

## Summary and Highlights

### Innovation Systems Research Network City-Region Profile

# Kingston

**Greg Spencer and Tara Vinodrai**  
Program on Globalization and Regional Innovation Systems (PROGRIS)  
Munk Centre for International Studies  
University of Toronto

**4/19/2006**

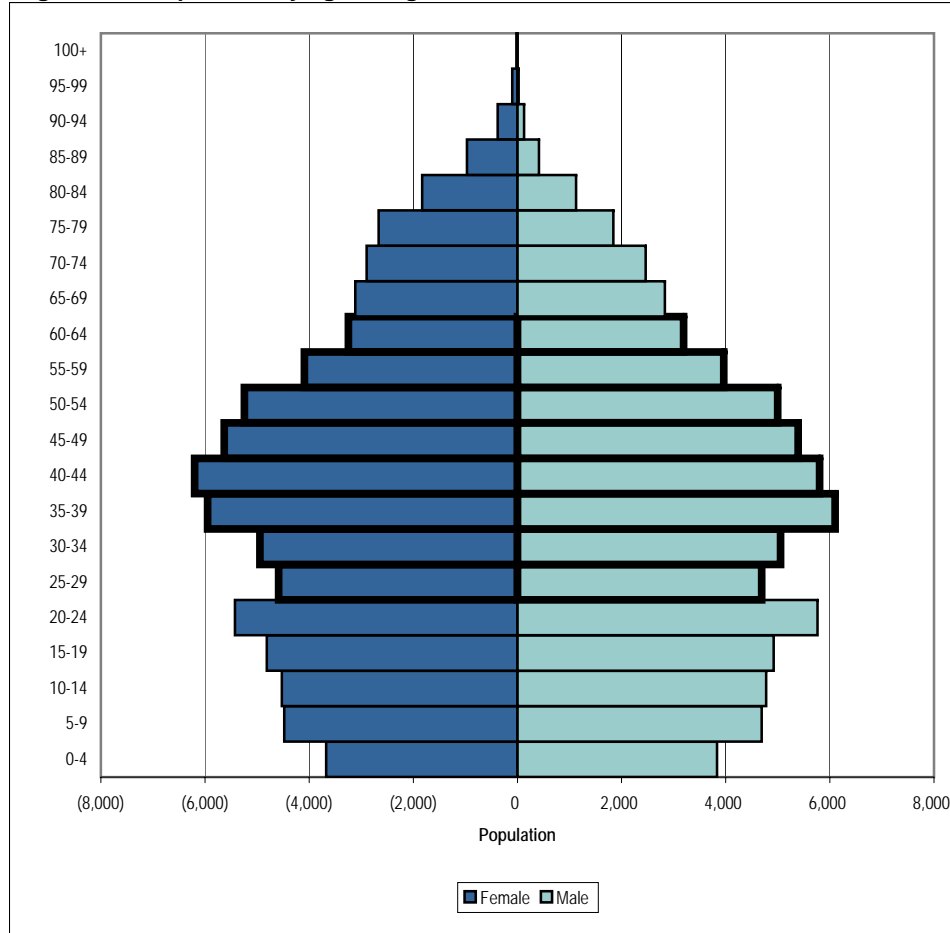
Key Indicators	Kingston	Canada
Population, 2001	146,835	30,007,085
Population Change 1996-2001	1.6%	4.0%
% Foreign Born	12.0%	18.2%
% BA Degree or higher	18.7%	15.4%
Labour Force	116,730	23,901,360
Employment Rate	60.9%	61.5%
Unemployed Rate	6.9%	7.4%
% 'Creative' occupations	37.0%	29.2%
% Science & Tech. Occupations	5.7%	6.4%
Bohemians' per 1,000 Labour Force	11.8	13.1
Number of Clusters	1	263
% Employment in Clusters	7.2%	22.1%
% Establishments in Clusters	1.7%	19.9%
Establishments	4,267	1,048,286
Compound Annual Growth 1998-2005	2.5%	1.1%
Average Household Income	\$ 57,652	\$ 58,360
Average Employment Income	\$ 30,497	\$ 31,757

# 1 - Demographics Kingston

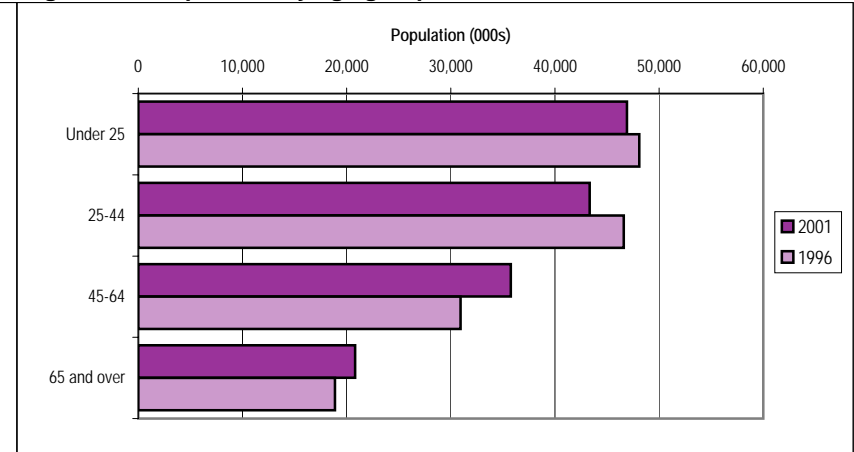
Population	1996	2001	% Change 1996-2001
<b>Kingston</b>	144,515	146,835	1.6%
<b>Canada</b>	28,846,770	30,007,085	4.0%

Age Groups	Under 15	15 to 64	65 and over	% 15 to 64
<b>Kingston</b>	25,990	100,035	20,825	68.1%
<b>Canada</b>	5,725,540	20,393,000	3,888,545	68.0%

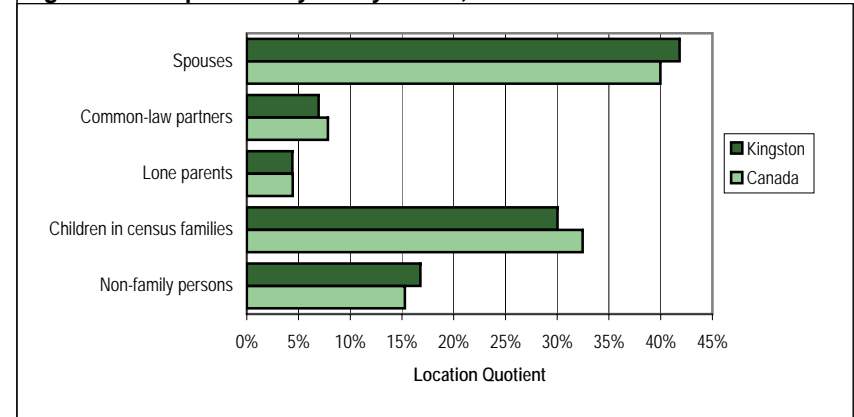
**Figure 1.1 - Population by age and gender, 2001**



**Figure 1.2 - Population by age group, 1996-2001**



**Figure 1.3 - Population by family status, 2001**

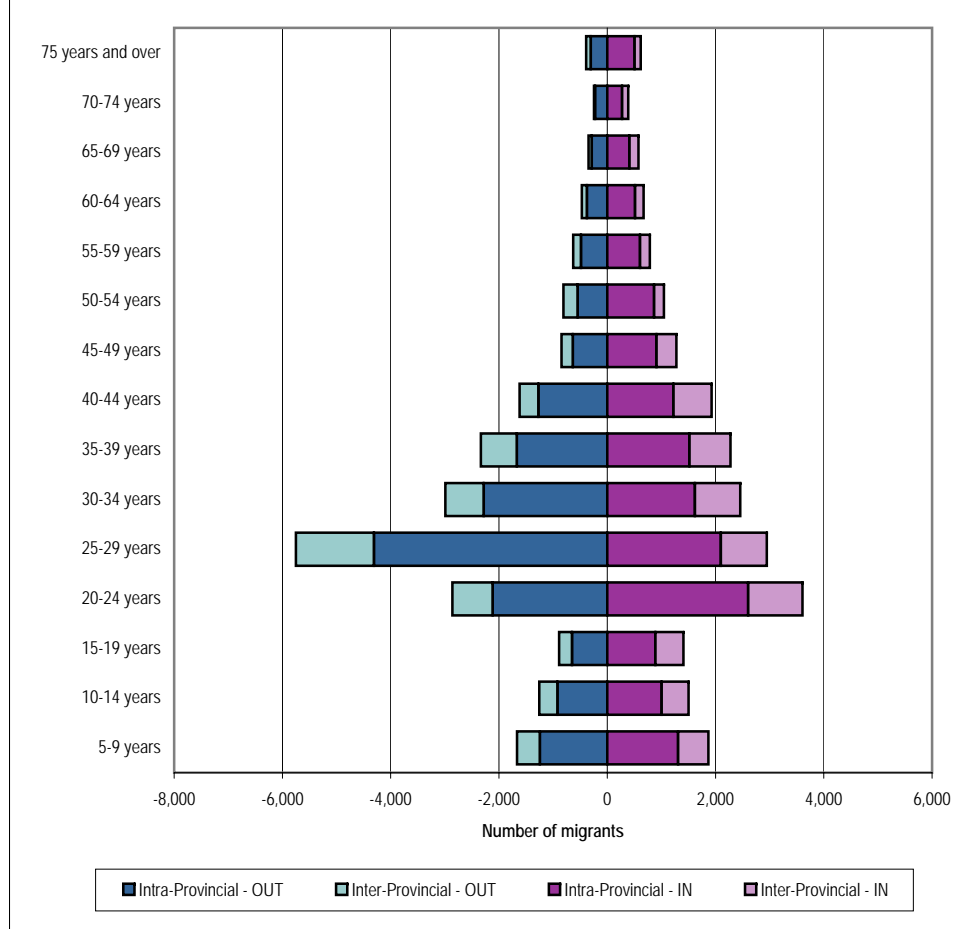


## 2 - Migration & Population Change Kingston

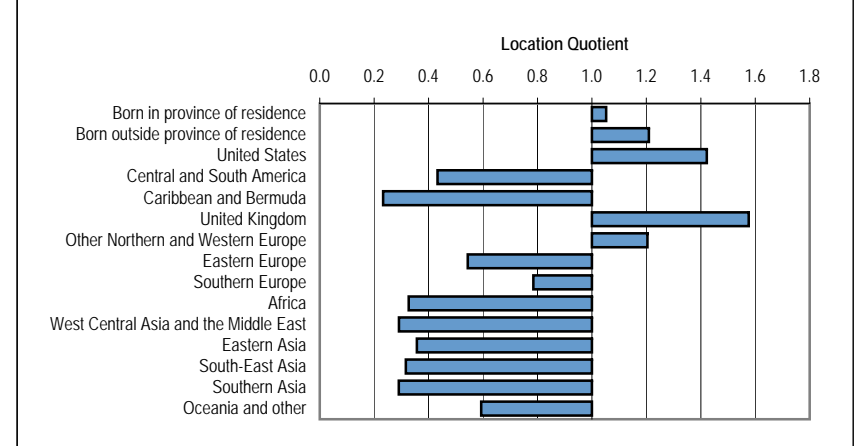
Domestic Migration	Intra-provincial	Inter-provincial	Total
<b>In-flows, 1996-2001</b>	16,360	7,040	23,400
<b>Out-flows, 1996-2001</b>	17,315	5,785	23,100
<b>Net, 1996-2001</b>	(955)	1,255	300

	% Foreign born	Migrated post-1991	Migrated pre-1991
<b>Kingston</b>	12.0%	2.3%	9.7%
<b>Canada</b>	18.2%	6.1%	12.1%

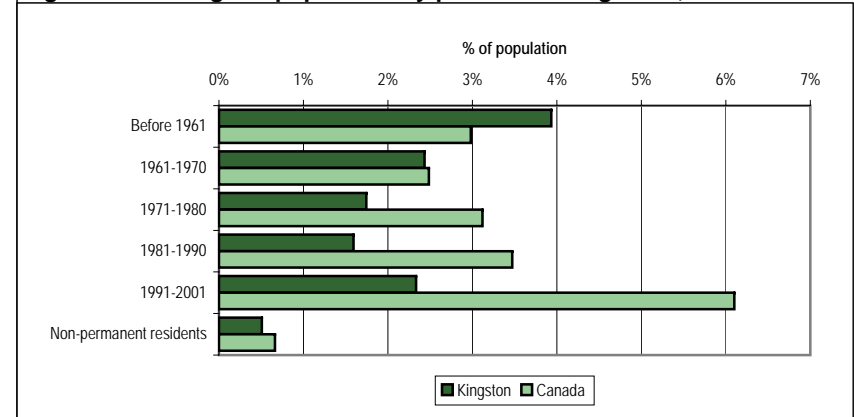
**Figure 2.1 - Domestic migration flows between 1996 and 2001 by age**



**Figure 2.2 - Population by place of birth, 2001**



**Figure 2.3 - Immigrant population by period of immigration, 2001**



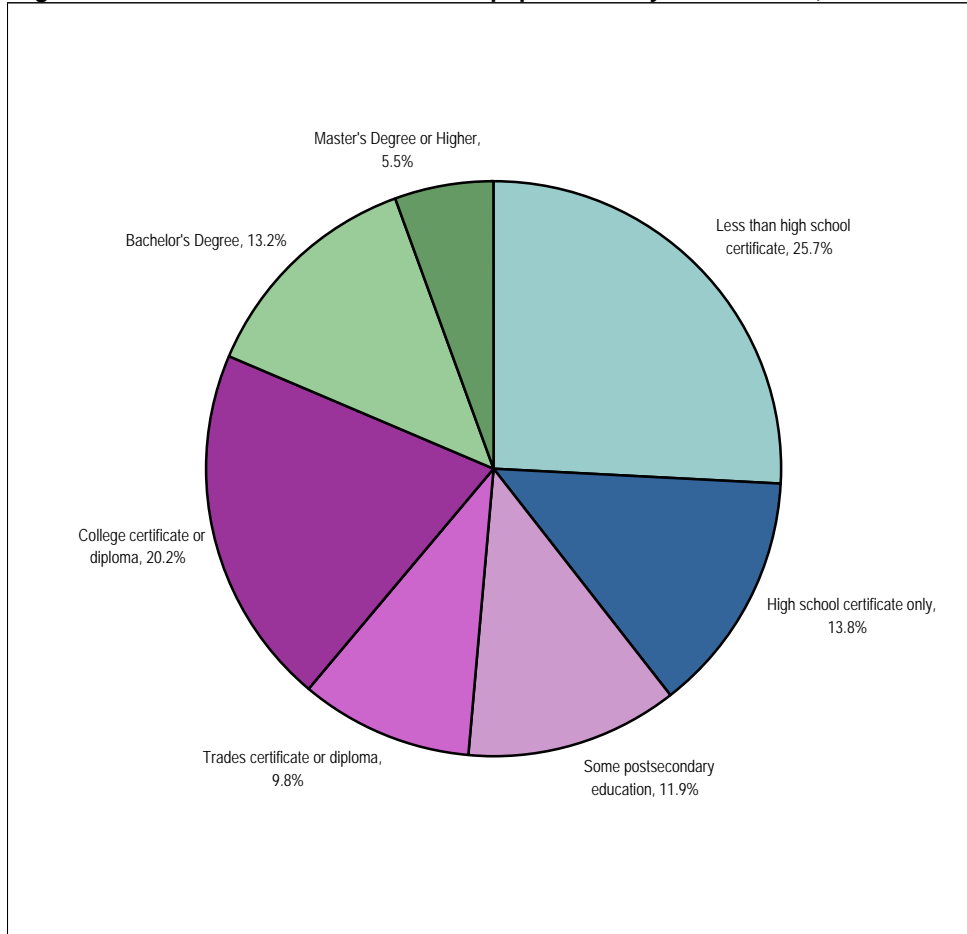
### 3 - Education

### Kingston

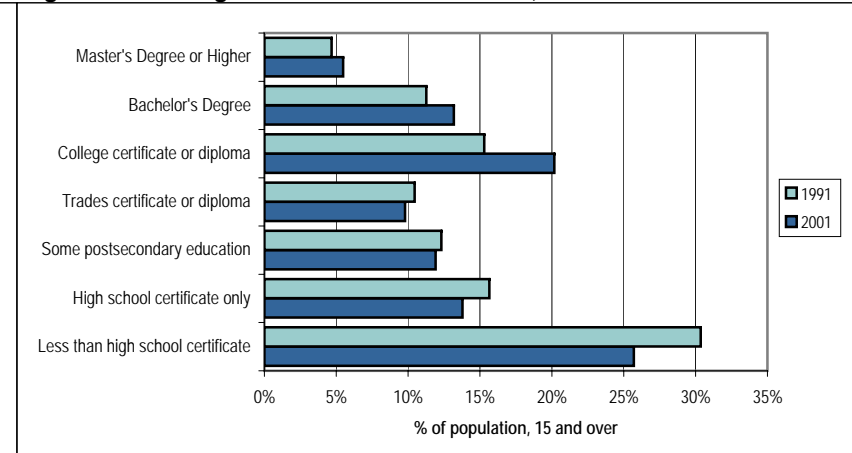
	% College degree or higher <sup>1</sup>	% BA degree or higher <sup>1</sup>	% MA degree or higher <sup>1</sup>	PhDs per 1,000 <sup>1</sup>
<b>Kingston</b>	38.8%	18.7%	5.5%	17.2
<b>Canada</b>	32.9%	15.4%	3.2%	5.4

	Average years of schooling <sup>1</sup>		
	1991	1996	2001
<b>Kingston</b>	13.0	13.3	13.6
<b>Canada</b>	12.0	12.3	12.8

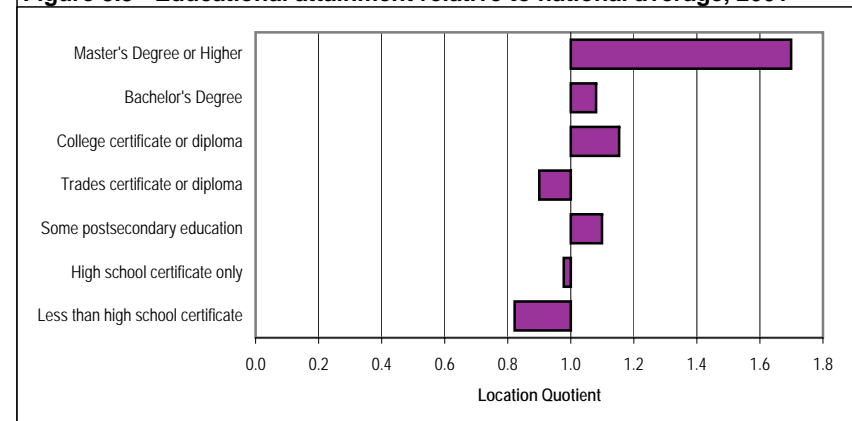
**Figure 3.1 - Educational attainment for the population 15 years and over, 2001**



**Figure 3.2 - Change in educational attainment, 1991-2001**



**Figure 3.3 - Educational attainment relative to national average, 2001**



## 4 - Employment

## Kingston

	Employment Rate <sup>2</sup>		Unemployment Rate <sup>3</sup>	
	1991	2001	1991	2001
<b>Kingston</b>	64.7%	60.9%	7.5%	6.9%
<b>Canada</b>	61.0%	61.5%	10.2%	7.4%

Average hours worked per week	Female		Male	
	1991	2001	1991	2001
<b>Kingston</b>	33.4	34.1	40.6	40.7
<b>Canada</b>	34.0	34.7	41.6	42.1

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

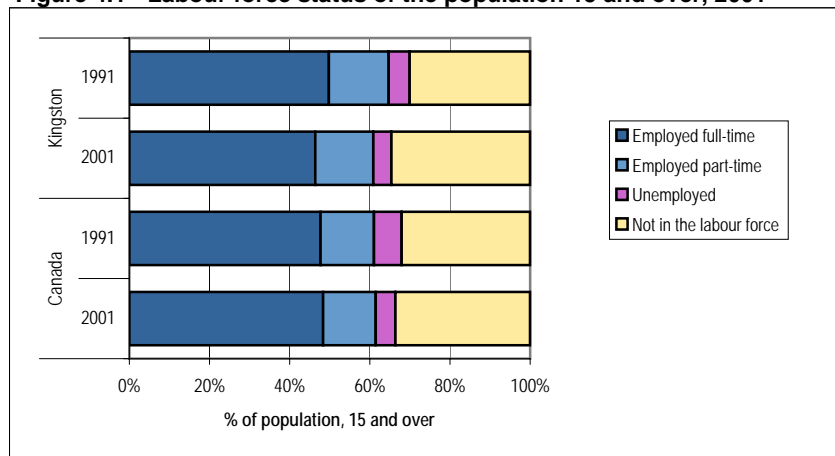


Figure 4.2 - Labour force status by gender, 2001

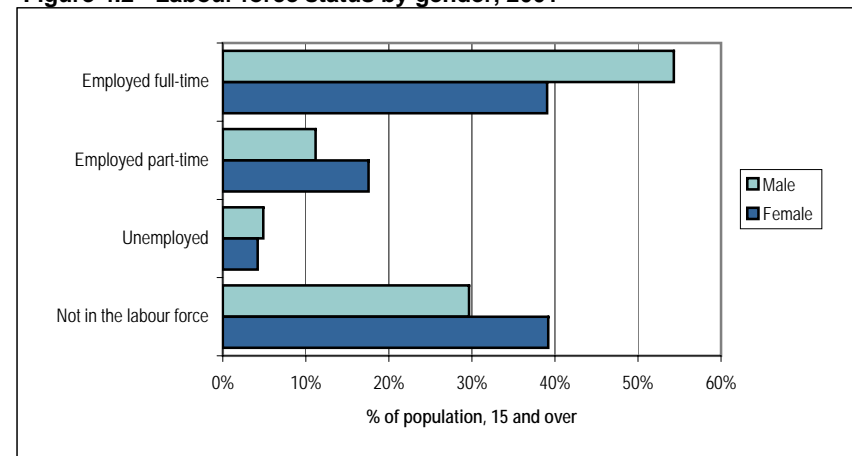


Figure 4.3 - Employment rate<sup>2</sup> by age, 2001

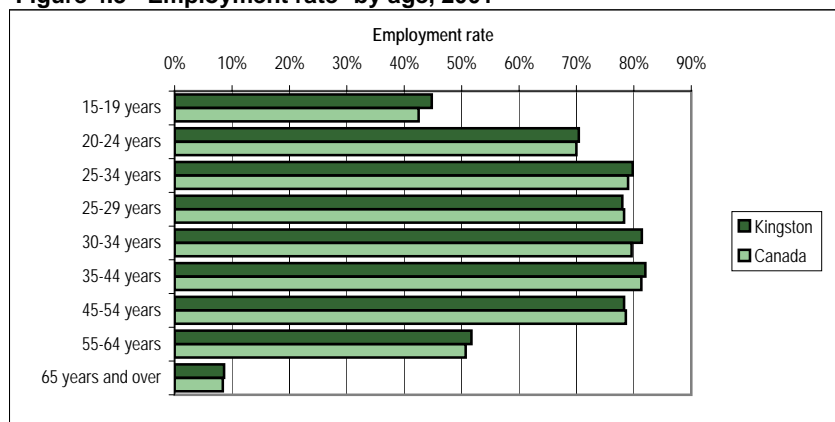
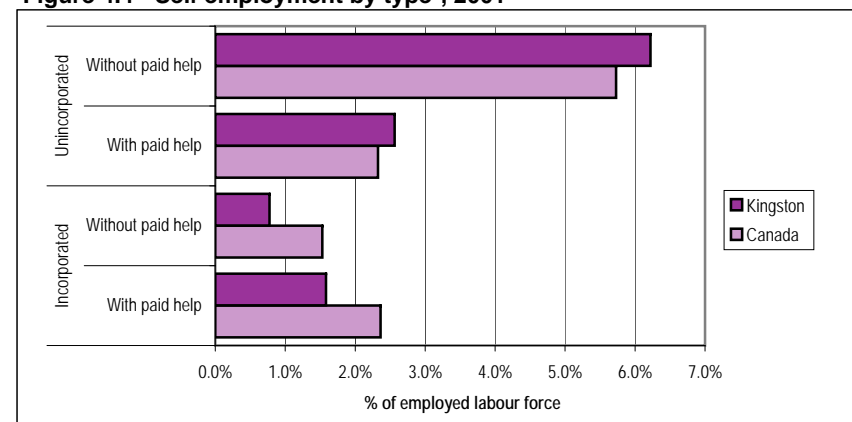


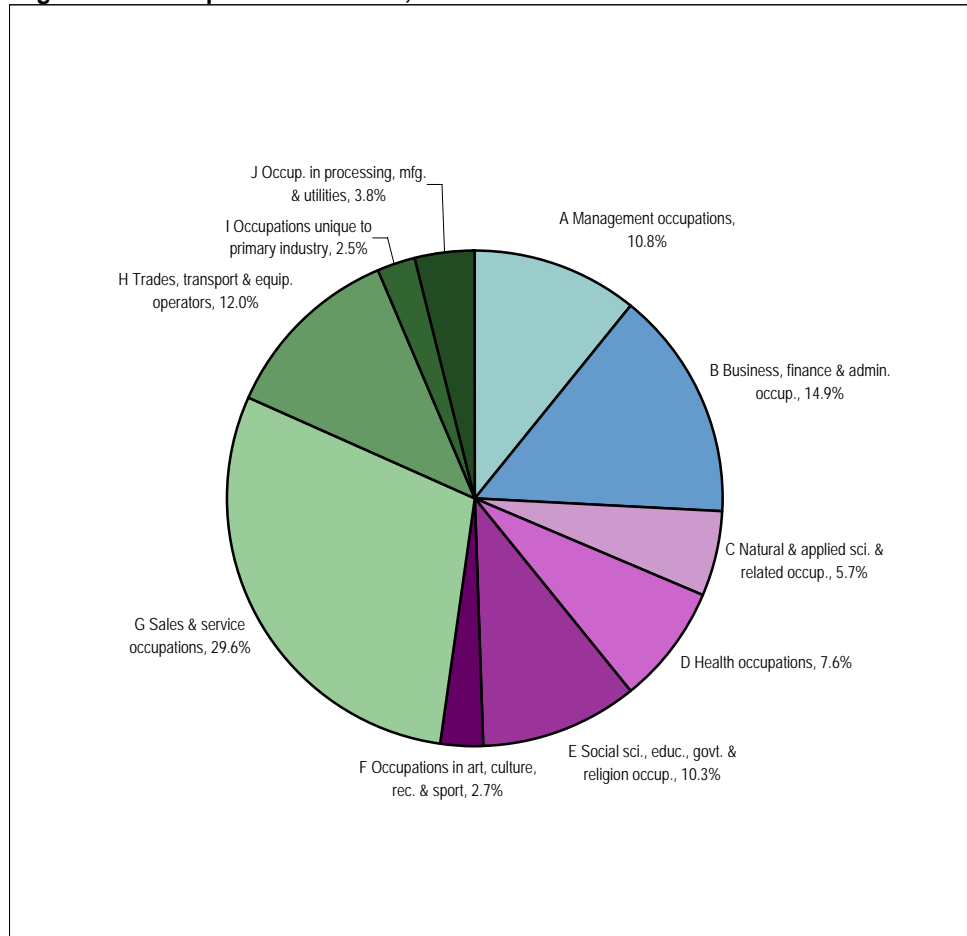
Figure 4.4 - Self employment by type<sup>4</sup>, 2001



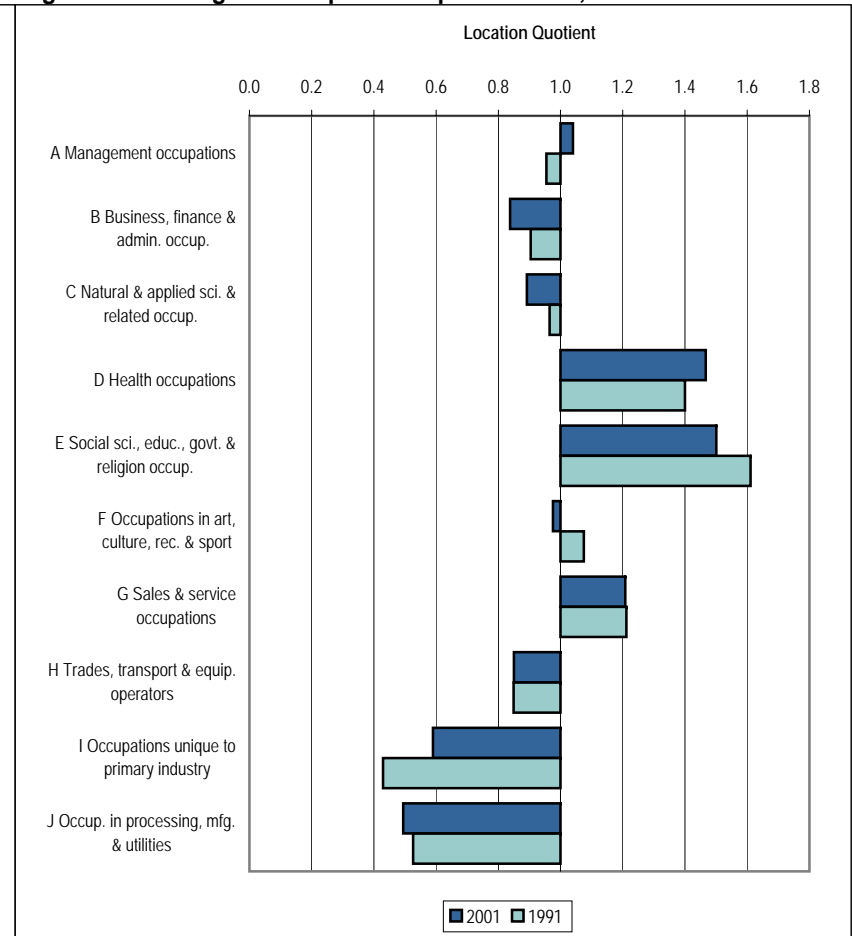
## 5 - Occupational Structure Kingston

	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
<b>Kingston</b>	26.4%	26.0%	25.7%	24.8%	25.4%	26.4%	48.8%	48.6%	47.9%
<b>Canada</b>	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

Kingston

	Bohemians	Bohemians per 1000 <sup>5</sup>	S&T Workers	% S&T Workers <sup>6</sup>
<b>Kingston</b>	885	11.8	4,305	5.7%
<b>Canada</b>	204,305	13.1	1,003,810	6.4%

Occupational Groups <sup>7</sup>	Creative	Service	Trades & Manual	Agricultural
<b>Kingston</b>	37.0%	44.7%	16.7%	1.6%
<b>Canada</b>	29.2%	42.7%	23.9%	4.3%

Figure 6.1 - Specialization in creative occupations

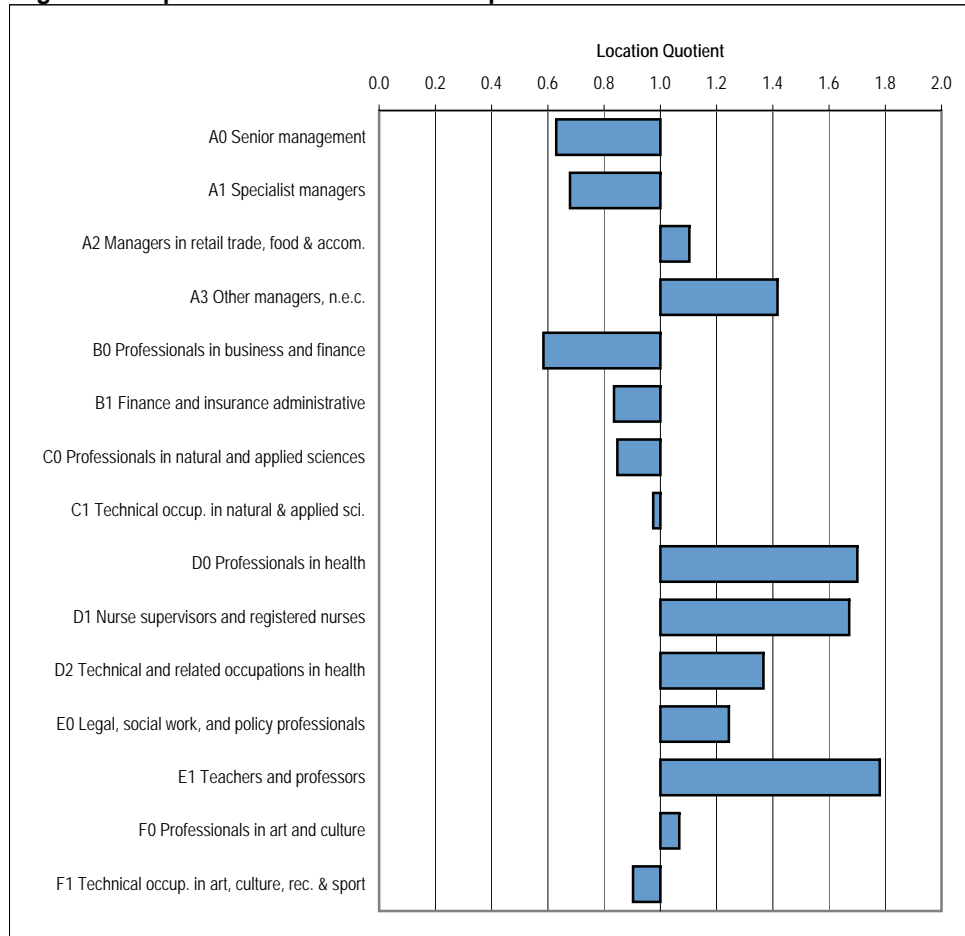


Figure 6.2 - Change in share of labour force, 1991-2001

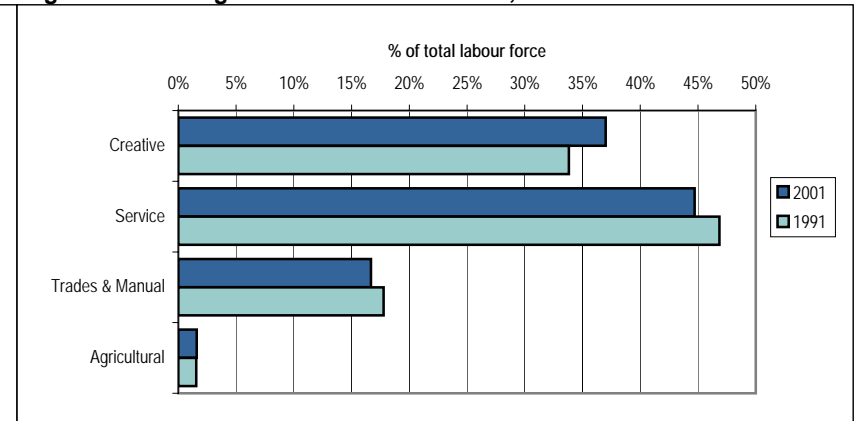
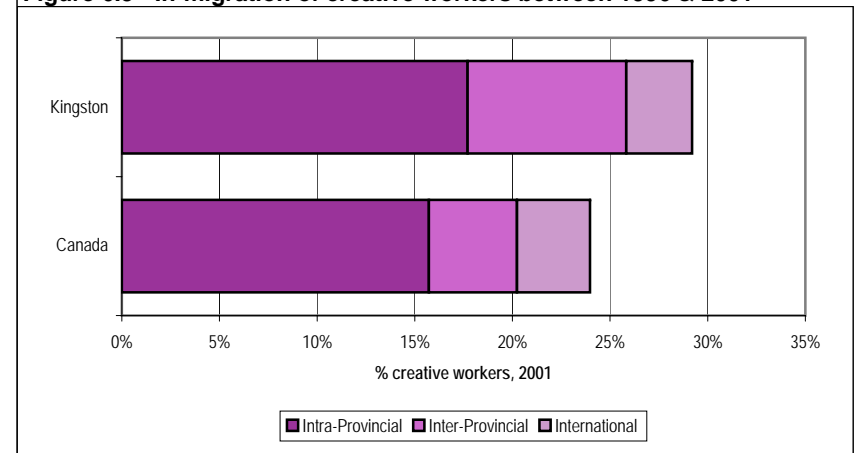


Figure 6.3 - In-migration of creative workers between 1996 & 2001

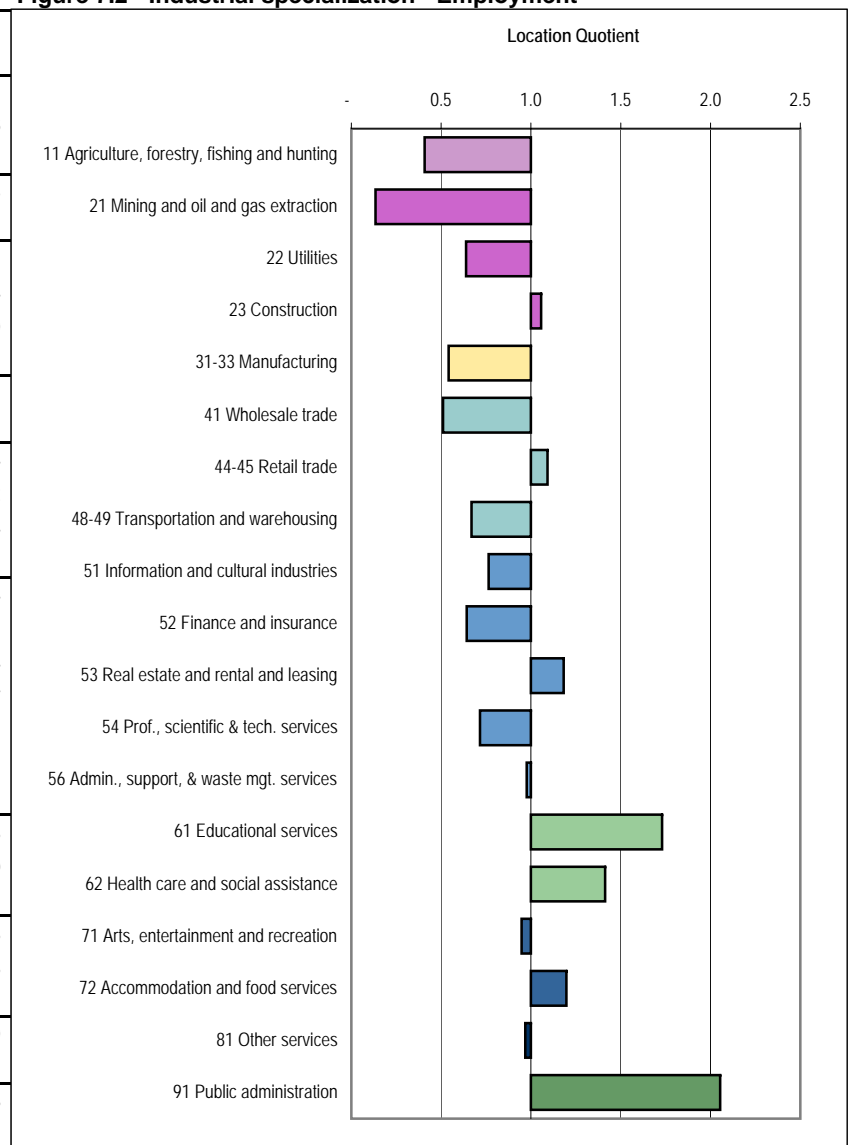


# 7 - Industrial Structure Kingston

**Figure 7.1 - Industry characteristics**

	# Labour force	% Labour force	% BA or higher	% Creative occup.	Average income
<b>All industries</b>	<b>82,320</b>	<b>100.0%</b>	<b>21.7%</b>	<b>37.0%</b>	<b>\$ 30,866</b>
11 Agr., forestry, fish. & hunt.	1,215	1.5%	6.3%	0.9%	\$ 17,545
21 Mining & oil/gas extraction	120	0.1%	27.3%	28.6%	\$ -
22 Utilities	410	0.5%	6.8%	30.1%	\$ 51,134
23 Construction	4,730	5.7%	5.6%	15.9%	\$ 35,829
31-33 Manufacturing	6,215	7.5%	14.7%	28.1%	\$ 41,661
41 Wholesale trade	1,830	2.2%	12.8%	26.9%	\$ 32,334
44-45 Retail trade	10,225	12.4%	9.4%	21.9%	\$ 19,282
48-49 Transport & warehousing	2,635	3.2%	3.6%	10.8%	\$ 26,924
51 Information & cultural ind.	1,655	2.0%	25.4%	47.6%	\$ 32,304
52 Finance and insurance	2,070	2.5%	23.2%	49.4%	\$ 42,811
53 Real estate/rental & leasing	1,560	1.9%	18.6%	24.1%	\$ 30,994
54 Prof., sci. & tech. services	3,765	4.6%	37.4%	73.2%	\$ 37,117
55 Mgmt. of companies	20	0.0%	66.7%	50.0%	\$ -
56 Admin./support, & wst. mgt.	3,195	3.9%	8.1%	11.6%	\$ 17,041
61 Educational services	9,525	11.6%	62.9%	75.2%	\$ 37,108
62 Health care & soc. assist.	11,090	13.5%	27.5%	50.8%	\$ 38,450
71 Arts, entertainment & rec.	1,620	2.0%	19.5%	54.5%	\$ 14,228
72 Accom. & food services	6,855	8.3%	5.2%	14.6%	\$ 12,078
81 Other services	3,900	4.7%	9.6%	21.7%	\$ 20,089
91 Public administration	9,680	11.8%	24.0%	41.0%	\$ 38,513

**Figure 7.2 - Industrial specialization - Employment**





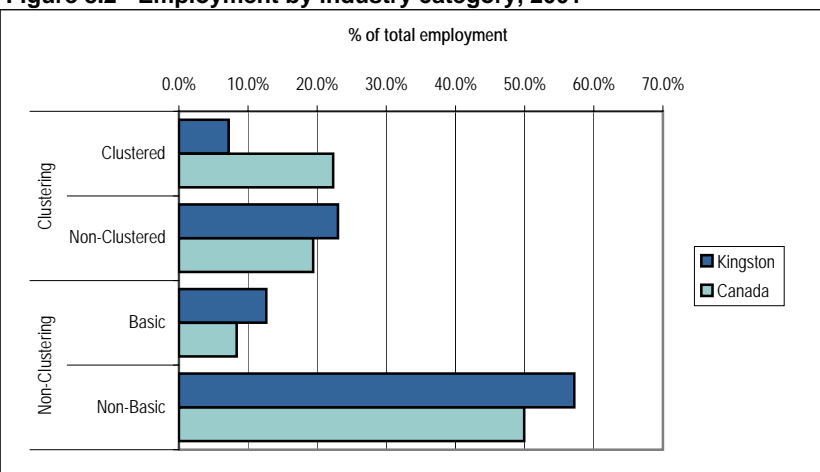
# 8 - Clusters Kingston

Number of clusters<sup>8</sup> 1  
 % employment in clusters<sup>8</sup> 7.2%  
 % establishments in clusters<sup>8</sup> 1.7%

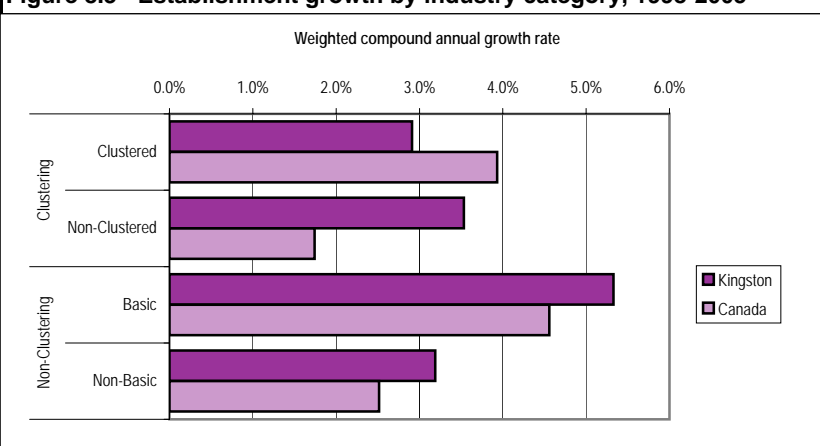
**Figure 8.1 - Cluster characteristics, 2001<sup>8</sup>**

	# Labour force	Labour force LQ	% Industry LQs > 1	Cluster (yes/no)
<i>Resource-based</i>				
<b>Agriculture</b>	1,465	0.42	0.0%	NO
<b>Mining</b>	345	0.28	0.0%	NO
<b>Oil and Gas</b>	140	0.16	0.0%	NO
<b>Wood &amp; Wood Products</b>	200	0.12	0.0%	NO
<b>Maritime</b>	385	0.54	44.4%	NO
<i>Manufacturing</i>				
<b>Textiles &amp; Apparel</b>	300	0.32	25.0%	NO
<b>Food</b>	1,010	0.48	8.3%	NO
<b>Steel</b>	475	0.30	0.0%	NO
<b>Automotive</b>	830	0.38	15.4%	NO
<b>Plastics &amp; Rubber</b>	2,235	1.12	14.3%	NO
<b>Biomedical</b>	385	0.61	16.7%	NO
<b>ICT Manufacturing</b>	640	0.55	22.2%	NO
<i>Service-based</i>				
<b>ICT Services</b>	5,420	1.79	33.3%	NO
<b>Finance</b>	2,700	0.66	20.0%	NO
<b>Business Services</b>	8,680	1.39	37.5%	NO
<b>Creative &amp; Cultural</b>	1,575	0.74	43.8%	NO
<b>Higher Education</b>	5,390	3.07	100.0%	YES
<i>Other</i>				
<b>Construction</b>	2,210	0.89	33.3%	NO
<b>Logistics</b>	1,925	0.52	3.8%	NO

**Figure 8.2 - Employment by industry category, 2001<sup>9</sup>**



**Figure 8.3 - Establishment growth by industry category, 1998-2005<sup>9,10</sup>**



# 9 - Establishments

Kingston

	Establishments		
	1998	2005	Growth <sup>11</sup>
<b>Kingston</b>	3,831	4,225	1.41%
<b>Canada</b>	1,001,517	1,048,286	0.65%

	Less than 5 emp.	5 to 199 emp.	More than 500 emp.
	<b>Kingston</b>	54.3%	44.9%
<b>Canada</b>	56.5%	42.5%	2,916

Figure 9.1 - Establishment growth by industry, 1998-2005<sup>11</sup>

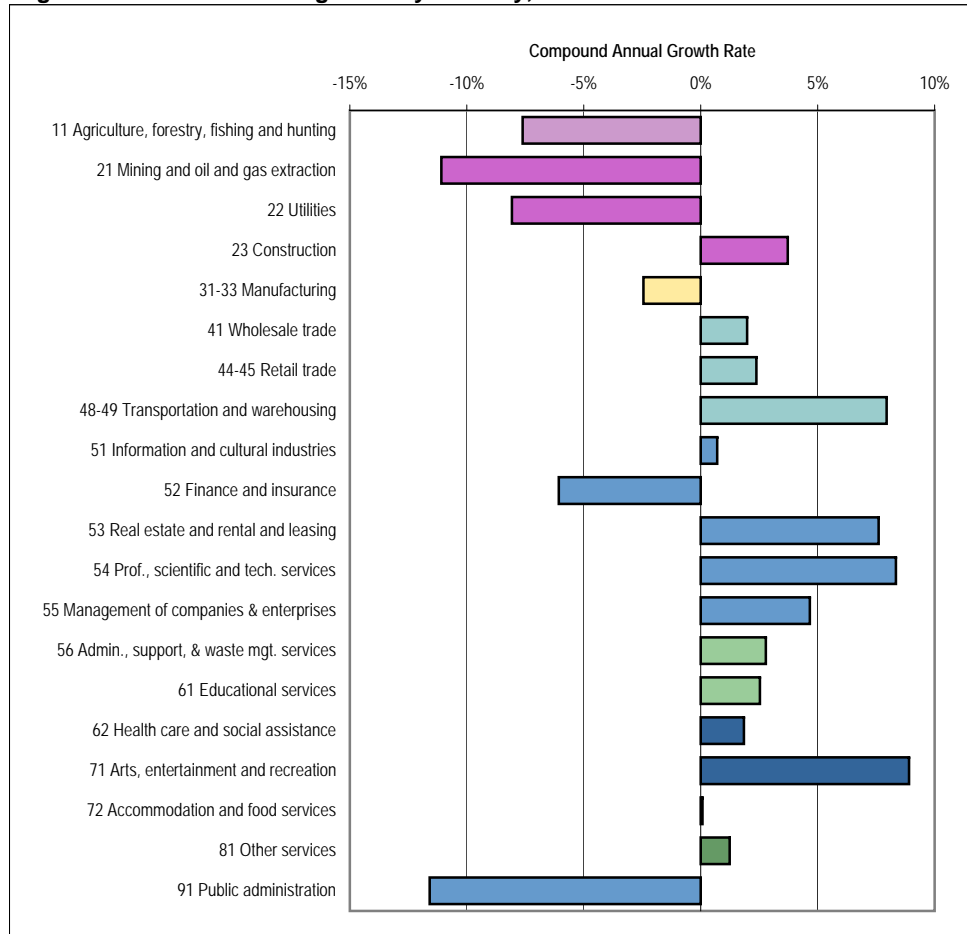


Figure 9.2 - Industrial specialization - Establishments, 2005

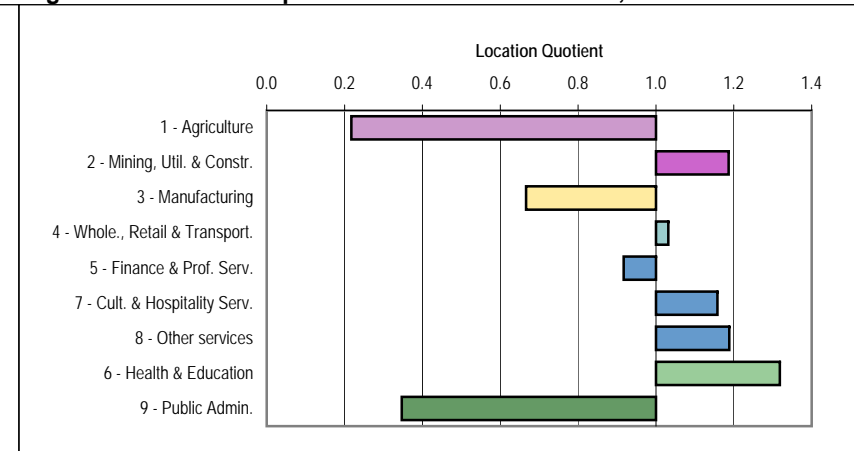
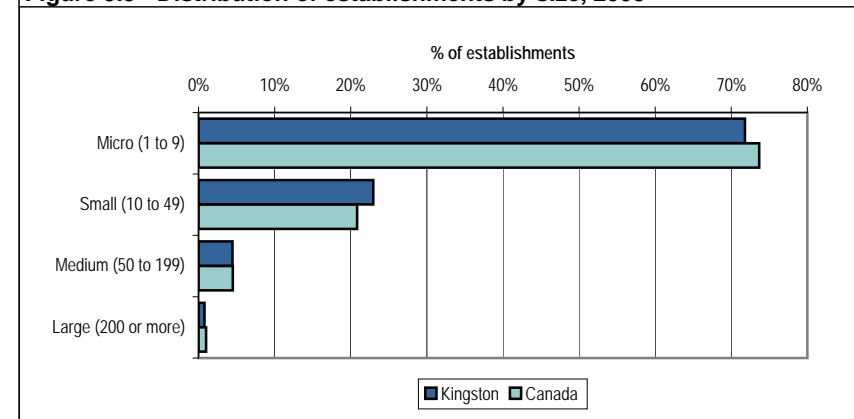


Figure 9.3 - Distribution of establishments by size, 2005

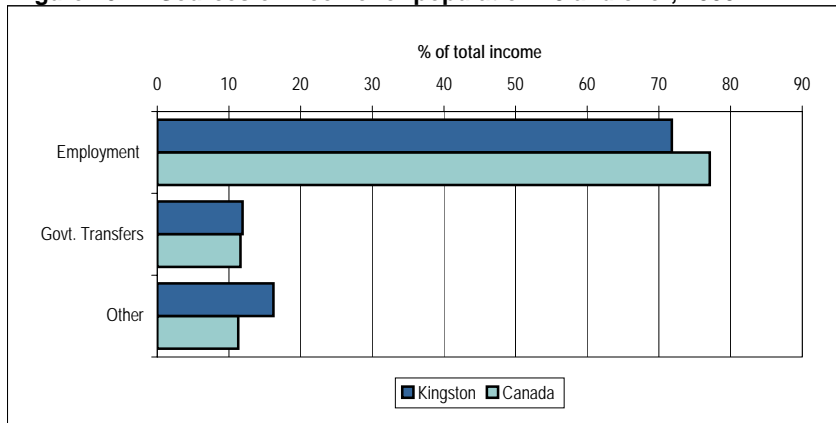


# 10 - Income Kingston

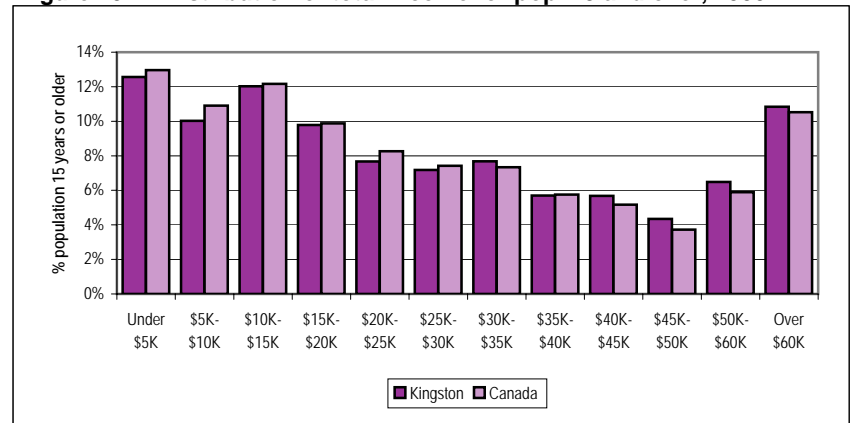
Household income <sup>12</sup>	Average	Median	% below LICO <sup>13</sup>
Kingston	\$ 57,652	\$ 47,979	15.2
Canada	\$ 58,360	\$ 46,752	16.2

Individual income <sup>12</sup>	Average total	Average emp.
Kingston	\$ 30,374	\$ 30,497
Canada	\$ 29,769	\$ 31,757

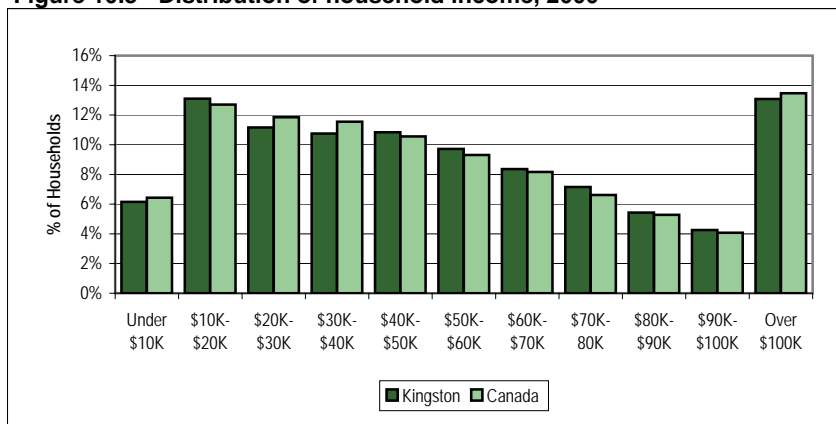
**Figure 10.1 - Sources of income for population 15 and over, 2000**



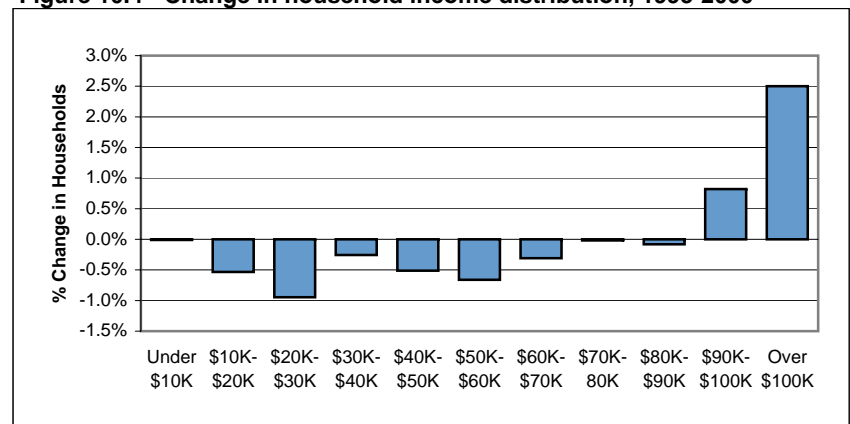
**Figure 10.2 - Distribution of total income for pop. 15 and over, 2000**



**Figure 10.3 - Distribution of household income, 2000**



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



\*Constant dollars (2000)

## Notes

<sup>1</sup> All educational attainment statistics are calculated for the population 15 years and over.

<sup>2</sup> 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).

<sup>3</sup> 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.

<sup>4</sup> 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.

<sup>5</sup> 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).

<sup>6</sup> 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).

<sup>7</sup> 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.

<sup>8</sup> 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.

<sup>9</sup> 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).

<sup>10</sup> 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.

<sup>11</sup> Growth is measured as a compound annual growth rate (CAGR).

<sup>12</sup> 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.

<sup>13</sup> 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](http://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.

For further information, please contact:

Greg Spencer: (416) 946-3054 or [greg.spencer@utoronto.ca](mailto:greg.spencer@utoronto.ca)

Tara Vinodrai: (416) 964-8921 or [tara.vinodrai@utoronto.ca](mailto:tara.vinodrai@utoronto.ca)

Last Updated: April 19, 2006