



NOVA SCOTIA PLUMBERS EI BENEFICIARY SURVEY

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Table of Contents

| | | |
|------------|--|-----------|
| 1.0 | Introduction..... | 2 |
| 2.0 | Methodology..... | 2 |
| 2.1 | Introduction | 2 |
| 2.2 | Questionnaire Design..... | 3 |
| 2.3 | Sampling Method..... | 3 |
| 2.4 | Summary of Methods | 4 |
| 3.0 | Responses to Questions | 6 |
| 3.1 | Stratification of the Workforce..... | 6 |
| 3.2 | Unionization | 9 |
| 3.3 | Industry Sector Worked by Respondents..... | 11 |
| 3.4 | Level of Work..... | 14 |
| 3.5 | Employment in Any Occupation..... | 15 |
| 3.6 | Unemployment..... | 16 |
| 3.7 | Employment as a Plumber and in Other Occupations | 17 |
| 3.8 | Wages of Plumbers..... | 17 |
| 3.9 | Job Search and Travel | 20 |
| 3.10 | Respondent Rating of Experience with Skill Sets..... | 21 |
| 3.11 | Educational Attainment..... | 24 |
| 3.12 | Years Worked | 25 |
| 3.13 | Number of Employers | 26 |
| 4.0 | Review of EI Administrative Data | 27 |
| 5.0 | Review of 2001 Census Data on Plumbers..... | 30 |
| 6.0 | Findings | 34 |
| 6.1 | Composition of the Labour Force | 34 |
| 6.2 | Unemployment and EI Claims by Plumbers..... | 34 |
| 6.3 | Seasonality and Job Tenure | 35 |
| 6.4 | Apprentices and Young Workers..... | 36 |
| 6.5 | Mobility and Segmentation of the Labour Force..... | 37 |
| 6.6 | Job Search Behaviour | 38 |
| 6.7 | The Importance of Working Independently | 38 |
| | Appendix A: Survey – Plumbers | 39 |



1.0 Introduction

This report summarizes the results of a survey of plumbers who claimed Employment Insurance (EI) in Nova Scotia at some point in 2001 or 2002. It was designed to collect information on the labour market activities and outcomes of these individuals in 2002. Results from the survey will be combined with results from a survey of employers and with secondary data to achieve an in-depth understanding of the labour market for plumbers in Nova Scotia.

Section 2 of the report summarizes the methodology used to undertake the survey. Section 3 provides a review of the responses to the various questions included in the survey. In reviewing the information in Section 3 the reader should note that PRAXIS was prohibited from presenting data related to the questions in cases where there were fewer than ten responses.

Section 4 provides an overview of data from the HRSDC administrative files on all EI Claimants who made at least one claim as a plumber between 1998 and 2002. Section 5 reviews data on plumbers from the 2001 Census. Section 6 presents the main findings that result from the survey data combined with data from the administrative files and the 2001 Census. The questionnaire used to complete the survey is included in Appendix A.

2.0 Methodology

2.1 Introduction

On behalf of PRAXIS Research and Consulting, Prairie Research Associates (PRA) Inc. conducted surveys with plumbers living in Nova Scotia.¹ In each case, these individuals had claimed for EI at some point in 2001 or 2002. This section of the report reviews the methodology and related issues for the survey of this group.

The survey of plumbers in Nova Scotia was done at the same time as surveys of construction electricians on Prince Edward Island, and carpenters on PEI and in Nova Scotia. The development of questionnaires for all of these groups was completed in an integrated fashion as was the testing and

¹ HRSDC provided a survey frame comprised of Plumbers (NOC 7251).



implementation of the surveys. For this reason, the methodology section of this report describes the design and process followed for all four trades groups.

2.2 Questionnaire Design

PRAXIS Research and Consulting Inc, in consultation with Human Resources and Skills Development Canada (HRSDC), designed a questionnaire for each of the three trades involved. The final draft of the questionnaire was then programmed into PRA's computer-aided telephone interviewing (CATI) system for pre-testing.

Pre-testing took place in March 2004 and involved the following steps:

- ▲ A general discussion of the purpose of the research;
- ▲ A question-by-question review of the survey instrument and a discussion of the intent of each question;
- ▲ Conducting pre-test surveys with seven carpenters, a debriefing of the results of the initial pre-test, which resulted in numerous modifications to the questionnaire;
- ▲ Further pre-testing (n=26) once these initial modifications were made; and
- ▲ Another debriefing of the results of this pre-testing and further revisions to the questionnaire.

While the initial pre-test focused on carpenters, a smaller pre-test was conducted with each of the other groups. The finalized version of the plumber questionnaire is presented in Appendix A.

2.3 Sampling Method

HRSDC provided PRAXIS Research and Consulting with a sample of individuals who met the criteria, that is, they listed plumbing as their main area of work activity and initiated an EI claim in 2001 or 2002.

This information was transferred to PRA electronically. Due to the sensitive nature of the information, the file was transferred in an encrypted format.



2.4 Summary of Methods

PRA contacted 320 of the names and numbers provided. Of those contacted, 100 interviews were completed over the interview period. Potential respondents were very cooperative; only 23% refused, and overall, 40% of potential respondents were willing to complete a survey.

PRAXIS was supplied with the entire population of plumbers who claimed EI in 2001 or 2002 in order to complete the survey.

The following table summarizes the methodology. The error rate assumes that the sample was random.

Table 1

| METHODOLOGICAL SUMMARY | |
|----------------------------|--------------------------------|
| Sampling method | Random from list |
| Survey method | Telephone |
| Total sample – NS Plumbers | 100 |
| Plumbers (NS) – Error Rate | +/- 5.9%, 19 times out of 20 |
| Pre-test dates | March 23, 26, 30, and 31, 2004 |
| Survey dates | March 27 to April 8, 2004 |

It must be noted that the error rate on questions that are answered by a sub-set of respondents is higher than the level indicated in the table above. In these cases, differences in results reported for sub-sets of respondents may not be statistically significant.

All interviewers and supervisors on this project were certified as “Enhanced Reliability” from Public Works and Government Services Canada.

In order to participate in the survey, respondents had to indicate in the survey that they were employed in the specified trade in 2000, 2001, or 2002. Twenty-eight of the 128 co-operative contacts (22%) were disqualified based on this criteria.



The call record for the survey of plumbers is presented in the following table.

Table 2

| CALL RECORD FOR PLUMBER SURVEY, NS | | |
|---|---------------|----------------|
| Outcome | Number | Percent |
| A Total numbers attempted | 320 | 100% |
| 1. Not in service | 10 | 3% |
| 2. Fax | - | - |
| 3. Business | 3 | <1% |
| Remaining | 307 | 96% |
| B Total eligible numbers | 307 | 100% |
| 4. Busy | 1 | <1% |
| 5. Answering machines | 25 | 8% |
| 6. No answer | 83 | 3% |
| 7/8. Language/illness/incapability | 48 | 16% |
| 9. Selected/eligible respondent not available | 59 | 19% |
| Remaining | 166 | 54% |
| C Total asked | 166 | 100% |
| 10. Household refusal | 1 | 1% |
| 11. Respondent refusal | 32 | 19% |
| 12. Qualified respondent break off | 5 | 3% |
| Remaining | 128 | 77% |
| D Co-operative contacts | 128 | 100% |
| 13. Disqualified | 28 | 22% |
| 14. Completed interviews | 100 | 78% |
| Refusal rate = (10+11+12)/C | 38 | 23% |
| Response rate (D/B) | 128 | 42% |



3.0 Responses to Questions

3.1 Stratification of the Workforce

The plumber workforce is comprised of three distinct groups:

- ▲ Licensed journey people who hold a Certificate of Qualification as a plumber under the Apprenticeship and Trades Qualifications Act of the Province of Nova Scotia.
- ▲ Workers who identify themselves as plumbers but do not hold a Certificate. These individuals may record themselves as plumbers in the Census, to HRSDC officials when applying for EI or in surveys but they are not licensed journey people. Certification is mandatory for the plumber occupation which implies that these individuals likely are helpers who work with licensed journey people.
- ▲ Apprentices.

Information from the survey will be presented separately for these groups to the degree permitted by confidentiality restrictions.

The number of apprentices and the total number of non-apprentice plumbers is presented in the following table.

Table 3

| NUMBER OF RESPONDENTS BY OCCUPATIONAL GROUP PLUMBERS | |
|---|------------|
| Registered Apprentice | 39 |
| Certificate of Qualification/Non-Certified | 61 |
| Total | 100 |

Source: Q11 & Q12

Table 3 shows that 39% of respondents classified themselves as apprentices with the remainder being licensed journey people or non-certified plumbers who were not apprentices. The number of non-certified plumbers who were not apprentices was too small to show separately. For this reason, no documentation for this group is included in this report.

The employer survey report completed by PRAXIS showed that employers estimated that the proportion



of their peak season workforce that was in each of the three occupational groups was: 20% registered apprentices, 76% licensed journey people and 4% unlicensed workers. This comparison indicates that apprentices were significantly over-represented in the EI survey.

The age profile of survey respondents closely matched that of all EI claimants in the 1998-2002 period who said they were plumbers. These age profiles, and the age profile of plumbers in the 2001 Census, are presented in the following table.

Table 4

| COMPARATIVE AGE PROFILES | | | |
|---------------------------------|----------------------------------|---------------------------------------|--------------------|
| | PRAXIS Survey² | All EI Claimants 1998-2002 | 2001 Census |
| 15-24 | 12% | 13% | 9% |
| 25-34 | 34% | 37% | 26% |
| 35-44 | 32% | 25% | 24% |
| 45+ | 22% | 25% | 41% |
| Total | 100% | 100% | 100% |

The table shows that there was a significantly higher percentage of the respondents to the PRAXIS survey and EI claimants were in the younger age groups compared to the 2001 Census.

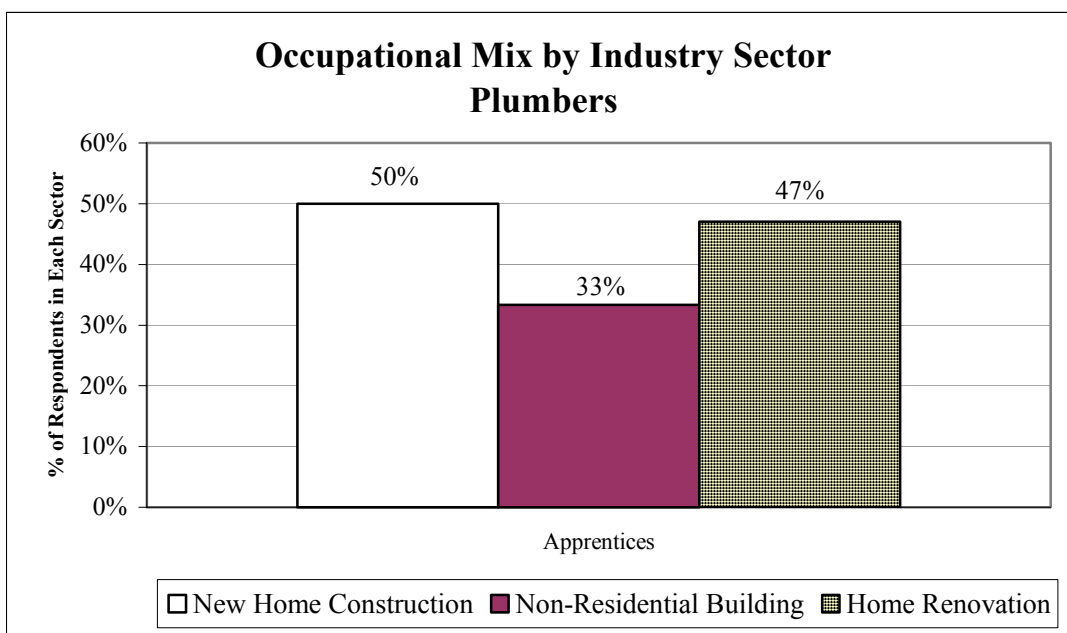
The average age of apprentice respondents was 29 compared to 42 for certified journey people. Thirty-two of 39 apprentices (82%) were under 35 while 37% of the certified journey people were 45 or older.

The average age of all respondents was 37. The new home construction, multi-unit housing, home renovation and non-residential building sectors all had workers with an average age of 36. The average age of the 14 respondents who worked exclusively in non-residential building was 38.

² The age profile of PRAXIS survey respondents is as of 2002 while that of the EI Claimants and Census participants is as of 2001.



The following exhibit shows that close to 50% of respondents in new home construction and in home renovations were apprentices compared to 33% for non-residential building construction.³



Source: Q3, Q11 & Q12

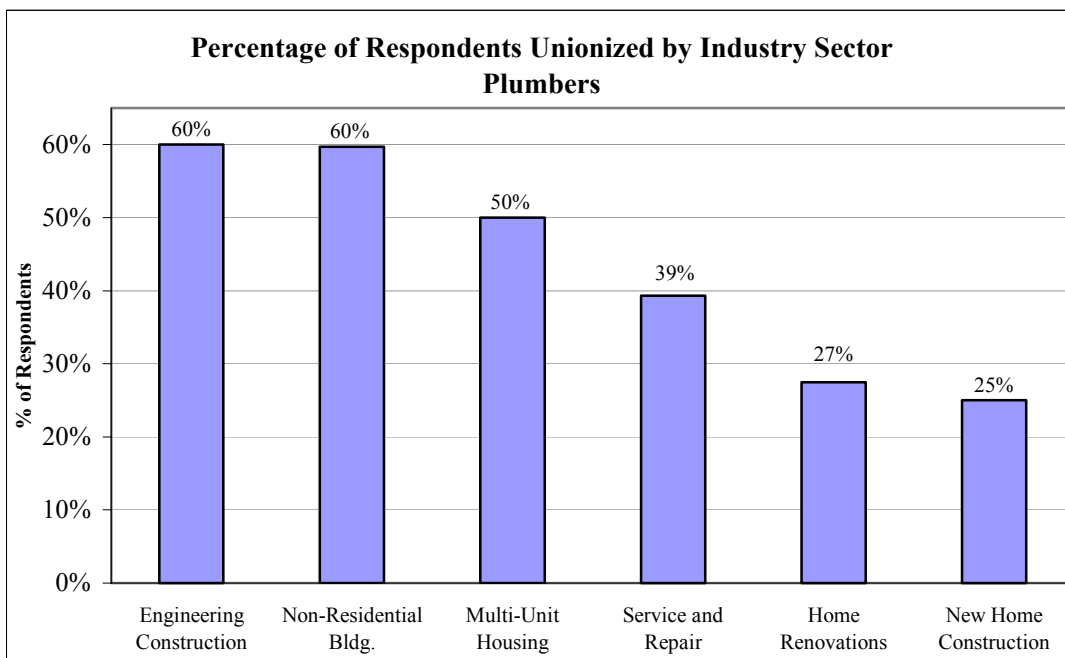
³ The proportion of uncertified non-apprentices cannot be reported due to confidentiality restrictions. As noted earlier, no results for this group will be included in this report.



Unionization

Fifty-four of the 100 respondents were members of a trade union in 2002.

The non-residential building and engineering construction sectors had the highest degree of unionization among respondents as illustrated by the following exhibit.



Source: Q3 & Q7

It is interesting to note that unionized workers appear to be less mobile across industry sectors than their non-union counterparts. Survey evidence shows that a significantly greater proportion of non-union respondents worked in four or more industry sectors compared to union respondents.⁴

The average age of unionized respondents was 38 – four years older than their non-union counterparts who were 34 on average. Thirty-seven percent of the unionized respondents were under 35 years old, compared to 56% of non-unionized respondents.

⁴ Breakdowns cannot be provided due to confidentiality restrictions.



Thirty-seven of 54 unionized respondents (69%) were unemployed in 2002 compared to 25 of 46 non-union respondents (54%). Of the respondents who indicated that they were unemployed in 2002, non-unionized respondents were unemployed for slightly longer than unionized respondents on average, at 4.6 months compared to just under 4 months for unionized respondents.

Unionization by occupational group is depicted in the following table. The table shows that of the respondents in this survey, a much smaller proportion of apprentices were unionized (36%) compared to licensed journey persons (67%). It also shows that 28% of unionized plumbers were apprentices compared to 58% of non-unionized plumbers.

Table 5

| MEMBER OF A TRADE UNION IN 2002 PLUMBERS | | | |
|---|-----------|------------|--------------|
| | No | Yes | Total |
| Certified | 18 | 36 | 54 |
| Apprentices | 25 | 14 | 39 |

Source: Q11 & Q12



3.2 Industry Sector Worked by Respondents

Respondents were asked to identify the industry sectors in which they worked in 2002. They also were asked to estimate the percentage of their total work in 2002 that occurred in each industry sector. The responses are summarized in the following table.

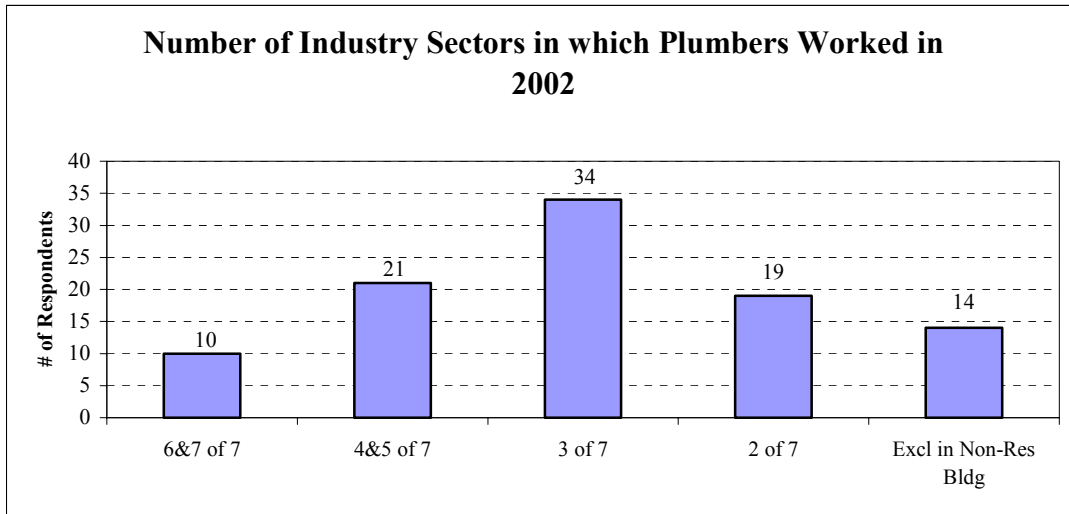
Table 6

| PLUMBERS WORKED IN THE FOLLOWING INDUSTRIES IN 2002 | | | | | | | |
|--|---|--|-------------------------|--|---------------------------------|---------------------------|-------------------------|
| | New home construction (single detached including cottages) | Apartment, condominium or other multiple-unit housing | Home renovations | Non-residential building construction | Engineering construction | Service and repair | Other industries |
| Number of Respondents | 48 | 32 | 51 | 72 | 25 | 61 | 21 |
| Mean % ⁽¹⁾ | 42% | 35% | 19% | 46% | 19% | 25% | 25% |
| Percent of those in each sector who worked: | | | | | | | |
| < 25% in sector | 38% | 53% | 69% | 40% | 64% | 61% | 67% |
| Note (1) – Mean percentage of time worked in each industry sector by all respondents who worked in the sector. | | | | | | | |

Source: Q3

The table shows that the highest proportion (72%) of respondents worked in non-residential building construction while other (non-construction) industries employed the lowest percentage of respondents (21%). Non-residential building construction accounted for the greatest proportion of the work (mean = 46%) of those who were employed in that sector, followed closely by new home construction. Although not shown in the table, non-residential building construction had a relatively high proportion of plumbers who worked 90% or more in the sector (31%).

Sixteen respondents were employed exclusively in one sector. Fourteen of these respondents worked exclusively in non-residential building construction. Many respondents worked in multiple sectors as illustrated in the following exhibit.



Source: Q3

Almost two-thirds (65%) of the 100 respondents worked in three or more sectors. Fifteen of the 19 respondents who worked in two of seven sectors worked in non-residential building. Of the respondents who worked in 3 of 7 sectors, the combination with the highest number of respondents (48%) was new home construction, home renovation and service and repair.

All, or virtually all, of the respondents who worked in four of seven and five of seven sectors worked in new home construction, home renovations, non-residential building and service and repair.

These data indicate that there is one group of workers that worked exclusively in non-residential building construction or in non-residential building along with one other sector.⁵ A second group, accounting for almost two-thirds of the respondents, worked in at least three of the seven sectors identified in the survey.

Most of the plumbers included in the 2001 Census indicated that they worked in the Trade Contracting sector in the construction industry. This choice provides no information on where these trades people actually work. Firms in the Trade Contracting sector are specialized sub-contractors who provide their services across a wide variety of industries and sectors. There is no supporting information on where plumbers in these firms actually worked.

⁵ Twenty-nine of the 72 respondents who worked in non-residential building construction (40%) were in this group.



The Record of Employment (ROE) data on respondents to the plumber survey indicate that 77% of respondents were classified in Trade Contracting. This is close to the 81% of plumbers in Nova Scotia in the Trades Contracting sector as estimated in the 2001 Census. The ROE data are presented in the following table.

Table 7

| RESPONDENTS BY INDUSTRY PRAXIS PLUMBER EI SURVEY | | | | |
|---|------------|----|-------------|-----|
| | # | # | % | % |
| Trades (SIC 4200) | 77 | | 77% | |
| -- Sub-Trade – Plumbing Work | | 43 | | 43% |
| -- Sub-Trade - Wet Heating and Air Conditioning Work | | 14 | | 14% |
| -- Sub-Trade - Electrical Work | | 10 | | 10% |
| -- Other Sub-Trade | | 10 | | 10% |
| Other Industries | 23 | | 23% | |
| Total | 100 | | 100% | |

Source: HRSDC ROE Data on Plumbers Survey Respondents, PRAXIS

The PRAXIS survey asked respondents to identify industry sectors where they performed their work without allowing them to choose Trade Contracting. This technique forced respondents to reveal the industries and sectors in which they actually provided their services. The results show that a large proportion of respondents worked in a number of industry sectors and only a relatively small percentage worked exclusively in one sector (non-residential building). They provide evidence that there was a high degree of mobility from one industry sector to another in 2002.



3.3 Level of Work

The table below shows the proportion of plumbers who supervised other workers or were supervised by other workers.

Table 8

| NUMBER OF MONTHS AT LEVEL OF WORK | | |
|-----------------------------------|---|--|
| | Supervised Other Workers (100 responses) | Worked for a Supervisor/Foreman (100 responses) |
| None | 59% | 21% |
| < 6 months | 12% | 22% |
| 6-12 months | 29% | 57% |
| Total | 100% | 100% |

Source: Q15

Approximately one-fifth (21%) of respondents were not supervised for any part of 2002 whereas 18% had to be supervised all the time. The majority of the respondents (61%) were supervised for some, but not all, of the year.

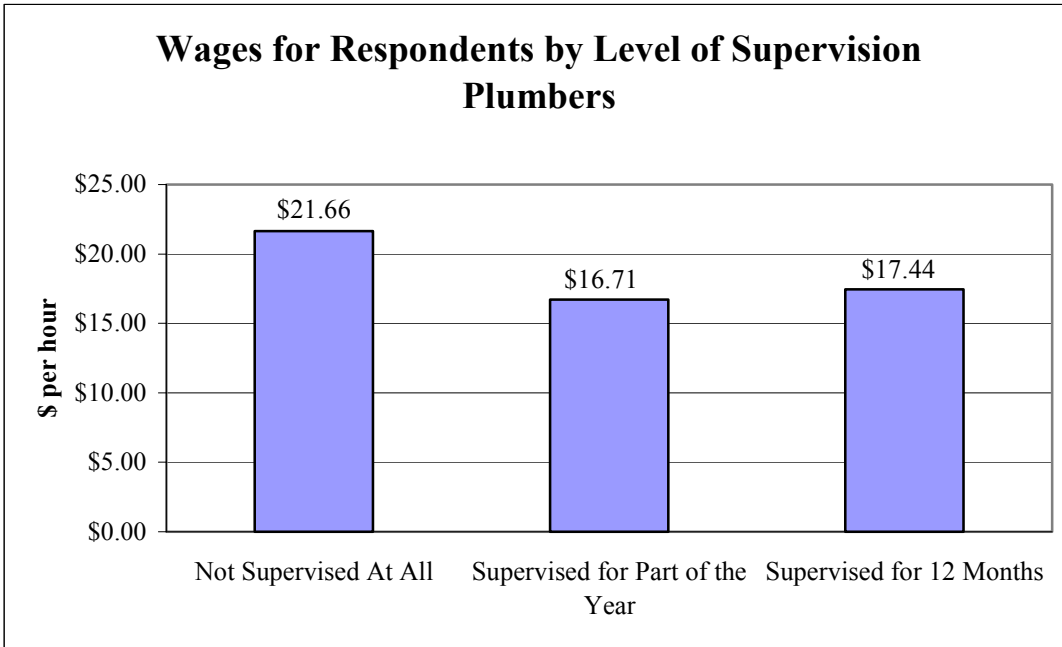
A small fraction of the respondents supervised other workers for all of 2002 while an additional 35% supervised other workers for part of the year. The majority of the workforce did no supervision.

The average age of respondents who were supervised by others for all of 2002 was 33 compared to 45 for those who did not work at all for a supervisor in 2002.

Nineteen of the 21 respondents (90%) who were not supervised at all in 2002 gave an average rating of 4 or 5, on a scale of 1 to 5, for the 10 skill sets that comprise the plumber occupation. Roughly 78% of respondents who were supervised by others for the entire year rated their skills as a 4 or 5 on average.



The following exhibit shows that workers who were not supervised at all in 2002 received an hourly wage premium of 30% compared to those who were supervised for part of the year, and 24% more than respondents who were supervised the entire year.



Source: Q15 & Q17

3.4 Employment in Any Occupation

Respondents were asked to estimate the number of months they worked in any occupation in 2002. They worked approximately 9.4 months on average with 38% of the respondents working all twelve months as shown in the following table. The table also shows that 21 out of the 100 respondents worked for less than seven months.

Table 9

| NUMBER OF MONTHS RESPONDENT WAS EMPLOYED IN ANY OCCUPATION IN 2002 | | |
|---|---------------|----------------|
| | Number | Percent |
| <7 | 21 | 21% |
| 7-9 | 21 | 21% |
| 10-11 | 20 | 20% |
| 12 | 38 | 38% |
| Total | 100 | 100% |

Source: Q1

Eighty-one of the 100 respondents worked full-time (31 hours or more per week) in their trade in 2002.

The average number of months worked in 2002 in any occupation did not vary greatly across the different sectors of the construction industry. The average number of months worked in 2002 in any occupation also did not vary greatly between respondents who indicated that they were certified (9.1 months) and those that were apprentices (9.7 months).

Unionized respondents worked an average of 9.3 months in 2002 while non-unionized respondents worked an average of 9.5 months. Close to one-half of non-unionized respondents (46%) worked all 12 months in 2002 compared to 32% of unionized respondents.

3.5 Unemployment

Sixty-two percent of respondents were unemployed for some part of 2002. Sixty-nine percent of certified respondents were unemployed for some part of 2002 compared to 56% for apprentices. Certified journey people were unemployed for an average of 4.3 months compared to 4.0 months for apprentices. Unionized respondents were unemployed in 2002 an average of 4 months compared to 4.6 months for non-unionized respondents.

The average duration of unemployment was quite consistent across industry sectors at about 4.2 months. Respondents in the new home construction sector were unemployed longest on average (4.7 months), and those in multi-unit housing were unemployed for the shortest period on average (3.2 months).



Twenty-one of 41 respondents (51%) who supervised other workers for part or all of the year were unemployed in 2002, while 41 of the 59 respondents (69%) who did no supervision were unemployed for part of 2002. Respondents who did no supervision in 2002 and were unemployed, were unemployed for an average of 4.7 months compared to an average of 3.4 months for respondents who were unemployed and supervised other workers for part of the year.

None of the 18 respondents who worked for a supervisor for all of 2002 were unemployed in 2002. Eleven of 21 respondents (52%) who did not work for a supervisor at all in 2002 were unemployed in 2002 and the average duration of unemployment was 3.3 months. Fifty-one of 61 respondents (84%) who worked for a supervisor for part of the year in 2002 were unemployed in 2002 and the average duration of unemployment was 4.5 months.

3.6 Employment as a Plumber and in Other Occupations

Respondents indicated that, on average, they worked as a plumber for 9.1 months in 2002. That is, respondents worked 97% of the time as plumbers. Thirty-five respondents worked as plumbers for 12 months while 14 out of 100 worked for less than six months as a plumber.

Almost 54% of certified respondents worked 10 months or more as a plumber in 2002 compared to about 67% of apprentices. Apprentices were employed for an average of 9.7 months as a plumber in 2002 while certified journey people were employed an average of 8.8 months.

3.7 Wages of Plumbers

The average wage for a plumber was \$17.88 per hour in 2002. The minimum wage recorded in the survey was \$8.50 while the maximum was \$39 per hour. There was a significant degree of variation around the mean wage as shown in the following tables. Table 10 shows the percentage of respondents by wage category for all respondents while Tables 11 and 12 show the wage breakdowns for apprentices and licensed journey people.

Table 10

| HOURLY WAGE RECEIVED AS A PLUMBER IN 2002 (95 RESPONSES) | |
|---|-----------------------------|
| | % of All Respondents |
| <\$15 per hour | 30% |
| \$15 - <\$20 per hour | 31% |
| \$20 - <\$25 per hour | 23% |
| >\$25 per hour | 16% |
| Total | 100% |

Source: Q17

Table 11

| HOURLY WAGE RECEIVED AS AN APPRENTICE IN 2002 (38 RESPONSES) | |
|---|-----------------------------|
| | % of All Apprentices |
| <\$15 per hour | 63% |
| \$15 - <\$20 per hour | 37% |
| Total | 100% |

Source: Q11, Q12 & Q17

Table 12

| HOURLY WAGE RECEIVED AS A LICENSED JOURNEY PERSON IN 2002 (54 RESPONSES) | |
|---|---|
| | % of Licensed Trades Workers |
| <\$20 per hour | 32% |
| \$20 - <\$25 per hour | 40% |
| >\$25 per hour | 28% |
| Total | 100% |

Source: Q11, Q12 & Q17

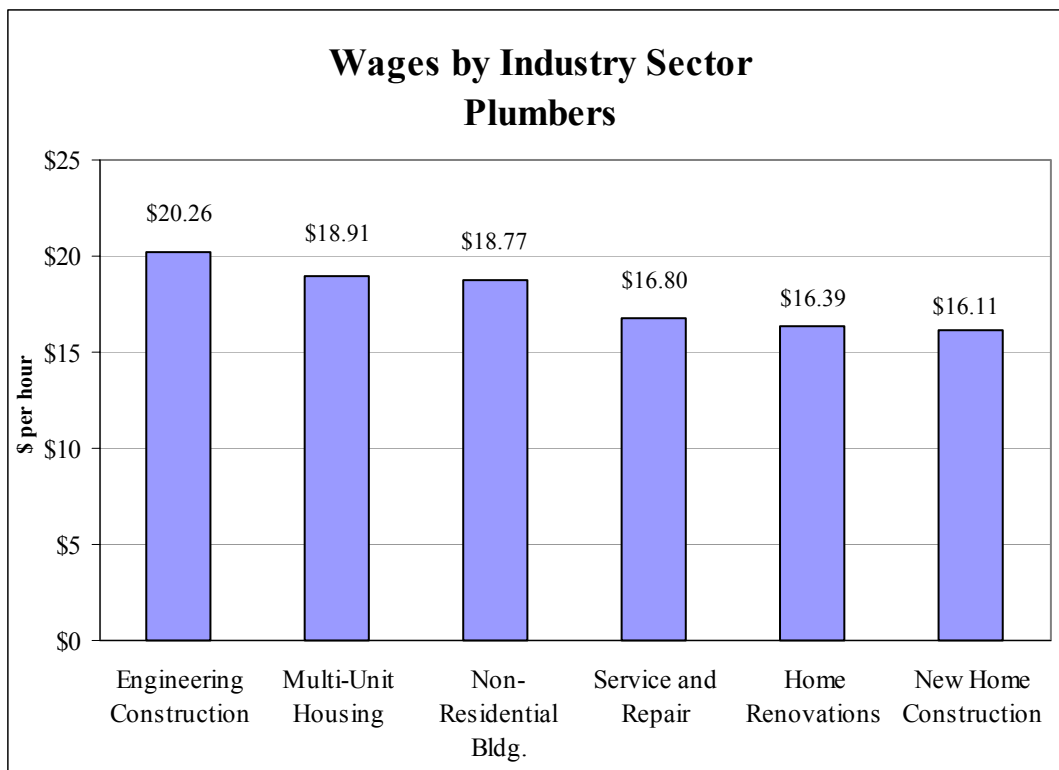
The average wage for a certified journey person was \$21.50 per hour compared to an average of \$13.14 per hour for apprentices. On average apprentices earned 61% as much as certified journey people.



Fifty-one unionized respondents provided information on the average wage they received in 2002. The overall average of unionized respondents was \$20.80 per hour. This compared to an average wage of \$14.51 per hour for 44 non-unionized respondents.

Unionized respondents earned higher wages than their non-unionized counterparts for all occupational groups. The wage gap between unionized and non-unionized respondents was significantly less for apprentices than for certified trades people.

Wages by industry sector in 2002 are illustrated in the following exhibit.



Source: Q3 & Q17

The exhibit shows that average wages paid to respondents was highest in the engineering construction sector. Wages in this sector were 26% higher than those in new home construction. Wages in non-residential building were 17% higher than in new home construction. The average wage of the 13 respondents who worked exclusively in non-residential building was \$18.59.



Respondents who completed community college or higher education earned average wages of \$18.35 per hour while those who had lower education levels⁶ earned an average of \$17.25 per hour.

Ninety-two percent of respondents who made \$20 or more per hour rated themselves as a 4 or 5 on average on a scale of 1 to 5 in terms of the 10 technical skill sets specified in the survey. Eighty-six percent of respondents who earned \$15-\$19 rated their skills as a 4 or 5, compared to 52% of respondents who made less than \$15 per hour.

3.8 Job Search and Travel

Forty plumbers searched for a job in 2002. Twenty-six of 54 unionized respondents (48%) searched for a job compared to 14 of 46 (30%) of non-union respondents. Close to three-quarters of the unionized workers (73%) searched through the union but they also used some of the other search methods as well although with somewhat less intensity than non-union workers. For example, 50% of non-union job searchers indicated that they checked newspaper ads compared to 30% of unionized job searchers. There were two exceptions to this where unionized respondents more actively pursued a job search method than non-unionized respondents: directly contacting employers the respondent knew in the industry and making enquiries in the community. The most frequently used job search methods are illustrated in the following table.

⁶ Including those with a high school education, but no post-secondary training, those with less than high school and those who attended but did not complete community college.



Table 13

| METHODS RESPONDENTS USED TO SEARCH FOR EMPLOYMENT AS A PLUMBER IN 2002 | |
|---|----|
| Directly contacted employers you knew in the industry | 20 |
| Through the union | 19 |
| Used the HRDC Job Bank | 16 |
| Checked newspaper ads | 15 |
| Made enquiries in the community | 12 |
| Other | 14 |

Source: Q16

It is interesting to note that the top four job search methods were used by roughly the same number of respondents and that, on average, respondents used 2.4 methods.

The average distance that respondents indicated that they would be willing to travel for work on a daily basis was 90 kilometres. Forty percent of the respondents were willing to travel a maximum of 50 kilometres, another 44% were willing to travel from 51 to 100 kilometres, and 16% of respondents were willing to travel more than 100 kilometres to work on a daily basis.

One-half of the respondents were willing to re-locate for work. Over one-quarter of these respondents (29%) were willing to permanently re-locate while almost two-thirds were willing to temporarily re-locate.

3.9 Respondent Rating of Experience with Skill Sets

Survey respondents were asked to rate their experience with skill sets defined in the Occupational Analyses Series for plumbers produced by the Occupational Standards Division of HRDC, 1994. It should be noted that The Canadian Council of Directors of Apprenticeship (CCDA) recognizes the occupational analysis as the national standard for the occupation of plumbers.

The average ratings of respondents for a variety of tasks that comprise skill sets in the occupational analysis are presented in the following exhibit.



The skill sets are:

Skill 1 – The use of hand and power tools.

Skill 2 – Job planning.

Skill 3 – Preparation and interpretation of working drawings.

Skill 4 – Determination of system requirements and pipe sizes.

Skill 5 – Installation of water services and drainage and waste systems (including piping, vents, excavation and trenching).

Skill 6 – Installation of fixtures and appliances.

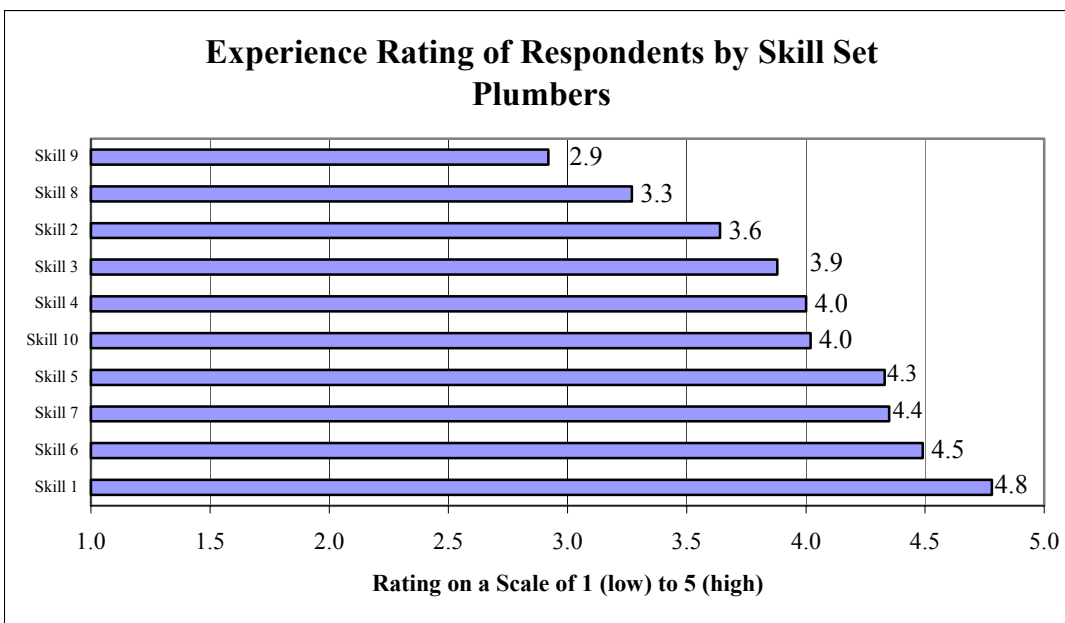
Skill 7 – Installation of hot or cold water heating/cooling piping systems.

Skill 8 – Selection and implementation of pumps.

Skill 9 – Design and installation of sewage systems.

Skill 10 – Maintenance and repair of systems.

The ratings are illustrated in the following exhibit.



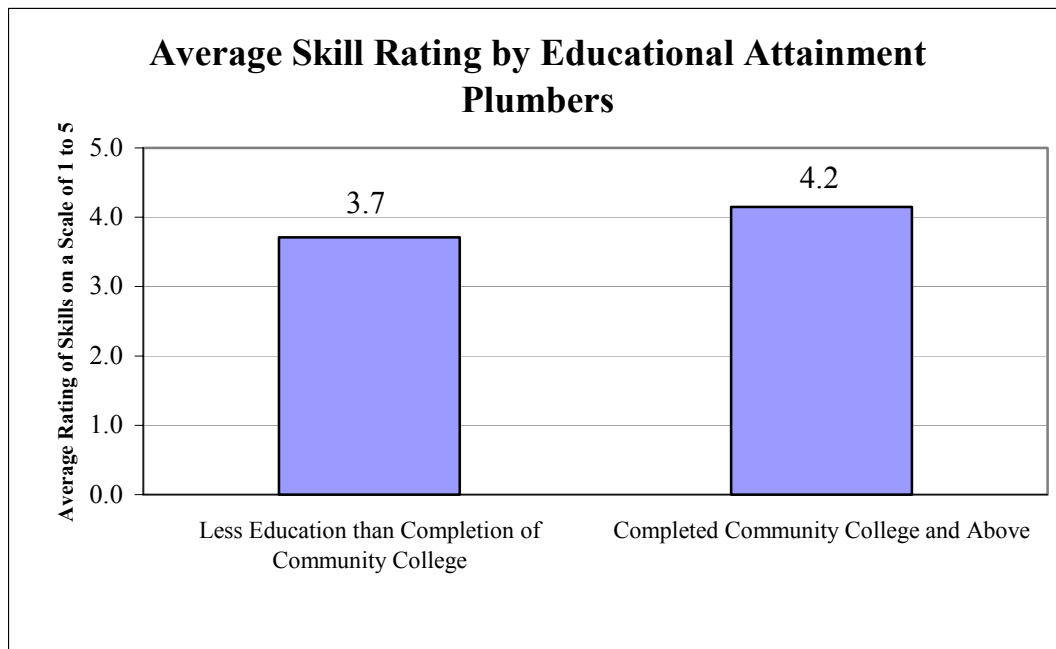
Source: Q6



Only Skill 9 (design and installation of sewage systems) received an average rating of less than 3. Two of the skills that received average ratings less than four related to job planning (Skill 2) and the preparation and interpretation of drawings (Skill 3). Skills 6 (installation of fixtures and appliances) and Skill 1 (using hand and power tools) received the highest ratings.

Non-unionized respondents rated their skills as 3.9 on average compared to 4.1 for unionized respondents. Average skill ratings were very similar across most of the industry sectors identified in the survey, with roughly an average of 4 on a scale of 1 to 5. Respondents who were supervised for 12 months of the year rated their skills as 4.1 on average compared to an average rating of 4.4 for respondents who were not supervised at all in 2002.

Eighty-five percent of respondents who completed community college or higher education rated their skills as a 4 or 5 on a scale of 1 to 5, compared to 61% for respondents with lower education levels.⁷ The average rating for respondents who completed community college and above compared to those who had less education is presented in the following exhibit.



Source: Q6 & Q13

⁷ Including those with a high school education, but no post-secondary training, those with less than high school and those who attended but did not complete community college.



3.10 Educational Attainment

Approximately 68% of the plumbers included in the PRAXIS EI Claimant survey completed community college or above while 32% had lower education levels. These data are presented in the following table.

Table 14

| HIGHEST LEVEL OF EDUCATION IN 2002 | | |
|--|---------------|----------------|
| | Number | Percent |
| Less education than completion of community college ⁸ | 31 | 32% |
| Completed community college or above ⁹ | 67 | 68% |
| Total | 98 | 100% |

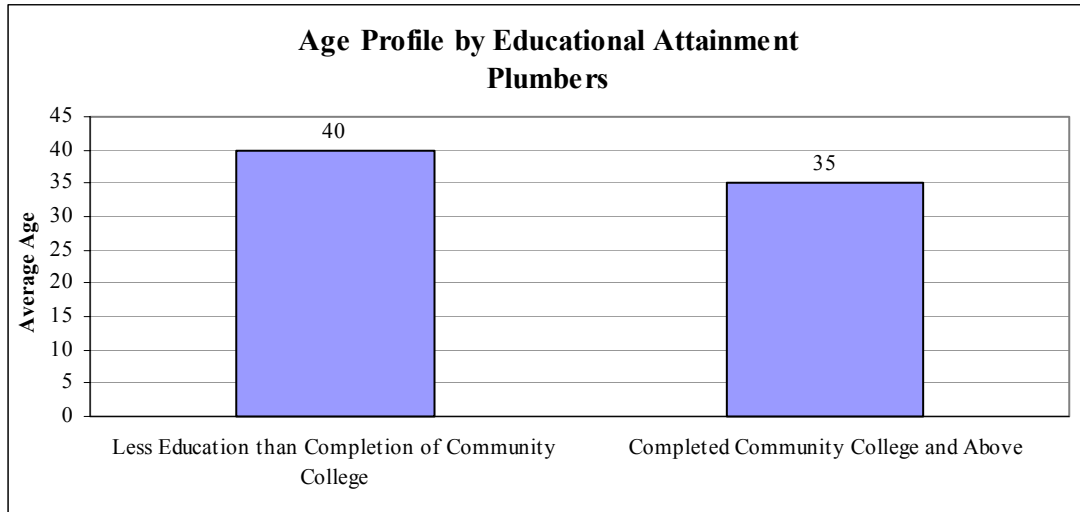
Source: Q13

It should be noted that 18% of respondents completed high school but not community college and a small percentage did not complete high school.

The average age of respondents by level of educational attainment is presented in the following exhibit.

⁸ Includes attended but did not graduate from high school, graduated from high school but with no post-secondary training and attended but did not complete community college.

⁹ Includes completed community college, attended but did not complete university, completed university, other post-secondary attended but did not complete, other post-secondary completed, trade school (unspecified), trade school - 2 years, apprenticeship, journeyman/Red Seal/license and other.



Source: Q13 & HRSDC EI Administrative Data

The respondents who had less education than the completion of community college were old relative to the respondents who had completed community college and above.

3.11 Years Worked

The average respondent had worked for 13 years as a plumber as of 2002. Fifty-percent of respondents had worked less than 10 years as a plumber whereas 19% had worked for 25 years or more. Unionized licensed journey people worked an average of 21 years in the industry as a plumber, compared to 17 for non-unionized licensed journey people.

Roughly three-quarters of the apprentices worked as a plumber for less than five years and none worked more than 20 years.

Thirty-nine percent of certified journey people worked less than 15 years, slightly more than one-quarter (28%) worked between 15-24 years, and one-third worked for 25 years or more.

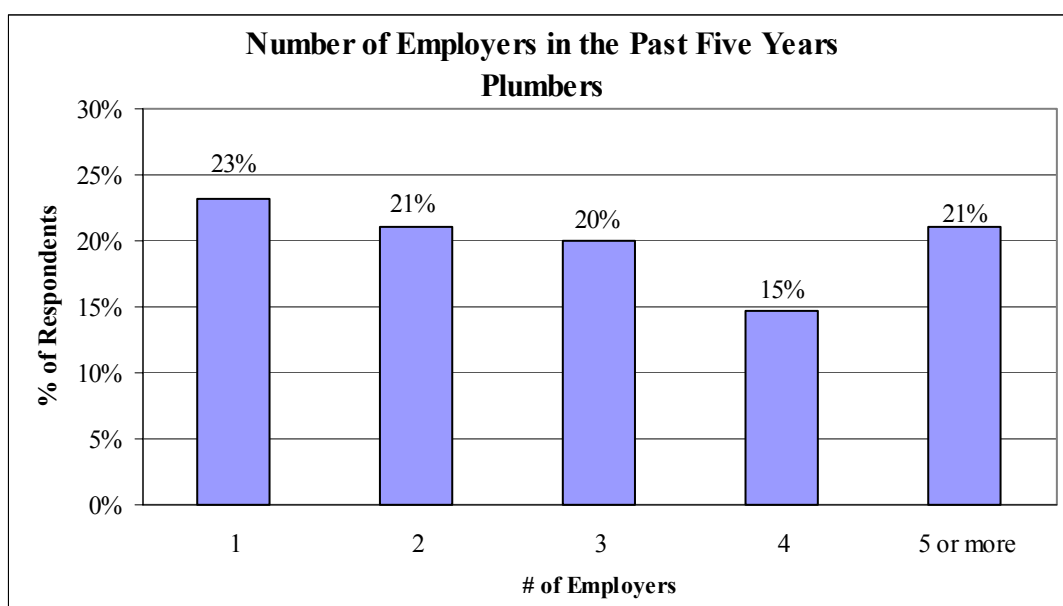
The distribution of years worked is very different for non-unionized and unionized respondents. Fifty percent of the non-unionized respondents worked for less than 5 years compared to 22% of unionized respondents. The relatively large number of non-unionized workers with less than five years in the industry is at least partly attributable to the fact that 25 of 39 apprentices who responded to the question on years worked were non-unionized.



Approximately 27% of respondents had never worked on a seasonal basis¹⁰ whereas 28% had never worked on a full-time basis.¹¹ Of the total years worked by plumbers, an estimated 52% were seasonal and 48% were full-time.

3.12 Number of Employers

On average, respondents worked for 3.3 employers in the five years leading up to 2002. Twenty-one percent of the respondents worked for five or more employers in the five years leading up to 2002 while 56% had three or more employers. By contrast, 23% of respondents had one employer in the five years and 44% had two or fewer employers.



Source: Q14

¹⁰ A seasonal basis was defined as 40 weeks per year or fewer.

¹¹ A full-time basis was defined as more than 40 weeks per year.



4.0 Review of EI Administrative Data

Individuals making an EI claim were classified as plumbers if they indicated to the HRSDC official in making their application that their last job before claiming EI was as a plumber. Data on all such individuals who made a claim in Nova Scotia from 1998 to 2002 are presented and discussed in this section of the report.

The number of claimants per year from 1998 to 2002 and the total number claims made by individuals who made a claim as a plumber at some point in this period are presented in the table below. The table shows that many plumber claimants also made claims over the 1998-2002 period in which they specified another occupation.

Table 15

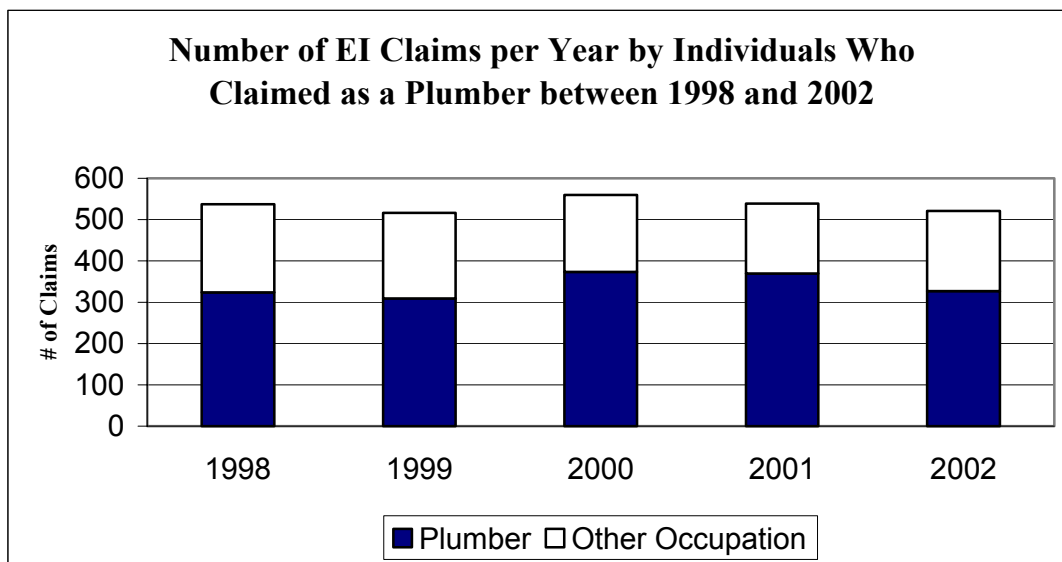
| NUMBER OF EI CLAIMANTS & CLAIMS – NS PLUMBERS 1998 TO 2002 | | | | |
|---|-----------------------|--------------------|--------------|--------------|
| | | # of Claims | | |
| Year of Claim | # of Claimants | Plumber | Other | Total |
| 1998 | 519 | 324 | 213 | 537 |
| 1999 | 500 | 309 | 207 | 516 |
| 2000 | 535 | 374 | 186 | 560 |
| 2001 | 522 | 370 | 169 | 539 |
| 2002 | 503 | 327 | 194 | 521 |
| 1998-2002 | 979 | 1,704 | 969 | 2,673 |

Source: HRSDC, EI Administrative Data

The above table shows that there were a total of 979 claimants over the period and, in any given year, over 50% of these individuals made a claim.



The total number of claimants and claims did not vary significantly from 1998 to 2002. However, the number of claims as a plumber experienced an appreciable increase from 309 in 1999 to 374 in 2000 but dropped again to 327 in 2002. These trends are depicted in the following exhibit.



Source: HRSDC, EI Administrative Data

The number of claims per claimant over the period is illustrated in the following table.

Table 16

| CLAIMANTS BY # OF CLAIMS NS PLUMBERS, 1998 TO 2002 | | |
|---|-----------------------|-----------------------|
| # of Claims | # of Claimants | % of Claimants |
| 1 | 242 | 25% |
| 2 | 228 | 23% |
| 3 | 213 | 22% |
| 4 | 163 | 17% |
| 5 | 117 | 12% |
| 6 | 13 | 1% |
| 7 | 3 | <1% |
| Total | 979 | 100% |

Source: HRSDC, EI Administrative Data



The table shows that most claimants had more than one claim over the five-year period. More than one-third (36%) of the claimants had four or more claims over the period, with an average number of claims of 2.7 per individual. That is, on average individuals made claims in about one-half of the years.

The Census estimated that there were approximately 1,090 plumbers in Nova Scotia in 2001 (see Section 5). The number of EI claims that identified plumbers as the occupation in 2001 was 370, or 34% of the Census labour force. These data comparisons indicate that a significant proportion of the plumber workforce made claims in 2001.

It is possible to identify the “Other” occupations identified on the claims of individuals who made a claim as a plumber at some point over the 1998-2002 period. Roughly 15% of these occupations were plumbing related occupations, including:

- ▲ Contractors and Supervisors, Pipefitting Trades (NOC 7213)
- ▲ Oil and Solid Fuel Heating Mechanics (NOC 7331)

Another 23% of the “Other” occupations were labourer-related occupations.

The table below shows the number of claims by type per year from 1998 to 2002. It shows that the vast majority of claims were regular claims and that a small fraction of the claims entailed no benefits.

Table 17

| EI CLAIMS BY TYPE OF CLAIM AND BY YEAR, NS PLUMBERS | | | | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Type of Claim | 1998 | | 1999 | | 2000 | | 2001 | | 2002 | |
| | # | % | # | % | # | % | # | % | # | % |
| Regular claim | 496 | 94% | 479 | 94% | 509 | 91% | 493 | 92% | 483 | 93% |
| Other ¹² | N/A | N/A | N/A | N/A | 17 | 3% | 18 | 3% | 20 | 4% |
| No benefits | 33 | 6% | 28 | 6% | 34 | 6% | 28 | 5% | 18 | 4% |
| Total | 529 | 100% | 507 | 100% | 560 | 100% | 539 | 100% | 521 | 100% |

Source: HRSDC, EI Administrative Data

¹² Other category includes sickness (major attached), maternity, summer fishing, winter fishing, and sickness (minor attached). Some categories cannot be shown due to confidentiality restrictions.



5.0 Review of 2001 Census Data on Plumbers

The 2001 Census provides a considerable amount of information on plumbers. The Census uses the National Occupational Classification for Statistics (NOC-S) 2001¹³ and the Standard Occupational Classification (SOC) 1991 to classify occupations. The NOC-S and SOC systems produce identical results for plumbers in Nova Scotia.

There were 1,090 plumbers in the labour force in Nova Scotia according to the 2001 Census. Of this total, 85 workers (8%) were unemployed during the week (Sunday to Saturday) prior to Census Day (May 15, 2001). Roughly 81% of the plumbers worked in the Trade Contracting sector of the construction industry during the week prior to enumeration.¹⁴ Smaller proportions of plumbers worked in government and educational services (8%), the manufacturing industry (3%) and a wide variety of other industries and sectors.

The 2001 Census indicates that 66% of the plumber labour force held a trades certificate, 22% held a college certificate or diploma and 1% held a university degree. It is important to note that some or all of the individuals who held a college certificate or diploma also would have held a trades certificate. Approximately 7% of plumbers had less than a high school graduation certificate and 4% had some post-secondary education without a diploma.

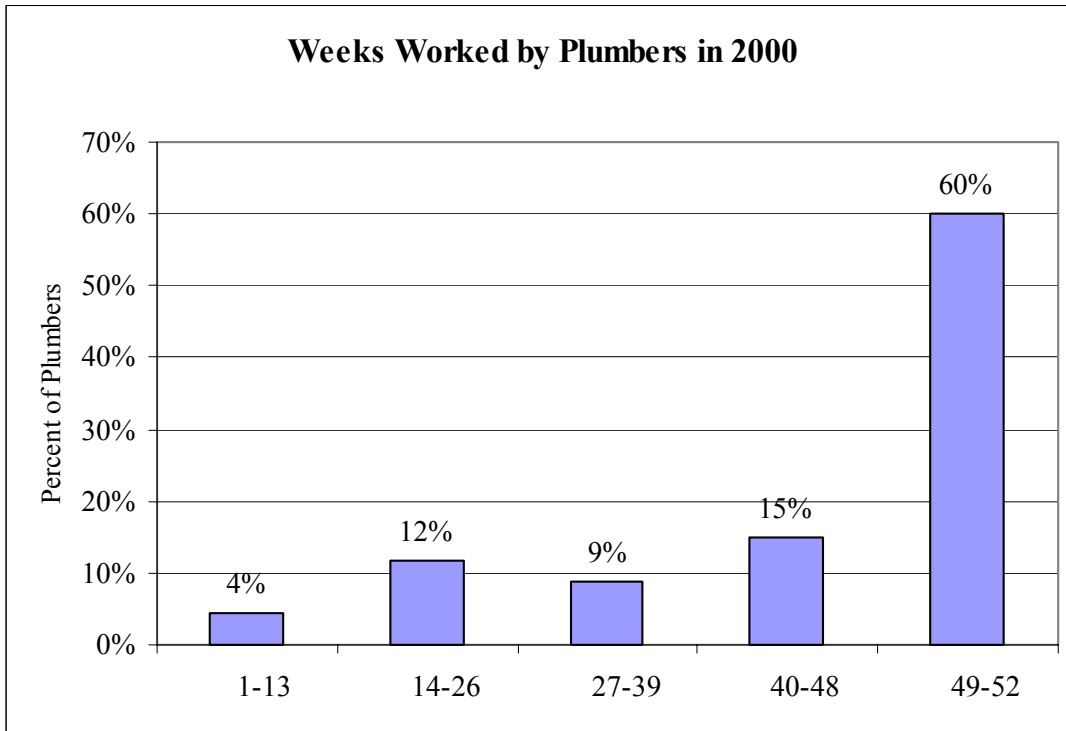
Approximately 86% of plumbers identified Applied Science Technologies and Trades as their major field of study in the 2001 Census. It is interesting to note that 12% of plumbers indicated in the 2001 Census that they had no post-secondary qualifications.

¹³ The National Occupational Classification for Statistics 2001 (NOC-S 2001) must be distinguished from the National Occupational Classification (NOC) produced by Human Resources Development Canada. The two classifications differ only in the aggregation structure of the classification. Both provide a complete listing of all the categories under which Canadian jobs are classified and their descriptions. The first use of the NOC-S 2001 was in the 2001 Census of Population.

¹⁴ For those who were unemployed at this time, their job of longest duration since January 1, 2000 was in Trade Contracting.



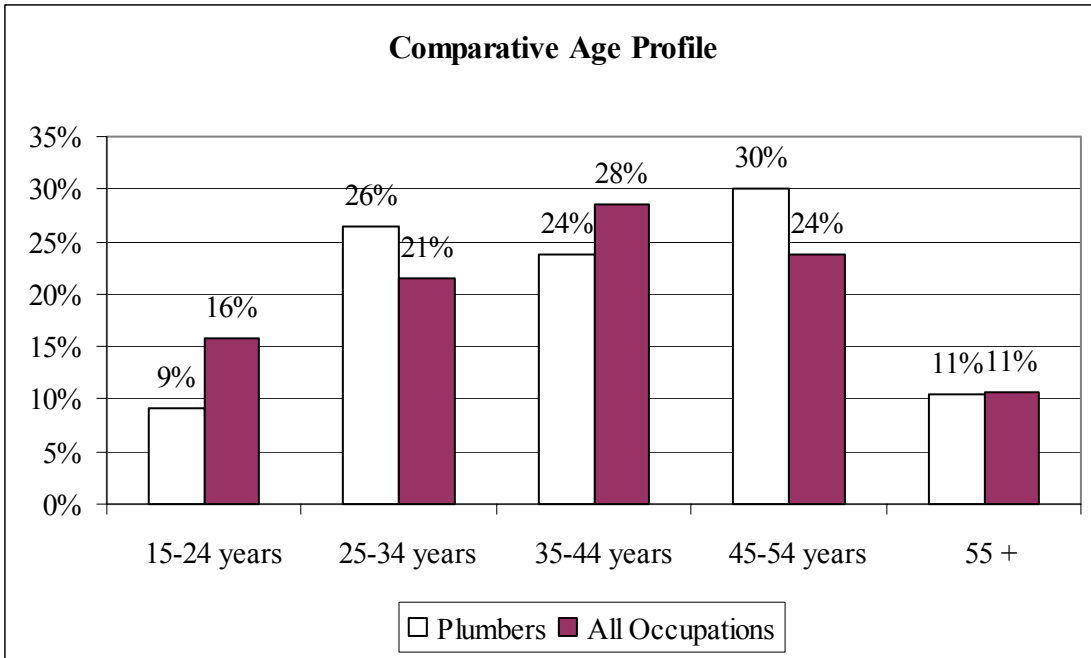
Approximately 92% of the employed plumbers worked full-time, that is, more than 30 hours per week. Approximately 60% of the plumbers in Nova Scotia indicated in the 2001 Census that they worked between 49-52 weeks in 2000 as depicted in the following exhibit.



Source: 2001 Census

Roughly 81% of the plumbers identified themselves in the 2001 Census as employees while 19% indicated that they were self-employed, either incorporated or unincorporated.

The age profile of plumbers compared to that for all occupations in Nova Scotia in 2001 is presented in the following exhibit.

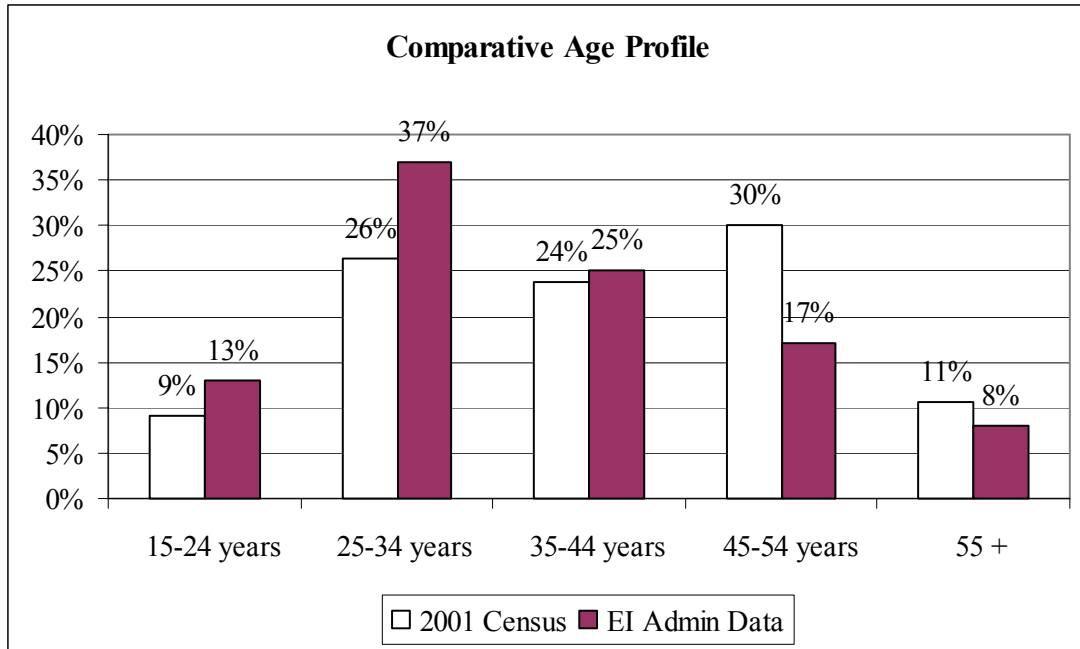


Source: 2001 Census

The exhibit shows that the proportion of the plumber labour force that was under 25 was slightly more than one-half that for all occupations and the proportion of the plumber labour force in the 45-54 age group was significantly higher than for all occupations. The average age of a plumber in 2001 was 41 compared to 39 for an average worker in all occupations in Nova Scotia.



It is interesting to compare the age profile of plumbers in Nova Scotia in the 2001 Census to that of all plumbers who claimed EI between 1998 and 2002. This comparison is illustrated in the following exhibit.



Source: 2001 Census & EI Administrative Data

The exhibit shows that the proportion of EI claimants in the 15-24 and 25-34 age groups is significantly higher than in the 2001 Census. Approximately 50% of EI Claimants were under 35 compared to 35% of plumbers in the 2001 Census. By contrast, 41% of plumbers in the 2001 Census were 45 or older compared to 25% of EI Claimants. The average age of the EI claimants as of 2001 was 37 compared to 41 in the Census.



6.0 Findings

This section of the report presents findings that are significant for understanding the labour force and labour market for plumbers in Nova Scotia.

6.1 Composition of the Labour Force

The labour force for plumbers is made up of three distinct groups: certified trades people, uncertified workers not in the apprenticeship program and apprentices. The survey of employers, combined with the survey of EI claimants, indicates that uncertified workers not in the apprenticeship program comprises a very small fraction of the plumber workforce, especially compared to other trades such as carpenters. A parallel study on PEI found that construction electricians (another compulsory trade) had a significantly higher proportion of unlicensed workers who were not apprentices.

6.2 Unemployment and EI Claims by Plumbers

The data on EI claimants compared to the 2001 Census indicates that about one-third of the plumber workforce claims EI each year. On average EI claimants who were plumbers made a claim every second year over the 1998-2002 period. The data indicate that plumbers in Nova Scotia made extensive use of EI on a yearly basis. The EI claimant data and the Census data also indicate that the proportion of plumbers using EI over the 1998-2002 period was quite constant.

Unemployment rates for plumbers calculated from the 1996 and 2001 Census indicate that the unemployment rate dropped significantly – from 18% to 8% over the period.¹⁵ The downward trend in the unemployment rate portrayed by the Census data appears to conflict with the constant number of EI claimants over the 1998-2002 period.

¹⁵ In interpreting these percentages it is important to remember that the Census data are based on a 20% sample of Census participants and the number of unemployed plumbers in Nova Scotia was small and would contain a high degree of error.



6.3 Seasonality and Job Tenure

Survey respondents worked about an equal proportion of time as seasonal and full-year workers over their careers. The PRAXIS survey of EI claimants shows that 52% of the years worked by respondents as of December 31, 2002 were on a seasonal basis compared to 48% on a full-year basis. This finding is consistent with other economic and labour force indicators that show that the construction industry and the construction trades labour force are highly seasonal.

Almost one-quarter of the respondents (21%) had five or more employers over the five year period leading up to 2002. These data provide evidence that respondents frequently changed employers.

Labour Force Survey data show that the average job tenure of employees in all occupations in Nova Scotia as of 2002 was 99 months. The average for construction trades workers was 77 months. The PRAXIS survey of EI claimants shows that, on average, survey respondents worked for 3.3 employers in the five years leading up to 2002. This implies that, on average, respondents worked 18 months per employer.¹⁶ The survey data indicate that the average job tenure of survey respondents was significantly less than for construction trades workers and all workers in Nova Scotia in 2002.

Survey data on seasonality, job tenure, combined with the EI data on the number and frequency of claims, provide evidence of a high level of frictional unemployment among plumbers in Nova Scotia over the 1998-2002 period. The falling Census unemployment rate between 1996 and 2001 appears to show a drop in unemployment but the unemployment rate in the Census applies to early May, the week just prior to the Census. The rate could reach much higher levels in the winter months due to seasonal declines in construction activity.

¹⁶ There may be a high degree of variability around this 18 month average with EI Claimants working for some employers for a very short period but for much longer periods for other employers.



6.4 Apprentices and Young Workers

Thirty-nine percent of the respondents to the PRAXIS EI claimant survey were apprentices. The PRAXIS employer survey estimated that apprentices comprised 20% of the plumber workforce. These data indicate that a disproportionately large number of apprentices were drawing EI in 2002.

The 2001 Census shows that 9% of plumbers were under 25 years old and an additional 26% were in the 25-34 age group. By comparison, 13% of the plumbers who made EI claims over the 1998-2002 period were under 25 and 37% were between 25 and 34. These data indicate that a relatively high proportion of workers under 35 made EI claims over the 1998-2002 period.

Section 6.2 above indicates that periodic unemployment was an on-going fact of life for many plumbers. The data on young workers and apprentices indicates that this group had had more difficulties in the labour market than older workers. The persistent periods of unemployment experienced by plumbers as a whole would, therefore, be magnified for young workers and apprentices.

The seasonal nature of employment for plumbers in Nova Scotia, and the extensive use of EI by apprentice plumbers, indicates that apprentice plumbers face difficulties in the labour market finding steady employment. These difficulties could be one reason for the low completion rates from the apprenticeship program for plumbers. Data from Statistics Canada show that the ratio of completions to enrolments for apprentice plumbers in Nova Scotia dropped from an annual average of 12% from 1991-1997 to 8% from 1998-2001. There may be a direct link between the difficulties faced by apprentices and young workers in the labour market and the supply of certified plumbers produced by the Apprenticeship system.

The difficulties in finding stable, year-round employment in this trade would also make a career as a plumber less attractive to young people. The Census age profile data show that 9% of plumbers were in the 15-24 age group in 2001 compared to 16% for all occupations. The 1991 Census shows that the situation was much the same in 1991 when 10% of the plumber workforce was in the 15-24 age group compared to 18% for all occupations in Nova Scotia. The relatively low proportion of plumbers under 25 may be an indicator of the difficulty of attracting young people into the plumbing trade.



Apprentice plumbers in the PRAXIS survey entered the program at an average age of 25.¹⁷ This reality also may partially explain the relatively low proportion of the plumber workforce that was under 25 years old. Note that one implication of this finding is that young people do not appear to enter the Apprenticeship program directly out of high school.

6.5 Mobility and Segmentation of the Labour Force

The survey indicates that there is one group of plumbers that worked exclusively in non-residential building construction or in non-residential building along with one other sector in 2002. A second group, accounting for almost two-thirds of the respondents, were highly mobile working in at least three of the seven sectors identified in the survey.

The degree of unionization and the level of wages for these two groups were compared. The comparison shows that workers who worked exclusively in non-residential building construction or in non-residential building along with one other sector were more highly unionized and earned higher wages than workers who worked in three or more industry sectors. For example, unionized plumbers earned \$20.80 per hour on average compared to \$14.51 per hour for non-unionized plumbers. Unionized plumbers who worked in non-residential building construction earned \$21.49 per hour whereas unionized workers who did not work in this sector earned \$18.27 per hour on average.

It is interesting to note that unionization may have a greater influence on wages than the sector in which plumbers worked. A convincing illustration of this contention is that the average wage for unionized plumbers who worked in non-residential building was \$21.49 per hour compared to \$14.88 per hour for non-unionized plumbers who worked in non-residential building construction. Similarly, the average wage for unionized plumbers who did not work in non-residential building was \$18.27 per hour compared to \$13.84 per hour for non-unionized plumbers who did not work in non-residential building construction.

¹⁷ This age was calculated by subtracting the average number of years apprentices worked as a plumber (3.7) from the average age of apprentices (29).



The high degree of unionization and high wage levels in non-residential building may limit mobility between this sector and the residential building sector of the construction industry. This contention is backed up by data from the survey. For example, 83% of non-unionized plumbers worked in three or more sectors of the industry in 2002 compared to 50% of unionized plumbers.

6.6 Job Search Behaviour

Approximately 70% of unionized and 56% of non-union respondents who were unemployed in 2002 searched for work. These data appear to suggest that large numbers of unemployed plumbers do not try to find new jobs. The data may, however, be a result of seasonality. Seasonally employed workers may not search for jobs because they are re-hired by the same employer year after year. This practice would be expected to be more common among non-union workers compared to their unionized counterparts.

Respondents to the EI claimant survey who searched for work in 2002 used multiple search methods. They made frequent use of newspapers and the HRDC Job Bank in searching for employment. This behaviour stands in contrast to the practices of employers as documented in the PRAXIS employer survey. Most employers attempted to recruit employees by word of mouth and relatively few used methods such as newspapers and the HRDC Job Bank. This finding indicates that the recruiting efforts of employers would be more successful if they made more frequent use of methods other than word of mouth.

6.7 The Importance of Working Independently

Workers who did not require supervision received a large wage premium over those who required supervision for all or part of 2002. This finding indicates that employers value employees who do not require supervision and indicates that the ability to work independently is an important attribute of trades workers.



Appendix A: Survey – Plumbers

1: INTRO

CALL BACK INFORMATION SCREEN - NEXT PAGE TO CONTINUE

Good evening/day, is this \$N ? (LD CODE 1103) CALLBACK INFO: NAME:
 <FNAME > <SNAME > / <NAME > GENERAL INFORMATION: <INFO1 >
 <INFO2 >

(ANYTHING IN UPPER CASE IS NOT TO BE READ TO RESPONDENT)

(1 / 42)

| | | | | |
|---------|----------------------|---|---|-----------|
| 01..... | Continue with survey | 1 | D | => REQ |
| 02..... | Terminate | 0 | | => /INT01 |

2: INT01

INITIAL CALL STATUS SCREEN

----- RECORD CALL STATUS BELOW -----

(1 / 43)

| | | | | |
|---------|---------------------------------|----|---|---------|
| 01..... | YES, CONTINUE WITH SURVEY | 01 | N | |
| 02..... | Hard appointment | 04 | | => NAME |
| 03..... | Soft appointment | 05 | | => NAME |
| 04..... | Not in service | 10 | | => END |
| 05..... | Fax/Modem line | 11 | | => END |
| 06..... | Business line | 12 | | => END |
| 07..... | Household refusal | 20 | | => END |
| 08..... | Respondent refusal | 21 | | => END |
| 09..... | Respondent not available | 22 | | => END |
| 10..... | Refusal at introduction | 23 | | => END |
| 11..... | Termination - Mid interview | 24 | N | => END |
| 12..... | Busy | 30 | | => END |
| 13..... | No answer | 31 | | => END |
| 14..... | Answering machine | 32 | | => END |
| 15..... | Other | 50 | O | => END |
| ----- | | | | |
| 16..... | Language/Health/Hearing problem | 60 | | => END |
| 17..... | Non-qualified | 70 | | => END |

3: SEQNO

SEQUENCE NUMBER

SEQNO. SEQUENCE NUMBER

(1 / 45)

4: SNAME

RESPONDENT SURNAME

SNAME. SURNAME

(1 / 54)



| | |
|------------------------------|--------------|
| 5: | FNAME |
| <i>RESPONDENT FIRST NAME</i> | |
| FNAME. FIRST NAME | (1/ 71) |
| <hr/> | |
| 6: | ADDR1 |
| <i>ADDRESS</i> | |
| ADDR1. ADDRESS (1 OF 3) | (1/ 83) |
| <hr/> | |
| 7: | ADDR2 |
| <i>ADDRESS 2</i> | |
| ADDR2. ADDRESS (2 OF 3) | (1/ 113) |
| <hr/> | |
| 8: | ADDR3 |
| <i>ADDRESS 3</i> | |
| ADDR3. ADDRESS (3 OF 3) | (1/ 143) |
| <hr/> | |
| 9: | PCODE |
| <i>POSTAL CODE</i> | |
| PCODE. POSTAL CODE | (1/ 163) |
| <hr/> | |
| 10: | INSPH |
| <i>TELEPHONE NUMBER</i> | |
| INSPH. TELEPHONE NUMBER | (1/ 169) |
| <hr/> | |
| 11: | L_BPC |
| <i>LAST BPC</i> | |
| L_BPC. LAST BPC | (1/ 179) |
| <hr/> | |
| 12: | L_BVT |
| <i>LAST BVT</i> | |
| L_BVT. Last BVT | (1/ 183) |
| <hr/> | |



13: **L_BPT**
LAST BPT
 L_BPT. LAST BPT
 (1/ 187)

14: **PROV**
PROVINCE
 PROV. PROVINCE
 (1/ 191)

01..... Prince Edward Island PE
 02..... Nova Scotia NS

15: **TYPE**
TYPE
 TYPE. TYPE
 (1/ 193)

01.....C C
 02.....P P
 03.....E E

16: **E_REG**
 (1/ 194)

01..... Eastern Nova Scotia 04
 02..... Western Nova Scotia 05
 03..... Halifax 06
 04..... P.E.I. 33

17: **REQ**
 REQ. Hello, may I speak to <FNAME > <SNAME > please?
 (1/ 196)

01.....CONTINUE 1
 02.....TERMINATE / CALLBACK 2 => /INT01

18: **INTR1**
 Hello, my name is _____ and I'm calling on behalf of PRAXIS Research and Consulting. We're conducting a survey today of plumbers in <PROV >.
 (1/ 197)

01.....CONTINUE 1
 02.....TERMINATE / CALLBACK 2



19:

INTR2

This telephone survey is being conducted by PRAXIS on behalf of the Atlantic Home Builders and Renovation Sector Council with the help of information disclosed to PRAXIS by Human Resources and Skills Development Canada (HRSD) - formerly known as Human Resources Development Canada. It is being conducted to gain a better understanding of the issues related to labour market shortages of plumbers in <PROV >.

(1/ 198)

01Continue 1 D
02Terminate 0 => /INT01

20:

INTR3

Information is being collected on behalf of the Council for research purposes only. With your consent the survey responses will be linked with EI administrative data by HRSD. However, HRSD will not use the survey information for any other purpose than to connect administrative data to survey responses on behalf of the Council.

(1/ 199)

01Continue 1 D
02Terminate 0 => /INT01

21:

INTR4

The information collected will not be used by HRSD to make any decisions about individual survey respondents. The final report by PRAXIS for the Council will not identify any individuals. Participation is voluntary and if you choose not to participate, your non-participation will not affect your dealings with HRSD or Skills Development Canada.

(1/ 200)

01Continue 1 D
02Terminate 0 => /INT01

22:

INTR5

=> +1 else => +1 if 1==1

SPARE SCREEN: ON STANDBY IF NEEDED

(1/ 201)



23: **AGREE**
 AGREE. Personal information disclosed by HRSD to PRAXIS is administered pursuant to the Privacy Act. The survey will take approximately 10 minutes. Do you agree to participate in the survey and have your survey responses linked with HRSD administrative data?
 (1/ 202)
 01 Yes 1 => /Q2
 02 No - TERMINATE 0 => /TERM
 03 Don't Know - TERMINATE 8 => /TERM
 04 No Response - TERMINATE 9 => /TERM

24: **TERM**
TERMINATION SCREEN IF RESPONDENT DECLINES TO PARTICIPATE
 Thank you for you time, those are all the questions I have.
 (1/ 203)
 01 TERMINATE INTERVIEW 1 => /INT01

25: **DISQ**
 I'm sorry but you do not qualify for this survey. Thank you very much for your time.
 (1/ 204)
 01 TERMINATE - CODE AS 70 1 => /INT01

26: **Q2**
 Q2. Did you work as a plumber in 2000, 2001 or 2002?
 (1/ 205)
 01 Yes 1
 02 No - TERMINATE 0 => /DISQ
 03 No response - TERMINATE 9 => /DISQ

27: **Q1_1**
START OF PLUMBERS SURVEY
 Q1_1. How many months were you employed in any occupation in 2002?
 (1/ 206)
 \$R 0 12
 01 Unemployed all year -- TERMINATE 00 => /TERM
 02 Don't Know 88
 03 No Response 99



28: **Q1_2**

SKIP IF Q1_1 = NOT EMPLOYED AT ALL IN 2002

Q1_2. How many months were you unemployed in 2002? (1/ 208)

\$R 0 11

- 01.....Unemployed all year -- TERMINATE 12 => /TERM
- 02..... Employed continuously throughout 2002 77
- 03..... Don't Know 88
- 04..... No Response 99

29: **Q3**

Q3. In 2002, for how many months or weeks were you employed as a plumber?
ENTER THE NUMBER FIRST, THEN CHOOSE "WEEKS" OR "MONTHS" (1/ 210)

\$R 1 52

- 01..... Not employed at all in 2002 (as a plumber) 00 X => /TERM
- 02..... Don't Know 88 X => /TERM
- 03..... No Response 99 X => /TERM

30: **Q3A**

SPECIFY IF <Q3 > WEEKS OR <Q3 > MONTHS NUMBER OF MONTHS
CANNOT BE GREATER THAN 12 (1/ 212)

- 01.....WEEKS 1
- 02.....MONTHS 2

31: **DUMM5**

=> /Q3A else => +1 if Q3A=2 AND (Q3>12 AND NOT Q3=88,99)

ENSURE THAT NUMBER OF MONTHS NOT GREATER THAN 12 (1/ 213)

32: **Q3_1**

Q3_1. Was that full or part time or both? (1/ 214)

- 01..... Full-time (31 hours or more) 1
- 02..... Part-time (30 hours or fewer) 2
- 03..... Both 3
- 04..... Don't Know 8
- 05..... No Response 9



33: **Q3_2**
 Q3_2. In 2002, were you employed in any other occupations?
(1/ 215)

| | | | | |
|---------|-------------|---|--|----------|
| 01..... | Yes | 1 | | => Q3B1 |
| 02..... | No | 0 | | => DUMM4 |
| 03..... | Don't Know | 8 | | => DUMM4 |
| 04..... | No Response | 9 | | => DUMM4 |

34: **Q3B1**
IF Q3_2 = YES, OTHERWISE GO TO Q3G

Q3B1. What other occupations were you employed in in 2002? FIRST OCCUPATION
(1/ 216 - 218 - 220)

| | | | | |
|--|-------------|----|---|----------|
| 01 Not employed in any other occupations -- GO BACK AND CHANGE TO "NO" | 00 | X | | => /Q3_2 |
| 02..... Other occupations (SPECIFY) | 66 | O | | |
| _____ | | | | |
| _____ | | | | |
| 03..... | Don't Know | 88 | X | => DUMM4 |
| 04..... | No Response | 99 | X | => DUMM4 |

35: **Q3B2**

Q3B2. And for how many months or weeks? (OCCUPATION: <Q3B1 >) ENTER THE NUMBER FIRST, THEN CHOOSE "WEEKS" OR "MONTHS"
(1/ 222)

\$R 0 52

| | | | | |
|---------|-------------|----|---|-------|
| 01..... | Don't Know | 88 | X | => +3 |
| 02..... | No Response | 99 | X | => +3 |

36: **Q3B2A**

SPECIFY IF <Q3B2 > WEEKS OR <Q3B2 > MONTHS
(1/ 224)

| | | | | |
|---------|--------|---|--|--|
| 01..... | WEEKS | 1 | | |
| 02..... | MONTHS | 2 | | |

37: **DUMM6**

| |
|--|
| => /Q3B2A else => +1 if Q3B2A=2 AND (Q3B2>12 AND NOT Q3B2=88,99) |
|--|

(1/ 225)



38:

Q3B3

Q3B3. Was that full or part time or both?

(1/ 226)

- 01 Full-time (31 hours or more) 1
- 02 Part-time (30 hours or fewer) 2
- 03 Both 3
- 04 Don't Know 8
- 05 No Response 9

39:

Q3C1

Q3C1. What other occupations were you employed in in 2002? SECOND OCCUPATION

(1/ 227 - 229 - 231)

- 01 Not employed in any other occupations 00 X => DUMM4
- 02 Other occupations (SPECIFY) 66 O

- 03 Don't Know 88 X => DUMM4
- 04 No Response 99 X => DUMM4

40:

Q3C2

Q3C2. And for how many months or weeks? (OCCUPATION: <Q3C1:O >) ENTER THE NUMBER FIRST, THEN CHOOSE "WEEKS" OR "MONTHS"

(1/ 233)

\$R 0 52

- 01 Don't Know 88 X => +3
- 02 No Response 99 X => +3

41:

Q3C2A

SPECIFY IF <Q3C2 > WEEKS OR <Q3C2 > MONTHS

(1/ 235)

- 01 WEEKS 1
- 02 MONTHS 2

42:

DUMM7

=> /Q3C2A else => +1 if Q3C2A=2 AND (Q3C2>12 AND NOT Q3C2=88,99)

(1/ 236)



43: **Q3C3**
 Q3C3. Was that full or part time or both? (1/ 237)

| | | |
|---------------------------------------|---|--|
| 01..... Full-time (31 hours or more) | 1 | |
| 02..... Part-time (30 hours or fewer) | 2 | |
| 03..... Both | 3 | |
| 04..... Don't Know | 8 | |
| 05..... No Response | 9 | |

44: **Q3D1**
 Q3D1. What other occupations were you employed in in 2002? THIRD OCCUPATION (1/ 238 - 240 - 242)

| | | | | |
|---|----|---|--|----------|
| 01..... Not employed in any other occupations | 00 | X | | => DUMM4 |
| 02..... Other occupations (SPECIFY) | 66 | O | | |
| _____ | | | | |
| _____ | | | | |
| _____ | | | | |
| 03..... Don't Know | 88 | X | | => DUMM4 |
| 04..... No Response | 99 | X | | => DUMM4 |

45: **Q3D2**
 Q3D2. And for how many months or weeks? (OCCUPATION: <Q3D1:O >) ENTER THE NUMBER FIRST, THEN CHOOSE "WEEKS" OR "MONTHS" (1/ 244)

\$R 0 52

| | | | | |
|---------------------|----|---|--|-------|
| 01..... Don't Know | 88 | X | | => +3 |
| 02..... No Response | 99 | X | | => +3 |

46: **Q3D2A**
 SPECIFY IF <Q3D2 > WEEKS OR <Q3D2 > MONTHS (1/ 246)

| | |
|----------------|---|
| 01..... WEEKS | 1 |
| 02..... MONTHS | 2 |

47: **DUMM8**
 => /Q3D2A else => +1 if Q3D2A=2 AND (Q3D2>12 AND NOT Q3D2=88,99) (1/ 247)



48: **Q3D3**

Q3D3. Was that full or part time or both? (1/ 248)

- 01 Full-time (31 hours or more) 1
- 02 Part-time (30 hours or fewer) 2
- 03 Both 3
- 04 Don't Know 8
- 05 No Response 9

49: **Q3E1**

Q3E1. What other occupations were you employed in in 2002? FOURTH OCCUPATION

- 01 Not employed in any other occupations 00 X => DUMM4
- 02 Other occupations (SPECIFY) 66 O

- 03 Don't Know 88 X => DUMM4
- 04 No Response 99 X => DUMM4

50: **Q3E2**

Q3E2. And for how many months or weeks? (OCCUPATION: <Q3E1:O >) ENTER THE NUMBER FIRST, THEN CHOOSE "WEEKS" OR "MONTHS" (1/ 255)

\$R 0 52

- 01 Don't Know 88 X => +3
- 02 No Response 99 X => +3

51: **Q3E2A**

SPECIFY IF <Q3E2 > WEEKS OR <Q3E2 > MONTHS (1/ 257)

- 01 WEEKS 1
- 02 MONTHS 2

52: **DUMM9**

=> /Q3E2A else => +1 if Q3E2A=2 AND (Q3E2>12 AND NOT Q3E2=88,99)

(1/ 258)



53: **Q3E3**
 Q3E3. Was that full or part time or both? (1/ 259)

| | | |
|---------------------------------------|---|--|
| 01..... Full-time (31 hours or more) | 1 | |
| 02..... Part-time (30 hours or fewer) | 2 | |
| 03..... Both | 3 | |
| 04..... Don't Know | 8 | |
| 05..... No Response | 9 | |

54: **Q3F1**
 Q3F1. What other occupations were you employed in in 2002? FIFTH OCCUPATION (1/ 260 - 262 - 264)

| | | | | |
|---|----|---|--|----------|
| 01..... Not employed in any other occupations | 00 | X | | => DUMM4 |
| 02..... Other occupations (SPECIFY) | 66 | O | | |
| | | | | |
| | | | | |
| | | | | |
| 03..... Don't Know | 88 | X | | => DUMM4 |
| 04..... No Response | 99 | X | | => DUMM4 |

55: **Q3F2**
 Q3F2. And for how many months or weeks? (OCCUPATION: <Q3F1:O >) ENTER THE NUMBER FIRST, THEN CHOOSE "WEEKS" OR "MONTHS" (1/ 266)

\$R 0 52

| | | | | |
|---------------------|----|---|--|-------|
| 01..... Don't Know | 88 | X | | => +3 |
| 02..... No Response | 99 | X | | => +3 |

56: **Q3F2A**
 SPECIFY IF <Q3F2 > WEEKS OR <Q3F2 > MONTHS (1/ 268)

| | |
|----------------|---|
| 01..... WEEKS | 1 |
| 02..... MONTHS | 2 |

57: **DUM10**
 => /Q3F2A else => +1 if Q3F2A=2 AND (Q3F2>12 AND NOT Q3F2=88,99) (1/ 269)



58: **Q3F3**
 Q3F3. Was that full or part time or both? (1/ 270)

| | | |
|---------|-------------------------------|---|
| 01..... | Full-time (31 hours or more) | 1 |
| 02..... | Part-time (30 hours or fewer) | 2 |
| 03..... | Both | 3 |
| 04..... | Don't Know | 8 |
| 05..... | No Response | 9 |

59: **DUMM4**

=> +1 else => +1 if 1==1

(1/ 271)

60: **Q3GX**
 Now I'd like to ask you some questions about your plumbing experience. Remember -- for all these questions, please think about 2002. -----> NEXT SCREEN TO CONTINUE (1/ 272)

61: **Q3G**
 Q3G. Did you work as a plumber in the following industries in 2002? New home construction - single detached including cottages? (PROMPT: Remember -- for all these questions, please think about 2002.) (1/ 273)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |

62: **Q3H**
 Q3H. Did you work as a plumber in the following industries in 2002? Apartments, condominiums or other multiple-unit housing? (PROMPT: Remember -- for all these questions, please think about 2002.) (1/ 274)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |



63: **Q3I**
Q3I. Did you work as a plumber in the following industries in 2002? Home Renovations (PROMPT: Remember -- for all these questions, please think about 2002.)

(1/ 275)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |

64: **Q3J**
Q3J. Did you work as a plumber in the following industries in 2002? Non-Residential Building Construction (Commercial, Institutional and Industrial buildings, including renovations) (PROMPT: Remember -- for all these questions, please think about 2002.)

(1/ 276)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |

65: **Q3K**
Q3K. Did you work as a plumber in the following industries in 2002? Engineering Construction (PROMPT: Remember -- for all these questions, please think about 2002.)

(1/ 277)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |

66: **Q3L**
Q3L. Did you work as a plumber in the following industries in 2002? Service and Repair (PROMPT: Remember -- for all these questions, please think about 2002.)

(1/ 278)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |



67:

Q3M

Q3M. Did you work as a plumber in the following industries in 2002? Other industries (including: Manufacturing, Retail Trade, Real Estate and Rental and Leasing, Health Care, Educational Services, Public Administration and Accommodation and Food Services) (PROMPT: Remember -- for all these questions, please think about 2002.)

(1/ 279)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |

68:

DUMM1

=> +1 else => +1 if 1==1

DUMMY SCREEN

(1/ 280)

69:

DUM11

=> +1 else => +1 if 1==1

(1/ 281)



IF RESPONDENT WORKED IN ONLY ONE INDUSTRY, DO NOT ASK -- JUST PUT 100% IN THE RELEVANT FIELD AND CONTINUE

Of the industries you worked in as a plumber in 2002, what percentage was in:

- @Q3G1 New home construction - single detached including cottages? (<q3g >)
- @Q3H1 Apartments, condominiums or other multiple-unit housing? (<q3h >)
- @Q3I1 Home Renovations? (<q3i >)
- @Q3J1 Non-Residential Building Construction (Commercial, Institutional and Industrial buildings, including renovations)? (<q3j >)
- @Q3K1 Engineering Construction? (<q3k >)
- @Q3L1 Service and Repair? (<q3l >)
- @Q3M1 Other industries (including: Manufacturing, Retail Trade, Real Estate and Rental and Leasing, Health Care, Educational Services, Public Administration and Accommodation and Food Services)? (<q3m >)

888 = DON'T KNOW 999 = NO RESPONSE

70:

Q3G1

=> +1 if NOT Q3G=1

IF THIS WAS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

Q3G1. Of the industries you worked in as a plumber in 2002, what percentage was in... New home construction - single detached including cottages?

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1 / 282)

\$R 0 100

- 01 Don't Know 888
- 02 No Response 999

71:

Q3H1

=> +1 if NOT Q3H=1

IF THIS WAS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

Q3H1. Of the industries you worked in as a plumber in 2002, what percentage was in... Apartments, condominiums or other multiple-unit housing?

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1 / 285)

\$R 0 100

- 01 Don't Know 888
- 02 No Response 999

72:

Q3I1

=> +1 if NOT Q3I=1

IF THIS WAS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

Q3I1. Of the industries you worked in as a plumber in 2002, what percentage was in... Home Renovations?

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 288)

\$R 0 100

01..... Don't Know 888

02..... No Response 999

73:

Q3J1

=> +1 if NOT Q3J=1

IF THIS WAS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

Q3J1. Of the industries you worked in as a plumber in 2002, what percentage was in... Non-Residential Building Construction (Commercial, Institutional and Industrial buildings, including renovations)?

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 291)

\$R 0 100

01..... Don't Know 888

02..... No Response 999

74:

Q3K1

=> +1 if NOT Q3K=1

IF THIS WAS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

Q3K1. Of the industries you worked in as a plumber in 2002, what percentage was in... Engineering Construction?

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 294)

\$R 0 100

01..... Don't Know 888

02..... No Response 999

75:

Q3L1

=> +1 if NOT Q3L=1

IF THIS WAS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

Q3L1. Of the industries you worked in as a plumber in 2002, what percentage was in... Service and Repair?

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 297)

\$R 0 100

01..... Don't Know 888

02..... No Response 999



76: **Q3M1**

=> +1 if NOT Q3M=1

IF THIS WAS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

Q3M1. Of the industries you worked in as a plumber in 2002, what percentage was in... Other industries (including: Manufacturing, Retail Trade, Real Estate and Rental and Leasing, Health Care, Educational Services, Public Administration and Accommodation and Food Services)?

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 300)

\$R 0 100

01..... Don't Know 888

02..... No Response 999

77: **PCTG1**

=> * if IF((NOT Q3G1=888,999), Q3G1)

(1/ 303)

78: **PCTH1**

=> * if IF((NOT Q3H1=888,999), Q3H1)

(1/ 306)

79: **PCTI1**

=> * if IF((NOT Q3I1=888,999), Q3I1)

(1/ 309)

80: **PCTJ1**

=> * if IF((NOT Q3J1=888,999), Q3J1)

(1/ 312)

81: **PCTK1**

=> * if IF((NOT Q3K1=888,999), Q3K1)

(1/ 315)

82: **PCTL1**

=> * if IF((NOT Q3L1=888,999), Q3L1)

(1/ 318)



83: **PCTM1**
 => * if IF((NOT Q3M1=888,999), Q3M1)
 (1/ 321)

84: **G1_M1**
 => * if SUM([PCTG1-PCTM1])
TOTAL OF Q3G1-Q3M1 (EXCLUDING DKs/NRs)
 (1/ 324)

85: **ERR1**
 => +1 if G1_M1==000 OR G1_M1==100
ERROR SCREEN IF PERCENTAGES DON'T ADD UP TO 100%
 ERR1. I'm afraid the percentages add up to <G1_M1 > percent. Is there anything you'd like to go back and change?
 (1/ 327)
 01 GO BACK TO MAKE CHANGES 1 => /DUMM1

86: **Q4_1**
 => Q15_1 if 1==1
Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS
 Q4_1. I'm going to read various types of electrical work, as I read each please tell me if you did this type of work in 2002. Framing
 (1/ 328)
 01 Yes 1
 02 No 0
 03 Don't Know 8
 04 No Response 9

87: **Q4_2**
Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS
 Q4_2. I'm going to read various types of electrical work, as I read each please tell me if you did this type of work in 2002. Finish carpentry
 (1/ 329)
 01 Yes 1
 02 No 0
 03 Don't Know 8
 04 No Response 9



88:

Q4_3

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q4_3. I'm going to read various types of # electrical work, as I read each please tell me if you did this type of work in 2002. Cabinetmaking

(1/ 330)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |

89:

Q4_4

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q4_4. I'm going to read various types of electrical work, as I read each please tell me if you did this type of work in 2002. Roofing

(1/ 331)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |

90:

Q4_5

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q4_5. I'm going to read various types of electrical work, as I read each please tell me if you did this type of work in 2002. Flooring

(1/ 332)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |

91:

Q4_6

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q4_6. I'm going to read various types of electrical work, as I read each please tell me if you did this type of work in 2002. Installation (Drywall siding, eavestroughing, windows, kitchen cupboards, other)

(1/ 333)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |



92:

Q4_7

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q4_7. I'm going to read various types of electrical work, as I read each please tell me if you did this type of work in 2002. Other electrical work

(1/ 334)

- 01..... Yes 1
- 02.....No 0
- 03..... Don't Know 8
- 04..... No Response 9

93:

Q4_7A

=> +1 if NOT Q4_7=1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q4_7A. Could you please specify what other types of electrical work you did in 2002?

(1/ 335 - 337 - 339)

- 01..... Electrical work (SPECIFY) 66 0
- _____
- _____
- _____
- _____
- _____
- 02..... Don't Know 88 X
- 03..... No response 99 X

94:

DUMM2

=> +1 else => +1 if 1==1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

(1/ 341)

95:

DUM12

=> +1 else => +1 if 1==1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

(1/ 342)



IF RESPONDENT DID ONLY ONE OF THESE ACTIVITIES, THEN DO NOT ASK -- JUST PUT 100 PERCENT IN THE RELEVANT FIELD AND CONTINUE

Of the electrical work activities you performed in 2002, what percentage was in:

- @Q5_1 Framing (<Q4_1 >)
- @Q5_2 Finish carpentry (<Q4_2 >)
- @Q5_3 Cabinetmaking (<Q4_3 >)
- @Q5_4 Roofing (<Q4_4 >)
- @Q5_5 Flooring (<Q4_5 >)
- @Q5_6 Installation (drywall, siding, eavestroughing, windows, kitchen cupboards, other) (<Q4_6 >)
- @Q5_7 Other electrical work (<Q4_7 >)

000 = LESS THAN 1%
 888 = DON'T KNOW
 999 = NO RESPONSE

96:

Q5_1

=> +1 if NOT Q4_1=1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q5_1. Of the electrical work activities you performed in 2002, what percentage was in: Framing

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 343)

\$R 1 100

| | | |
|---------|--------------|-----|
| 01..... | Less than 1% | 000 |
| 02..... | Don't Know | 888 |
| 03..... | No response | 999 |

97:

Q5_2

=> +1 if NOT Q4_2=1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q5_2. Of the electrical work activities you performed in 2002, what percentage was in: Finish carpentry

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 346)

\$R 1 100

| | | |
|---------|--------------|-----|
| 01..... | Less than 1% | 000 |
| 02..... | Don't Know | 888 |
| 03..... | No response | 999 |



98:

Q5_3

=> +1 if NOT Q4_3=1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q5_3. Of the electrical work activities you performed in 2002, what percentage was in: Cabinetmaking

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 349)

\$R 1 100

| | | |
|---------|--------------|-----|
| 01..... | Less than 1% | 000 |
| 02..... | Don't Know | 888 |
| 03..... | No response | 999 |

99:

Q5_4

=> +1 if NOT Q4_4=1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q5_4. Of the electrical work activities you performed in 2002, what percentage was in: Roofing

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 352)

\$R 1 100

| | | |
|---------|--------------|-----|
| 01..... | Less than 1% | 000 |
| 02..... | Don't Know | 888 |
| 03..... | No response | 999 |

100:

Q5_5

=> +1 if NOT Q4_5=1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q5_5. Of the electrical work activities you performed in 2002, what percentage was in: Flooring

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 355)

\$R 1 100

| | | |
|---------|--------------|-----|
| 01..... | Less than 1% | 000 |
| 02..... | Don't Know | 888 |
| 03..... | No response | 999 |



101: **Q5_6**

=> +1 if NOT Q4_6=1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q5_6. Of the electrical work activities you performed in 2002, what percentage was in: Installation (drywall, siding, eavestroughing, windows, kitchen cupboards, other)

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 358)

\$R 1 100

| | | |
|---------|--------------|-----|
| 01..... | Less than 1% | 000 |
| 02..... | Don't Know | 888 |
| 03..... | No response | 999 |

102: **Q5_7**

=> +1 if NOT Q4_7=1

Q4_1 THROUGH Q5_7 NOT ASKED TO ELECTRICIANS OR PLUMBERS

Q5_7. Of the electrical work activities you performed in 2002, what percentage was in: Other electrical work (<q4_7a >)

IF THIS IS THE ONLY AREA WORKED IN IN 2002, ENTER AS 100%

(1/ 361)

\$R 1 100

| | | |
|---------|--------------|-----|
| 01..... | Less than 1% | 000 |
| 02..... | Don't Know | 888 |
| 03..... | No response | 999 |

103: **PCT_1**

=> * if IF((NOT Q5_1=888,999), Q5_1)

(1/ 364)

104: **PCT_2**

=> * if IF((NOT Q5_2=888,999), Q5_2)

(1/ 367)

105: **PCT_3**

=> * if IF((NOT Q5_3=888,999), Q5_3)

(1/ 370)

106: **PCT_4**

=> * if IF((NOT Q5_4=888,999), Q5_4)

(1/ 373)



107: **PCT_5**
 => * if IF((NOT Q5_5=888,999), Q5_5)
(1/ 376)

108: **PCT_6**
 => * if IF((NOT Q5_6=888,999), Q5_6)
(1/ 379)

109: **PCT_7**
 => * if IF((NOT Q5_7=888,999), Q5_7)
(1/ 382)

110: **TOTAL**
 => * if SUM([PCT_1-PCT_7])
(1/ 385)

111: **ERR2**
 => +1 if TOTAL==000 OR TOTAL==100
ERROR SCREEN IF PERCENTAGES DON'T ADD UP TO 100%
 ERR2. I'm afraid the percentages add up to <TOTAL > percent. Is there anything you'd like to go back and change?
(1/ 388)
 01 GO BACK TO MAKE CHANGES 1 => /DUMM2

112: **Q15_1**
 Q15_1. In 2002 you said you worked <Q3 > <Q3A > as a plumber. IN 2002, for how many months did you work... Supervising other workers
(1/ 389)
 \$R 1 12
 01None 00
 02Don't know 88
 03No response 99

113: **Q15_2**
 Q15_2. IN 2002, for how many months did you work... Working independently not supervising other workers?
(1/ 391)
 \$R 1 12
 01None 00
 02Don't know 88
 03No response 99



114: **Q15_3**
 Q15_3. IN 2002, for how many months did you work... Working for a journeyman or supervisor/foreman?
(1/ 393)

\$R 1 12

| | | |
|---------|-------------|----|
| 01..... | None | 00 |
| 02..... | Don't know | 88 |
| 03..... | No response | 99 |

115: **Q17**
 Q17. On average, what hourly wage did you receive for your work as a plumber in 2002?
(1/ 395)

\$R.2 7.00 120.00

| | | |
|---------|-------------|--------|
| 01..... | Don't know | 888888 |
| 02..... | No response | 999999 |

116: **Q16_1**
 Q16_1. Now I'd like you to think about your job search in 2002. Did you search for employment as a plumber in 2002?
(1/ 401)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |

117: **Q16**

=> +1 if NOT Q16_1=1

Q16. How did you search for employment as a plumber in 2002? (READ RESPONSES)
(1/ 402 - 404 - 406 - 408 - 410 - 412 - 414 - 416 - 418 - 420)

| | | |
|---------|---|------|
| 01..... | Through the union | 01 |
| 02..... | Checked newspaper ads | 02 |
| 03..... | Used the HRDC Job Bank | 03 |
| 04..... | Checked trade magazines | 04 |
| 05..... | Directly contacted employers you knew in the industry | 05 |
| 06..... | Made enquiries in the community | 06 |
| 07..... | Used the yellow pages | 07 |
| 08..... | Other (specify) | 66 O |
| 09..... | (DO NOT READ) Don't know | 88 X |
| 10..... | (DO NOT READ) No response | 99 X |



118: **Q9**

Q9. In 2002, what was the farthest distance you would have been willing to travel for work on a daily basis, that is, one way from your home to a job? SPECIFY AMOUNT FIRST, THEN MILES OR KILOMETRES

(1/ 422)

\$R 1 50000

| | | | |
|---------|----------------------------|-------|----------|
| 01..... | Less than 1 mile/kilometre | 00000 | X |
| 02..... | Don't Know | 88888 | X => /Q8 |
| 03..... | No response | 99999 | X => /Q8 |

119: **Q9A**

SPECIFY <Q9 > KILOMETRES OR <Q9 > MILES

(1/ 427)

| | | |
|---------|------------|---|
| 01..... | KILOMETRES | 1 |
| 02..... | MILES | 2 |

120: **Q9KMS**

=> * if IF((Q9A=2), Q9*1.609, Q9)

CONVERSION OF MILES TO KILOMETRES

(1/ 428)

121: **Q8**

Q8. In 2002, were you willing to re-locate for work? (PROMPT: Either permanently or temporarily?)

(1/ 435)

| | | |
|---------|-------------|---|
| 01..... | Yes | 1 |
| 02..... | No | 0 |
| 03..... | Don't Know | 8 |
| 04..... | No response | 9 |

122: **Q8_1**

=> +1 if NOT Q8=1

IF Q8 = YES

Q8_1. Would you have been willing to re-locate temporarily or permanently?

(1/ 436)

| | | |
|---------|----------------------|---|
| 01..... | Permanently relocate | 1 |
| 02..... | Temporarily relocate | 2 |
| 03..... | Don't Know | 8 |
| 04..... | No Response | 9 |



123: **Q18**

Q18. In 2002, what was the lowest hourly wage as a plumber you would have accepted?

(1/ 437)

\$R.2 7.00 120.00

01 Don't know 888888

02 No response 999999

124: **Q6_1X**

Q6_1X. The next set of questions are about your training and education. Again, please think about 2002. -----> NEXT SCREEN TO CONTINUE

(1/ 443)

125: **Q6_1**

Rotation => Q6_10

Q6_1 - Q6_10 ROTATED

Q6_1. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: The use of hand and power tools?

(1/ 444)

01 1 - No experience 1

02 2 2

03 3 3

04 4 4

05 5 - A great deal of experience 5

06 Don't Know 8

07 No response 9

126: **Q6_2**

Q6_1 - Q6_10 ROTATED

Q6_2. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: Job planning (examines and assesses project requirement, schedules jobs, and prepares job sites)

(1/ 445)

01 1 - No experience 1

02 2 2

03 3 3

04 4 4

05 5 - A great deal of experience 5

06 Don't Know 8

07 No response 9



127:

Q6_3

Q6_1 - Q6_10 ROTATED

Q6_3. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: Preparation and interpretation of working drawings

(1/ 446)

| | | |
|---------|--------------------------------|---|
| 01..... | 1 - No experience | 1 |
| 02..... | 2 | 2 |
| 03..... | 3 | 3 |
| 04..... | 4 | 4 |
| 05..... | 5 - A great deal of experience | 5 |
| 06..... | Don't Know | 8 |
| 07..... | No response | 9 |

128:

Q6_4

Q6_1 - Q6_10 ROTATED

Q6_4. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: Determination of system requirements and pipe sizes

(1/ 447)

| | | |
|---------|--------------------------------|---|
| 01..... | 1 - No experience | 1 |
| 02..... | 2 | 2 |
| 03..... | 3 | 3 |
| 04..... | 4 | 4 |
| 05..... | 5 - A great deal of experience | 5 |
| 06..... | Don't Know | 8 |
| 07..... | No response | 9 |

129:

Q6_5

Q6_1 - Q6_10 ROTATED

Q6_5. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: Installation of water services and drainage and waste systems (including piping, vents, excavation and trenching)

(1/ 448)

| | | |
|---------|--------------------------------|---|
| 01..... | 1 - No experience | 1 |
| 02..... | 2 | 2 |
| 03..... | 3 | 3 |
| 04..... | 4 | 4 |
| 05..... | 5 - A great deal of experience | 5 |
| 06..... | Don't Know | 8 |
| 07..... | No response | 9 |



130:

Q6_6

Q6_1 - Q6_10 ROTATED

Q6_6. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: Installation of fixtures and appliances

(1/ 449)

| | | |
|---------|--------------------------------|---|
| 01..... | 1 - No experience | 1 |
| 02..... | | 2 |
| 03..... | | 3 |
| 04..... | | 4 |
| 05..... | 5 - A great deal of experience | 5 |
| 06..... | Don't Know | 8 |
| 07..... | No response | 9 |

131:

Q6_7

Q6_1 - Q6_10 ROTATED

Q6_7. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: Installation of hot or cold water heating/cooling piping systems

(1/ 450)

| | | |
|---------|--------------------------------|---|
| 01..... | 1 - No experience | 1 |
| 02..... | | 2 |
| 03..... | | 3 |
| 04..... | | 4 |
| 05..... | 5 - A great deal of experience | 5 |
| 06..... | Don't Know | 8 |
| 07..... | No response | 9 |

132:

Q6_8

Q6_1 - Q6_10 ROTATED

Q6_8. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: Selection and implementation of pumps

(1/ 451)

| | | |
|---------|--------------------------------|---|
| 01..... | 1 - No experience | 1 |
| 02..... | | 2 |
| 03..... | | 3 |
| 04..... | | 4 |
| 05..... | 5 - A great deal of experience | 5 |
| 06..... | Don't Know | 8 |
| 07..... | No response | 9 |



133:

Q6_9

Q6_1 - Q6_10 ROTATED

Q6_9. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: Design and installation of sewage systems

(1/ 452)

- 01..... 1 - No experience 1
- 02..... 2 2
- 03..... 3 3
- 04..... 4 4
- 05..... 5 - A great deal of experience 5
- 06..... Don't Know 8
- 07..... No response 9

134:

Q6_10

Q6_1 - Q6_10 ROTATED

Q6_10. Using a scale of 1 to 5 where 1 means you have no experience and 5 means you have a great deal of experience, please rate your experience with: Maintenance and Repair of Systems

(1/ 453)

- 01..... 1 - No experience 1
- 02..... 2 2
- 03..... 3 3
- 04..... 4 4
- 05..... 5 - A great deal of experience 5
- 06..... Don't Know 8
- 07..... No response 9

135:

Q11

Q11. In 2002, did you hold a Certificate of Qualification as a plumber under the Apprenticeship and Trades Qualifications Act of the Province of <PROV >?

(1/ 454)

- 01..... Yes 1
- 02..... No 0
- 03..... Don't Know 8
- 04..... No response 9

136:

DUMM3

=> +1 else => +1 if 1==1

EXTRA SCREEN ON STANDBY IF NEEDED

(1/ 455)



| | |
|--|------------|
| 137: | Q12 |
| Q12. Were you a Registered Apprentice in the Plumbing Program in 2002? | |
| | (1/ 456) |
| 01..... Yes | 1 |
| 02.....No | 0 => Q13 |
| 03..... Don't Know | 8 => Q13 |
| 04.....No response | 9 => Q13 |

| | |
|---|--------------|
| 138: | Q12_3 |
| Q12_3. What year of the Apprenticeship program were you in on Dec 31, 2002? | |
| | (1/ 457) |
| 01..... Year 1 | 1 |
| 02..... Year 2 | 2 |
| 03..... Year 3 | 3 |
| 04..... Year 4 | 4 |
| 05..... Don't Know | 8 |
| 06..... No response | 9 |

| | |
|--|------------|
| 139: | Q13 |
| Q13. What was your highest level of education in 2002? (PROMPT: Had you completed that program?) | |
| | (1/ 458) |
| 01..... Less than grade 9 | 01 |
| 02..... Attended but did not graduate from high school | 02 |
| 03..... Graduated from high school, no post-secondary training | 03 |
| 04..... Attended community college, not completed | 04 |
| 05..... Completed community college | 05 |
| 06..... Attended university, not completed | 06 |
| 07..... Completed university | 07 |
| 08..... Other post-secondary attended, not completed | 08 N |
| 09..... Other post-secondary completed | 09 N |
| 10..... Other (SPECIFY) | 66 O |
| _____ | |
| _____ | |
| _____ | |
| _____ | |
| _____ | |
| 11..... Don't Know | 88 X |
| 12..... No response | 99 X |



140: **Q7**
 Q7. Were you a member of a trade union in 2002? (1/ 460)

| | | | |
|---------|-------------|---|--|
| 01..... | Yes | 1 | |
| 02..... | No | 0 | |
| 03..... | Don't Know | 8 | |
| 04..... | No response | 9 | |

141: **Q14_1**
 Q14_1. For how many years had you worked in the plumbing trade as of December 31, 2002?
 SPECIFY AMOUNT OF FULL-TIME YEARS IN PLUMBING TRADE (1/ 461)

\$R 1 55

| | | | |
|---------|------------------|----|----------|
| 01..... | Less than 1 year | 77 | |
| 02..... | Don't know | 88 | => Q14_4 |
| 03..... | No response | 99 | => Q14_4 |

142: **Q14_2**
 Q14_2. And for how of many of those <q14_1 > years did you work in the plumbing trade on a seasonal basis (40 weeks per year or fewer)? (1/ 463)

\$R 1 55

| | | | |
|---------|---------------------------|----|--|
| 01..... | None - no part-time years | 00 | |
| 02..... | Less than 1 year | 77 | |
| 03..... | Don't know | 88 | |
| 04..... | No response | 99 | |

143: **Q14_3**
 Q14_3. How many were on a full-time basis (more than 40 weeks per year)?
 (WORKED IN THE TRADE FOR <Q14_1 > YEARS.) (1/ 465)

\$R 1 55

| | | | |
|---------|---------------------------|----|--|
| 01..... | None - no full-time years | 00 | |
| 02..... | Less than 1 year | 77 | |
| 03..... | Don't know | 88 | |
| 04..... | No response | 99 | |

144: **Q14_4**
 Q14_4. In the 5 years from 1997 to 2002, how many different employers did you work for? (1/ 467)

\$R 0 75

| | | | |
|---------|-------------|----|--|
| 01..... | Don't Know | 88 | |
| 02..... | No Response | 99 | |



145:

GENDR

RECORD GENDER - DO NOT ASK

Those are all the questions I have - Thank you for your time. INTERVIEWER:
RECORD GENDER BELOW
GENDER:

| | | | |
|---------|--------------|---|-----------|
| | | | (1/ 469) |
| 01..... | Female | 1 | => INT |
| 02..... | Male | 2 | => INT |
| 03..... | Undetermined | 3 | => INT |

146:

INT

CALL STATUS CODE PAGE

CALL STATUS CODES: ENTER THE CALL RESULT ----- END OF
SURVEY -----

| | | | |
|---------|---------------------------------|-------|---|
| | | | (1/ 470 - 472 - 474 - 476 - 478 - 480) |
| 01..... | Completion | 01 CD | => END |
| 02..... | Hard appointment | 04 R | => NAME |
| 03..... | Soft appointment | 05 R | => NAME |
| 04..... | Not in service | 10 N | => END |
| 05..... | Fax/Modem line | 11 N | => END |
| 06..... | Business line | 12 N | => END |
| 07..... | Household refusal | 20 N | => END |
| 08..... | Respondent refusal | 21 N | => END |
| 09..... | Respondent not available | 22 N | => END |
| 10..... | Refusal at introduction | 23 N | => END |
| 11..... | Termination - Mid interview | 24 | => END |
| 12..... | Busy | 30 N | => END |
| 13..... | No answer | 31 N | => END |
| 14..... | Answering machine | 32 N | => END |
| 15..... | Other | 50 RO | => END |
| 16..... | Language/Health/Hearing problem | 60 N | => END |
| 17..... | Non-qualified | 70 | => END |

147:

F6

INTERVIEWERS: ENTER YOUR COMMENTS ON THIS SCREEN

NOTES.

| | | | |
|---------|----------------------|------|---|
| | | | (1/ 482 - 483 - 484 - 485 - 486 - 487 - 488 - 489 - 490 - 491) |
| 01..... | INTERVIEWER COMMENTS | 1 DO | |

148:

F10

PRAXIS is an independent research company. We provide impartial investigation of public policy issues, conduct research in the social sciences, and provide training and consulting services. If you have any questions regarding this survey, you may call Debbie Magee-Ehler of PRAXIS at (902) 832-8991.

(1/ 492)



RECORD CALLBACK INFORMATION HERE:

NAME: @NAME

INFORMATION: @INFO1

@INFO2

149: **NAME**

INTERVIEWER: GET NAME & ANY OTHER PERTINENT INFO AND PLACE HERE

May I please have the name of the person I should ask for when calling back?

(1/ 493)

\$P

150: **INFO1**

First Information Screen

(1/ 523)

151: **INFO2**

Second Information Screen

(1/ 583)

152: **CB**

=> END if \$A > 30

today is \$D it is \$H questionnaire:\$Q

When would be the best time to call back?

(1/ 0)

\$CHS