
Chapter 4: Labour Market Outcomes

Although education affords individuals opportunities for personal growth, the essential mandate of postsecondary institutions is to prepare students to be able to earn a living as adults. Education is expensive both to governments and individuals, and educational costs are incurred with the understanding that there will be appropriate financial, social and personal rewards. It is understood that institutions, especially public and private colleges, should offer programs which reflect current and projected employment needs. The increase in the availability of computer studies programs and the proliferation of private colleges specializing in computer studies illustrates the linkage between the two domains.

In Canada as a whole, unemployment has been increasing over the past 50 years and those with the lowest levels of education are most likely to be out of work. Further, those who are better educated earn more. A recent Human Resources Development Canada (HRDC) study showed that in 1993 the mean earnings for those with a university degree was approximately double that for those with only nine to thirteen years of schooling.

Even with a good education, however, young people have a more difficult time than older workers finding and keeping jobs. In the Country, as a whole, between 1989 and 1995 the number of employed 15 to 24 year-olds fell by 500,000 while adult employment

rose by one million (HRDC, Applied Research Bulletin, Vol. 2, No. 2, 1997).

Historically, employment demand is eventually satisfied. There are few persistent unfilled vacancies because steps are taken to attract workers to an area of need and workers are likely to seek attractive employment situations. Labour supply is another matter, as evidenced by the high unemployment levels in this province and the Country as a whole over the past number of years. The value of job forecasting is that before entering postsecondary education programs young people can use forecast information to increase the likelihood of obtaining future employment.

It has been recognized, however, that "the link between education and occupation is too diffuse to be able to derive precise educational requirements from a forecast of employment by occupation" (Boothby, Roth & Roy, 1995). While some economists have rejected occupational forecasting, the prevailing view is that accurate occupational projections can inform the decision-making process.

4.1 What occupations offer the best employment prospects in the Canadian labour market?

The Canadian Occupational Projection System (COPS) was developed by Human Resources Development Canada to provide

information about current conditions in the Canadian labour market.

Employment prospects are calculated by taking into account both anticipated demand for and supply of workers. The demand for newcomers to the labour market depends on the number of new jobs created in any occupational area as well as the replacement positions available as a result of deaths, retirements and workers leaving the occupation for other reasons. Labour supply includes new entrants to the labour market (school leavers); re-entrants (those who have been out of the labour market because of layoffs, home responsibilities or other reasons); and immigrants. New postsecondary graduates must compete with unemployed workers for work. According to HRDC, in the next five years 65% of job openings will be filled by re-entrants to the labour market.

Two major COPS summary reports are produced: *Job Futures Volume One, Occupational Outlooks*, which provides general information on 211 occupational groups, and *Job Futures Volume Two, Career Outlooks for Graduates*, which provides projections of job prospects in the next five years for graduates in 155 study areas. The *Job Futures* documents also provide an indication of growth in relation to current conditions.

Table 4.1.1 displays the 211 occupations grouped into five categories of employment prospects between 1995 and 2000

Table 4.1.1: Employment Prospects and Expected Growth Areas in Canada in the Next Five Years

VERY GOOD	GOOD	FAIR
<p>Professional Occupations in Natural & Applied Sciences</p> <ul style="list-style-type: none"> ↑ Physical Science Professionals ↑ Mathematicians, Systems Analysts & Computer Programmers <p>Technical Occupations Related to Natural & Applied Sciences</p> <ul style="list-style-type: none"> ↑ Technical Occupations in Physical Sciences <p>Professional Occupations in Health</p> <ul style="list-style-type: none"> s Therapy & Assessment Professionals ↓ Physicians, Dentists & Veterinarians ↓ Optometrists, Chiropractors & Other Health Diagnosing & Treating Professionals 	<p>Professional Occupations in Health</p> <ul style="list-style-type: none"> ↓ Pharmacists, Dietitians & Nutritionists s Nursing Supervisors & Registered Nurses <p>Technical & Skilled Occupations in Health</p> <ul style="list-style-type: none"> s Medical Technologists & Technicians (except Dental) s Technical Occupations in Dental Health Care s Other Technical Occupations in Health Care (except Dental) <p>Assisting Occupations in Support of Health Sciences</p> <ul style="list-style-type: none"> s Assisting Occupations in Support of Health Services <p>Professional Occupations in Social Science, Education, Government Services & Religion</p> <ul style="list-style-type: none"> s Policy & Program Officers, Researchers & Consultants <p>Professional Occupations in Art & Culture</p> <ul style="list-style-type: none"> ↑ Writing, Translating & Public Relations Professionals <p>Skilled Sales & Service Occupations</p> <ul style="list-style-type: none"> s Insurance & Real Estate Sales Occupations & Buyers <p>Elemental Sales & Service Occupations</p> <ul style="list-style-type: none"> s Elemental Medical & Hospital Assistants <p>Trades and Skilled Transport & Equipment Operators</p> <ul style="list-style-type: none"> ↑ Machinists & Related Occupations ↑ Electrical Trades & Telecommunications Occupations ↑ Other Mechanics <p>Skilled Occupations in Primary Industry</p> <ul style="list-style-type: none"> ↑ Supervisors, Mining, Oil & Gas ↑ Underground Miners, Oil & Gas Drillers & Related Workers s Contractors, Operators & Supervisors in Agriculture, Horticulture & Aquaculture <p>Intermediate Occupations in Primary Industry</p> <ul style="list-style-type: none"> ↑ Mine Service Workers & Operators in Oil & Gas Drilling <p>Processing, Manufacturing & Utilities Supervisors & Skilled Operators</p> <ul style="list-style-type: none"> ↑ Central Control & Process Operators in Manufacturing & Processing <p>Processing & Manufacturing Machine Operators & Assemblers</p> <ul style="list-style-type: none"> ↑ Machine Operators & Related Workers in Metal & Mineral Products Processing ↑ Machine Operators & Related Workers in Chemical, Plastic & Rubber Processing 	<p>Middle & Other Management Occupations</p> <ul style="list-style-type: none"> ↑ Managers in Food Service & Accommodation s Managers in Retail Trade s Managers in Other Services s Managers in Construction & Transportation s Managers in Primary Production (except Agriculture) s Construction Managers <p>Skilled Administrative & Business Occupations</p> <ul style="list-style-type: none"> s Clerical Supervisors ↓ Secretaries, Records & Transcriptionists <p>Clerical Occupations</p> <ul style="list-style-type: none"> ↑ Office Equipment Operators ↑ Recording, Scheduling & Distributing Occupations s Clerical Occupations, General Office Skills s Finance & Insurance Clerks s Library, Correspondence & Related Information Clerks s Mail & Message Distribution Occupations ↓ Administrative Support Clerks <p>Professional Occupations in Natural & Applied Sciences</p> <ul style="list-style-type: none"> s Architects, Urban Planners & Land Surveyors <p>Technical Occupations Related to Natural & Applied Sciences</p> <ul style="list-style-type: none"> ↑ Technical Occupations in Electronics & Electrical Engineering s Technical Occupations in Civil, Mechanical & Industrial Engineering s Technical Occupations in Architecture, Drafting, Surveying & Mapping s Other Technical Inspectors & Regulatory Officers s Transportation Officers & Controllers ↓ Technical Occupations in Life Sciences <p>Professional Occupations in Social Science, Education, Government Services & Religion</p> <ul style="list-style-type: none"> ↓ Judges, Lawyers & Quebec Notaries ↓ University Professors & Assistants ↓ College & Other Vocational Instructors ↓ Secondary & Elementary School Teachers & Counsellors ↓ Psychologists, Social Workers, Counsellors, Clergy & Probation Officers,
<p>GOOD</p> <p>Senior Management Occupations</p> <ul style="list-style-type: none"> s Legislators & Senior Managers <p>Middle and Other Management Occupations</p> <ul style="list-style-type: none"> s Administrative Service Managers s Managers in Financial & Business Services s Managers in Communication (except Broadcasting) s Managers in Engineering, Architecture, Science & Information Systems s Managers in Health, Education, Social & Community Services s Managers in Art, Culture, Recreation & Sport s Sales, Marketing & Advertising Managers s Facility Operation & Maintenance Managers s Managers in Manufacturing & Utilities ↓ Managers in Public Administration <p>Professional Occupations in Business & Finance</p> <ul style="list-style-type: none"> s Financial Managers s Human Resource Managers ↓ Auditors, Accountants & Investment Professionals ↓ Human Resources & Business Service Professionals <p>Skilled Administrative & Business Occupations</p> <ul style="list-style-type: none"> s Finance & Insurance Administrative Occupations ↓ Administrative & Regulatory Occupations <p>Professional Occupations in Natural & Applied Sciences</p> <ul style="list-style-type: none"> s Civil, Mechanical, Electrical & Chemical Engineers s Other Engineers ↓ Life Science Professionals 	<p>KEY:</p> <ul style="list-style-type: none"> ↑ Getting Better s Stable ↓ Getting Worse 	

Table 4.1.1: Employment Prospects and Expected Growth Areas in Canada in the Next Five Years (cont'd.)

FAIR	FAIR	POOR
<p><i>Paraprofessional Occupations in Law, Social Services, Education & Religion</i></p> <ul style="list-style-type: none"> ↓ Paralegal, Social Services Workers & Occupations in Education & Religion <p><i>Professional Occupations in Art & Culture</i></p> <ul style="list-style-type: none"> s Creative & Performing Artists ↓ Librarians, Archivists, Conservators & Curators <p><i>Technical & Skilled Occupations in Art, Culture, Recreation & Sport</i></p> <ul style="list-style-type: none"> s Photographers, Graphics Arts Technicians & Technical Occupations in Motion Pictures, Broadcasting & the Performing Arts s Announcers & Other Performers s Creative Designers & Craftspersons ↓ Technical Occupations in Libraries, Archives, Museums & Galleries <p><i>Skilled Sales & Occupations</i></p> <ul style="list-style-type: none"> ↑ Technical Sales Specialists, Wholesale Trade ↑ Chefs & Cooks s Sales & Service Supervisors s Technical Occupations in Personal Service ↓ Police Officers & Firefighters <p><i>Intermediate Sales & Service Occupations</i></p> <ul style="list-style-type: none"> ↑ Sales Representatives, Wholesale Trade ↑ Retail Salespersons & Sales Clerks ↑ Occupations in Food & Beverage Service s Child Care & Home Support Workers s Other Occupations in Personal Services ↓ Occupations in Travel & Accommodation ↓ Tour & Recreational Guides & Amusement Occupations 	<p><i>Intermediate Occupations in Transport, Equipment Operation, Installation & Maintenance</i></p> <ul style="list-style-type: none"> ↑ Other Transport Equipment Operators & Related Workers s Motor Vehicle & Transit Drivers <p><i>Processing, Manufacturing & Utilities Supervisors & Skilled Operators</i></p> <ul style="list-style-type: none"> ↑ Supervisors, Processing Occupations ↑ Supervisors, Assembly & Fabrication <p><i>Processing & Manufacturing Machine Operators & Assemblers</i></p> <ul style="list-style-type: none"> ↑ Machine Operators & Related Workers in Pulp & Paper Production & Wood Processing ↑ Machine Operators & Related Workers in Textile Processing ↑ Machine Operators & Related Workers in Fabric, Fur & Leather Products ↑ Manufacturing ↑ Mechanical, Electrical & Electronics Assemblers ↑ Other Assembly & Related Occupations ↓ Printing Machine Operators & Related Occupations ↑ Machining, Metalworking, Woodworking & Related Machine Operators <p><i>Labourers in Processing, Manufacturing & Utilities</i></p> <ul style="list-style-type: none"> ↑ Labourers in Processing, Manufacturing & Utilities 	<p><i>Intermediate Occupations in Transport, Equipment Operation, Installation & Maintenance</i></p> <ul style="list-style-type: none"> ↑ Other Installers, Repairers & Services ↑ Longshore Workers & Material Handlers & Related Occupations <p><i>Trades Helpers, Construction Labourers & Related Occupations</i></p> <ul style="list-style-type: none"> s Public Works & Other Labourers <p><i>Skilled Occupations in Primary Industry</i></p> <ul style="list-style-type: none"> ↑ Logging Machinery Operators <p><i>Processing & Manufacturing Machine Operators & Assemblers</i></p> <ul style="list-style-type: none"> ↑ Machine Operators & Related Workers in Food, Beverage & Tobacco Processing
	POOR	VERY POOR
<p><i>Elemental Sales & Service Occupations</i></p> <ul style="list-style-type: none"> ↑ Cashiers ↑ Other Sales & Related Occupations ↑ Food Counter Attendants & Kitchen Helpers ↑ Other Elemental Service Occupations <p><i>Trades & Skilled Transport & Equipment Operators</i></p> <ul style="list-style-type: none"> ↑ Supervisors, Railway & Motor Transportation Occupations ↑ Metal Forming, Shaping & Erecting Occupations ↑ Machinery & Transportation Equipment Mechanics (except Motor Vehicle) ↑ Upholsterers, Tailors, Shoe Repairers, Jewellers & Related Occupations ↑ Printing Press Operators, Commercial Divers & Other Trades & Related Occupations s Motor Vehicle Mechanics ↓ Stationary Engineers & Power Station & System Operators 	<p><i>Technical & Skilled Occupations in Art, Culture, Recreation & Sport</i></p> <ul style="list-style-type: none"> ↓ Athletes, Coaches, Referees and Related Occupations <p><i>Skilled Sales & Service Occupations</i></p> <ul style="list-style-type: none"> ↑ Butchers & Bakers <p><i>Elemental Sales & Service Occupations</i></p> <ul style="list-style-type: none"> s Cleaners ↓ Security Guards & Related Occupations ↓ Other Attendants in Travel, Accommodation & Recreation <p><i>Trades & Skilled Transport & Equipment Operators</i></p> <ul style="list-style-type: none"> ↑ Contractors & Supervisors, Trades & Related Workers ↑ Training & Crew Operating Occupations ↑ Crane Operators, Drillers & Blasters 	<p><i>Trades & Skilled Transport & Equipment Operators</i></p> <ul style="list-style-type: none"> ↑ Plumbers, Pipefitters and Gas Fitters ↑ Carpenters & Cabinetmakers ↑ bricklaying & Plastering Trades ↑ Other Construction Trades <p><i>Intermediate Occupations in Transport, Equipment Operation, Installation & Maintenance</i></p> <ul style="list-style-type: none"> s Heavy Equipment Operators <p><i>Trades Helpers, Construction Labourers & Related Occupations</i></p> <ul style="list-style-type: none"> ↑ Trades Helpers & Labourers <p><i>Skilled Occupations in Primary Industry</i></p> <ul style="list-style-type: none"> ↑ Supervisors, Logging & Forestry ↓ Fishing Vessel Master's & Skippers & Fishermen/women <p><i>Intermediate Occupations in Primary Industry</i></p> <ul style="list-style-type: none"> s Logging & Forestry Workers ↓ Agriculture & Horticulture Workers ↓ Other Fishing & Trapping Occupations <p><i>Labourers in Primary Industry</i></p> <ul style="list-style-type: none"> s Primary Production Labourers

KEY:

- ↑ Getting Better
- S Stable
- ↓ Getting Worse

Source: Human Resources Development Canada, *Job Futures*, Vol. 1, 1996

for Canada as a whole - very good, good, fair, poor and very poor. Preceding the name of each occupation is a symbol to indicate the growth anticipated in the next five years: an up arrow indicates that there will be more jobs than at present, a down arrow indicates that there will be fewer, and the letter "s" indicates that the field is expected to remain stable. Some occupations with poor employment prospects may experience growth but not to the extent that would improve their prospects rating. Conversely, some occupations will continue to have good employment prospects even though the number of jobs is anticipated to decrease from current levels.

Canadian prospects for the period 1995 to 2000 for labourers, trades helpers and occupations in primary industries are very poor, although the current situation is expected to improve. The best job prospects are in the fields of natural and applied sciences (including computer programmers), technical occupations in physical sciences, and professional occupations in health.

It is important to bear in mind that it is very difficult to accurately predict the future, as so many factors influence the labour market.

4.2 What occupations offer the best employment prospects in the Newfoundland labour market?

While the Newfoundland economy generally has been sluggish over the past number of years, certain sectors have experienced growth.

Since 1992 there have been several significant developments affecting the Newfoundland economy. The construction phase of Hibernia project has been completed, and the production phase is set to begin and the Voisey's Bay nickel discovery has set the stage for new employment in the mining and metal refining fields.

Human Resources Development Canada has developed the National Occupational Classification (NOC), a system which classifies and describes more than 25,000 occupations in the Canadian labour market. These occupations are grouped into 26 major categories. Using figures provided by HRDC, for each of these categories it has been possible to estimate future employment prospects for Newfoundland from the present to 2001, based on the following indicators:

- *Anticipated job growth (new openings).* The number of openings in each job category was rated as *getting better*, *stable*, or *getting worse*.
- *Current unemployment levels.* The average number of people in each category who had registered for EI benefits in selected reference months over the period September 1996 and June 1997. The number was ranked as being *low*, *medium*, or *high*.
- *Future capacity (projected total job openings).* Future capacity in each category was calculated by determining the number of anticipated new and replacement openings, as forecast by HRDC, and deducting the number of

openings that might be expected to be eventually occupied by those who were unemployed in that category in 1996/97. That is, if unemployment levels in a job category are high, the capacity to absorb new graduates is lower than if unemployment levels are low. Capacity was ranked as *good*, *fair*, *poor*, or *very poor*.

Based on these three indicators, overall job prospects for each job category in Newfoundland were rated on a nine-point scale from best to worst (see Table 4.2.1). It should be noted that any employment forecast must be viewed with caution. Any number of factors could cause an upswing in the Newfoundland economy and change these projections to a significant degree.

It can be seen from Table 4.2.1 that the best job prospects are in the categories of management; professional and assisting occupations in health services; professional occupations in business and finance; professional occupations in natural and applied sciences; and technical and skilled occupations in health and primary industry. It should, however, be noted that the positions which become available in the field of "middle and other management occupations" are likely to be filled by those now in the workforce rather than recent graduates.

Within each of these broad categories some occupations will have good prospects and some will not. It was not possible to analyze Newfoundland job prospects at the level of specific occupations, but a partial list of specific occupations included in these categories provides some idea of employment

Table 4.2.1: Employment Prospects and Expected Growth Areas in Newfoundland in the Next Five Years

EMPLOYMENT PROSPECTS: NEWFOUNDLAND				
Occupations	Job Growth (new openings) 1996-2001	Unemployment Level ¹	Future Capacity ²	Overall Rating
<i>Middle and Other Management Occupations</i>	Getting Better	Low	Good	+4
<i>Professional Occupations in Health</i>	Getting Better	Low	Good	+4
<i>Professional Occupations in Business and Finance</i>	Getting Better	Low	Fair	+3
<i>Technical and Skilled Occupations in Health</i>	Getting Worse	Low	Fair	+3
<i>Skilled Occupations in Primary Industry</i>	Stable	Low	Good	+3
<i>Senior Management Occupations</i>	Stable	Low	Fair	+2
<i>Professional Occupations in Natural and Applied Sciences</i>	Getting Better	Medium	Fair	+2
<i>Assisting Occupations in Support of Health Services</i>	Getting Better	Medium	Fair	+2
<i>Paralegal Occupations in Law, Social Services, Education and Religion</i>	Stable	Medium	Fair	+1
<i>Professional Occupations in Art and Culture</i>	Stable	Medium	Fair	+1
<i>Skilled Sales and Service Occupations</i>	Getting Better	High	Fair	+1
<i>Intermediate Sales and Service Occupations</i>	Getting Better	High	Fair	+1
<i>Elemental Sales and Service Occupations</i>	Getting Better	High	Fair	+1
<i>Processing, Manufacturing and Utilities Supervisors and Skilled Operators</i>	Stable	Medium	Fair	+1
<i>Processing and Manufacturing Machine Operators and Assemblers</i>	Getting Better	High	Fair	+1
<i>Technical Occupations Related to Natural and Applied Science</i>	Getting Better	High	Poor	-1
<i>Technical and Skilled Occupations in Art, Culture, Recreation, Sport</i>	Stable	Medium	Poor	-1
<i>Labourers in Primary Industry</i>	Getting Better	High	Fair	-1
<i>Clerical Occupations</i>	Stable	High	Poor	-2
<i>Professional Occupations in Social Science, Education, Government Services and Religion</i>	Getting Worse	Medium	Poor	-2
<i>Intermediate Occupations in Primary Industry</i>	Getting Better	High	Very Poor	-2
<i>Labourers in Processing, Manufacturing and Utilities</i>	Getting Better	High	Very Poor	-2
<i>Skilled Administrative and Business Occupations</i>	Getting Worse	High	Poor	-3
<i>Trades and Skilled Transport and Equipment Operators</i>	Getting Worse	High	Very Poor	-4
<i>Intermediate Occupations in Transport, Equipment Operation, Installation and Maintenance</i>	Getting Worse	High	Very Poor	-4
<i>Trades Helpers, Construction Labourers and Related Occupations</i>	Getting Worse	High	Very Poor	-4
<i>Intermediate Occupations in Transport, Equipment Operation, Installation and Maintenance</i>	Getting Worse	High	Very Poor	-4
<i>Trades Helpers, Construction Labourers and Related Occupations</i>	Getting Worse	High	Very Poor	-4

¹ Average September 1996 to June 1997.² 1996 unemployment levels taken into account.

Source: Department of Education with data from HRDC

areas in which graduates can expect to find work in the future. These include: managers in food service and accommodation, computer programmers, auditors, accountants, investment professionals, pharmacists, therapy professionals, registered nurses, medical technologists and technicians, and technical occupations in dental health services.

The poorest job prospects in Newfoundland are mainly in the areas of clerical work and trades. Traditionally, these occupations have accounted for a significant proportion of the workforce in this province. The data show, however, that unemployment rates are currently very high in these fields. Occupations in these categories include stationary engineers, motor vehicle mechanics, carpenters, electrical trades, telecommunications occupations, plumbers, machinists, construction trades, bricklaying and plastering trades, printing press operators, trades helpers and labourers, installers, repairers, agriculture and fishing occupations. Professional occupations in education and government services and skilled administrative and business occupations are also not expected to employ many new workers in Newfoundland in the near future. These occupations include secretaries, transcriptionists, finance and insurance administrative occupations, university and college instructors, teachers and counsellors, psychologists, probation officers, researchers and consultants.

4.3 Which programs produce the highest and lowest earning graduates?

What level of income should postsecondary students expect to earn following graduation? With the significant investment of time and money required for a postsecondary education, there is the inherent expectation that employment opportunities will exist for graduates and that jobs will provide a reasonable salary. The most current information available for Newfoundland students in their final year of study indicates that in 1996/97, the average accumulated student loan debt for students in their final year of study was approximately \$22,500 for undergraduate university students, \$18,010 for graduates of two-year private college programs and \$12,263 for graduates of two-year public college programs (see Chapter 8, Sections 10, 11 and 12). Many students accumulate student loan debt well in excess of these average numbers. This raises questions related to whether salary levels for certain occupations will be sufficient to allow recent graduates to pay off the loans they needed to become qualified in those occupational areas.

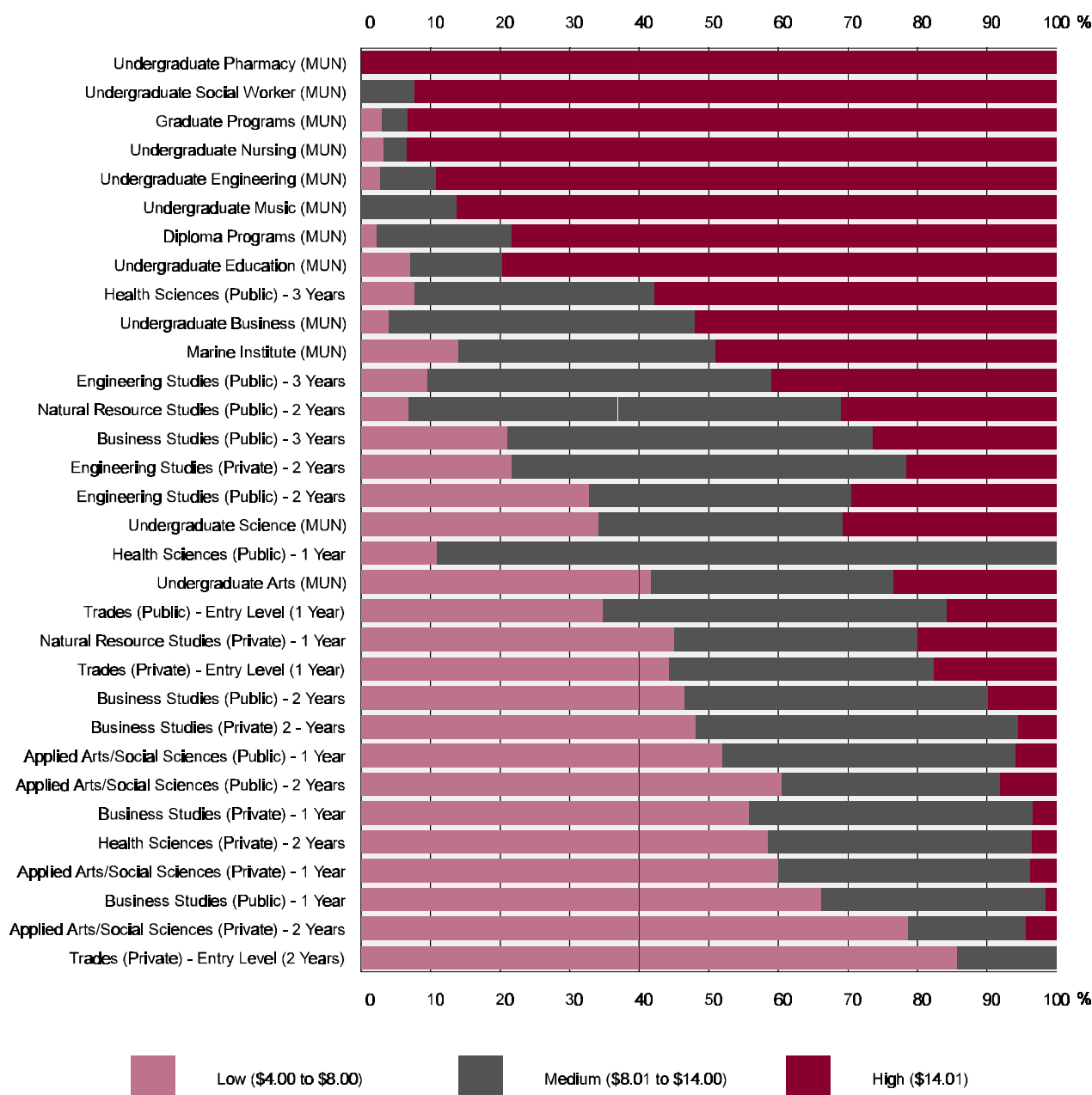
Certain programs may not provide the types of earning opportunities expected by students. Others may open doors to careers which provide salaries beyond what was anticipated. Some of the best information on the earning levels of recent graduates is derived from the Postsecondary Graduate Follow-up Survey administered periodically by the Department of Education. Graduates are surveyed 16 months after graduation and asked about their employment history, current

employment status, hourly earnings and whether employment is in a training-related area. The most current data available are for graduates of 1995. Approximately 63% of graduates responded to the entire survey, however, the percent of respondents for the question related to earnings was somewhat lower. Removing blanks, refusals and graduates earning commissions the response rate on this item was 48.5%.

For the purpose of the current analysis the data have been combined to produce a profile of earnings by postsecondary sector, program cluster and length of program. Earnings were calculated based on respondents' reported hourly wage in their most recent or present job 16 months after graduation. Earnings were also categorized as low (less than \$8.00 an hour), medium (between \$8.00 and \$14.00 an hour) or high (more than \$14.00 an hour). Graduates from Adult Basic Education and General Interest Programs are excluded from the analysis.

To answer the question posed for this section, programs were placed into a series of categories corresponding to length, postsecondary sector (i.e., whether university, public college or private college) and occupational area or cluster. The reported salary levels of graduates from the programs listed under each category were summarized. For each category (e.g., one-year Health Science programs in public colleges) the percentage of graduates who were low or high earners was determined. The earnings levels (high, medium, low) of graduates by sector, program cluster and length are presented in Figure 4.3.1. Clusters

Figure 4.3.1: Percent of 1995 Graduates by Sector, Cluster and Duration of Program, by Salary Range



- Notes:
1. Total numbers of graduates = 7,013.
 2. Total graduates contacted = 4,413.
 3. Total graduates with some form of employment since graduation = 3,785. Number reporting hourly salary = 3,402.
 4. For individual program classifications, data are not reported where number of graduates reporting hourly salary is less than 15.

with small numbers of graduates (fewer than 15) were excluded from the analysis.

Figure 4.3.1 provides an “at a glance” profile of the initial earnings of graduates. It is one indicator of labour market success. It should be noted, however, that they do not reflect whether graduates are working in a training-related area nor do they provide an indicator of the proportion of the 1995 graduates actually working. What should also be considered is the fact that for the most part these salary levels reflect the earnings of entry-level employees. Many graduates are at the beginning of careers and their eventual earnings will be substantially higher than the amount they earn in their first or second year of work. These are limitations to the usefulness of the indicator that must be considered. Nevertheless, the data still provide a useful measure of expected salary and can be used to gauge employment earnings following graduation against the cost of education and indeed the cost of living generally.

Figure 4.3.1 shows that the programs with the highest proportion of 1995 graduates in the high-earning group were offered through Memorial University and the public college system. More than 90% of Master’s and Ph.D. graduates and almost 80% of university Diploma graduates were high earners. Bachelor’s degree programs and several two-year and three-year public college programs also had a significant proportion of graduates who fell in the high-earning group. Very few graduates of one-year and two-year college programs earned more than \$14.00 per hour (approximately

\$25,000 per annum). On average, across all sectors, about 31% of 1995 graduates reported high earnings defined in this way.

As expected, the reverse was true for graduates in the low-earning group. Most of those earning less than \$8.00 per hour were graduates of one-year and two-year college programs. For example, Figure 4.3.2 shows that over 85% of graduates from two-year Trades and over 75% from two-year Applied Arts programs in the private colleges were in the low-earning group. A number of public college one-year and two-year programs also had significant numbers of graduates in the low-earning group. Provincially, 34% of 1995 graduates had initial earnings below \$8.00 per hour.

The significant number of public and particularly private college graduates earning low wages is cause for concern from several perspectives. Firstly, in terms of general prosperity and economic growth of the Province, it is disturbing to see such a large proportion of recent graduates in a low income bracket. Secondly, it raises questions about the ability of these graduates, many of whom have large debts, to repay their student loans in a timely manner. Increased student loan default levels may prompt banks to look for an increase in the “risk premium”, the percentage government pays the banks to assume the risk of loaning money to students. Finally, low wages mean additional educated Newfoundlanders may leave the Province to find better paying career opportunities.

The disparity with respect to initial earnings across postsecondary

sectors also raises questions about the quality of programs. While general economic conditions are undoubtedly playing a role in the overall picture of graduate earnings, it is clear that certain programs are generating a pool of graduates who are able to find only low-level jobs.

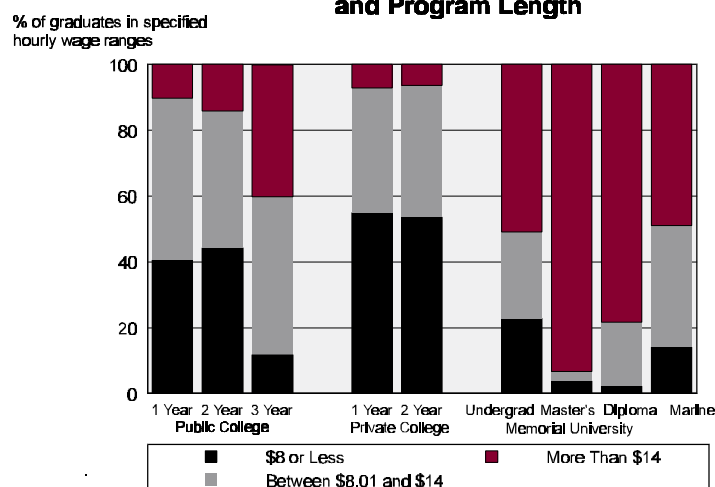
4.4 How do earnings of recent college and university graduates compare?

The decision to pursue a given educational program is influenced by a host of factors. Firstly, individuals consider their interest in the area. They look at the prospect of finding a job and the likelihood of job satisfaction. Program length, difficulty, cost, prerequisites and accessibility are also important considerations. Equally important, however, is the knowledge that upon completion of the program employment opportunities will provide a level of earnings sufficient to sustain one’s expected lifestyle.

Earnings levels, as measured by the experience of 1995 graduates, show great variations among programs and sectors. Figure 4.4.1 provides data on hourly wages of respondents to the 1995 Postsecondary Graduate Follow-up Survey by sector and program length. The stacked bars indicate the proportion of graduates earning hourly wages classified as low, medium or high (as defined in in Section 4.3).

While it is clear from the survey that a university education provides preparation for entry into high-earning occupations, a significant number of Master’s and Diploma graduates as well as graduates of Marine Institute

Figure 4.4.1: Earnings of 1995 Graduates by Sector and Program Length



programs re-enter positions from which they have been on leave. Many teachers, for example, complete Master's degrees on a part-time basis or while on a leave of absence from their positions. These cases must be considered in an interpretation of data from the follow-up survey.

After university graduates, public college graduates are the next highest earning group. More than 85% of graduates from three-year programs in the public college sector who responded to the survey earned in the medium and high salary ranges. About 40% earned more than \$14.00 per hour. There were substantially more graduates from two-year public college programs in the low earning group. Only 14.1% of two-year program graduates were high earners while 44.2% were low-earners. One-year public college graduates, as a group, earned marginally less than graduates of two-year programs. Most earned in the medium salary

range, \$8.00-\$14.00 per hour. About 40% were in the low-earning group.

In the university and public college sectors, a relationship between program length and initial earnings appears to exist. Master's graduates earn more than Bachelor's graduates and, as expected, graduates of the longer three-year public college programs earn substantially more than graduates from one- and two-year programs. However there was no clear positive relationship between initial earnings and program length for graduates of one and two-year public college programs.

In general, graduates from private college programs are entering or returning to the workforce in low-paying positions. More than 50% of respondents from both private college groups reported hourly earnings of less than \$8.00 and a very small proportion of private college graduates were in the top-earning group. Furthermore, like the situation in the public

colleges, there is virtually no difference between the hourly earnings profile of graduates from one-year private college programs and that of graduates from two-year programs.

The results from the Department's follow-up of 1995 graduates, based on actual experience in the labour market, show that private college graduates have a less favourable employment experience than other graduates. The data indicate that for private college graduates employment levels were markedly lower than those of graduates from other postsecondary sectors and that program length in private colleges does not affect this indicator to any great degree.

In summary, initial earnings levels of postsecondary graduates follow a pattern whereby university graduates are paid at the highest rates followed by public college graduates and lastly by private college graduates. Given the remarkable gains in the private college share of postsecondary students it would appear that students entering postsecondary programs are not well informed about employment outcomes and expected earnings from these programs. As described in Chapter 8, students are paying substantially more and borrowing more to study in the private college system, despite a poorer employment and earnings record when compared to the experience of university and public college graduates.

4.5 Which programs are most and least likely to result in training-related employment?

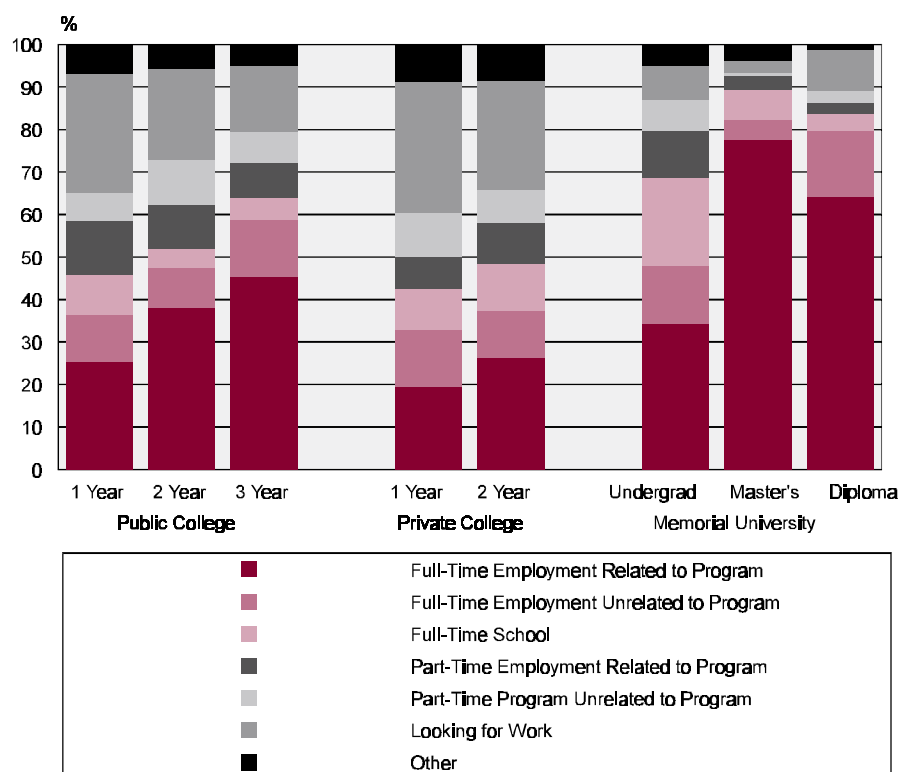
Human Resources Development Canada has forecast that the Newfoundland economy will grow at a rate of 5% each year for the remainder of this decade. However, employment prospects for the next five years, as estimated by the HRDC, present a bleak outlook for graduates of postsecondary institutions. Most graduates have only fair prospects, even if they seek work in the wider Canadian job market. The experience of recent postsecondary graduates, derived from responses to the Department of Education Survey of those who

had graduated in the winter or spring of 1995, reflects this poor employment environment.

For each month for a 16-month period following graduation graduates were asked to state what they were doing: working full- or part-time in work related or unrelated to their program, looking for work, attending school full-time or not working for some other reason. With the exception of Memorial graduates with advanced qualifications, fewer than half the graduates of any postsecondary sector had obtained full-time work related to their area of study (Figure 4.5.1).

The responses presented in Figure 4.5.1 clearly indicate that the percentage of graduates who had obtained employment related to their area of study differed substantially by postsecondary sector. More than 60% of those with university diplomas, most of whom also have a university degree, and almost 80% of those with Master's degrees were successful in obtaining full-time employment related to their program of study. When the percentages of those who had found both full-time and part-time work were added together, approximately 80% of these groups were working in jobs related to their course of study. Again, the fact that some of these graduates would have been on

Figure 4.5.1: Employment of 1995 Graduates by Sector and Program Length



Note: 1995 graduates surveyed in fall, 1996.

educational leave from such positions must be considered in the interpretation of these data.

Those with undergraduate degrees did not experience the same success: only 34% had found full-time employment related to their major. A large percentage (21%) of undergraduates reported having returned to school. It would be expected that a significant number of graduates with undergraduate degrees would continue on to study at the graduate level or complete an honours degree regardless of labour market conditions. However, it is suggested that many of those with general arts or science degrees who enrol in additional programs of study are doing so because of difficult labour market conditions. The responses for university graduates for each of the sixteen months between their graduation and the interview shows that the percentage of university graduates looking for work decreased as the percentage of those returning to school increased, suggesting that a lack of work was the reason for returning to school.

On a more positive note, the outlook for university graduates is forecast to be good. Industrial sectors which have a high proportion of time worked by those with university degrees have experienced the strongest growth in production since the beginning of the 1970s and output in this sector grew faster than output of the economy as a whole (HRDC, Knowledge vs. Muscle, 1997).

Graduates from two-year programs in the public colleges fared better than university undergraduates in finding full-time related employment. On average, 38.0%

found full-time employment related to their education in the sixteen months after graduation. Only 25.3% of graduates of one-year public college programs obtained full-time related employment.

The public colleges also offer a number of three-year programs. Graduates of these programs fared better than any other group of college graduates: 45% had obtained full-time employment related to their program, and a further 13% had found full-time employment unrelated to their program. In total, 59% of the 195 graduates from three-year college programs had obtained full-time work after graduation, compared to 48% of the 1,481 Memorial undergraduates. Graduates from Diploma and Master's programs at Memorial were, however, more successful in obtaining full-time work either related or unrelated to their courses of study (79.7% and 82.3% respectively).

Private college graduates had less success in finding full-time related employment: 19.4% of graduates from one-year private college programs, that is, 139 of the 719 responding graduates, found full-time employment related to their area of study. This compares with 26.3% (120 of 456 responding graduates) from two-year private college programs.

The role of part-time work in the economy is increasing. As shown in Figure 4.5.1, many graduates who did not find full-time work related or unrelated to their programs of study did obtain part-time employment. HRDC employment analysts have observed that non-standard jobs, that is, those which are part-time, short-tenure or self-employed, have

accounted for close to half of the total job growth over the past twenty years and accounted for 29% of jobs in the economy in 1994 (HRDC, Nature of Work, 1997).

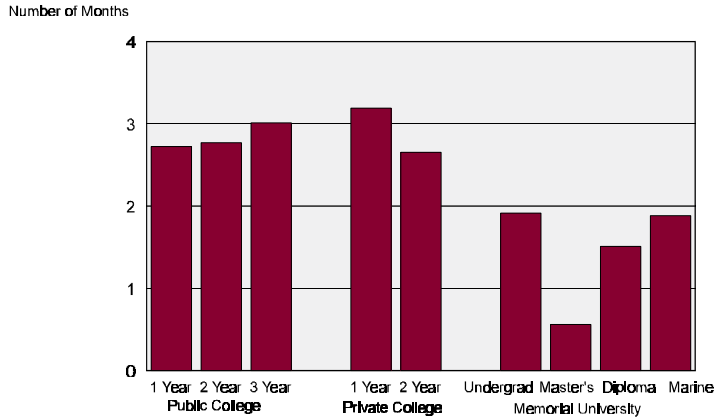
The ratio of the percentage of those who had obtained full-time related work to the percentage of those who had obtained part-time related work was highest for Master's and diploma graduates, and was relatively high for graduates of two-year and three-year public college programs.

Graduates were counted as "looking for work" in this survey only if they indicated that they were looking and also had no full- or part-time work and had not returned to school full-time. Far fewer Memorial graduates reported being in this "unemployed" category than public or private college graduates. Those who may have anticipated being unable to find work appear to have opted to return to school, an effective strategy given the high percentage of Master's and diploma graduates who are able to find full-time work related to their educational background. The highest percentages of unemployed graduates were those from one- and two-year private college programs (30.9% and 25.7%) and one-year public college programs (27.9%).

4.6 How long does it take graduates to find employment both in and out of Province?

The survey of 1995 postsecondary graduates revealed that, on average, for all institutions 13.9% reported having had no work at all in the sixteen months since graduation, 32.8% reported having

Figure 4.6.1: Average Length of Time for 1995 Graduates to Find Employment by Sector and Program Length



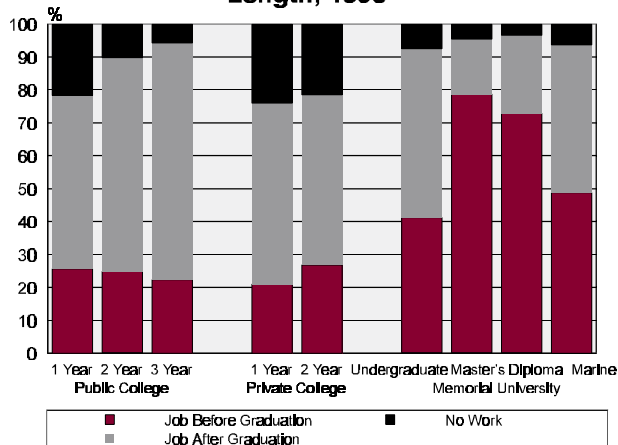
Note: 1995 graduates surveyed in fall, 1996.

Over 20% of graduates of one- and two-year private college programs and one-year public college programs reported having had no work at all since graduation. In comparison, only 5.7% of graduates of three-year public college programs and 7.4% of Memorial undergraduate programs reported having had no work (Figure 4.6.2). High percentages of graduates in all Memorial University categories, including the Marine Institute, found work prior to graduation and low percentages reported having had no work at all.

obtained work prior to graduation, and 52.1% said they found work after graduation. Those who found work after graduation did so after an average four-month job search. The number of months it took to find employment differed very little among graduates from the different postsecondary sectors (Figure

4.6.1). The exceptions were those with Master's degrees from Memorial University, who comprised a small percentage (3.6%) of the total number of graduates. A very high percentage of these graduates, 78.7%, obtained a job prior to graduation.

Figure 4.6.2: Percent of 1995 Graduates who Obtained Work Prior to and Following Graduation by Sector and Program Length, 1996



Note: 1995 graduates surveyed in fall, 1996.