

**Innovation Systems Research Network
City-Region Profile, 2006**

Calgary

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Summary and Highlights

| Key Indicators | Calgary | Canada |
|------------------------------------|----------------|---------------|
| Population, 2006 | 1,079,300 | 31,612,890 |
| Population Change, 2001-2006 | 13.4% | 5.4% |
| % Foreign Born | 23.6% | 19.8% |
| % BA Degree or higher | 24.7% | 18.1% |
| # Employed | 631,385 | 15,958,195 |
| Employment Growth 1996-2006 | 42.9% | 19.8% |
| Employment Rate | 72.5% | 62.4% |
| Unemployment Rate | 4.0% | 6.6% |
| % 'Creative' occupations | 40.2% | 33.2% |
| % Science & Tech. Occupations | 11.2% | 6.6% |
| 'Bohemians' per 1,000 Labour Force | 15.1 | 14.2 |
| Number of Industrial Clusters | 7 | 255 |
| % Employment in Clusters | 42.0% | 22.1% |
| Average FT Employment Income | \$ 66,909 | \$ 51,221 |
| % Change Average Income 2000-2005 | 21.0% | 5.5% |

1 - Demographics Calgary

| Population | 2001 | 2006 | % Change 2001-2006 |
|----------------|------------|------------|-----------------------|
| Calgary | 951,535 | 1,079,300 | 13.4% |
| Canada | 30,007,085 | 31,612,890 | 5.4% |

| Age Groups | Under 15 | 15 to 64 | 65 and over | % 15 to 64 |
|----------------|-----------|------------|-------------|------------|
| Calgary | 288,385 | 623,695 | 101,225 | 61.6% |
| Canada | 9,800,715 | 17,476,925 | 4,335,250 | 55.3% |

Figure 1.1 - Population by age and gender, 2006

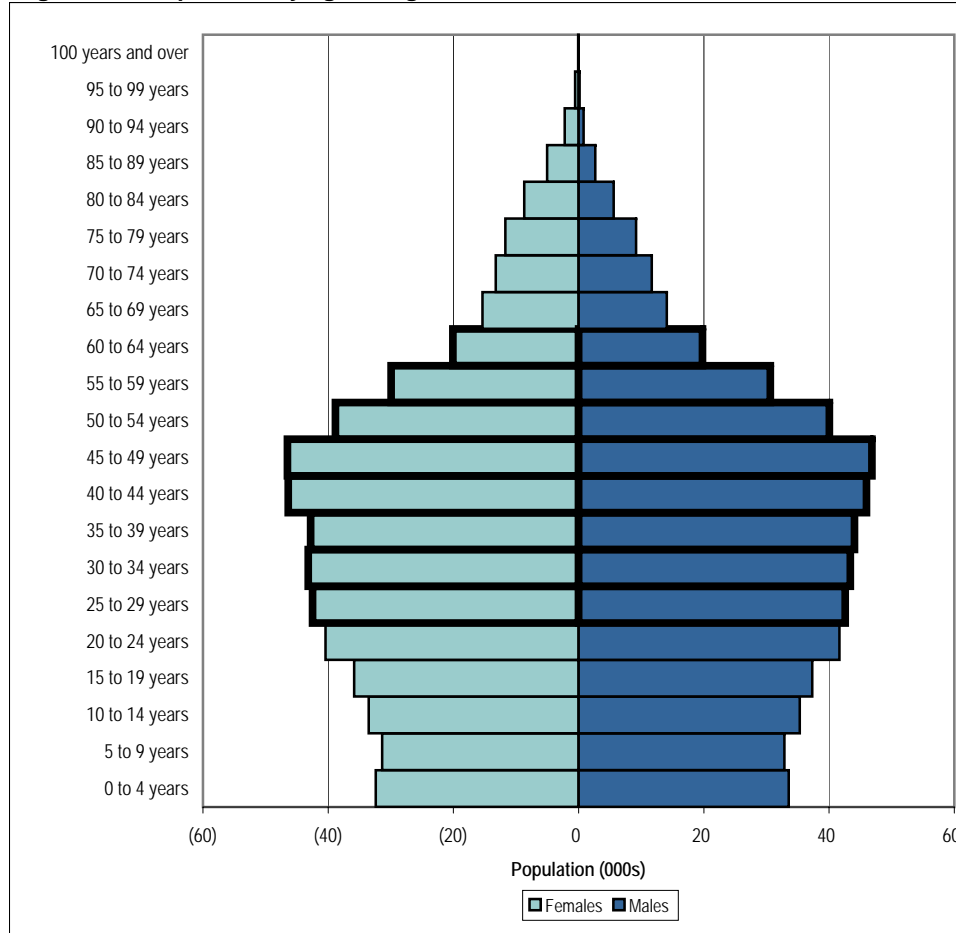


Figure 1.2 - Population by age group, 2001-2006

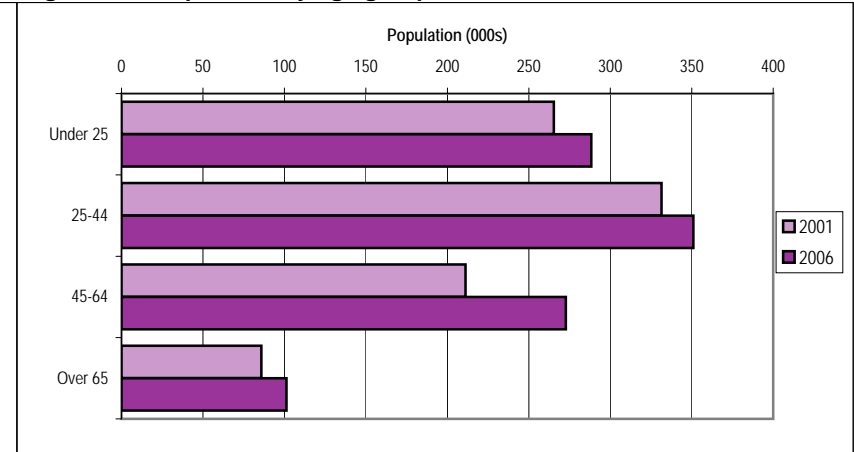
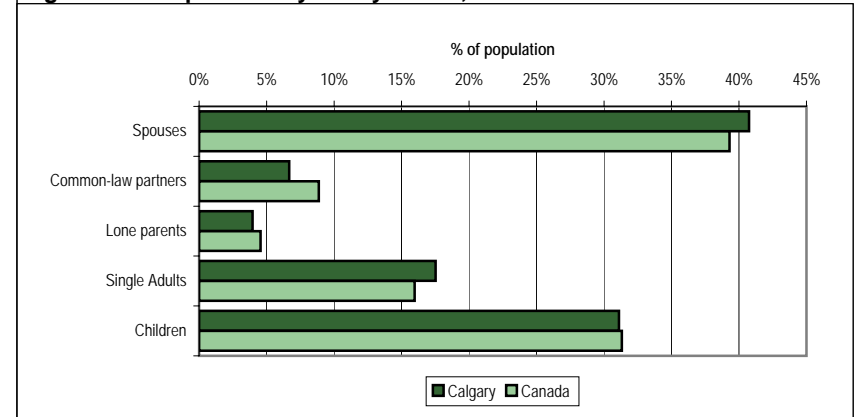


Figure 1.3 - Population by family status, 2006



2 - Migration & Population Change

Calgary

| Domestic Migration | Intra-provincial | Inter-provincial | Total |
|-----------------------------|------------------|------------------|---------|
| In-flows, 2001-2006 | 38,680 | 80,400 | 119,080 |
| Out-flows, 2001-2006 | 39,370 | 52,490 | 91,860 |
| Net, 2001-2006 | (690) | 27,910 | 27,220 |

| | % Foreign born | Migrated post-1991 | Migrated pre-1991 |
|----------------|----------------|--------------------|-------------------|
| Calgary | 23.6% | 11.7% | 11.9% |
| Canada | 19.8% | 8.9% | 10.9% |

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

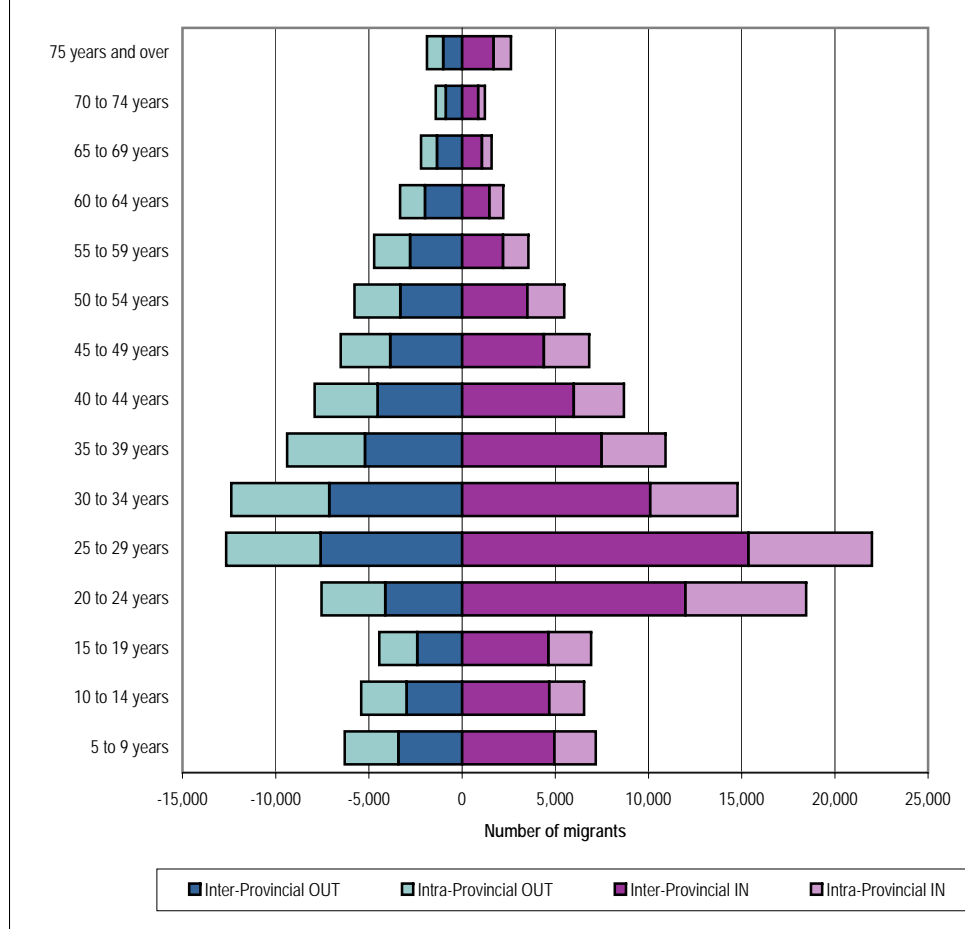


Figure 2.2 - Population by place of birth, 2006

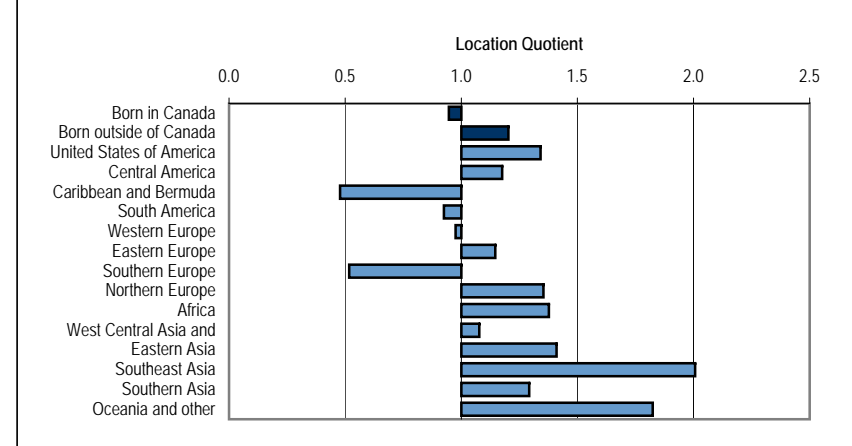
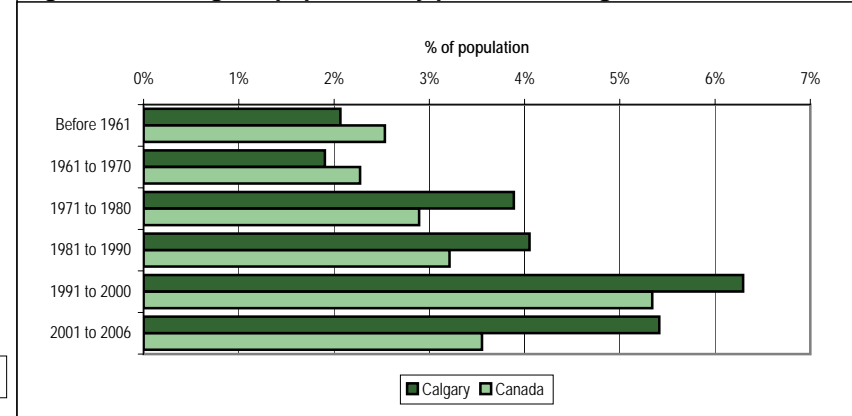


Figure 2.3 - Immigrant population by period of immigration, 2006



3 - Education

Calgary

| | % College degree or higher ¹ | % BA degree or higher ¹ | % MA degree or higher ¹ | PhDs per 1,000 ¹ |
|----------------|---|------------------------------------|------------------------------------|-----------------------------|
| Calgary | 47.7% | 24.7% | 5.7% | 7.9 |
| Canada | 39.8% | 18.1% | 4.6% | 6.9 |

| | % BA degree or higher | |
|----------------|-----------------------|-------|
| | 2001 | 2006 |
| Calgary | 21.1% | 24.7% |
| Canada | 15.4% | 18.1% |

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

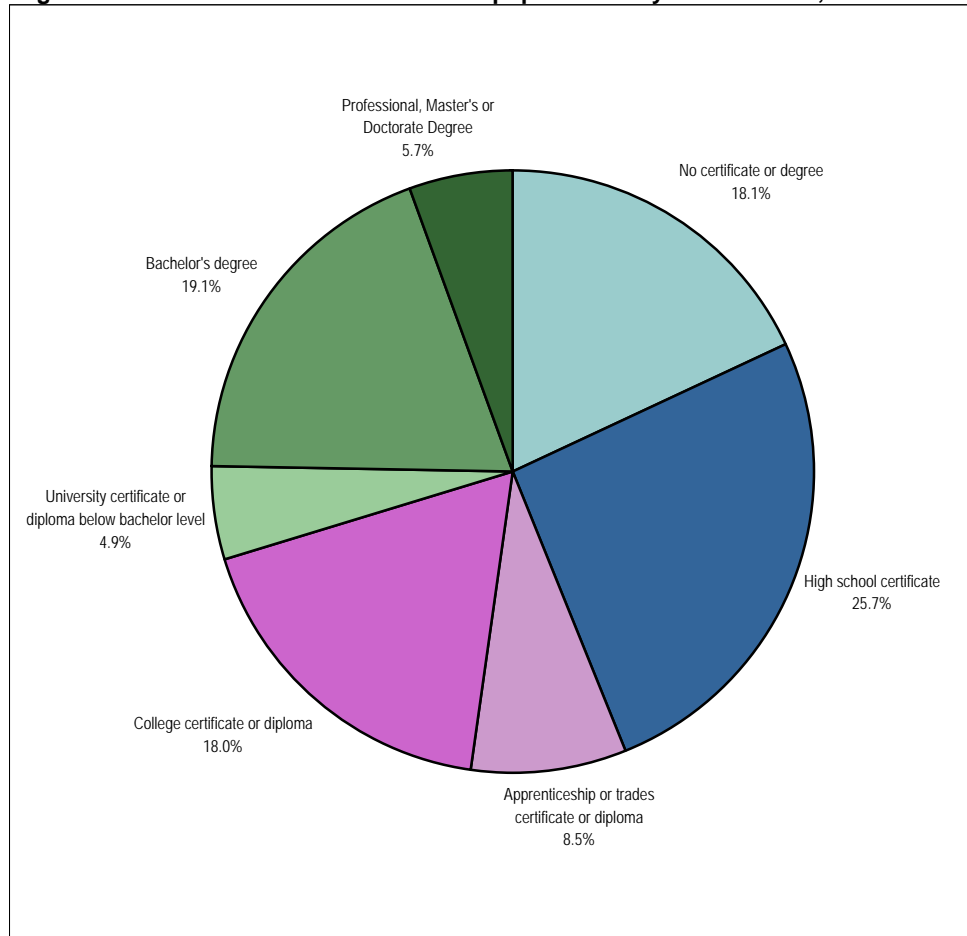


Figure 3.2 - Location of study for highest qualification, 2006

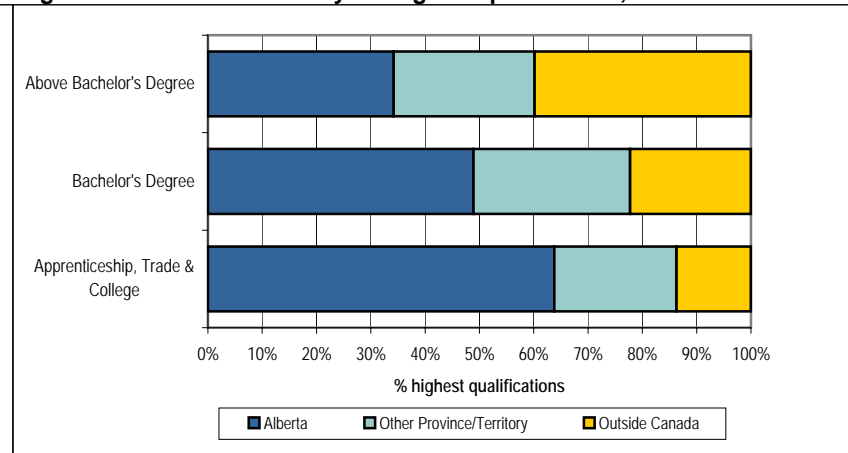
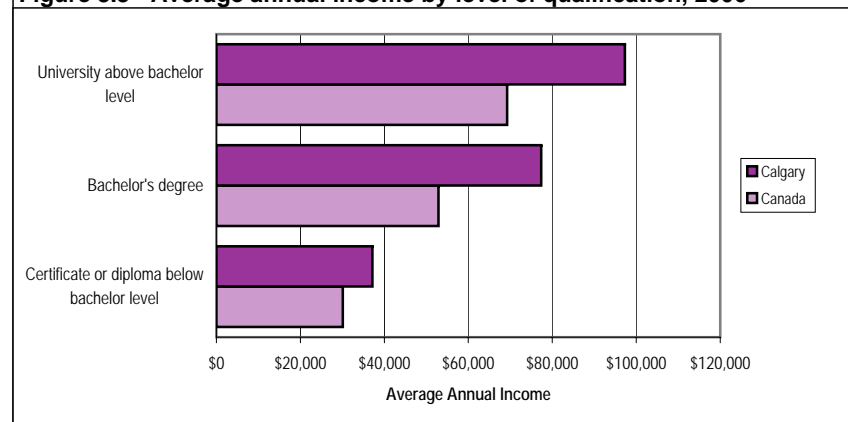


Figure 3.3 - Average annual income by level of qualification, 2006



4 - Employment Calgary

| | Employment Rate | | |
|----------------|-----------------|-------|-------|
| | 1996 | 2001 | 2006 |
| Calgary | 69.1% | 71.5% | 72.5% |
| Canada | 58.9% | 61.5% | 62.4% |

| | Unemployment Rate | | |
|----------------|-------------------|------|------|
| | 1996 | 2001 | 2006 |
| Calgary | 6.6% | 4.9% | 4.0% |
| Canada | 10.1% | 7.4% | 6.6% |

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

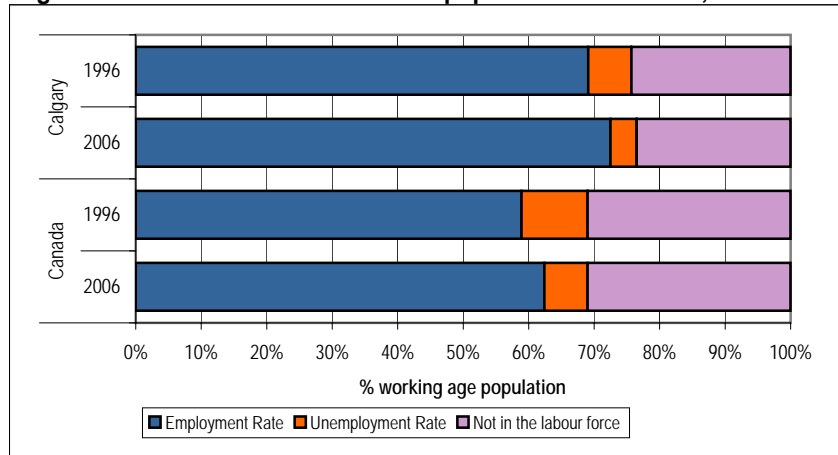


Figure 4.2 - Employment Rate by Educational Attainment, 2006

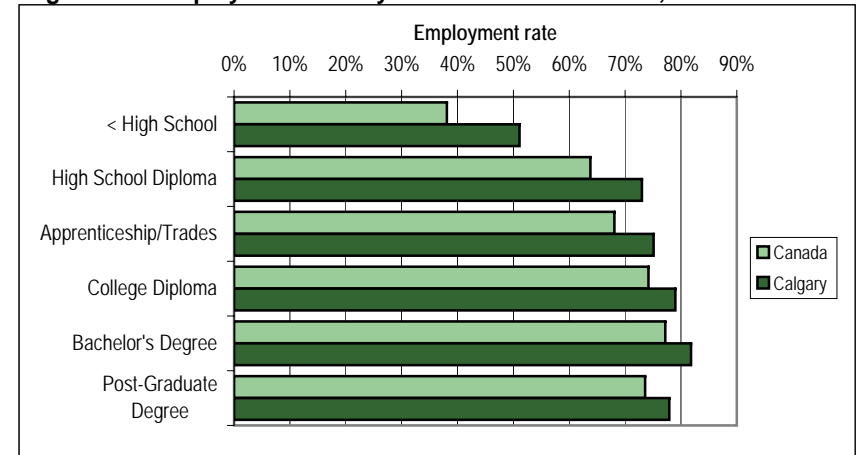


Figure 4.3 - Employment rate² by age, 2006

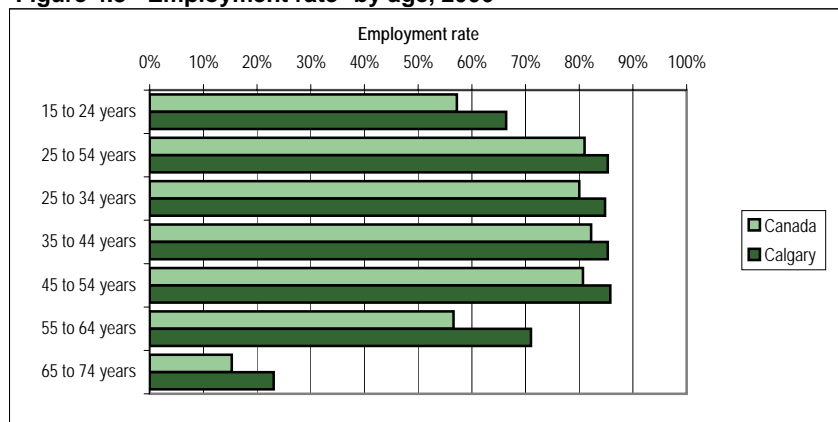
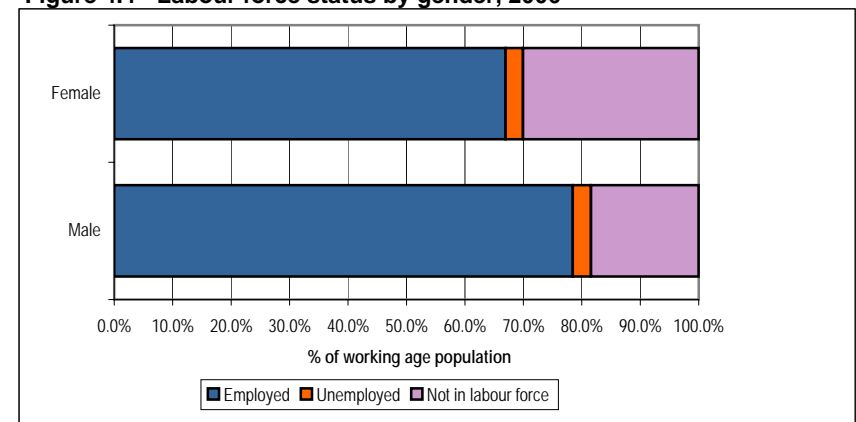


Figure 4.4 - Labour force status by gender, 2006



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 | | |
|----------------|--|-------|-------|--|-------|-------|---|-------|-------|
| | 1996 | 2001 | 2006 | 1996 | 2001 | 2006 | 1996 | 2001 | 2006 |
| Calgary | 31.5% | 32.3% | 31.3% | 21.6% | 24.0% | 25.8% | 46.9% | 43.7% | 42.9% |
| 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

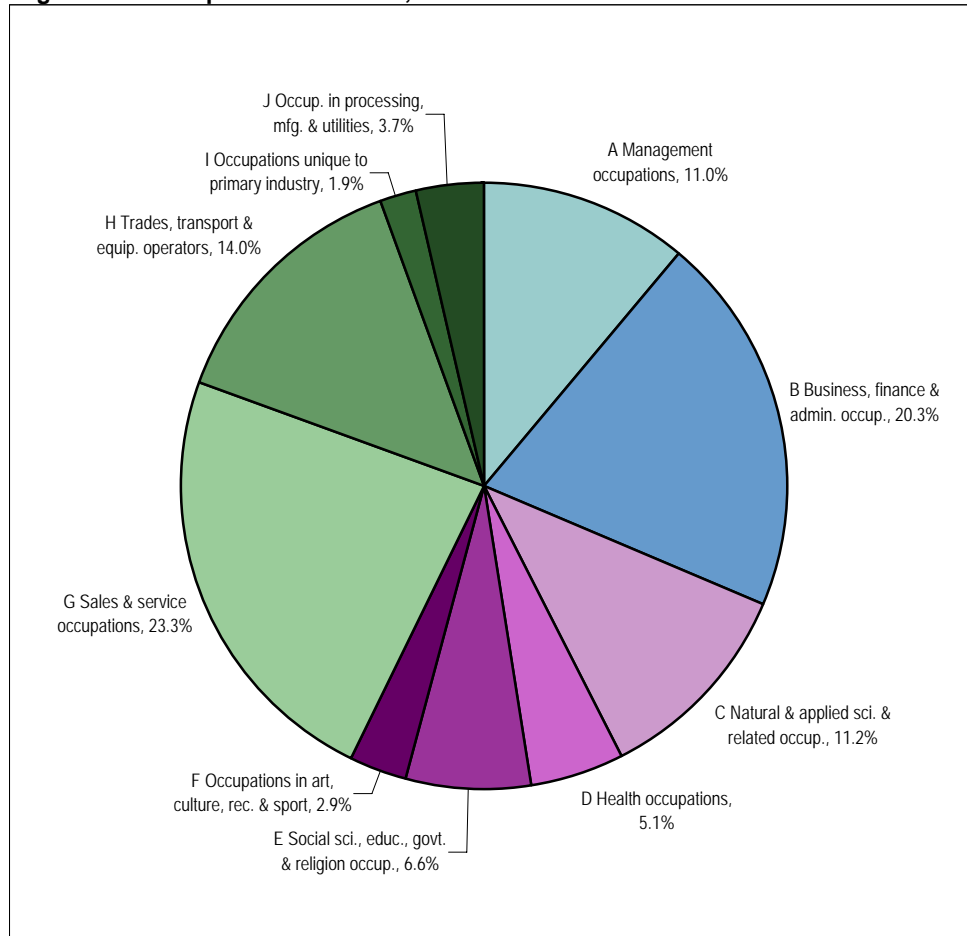
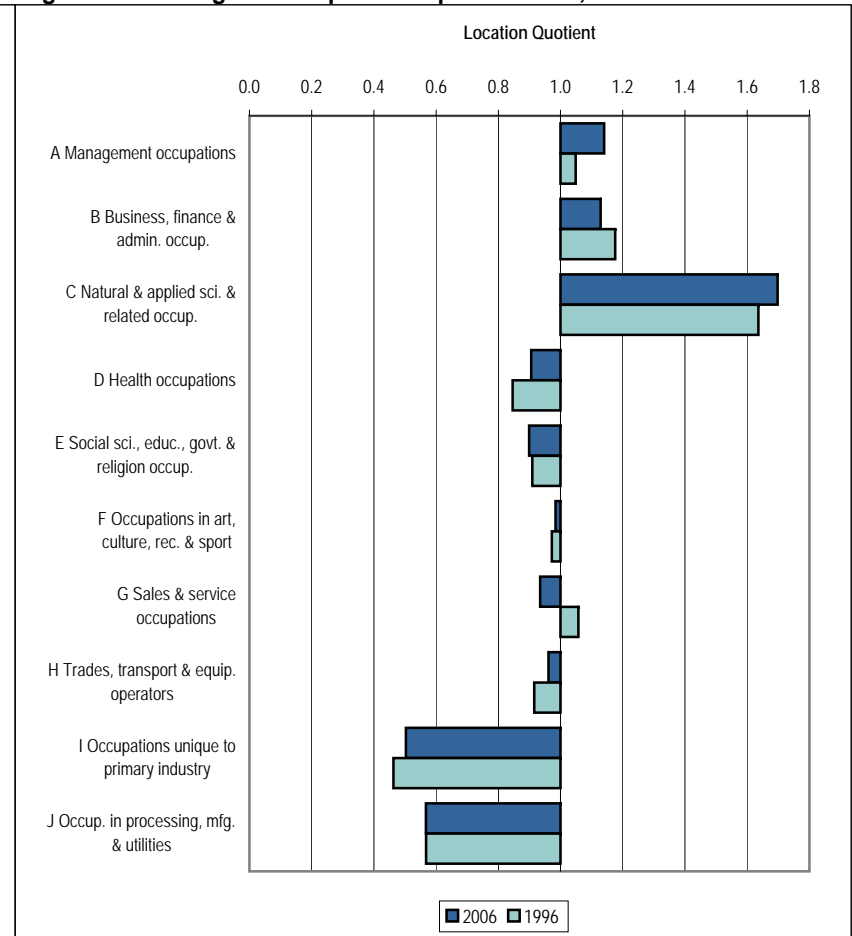


Figure 5.2 - Change in occupational specialization, 1996-2006



6 - Creative Occupations

Calgary

| | Bohemians | Bohemians per 1000 ⁵ | S&T Workers | % S&T Workers ⁶ |
|----------------|-----------|---------------------------------|-------------|----------------------------|
| Calgary | 9,885 | 15.1 | 72,900 | 11.2% |
| Canada | 240,170 | 14.2 | 1,108,050 | 6.6% |

| Occupational Groups ⁷ | Creative | Service | Trades & Manual | Agricultural & Resources |
|----------------------------------|----------|---------|-----------------|--------------------------|
| Calgary | 40.2% | 40.3% | 18.5% | 1.1% |
| Canada | 33.2% | 41.9% | 21.9% | 2.9% |

Figure 6.1 - Specialization in creative occupations

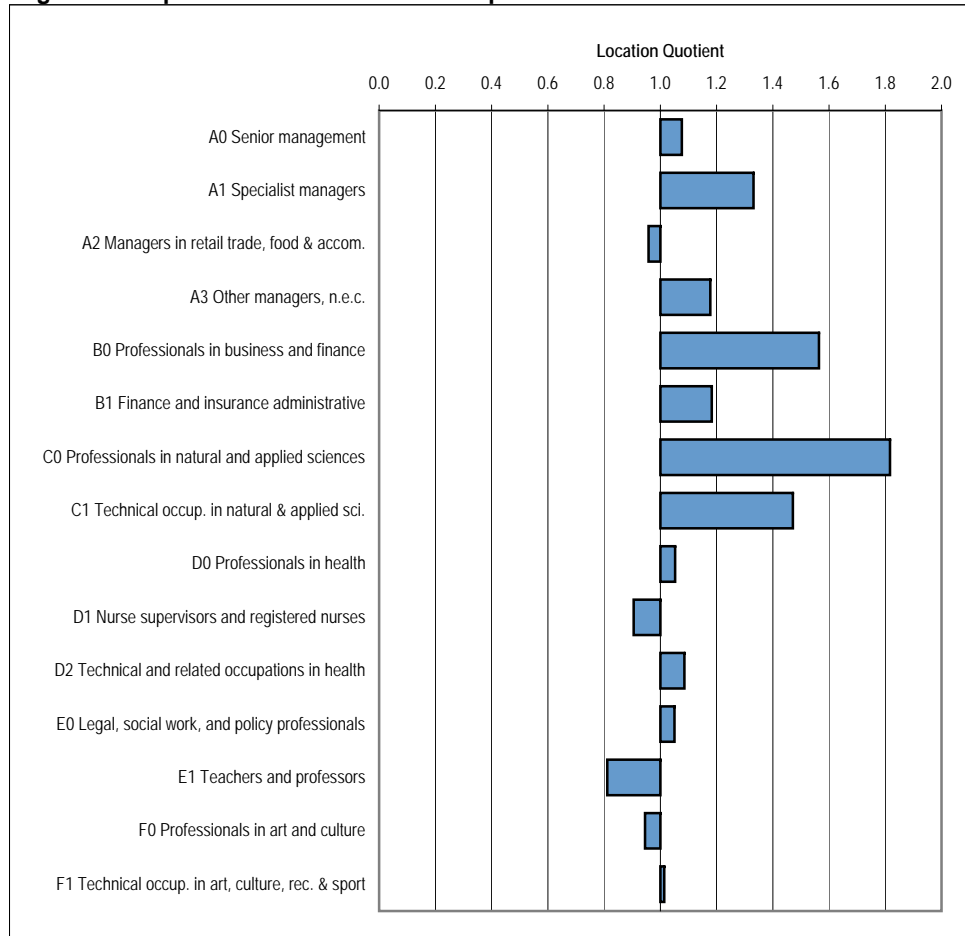


Figure 6.2 - Change in share of labour force, 1996-2006

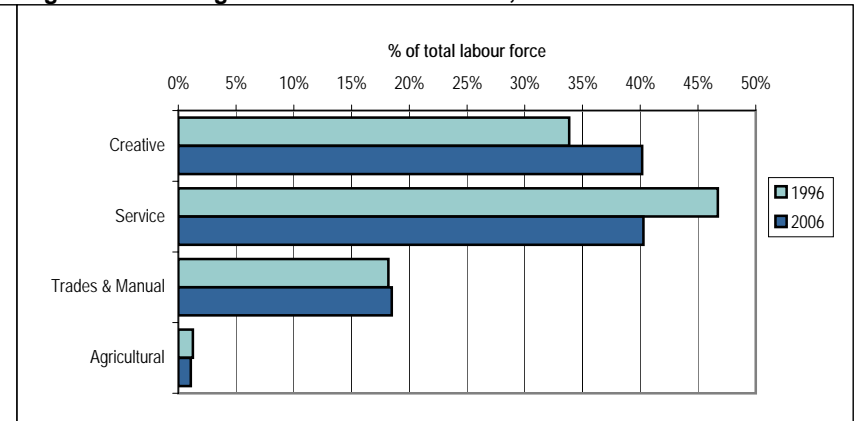
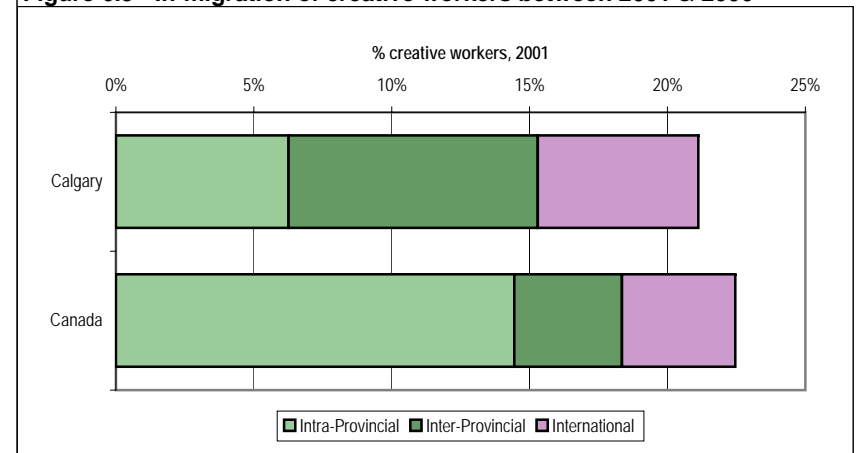


Figure 6.3 - In-migration of creative workers between 2001 & 2006



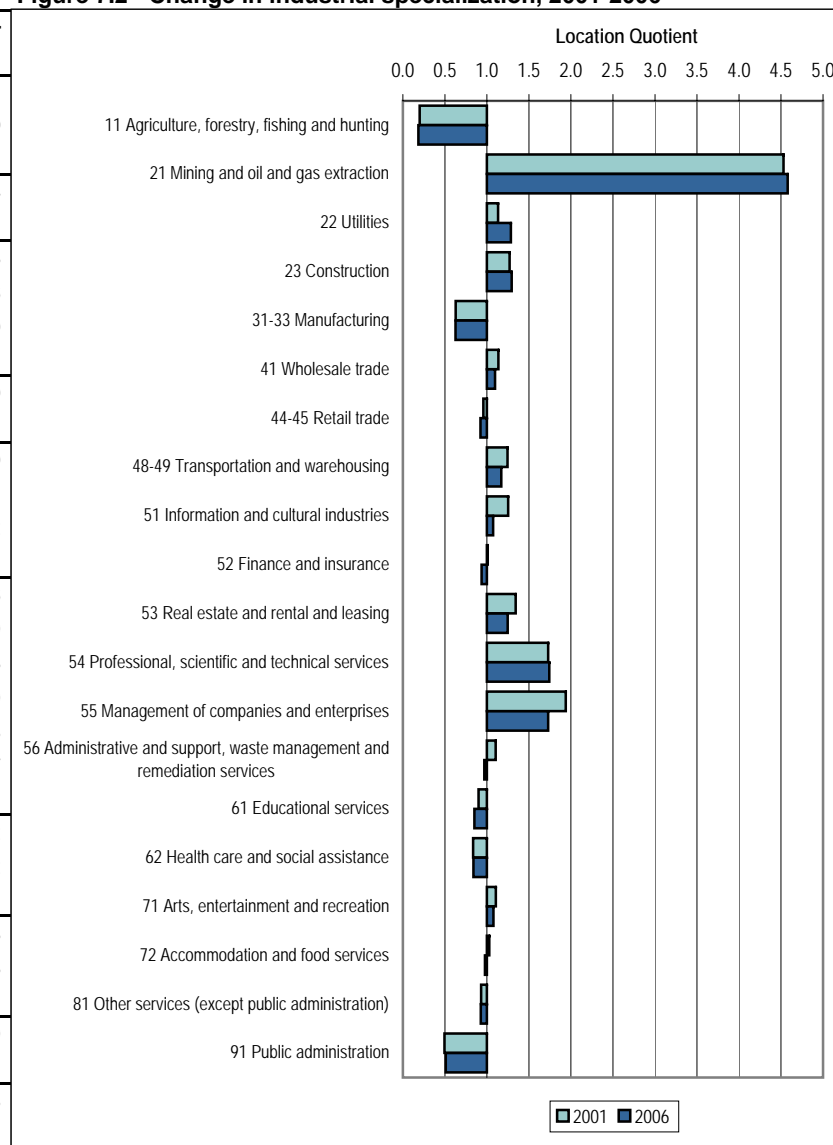
7 - Industrial Structure

Calgary

Figure 7.1 - Industry characteristics

| | # Labour force | % Labour force | % Change 2001-2006 | % BA or higher | Average FT income |
|----------------------------------|----------------|----------------|--------------------|----------------|-------------------|
| All industries | 653,505 | 100.0% | 15.9% | 27.6% | \$ 66,909 |
| 11 Agr., forestry, fish. & hunt. | 3,755 | 0.6% | -8.5% | 14.0% | \$ 36,244 |
| 21 Mining & oil/gas extraction | 42,390 | 6.5% | 52.0% | 46.5% | \$ 144,413 |
| 22 Utilities | 6,625 | 1.0% | 35.9% | 34.9% | \$ 87,646 |
| 23 Construction | 53,670 | 8.2% | 32.7% | 8.7% | \$ 56,920 |
| 31-33 Manufacturing | 48,665 | 7.4% | -1.7% | 17.1% | \$ 57,630 |
| 41 Wholesale trade | 31,445 | 4.8% | 11.2% | 20.5% | \$ 75,940 |
| 44-45 Retail trade | 68,570 | 10.5% | 12.6% | 13.2% | \$ 44,651 |
| 48-49 Transport & warehousing | 37,235 | 5.7% | 6.7% | 13.9% | \$ 56,392 |
| 51 Information & cultural ind. | 17,360 | 2.7% | -8.3% | 29.9% | \$ 64,666 |
| 52 Finance and insurance | 25,035 | 3.8% | 7.8% | 33.4% | \$ 93,809 |
| 53 Real estate/rental & leasing | 14,660 | 2.2% | 16.3% | 23.8% | \$ 59,883 |
| 54 Prof., sci. & tech. services | 75,815 | 11.6% | 23.2% | 50.1% | \$ 84,149 |
| 55 Mgmt. of companies | 1,375 | 0.2% | 27.9% | 42.2% | \$ 136,348 |
| 56 Admin./support, & wst. mgt. | 27,135 | 4.2% | 12.0% | 15.1% | \$ 41,567 |
| 61 Educational services | 37,960 | 5.8% | 14.0% | 63.3% | \$ 57,792 |
| 62 Health care & soc. assist. | 55,860 | 8.5% | 22.0% | 38.3% | \$ 52,702 |
| 71 Arts, entertainment & rec. | 14,455 | 2.2% | 18.7% | 23.4% | \$ 36,483 |
| 72 Accom. & food services | 42,685 | 6.5% | 9.6% | 9.1% | \$ 27,423 |
| 81 Other services | 29,480 | 4.5% | 16.8% | 17.5% | \$ 39,469 |
| 91 Public administration | 19,320 | 3.0% | 19.2% | 35.6% | \$ 63,208 |

Figure 7.2 - Change in industrial specialization, 2001-2006



8 - Clusters Calgary

Number of clusters⁸ 7
 % employment in clusters⁸ 42.0%

Figure 8.1 - Cluster characteristics, 2006⁸

| | # Labour force | Labour force LQ | % Industry LQs > 1 | % Growth 2001-2006 | Cluster (yes/no) |
|---------------------------------|----------------|-----------------|--------------------|--------------------|------------------|
| <i>Resource-based</i> | | | | | |
| Agriculture | 14,970 | 0.55 | 40.0% | 1.1% | NO |
| Mining | 21,205 | 1.81 | 37.5% | 44.6% | NO |
| Oil and Gas | 48,425 | 5.02 | 100.0% | 47.9% | YES |
| Wood & Wood Products | 4,730 | 0.38 | 20.0% | 1.3% | NO |
| Maritime | 1,010 | 0.18 | 0.0% | 0.0% | NO |
| <i>Manufacturing</i> | | | | | |
| Textiles & Apparel | 1,340 | 0.25 | 0.0% | -16.3% | NO |
| Food | 15,940 | 0.87 | 16.7% | 7.3% | NO |
| Steel | 11,905 | 0.94 | 41.7% | 17.8% | NO |
| Automotive | 5,340 | 0.31 | 7.7% | 16.5% | NO |
| Plastics & Rubber | 9,660 | 0.62 | 7.1% | 16.9% | NO |
| Biomedical | 5,665 | 0.96 | 50.0% | 21.8% | NO |
| ICT Manufacturing | 8,395 | 1.06 | 66.7% | -19.4% | YES |
| <i>Service-based</i> | | | | | |
| ICT Services | 35,820 | 1.15 | 50.0% | -0.4% | YES |
| Finance | 40,835 | 1.00 | 56.3% | 4.6% | YES |
| Business Services | 90,965 | 1.44 | 64.7% | 16.8% | YES |
| Creative & Cultural | 24,550 | 0.99 | 52.9% | 9.3% | NO |
| Higher Education | 20,365 | 0.95 | 44.4% | 11.3% | NO |
| <i>Other</i> | | | | | |
| Construction | 88,750 | 1.64 | 83.3% | 34.8% | YES |
| Logistics | 38,245 | 1.19 | 57.7% | 9.3% | YES |

Figure 8.2 - Employment by industry category, 2006⁹

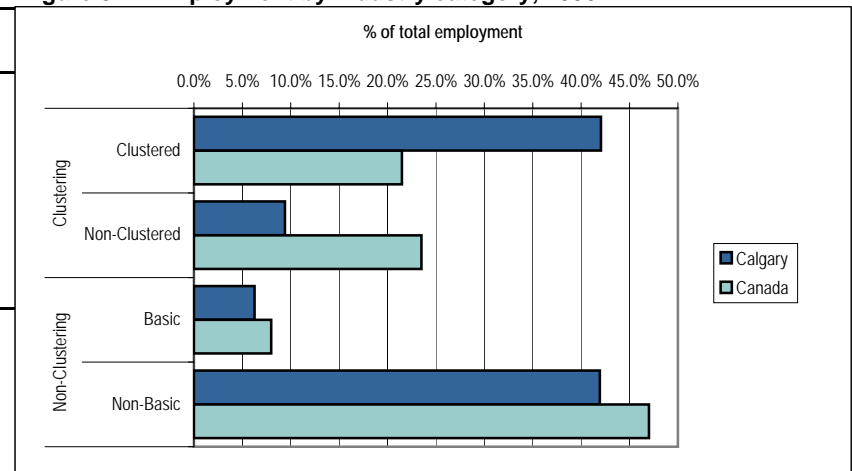
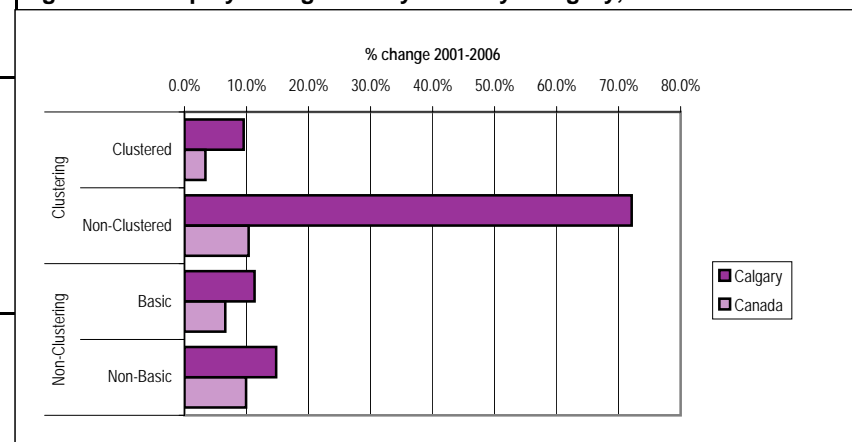


Figure 8.3 - Employment growth by industry category, 2001-2006^{9,10}



9 - Establishments Calgary

| | % of establishments by number of employees | | | | | | | |
|----------------|--|-------|-------|-------|-------|---------|---------|------|
| | 1-4 | 5-9 | 10-19 | 20-49 | 50-99 | 100-199 | 200-299 | 500+ |
| Calgary | 59.9% | 16.8% | 10.7% | 7.4% | 2.7% | 1.4% | 0.8% | 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

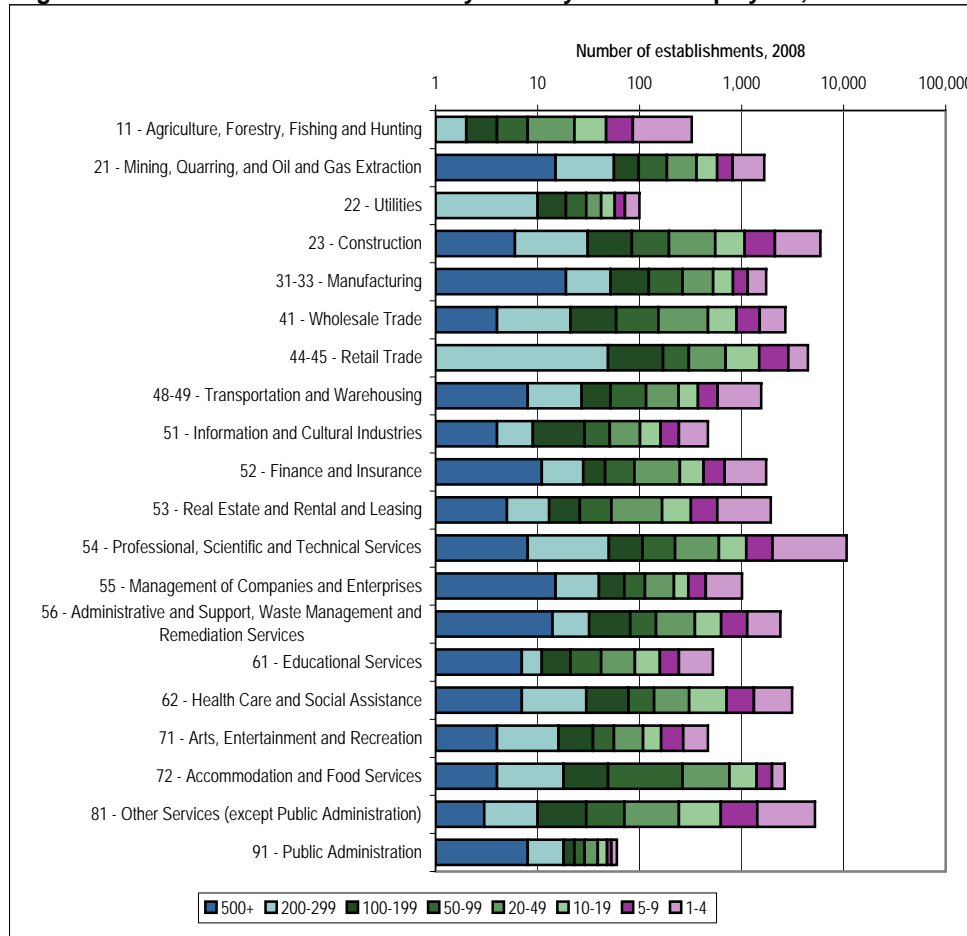
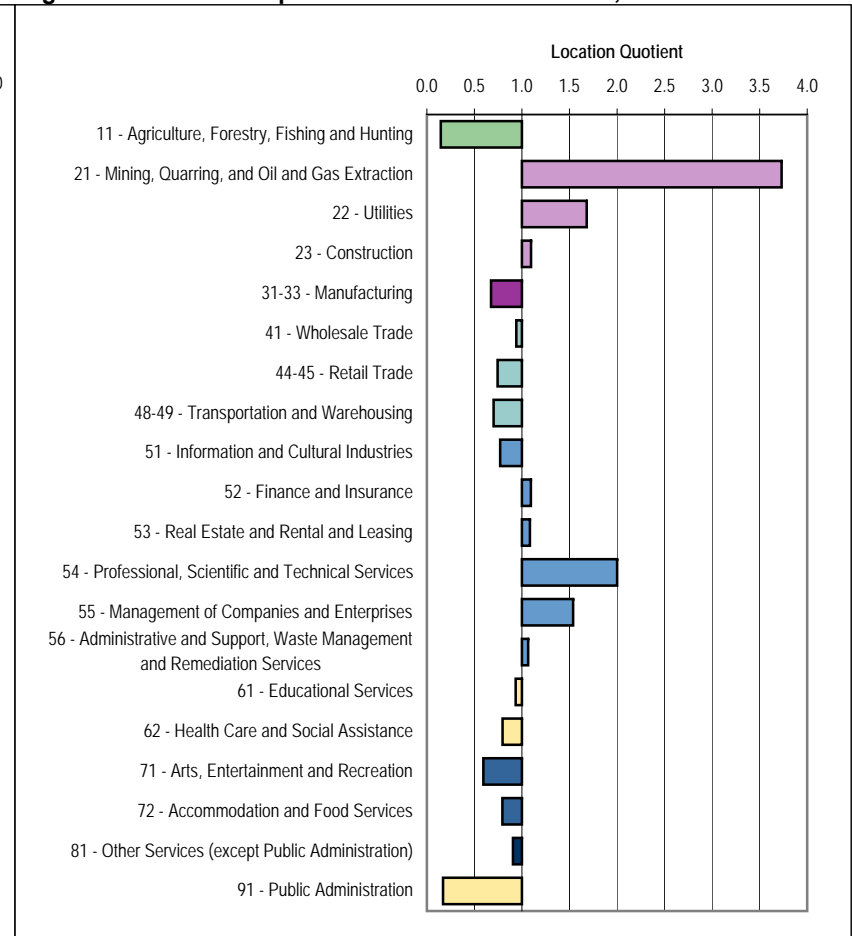


Figure 9.2 - Industrial specialization - Establishments, 2008



10 - Income Calgary

| Full Time Employment Income, 2005 | | | |
|-----------------------------------|-----------|-----------|--|
| | Average | Median | |
| Calgary | \$ 66,909 | \$ 46,189 | |
| Canada | \$ 51,221 | \$ 41,401 | |

| % Change in FT Emp. Income 2000-2005 ¹¹ | | |
|--|---------|--------|
| | Average | Median |
| Calgary | 21.0% | 5.1% |
| Canada | 5.5% | 2.4% |

*Constant dollars (2005)

Figure 10.1 - Distribution of FT Employment Income

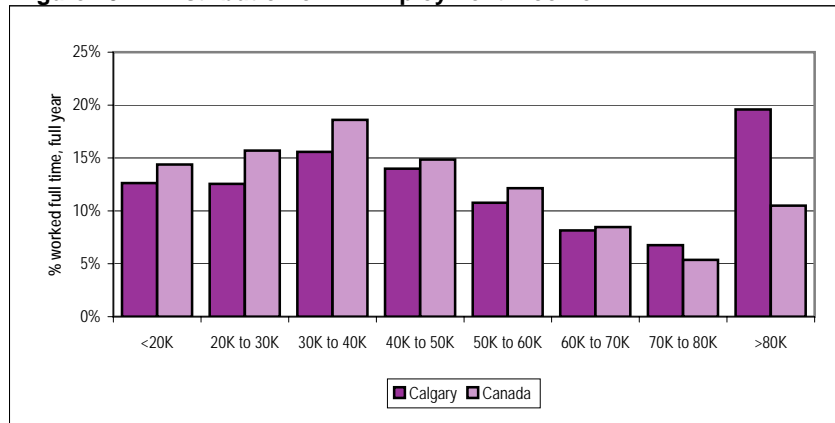
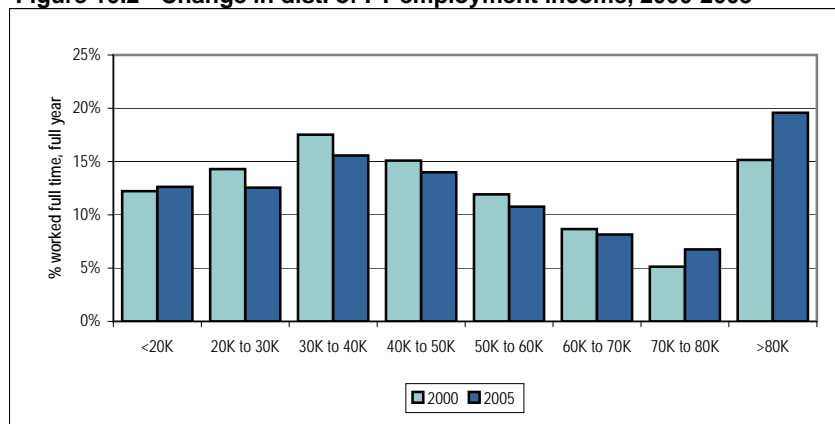
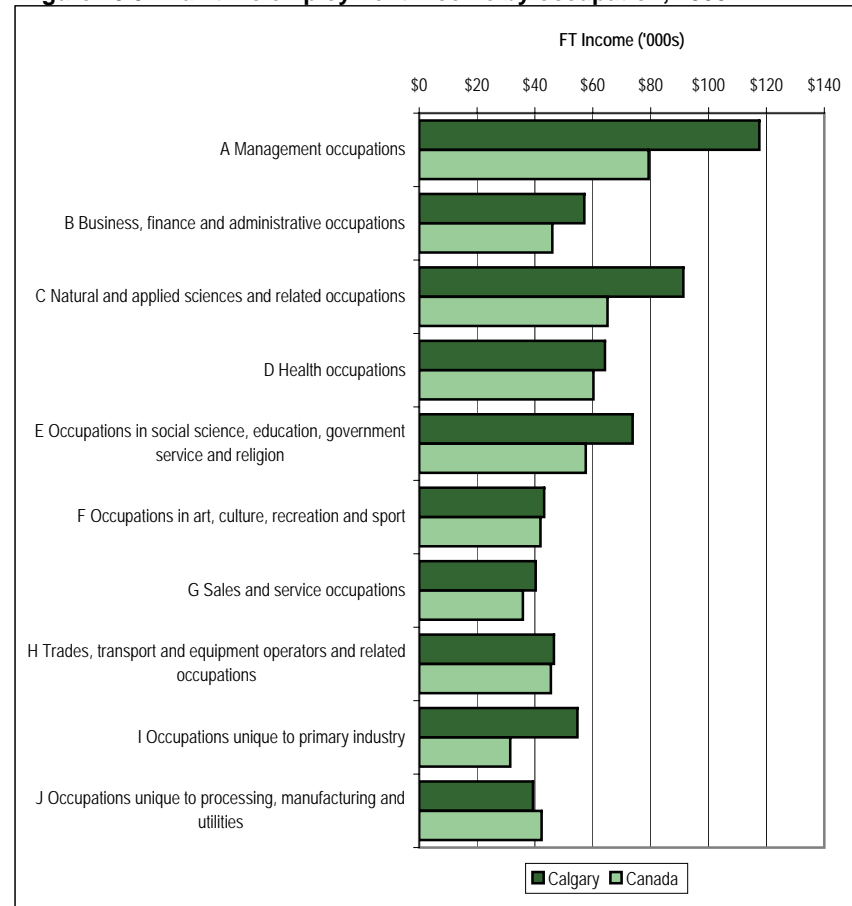


Figure 10.2 - Change in dist. of FT employment income, 2000-2005



*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

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