

General Conclusion

This study has outlined various aspects of the labour market in Atlantic Canada by focusing on skill requirements. Clearly the human resource challenges facing the regional economy are numerous and varied; their nature and extent depend on the observer's viewpoint (short, medium, or long term) or on the geographic environment examined (urban areas in relation to peripheral areas). Several challenges involving skills reflect circumstances or conditions right across the country; some come from problems specific to the region, and others express a strong dichotomy within the regional economy.

All in all, the economy of the Atlantic provinces performed well in the last few years. About ninety thousand net jobs have been created since the recession bottomed out in 1992, with gains being made mostly in the service sector but also in the goods-producing industries. The employment rate has exceeded the prerecession level, while the unemployment rate dropped by a few percentage points. Although these encouraging results are mainly due to the exceptional growth of the North American economy, the adaptability of the region's businesses must also be recognized, as they increased their exports from \$7 billion in the early 1990s to \$17 billion in 2000. These exports have contributed in large part to maintaining the growth in GDP. In fact, the share of exports in the regional GDP increased from 18 percent in 1992 to nearly 30 percent in 2000. Regarding interprovincial exports, it can be said that half or more of the region's GDP depends on the export sector.

This is important as the economy of the Atlantic provinces is particularly vulnerable to foreign competition. In this context, job maintenance and creation are extremely dependent on the competitiveness and productivity of businesses. And increasingly, the competitiveness of exporting businesses in the Atlantic region rests less on access to natural resources and more on human capital. The difference today lies in the competence of managers and workers, their ability to adopt and assimilate new technologies. In a borderless economy, where distance loses much of its meaning, the real challenge for businesses is in managing and changing mentalities: "Quality people,

critical mass of skills, speed and flexibility in decision-making, the capacity to build alliances and networks, the need to drop yesterday's assumptions and accepted orthodoxy."¹⁰⁹ In the end, economic adjustment lies in the ability to be innovative with production methods, goods and services, and management approaches so as to meet the needs of constantly changing markets.

But the ability of businesses to adapt rests on the availability of a qualified labour force whose skills meet the needs both of traditional businesses undergoing modernization and of new businesses in emerging sectors, the latter being heavily based on knowledge. Regarding these last two points, i.e., the modernization of traditional businesses and the emergence of high-knowledge-intensive sectors, the Atlantic provinces have made remarkable progress over the last decade. This progress is reflected by greatly improved labour market indexes and particularly by GDP growth, which, as we have just seen, has been largely sustained by the strength of exports.

The last economic cycle in the Atlantic region was marked by developments of a more fundamental structural nature stemming from globalization and the advent of NICTs (new information and communication technologies). Newly created jobs are not so much in goods-producing industries — where an economic cycle that strengthens the demand for goods can also temporarily stimulate employment (often seasonal) — as in private services. And as was indicated, many of these jobs are either highly skilled or require a higher level of skill.

A fundamental aspect of Atlantic Canada's labour market is undoubtedly the demographic vitality of the region as a whole, whose weight in the Canadian federation gradually declined, from 8.5 percent in 1961 to 7.6 percent at present. Between 1991 and 1996, twenty-eight of the forty-five census divisions in the region reported a drop in population, which contributed to the erosion of the available labour force. The situation has improved somewhat over the last few years, thanks to the economy's good performance and the subsequent slowing down of out-migration to other provinces. But the changes now occurring in the population's age structure are reflected by an accelerated aging of the regional labour force. This poses a considerable challenge in the current economic environment, where businesses are increasingly trying to maintain their comparative advantages in human capital — an acknowledgement of the principle that

109. From Charles MacMillan, *Focusing on the Future: Atlantic Canada's Quiet Revolution* (Halifax: Council of Atlantic Provinces Premiers, 2001).

in a knowledge-based economy, a business's competitiveness and success rest on its human resources.

The structure of regional economic activity is also such that there is considerable variation in the distribution of knowledge industries. Our analysis of the fifteen economic regions suggests the existence of a two-tiered economy: high-knowledge-intensive industrial activities are concentrated in urban areas, while rural and semirural areas continue to be centred around the development of natural resources. It seems clear, then, that the adaptability of the Atlantic provinces rests largely on the capacity of the dynamic urban areas to absorb and implement the principles of the new economy. For their part, the so-called "peripheral" areas must be able to rely on policies and programs that are better-adapted to the realities of the more traditional sectors. It goes without saying that with close to half of the regional population, the resource-based areas will continue to weigh heavily on the vitality of Atlantic Canada as a whole.

The rural-urban cleavage poses a major challenge for public decision-making bodies whose mandate is to develop policies and strategies aimed at enabling the various areas to achieve economic prosperity. In a study on the dynamics of Atlantic Canada's urban areas, Lamarche and De Benedetti demonstrated the need for the region to overcome the static forces that still characterize many areas and segments of the economy in Atlantic Canada while stimulating the forces of change: "Static and dynamic forces of about equal strength hold the Maritime economy as a whole in a more or less steady state, which might be interpreted as 'equilibrium,' or alternatively as stagnation. The static forces are those of conservatism, reluctance to change, clinging to 'natural forces and traditional know-how' in the vain hope of thereby returning to past glories. The dynamic forces are those favouring the necessary shift to 'human resources and knowledge,' the surge of innovative entrepreneurship, much of it in small enterprises, some of it in small towns, applying a high level of science, technology, and knowledge to producing sophisticated services and manufactured goods."¹¹⁰ Given that only 6.2 percent of the region's jobs are in the knowledge sector, there is no doubt that Atlantic Canada is lagging significantly behind the rest of Canada. Yet knowledge jobs are those that have multiplied the fastest in the region in the last few years.

110. G. J. De Benedetti and R. H. Lamarche, *Shock Waves: The Maritime Urban System in the New Economy* (Moncton: Canadian Institute for Research on Regional Development, 1994), 300-301.

Is there really a shortage of skills in Atlantic Canada? The strong economic growth witnessed in the second half of the 1990s has certainly put back on the agenda the issue of a skilled labour shortage. For many, simply asking the question is a clear sign that the need is real. A study by the Canadian Federation of Independent Business recently suggested that the shortage of skilled workers is widespread among SMEs in most activity sectors, although the manufacturing and construction sectors are more affected.¹¹¹ The Conference Board of Canada similarly argued that the demand for skilled workers is rapidly increasing in the country, and it is not being met by the supply.¹¹²

Still, it is difficult to delimit the skill requirements, as this study has shown. According to one's preferred point of view (short-term, long-term, activity sector, or subregion), it can certainly be argued one way or the other. The studies conducted in Canada indicate that labour shortages vary with the circumstances in that they appear and disappear with economic cycles. This is particularly the case for the trades in construction and engineering, manufacturing, transportation, and in some branches of the commercial and personal services sector.

What is certain is that the type and nature of jobs are changing. Whether in the traditional sectors or in the new-economy sectors, unskilled (secondary-school diploma or less), or blue-collar, jobs are gradually being replaced by nonmanual jobs requiring a higher level of skill (postsecondary and university education). Furthermore, the economy is integrating more atypical jobs, as evidenced by the growing number of part-time and self-employed workers. What is also known is that the average education level of workers in the Atlantic region is relatively low, which is hampering their integration into the labour market. This integration, it will be recalled, is achieved more by the acquiring of basic skills in school and postsecondary institutions than by job-related training. Given the changing nature of the regional labour markets in an increasingly knowledge-based economy, it is therefore incumbent on the various stakeholders — governments, education agencies, private industry, and individuals — to look at new strategies and orientations to ensure that the pool of skilled workers in Atlantic Canada continues to grow at a pace that will enable the region to prosper in a global and highly competitive economy.

111. Canadian Federation of Independent Business, *Help Wanted*, results of CFIB surveys on shortage of qualified labour (February 2001).

112. Steven A. Murphy, *What to Do Before the Well Runs Dry: Managing Scarce Skills* (Ottawa: Conference Board of Canada, 2000).

It is true that governments have an important role to play in developing strategies to respond to the changes that are occurring within the regional labour markets. But it is not an easy matter to set specific courses of action given the complexity of developing goals and public policies to meet the needs of human resources. For example, to the extent that competitiveness requires a greater focus on the principles of economic efficiency, issues of equity and redistribution seem to be back on the government agenda. In a paper published by the Institute for Research on Public Policy, Gunderson and Riddell state: "The labour policies that are most at risk in this more competitive environment are those that only have a distributive or equity rationale and serve no efficiency or competitiveness-enhancing purposes. This is because governments that pursue such policies risk losing business investment and the associated jobs.... Unfortunately, the pressure to reduce these redistributive policies is coming just at a time when they may be most needed — as market forces associated with global competition, trade liberalization, technological change and industrial restructuring are having a disproportionately adverse effect on the least skilled and most disadvantaged."¹¹³ Hence the importance for governments to implement strategic policies aimed at skills improvement and training. These so-called active policies should be used as tools to facilitate the adjustment of skills to the new economy.

An approach for developing closer partnerships between the public and private sectors should be considered. For example, with the government's support, the establishment of sectoral councils responsible for studying the challenges faced by each industry could help develop policies or programs that might strengthen worker adaptability. Several such councils already exist at the national level (e.g., the Software Human Resources Council and the Biotechnology Human Resources Council) but not as many at the regional level, where they would be sensitive to the specific needs of the various industrial sectors in the region. Made up of experts from the scientific and business environments, these councils can help public decision-makers and businesses to better direct their efforts at skilled personnel training and recruiting. These partnerships facilitate the linkage between the private and institutional sectors while allowing for better targeting of the regional strategic sectors.

113. M. Gunderson and C. Riddell, "The Changing Nature of Work: Implications for Public Policy," *Adapting Public Policy to a Labour Market in Transition*, ed. C. Riddell and France St-Hilaire (Montreal: Institute for Research on Public Policy, 2000), 9–10.

Such choices are necessary in order to maximize the effectiveness of public and private investments in future skills. For example, when the IT industry really blossomed in the 1990s, the New Brunswick Economic Development and Tourism Department, in collaboration with the federal government, established a whole series of programs for the training of local IT workers. The possibility of implementing similar programs targeted at key sectors or even at promising economic sectors must now be explored. This might be done by means of a skills improvement fund for various emerging sectors, which would be part of the Atlantic Innovation Fund (AIF), thereby providing it with the flexibility required to adjust to the specific needs of these sectors. For example, in its 1998 budget, Ontario introduced a \$30 million initiative aimed at accelerating the building of partnerships between educational institutions and the industry for the development of strategic skills. In Quebec, there are over twenty labour sector committees in fields as diverse as forest management, clothing, aerospace, environment, and biotechnology. The organizational stability of these various committees is ensured through financing from Emploi-Québec, which totalled about \$11 million in 1999–2000.¹¹⁴ In June 1995, Quebec also passed a piece of legislation, An Act to Foster the Development of Manpower Training, whereby employers must allocate at least 1 percent of their payroll to staff training. In 1998, 75 percent of employers whose payroll was between \$500,000 and \$1 million complied with this rule; the figure dropped to 65 percent for employers with a payroll between \$250,000 and \$500,000.¹¹⁵

It seems certain that the need to invest in education and research infrastructures in Atlantic Canada is a key component of the continuous improvement of skills, especially with regard to leading-edge industries like biotechnology and life sciences, information technologies, and the offshore oil and gas industry with their attractive medium- and long-term prospects for the region. A report on the state of postsecondary research in the Atlantic region emphasized the importance of focusing on the factors which directly influence regional competitiveness “in order for the Atlantic region to attract the best candidates for reasons not only of academic quality, but also in the interests of economic growth and viability (recall again the primary role of the universities in the region in research and devel-

114. See *Bilan des réalisations des comités sectoriels de main-d'œuvre 1999–2000*, Direction générale adjointe de l'intervention sectorielle (DGAIS) (Quebec, 2000).

115. Government of Quebec, *Plan d'action annuel d'Emploi-Québec, 2000–01* (Quebec: ministère de l'Emploi et de la Solidarité sociale), 2001.

opment, and the link to economic growth in the new knowledge economy)."¹¹⁶

Foremost is the research infrastructure. The role of universities and other postsecondary institutions is crucial since they not only ensure the education of workers but also serve as innovation centres.

Since the late 1980s, the gap between R & D investments in Atlantic Canada and elsewhere in the country has kept widening: the regional share of R & D expenditures dropped from 5.4 percent of national expenditures in 1989 to only 3.4 percent in 1998.¹¹⁷ Looking at it from another angle, if we compare the ratio of R & D expenditures per capita in the Atlantic region to the rest of Canada, the gap becomes even more obvious: while the nation's per capita R & D expenditures in 1998 totalled \$501, they were only \$218 in Atlantic Canada.

The federal government's strategic investments in enabling technologies (i.e., based on a high knowledge concentration) have been rather modest so far. The impact of national investment programs in scientific and technological infrastructures remains minimal in the Atlantic region. For example, since its beginnings in 1997, the Canada Foundation for Innovation has invested only 3.2 percent of its total contributions in this region.¹¹⁸ The success of the Technology Partnerships Canada program in the Atlantic region has been even more limited. Of the approximately 130 investments made so far, investments totalling over \$1.6 billion and creating or maintaining 30,341 jobs in the country, only \$25 million was allocated to the Atlantic provinces (1.5 percent of the total) for a total of 375 jobs (1.2 percent of the national total).¹¹⁹

The long-awaited AIF should help to restore some of the balance since it is aimed at strengthening innovation and the R & D network in the region. But it is crucial that the AIF encourage commercial firms to participate in the financing and conducting of R & D projects in Atlantic Canada. Compared with other regions of the country, these firms provide very little support for research. At the national level,

116. Mac Weaver, *Report on Post-Secondary Research in Atlantic Canada* (Fredericton: Maritime Provinces Higher Education Commission (MPHEC), 2000), 50.

117. Statistics Canada, *Science Statistics*, vol. 24, no. 6, cat. 88-001-XIB.

118. This amount is cumulative to 17 July 2001 and includes the funds granted under the Canada Research Chairs Program (see the following Web site: www.innovation.ca/projects/print_content_e.cfm).

119. As of 30 June 2001 (see following Web site: www.strategis.ic.gc.ca/SSGF/tp00175e.html).

commercial firms financed almost 45 percent of R & D work in 1998; in the Atlantic region, the figure was only 17.2 percent. The importance of such participation stems from the fact that today's industry is not only the main source of R & D financing elsewhere in the country; it is also the fastest-growing source.

Greater financial support for the regional scientific infrastructure not only would contribute to the development of a more innovative and competitive environment but would likely reduce the out-migration of the most experienced researchers and postgraduate students, thereby strengthening the regional human resource pool. There is no doubt that the out-migration of skilled personnel is a very real problem. After studying this phenomenon at the national level, Kesselman recently noted: "For example, Canada's low public support of basic research in the natural and biomedical sciences vis-à-vis the US limits opportunities and attractions for researchers to remain in Canada. Reduced pure research activity, in turn, curtails the rate of new business spin-offs, which retards growth of the knowledge sector and the economy, thus stimulating brain drain."¹²⁰

Maturing of the knowledge economy's emerging sectors also requires that management skills be developed in order to meet their specific needs. Unfortunately, there seems to be a shortage of skilled labour for the management of Atlantic Canada's knowledge industries. That being said, jobs related to science and technology management have grown significantly in the last few years. Whether we are talking about the skills required for developing a business plan or finding risk capital, dealing with issues concerned with intellectual property protection, developing business networks through strategic alliances, or carrying out any other administrative function related to the marketing of new products, access to a labour force with the relevant skills and experience is essential for the development of the knowledge economy.

Within universities, technology transfer agencies such as NU-TECH and the Business Development Office at Dalhousie University, as well as the Genesis Centre at Memorial University, have been extremely successful in starting up innovative enterprises in the university environment. Consequently, these same agencies should be able to facilitate not only the transfer of technology from the university to the private sector but also the transfer of the skills required by managers

120. Jonathan R. Kesselman, "Policies to Stem the Brain Drain – Without Americanizing Canada," *Canadian Public Policy* 27, no. 1 (2001).

of new businesses to ensure their continued development. Thus, governments and the private sector must work together with universities and administration schools to establish programs aimed at developing such skills. For example, cooperative work-study programs at the master's level with a scientific component could enable future graduates to acquire the skills and practical experience needed in the knowledge industries.

As for businesses, they should encourage their workers to participate in ongoing training programs since they are the ones contributing much of the financing (about 60 percent) for these programs. It will be recalled that the Atlantic provinces, except for Nova Scotia, are lagging far behind in their participation in adult-training and education programs. The emphasis should be on the participation of the less-educated workers, whose level of participation in these programs is far below that of workers with a better education. It is important to avoid as much as possible the increased polarization of the labour market in Atlantic Canada and to prevent the marginalization of the less-educated workers.

A regional agency such as ACOA could foster the integration of training programs into businesses through its industrial policies. Gunderson and Riddell go so far as to recommend such an approach: "Just as firms are increasingly integrating their human resource strategy into their broader competitiveness strategy, so should governments be integrating their labour policies as part of their strategies in other areas such as industrial and trade policies."¹²¹ However, this will require a great deal of cooperation between the departments and agencies (both at the federal and provincial levels) that are responsible for the development of human resources. Nevertheless, with its mandate to promote regional economic opportunities, ACOA, in conjunction with federal departments like Industry Canada and Human Resources Development, is in a position to take on a leadership role in this area in Atlantic Canada.

121. Gunderson and Riddell, "The Changing Nature of Work," 32.



Appendices



Appendix A: Knowledge-Intensive Groups

High-Concentration	Medium-Concentration	Low-Concentration
Scientific and professional equipment	Other transportation equipment	Hunting and fishing
Telecommunications and other electronic sectors	Other electrical and electronic sectors	Other finished products
Aircraft and parts	Primary metals (nonferrous)	Wood
Computer technology and related services	Textiles	Furniture and lighting
Commercial equipment	Telecommunications	Forestry
Scientific and technical services	Paper and related products	Transportation
Pharmacy and medicine	Mining	Storage
Energy production	Rubber	Agriculture
Other chemical products	Plastics	Retail trade
Machinery	Primary metals (ferrous)	Personal services
Oil- and coal-refined products	Nonmetal metallurgical products	Quarries and sandpits
Management counselling services	Wholesale trade	Lodging and food
Educational services	Crude oil and natural gas	Clothing
Health and social services	Metal mill products	Leather
Pipeline transportation	Automobiles and parts	
Other corporate services	Food	
	Beverages	
	Tobacco	
	Finance, insurance, and real estate	
	Other public services	
	Ancillary mining services	
	Other services	
	Printing and editing	
	Construction	
	Entertainment and leisure services	

Source: Frank Lee and Handan Has, "Quantitative Assessment of High-Knowledge Industries versus Low-Knowledge Industries," *The Implications of Knowledge-Based Growth for Micro-Economic Policies*, ed. Peter Howitt (Calgary: University of Calgary Press and Procurement and Services Canada, 1996).

■ Appendix B : Classification of Occupations

The following classification of occupations is based on Lavoie and Roy's approach (1998). Unlike their arrangement, however, our classification uses the Canadian standard occupational classification (SOC) of 1991.

1. Knowledge

1.1 *Science (pure and applied) and engineering*

C011, C012, C013, C014, C015, C021, C022, C023, C031, C032, C033, C034, C041, C042, C043, C044, C045, C046, C047, C048, C051, C052, C061, D011, D012, E031, E035 (1/2), E111 (1/2), E112 (1/2).

1.2 *Computer analysis and programming*

C062, C063.

1.3 *Social and human sciences (SHS)*

B011, B012, B022, B114, C053, E011, E012, E021, E032, E033, E034, E035 (1/2), E038, E111 (1/2), E112 (1/2), F011, F012, F013, F021, F022, F023, F024, F025, F031, F032, F033, F034, F035, F036, F121, F122, F123, F126, F131, F132, F141, F142, F143, F144, G924.

2. Management

2.1 *Science and technology management*

A014, A121, A122, A311, A321, A342, A373, A381, A391.

2.2 *Management in other fields*

A011, A012, A013, A015, A016, A111, A112, A113, A114, A131, A141, A211, A221, A222, A301, A302, A303, A312, A322, A323, A324, A331, A332, A333, A334, A341, A343, A351, A352, A361, A371, A392, B317, B318, E037.

3. Data Processing

B013, B014, B111, B112, B113, B115, B116, B211, B212, B213, B214, B311, B312, B314, B315, B316, B411, B412, B413, B414, B415, B511, B512, B513, B514, B521, B522, B524, B531, B532, B533, B534, B535, B541, B542, B543, B551, B552, B553, B554, B561, B562, B563, B571, B572, B573, B574, B575, B576, C054, C111, C112, C113, C121, C125,

C131, C132, C133, C141, C151, C152, C153, C154, C155, C163, D031, D211, D212, D213, D214, D215, D216, D217, D218, D219, D223, D313, E131, E132, E211, E214, E215, F111, F112, F124, F125, F127, F151, F152, F153, F154, G011, G111, G121, G131, G132, G133, G211, G311, G711, G713, G714, G715, G731, G812, G813, G921, G972, G973.

4. Service Delivery

A353, D222, D311, G012, G013, G014, G015, G016, G411, G412, G511, G512, G513, G611, G612, G621, G622, G623, G624, G625, G631, G712, G721, G722, G732, G811, G814, G911, G922, G931, G932, G933, G961, G962, G981, G982, G983.

5. Goods Manufacturing

A372, B523, C122, C123, C124, C142, C143, C144, C161, C162, C164, C173, C174, C175, D221, D231, F145, G134, G923, G941, G942, G971, H011, H012, H013, H014, H015, H016, H017, H018, H019, H021, H022, H111, H112, H113, H121, H122, H131, H132, H133, H134, H141, H142, H143, H144, H145, H211, H212, H213, H214, H215, H216, H217, H221, H222, H311, H312, H321, H322, H323, H324, H325, H411, H412, H413, H414, H415, H416, H417, H418, H421, H422, H431, H432, H433, H434, H435, H511, H512, H513, H514, H521, H522, H523, H531, H532, H533, H534, H535, H611, H612, H621, H622, H623, H711, H712, H713, H714, H721, H722, H731, H732, H733, H734, H735, H736, H811, H812, H821, H822, H831, H832, I011, I012, I013, I014, I015, I016, I017, I021, I022, I111, I121, I122, I131, I132, I141, I142, I151, I161, I162, I171, I172, I181, I182, I211, I212, I213, I214, I215, I216, J011, J012, J013, J014, J015, J016, J021, J022, J023, J024, J025, J026, J027, J111, J112, J113, J114, J121, J122, J123, J124, J125, J131, J132, J133, J134, J141, J142, J143, J144, J145, J146, J151, J152, J153, J154, J161, J162, J163, J164, J171, J172, J173, J174, J175, J181, J182, J183, J184, J191, J192, J193, J194, J195, J196, J197, J211, J212, J213, J214, J215, J216, J217, J221, J222, J223, J224, J225, J226, J227, J228, J311, J312, J313, J314, J315, J316, J317, J318, J319.

6. Data Services (Data Processing and Service Delivery Evenly)

B021, B313, C171, C172, D013, D014, D021, D022, D023, D032, D041, D042, D043, D044, D111, D112, D232, D233, D234, D235, D312, E022, E023, E024, E025, E036, E121, E133, E212, E213, E216, G912, G951, H737.

Note: Technologists and technicians were classified in the “Data Processing” category.

Appendix C

Job Breakdown in Canada and Atlantic Canada by Occupational Category and Province, 1996

	Canada	Atlantic Canada	Newfound- land	Nova Scotia	New Brunswick	Prince Edward Island
All occupations	13,318,506	933,277	184,196	380,584	307,607	50,890
1. Knowledge	1,103,271	57,582	11,601	24,574	18,332	3,075
1.1 Science (pure and applied) and engineering	311,613	18,276	4,253	7,742	5,406	875
1.2 Computer analysis and programming	158,350	5,505	965	2,190	2,065	285
1.3 Social and human sciences	633,308	33,801	6,383	14,642	10,861	1,915
2. Management	1,246,705	78,255	15,630	32,150	25,660	4,815
2.1 Science and technology	173,910	11,215	2,025	4,645	3,975	570
2.2 Public administration ^a	144,740	11,370	2,555	4,005	3,995	815
2.3 Financial services, insurance, and real estate	184,805	9,490	1,775	3,915	3,210	590
2.4 Retail sales, food, and lodging	408,670	29,640	6,550	12,320	8,730	2,040
2.5 Management in other fields	334,580	16,540	2,725	7,265	5,750	800
3. Data processing	4,708,245	311,920	62,425	129,670	102,275	17,550
4. Service delivery	1,781,175	147,150	29,145	61,690	47,725	8,590

5. Goods manufacturing	3,637,890	268,605	50,020	105,245	91,075	22,265
6. Data services	841,220	69,765	15,375	27,255	22,540	4,595

Examples of occupations according to their occupational classification:

1. Medical practitioners, agrologists, biologists, engineers (science and engineering); analysts and programmers (computer technology); lawyers, consultants, auditors/accountants, artists (social and human sciences)
2. Health-care managers, engineering services managers (science and technology); senior officials, school directors and other school administrators (public services); financial managers, bank managers (financial and other services); retail sales managers (retail sales and others); other managers
3. Sales clerks, cashiers, secretaries, accounting clerks, engineering and drafting technologists and technicians
4. Waiters, security guards, caretakers and other cleaning personnel, cooks, hairdressers, police officers
5. Mechanics, fish-processing plant workers, farm and other labourers, carpenters, truck drivers
6. Nurses, social workers, human resource consultants

Source: Statistics Canada, 1996 census; compiled by the authors.

^a Other areas than science and technology.



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