reported	%	Mean Points	Based on Base Salary				Mean Total Income
				Mean	Lower Quartile	Median	Upper Quartile	
Administrative Services	17	2	749	89980	72000	85300	110000	104554
Computer Services	7	1	388	55765	50000	55000	60950	62053
Construction	15	2	547	64484	47500	57212	80000	67971
Consulting	94	13	485	59734	40000	56750	71270	68372
Design	138	19	427	57292	45000	55000	68513	58915
Maintenance	25	4	499	67639	48000	69173	80000	71435
Management	123	17	687	82790	70000	80000	93928	96281
Marketing/Sales	37	5	554	71496	56000	72000	83000	95321
Mineral Exploration	10	1	544	66840	51000	72500	86750	67840
Mining	12	2	485	65833	59875	63500	69774	71041
Other	23	3	499	69188	47500	67000	85250	74537
Petroleum	1	0	705	72000	72000	72000	72000	75000
Planning	28	4	428	62269	50875	61127	72750	64022
Production	21	3	403	54100	40000	46000	61000	56019
Project Management	69	10	521	66635	55000	66840	76000	69828
Quality Assurance	27	4	478	60859	47950	61000	71500	63693
Research and Development	30	4	447	60847	42631	62000	76500	64384
Software Development	14	2	407	64302	53125	66222	75000	66553
Teaching	18	3	596	75171	55854	74500	98000	78504

Table 5: Year of Graduation Statistics

Year of Graduation	# Reported*	%	Mean Points	Based on Base Salary				Mean Total Income
				Mean	Lower Quartile	Median	Upper Quartile	
<1960	5	1	896	95400	84000	88000	100000	118250
1960-1964	20	3	748	98008	83625	98500	110250	112753
1965-1969	31	4	676	80294	65000	84600	98900	89606
1970-1974	82	12	683	79714	66768	76375	90000	82340
1975-1979	77	11	640	81078	65000	78000	89000	88098
1980-1984	95	13	585	73476	64900	75000	84000	92607
1985-1989	106	15	554	71878	63250	70000	79625	76900
1990	20	3	534	71452	58083	69500	76625	79958
1991	13	2	531	56382	56000	61000	65350	63052
1992	19	3	470	68749	54877	64500	69587	72281
1993	12	2	454	54992	44250	53700	65000	55450
1994	28	4	405	54648	48000	53000	60907	56271
1995	34	5	367	51232	45700	48450	59185	53258
1996	27	4	365	48553	40250	48000	55500	50832
1997	22	3	355	47075	41550	47250	51548	49238
1998	37	5	342	47423	40000	43800	53000	49936
1999	23	3	259	43294	37353	43000	49920	44475
2000	31	4	260	41811	36750	40000	48000	43567
2001-2002	22	3	231	37782	35536	39536	42000	39402

* A total of five respondents were excluded from this table as the year of graduation was not stated.

Table 5a: Year of Graduation Statistics (Engineers)

Year of Graduation	# Reported	%	Mean Points	Based on Base Salary				Mean Total Income
				Mean	Lower Quartile	Median	Upper Quartile	
<1960	5	1	896	95400	84000	88000	100000	118250
1960-1964	17	3	760	98774	82500	102000	111000	117078
1965-1969	25	4	692	82609	68000	86000	100000	91955
1970-1974	80	12	681	80457	67450	76675	90000	83200
1975-1979	70	11	647	80618	65000	77600	86750	87877
1980-1984	88	13	588	73906	65000	75000	84000	95503
1985-1989	96	14	563	73179	64750	71107	81000	78168
1990	20	3	541	71452	58083	69500	76625	79958
1991	13	2	531	56382	56000	61000	65350	63052
1992	19	3	470	68749	54877	64500	69587	72281
1993	12	2	454	54992	44250	53700	65000	55450
1994	28	4	405	54648	48000	53000	60907	56271
1995	32	5	367	52012	45900	48450	58680	53258
1996	26	4	365	48882	40525	48000	55750	50832
1997	22	3	355	47075	41550	47250	51548	49238
1998	37	6	342	47423	40000	43800	53000	49936
1999	21	3	256	43432	37505	43000	50000	44475
2000	31	5	260	41811	36750	40000	48000	43567
2001	21	3	223	37533	35048	39072	42000	39247

Table 5b: Year of Graduation Statistics (Geoscientists)

Year of Graduation	# Reported	%	Mean Points	Based on Base Salary				Mean Total Income
				Mean	Lower Quartile	Median	Upper Quartile	
1960-1969	9	22	640	78322	60900	84000	97000	91117
1970-1979	9	22	616	77749	67340	78000	89400	73756
1980-1989	17	41	522	62965	55000	63000	72500	69088
1990-2001	6	15	339	40700	36775	41500	46750	45283

Table 6: Employee Benefits

Paid Benefits	Employer Pays [%]	Shared Costs [%]
APEGM Dues	55	5
Continuing Education	39	18
Daycare	1	0
Dental Plan	35	53
Flexible Work Hours	19	6
Job Sharing	2	1
Leave of Absence	8	4
Liability Insurance	26	3
Life Insurance	29	52
Long Term Disability	34	46
Medical Plan	35	49
Pension Plan	15	59
Productivity Incentive	8	1
Profit Sharing	13	4
RRSP	4	22
Savings Plan	2	10
Short Term Disability	42	37
Stock Purchase	2	9
Training	57	10
Vehicle	8	6

Table 7: Average Classification Rating Results

Classification Rating	All	Engineers	Geoscientists
A-duties	103.2	104.8	101.7
B-education	74.0	69.2	78.9
C-experience	106.2	98.6	113.9
D-Recommendations	108.0	111.2	104.9
E-Supervision	81.4	85.4	77.3
F-Leadership authority	36.5	36.7	36.4
G-Supervision scope	8.3	10.6	6.0
H-Seal	5.5	6.7	4.3
I-Job environment	3.4	2.1	4.7
J-Absence from base of operations	2.9	2.1	3.7
K-Accident and health hazards	5.6	5.1	6.1
TOTAL	519.3	518.3	536.7

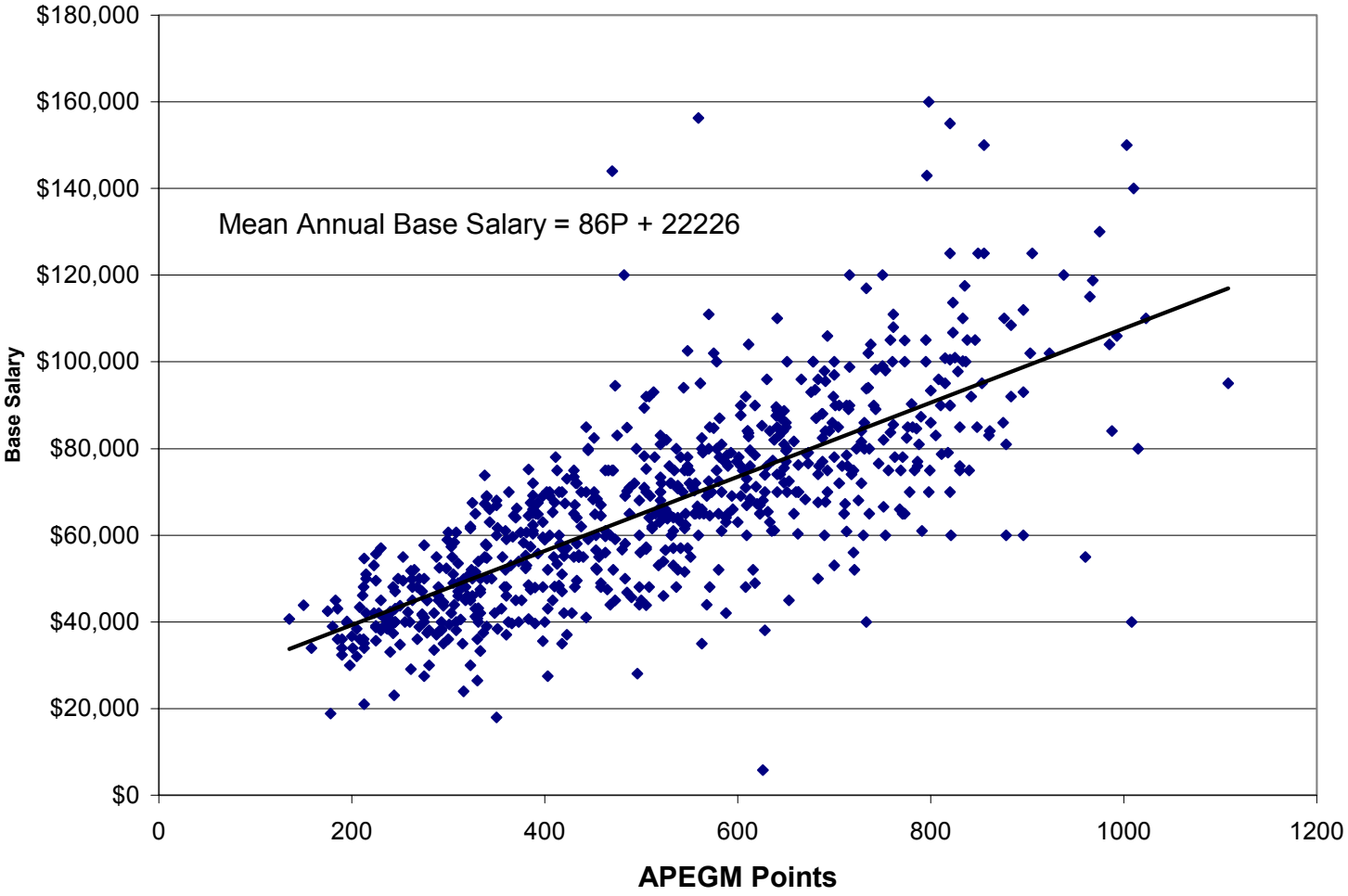

Figure 1: 2001 Employee's Base Salary vs APEGM points

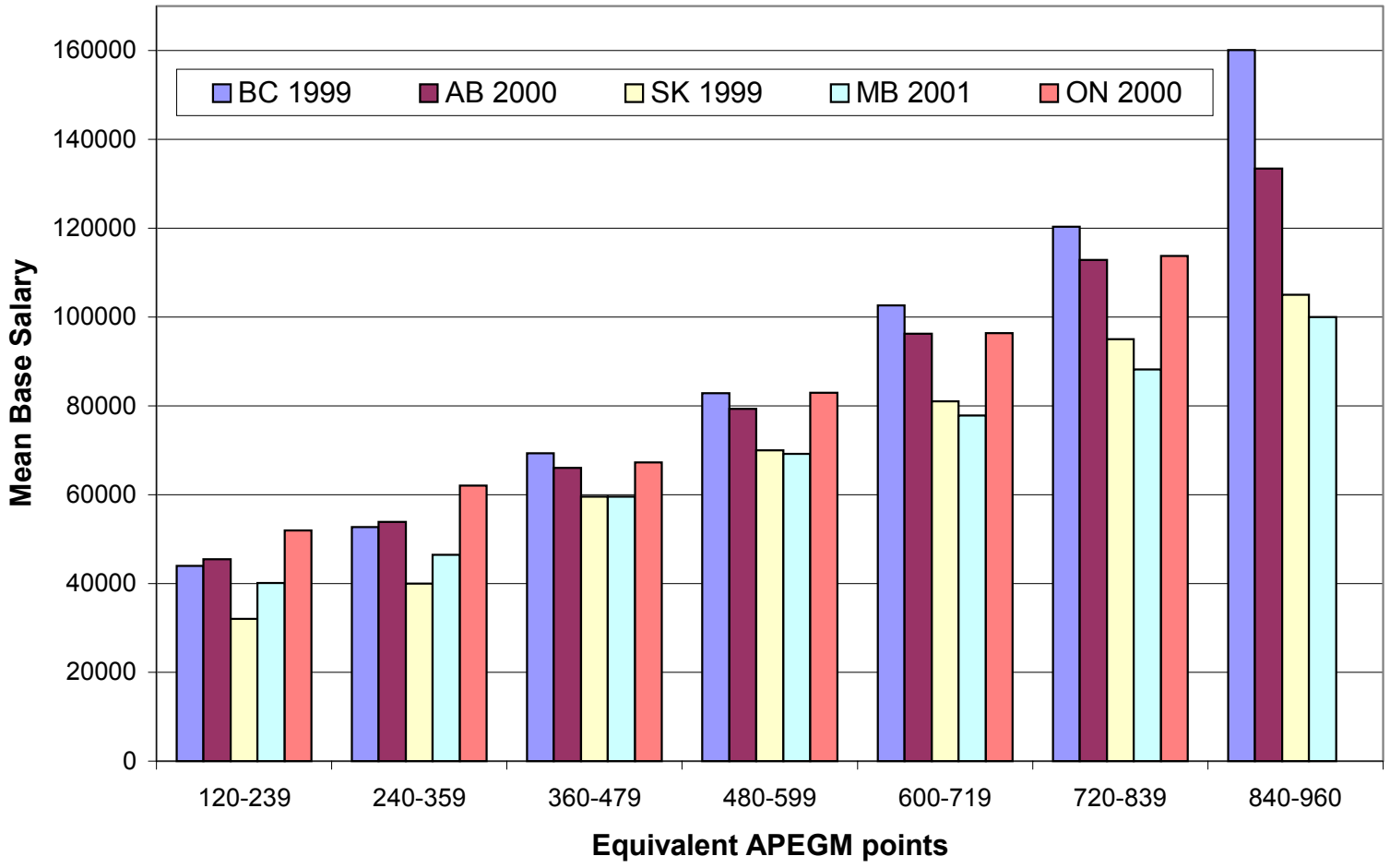

Figure 2: Comparison of Mean Base Salaries in Other Provinces

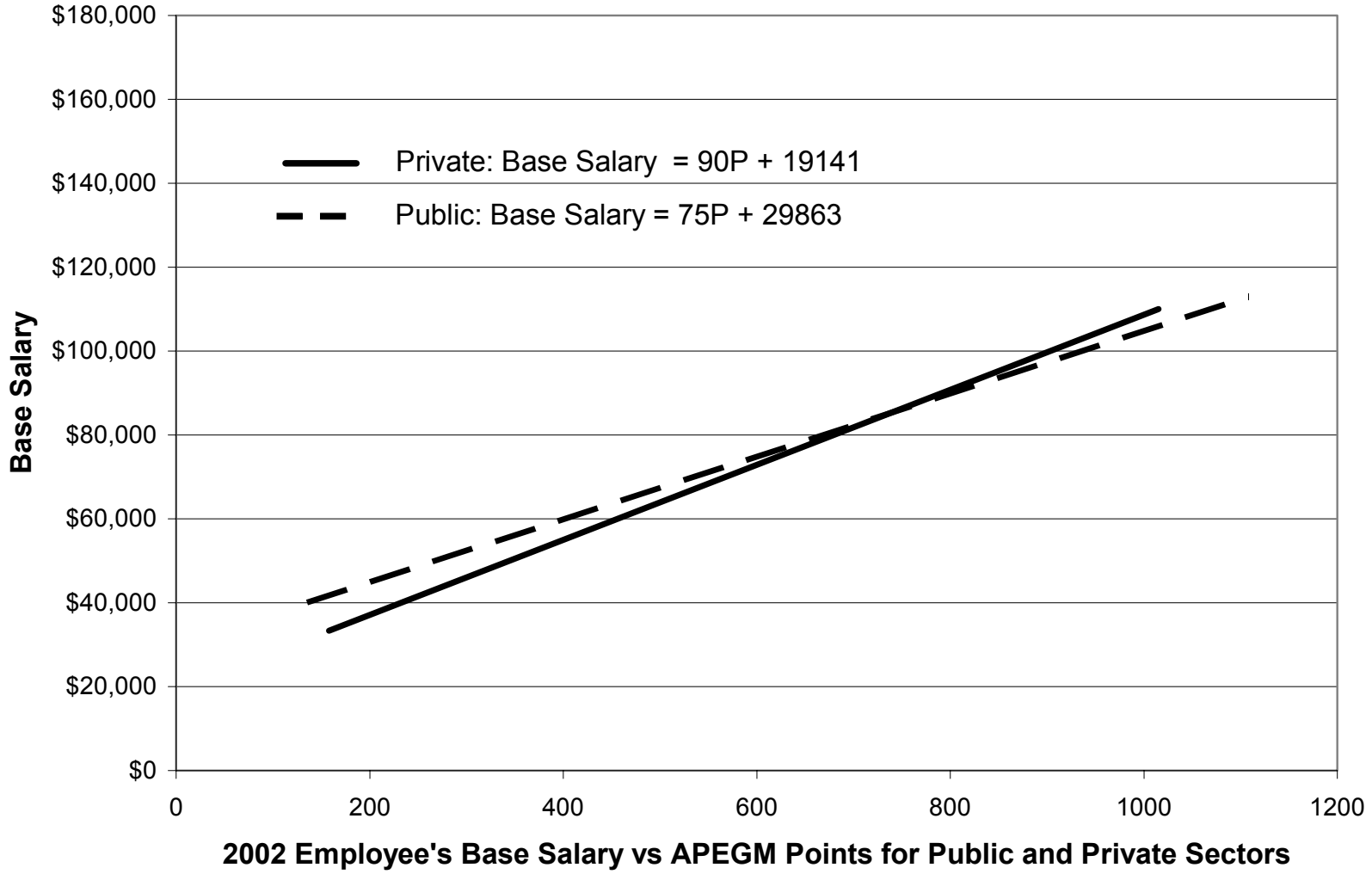

Figure 3: Employee's Base Salary vs APEGM Points for Public and Private Sectors

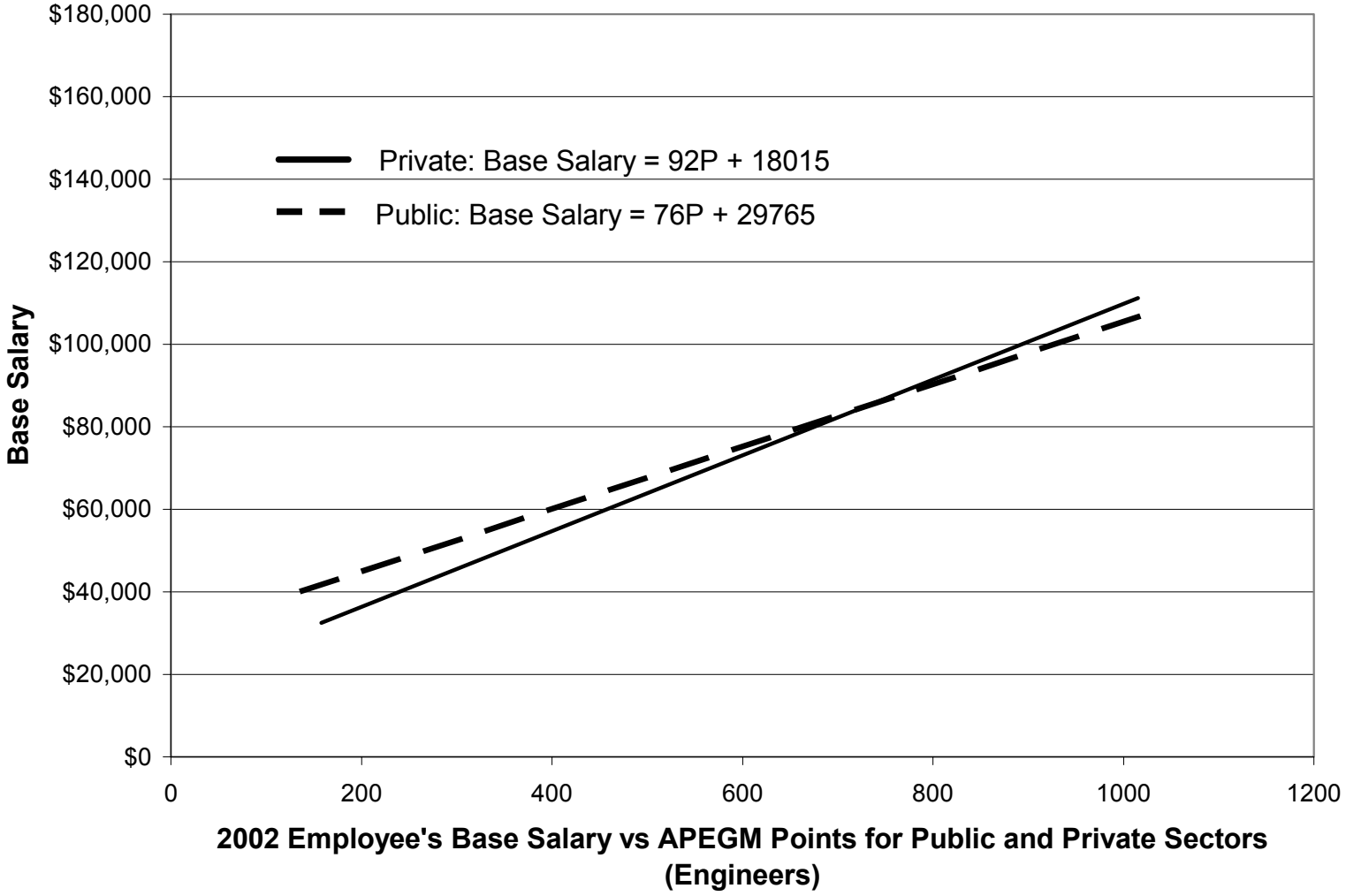

Figure 3a: Employee's Base Salary vs APEGM Points for Public and Private Sectors (Engineers)

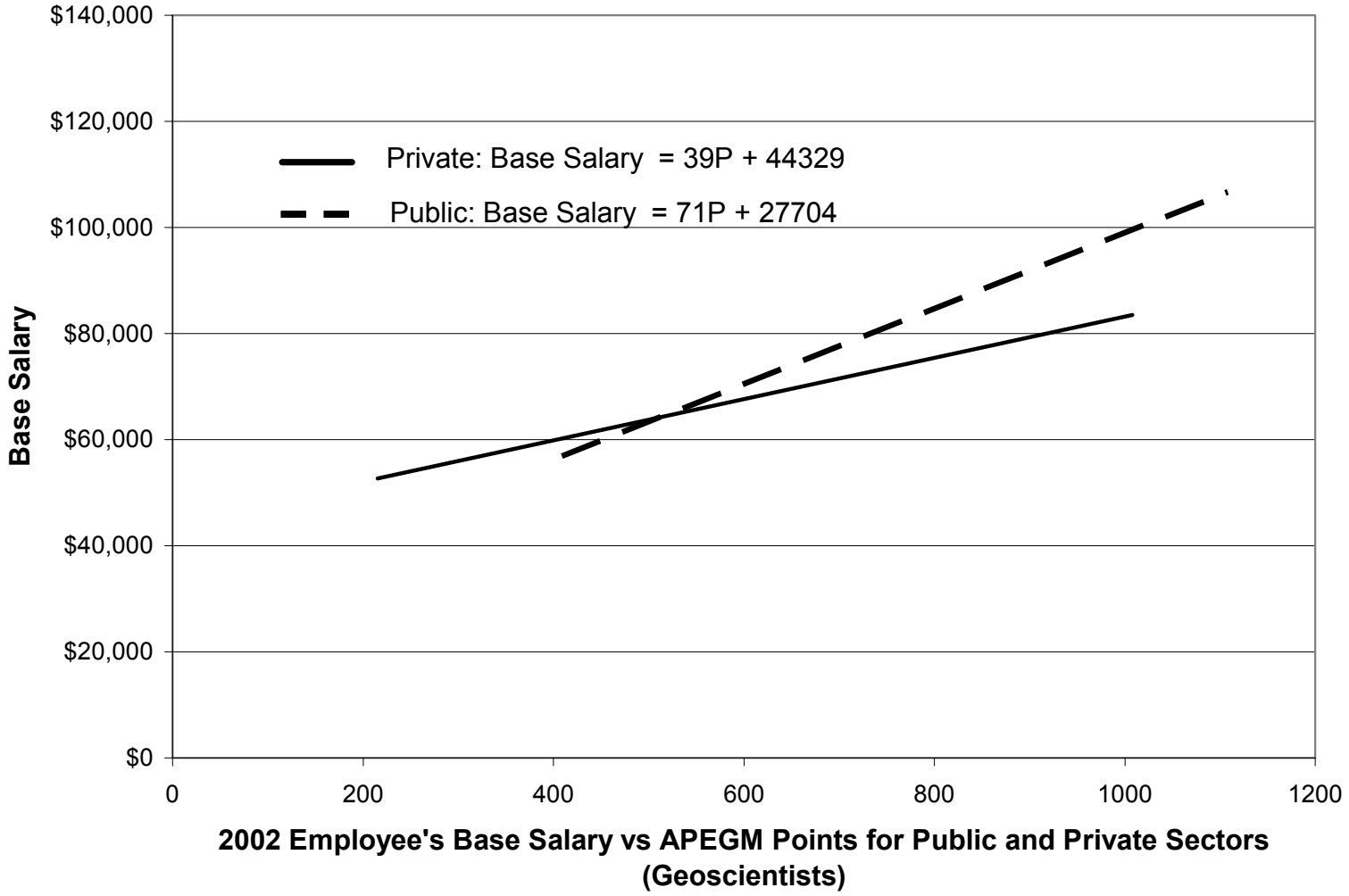

Figure 3b: Employee's Base Salary vs APEGM Points for Public and Private Sectors (Geoscientists)

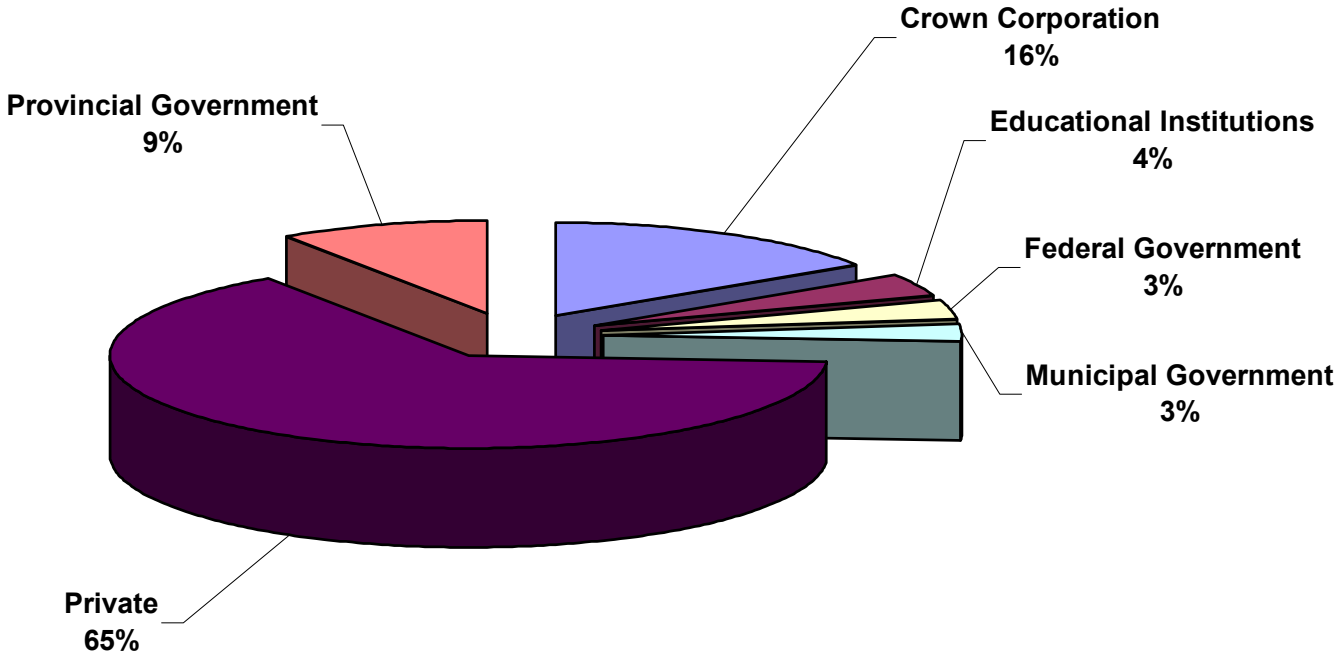

Figure 4: Responses by Sector

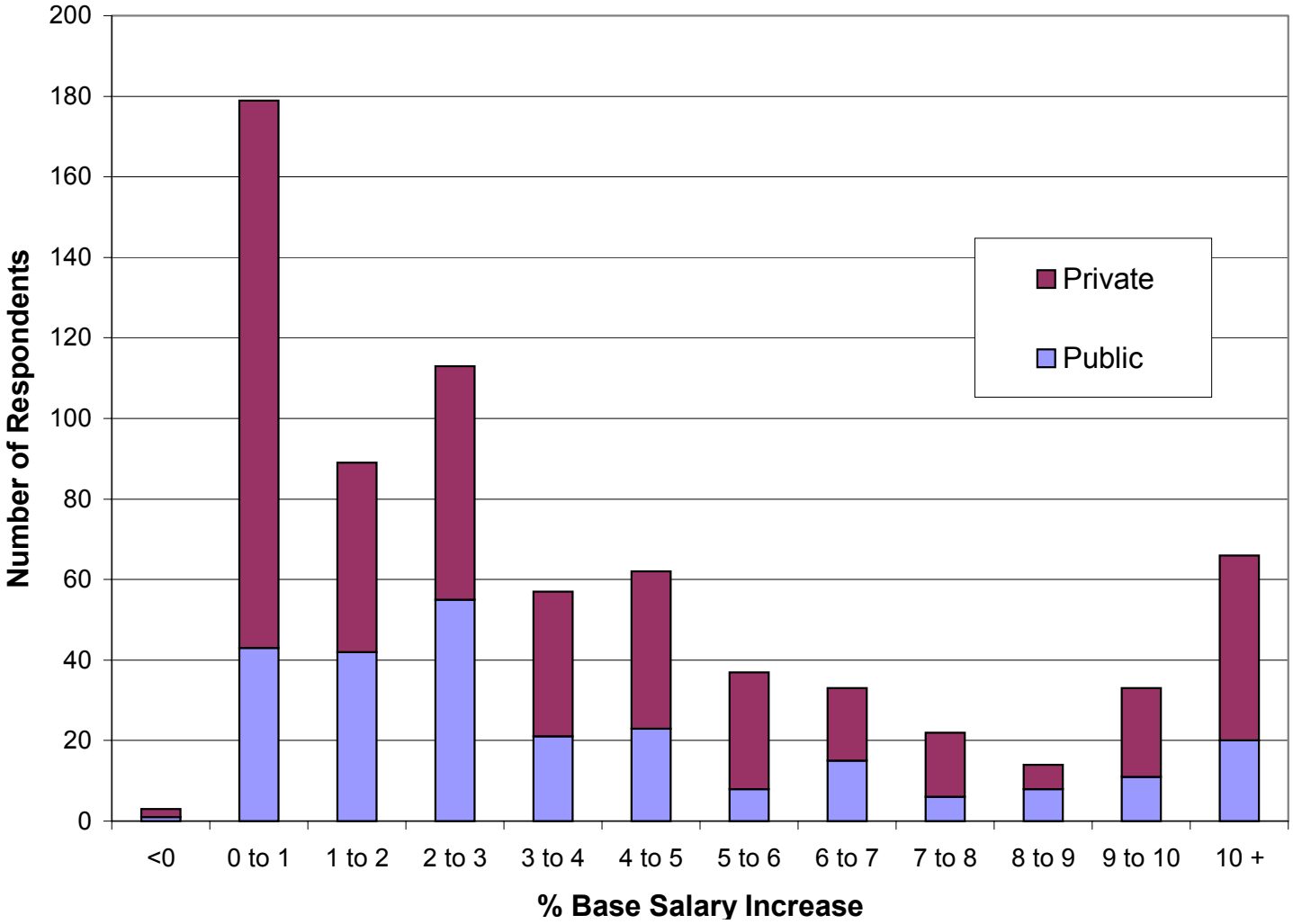

Figure 5: Base Salary Increase During the Past Year by Sector

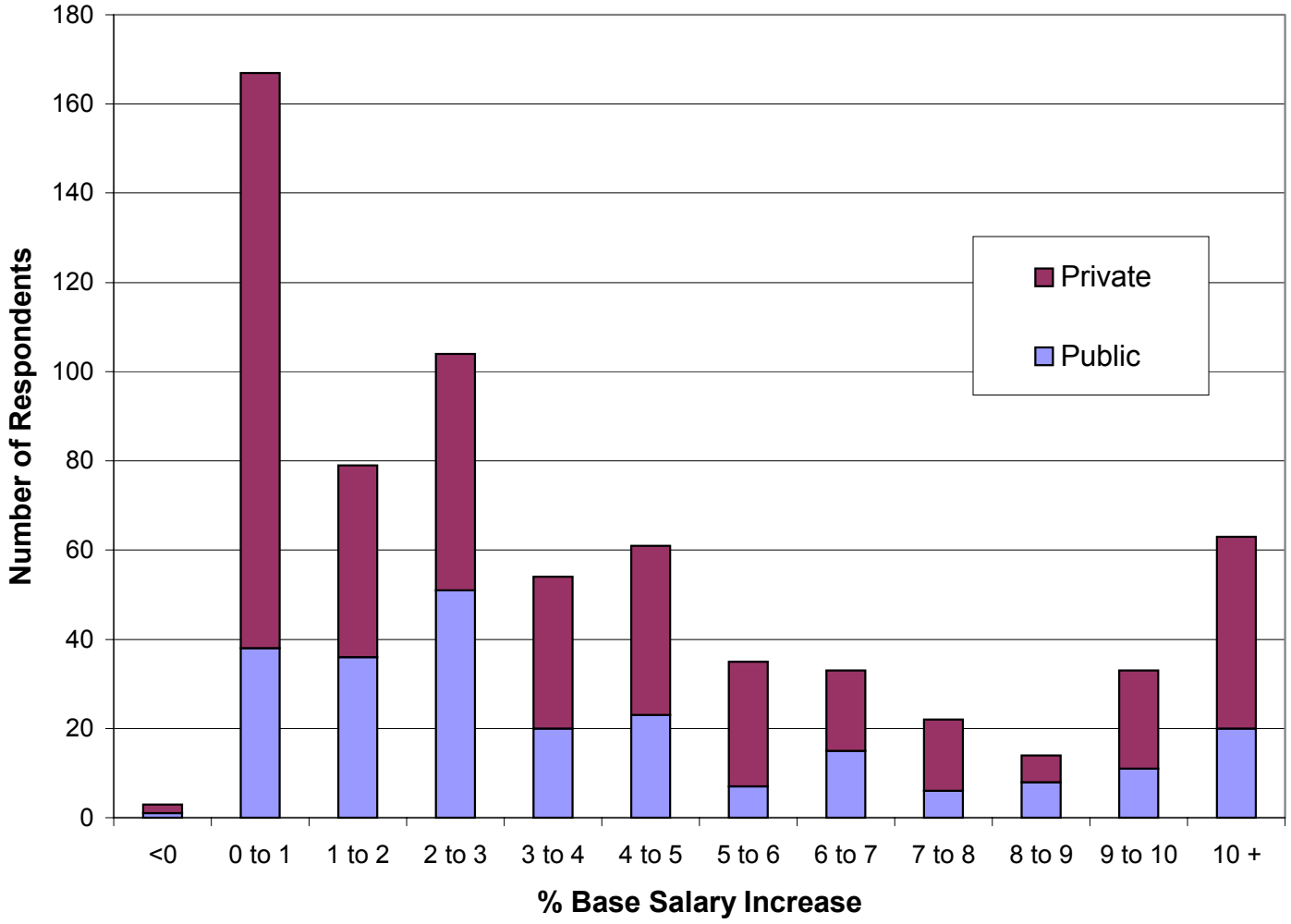

Figure 5a: Base Salary Increase During the Past Year by Sector (Engineers)

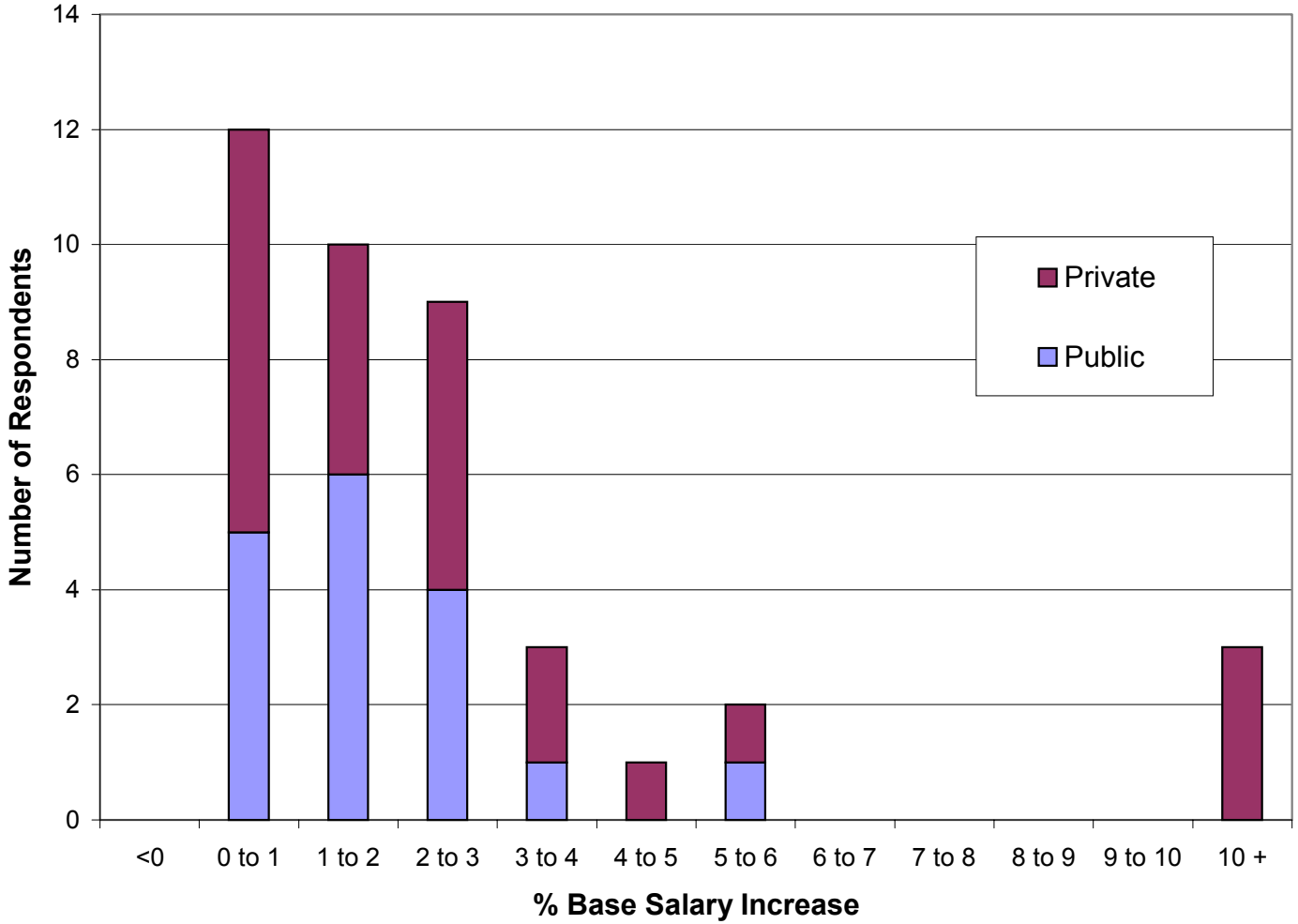

Figure 5b: Base Salary Increase During the Past Year by Sector (Geoscientists)

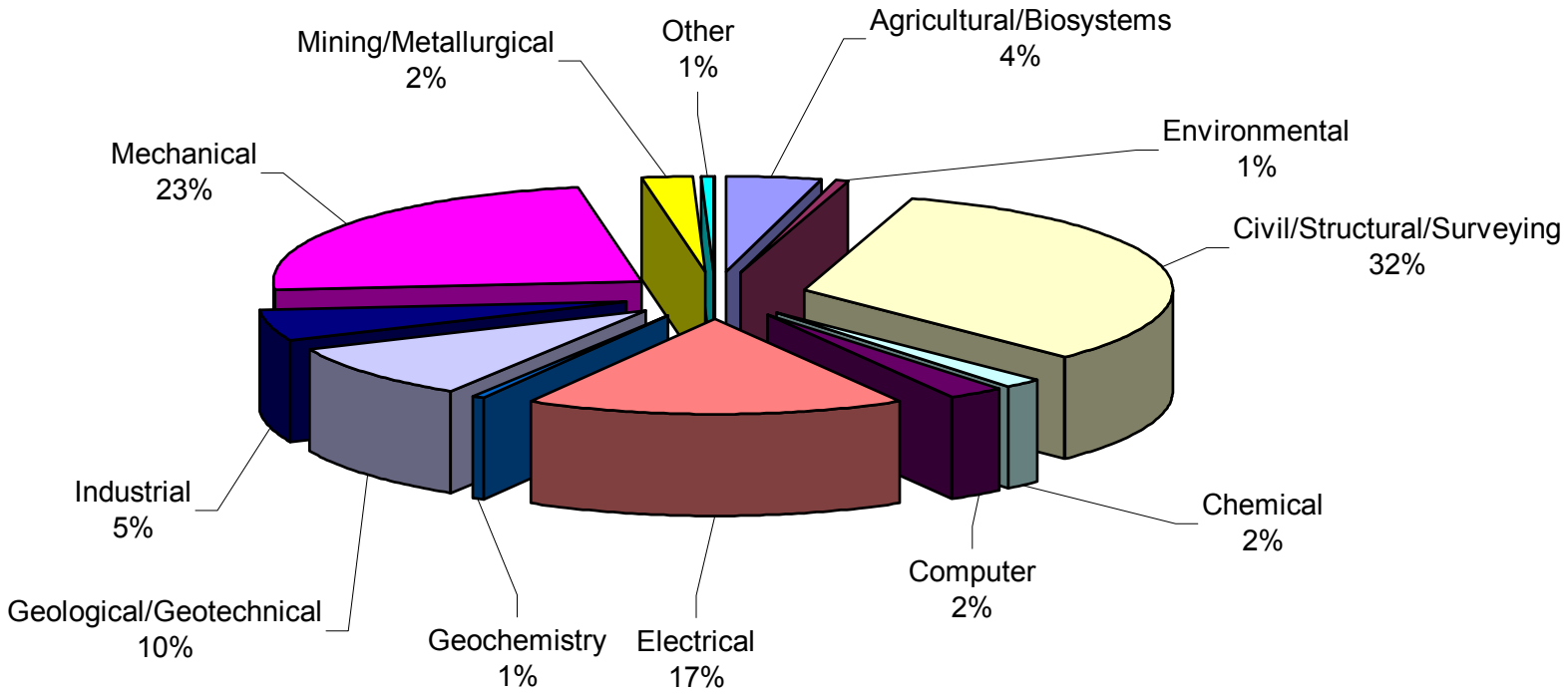

Figure 6: Responses by Discipline (% of Respondents)

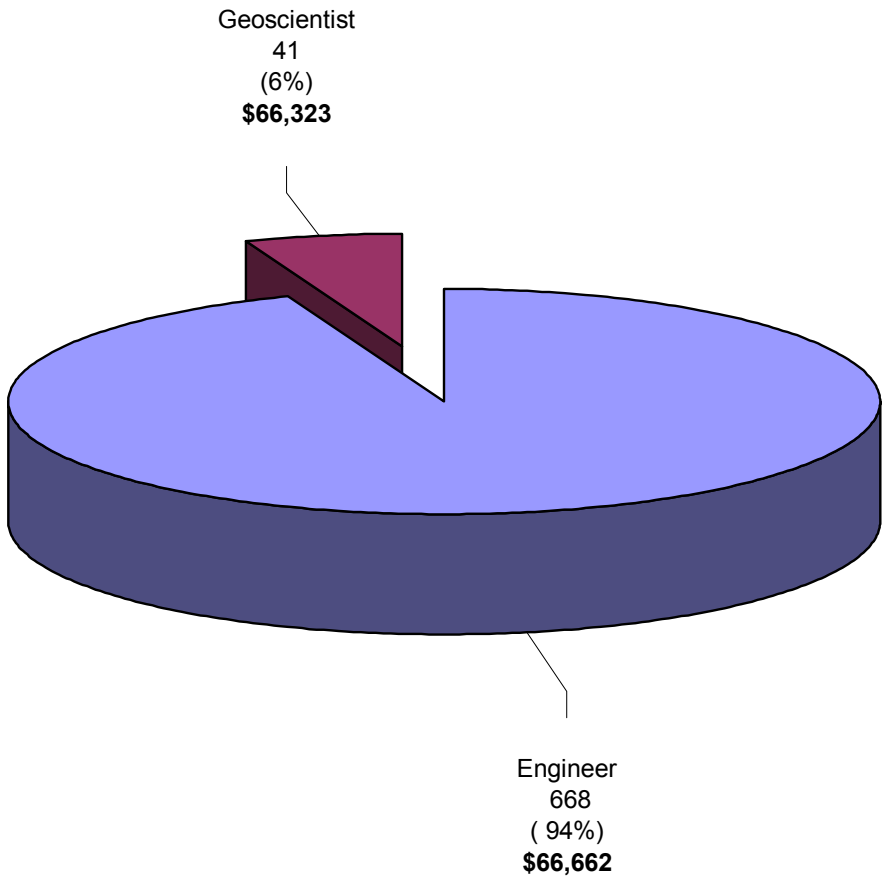

Figure 7: Professional Designation and Average Base Salary

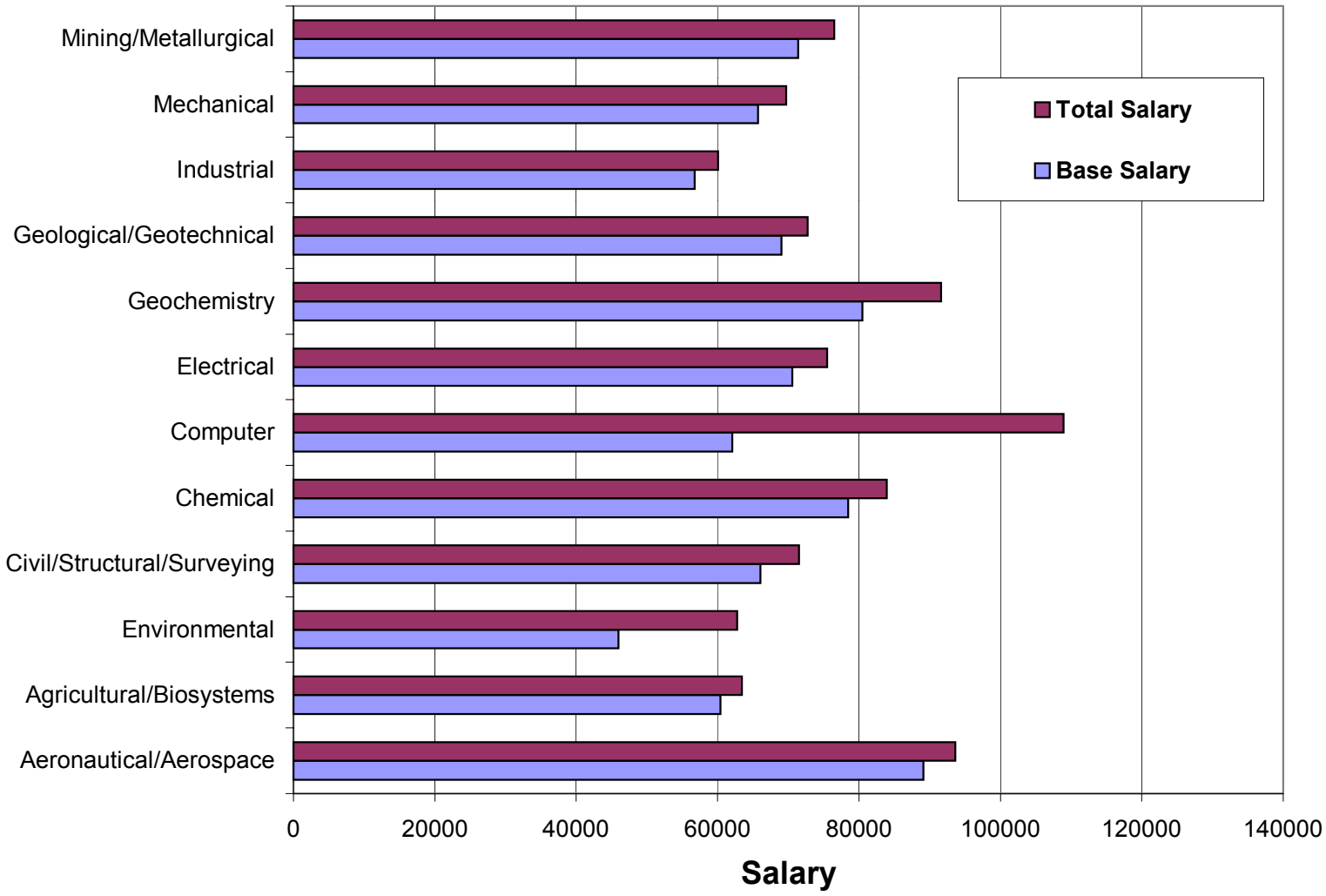

Figure 8: Base Salary and Total Salary (Including Commissions, Allowance, and Bonuses) By Discipline

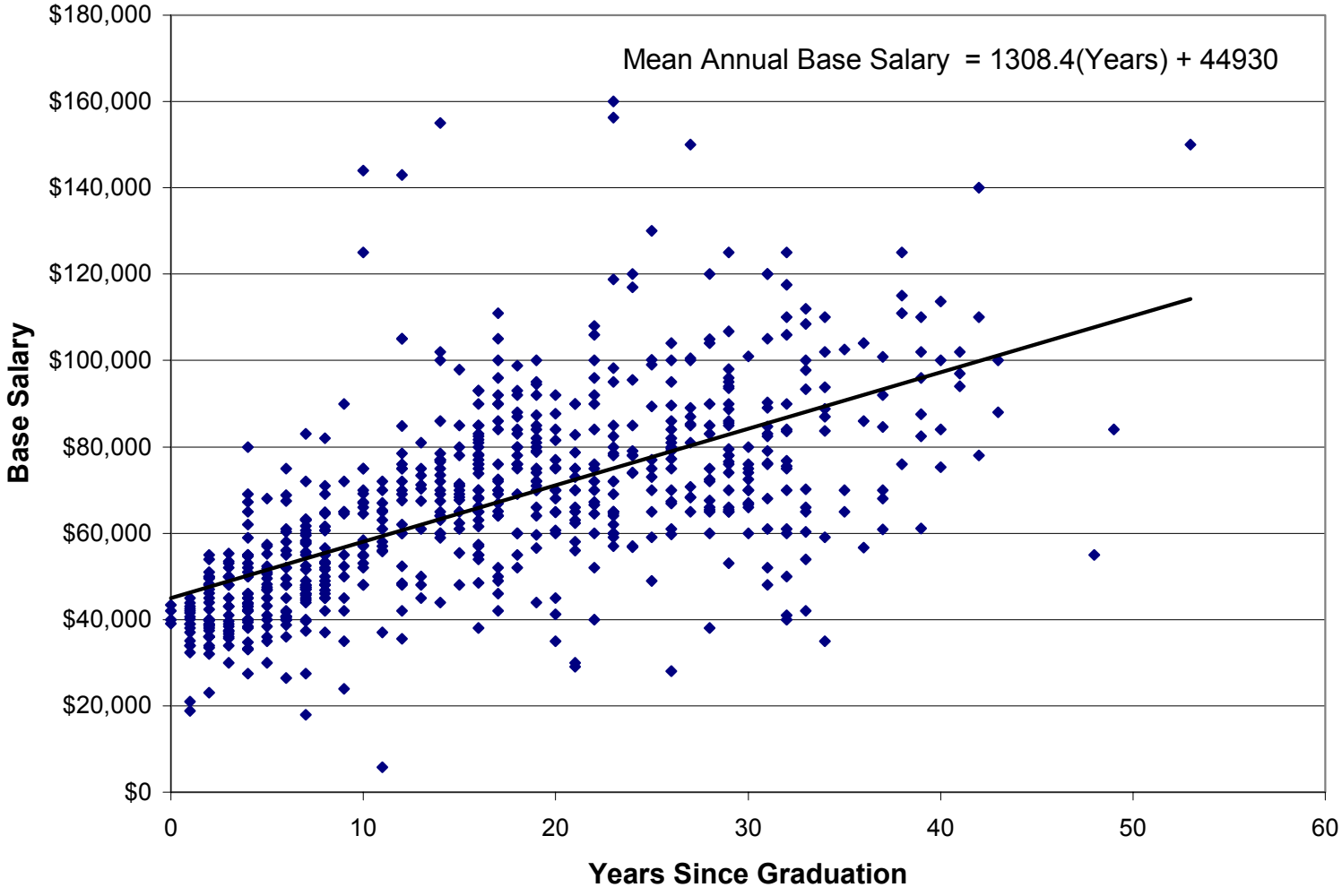

Figure 9: Base Salary vs Years Since Graduation

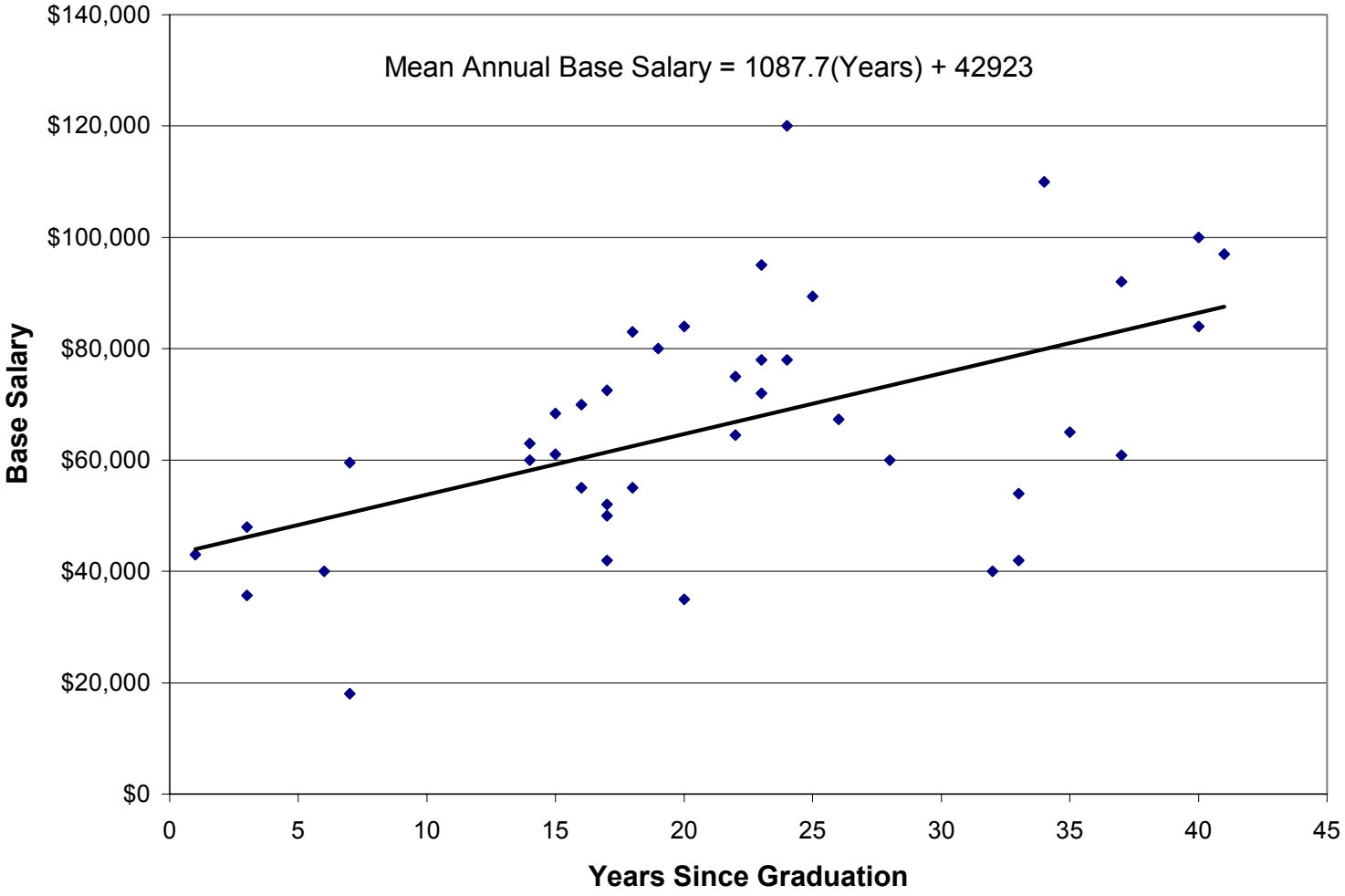

Figure 9a: Base Salary vs Years Since Graduation (Geoscientists)

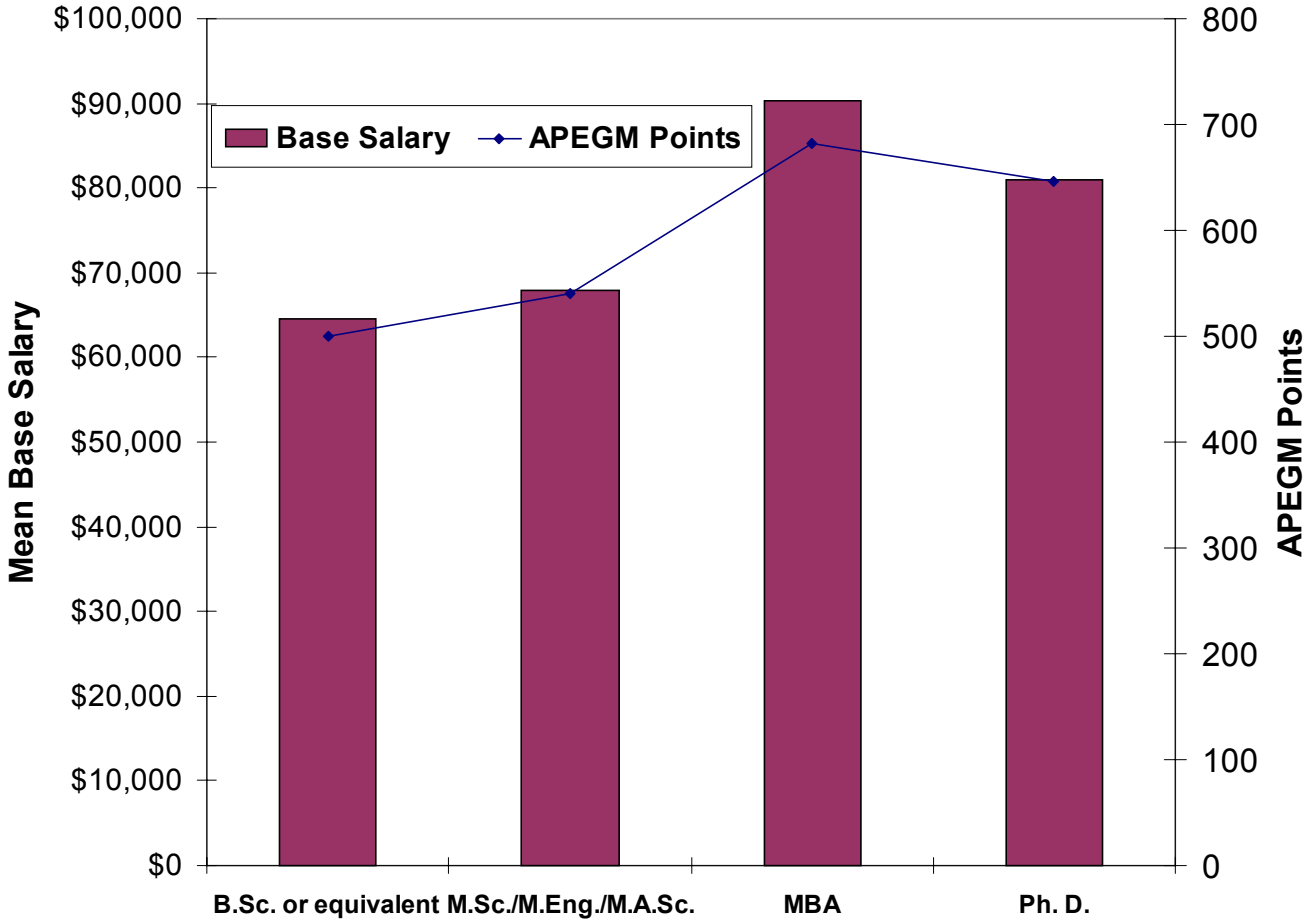

Figure 10: Base Salary and APEGM Points for Post Graduate Education

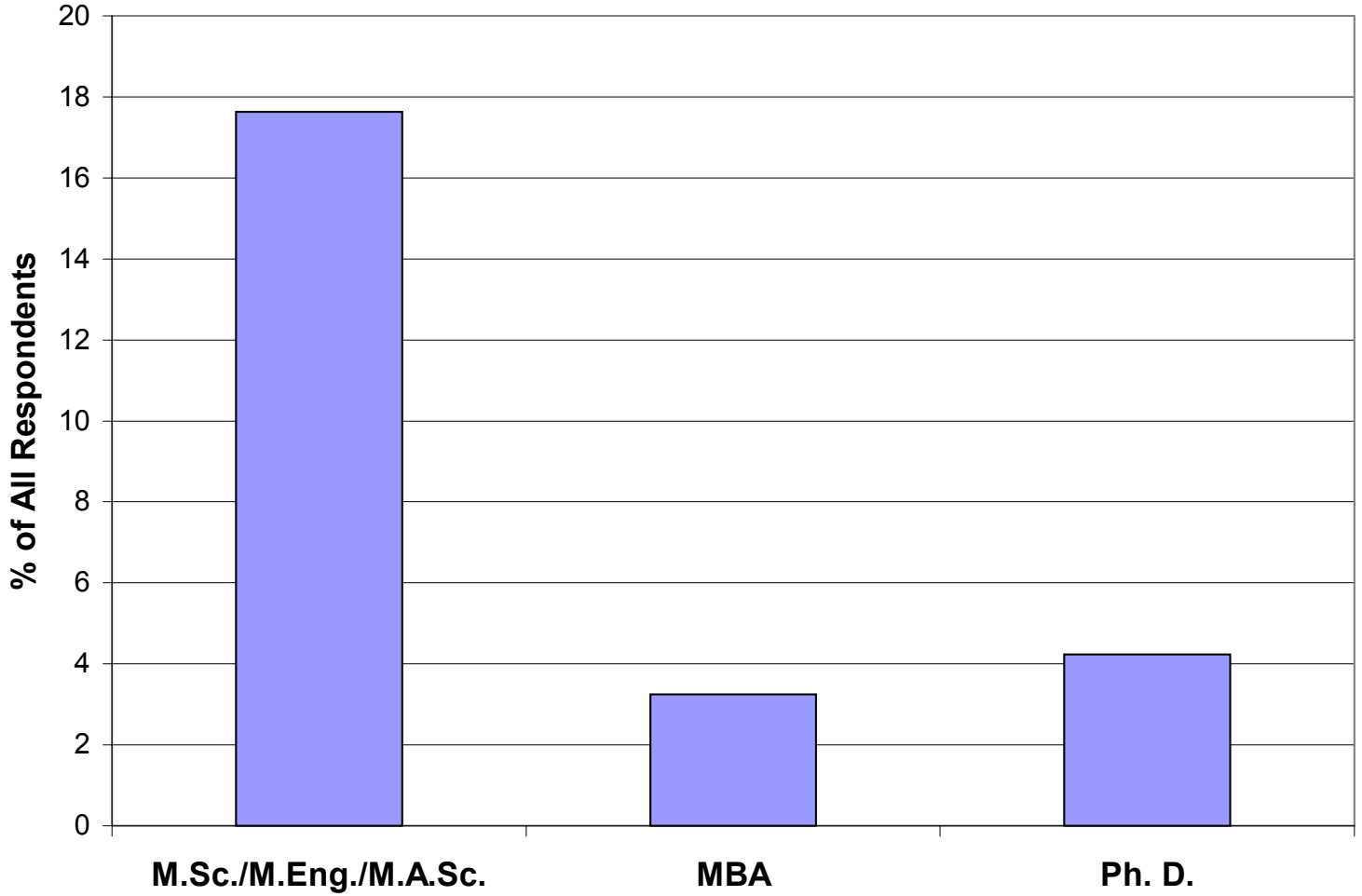

Figure 11: Percent of All Respondents with Different Post Graduate Degrees

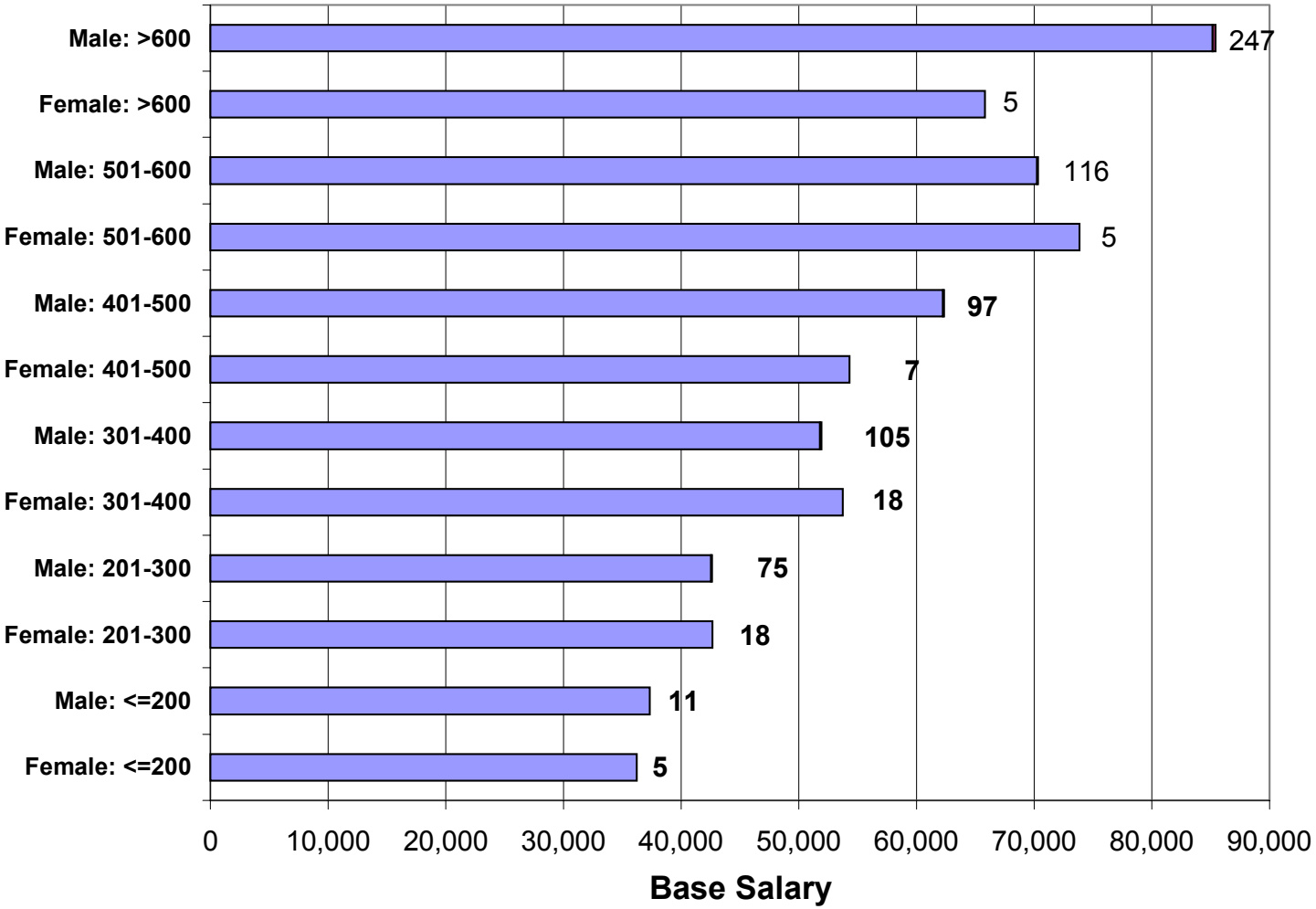

Figure 12: Base Salaries for Different APEGM Point Ranges by Gender

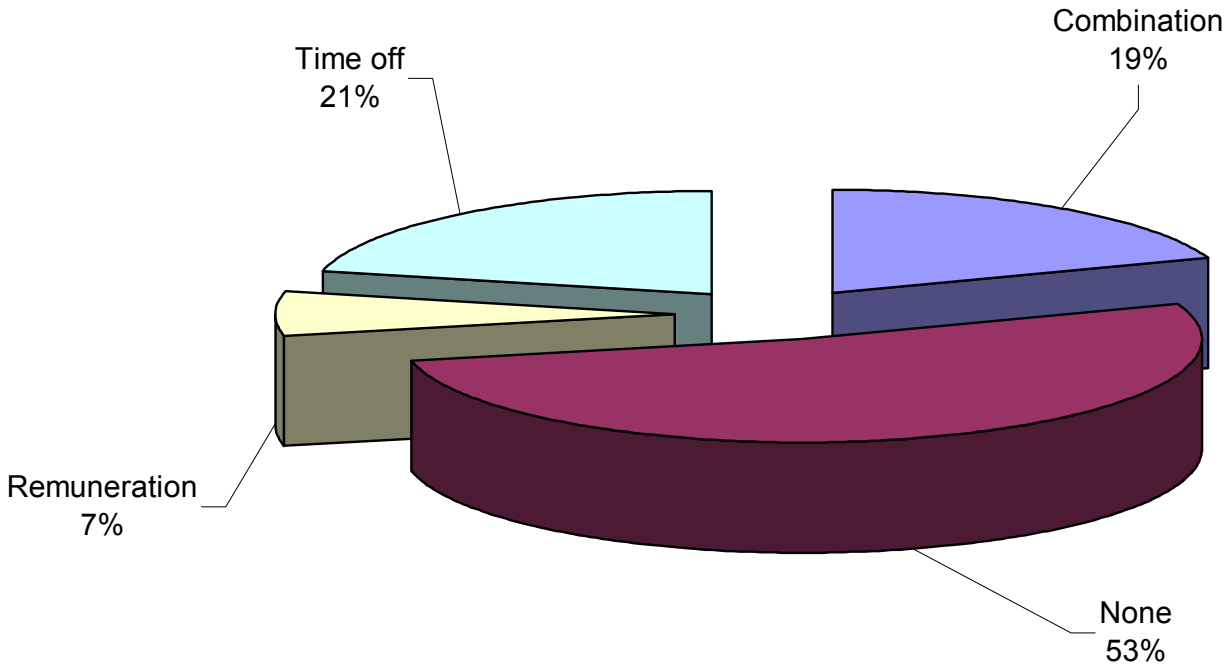

Figure 13: Compensation for Overtime

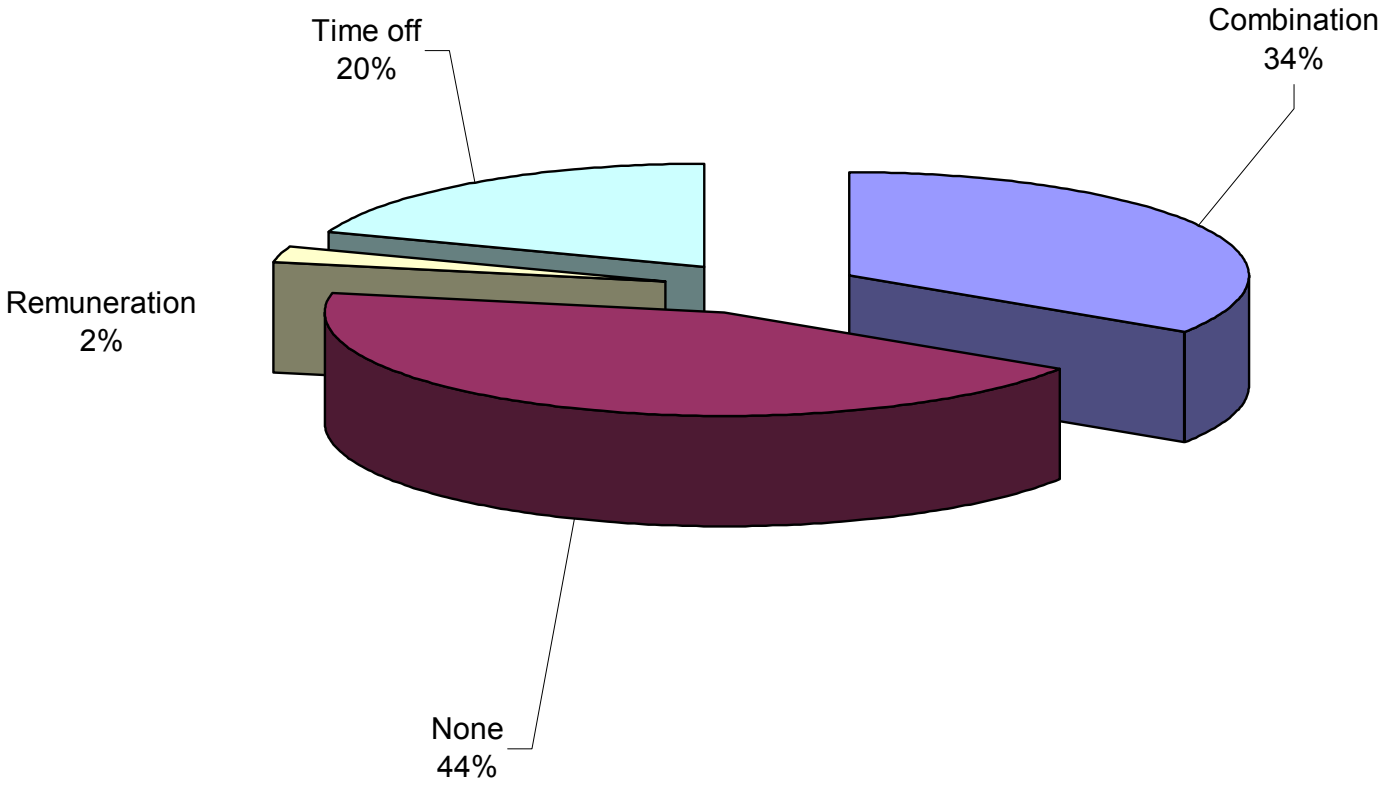

Figure 13a: Compensation for Overtime (Geoscientists)

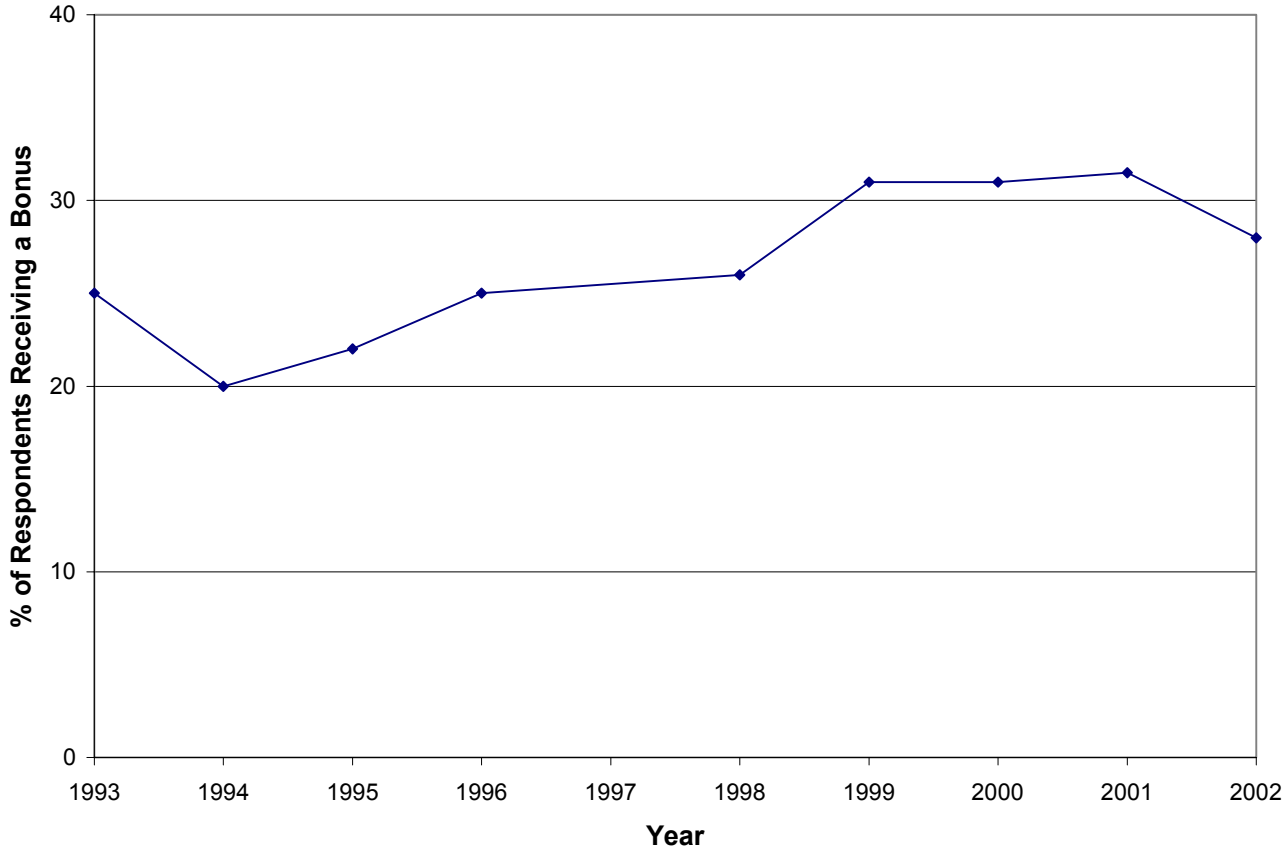

Figure 14: Percent of Respondents Receiving a Bonus

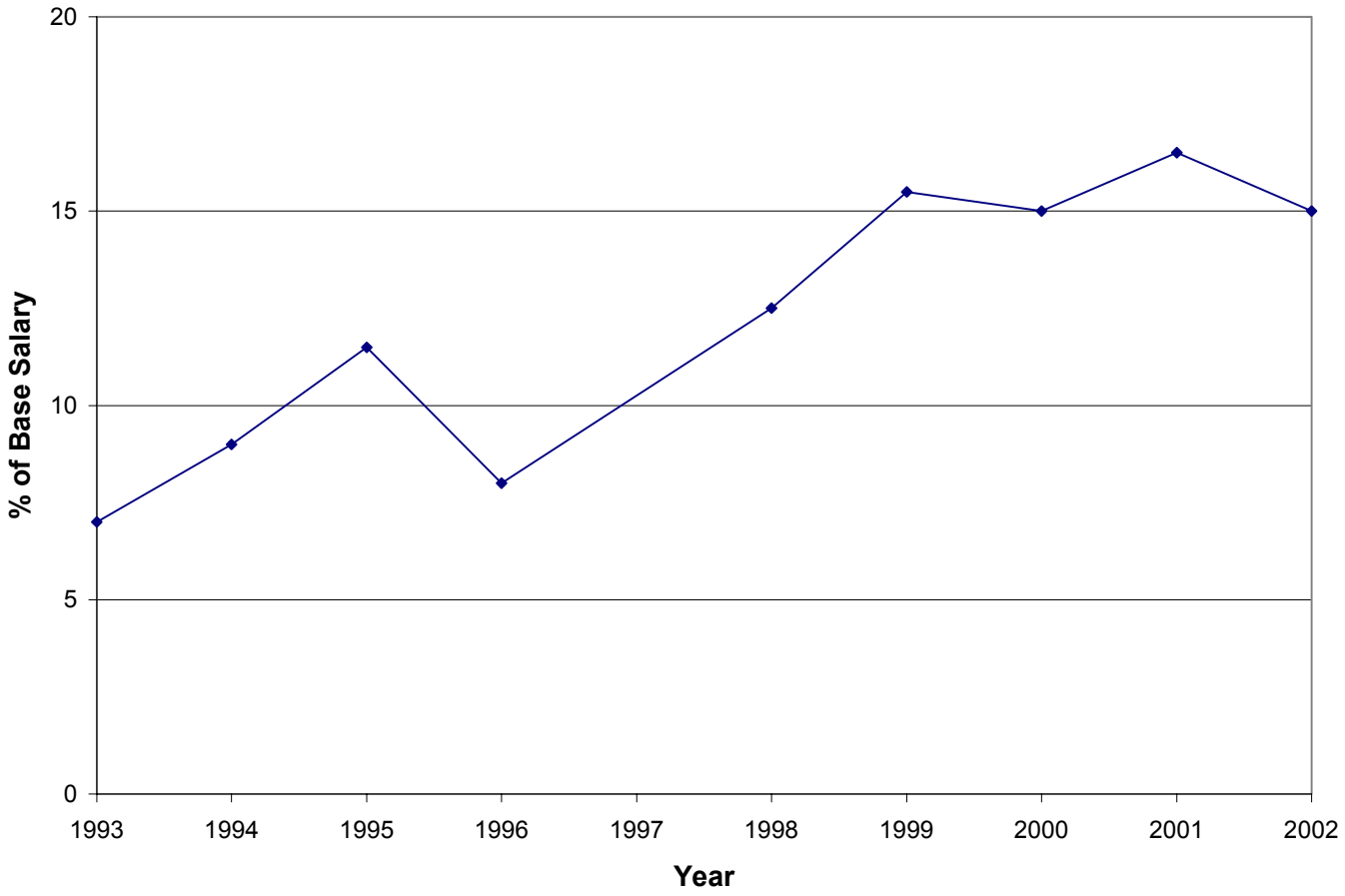

Figure 15: Bonuses as a Percent of Base Salary

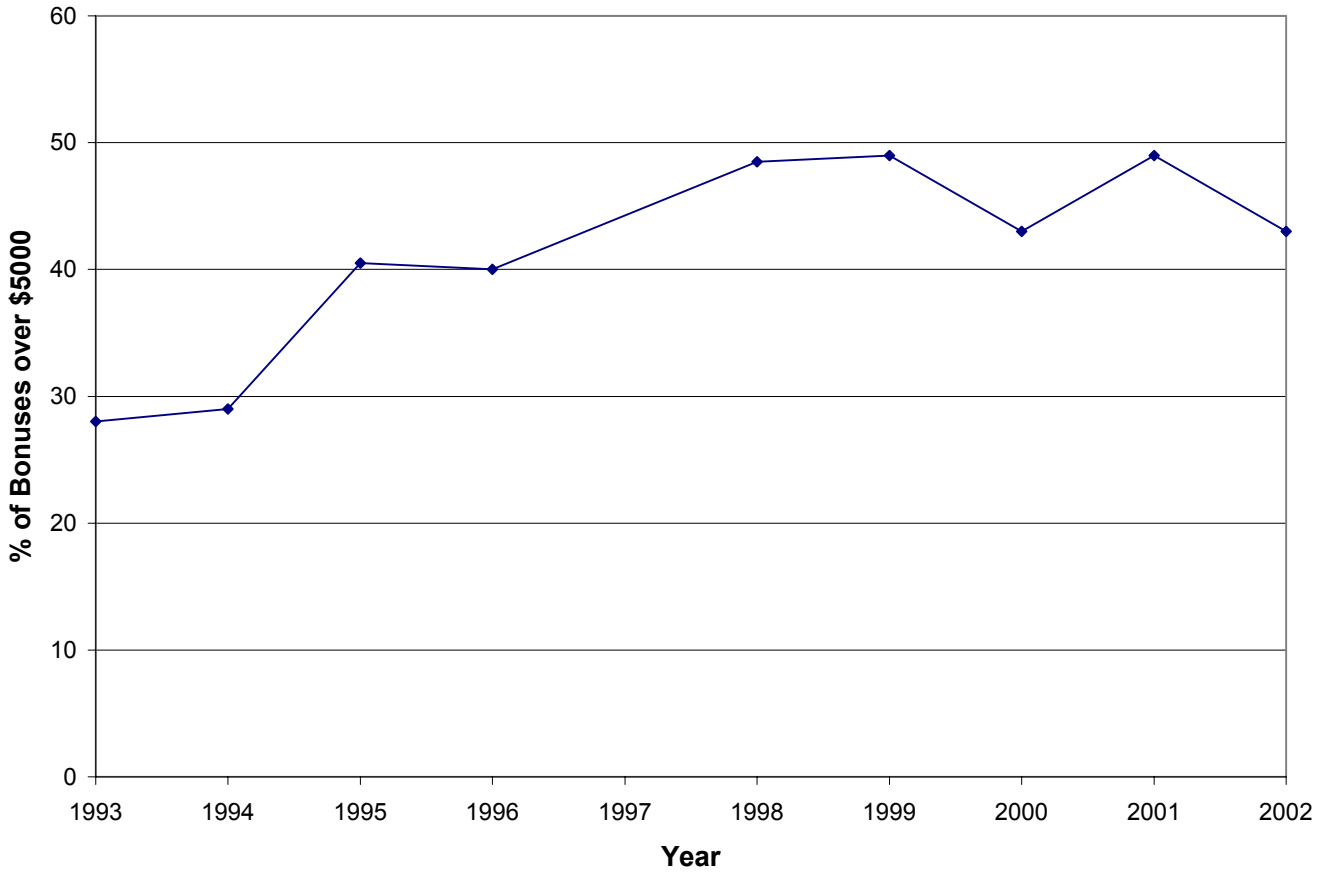

Figure 16: Percent of Bonuses over $5000

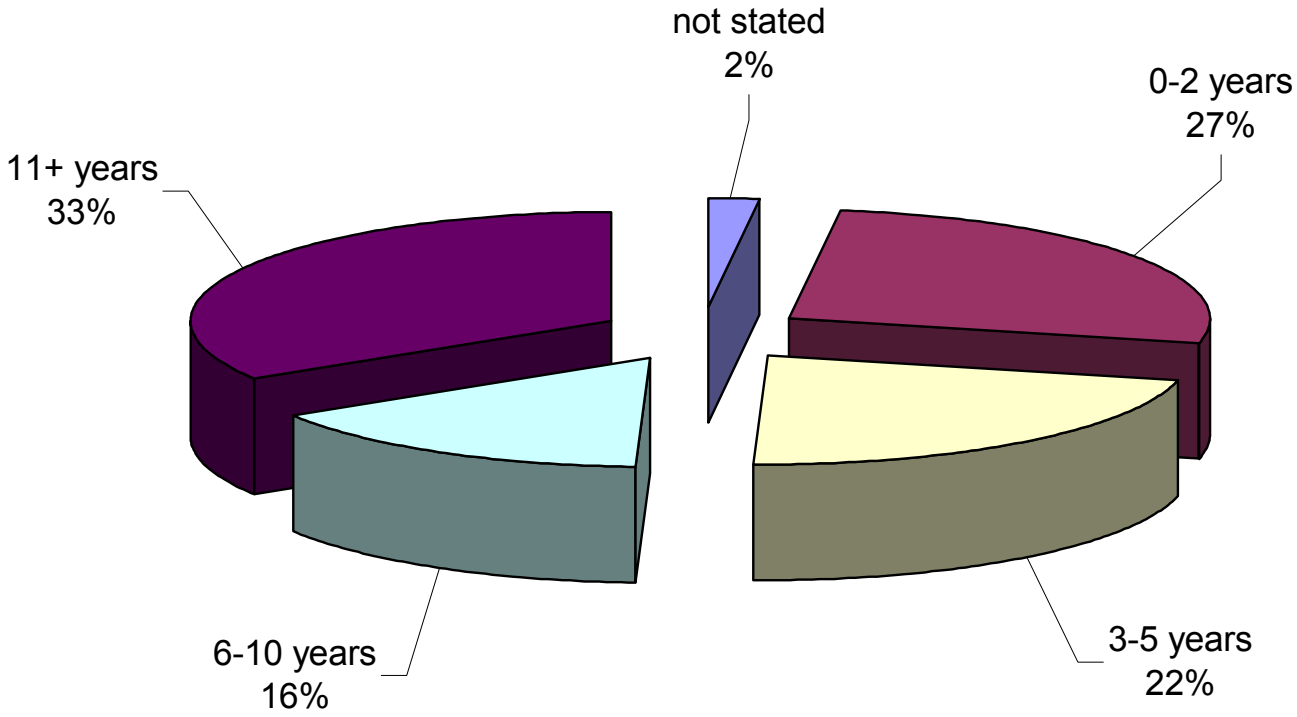

Figure 17: Number of Years with Current Employer

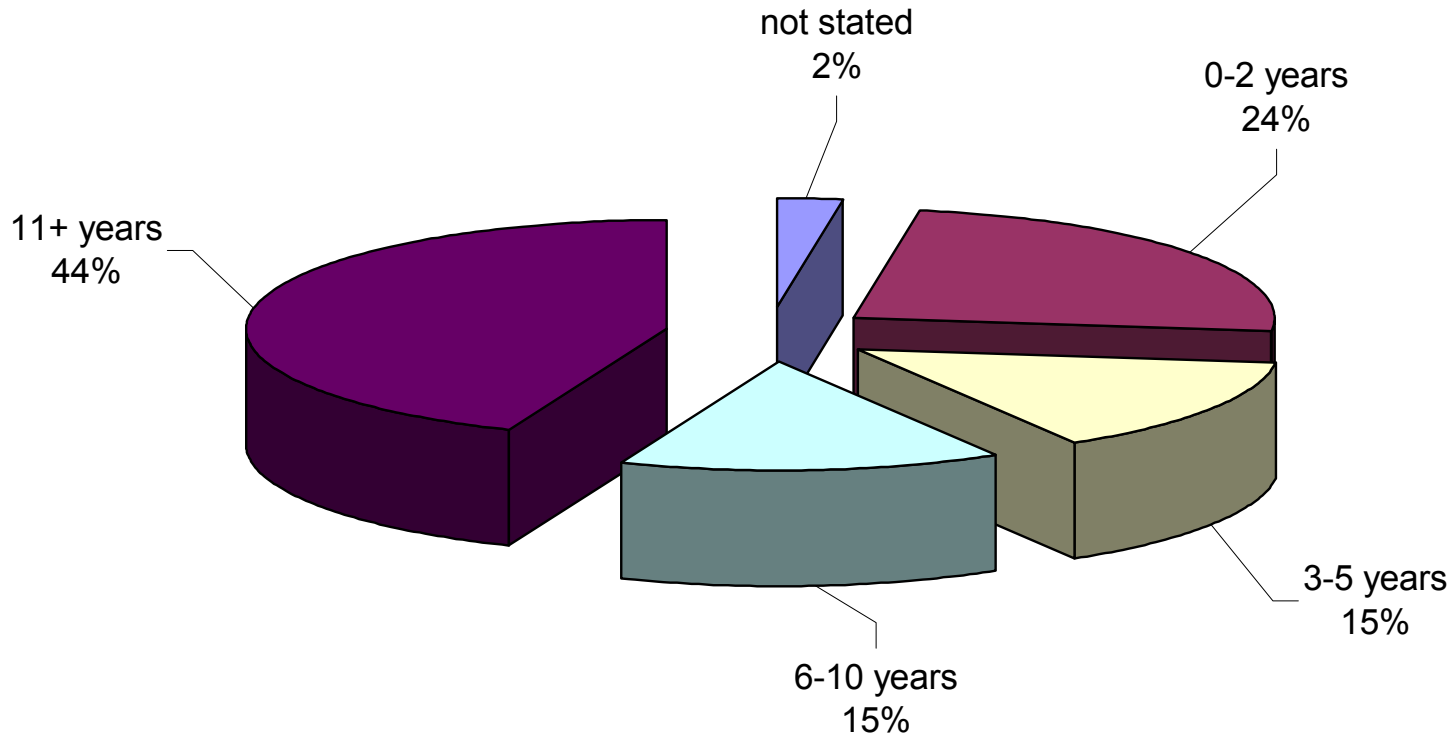

Figure 17a: Number of Years with Current Employer (Geoscientists)

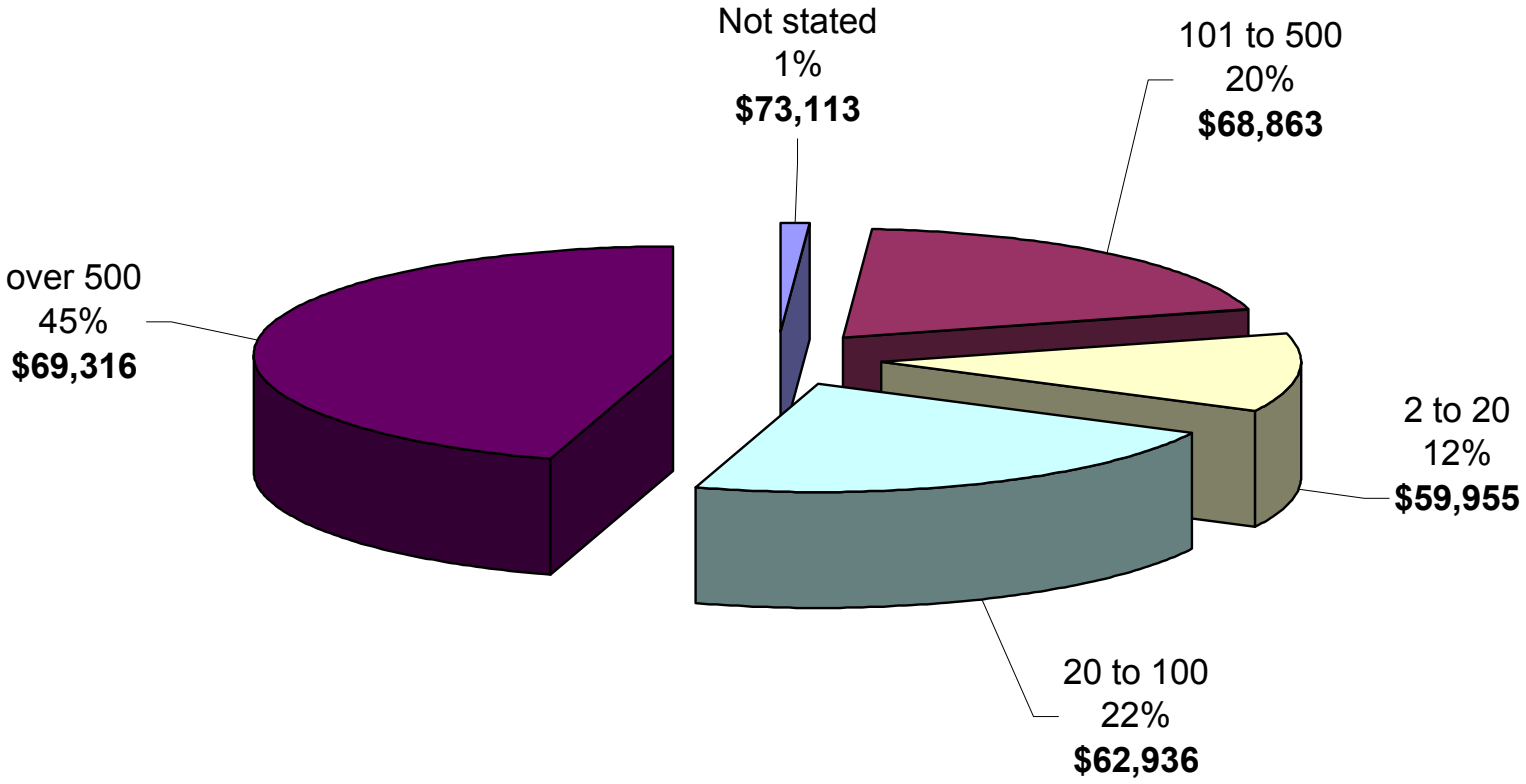

Figure 18: Number of Employees at Current Employer and Average Base Salary

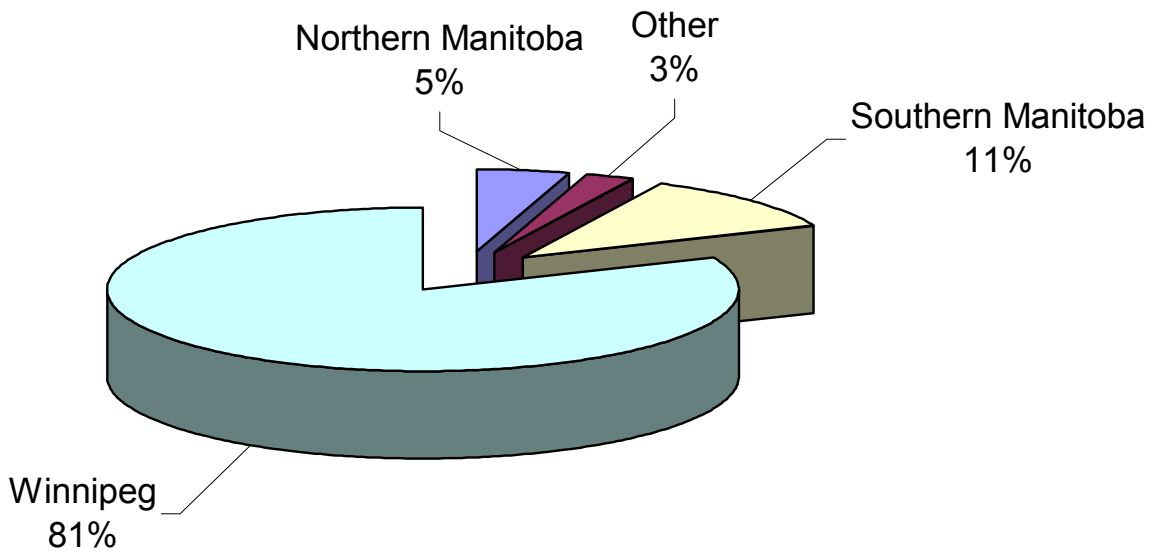

Figure 19: Principal Work Location

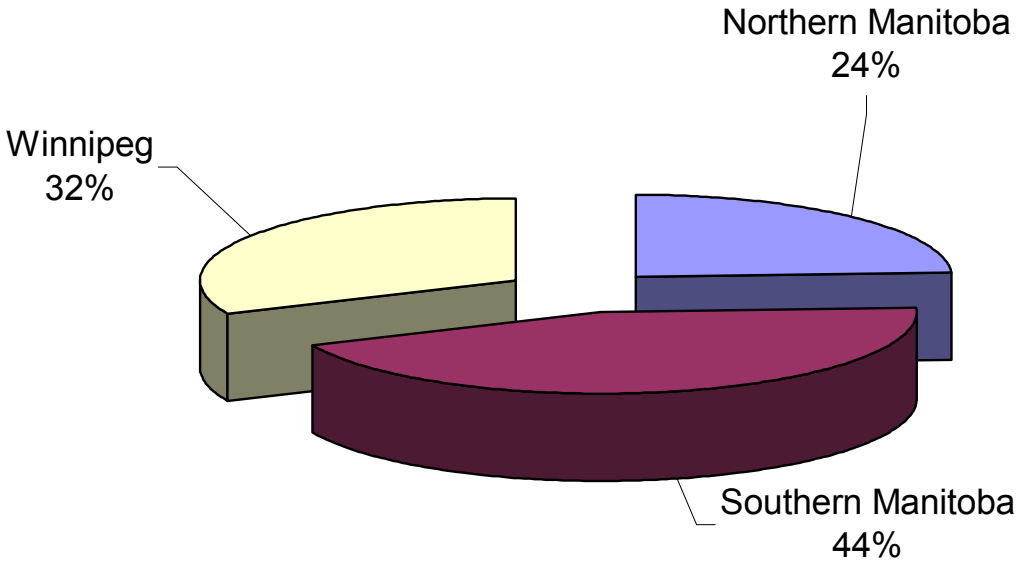

Figure 19a: Principal Work Location (Geoscientists)

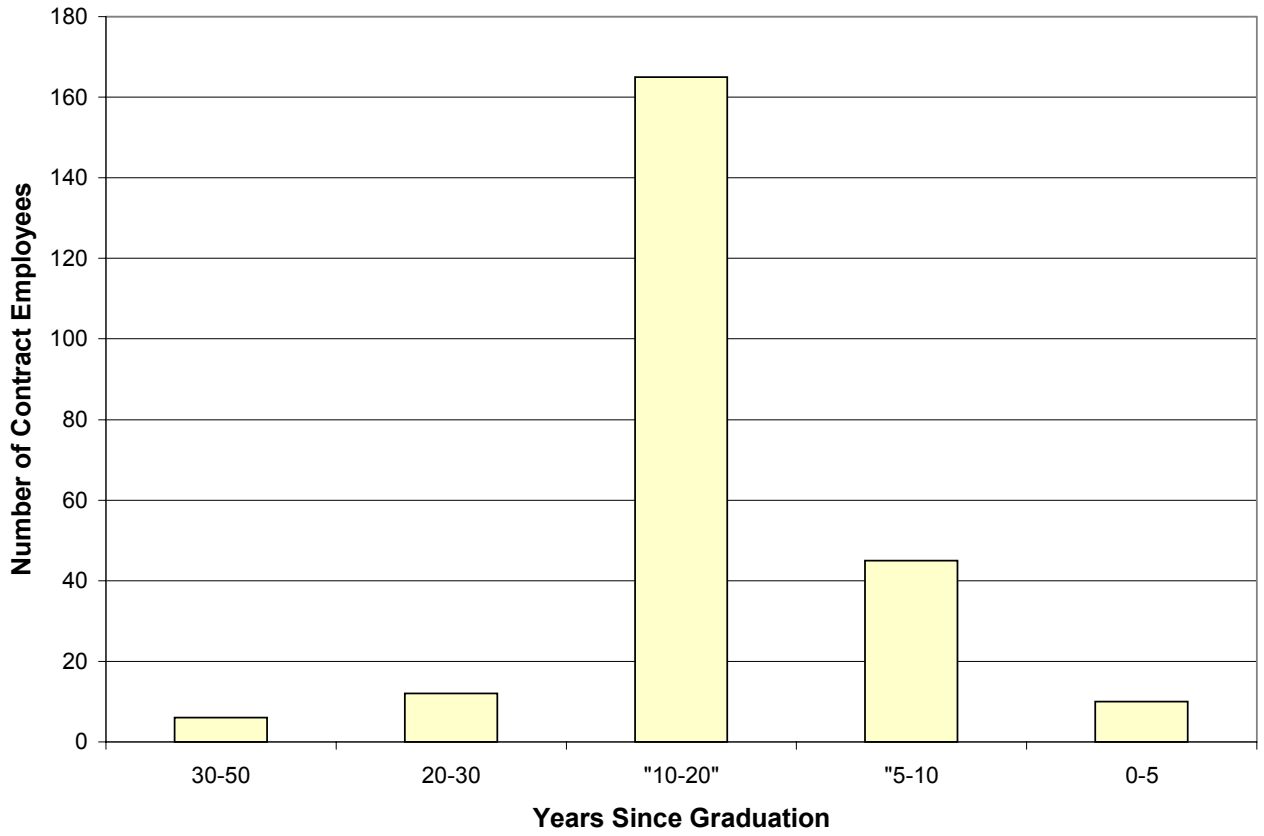

Figure 20: Number of Contract Employees and Years Since Graduation

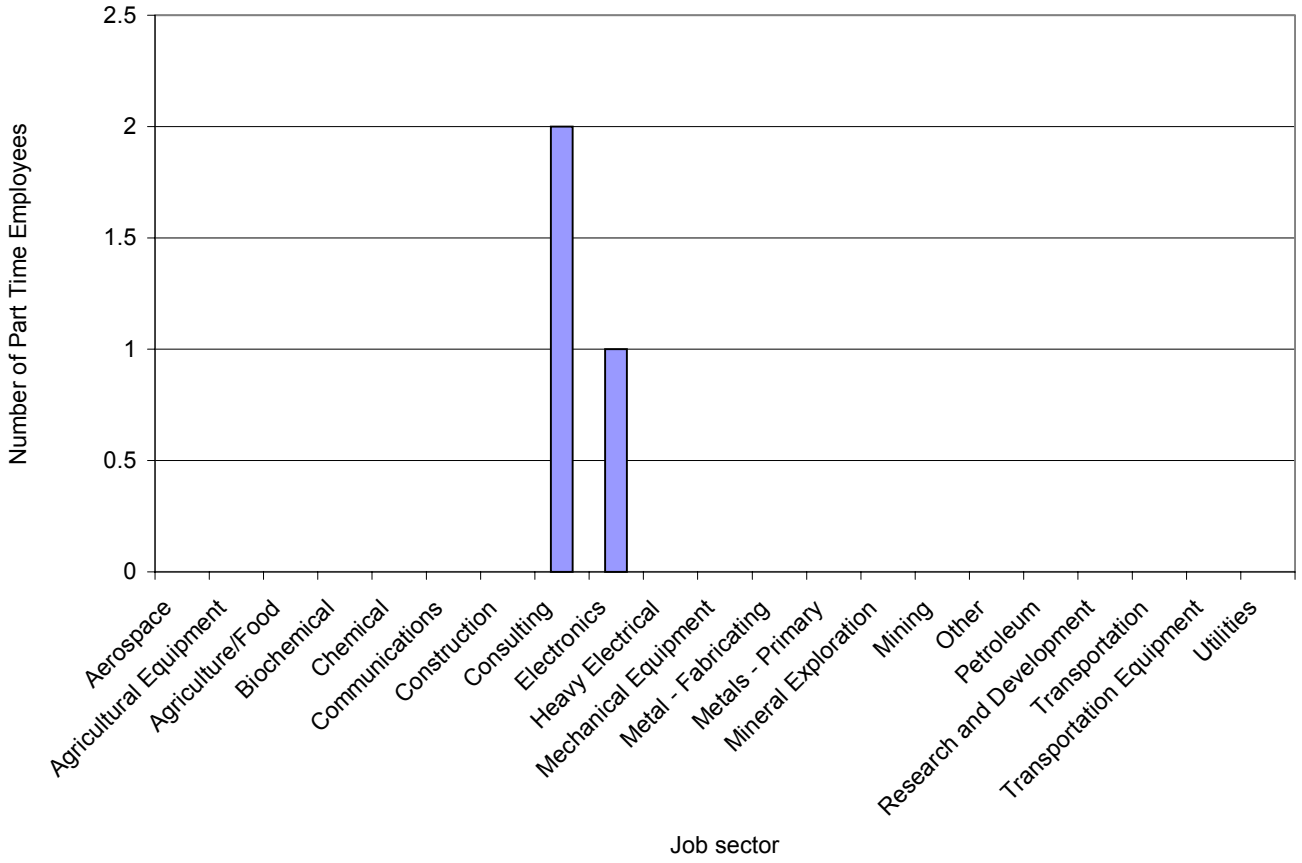

Figure 21: Part-Time Job Sector