

**Innovation Systems Research Network
City-Region Profile**

Montréal

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4/19/2006

Summary and Highlights

Key Indicators	Montréal	Canada
Population, 2001	3,426,360	30,007,085
Population Change 1996-2001	3.0%	4.0%
% Foreign Born	18.2%	18.2%
% BA Degree or higher	17.7%	15.4%
Labour Force	2,761,210	23,901,360
Employment Rate	60.8%	61.5%
Unemployed Rate	7.5%	7.4%
% 'Creative' occupations	36.1%	29.2%
% Science & Tech. Occupations	7.5%	6.4%
Bohemians' per 1,000 Labour Force	18.0	13.1
Number of Clusters	11	263
% Employment in Clusters	38.1%	22.1%
% Establishments in Clusters	34.2%	19.9%
Establishments	108,632	1,048,286
Compound Annual Growth 1998-2005	0.2%	1.1%
Average Household Income	\$ 53,725	\$ 58,360
Average Employment Income	\$ 31,730	\$ 31,757

1 - Demographics Montréal

Population	1996	2001	% Change 1996-2001
Montréal	3,326,500	3,426,360	3.0%
Canada	28,846,770	30,007,085	4.0%

Age Groups	Under 15	15 to 64	65 and over	% 15 to 64
Montréal	618,865	2,364,770	442,720	69.0%
Canada	5,725,540	20,393,000	3,888,545	68.0%

Figure 1.1 - Population by age and gender, 2001

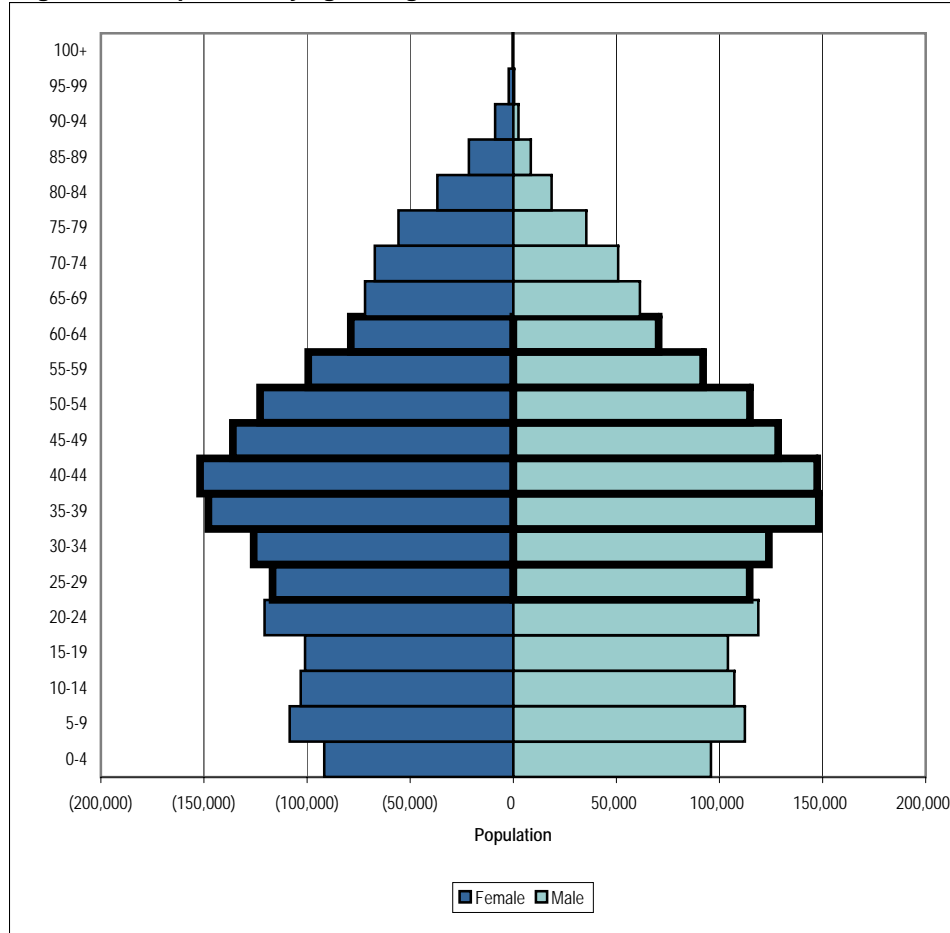


Figure 1.2 - Population by age group, 1996-2001

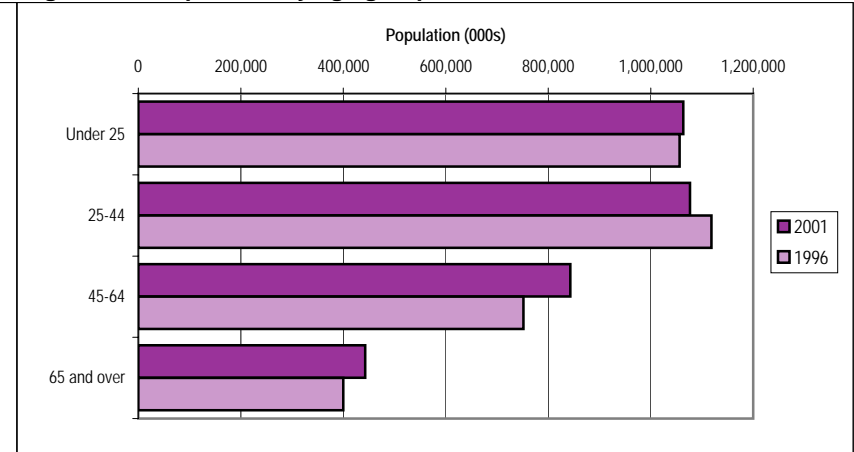
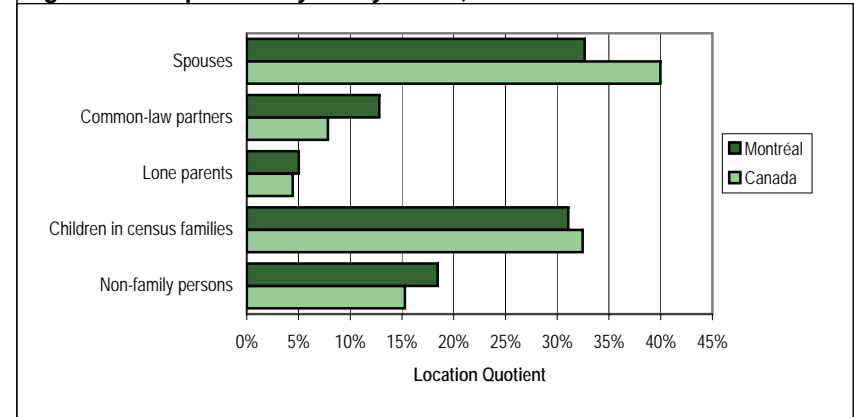


Figure 1.3 - Population by family status, 2001



2 - Migration & Population Change

Montréal

Domestic Migration	Intra-provincial	Inter-provincial	Total
In-flows, 1996-2001	137,565	32,520	170,085
Out-flows, 1996-2001	106,285	76,390	182,675
Net, 1996-2001	31,280	(43,870)	(12,590)

	% Foreign born	Migrated post-1991	Migrated pre-1991
Montréal	18.2%	6.3%	11.9%
Canada	18.2%	6.1%	12.1%

Figure 2.1 - Domestic migration flows between 1996 and 2001 by age

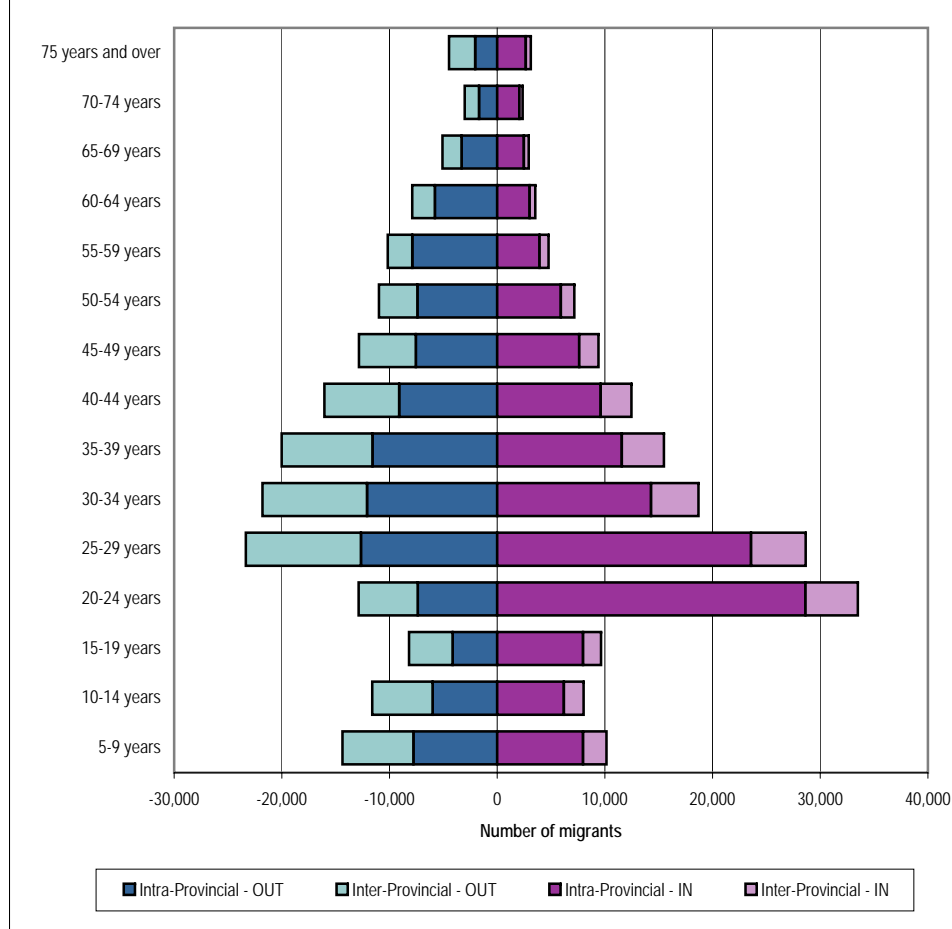


Figure 2.2 - Population by place of birth, 2001

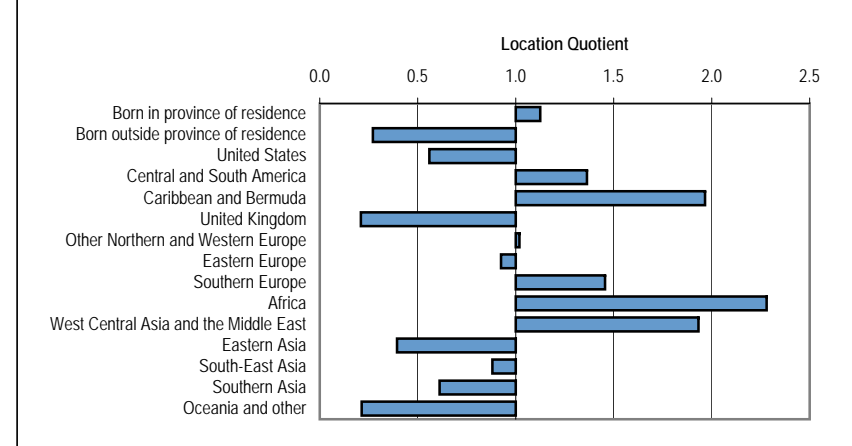
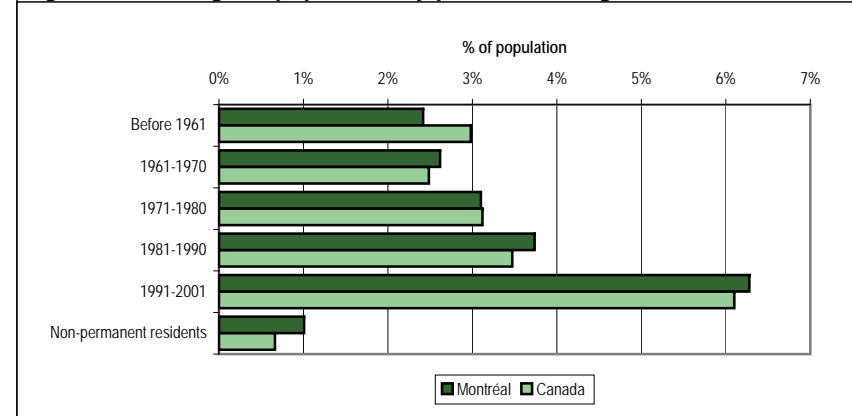


Figure 2.3 - Immigrant population by period of immigration, 2001



3 - Education

Montréal

	% College degree or higher ¹	% BA degree or higher ¹	% MA degree or higher ¹	PhDs per 1,000 ¹
Montréal	36.7%	17.7%	4.0%	6.5
Canada	32.9%	15.4%	3.2%	5.4

	Average years of schooling ¹		
	1991	1996	2001
Montréal	12.0	12.2	12.8
Canada	12.0	12.3	12.8

Figure 3.1 - Educational attainment for the population 15 years and over, 2001

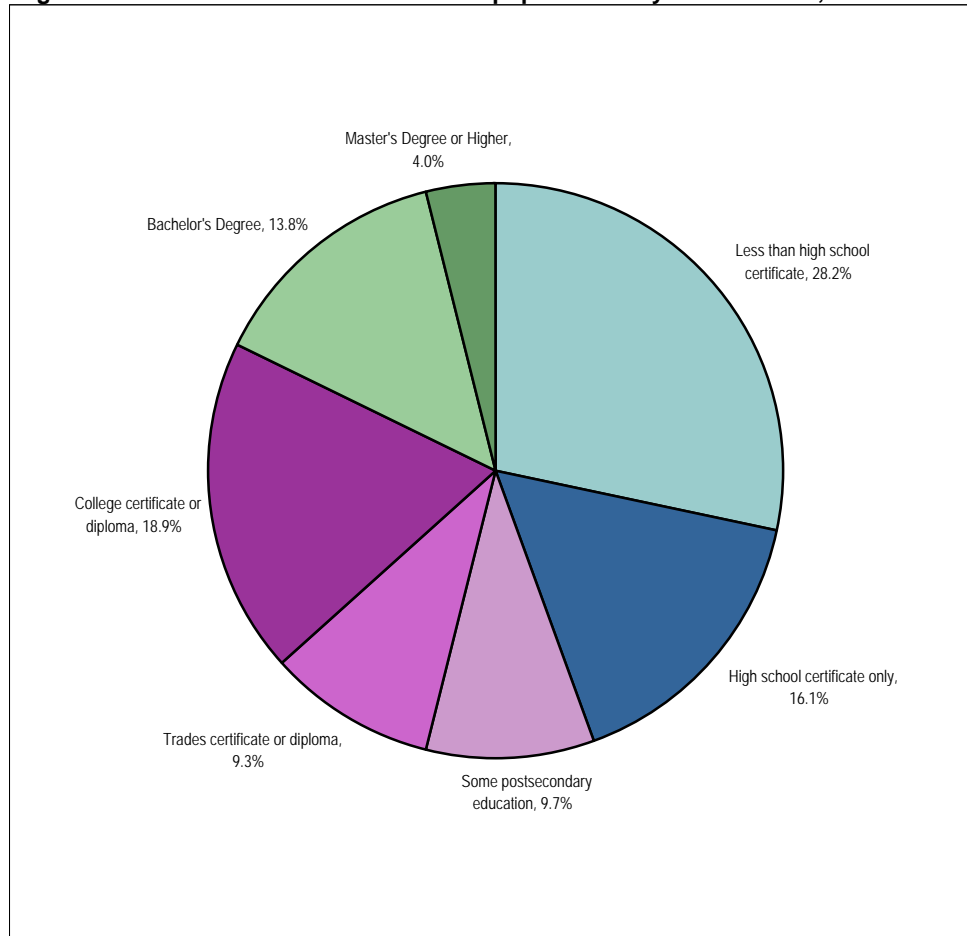


Figure 3.2 - Change in educational attainment, 1991-2001

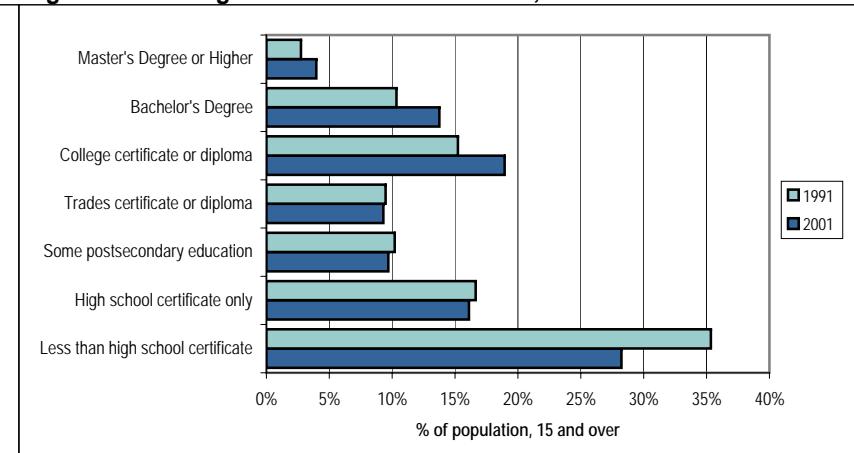
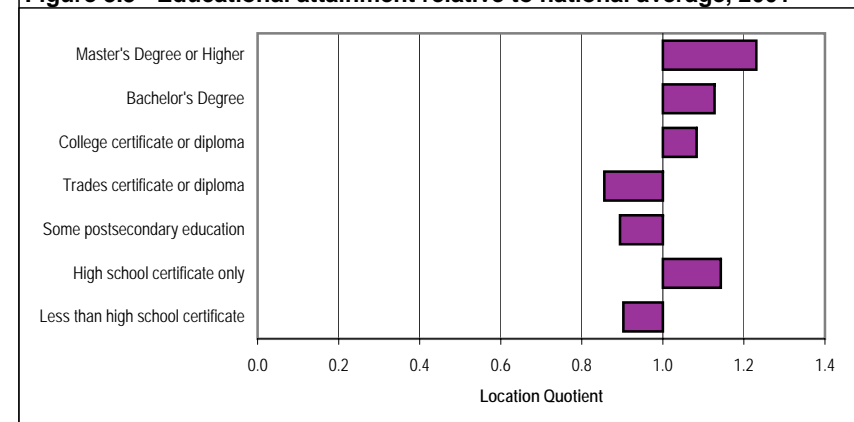


Figure 3.3 - Educational attainment relative to national average, 2001



4 - Employment

Montréal

	Employment Rate ²		Unemployment Rate ³	
	1991	2001	1991	2001
Montréal	58.9%	60.8%	11.7%	7.5%
Canada	61.0%	61.5%	10.2%	7.4%

Average hours worked per week	Female		Male	
	1991	2001	1991	2001
Montréal	34.1	34.4	40.0	40.1
Canada	34.0	34.7	41.6	42.1

Figure 4.1 - Labour force status of the population 15 and over, 2001

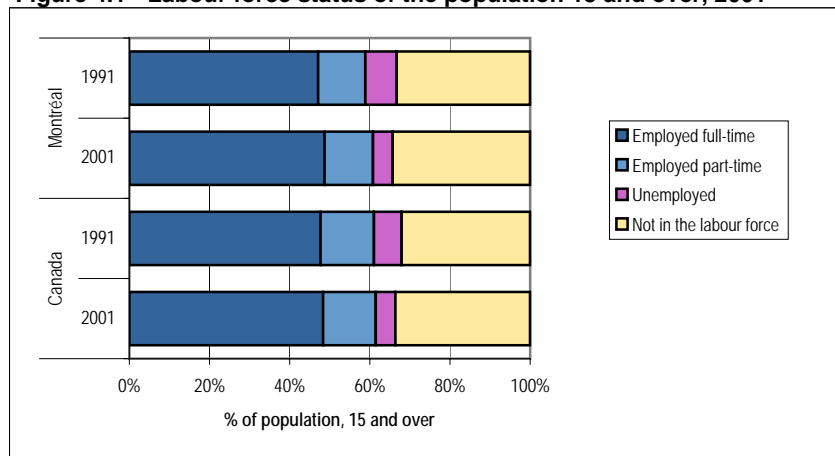


Figure 4.2 - Labour force status by gender, 2001

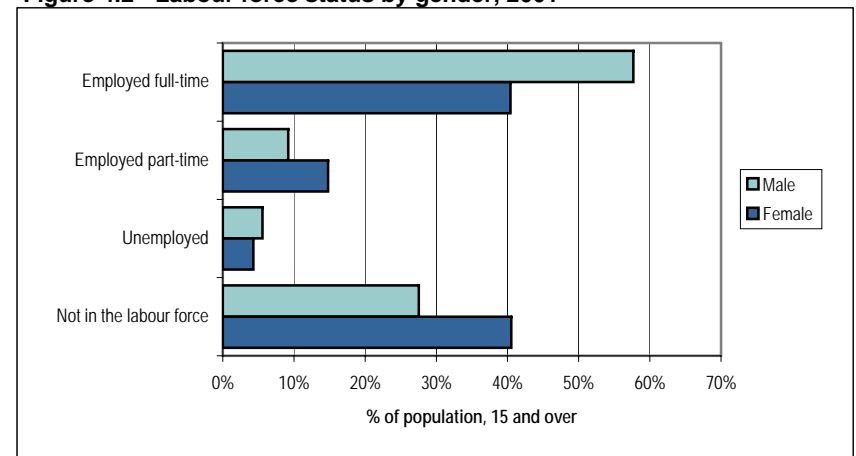


Figure 4.3 - Employment rate² by age, 2001

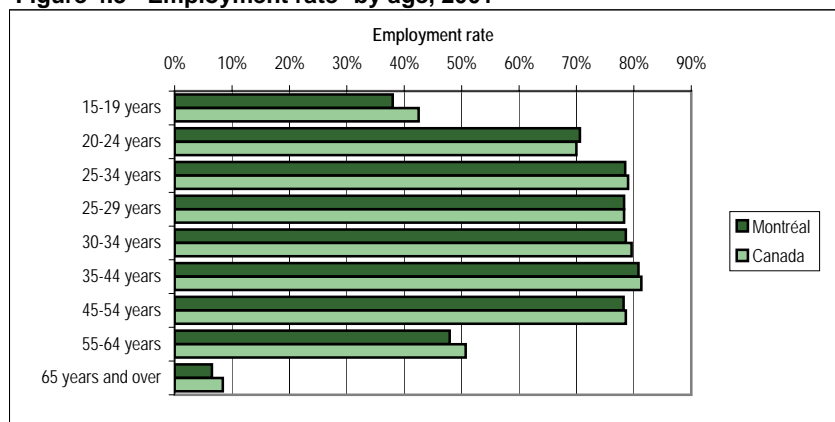
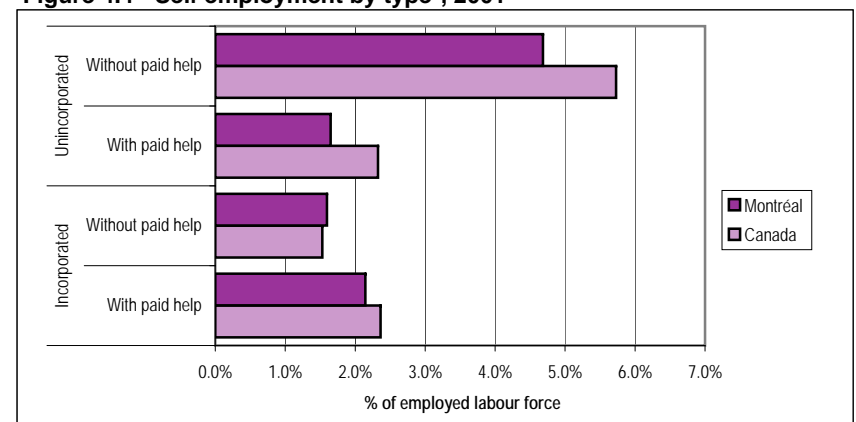


Figure 4.4 - Self employment by type⁴, 2001



5 - Occupational Structure Montréal

	A-B Management, business & finance occupations			C-F Natural/social science, health, education & artistic occupations			G-J Sales/service, trades & manual labour occupations		
	1991	1996	2001	1991	1996	2001	1991	1996	2001
Montréal	33.2%	31.6%	31.5%	20.5%	22.7%	24.1%	46.4%	45.7%	44.4%
Canada	28.6%	27.8%	28.2%	18.8%	19.8%	21.3%	52.5%	52.4%	50.5%

Figure 5.1 - Occupational structure, 2001

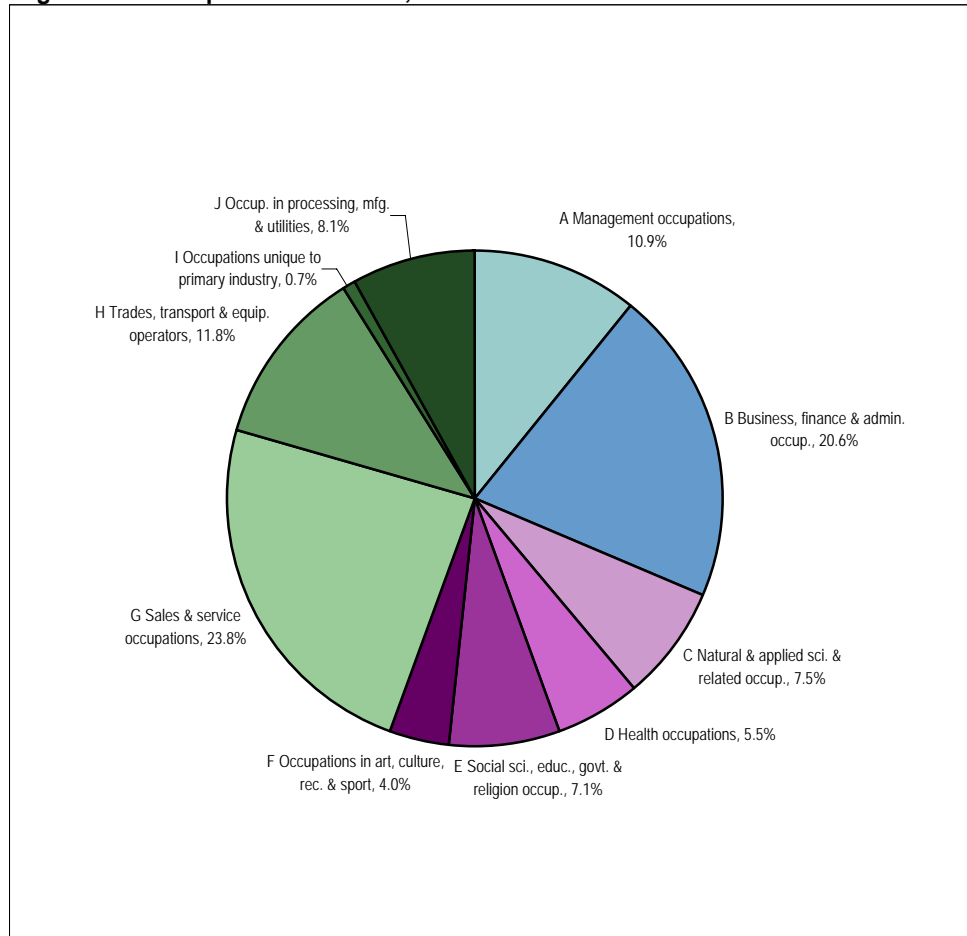
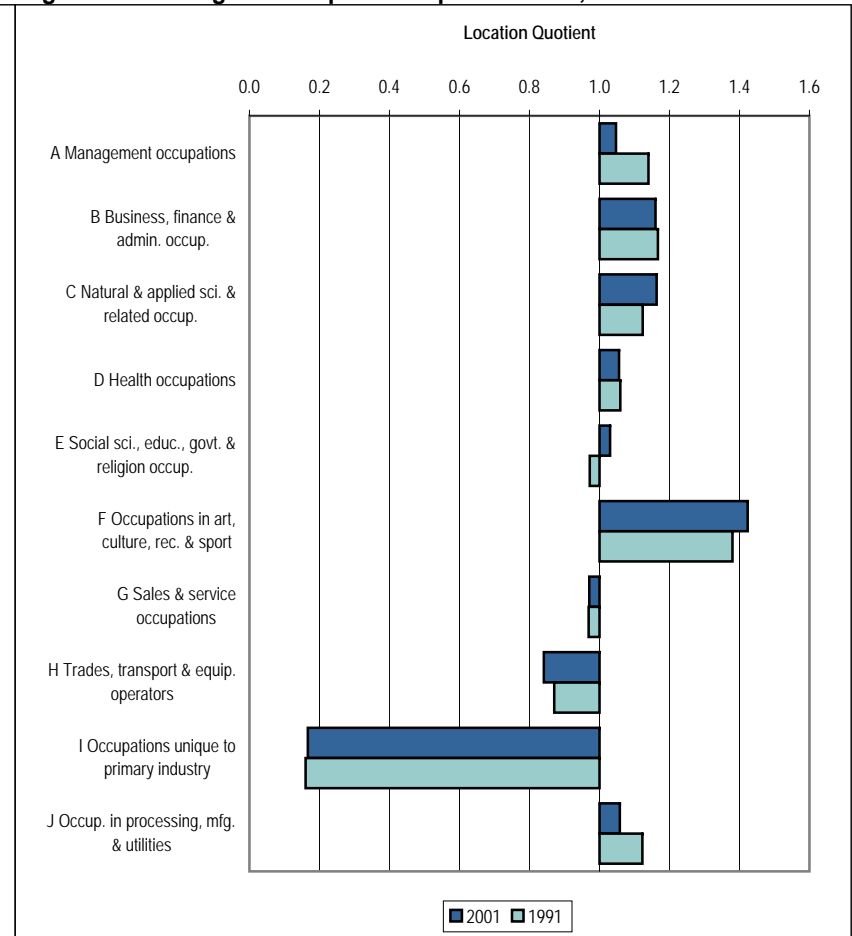


Figure 5.2 - Change in occupational specialization, 1991-2001



6 - Creative Occupations

Montréal

	Bohemians	Bohemians per 1000 ⁵	S&T Workers	% S&T Workers ⁶
Montréal	31,790	18.0	132,365	7.5%
Canada	204,305	13.1	1,003,810	6.4%

Occupational Groups ⁷	Creative	Service	Trades & Manual	Agricultural
Montréal	36.1%	43.3%	20.3%	0.4%
Canada	29.2%	42.7%	23.9%	4.3%

Figure 6.1 - Specialization in creative occupations

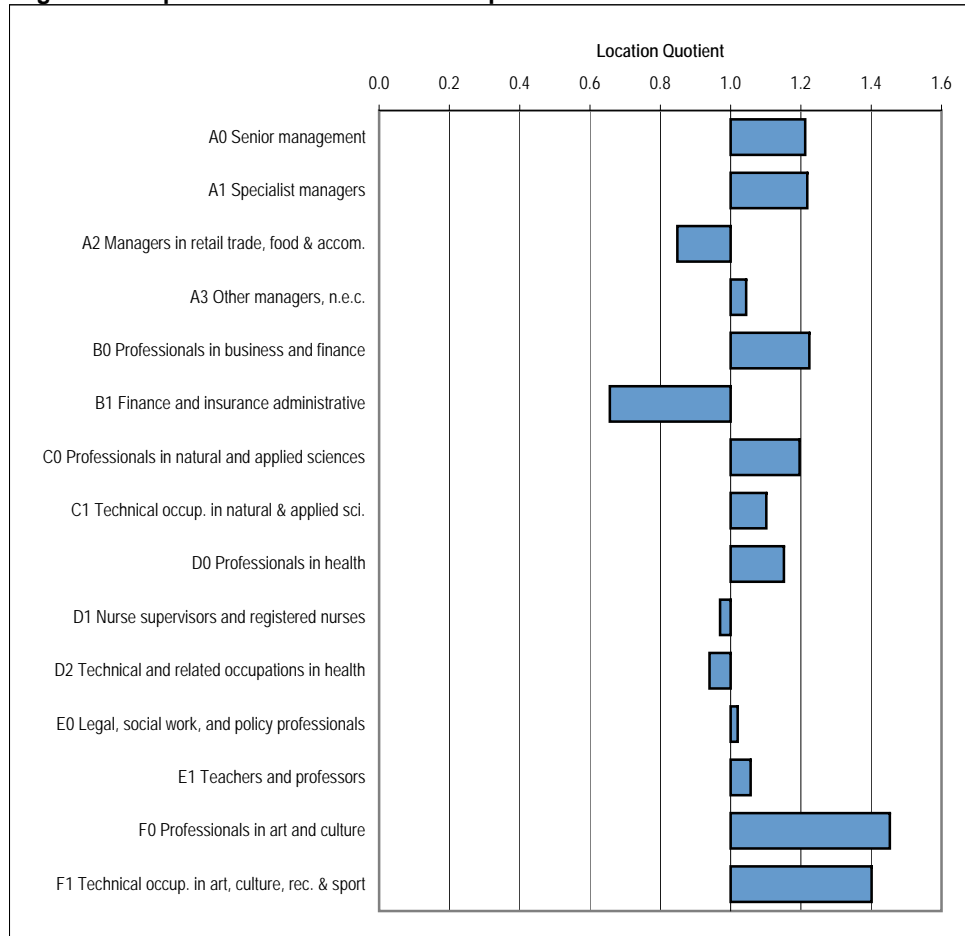


Figure 6.2 - Change in share of labour force, 1991-2001

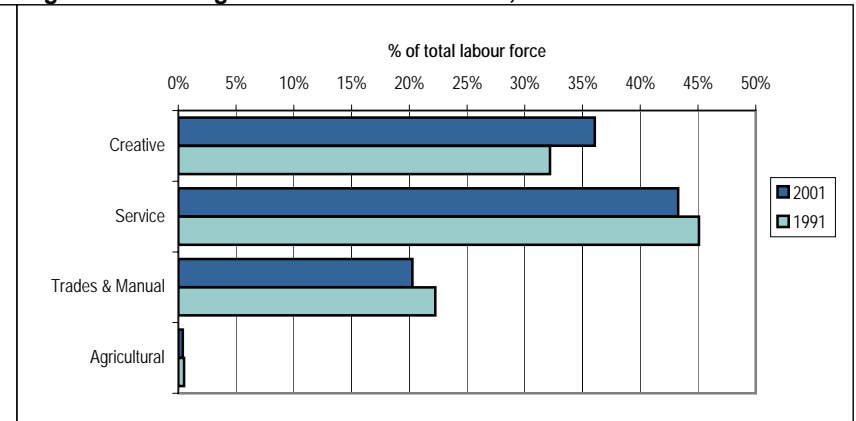
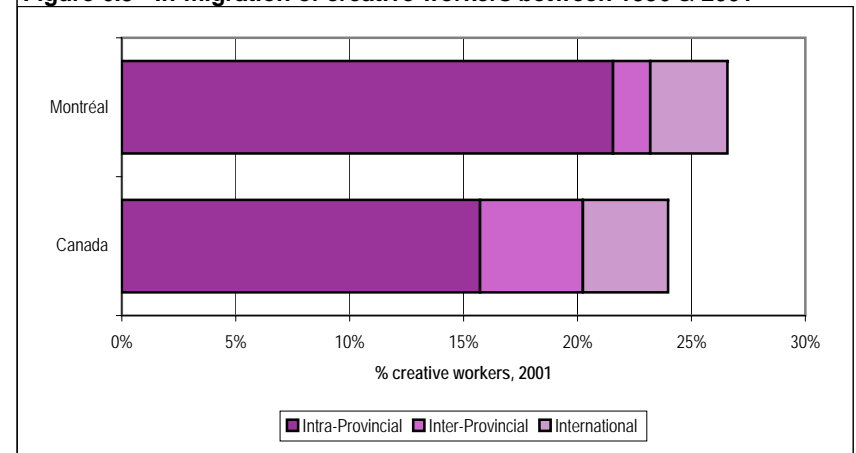


Figure 6.3 - In-migration of creative workers between 1996 & 2001

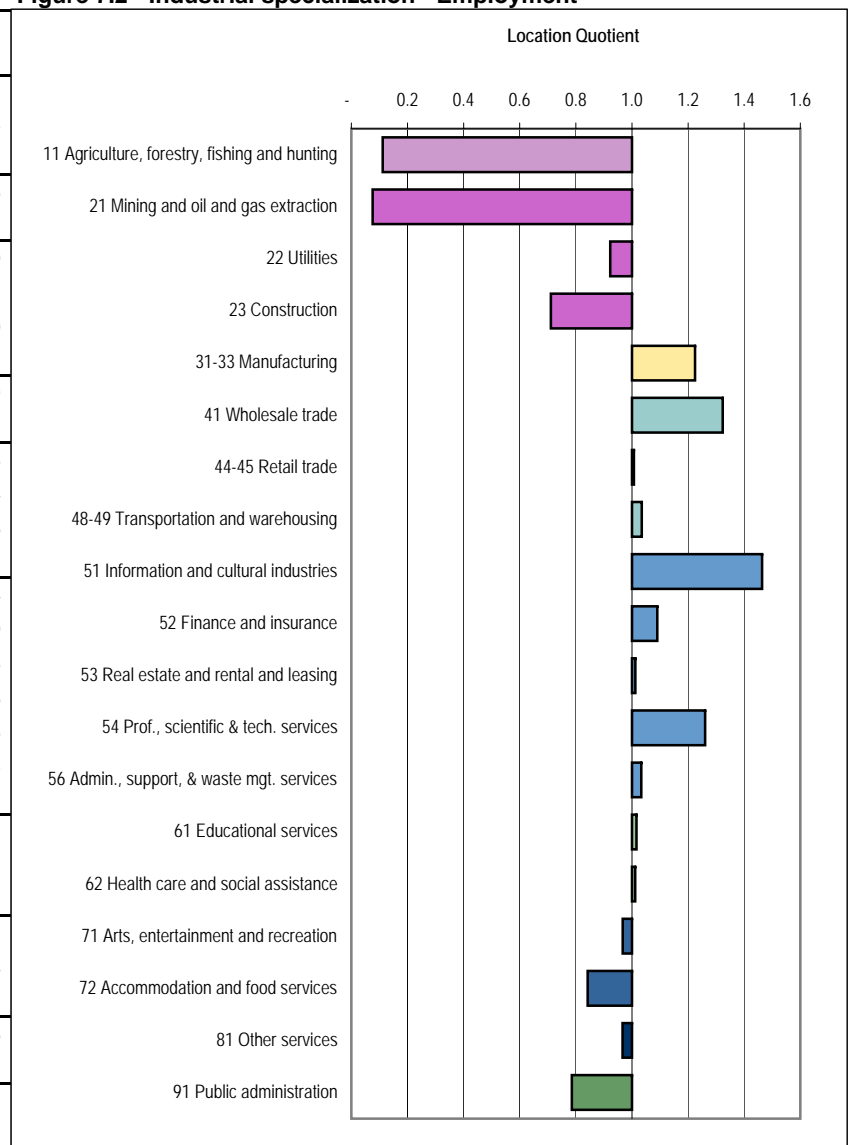


7 - Industrial Structure Montréal

Figure 7.1 - Industry characteristics

	# Labour force	% Labour force	% BA or higher	% Creative occup.	Average income
All industries	1,902,300	100.0%	22.6%	36.1%	\$ 32,113
11 Agr., forestry, fish. & hunt.	8,370	0.4%	6.9%	9.1%	\$ 17,656
21 Mining & oil/gas extraction	1,615	0.1%	24.2%	37.3%	\$ 46,450
22 Utilities	12,825	0.7%	30.5%	47.4%	\$ 55,582
23 Construction	75,405	4.0%	6.7%	20.8%	\$ 31,690
31-33 Manufacturing	323,705	17.0%	14.4%	24.3%	\$ 34,399
41 Wholesale trade	109,480	5.8%	16.4%	29.6%	\$ 37,088
44-45 Retail trade	219,640	11.5%	9.1%	20.3%	\$ 20,524
48-49 Transport & warehousing	95,945	5.0%	9.5%	16.4%	\$ 35,173
51 Information & cultural ind.	73,555	3.9%	32.3%	60.1%	\$ 40,774
52 Finance and insurance	83,015	4.4%	27.8%	47.8%	\$ 43,390
53 Real estate/rental & leasing	31,970	1.7%	18.3%	25.0%	\$ 33,088
54 Prof., sci. & tech. services	149,610	7.9%	47.5%	74.8%	\$ 43,243
55 Mgmt. of companies	2,210	0.1%	43.4%	63.4%	\$ 70,466
56 Admin./support, & wst. mgt.	78,900	4.1%	13.0%	17.6%	\$ 22,145
61 Educational services	127,015	6.7%	62.2%	71.9%	\$ 33,432
62 Health care & soc. assist.	183,325	9.6%	30.0%	46.6%	\$ 33,911
71 Arts, entertainment & rec.	38,765	2.0%	24.9%	58.1%	\$ 21,352
72 Accom. & food services	112,020	5.9%	6.3%	15.7%	\$ 15,034
81 Other services	88,690	4.7%	14.7%	23.7%	\$ 22,643
91 Public administration	86,230	4.5%	29.8%	37.5%	\$ 40,072

Figure 7.2 - Industrial specialization - Employment



8 - Clusters Montréal

Number of clusters⁸ 11
 % employment in clusters⁸ 38.1%
 % establishments in clusters⁸ 34.2%

Figure 8.1 - Cluster characteristics, 2001⁸

	# Labour force	Labour force LQ	% Industry LQs > 1	Cluster (yes/no)
<i>Resource-based</i>				
Agriculture	30,235	0.37	20.0%	NO
Mining	17,675	0.61	37.5%	NO
Oil and Gas	7,125	0.35	11.1%	NO
Wood & Wood Products	14,375	0.35	10.0%	NO
Maritime	5,710	0.34	11.1%	NO
<i>Manufacturing</i>				
Textiles & Apparel	63,630	2.91	100.0%	YES
Food	52,175	1.06	58.3%	YES
Steel	34,985	0.95	41.7%	NO
Automotive	36,195	0.70	38.5%	NO
Plastics & Rubber	64,030	1.36	78.6%	YES
Biomedical	24,925	1.69	66.7%	YES
ICT Manufacturing	40,570	1.47	66.7%	YES
<i>Service-based</i>				
ICT Services	101,135	1.42	100.0%	YES
Finance	105,830	1.10	73.3%	YES
Business Services	175,100	1.19	87.5%	YES
Creative & Cultural	71,665	1.43	87.5%	YES
Higher Education	48,730	1.18	50.0%	YES
<i>Other</i>				
Construction	51,205	0.88	16.7%	NO
Logistics	121,760	1.39	80.8%	YES

Figure 8.2 - Employment by industry category, 2001⁹

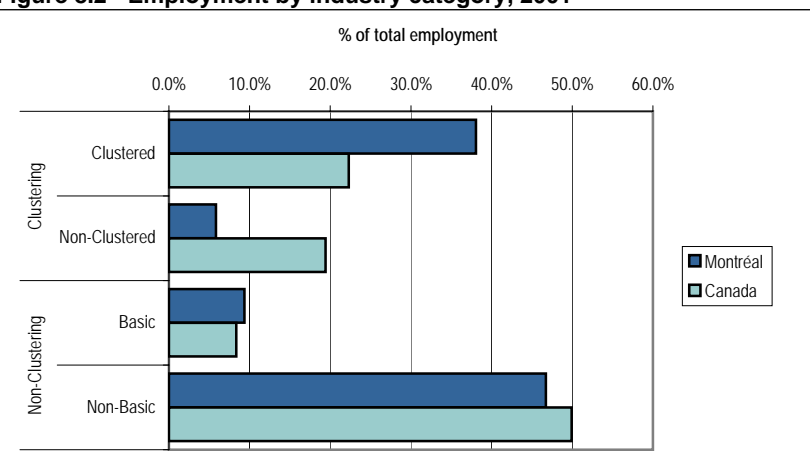
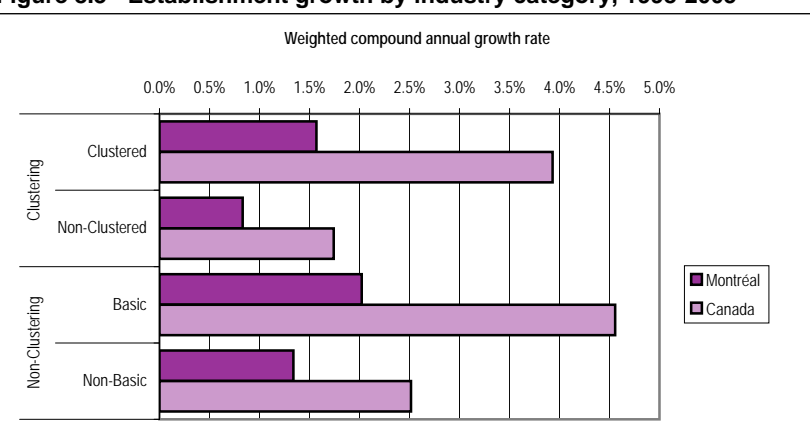


Figure 8.3 - Establishment growth by industry category, 1998-2005^{9,10}



9 - Establishments

Montréal

	Establishments		
	1998	2005	Growth ¹¹
Montréal	106,463	107,515	0.14%
Canada	1,001,517	1,048,286	0.65%

	Less than 5 emp.	5 to 199 emp.	More than 500 emp.
	Montréal	59.1%	39.9%
Canada	56.5%	42.5%	2,916

Figure 9.1 - Establishment growth by industry, 1998-2005¹¹

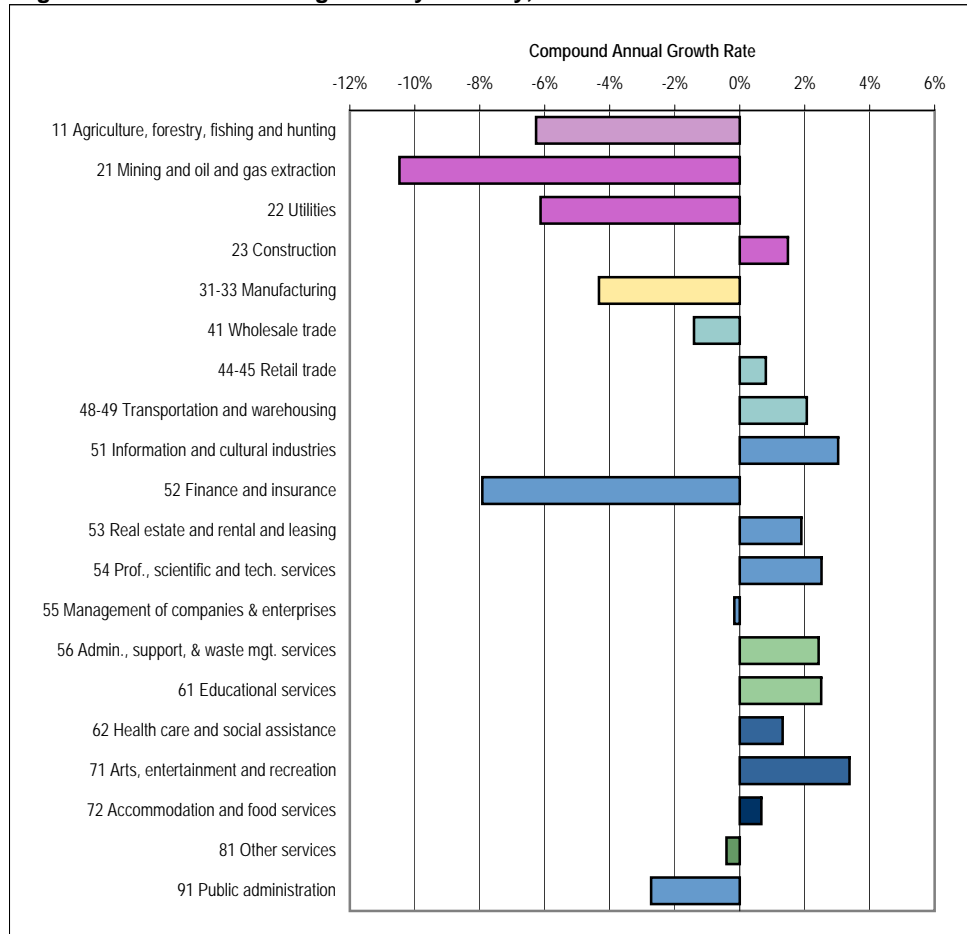


Figure 9.2 - Industrial specialization - Establishments, 2005

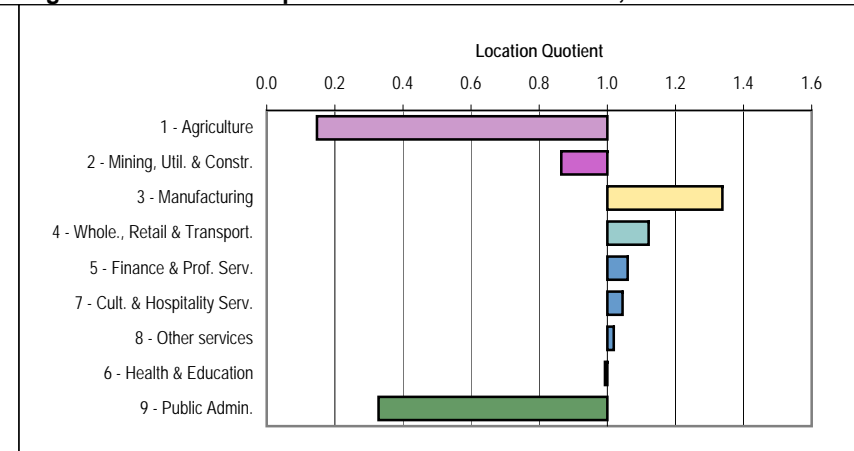
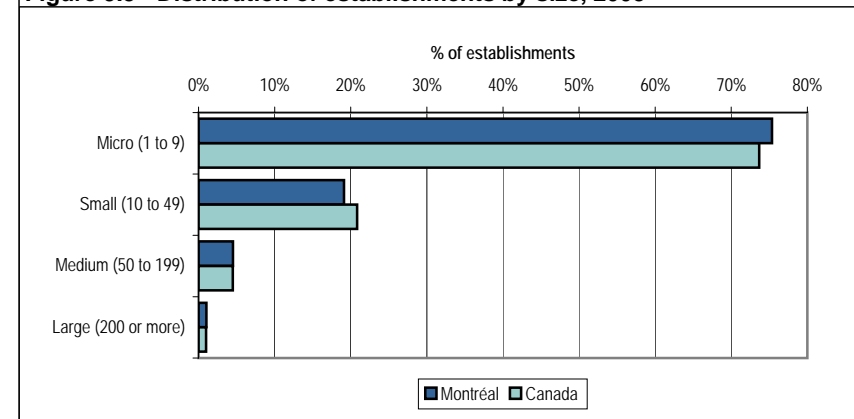


Figure 9.3 - Distribution of establishments by size, 2005



10 - Income Montréal

Household income ¹²	Average	Median	% below LICO ¹³
Montréal	\$ 53,725	\$ 42,123	22.2
Canada	\$ 58,360	\$ 46,752	16.2

Individual income ¹²	Average total	Average emp.
Montréal	\$ 29,199	\$ 31,730
Canada	\$ 29,769	\$ 31,757

Figure 10.1 - Sources of income for population 15 and over, 2000

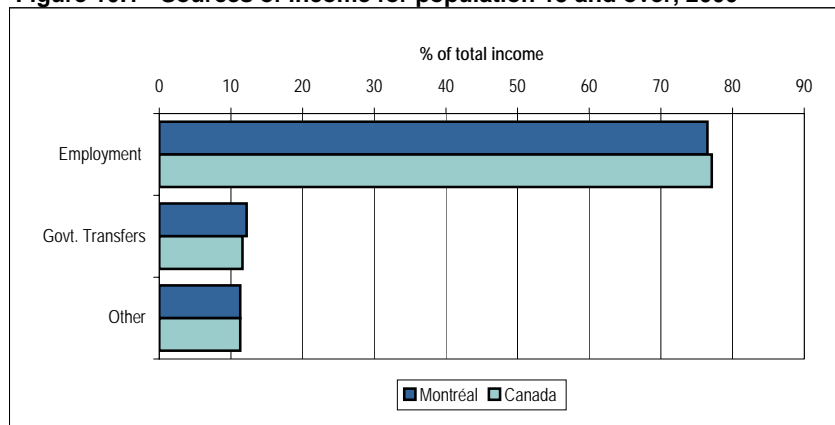


Figure 10.2 - Distribution of total income for pop. 15 and over, 2000

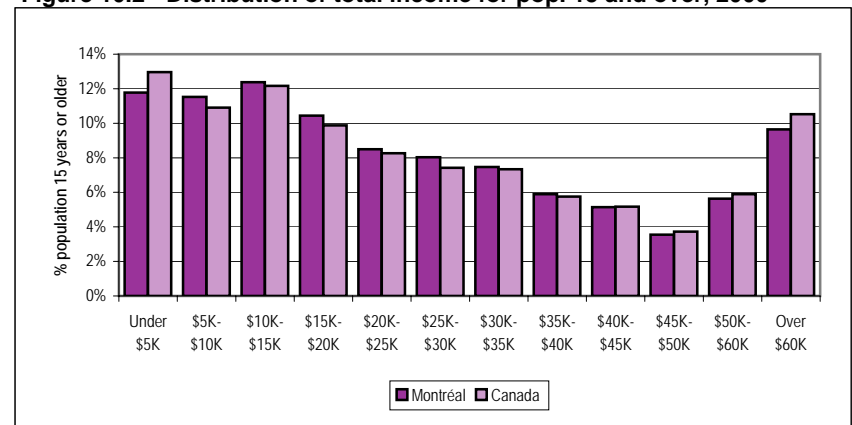


Figure 10.3 - Distribution of household income, 2000

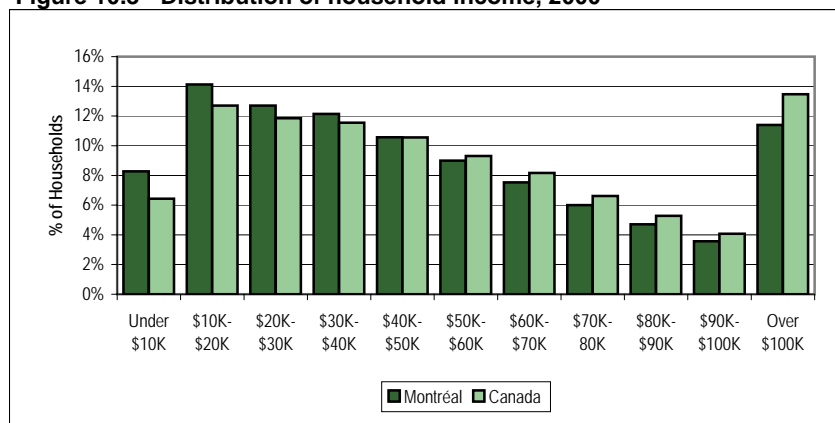
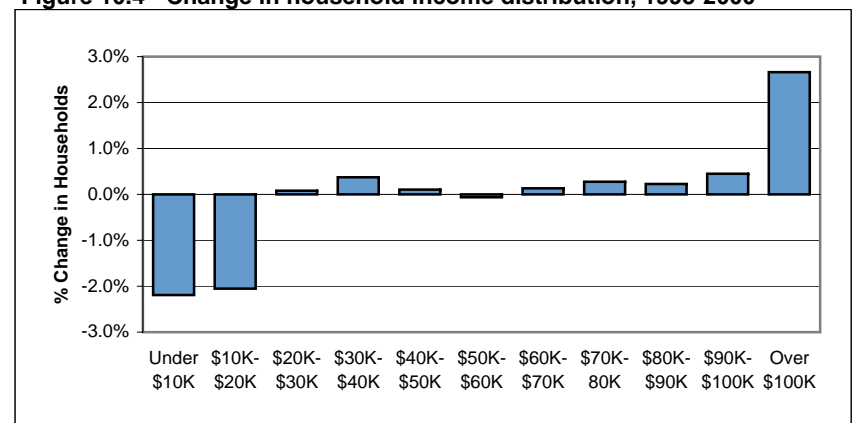


Figure 10.4 - Change in household income distribution, 1995-2000*



*Constant dollars (2000)

Notes

¹ All educational attainment statistics are calculated for the population 15 years and over.

² The employment rate refers to the number of persons employed expressed as a percentage of the total population 15 years of age and over (excluding institutional residents).

³ The unemployment rate refers to the number of unemployed persons expressed as a percentage of the total labour force 15 years of age and over.

⁴ Self-employment is defined as persons 15 years of age and over for whom the job reported consisted mainly of operating a business, farm or professional practice, alone or in partnership. Examples include: operating a farm; working on a freelance or contract basis to do a job (e.g. architects, private duty nurses); or operating a direct distributorship selling and delivering products (e.g. cosmetics, newspapers). Respondents were asked to specify if their business was incorporated or unincorporated, as well as if they had paid help or no paid help.

⁵ Bohemians are defined as artistic occupations and include the following occupational categories: F021 Authors and writers; F031 Producers, directors, choreographers and related occupations; F032 Conductors, composers and arrangers; F033 Musicians and singers; F034 Dancers; F035 Actors and comedians; F036 Painters, sculptors and other visual artists; F121 Photographers; F141 Graphic designers and illustrators; F142 Interior designers; F143 Theatre, fashion, exhibit and other creative designers; F144 Artisans and craftspersons; and F145 Patternmakers, textile, leather and fur products. See Florida (2002) and Gertler et al. (2002).

⁶ Science and technology workers include the following occupational categories: C0 Professional occupations in natural and applied sciences; and C1 Technical occupations related to natural and applied sciences. See Feinstein and McAlinden (2002).

⁷ Following the method outlined in Florida (2002), we have divided the Canadian occupational structure into four broad categories: creative occupations; service occupations; trade and manual labour occupations; and agricultural and related occupations. These are defined using the National Occupational Classification for Statistics (NOCS) at the 2-digit level.

- *Creative occupations* include: A0 Senior management occupations; A1 Specialist managers; A2 Managers in retail trade, food and accommodation services; A3 Other managers, n.e.c.; B0 Professional occupations in business and finance; B1 Finance and insurance administrative occupations; C0 Professional occupations in natural and applied sciences; C1 Technical occupations related to natural and applied sciences; D0 Professional occupations in health; D1 Nurse supervisors and registered nurses; D2 Technical and related occupations in health; E0 Judges, lawyers, psychologists, social workers, ministers of religion, and policy and program officers; E1 Teachers and professors; F0 Professional occupations in art and culture; and F1 Technical occupations in art, culture, recreation and sport.

- *Service occupations* include: B2 Secretaries; B3 Administrative and regulatory occupations; B4 Clerical supervisors; B5 Clerical occupations; D3 Assisting occupations in support of health services; E2 Paralegals, social services workers and occupations in education and religion, n.e.c.; and G Sales and Service Occupations.

- *Trades and manual labour occupations* include: H Trades, Transport and Equipment Operators and Related Occupations; I2 Primary production labourers; and J Occupations Unique to Processing, Manufacturing and Utilities.

- *Agriculture and related occupations* include: I0 Occupations unique to agriculture, excluding labourers; and I1 Occupations unique to forestry operations, mining, oil and gas extraction and fishing, excluding labourers.

⁸ The method for identifying and defining cluster is based on previous ISRN work (see Spencer and Vinodrai 2005). Clusters are defined as constellations of industries defined using the North American Industrial Classification Systems (NAICS) at the 4-digit level based on patterns of location and co-location within the Canadian space economy. Constellations of industries must meet three criteria within a particular place to be defined as a cluster: 1) there must be 1,000 or more employees; 2) the overall employment LQ must be greater than or equal to 1; and 3) at least half of the industries that comprise a particular cluster in a particular place must have an individual employment LQ greater than or equal to 1.

⁹ The method for identifying and defining cluster is based on previous ISRN work (see Spencer and Vinodrai 2005). We divide industries and employment into four categories: Non-basic, basic, non-clustered, and clustered. Non-Basic industries are those industries which do not demonstrate a pattern of geographic concentration in particular places. Basic industries are those industries which are geographically concentrated in particular places but do not exhibit patterns of systematic co-location with other industries. The remaining industries have the potential to cluster but do not always do so. Therefore, non-clustered employment is in those industries which do co-locate with other industries, but do not exhibit cluster characteristics in a particular location (see above). Clustered employment is that employment in industries which co-locate with other industries and exhibit cluster characteristics (see above).

¹⁰ Growth is calculated as a weighted compound annual growth rate (CAGR). The growth rate is weighted according to the size distribution of establishments within a particular group of industries in a place.

¹¹ Growth is measured as a compound annual growth rate (CAGR).

¹² Canadian censuses were conducted in 1996 and 2001. Income data relate to the calendar year prior to the census year, i.e. 1995 and 2000 respectively.

¹³ Low income cut-offs (LICO) are established by Statistics Canada based on national family expenditure patterns on food, shelter, and clothing. LICOs reflect a consistent and well-defined methodology that identifies those who are substantially worse-off than average.

Data Sources and References

Data Sources

Statistics Canada. 2001. Census family status, age groups and sex for population in private households. Catalogue No. 95F0314XCB2001004. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Immigrant status and period of immigration and place of birth of respondent for immigrants and non-permanent residents. Catalogue No. 97F0009XCB2001002. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Components of migration (in- and out-), mother tongue, age groups and sex for migrants 5 years and over. Catalogue No. 97F0008XCB2001009. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Total, average and median years of schooling, age groups and sex for population 15 years and over, 1991 to 2001 Censuses. Catalogue No. 97F0017XCB2001008. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Highest degree, certificate or diploma, age groups and sex for population 15 years and over, 1991 to 2001 Censuses. Catalogue No. 97F0017XCB2001006. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Labour force activity, immigrant status and period of immigration, visible minority groups, age groups and sex for population 15 years and over, 1991 to 2001 Censuses. Catalogue No. 97F0012XCB2001002. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Hours worked in the reference week, immigrant status and period of immigration, age groups and sex for employed labour force, 1991 to 2001 Censuses. Catalogue No. 97F0012XCB2001005. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Class of worker, age groups and sex for labour force 15 years and over. Catalogue No. 95F0385XCB2001004. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Occupation - 1991 SOC, age groups and sex for labour force 15 years and over, 1991 to 2001 Censuses. Catalogue No. 97F0012XCB2001024. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Occupation - 2001 NOCS, class of worker and sex for labour force 15 years and over. Catalogue No. 97F0012XCB2001017. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Occupation - 2001 NOCS, selected labour force, demographic, cultural, educational and income characteristics and sex for population 15 years and over. Catalogue No. 97F0012XCB2001050. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Industry - 1997 NAICS, selected labour force, demographic, cultural, educational and income characteristics and sex for population 15 years and over. Catalogue No. 97F0012XCB2001046. Ottawa, ON: Statistics Canada.

Statistics Canada. 2005. Canadian Business Patterns, 1998-2005. Catalogue No. 61F0040XCB. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Household income groups in constant dollars and household type for private households, 1995 and 2000. Catalogue No. 97F0020XCB2001005. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Profile of income of individuals, families and households, social and economic characteristics of individuals, families and households, housing costs, and religion for CMAs and CAs. Catalogue No. 95F0492XCB2001004. Ottawa, ON: Statistics Canada.

Statistics Canada. 2001. Profile of income of individuals, families and households, social and economic characteristics of individuals, families and households, housing costs, and religion. Catalogue No. 95F0492XCB2001007. Ottawa, ON: Statistics Canada.

References

Feinstein, A. and McAlinden, S.P. 2002. *Michigan: The High-Technology Automotive State*. Report prepared for the Michigan Economic Development Corporation. (August). [Available at www.cargroup.org]

Florida, R. 2002. *Rise of the Creative Class*. New York: Basic Books.

Gertler, M.S., Florida, R., Gates, G., and Vinodrai, T. 2002. *Competing on creativity: Ontario's cities in North American context*. Report prepared for the Institute of Competitiveness and Prosperity and the Ontario Ministry of Enterprise, Opportunity and Innovation. (November) [Available at <http://www.utoronto.ca/progris/recentpub.htm>]

Spencer, G. and Vinodrai, T. 2005. *Clustering matters: Evidence from the ISRN's cluster indicators project*. Presented at the Ontario Network on the Regional Innovation System (ONRIS) – Ministry of Research and Innovation (MRI) / Ministry of Economic Development and Trade (MEDT) Joint Fall Workshop, Toronto, Ontario, November 4, 2005.

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Last Updated: April 19, 2006