Innovation Systems Research Network
City-Region Profile, 2006

London

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Summary and Highlights

Key Indicators	London	Canada
Population, 2006	457,705	31,612,890
Population Change, 2001-2006	5.1%	5.4%
% Foreign Born	19.3%	19.8%
% BA Degree or higher	18.3%	18.1%
# Employed	234,950	15,958,195
Employment Growth 1996-2006	17.3%	19.8%
Employment Rate	63.4%	62.4%
Unemployment Rate	6.1%	6.6%
% 'Creative' occupations	33.2%	33.2%
% Science & Tech. Occupations	5.7%	6.6%
'Bohemians' per 1,000 Labour Force	11.3	14.2
Number of Industrial Clusters	4	255
% Employment in Clusters	10.9%	22.1%
Average FT Employment Income	$ 50,868	$ 51,221
% Change Average Income 2000-2005	3.4%	5.5%

1 - Demographics

London

Population	2001	2006	% Change 2001-2006
London	435,605	457,705	5.1%
Canada	30,007,085	31,612,890	5.4%

Age Groups	Under 15	15 to 64	65 and over	% 15 to 64
London	122,905	247,395	63,075	57.1%
Canada	9,800,715	17,476,925	4,335,250	55.3%

Figure 1.1 - Population by age and gender, 2006

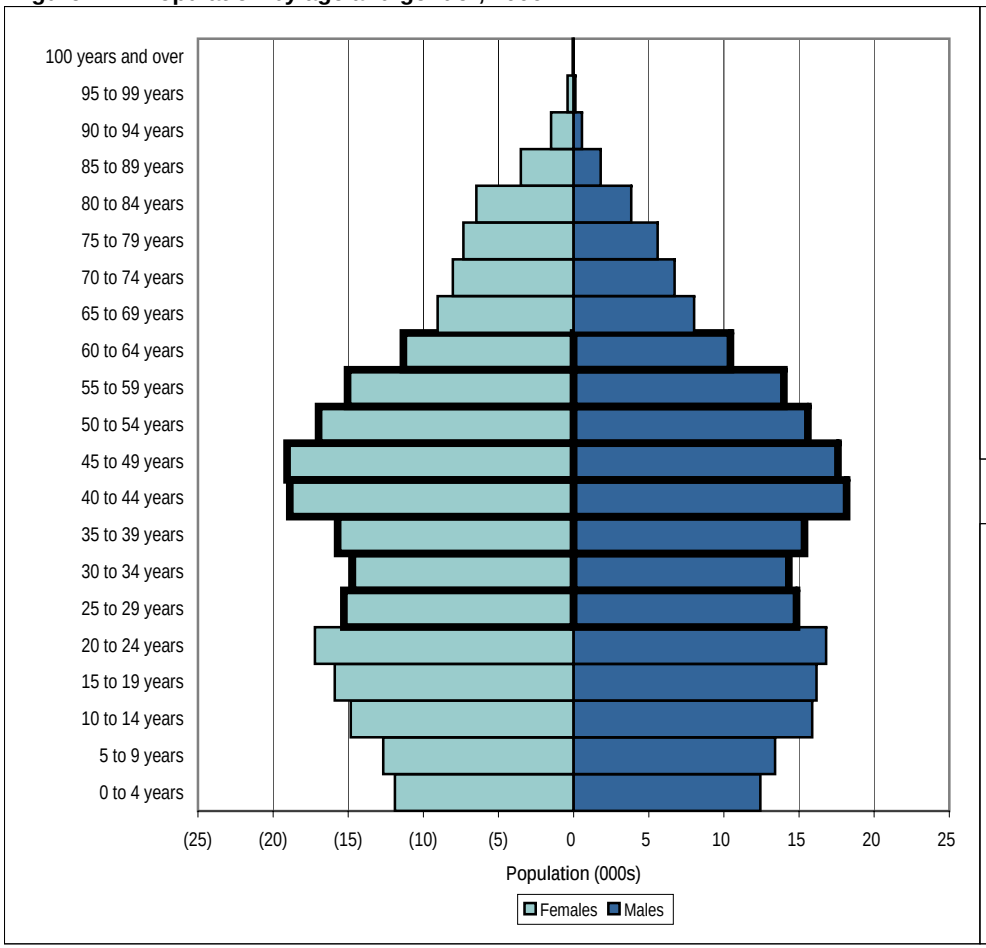


Figure 1.2 - Population by age group, 2001-2006

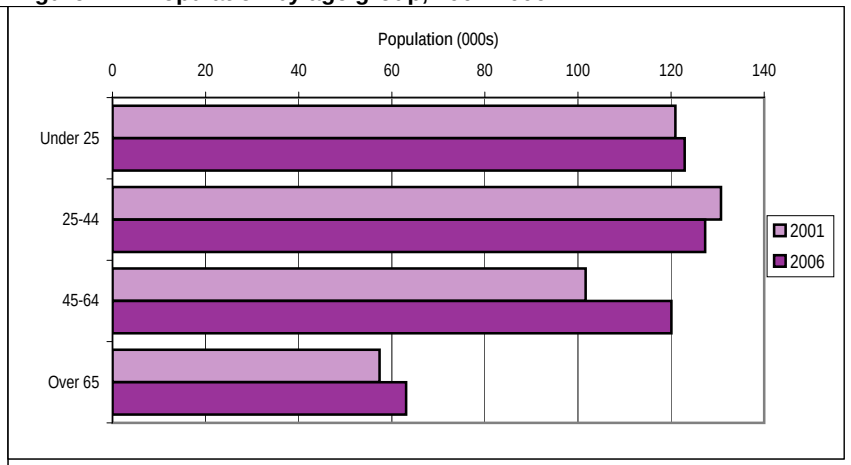
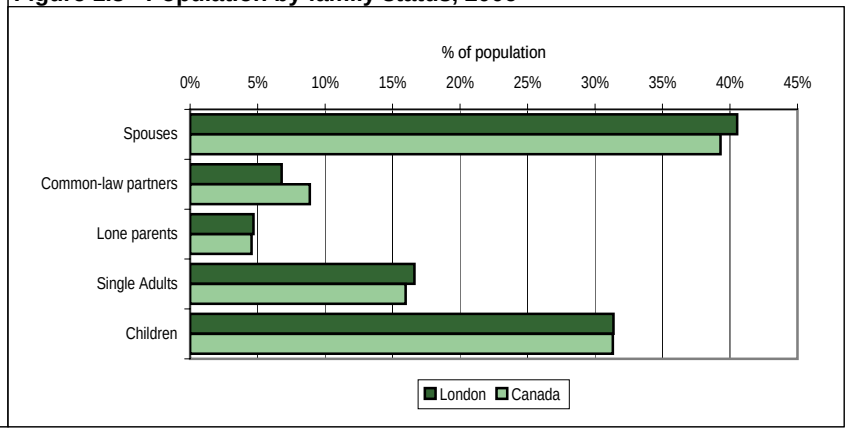


Figure 1.3 - Population by family status, 2006



2 - Migration & Population Change — London

Domestic Migration	Intra-provincial	Inter-provincial	Total
In-flows, 2001-2006	35,300	6,210	41,510
Out-flows, 2001-2006	33,885	7,695	41,580
Net, 2001-2006	1,415	(1,485)	(70)

	% Foreign born	Migrated post-1991	Migrated pre-1991
London	19.3%	6.8%	12.5%
Canada	19.8%	8.9%	10.9%

Figure 2.1 - Domestic migration flows between 2001 and 2006 by age

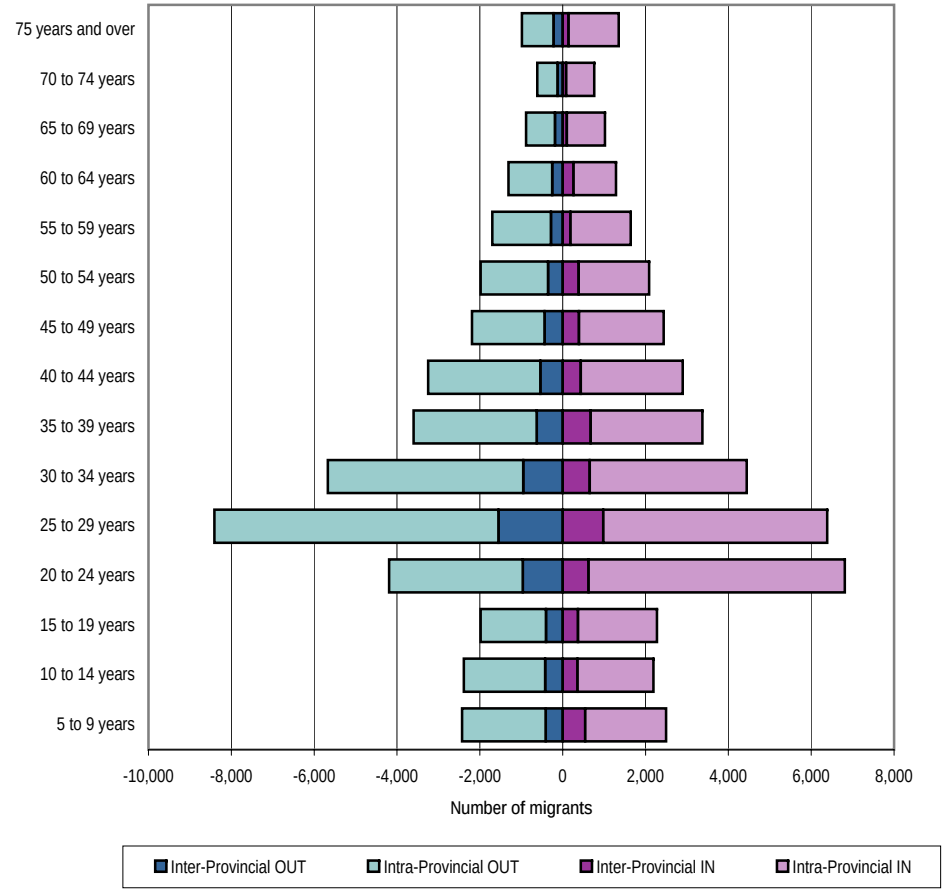


Figure 2.2 - Population by place of birth, 2006

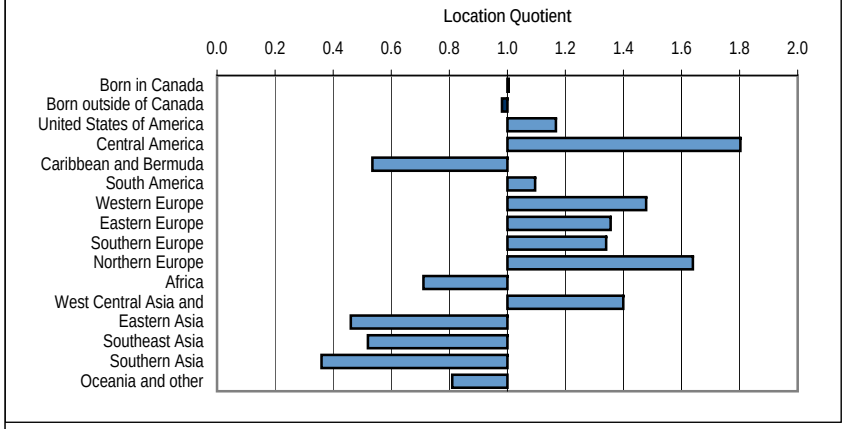
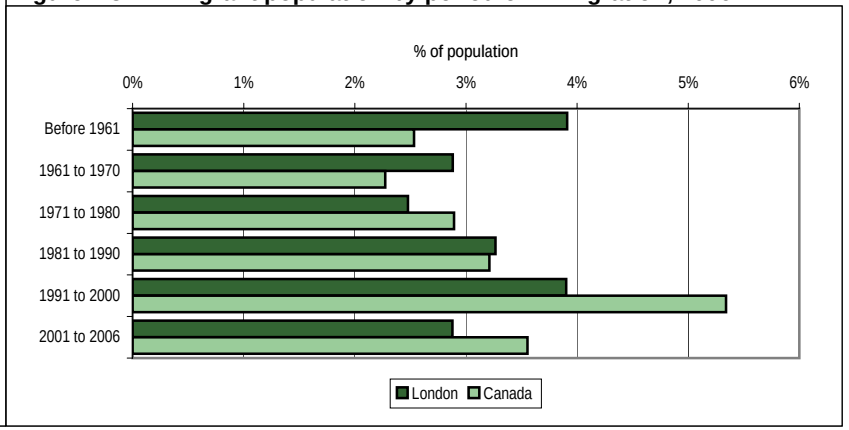


Figure 2.3 - Immigrant population by period of immigration, 2006



3 - Education

London

	% College degree or higher[1]	% BA degree or higher[1]	% MA degree or higher[1]	PhDs per 1,000[1]
London	42.4%	18.3%	5.2%	10.5
Canada	39.8%	18.1%	4.6%	6.9

	% BA degree or higher	
	2001	2006
London	16.1%	18.3%
Canada	15.4%	18.1%

Figure 3.1 - Educational attainment for the population 15 years and over, 2006

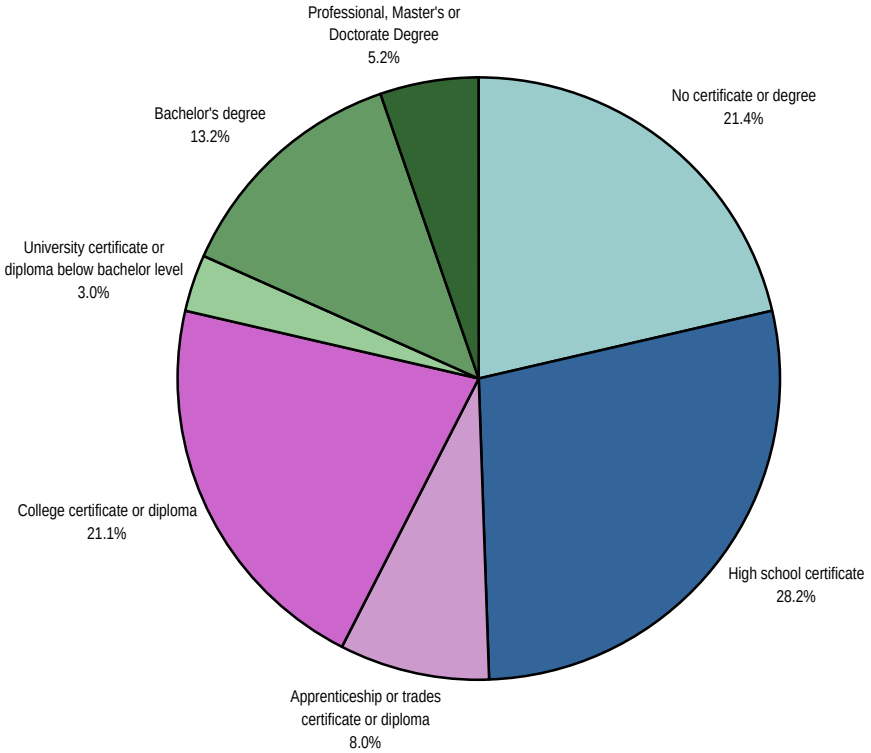


Figure 3.2 - Location of study for highest qualification, 2006

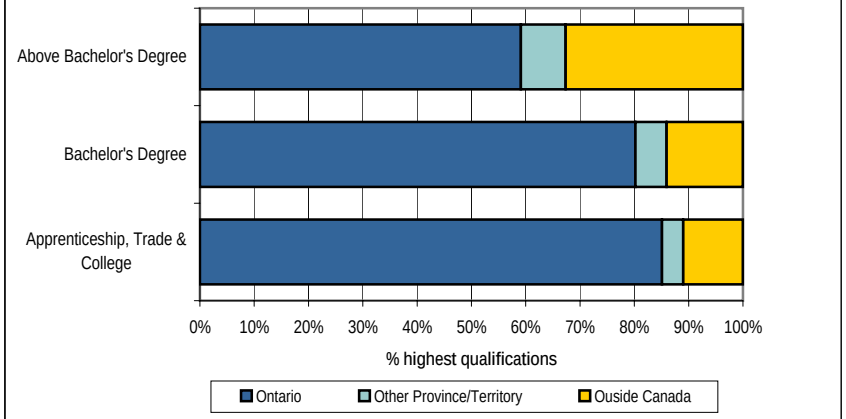
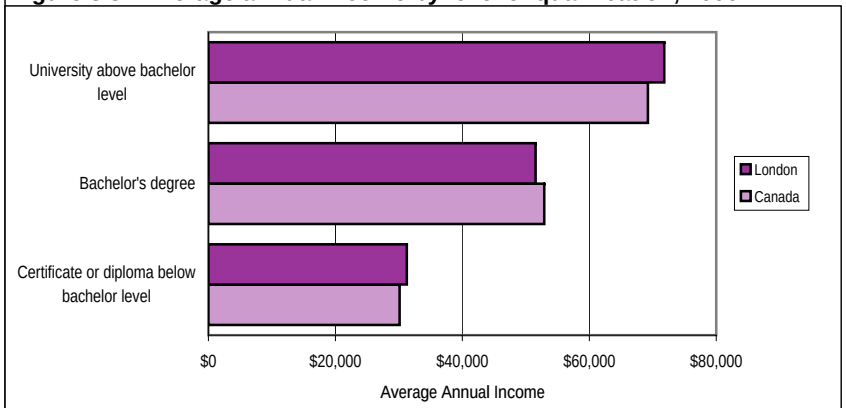


Figure 3.3 - Average annual income by level of qualification, 2006



4 - Employment — London

	Employment Rate		
	1996	2001	2006
London	61.2%	62.9%	63.4%
Canada	58.9%	61.5%	62.4%

	Unemployment Rate		
	1996	2001	2006
London	9.2%	6.6%	6.1%
Canada	10.1%	7.4%	6.6%

Figure 4.1 - Labour force status of the population 15 and over, 1996 & 2006

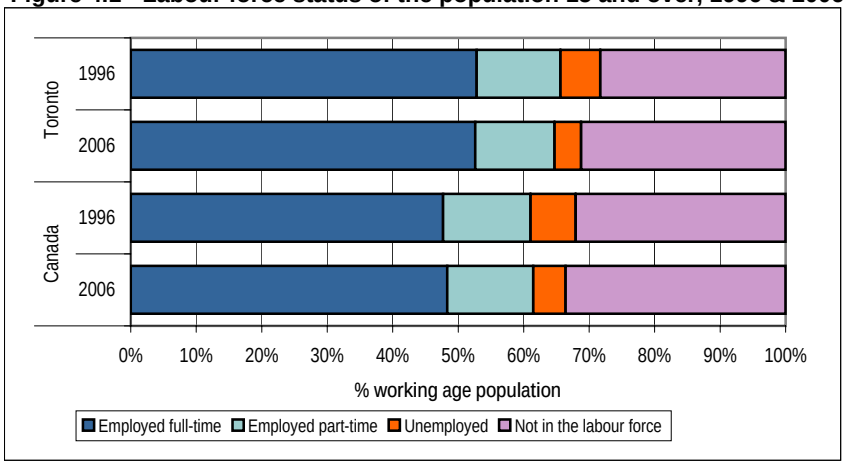


Figure 4.2 - Employment Rate by Educational Attainment, 2006

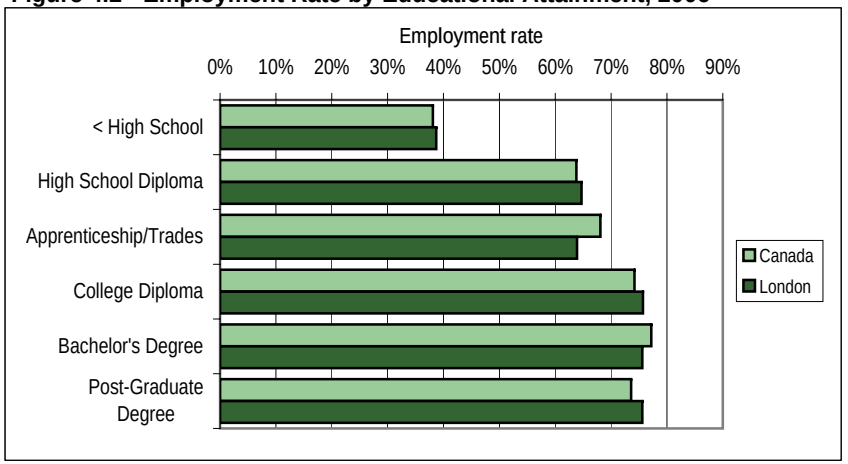


Figure 4.3 - Employment rate[2] by age, 2006

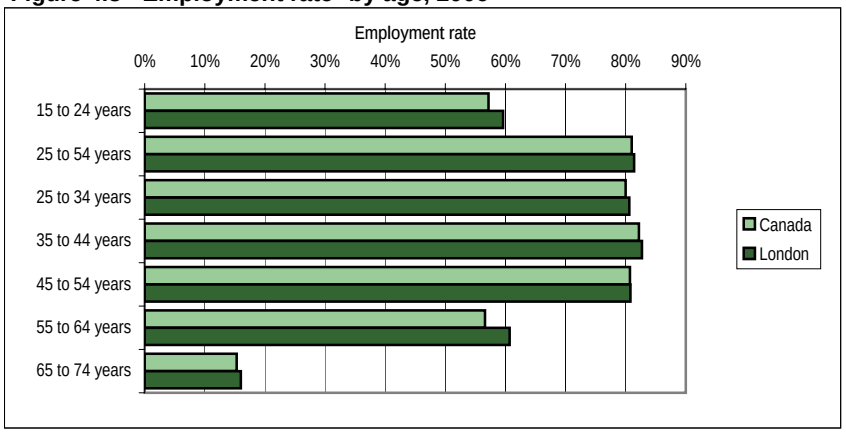
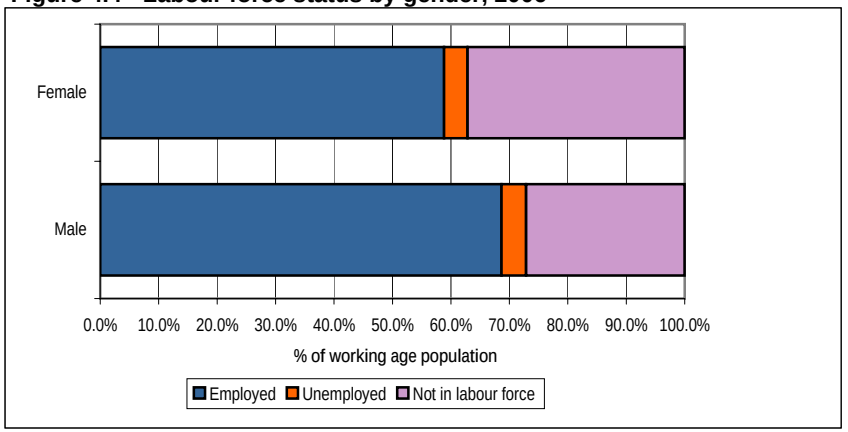


Figure 4.4 - Labour force status by gender, 2006



5 - Occupational Structure London

	A-B Management, business & finance occupations			C-F Natural/social science, health, education & artistic occupations			G-J Sales/service, trades & manual labour occupations		
	1996	2001	2006	1996	2001	2006	1996	2001	2006
London	27.5%	27.3%	26.2%	20.8%	22.1%	23.8%	51.7%	50.6%	50.0%
Canada	27.8%	28.2%	27.6%	19.8%	21.3%	22.6%	52.4%	50.5%	49.8%

Figure 5.1 - Occupational structure, 2006

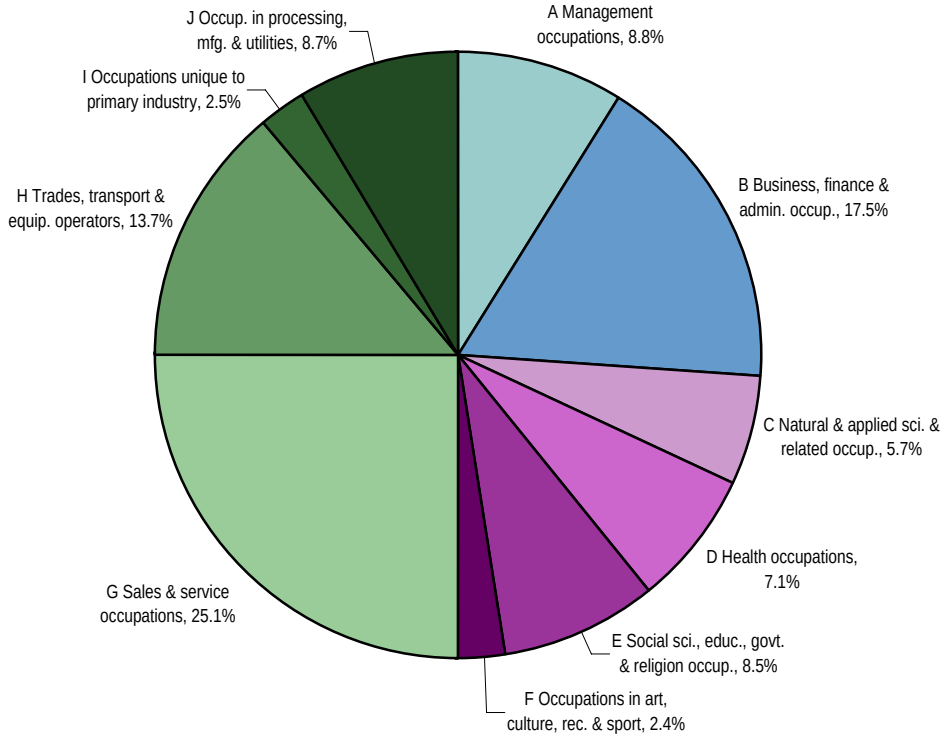
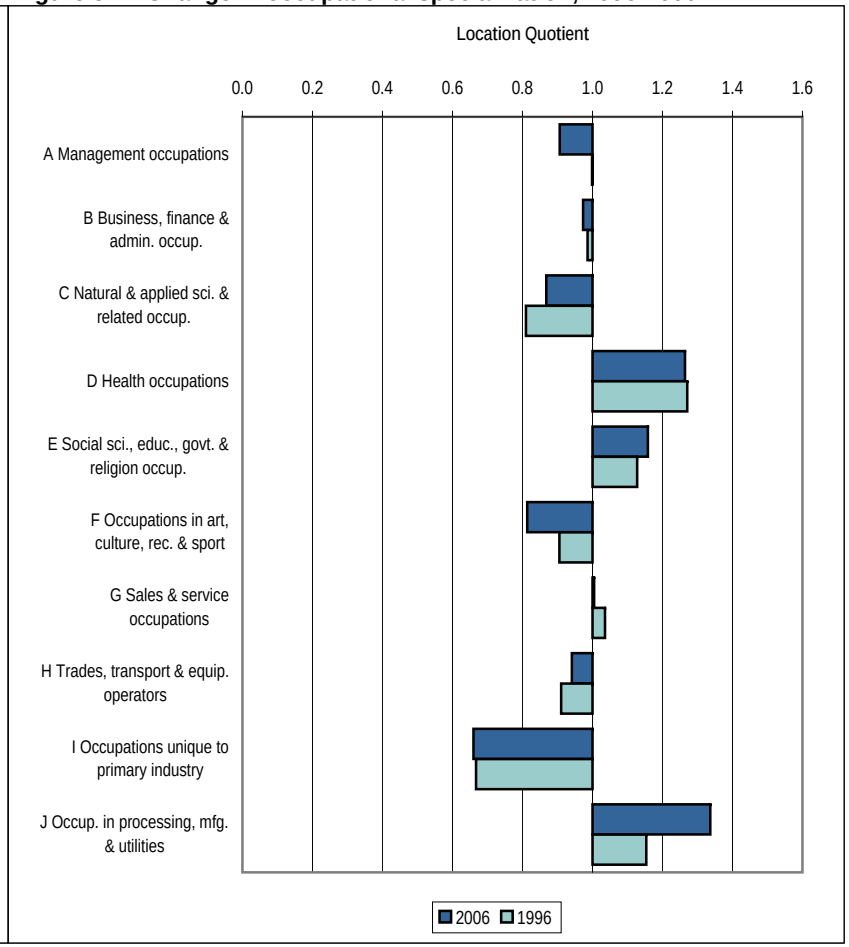


Figure 5.2 - Change in occupational specialization, 1996-2006



6 - Creative Occupations — London

	Bohemians	Bohemians per 1000[5]	S&T Workers	% S&T Workers[6]
London	2,775	11.3	14,055	5.7%
Canada	240,170	14.2	1,108,050	6.6%

Occupational Groups[7]	Creative	Service	Trades & Manual	Agricultural & Resources
London	33.2%	41.9%	23.2%	1.7%
Canada	33.2%	41.9%	21.9%	2.9%

Figure 6.1 - Specialization in creative occupations

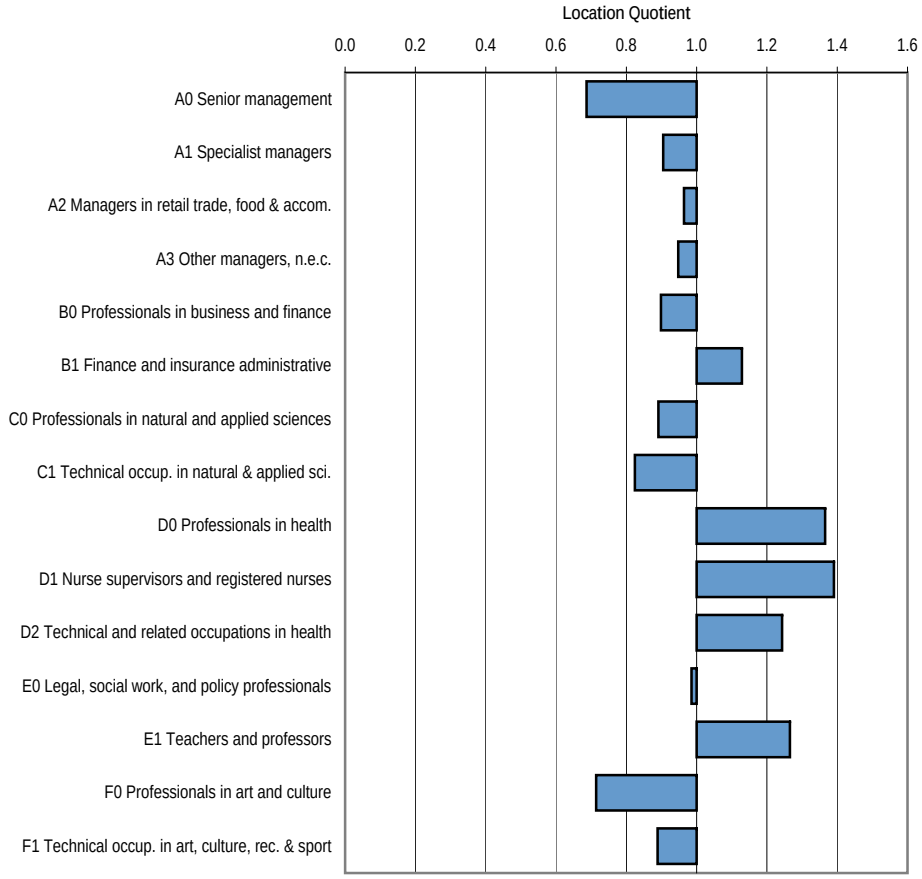


Figure 6.2 - Change in share of labour force, 1996-2006

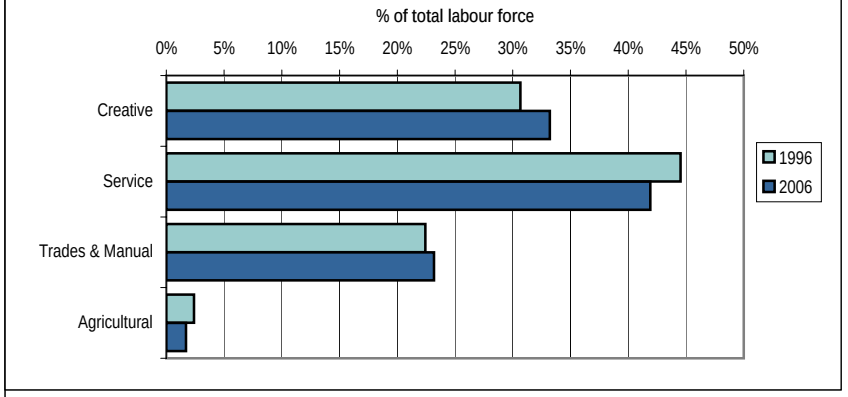
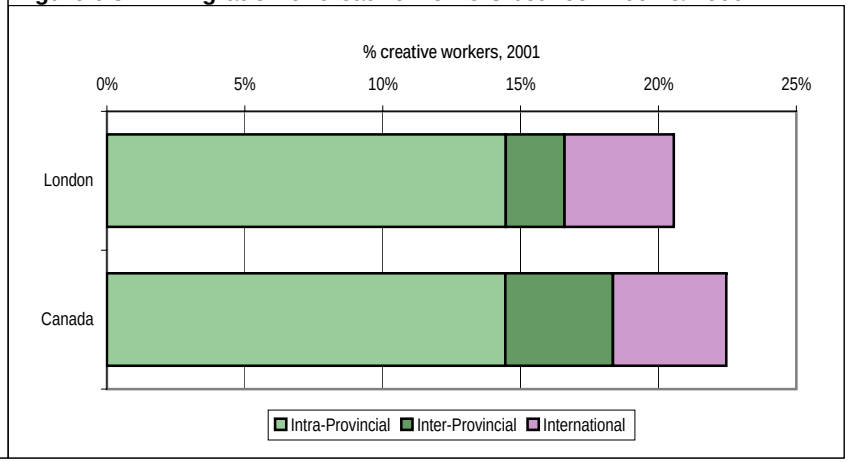


Figure 6.3 - In-migration of creative workers between 2001 & 2006

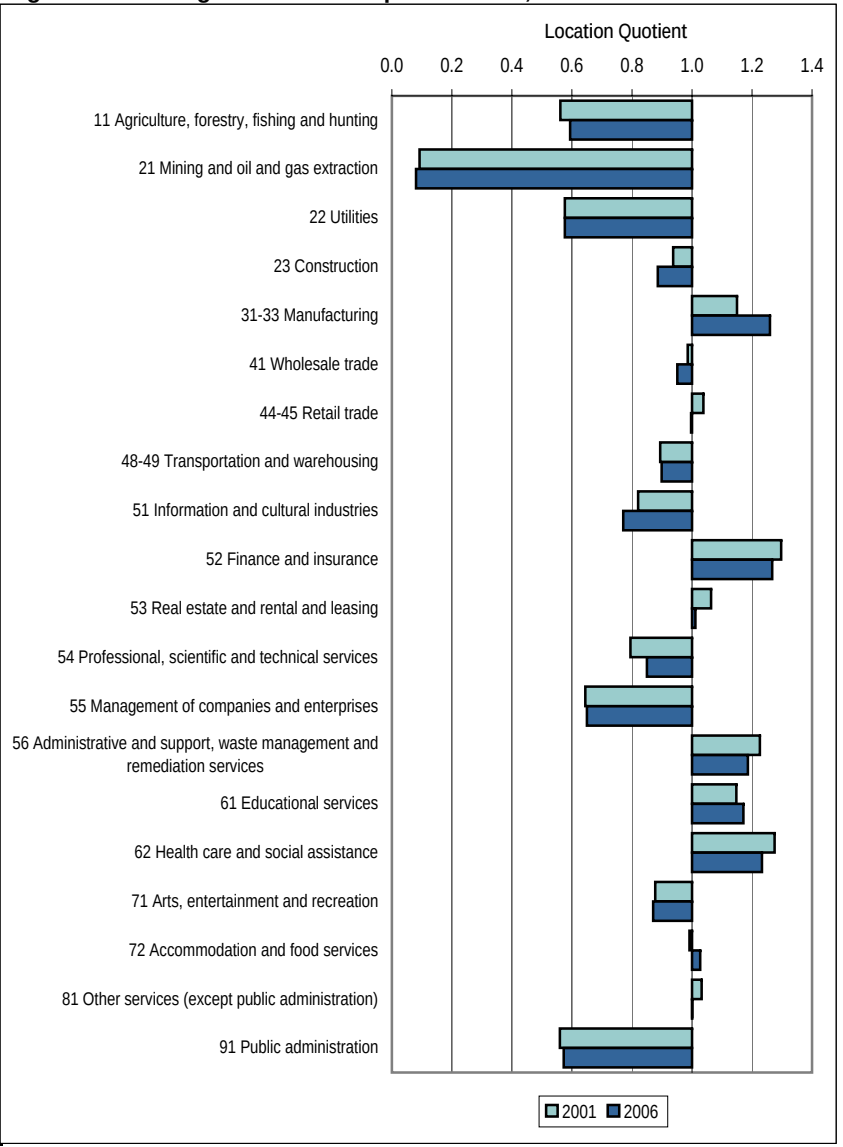


7 - Industrial Structure — London

Figure 7.1 - Industry characteristics

	# Labour force	% Labour force	% Change 2001-2006	% BA or higher	Average FT income
All industries	**246,385**	**100.0%**	**7.7%**	**21.6%**	**$ 50,868**
11 Agr., forestry, fish. & hunt.	4,545	1.8%	-2.9%	10.3%	$ 27,111
21 Mining & oil/gas extraction	280	0.1%	21.7%	25.5%	$ 59,690
22 Utilities	1,120	0.5%	11.4%	16.6%	$ 64,283
23 Construction	13,840	5.6%	14.4%	6.3%	$ 47,706
31-33 Manufacturing	36,920	15.0%	0.6%	11.6%	$ 56,892
41 Wholesale trade	10,275	4.2%	3.4%	14.6%	$ 55,089
44-45 Retail trade	27,925	11.3%	4.4%	10.7%	$ 36,923
48-49 Transport & warehousing	10,770	4.4%	6.0%	7.4%	$ 46,751
51 Information & cultural ind.	4,700	1.9%	-6.5%	26.1%	$ 56,815
52 Finance and insurance	12,760	5.2%	5.4%	30.9%	$ 57,962
53 Real estate/rental & leasing	4,485	1.8%	10.7%	14.6%	$ 51,432
54 Prof., sci. & tech. services	13,935	5.7%	21.5%	40.9%	$ 62,707
55 Mgmt. of companies	195	0.1%	34.5%	35.9%	N/A
56 Admin./support, & wst. mgt.	12,525	5.1%	14.9%	10.2%	$ 33,234
61 Educational services	19,690	8.0%	14.4%	66.7%	$ 58,874
62 Health care & soc. assist.	30,920	12.5%	9.3%	31.1%	$ 55,946
71 Arts, entertainment & rec.	4,405	1.8%	12.5%	22.5%	$ 33,487
72 Accom. & food services	16,915	6.9%	11.1%	7.8%	$ 24,914
81 Other services	11,990	4.9%	5.7%	13.1%	$ 37,081
91 Public administration	8,190	3.3%	10.2%	30.2%	$ 61,121

Figure 7.2 - Change in industrial specialization, 2001-2006



8 - Clusters — London

Number of clusters[8]	4
% employment in clusters[8]	10.9%

Figure 8.1 - Cluster characteristics, 2006[8]

	# Labour force	Labour force LQ	% Industry LQs > 1	% Growth 2001-2006	Cluster (yes/no)
Resource-based					
Agriculture	**9,645**	0.94	26.7%	-5.5%	NO
Mining	**1,435**	0.33	12.5%	13.4%	NO
Oil and Gas	**800**	0.22	11.1%	6.7%	NO
Wood & Wood Products	**1,690**	0.36	10.0%	27.5%	NO
Maritime	**335**	0.16	0.0%	17.5%	NO
Manufacturing					
Textiles & Apparel	**915**	0.46	0.0%	-24.4%	NO
Food	**7,220**	1.05	50.0%	-1.9%	YES
Steel	**5,280**	1.10	50.0%	15.5%	YES
Automotive	**16,730**	2.56	84.6%	7.1%	YES
Plastics & Rubber	**6,200**	1.06	28.6%	3.9%	NO
Biomedical	**2,525**	1.14	50.0%	14.5%	YES
ICT Manufacturing	**2,565**	0.86	44.4%	15.3%	NO
Service-based					
ICT Services	**13,590**	1.16	10.0%	9.9%	NO
Finance	**17,730**	1.15	37.5%	4.5%	NO
Business Services	**26,720**	1.12	41.2%	21.9%	NO
Creative & Cultural	**7,300**	0.78	11.8%	2.7%	NO
Higher Education	**10,955**	1.35	22.2%	16.7%	NO
Other					
Construction	**17,135**	0.84	0.0%	15.4%	NO
Logistics	**10,705**	0.89	34.6%	4.4%	NO

Figure 8.2 - Employment by industry category, 2006[9]

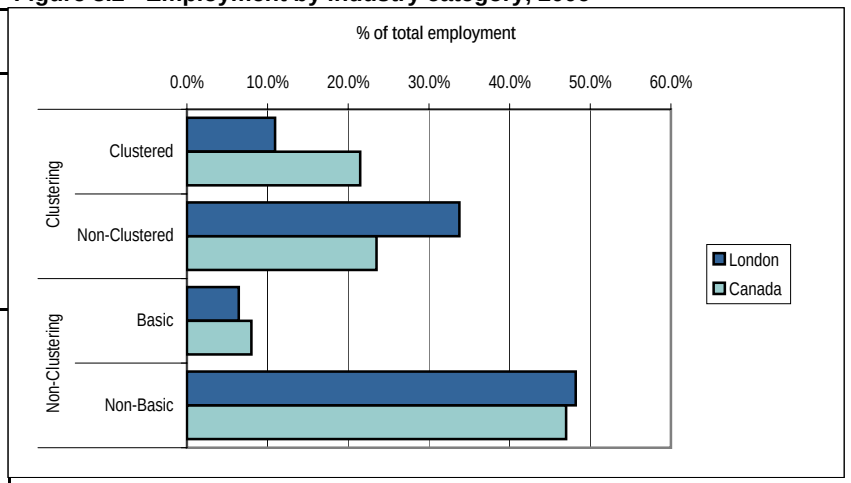
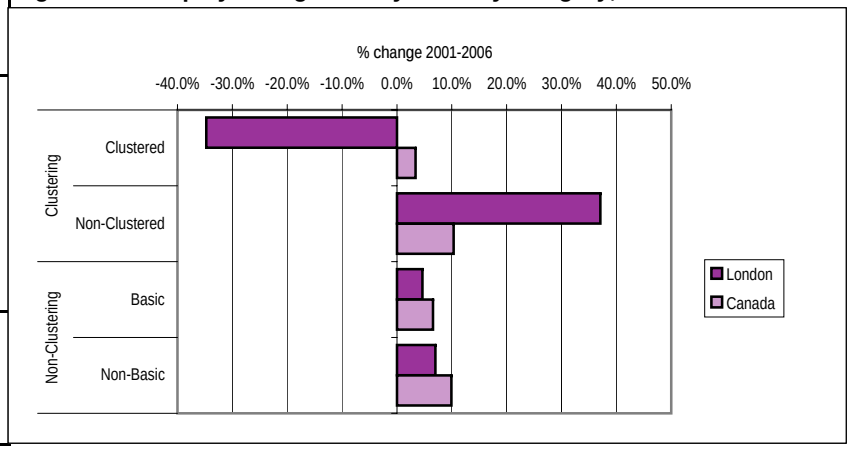


Figure 8.3 - Employment growth by industry category, 2001-2006[9,10]



9 - Establishments London

	% of establishments by number of employees							
	1-4	5-9	10-19	20-49	50-99	100-199	200-299	500+
London	50.2%	21.9%	13.3%	9.0%	3.2%	1.4%	0.7%	0.3%
Canada	55.0%	20.2%	12.1%	7.8%	2.7%	1.2%	0.6%	0.3%

Figure 9.1 - Number of establishments by industry and # of employees, 2008

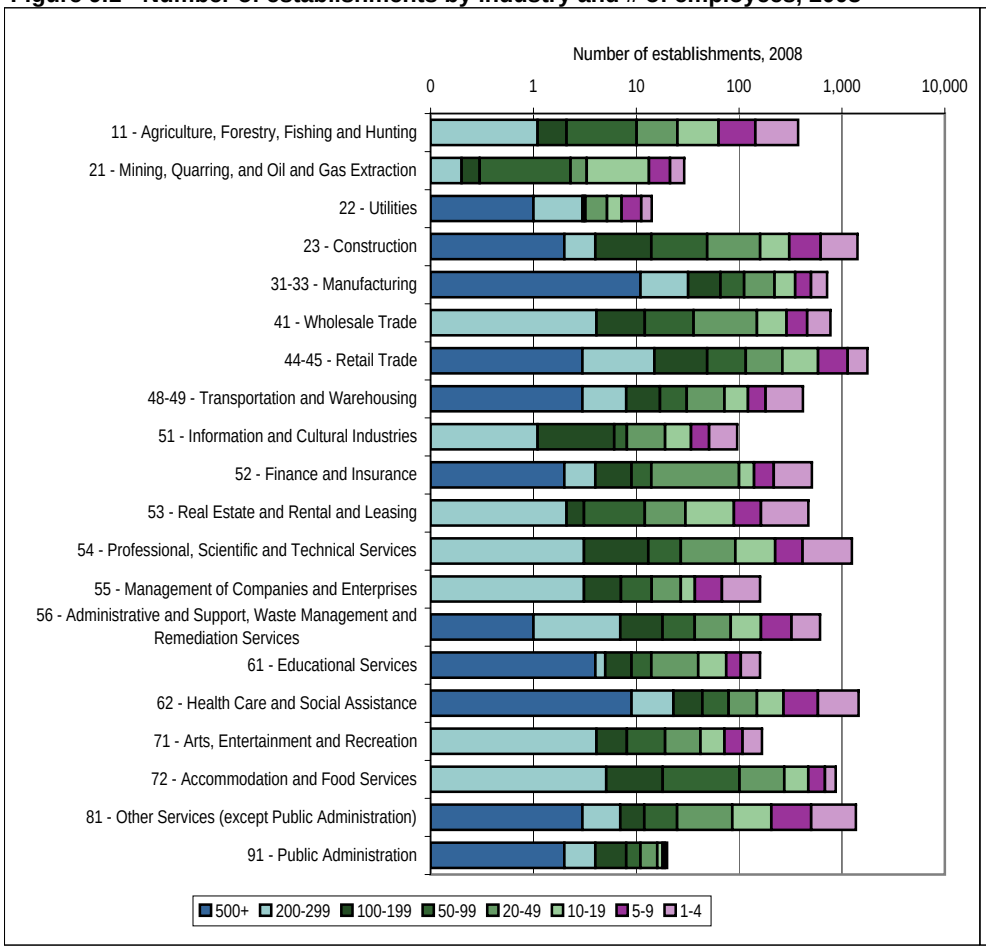
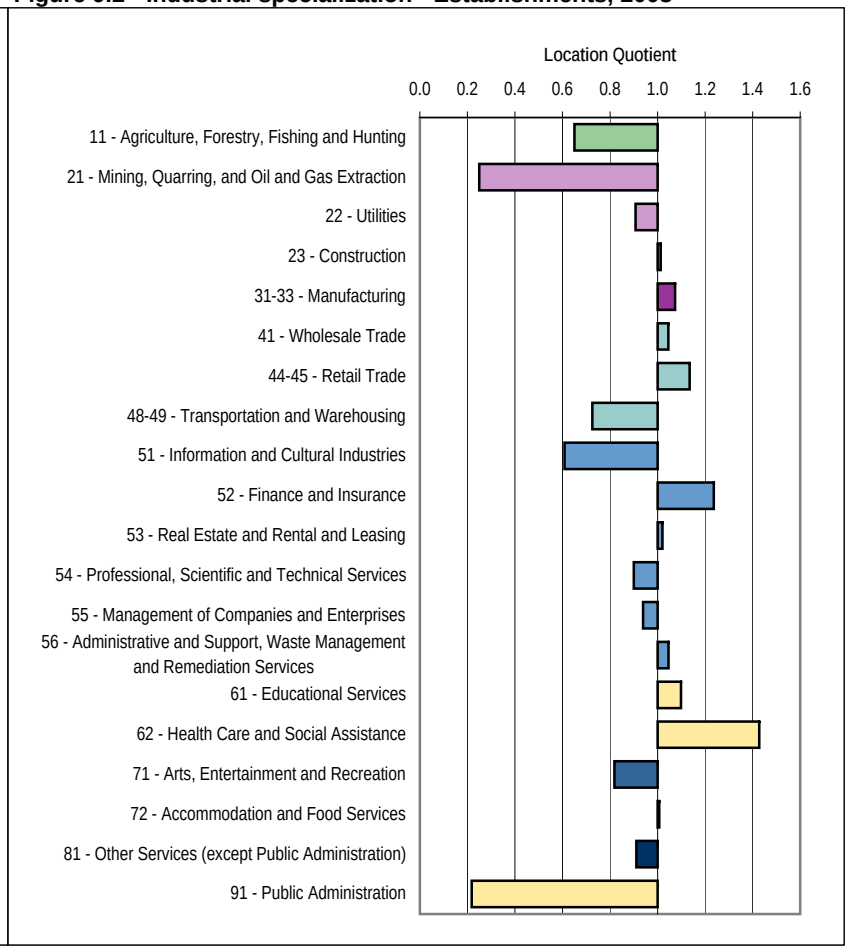


Figure 9.2 - Industrial specialization - Establishments, 2008



10 - Income

London

Full Time Employment Income, 2005	Average	Median
London	$ 50,868	$ 42,746
Canada	$ 51,221	$ 41,401

% Change in FT Emp. Income 2000-2005[11]	Average	Median
London	3.4%	0.4%
Canada	5.5%	2.4%

*Constant dollars (2005)

Figure 10.1 - Distribution of FT Employment Income

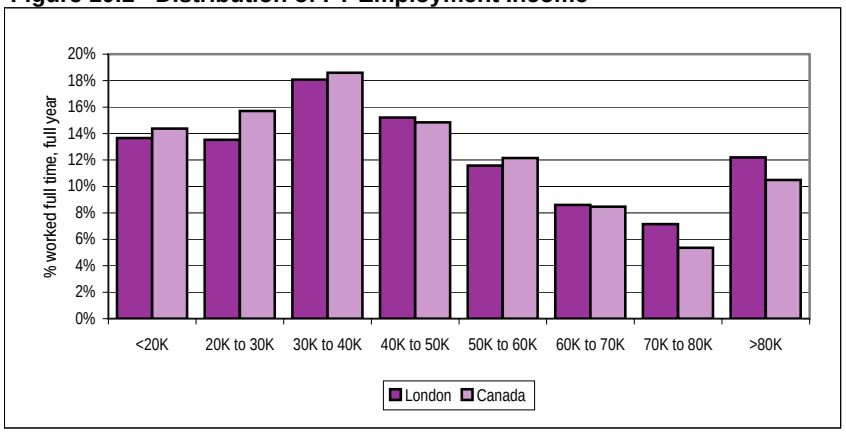
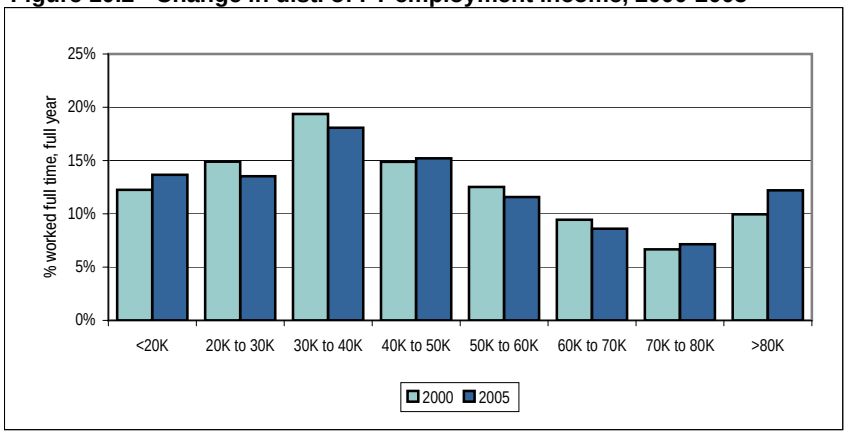
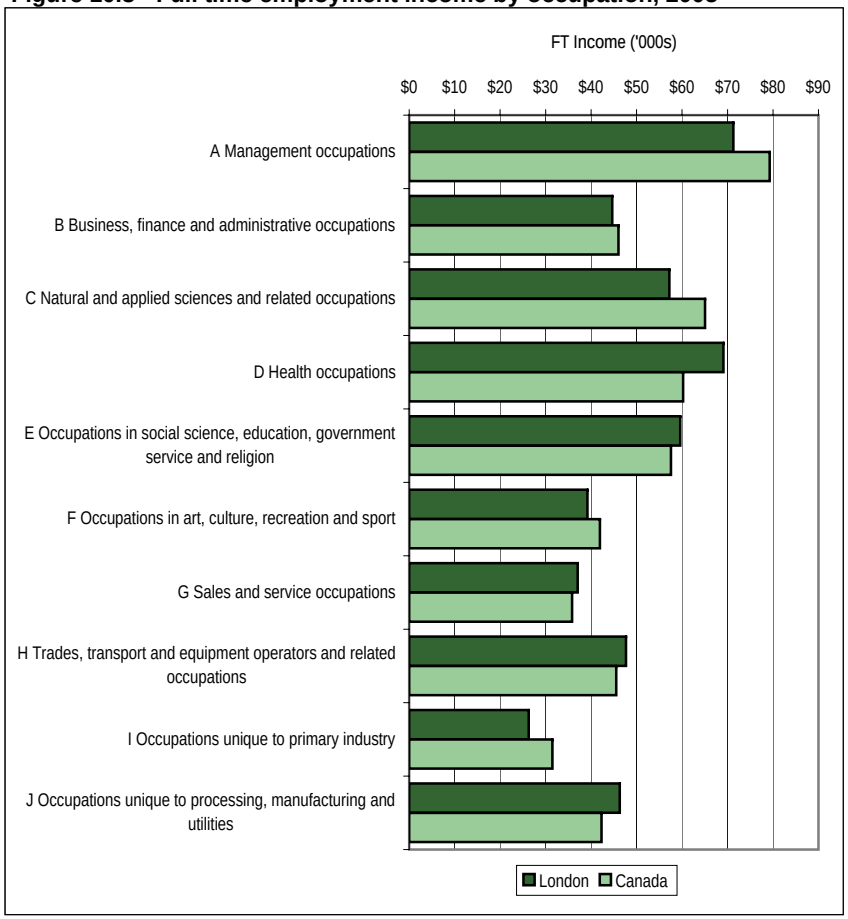


Figure 10.2 - Change in dist. of FT employment income, 2000-2005



*Constant dollars (2005)

Figure 10.3 - Full time employment income by occupation, 2005



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, Vinodrai, Gertler and Wolfe 2010). 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 % change in total employment between 2001 and 2006.

[11] Canadian censuses were conducted in 2001 and 2006. Income data relate to the calendar year prior to the census year, i.e. 1995 and 2000 respectively.

Data Sources and References

Data Sources

Statistics Canada. 2006. Age and Sex for the Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2001 and 2006 Censuses - 100% Data . Catalog # 97-551-XCB2006009. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Census Family Status, Age Groups and Sex for the Population in Private Households of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census - 20% Sample Data. Catalog # 97-553-XCB2006014. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Mobility Status 5 Years Ago, Mother Tongue, Age Groups and Sex for the Population Aged 5 Years and Over of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census - 20% Sample Data . Catalog # 97-556-XCB2006006. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Citizenship, Place of Birth, Sex and Immigrant Status and Period of Immigration for the Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census - 20% Sample Data. Catalog # 97-557-XCB2006008. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Highest Certificate, Diploma or Degree, Location of Study, Major Field of Study - Classification of Instructional Programs, 2000, Age Groups and Sex for the Population 15 Years and Over of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census - 20% Sample Data. Catalog # 97-560-XCB2006017. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Total Income Groups in Constant (2005) Dollars, Age Groups, Highest Certificate, Diploma or Degree and Sex for the Population 15 Years and Over of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census - 20% Sample Data. Catalog # 97-563-XCB2006005. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Labour Force Activity, Visible Minority Groups, Immigrant Status and Period of Immigration, Age Groups and Sex for the Population 15 Years and Over of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census - 20% Sample Data. Catalog # 97-562-XCB2006013. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Labour Force Activity, Highest Certificate, Diploma or Degree, Major Field of Study - Classification of Instructional Programs, 2000, Age Groups and Sex for the Population 15 Years and Over of Canada, Provinces, Territories, Census Agglomerations, 2006 Census - 20% Sample Data. Catalog # 97-560-XCB2006011. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Labour Force Activity, Highest Certificate, Diploma or Degree, Major Field of Study - Classification of Instructional Programs, 2000, Age Groups and Sex for the Population 15 Years and Over of Canada, Provinces, Territories, Census Agglomerations, 2006 Census - 20% Sample Data. Catalog # 97-560-XCB2006011. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Occupation - Standard Occupational Classification 1991 (Historical), Age Groups and Sex for the Labour Force 15 Years and Over of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 1996 to 2006 Censuses - 20% Sample Data. Catalog # 97-559-XCB2006012. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Industry - North American Industry Classification System 2002, Sex and Selected Demographic, Cultural, Labour Force, Educational and Income Characteristics, for the Population 15 Years and Over of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Censuses - 20% Sample Data. Catalog # 97-564-XCB2006006. Ottawa, ON: Statistics Canada.

Statistics Canada. 2008. June 2008 Establishment Counts by CA/CMA, Sectors & Employment Size Ranges. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Occupation - National Occupational Classification for Statistics 2006, Sex and Selected Demographic, Cultural, Labour Force, Educational and Income Characteristics for the Population 15 Years and Over of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census - 20% Sample Data. Catalog # 97-564-XCB2006005. Ottawa, ON: Statistics Canada.

Statistics Canada. 2006. Employment Income Groups in Constant (2005) Dollars, Age Groups, Highest Certificate, Diploma or Degree, Work Activity in the Reference Year and Sex for the Population 15 Years and Over of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census - 20% Sample Data. Catalog # 97-563-XCB2006054. 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.M., Vinodrai, T., Gertler, M.S. and Wolfe, D.A. 2010. Do clusters make a difference? Defining and assessing their economic performance, *Regional Studies* (Forthcoming)

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