Innovation Systems Research Network City-Region Profile, 2006

Toronto

Gregory M. Spencer^a and Tara Vinodrai^b

^aPost Doctoral Research Fellow Program on Globalization and Regional Innovation Systems (PROGRIS) Munk Centre for International Studies University of Toronto

^bAssistant Professor

Department of Geography and Environmental Management
and Centre for Environment and Business

University of Waterloo

18/06/2009

Summary and Highlights

Key Indicators	Toronto	Canada
Population, 2006	5,113,150	31,612,890
Population Change, 2001-2006	9.2%	5.4%
% Foreign Born	45.7%	19.8%
% BA Degree or higher	26.7%	18.1%
# Employed	2,622,755	15,958,195
Employment Growth 1996-2006	27.2%	19.8%
Employment Rate	63.7%	62.4%
Unemployment Rate	6.7%	6.6%
% 'Creative' occupations	38.8%	33.2%
% Science & Tech. Occupations	8.1%	6.6%
'Bohemians' per 1,000 Labour Force	20.9	14.2
Number of Industrial Clusters	12	255
% Employment in Clusters	42.1%	22.1%
Average FT Employment Income	\$ 60,727	\$ 51,221
% Change Average Income 2000-2005	5.9%	5.5%

1 - Demographics

Toronto

Population	2001	2006	% Change 2001-2006
Toronto	4,682,905	5,113,150	9.2%
Canada	30,007,085	31,612,890	5.4%

Age Groups	Under 15	15 to 64	65 and over	% 15 to 64
Toronto	1,335,490	2,872,240	607,030	59.7%
Canada	9,800,715	17,476,925	4,335,250	55.3%

Figure 1.1 - Population by age and gender, 2006

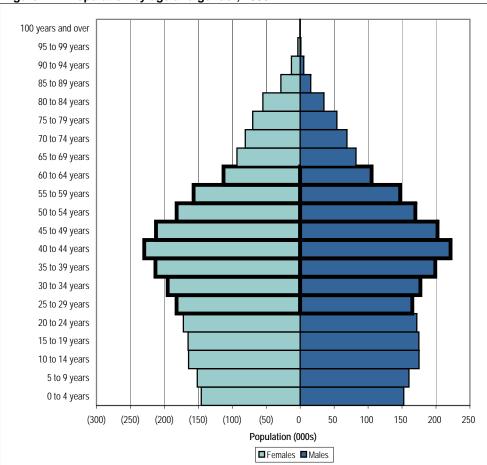


Figure 1.2 - Population by age group, 2001-2006

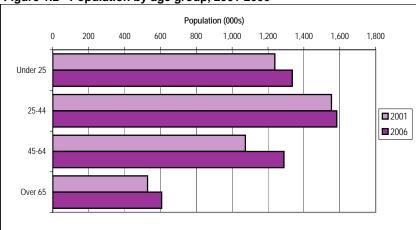
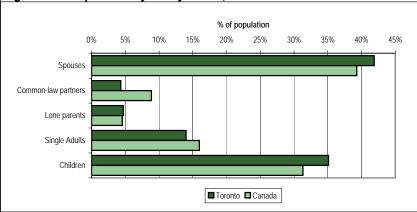


Figure 1.3 - Population by family status, 2006



2 - Migration & Population Change

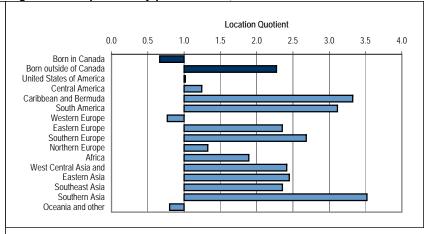
Toronto

	Intra-	Inter-	
Domestic Migration	provincial	provincial	Total
In-flows, 2001-2006	119,355	59,690	179,045
Out-flows, 2001-2006	212,805	71,005	283,810
Net, 2001-2006	(93,450)	(11,315)	(104,765)

	% Foreign born	Migrated post-1991	Migrated pre- 1991
Toronto	45.7%	23.0%	22.7%
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



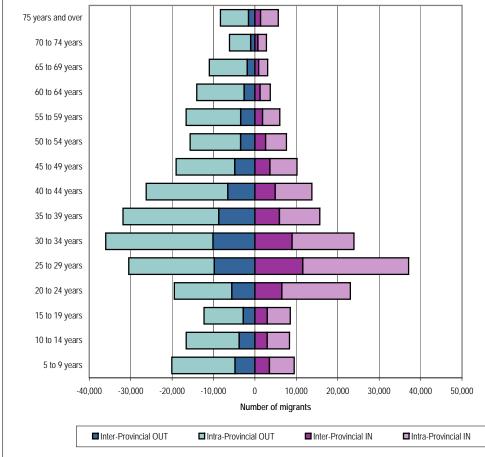
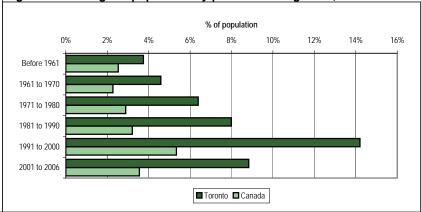
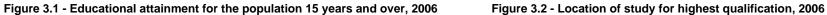


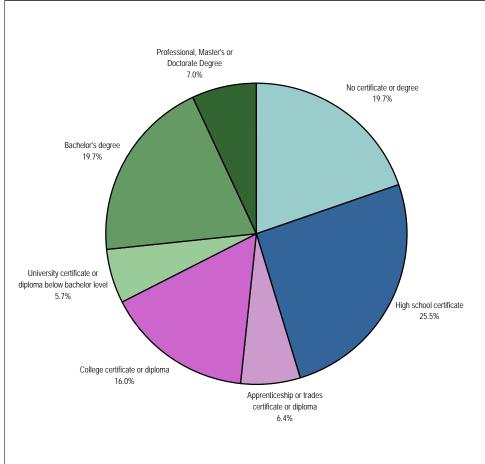
Figure 2.3 - Immigrant population by period of immigration, 2006



3 - Education Toronto

	% College degree or			PhDs per	-	% BA degr	ee or h
	higher ¹	or higher ¹	or higher ¹	1,000 ¹		2001	20
Toronto	48.3%	26.7%	7.0%	8.4	Toronto	22.9%	26.
Canada	39.8%	18.1%	4.6%	6.9	Canada	15.4%	18





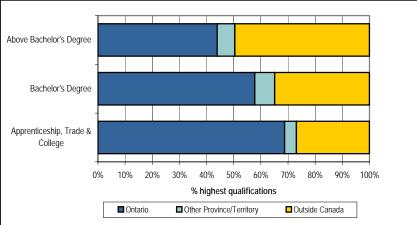
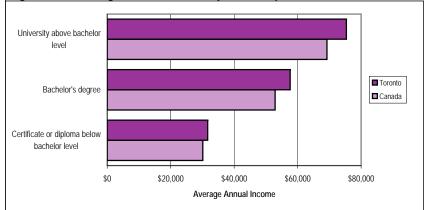


Figure 3.3 - Average annual income by level of qualification, 2006



4 - Employment Toronto

_	Employment Rate				
	1996	2001	2006		
Toronto	61.1%	64.7%	63.7%		
Canada	58.9%	61.5%	62.4%		

 Unemployment Rate

 1996
 2001
 2006

 Toronto
 9.1%
 5.9%
 6.7%

 Canada
 10.1%
 7.4%
 6.6%

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

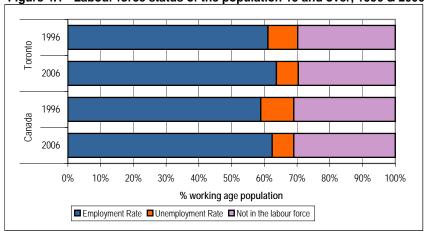


Figure 4.2 - Employment Rate by Educational Attainment, 2006

Employment rate

0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

< High School

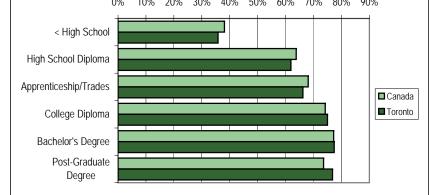


Figure 4.3 - Employment rate² by age, 2006

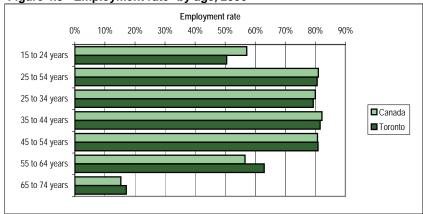
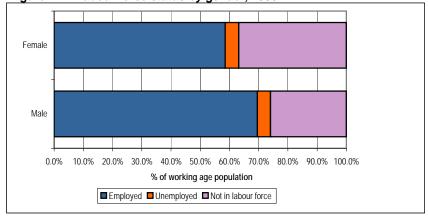


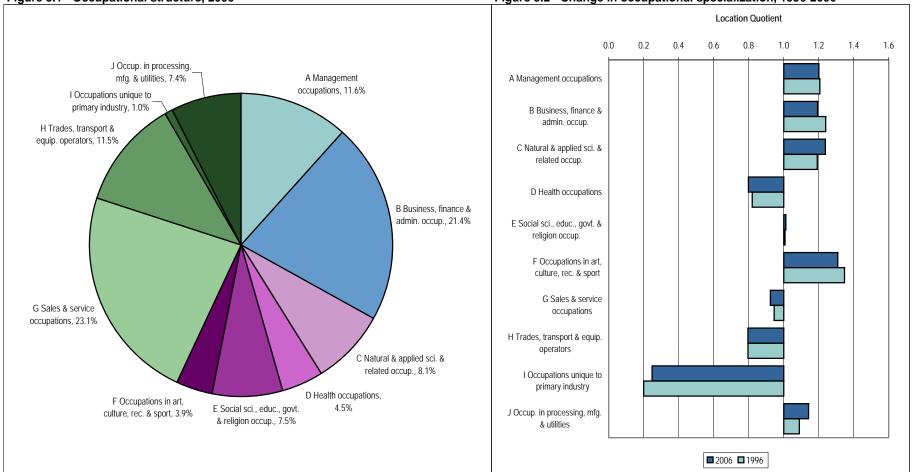
Figure 4.4 - Labour force status by gender, 2006



5 - Occupational Structure Toronto

	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
Toronto	34.1%	34.7%	33.0%	20.9%	22.7%	24.0%	45.0%	42.6%	43.0%
Canada	27.8%	28.2%	27.6%	19.8%	21.3%	22.6%	52.4%	50.5%	49.8%





6 - Creative Occupations

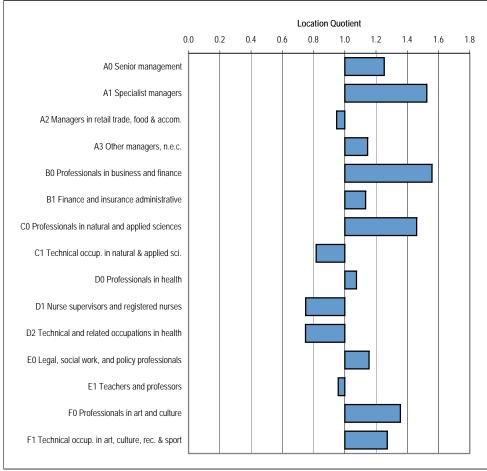
Toronto

•		% S&T		
	Bohemians	per 1000⁵	S&T Workers	Workers ⁶
Toronto	57,725	20.9	224,410	8.1%
Canada	240,170	14.2	1,108,050	6.6%

Occupational Groups ⁷	Creative	Service	Trades & Manual	Agricultural & Resources
Toronto	38.8%	41.3%	19.5%	0.4%
Canada	33.2%	41.9%	21.9%	2.9%







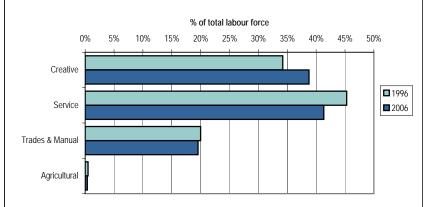
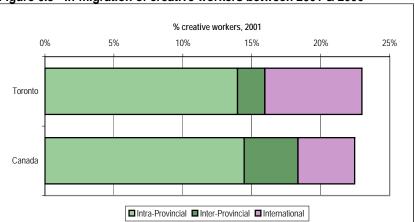


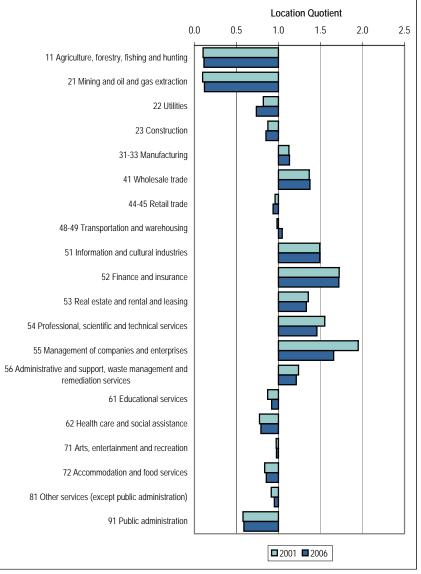
Figure 6.3 - In-migration of creative workers between 2001 & 2006



7 - Industrial Structure **Toronto**

Figure 7.1 - Industry characteristics								
	# Labour force	% Labour force	% Change 2001-2006	% BA or higher		/erage FT income		
All industries	2,758,695	100.0%	9.4%	32.1%	\$	60,727		
11 Agr., forestry, fish. & hunt.	9,720	0.4%	3.1%	14.2%	\$	44,232		
21 Mining & oil/gas extraction	4,660	0.2%	74.9%	49.4%	\$	126,675		
22 Utilities	16,030	0.6%	1.7%	39.8%	\$	81,192		
23 Construction	148,895	5.4%	19.7%	11.7%	\$	56,800		
31-33 Manufacturing	371,275	13.5%	-6.2%	22.7%	\$	56,228		
41 Wholesale trade	166,325	6.0%	9.5%	29.3%	\$	65,813		
44-45 Retail trade	293,465	10.6%	7.6%	18.8%	\$	43,888		
48-49 Transport & warehousing	140,205	5.1%	13.9%	16.0%	\$	47,090		
51 Information & cultural ind.	101,850	3.7%	1.1%	42.2%	\$	68,633		
52 Finance and insurance	193,760	7.0%	9.3%	46.9%	\$	90,794		
53 Real estate/rental & leasing	66,115	2.4%	16.2%	30.3%	\$	63,556		
54 Prof., sci. & tech. services	267,620	9.7%	8.5%	56.0%	\$	80,191		
55 Mgmt. of companies	5,565	0.2%	15.1%	48.1%	\$	121,341		
56 Admin./support, & wst. mgt.	143,265	5.2%	17.9%	22.2%	\$	44,374	`	
61 Educational services	172,990	6.3%	20.1%	65.9%	\$	59,611		
62 Health care & soc. assist.	222,140	8.1%	17.3%	39.9%	\$	59,191		
71 Arts, entertainment & rec.	55,300	2.0%	15.5%	27.5%	\$	42,692		
72 Accom. & food services	157,680	5.7%	11.4%	14.5%	\$	31,934		
81 Other services	127,635	4.6%	15.2%	23.0%	\$	40,239		
91 Public administration	94,195	3.4%	11.3%	41.8%	\$	64,445		

Figure 7.2 - Change in industrial specialization, 2001-2006



8 - Clusters **Toronto**

Number of clusters⁸ 12 % employment in clusters8 42.1%

Figure 8.1 - Cluster char	# Labour	Labour force	% Industry	% Growth	Cluster
	# Labour force	LQ	LQs > 1	% Growth 2001-2006	(yes/no)
Resource-based					
Agriculture	45,095	0.39	13.3%	4.5%	NO
Mining	17,355	0.35	0.0%	-2.7%	NO
Oil and Gas	12,430	0.31	22.2%	1.5%	NO
Wood & Wood Products	15,255	0.29	10.0%	7.7%	NO
Maritime	4,370	0.18	0.0%	12.9%	NO
Manufacturing					
Textiles & Apparel	28,510	1.28	58.3%	-18.0%	YES
Food	86,765	1.12	58.3%	13.9%	YES
Steel	52,010	0.97	66.7%	0.3%	NO
Automotive	107,335	1.47	76.9%	4.3%	YES
Plastics & Rubber	101,360	1.55	78.6%	-6.2%	YES
Biomedical	41,710	1.68	100.0%	17.2%	YES
ICT Manufacturing	58,700	1.76	100.0%	-14.2%	YES
Service-based					
ICT Services	181,360	1.38	80.0%	4.6%	YES
Finance	277,210	1.61	93.8%	8.1%	YES
Business Services	354,625	1.33	76.5%	11.8%	YES
Creative & Cultural	159,155	1.52	88.2%	10.3%	YES
Higher Education	100,585	1.11	66.7%	23.8%	YES
Other					
Construction	211,250	0.92	66.7%	20.1%	NO
Logistics	204,950	1.52	80.8%	9.2%	YES

Figure 8.2 - Employment by industry category, 20069

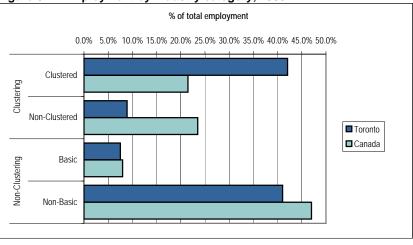
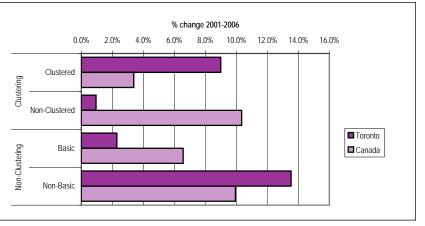
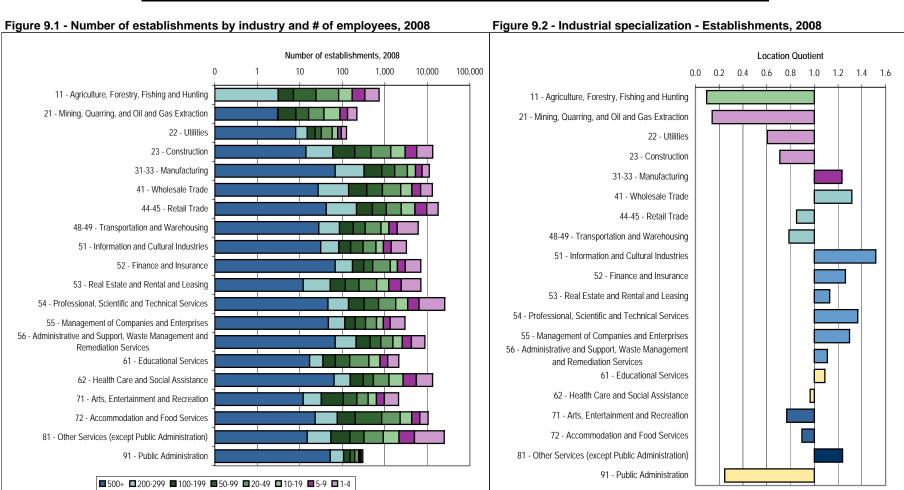


Figure 8.3 - Employment growth by industry category, 2001-2006^{9,10}



9 - Establishments Toronto

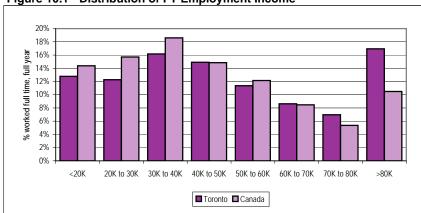
	% of establishments by number of employees									
	1-4	5-9	10-19	20-49	50-99	100-199	200-299	500+		
Toronto	58.7%	17.2%	10.8%	7.6%	3.0%	1.5%	0.8%	0.4%		
Canada	55.0%	20.2%	12.1%	7.8%	2.7%	1.2%	0.6%	0.3%		

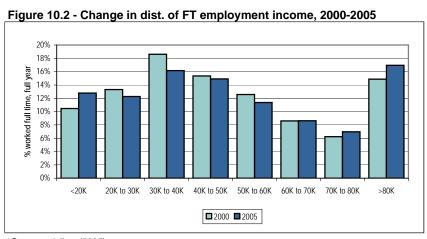


10 - Income **Toronto**

Full Time Employment									
Income, 2005	-	Average	Median						
Toronto	\$	60,727	\$	45,350					
Canada	\$	51,221	\$	41,401					

Figure 10.1 - Distribution of FT Employment Income



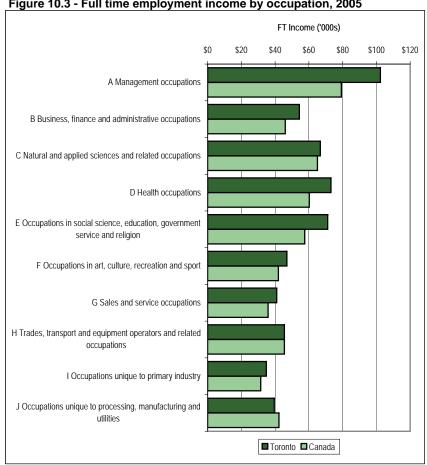


^{*}Constant dollars (2005)

% Change in FT Emp. Income 2000-2005 ¹¹ Average Median							
Toronto	Average 5.9%	1.1%					
Canada	5.5%	2.4%					

*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 colocation 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)

For further information, please contact:

Greg Spencer: (416) 946-8921 or greg.spencer@utoronto.ca
Tara Vinodrai: (519) 579-3475 ext. 33278 or tvinodra@uwaterloo.ca

Last Updated: April 1, 2009