

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

Calgary

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Summary and Highlights

Key Indicators	Calgary	Canada
Population, 2001	951,400	30,007,085
Population Change 1996-2001	15.8%	4.0%
% Foreign Born	20.8%	18.2%
% BA Degree or higher	21.1%	15.4%
Labour Force	756,125	23,901,360
Employment Rate	71.5%	61.5%
Unemployed Rate	4.9%	7.4%
% 'Creative' occupations	39.2%	29.2%
% Science & Tech. Occupations	10.4%	6.4%
Bohemians' per 1,000 Labour Force	14.3	13.1
Number of Clusters	10	263
% Employment in Clusters	39.3%	22.1%
% Establishments in Clusters	46.0%	19.9%
Establishments	45,491	1,048,286
Compound Annual Growth 1998-2005	4.4%	1.1%
Average Household Income	\$ 74,042	\$ 58,360
Average Employment Income	\$ 36,851	\$ 31,757

1 - Demographics Calgary

Population	1996	2001	% Change 1996-2001
Calgary	821,630	951,400	15.8%
Canada	28,846,770	30,007,085	4.0%

Age Groups	Under 15	15 to 64	65 and over	% 15 to 64
Calgary	186,555	679,050	85,795	71.4%
Canada	5,725,540	20,393,000	3,888,545	68.0%

Figure 1.1 - Population by age and gender, 2001

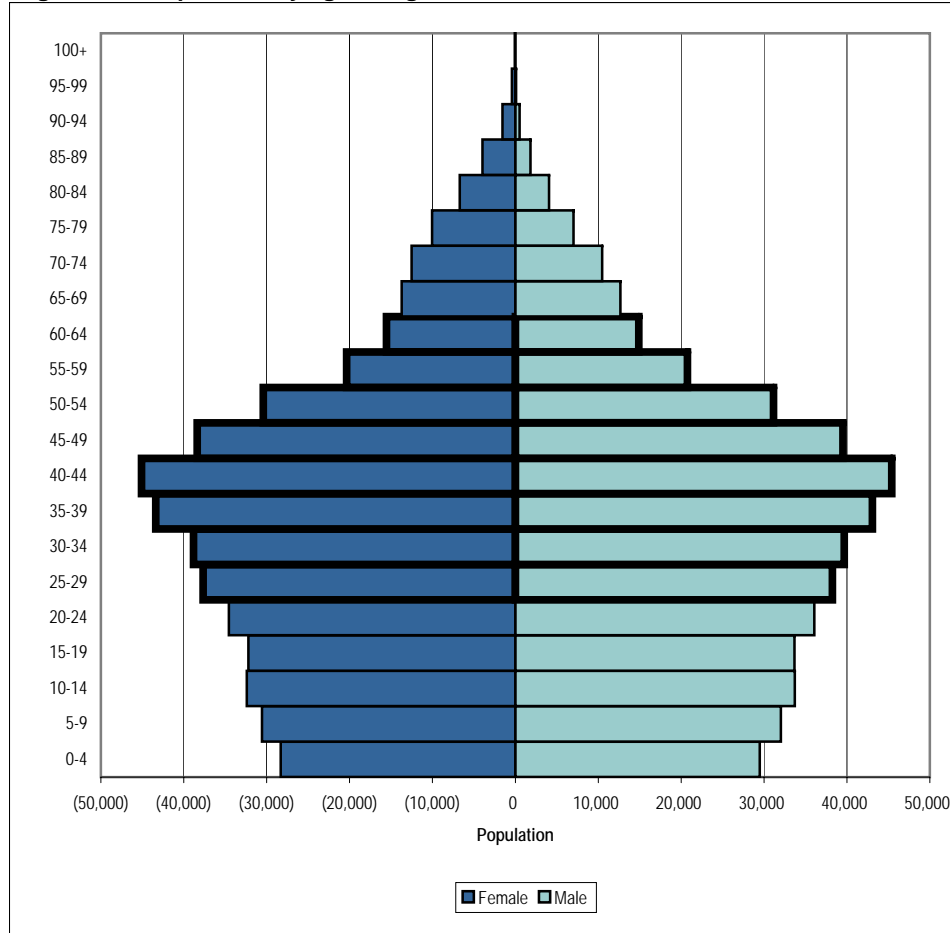


Figure 1.2 - Population by age group, 1996-2001

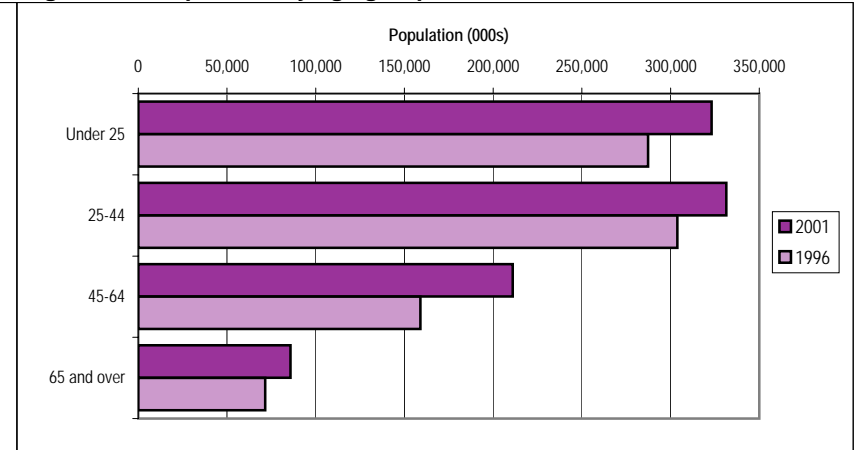
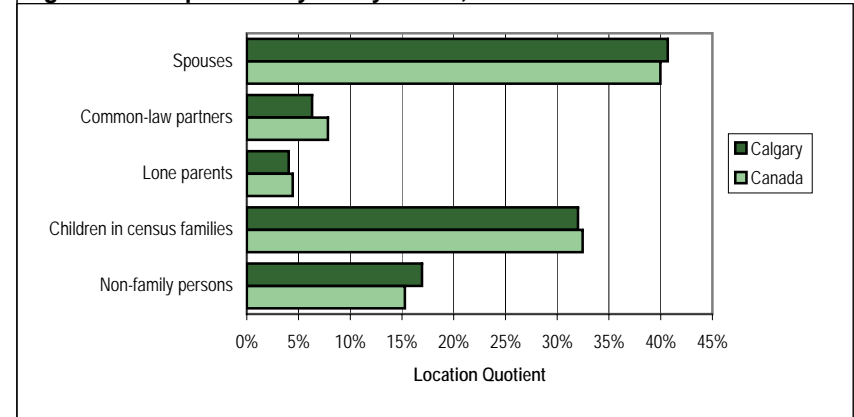


Figure 1.3 - Population by family status, 2001



2 - Migration & Population Change Calgary

Domestic Migration	Intra-provincial	Inter-provincial	Total
In-flows, 1996-2001	43,160	96,245	139,405
Out-flows, 1996-2001	36,900	45,540	82,440
Net, 1996-2001	6,260	50,705	56,965

	% Foreign born	Migrated post-1991	Migrated pre-1991
Calgary	20.8%	7.2%	13.5%
Canada	18.2%	6.1%	12.1%

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

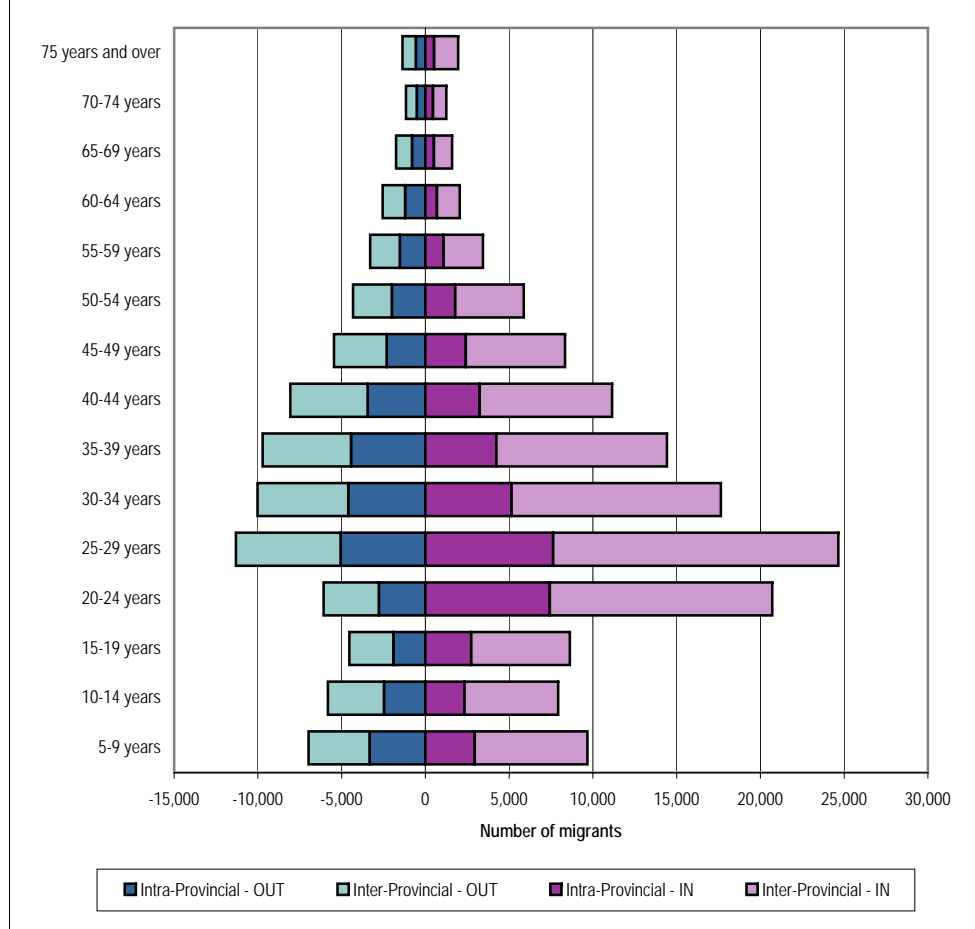


Figure 2.2 - Population by place of birth, 2001

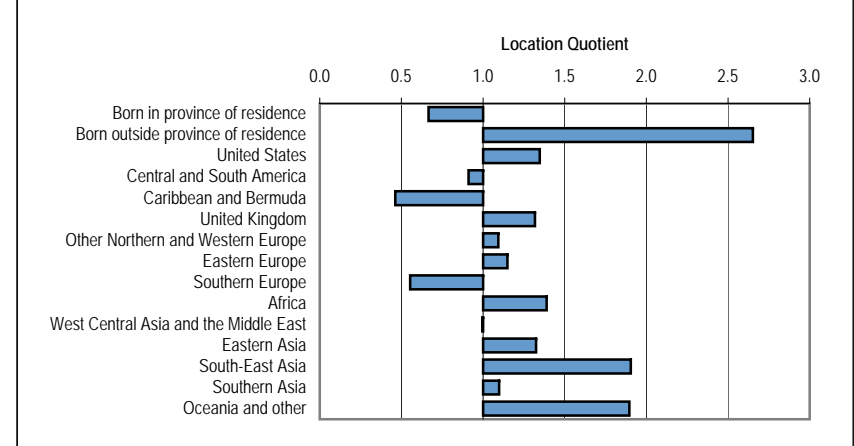
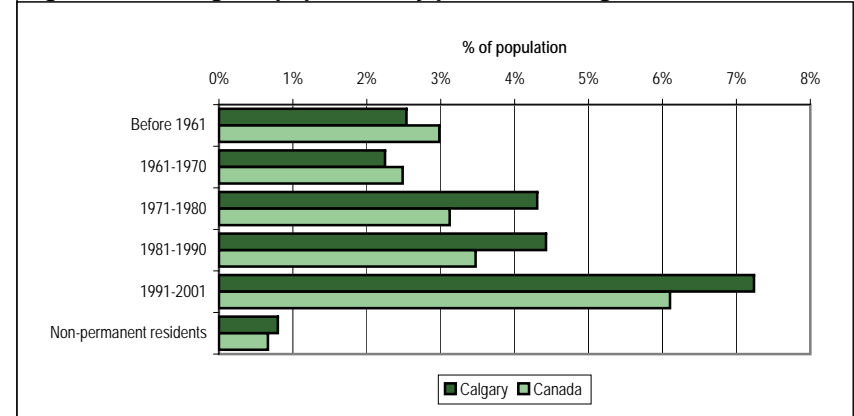


Figure 2.3 - Immigrant population by period of immigration, 2001



3 - Education

Calgary

	% College degree or higher ¹	% BA degree or higher ¹	% MA degree or higher ¹	PhDs per 1,000 ¹
Calgary	39.9%	21.1%	4.0%	6.8
Canada	32.9%	15.4%	3.2%	5.4

	Average years of schooling ¹		
	1991	1996	2001
Calgary	12.9	13.2	13.5
Canada	12.0	12.3	12.8

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

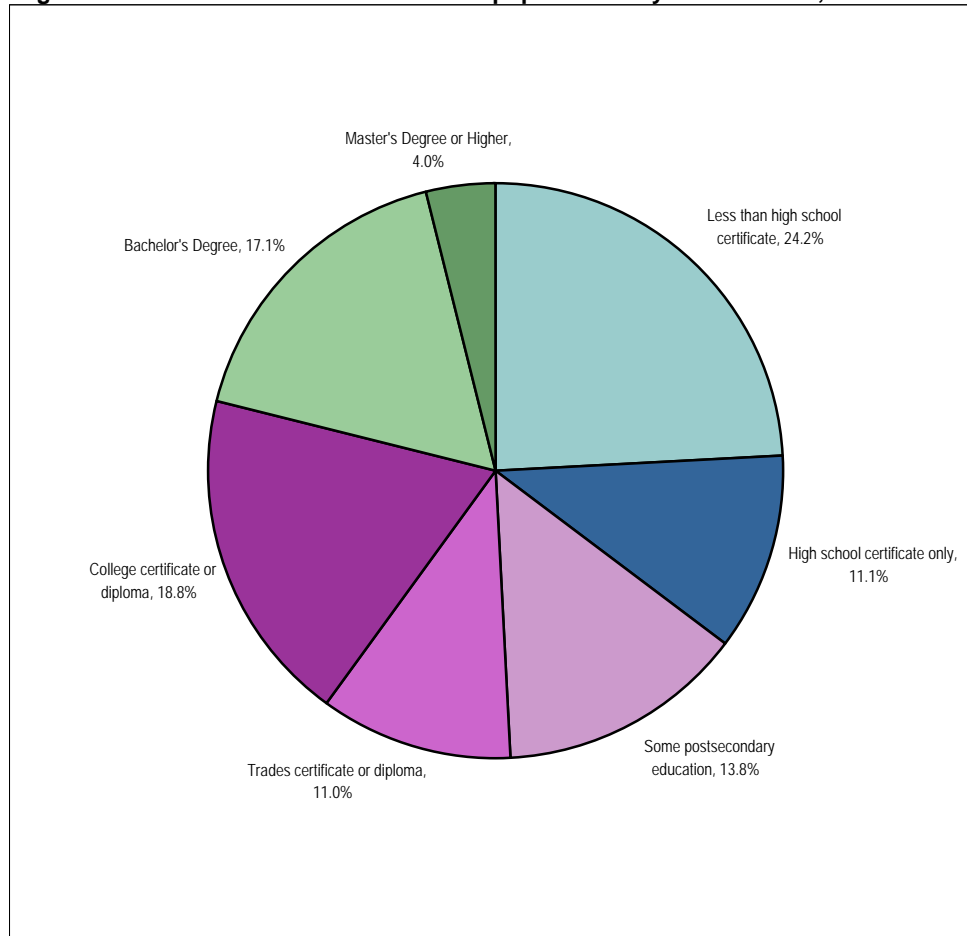


Figure 3.2 - Change in educational attainment, 1991-2001

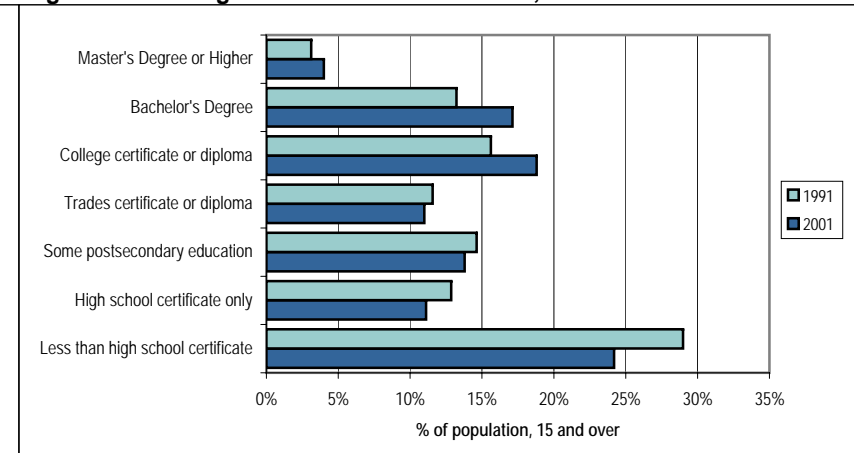
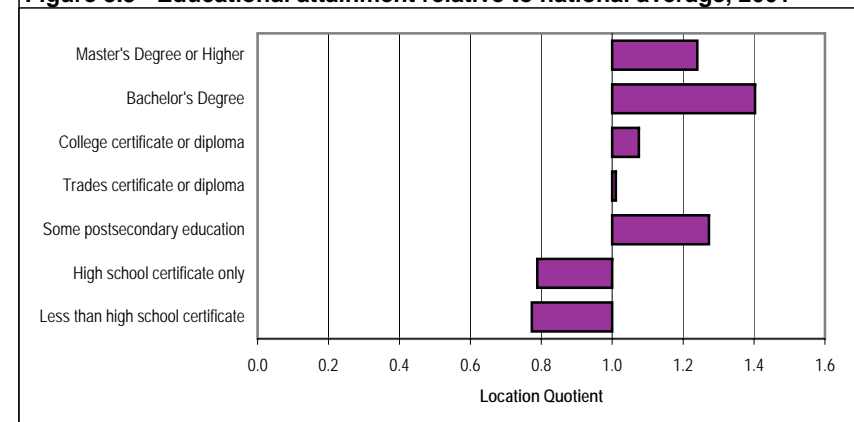


Figure 3.3 - Educational attainment relative to national average, 2001



4 - Employment

Calgary

	Employment Rate ²		Unemployment Rate ³	
	1991	2001	1991	2001
Calgary	69.8%	71.5%	8.0%	4.9%
Canada	61.0%	61.5%	10.2%	7.4%

Average hours worked per week	Female		Male	
	1991	2001	1991	2001
Calgary	34.8	35.7	41.7	43.1
Canada	34.0	34.7	41.6	42.1

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

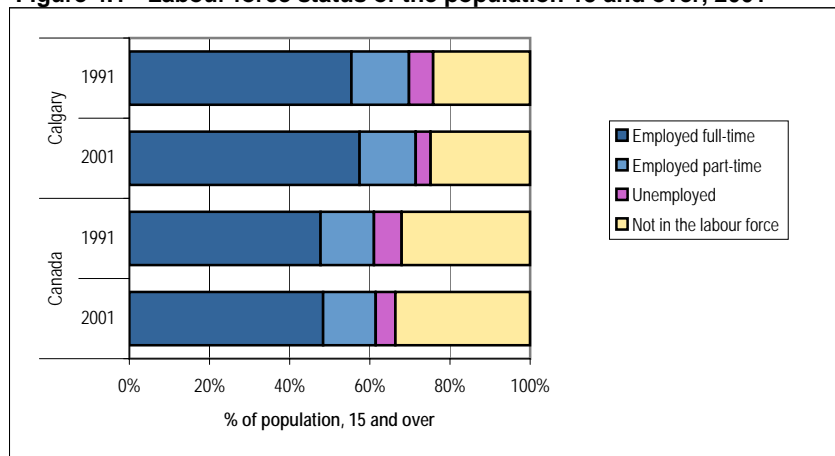


Figure 4.2 - Labour force status by gender, 2001

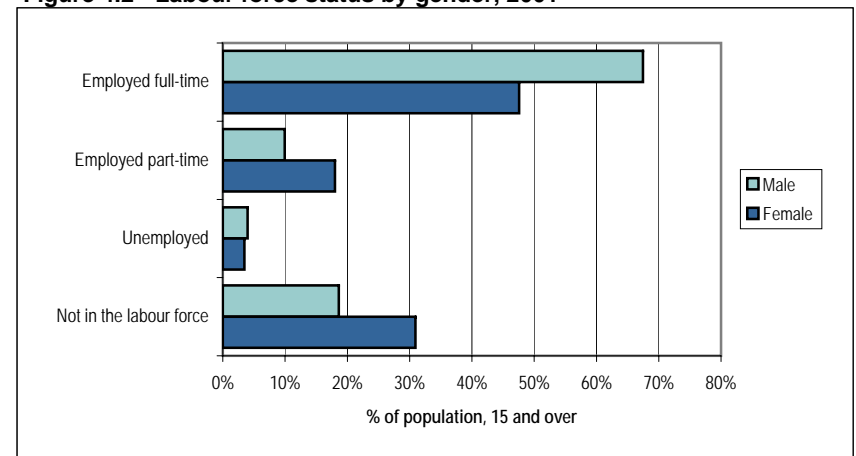


Figure 4.3 - Employment rate² by age, 2001

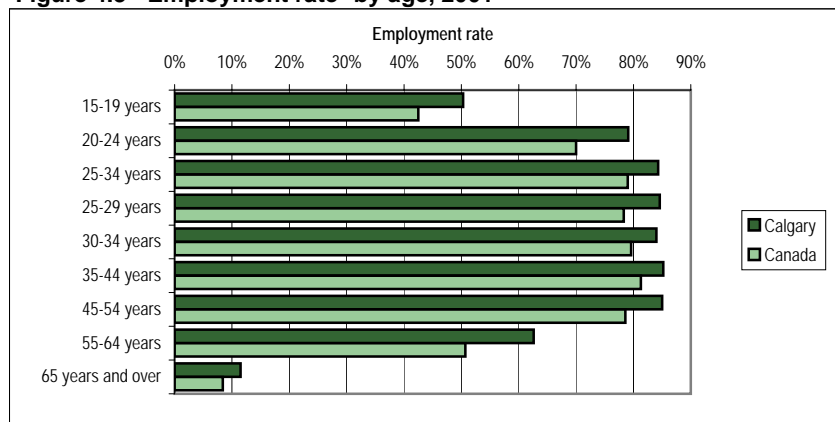
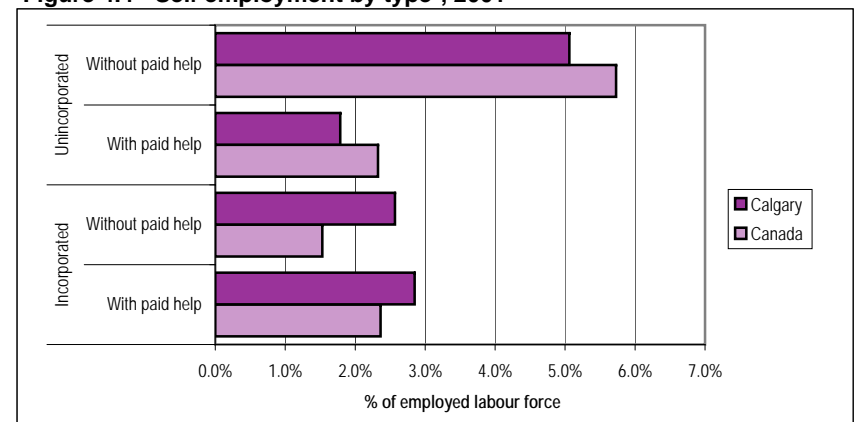


Figure 4.4 - Self employment by type⁴, 2001



5 - Occupational Structure Calgary

	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
Calgary	33.3%	31.5%	32.3%	21.4%	21.6%	24.0%	45.3%	46.9%	43.7%
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

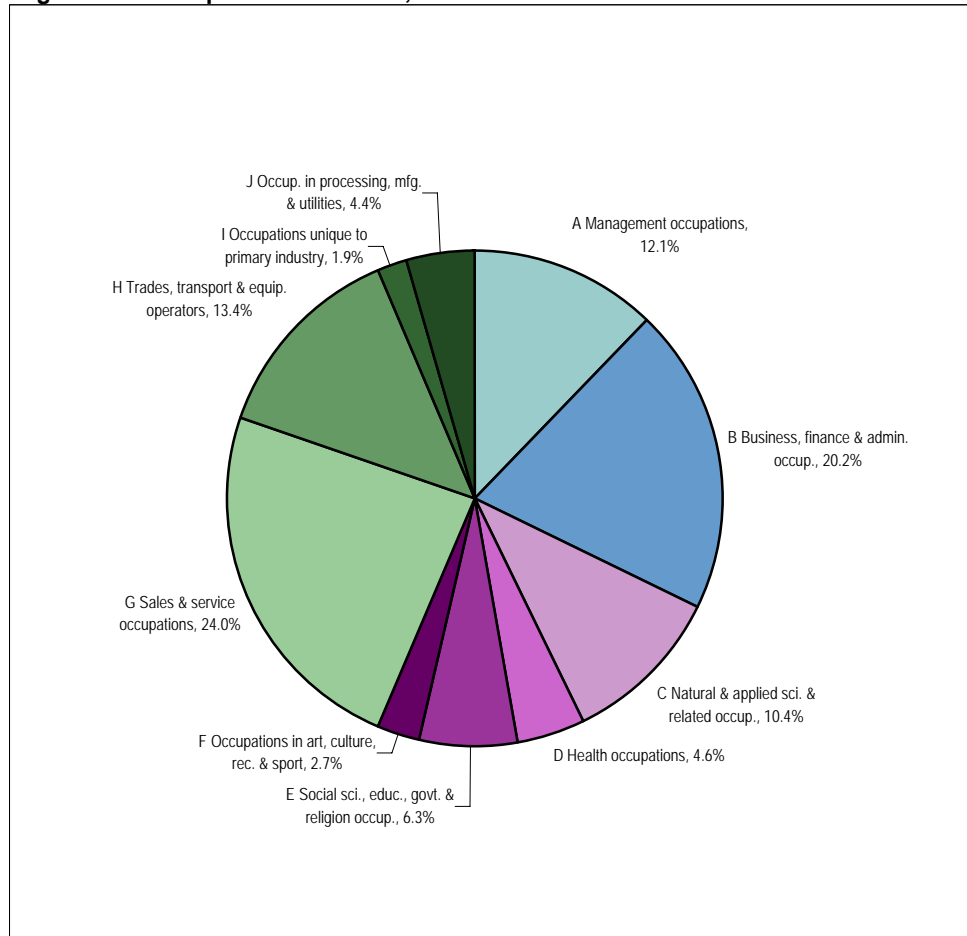
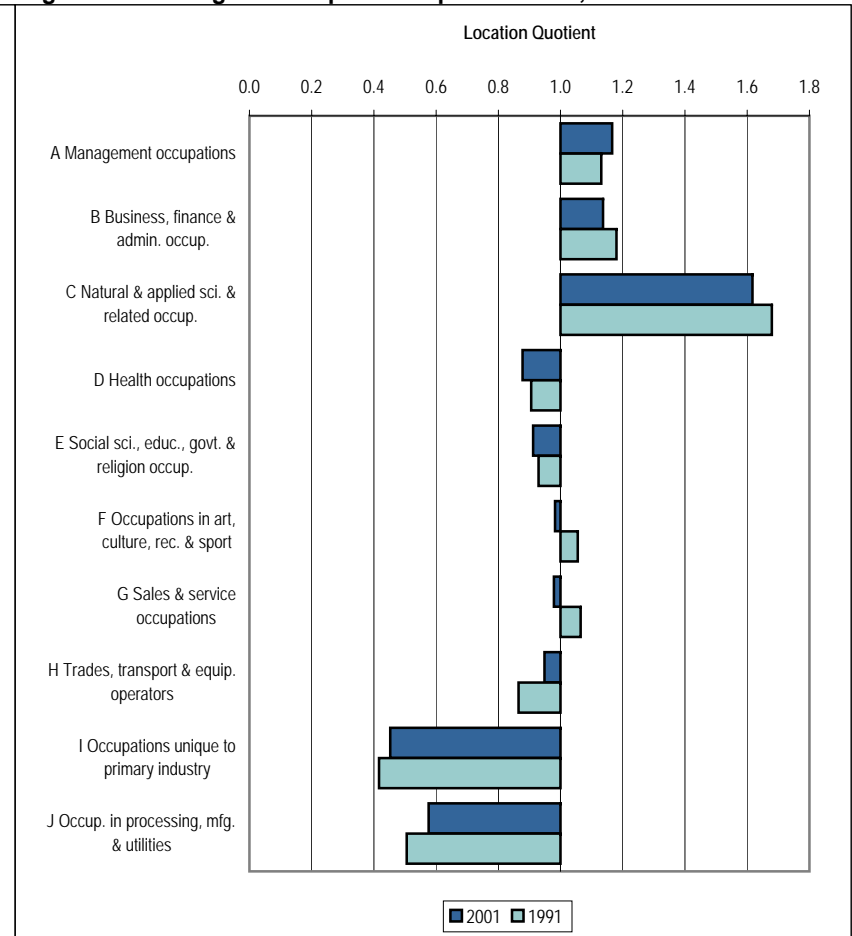


Figure 5.2 - Change in occupational specialization, 1991-2001



6 - Creative Occupations

Calgary

	Bohemians	Bohemians per 1000 ⁵	S&T Workers	% S&T Workers ⁶
Calgary	8,075	14.3	58,765	10.4%
Canada	204,305	13.1	1,003,810	6.4%

Occupational Groups ⁷	Creative	Service	Trades & Manual	Agricultural
Calgary	39.2%	41.1%	18.6%	1.1%
Canada	29.2%	42.7%	23.9%	4.3%

Figure 6.1 - Specialization in creative occupations

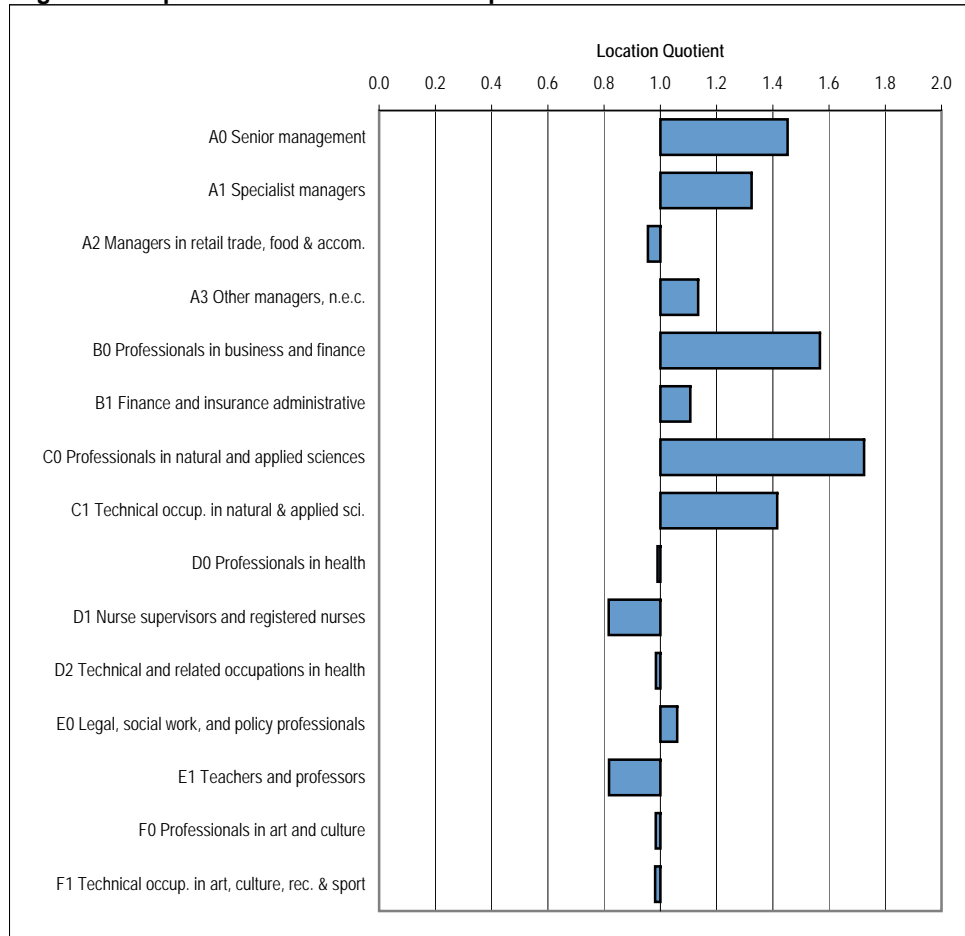


Figure 6.2 - Change in share of labour force, 1991-2001

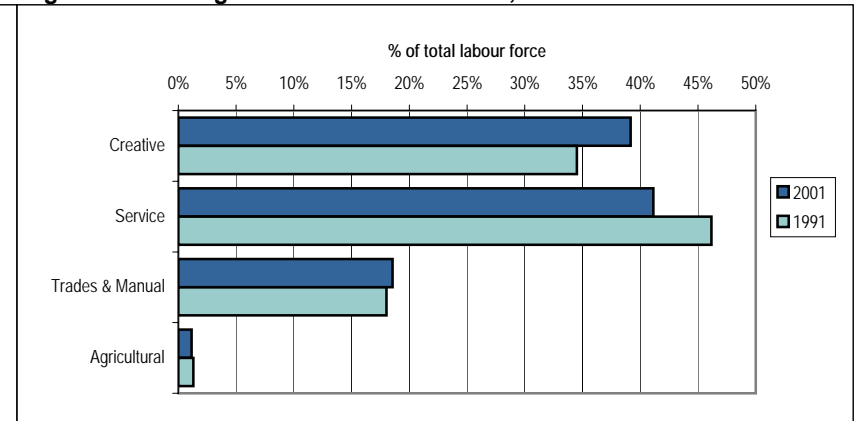
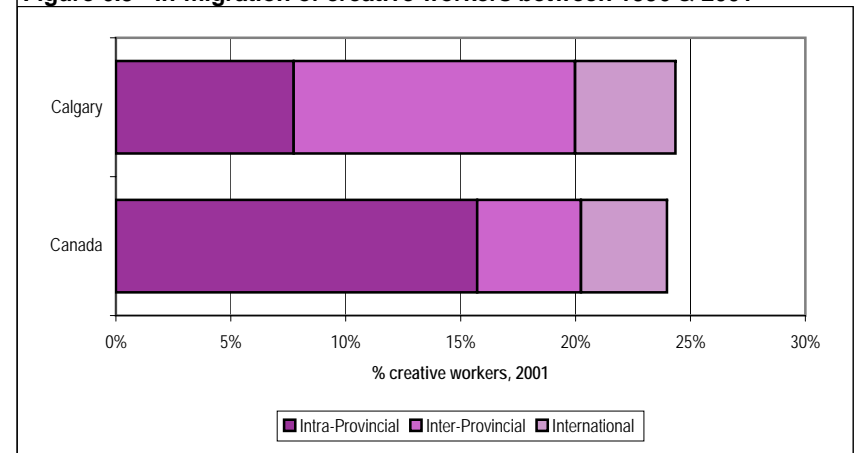


Figure 6.3 - In-migration of creative workers between 1996 & 2001



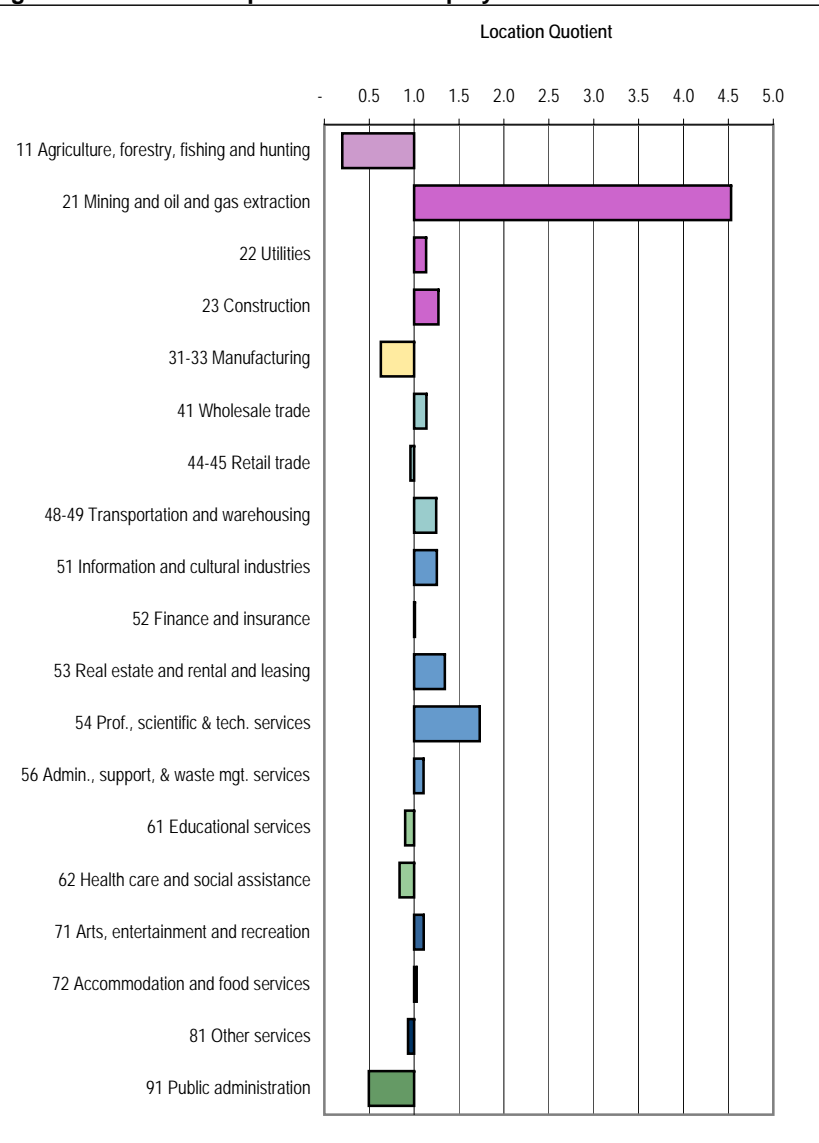
7 - Industrial Structure

Calgary

Figure 7.1 - Industry characteristics

	# Labour force	% Labour force	% BA or higher	% Creative occup.	Average income
All industries	609,885	100.0%	24.0%	39.2%	\$ 37,187
11 Agr., forestry, fish. & hunt.	4,555	0.7%	12.2%	9.3%	\$ 21,354
21 Mining & oil/gas extraction	29,535	4.8%	44.2%	64.5%	\$ 78,724
22 Utilities	5,075	0.8%	31.5%	44.2%	\$ 57,884
23 Construction	42,795	7.0%	7.6%	20.8%	\$ 37,126
31-33 Manufacturing	52,520	8.6%	14.7%	26.5%	\$ 37,988
41 Wholesale trade	29,870	4.9%	16.9%	33.5%	\$ 43,840
44-45 Retail trade	67,035	11.0%	11.1%	22.4%	\$ 22,688
48-49 Transport & warehousing	36,880	6.0%	12.5%	21.1%	\$ 39,115
51 Information & cultural ind.	20,295	3.3%	26.2%	53.4%	\$ 43,387
52 Finance and insurance	24,690	4.0%	28.9%	53.1%	\$ 49,639
53 Real estate/rental & leasing	13,480	2.2%	18.4%	31.7%	\$ 39,359
54 Prof., sci. & tech. services	65,205	10.7%	45.7%	76.5%	\$ 53,055
55 Mgmt. of companies	1,150	0.2%	38.1%	67.4%	\$ 62,875
56 Admin./support, & wst. mgt.	26,835	4.4%	12.4%	15.9%	\$ 23,936
61 Educational services	36,235	5.9%	60.2%	70.3%	\$ 34,046
62 Health care & soc. assist.	49,360	8.1%	33.2%	49.1%	\$ 32,926
71 Arts, entertainment & rec.	14,240	2.3%	18.2%	45.3%	\$ 18,347
72 Accom. & food services	44,690	7.3%	7.0%	16.3%	\$ 14,750
81 Other services	27,665	4.5%	14.9%	23.7%	\$ 23,872
91 Public administration	17,770	2.9%	31.7%	40.4%	\$ 43,055

Figure 7.2 - Industrial specialization - Employment



8 - Clusters Calgary

Number of clusters⁸ 10
 % employment in clusters⁸ 39.3%
 % establishments in clusters⁸ 46.0%

Figure 8.1 - Cluster characteristics, 2001⁸

	# Labour force	Labour force LQ	% Industry LQs > 1	Cluster (yes/no)
<i>Resource-based</i>				
Agriculture	14,820	0.57	40.0%	NO
Mining	14,675	1.59	50.0%	YES
Oil and Gas	32,745	5.03	100.0%	YES
Wood & Wood Products	4,685	0.36	20.0%	NO
Maritime	1,020	0.19	11.1%	NO
<i>Manufacturing</i>				
Textiles & Apparel	1,585	0.23	0.0%	NO
Food	14,865	0.94	33.3%	NO
Steel	10,115	0.86	33.3%	NO
Automotive	4,595	0.28	7.7%	NO
Plastics & Rubber	8,285	0.55	7.1%	NO
Biomedical	4,650	0.98	50.0%	NO
ICT Manufacturing	10,405	1.18	66.7%	YES
<i>Service-based</i>				
ICT Services	31,420	1.38	77.8%	YES
Finance	34,495	1.13	73.3%	YES
Business Services	73,685	1.57	81.3%	YES
Creative & Cultural	17,910	1.12	62.5%	YES
Higher Education	14,090	1.07	62.5%	YES
<i>Other</i>				
Construction	36,870	1.98	100.0%	YES
Logistics	34,980	1.25	65.4%	YES

Figure 8.2 - Employment by industry category, 2001⁹

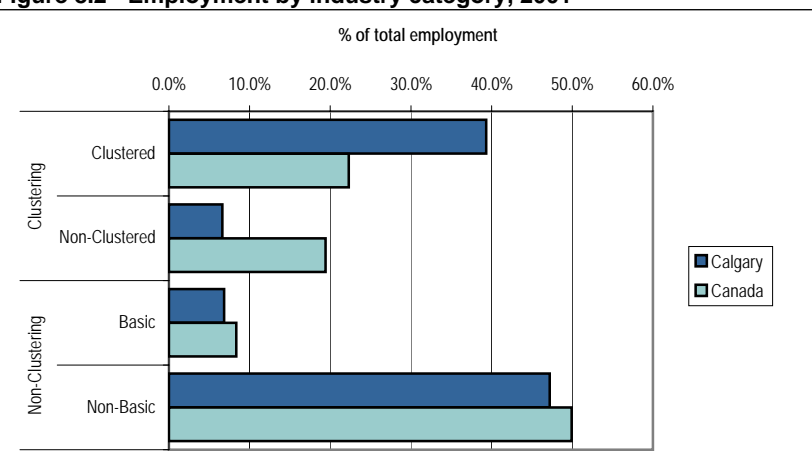
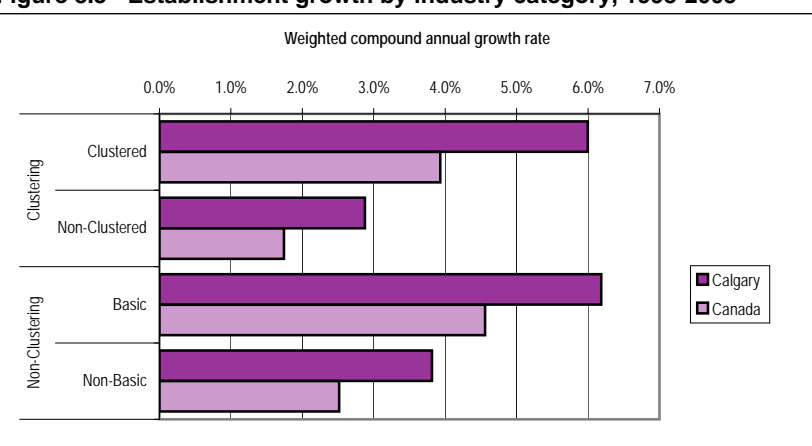


Figure 8.3 - Establishment growth by industry category, 1998-2005^{9,10}



9 - Establishments

Calgary

	Establishments		
	1998	2005	Growth ¹¹
Calgary	38,017	45,168	2.49%
Canada	1,001,517	1,048,286	0.65%

	Less than 5 emp.	5 to 199 emp.	More than 500 emp.
	Calgary	54.7%	44.2%
Canada	56.5%	42.5%	2,916

Figure 9.1 - Establishment growth by industry, 1998-2005¹¹

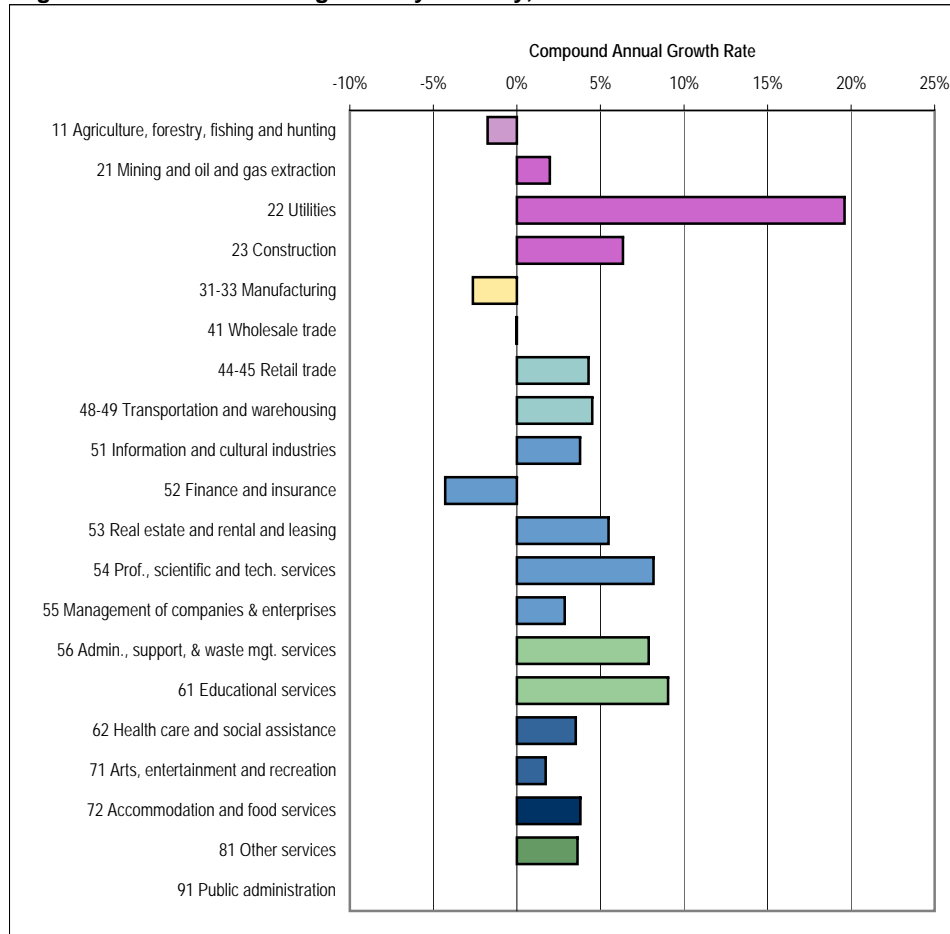


Figure 9.2 - Industrial specialization - Establishments, 2005

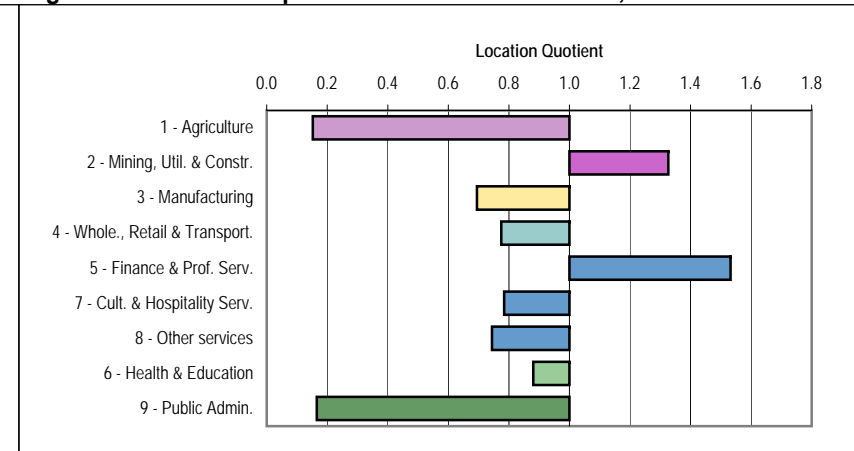
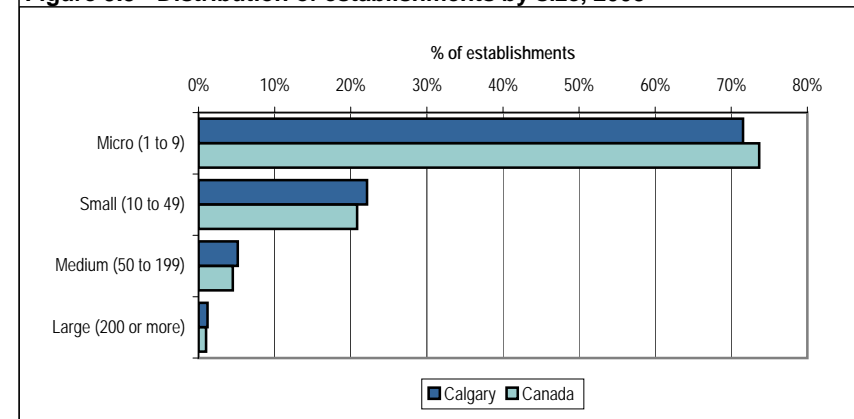


Figure 9.3 - Distribution of establishments by size, 2005



10 - Income Calgary

Household income ¹²	Average	Median	% below LICO ¹³
Calgary	\$ 74,042	\$ 58,861	14.1
Canada	\$ 58,360	\$ 46,752	16.2

Individual income ¹²	Average total	Average emp.
Calgary	\$ 35,693	\$ 36,851
Canada	\$ 29,769	\$ 31,757

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

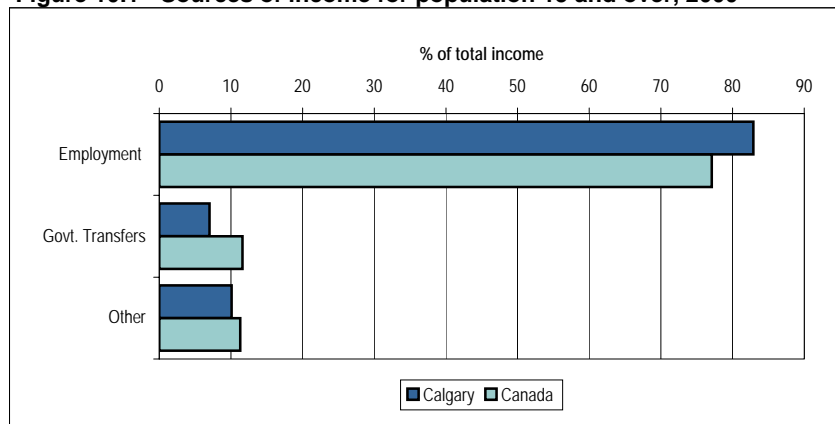


Figure 10.2 - Distribution of total income for pop. 15 and over, 2000

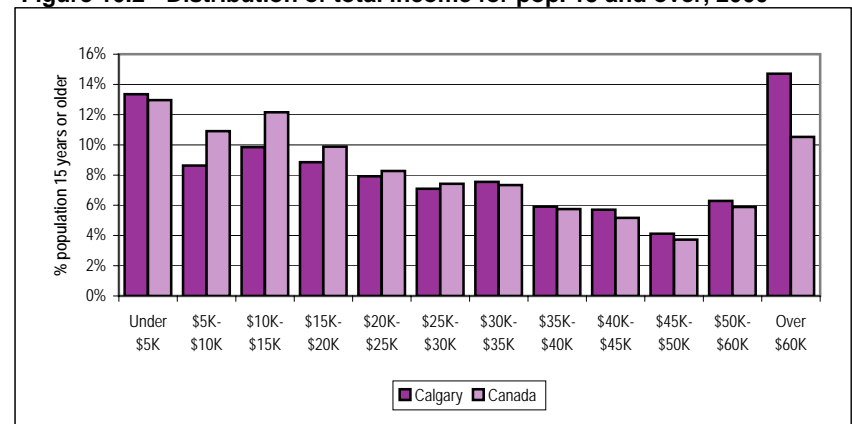


Figure 10.3 - Distribution of household income, 2000

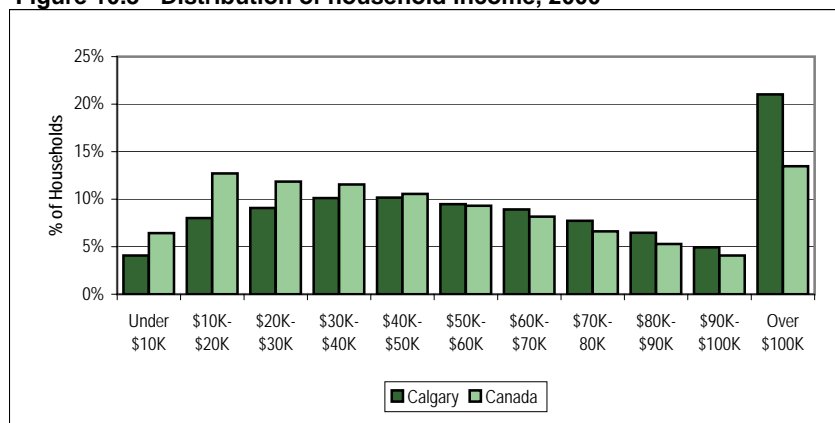
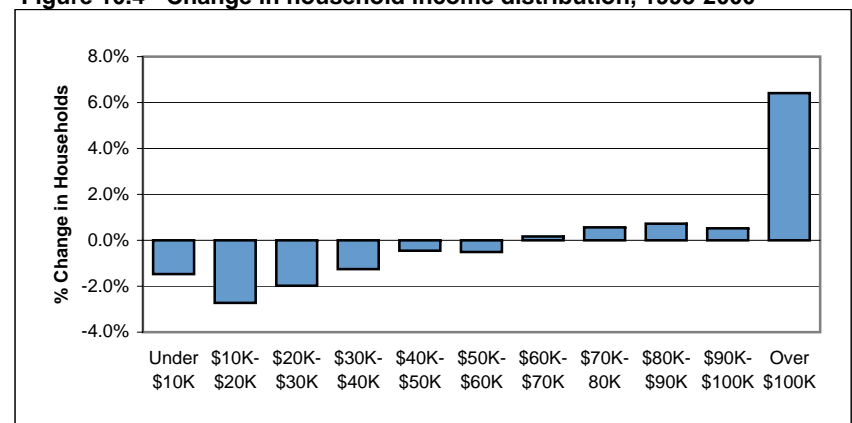


Figure 10.4 - Change in household income distribution, 1995-2000*



*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.

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