

THE UNIVERSITY OF NORTHERN BRITISH COLUMBIA
GEOGRAPHY 202
WINTER SEMESTER, 2013

LAB #2

Industrial Location: Location Quotients

(Due: February 27th)

The distribution of employment in industries may be shown by a variety of methods; one of the most useful and commonly used approaches is the location quotient (L.Q.).

Formula

People employed in Industry X, Region A

People employed in all Industries, Region A

People employed in Industry X, Nationally

People employed in all Industries Nationally

Significance

While there are no tests of significance for the calculated statistic, it is a useful measure for comparing changes over time.

1. Values less than 1.0: the region has less than its share of that industry.
2. Values greater than 1.0: the region has more than its share of that industry.

What to do:

1. Select one heartland province and one hinterland province and calculate the location quotients for the years

1891, 1929, 1956, 1981, for the three main industrial sectors, Primary, Secondary and Tertiary.
2. Write a two page (i.e. approximately 400 words) assessment of the changes which have appeared in the quotients for the two areas. (Hint: the changes in values can be shown in graph form).

Example:

Ontario (1981) Primary Industries

$$\frac{\frac{200,112}{4,458,000}}{\frac{834,000}{12,267,000}} = \frac{.044}{.068} = .65 \text{ (approx.)}$$

NOTES:

1. The top numerator above (200,112) is obtained from 4.4% of 4,548,000.
2. Perspicacious students will realize that the first step above is unnecessary as the divisional fractions have already been provided in the table.
3. In the example above, the derived location quotient (.65) indicates that Ontario (in 1981) did not possess a significant concentration of primary industry.
4. A simple way to tabulate your data prior to analysis is in a matrix, eg:

Province X

	1891	1929	1956	1981
P	1.02	.141	1.36	1.27
S	0.75	0.35	0.51	0.78
T	0.62	0.67	0.91	1.03

TABLE 1.1 ECONOMIC DEVELOPMENT AND URBANIZATION IN CANADA, BY REGIONS

Region	Gainfully Occupied by Sectors, 1891						Population, 1891			
	Percentage of Regional Total			Total Regional Labour Force (000s)	Percentage of Canadian Total			Total Regional Population	Percentage of Canadian Total	Percentage of Regional Population Urban
	Primary	Secondary	Tertiary		Primary	Secondary	Tertiary			
HEARTLAND										
Ontario	48.0	26.9	25.1	724.7	43.7	48.4	46.2	2 114 321	43.8	38.7
Québec	48.6	26.8	24.6	449.6	27.5	29.9	27.9	1 488 535	30.9	33.6
HINTERLAND										
Nova Scotia	54.2	20.3	25.5	156.5	10.6	10.1	10.1	450 396	9.3	17.1
New Brunswick	52.2	24.3	23.5	107.2	7.0	6.5	6.4	321 263	6.6	15.2
Prince Edward Is.	65.1	17.7	17.2	35.0	2.8	1.6	1.5	109 078	2.3	12.8
Maritimes	54.8	21.4	23.8	298.7	20.4	15.6	18.0	880 737	18.2	16.5
Manitoba	64.6	13.4	22.0	53.7	4.3	1.9	3.0	152 506	3.1	26.8
Saskatchewan	64.0	10.9	25.1	21.1	1.7	.7	1.3	—	—	—
Alberta	—	—	—	—	—	—	—	—	—	—
Western Interior	64.4	12.7	22.9	74.8	6.0	2.6	4.3	98 967	2.0	.0
British Columbia	40.7	29.6	29.7	47.2	2.4	3.5	3.6	98 173	2.0	39.9
Canada	50.0	25.3	24.7	1 595.5	797.7	403.2	394.6	4 833 239	—	31.8

Source: McCann, L.D. (ed.) (1987) Heartland and Hinterland, 2nd Edition, Scarborough: Prentice-Hall Canada, Inc. pp. 15-18.

TABLE 1.1 (continued)

Region	Gainfully Occupied by Sectors, 1929					Population, 1931		
	Percentage of Regional Total		Total Regional Labour Force (000s)	Percentage of Canadian Total		Total Regional Population	Percentage of Canadian Total	Percentage of Regional Population Urban
	Primary	Secondary Tertiary		Primary	Secondary Tertiary			
HEARTLAND								
Ontario	25.2	32.2	1 423.8	25.6	44.2	3 431 683	33.1	58.7
Québec	26.5	31.4	1 082.0	20.5	32.6	2 874 662	27.7	58.6
HINTERLAND								
Nova Scotia	47.4	17.4	197.9	6.7	3.3	512 846	4.9	43.5
New Brunswick	44.9	18.3	142.3	4.6	2.5	408 219	3.9	31.1
Prince Edward Is.	63.9	9.0	33.2	1.5	.3	88 038	.9	19.5
Maritimes	47.9	17.0	373.4	9.4	6.1	1 009 103	9.7	36.3
Manitoba	37.7	17.4	276.8	7.5	4.6	700 139	6.8	42.0
Saskatchewan	61.0	6.9	335.5	14.6	2.2	921 785	8.9	20.3
Alberta	55.0	9.6	286.6	11.2	2.7	731 605	7.1	31.1
Western Interior	53.3	9.5	898.9	33.3	9.5	2 353 529	22.8	30.1
British Columbia	51.8	10.9	337.9	7.8	7.6	694 263	6.7	55.4
Canada	34.0	25.3	4 116.0	1 398.7	1 039.7	10 376 786	—	49.7

TABLE 1.1 (continued)

TABLE 1.1 (continued)

Region	Labour Force by Sector, 1981						Population, 1981	
	Percentage of Regional Total ^a			Total Regional Labour Force (000s)	Percentage of Canadian Total			Percentage of Total Regional Population
	Primary	Secondary	Tertiary		Primary	Secondary	Tertiary	
HEARTLAND								
Ontario	4.4	28.1	62.8	4 548	24.2	43.0	36.0	8 625 110
Québec	4.3	25.5	62.8	3 100	16.1	26.6	25.0	6 438 400
HINTERLAND								
Newfoundland	9.4	22.6	60.1	232	2.6	1.8	1.8	567 680
Nova Scotia	7.0	20.3	67.0	388	3.3	2.7	3.3	847 445
New Brunswick	7.7	22.5	63.1	308	2.9	2.3	2.5	696 405
Prince Edward Is.	15.6	17.7	61.3	57	1.1	.3	.5	122 510
Maritimes	12.6	20.9	64.9	753	7.3	5.3	6.3	1 666 360
Manitoba	10.0	18.6	67.2	510	6.2	3.2	4.4	1 026 245
Saskatchewan	21.7	12.6	61.3	461	12.1	2.0	3.6	968 310
Alberta	13.2	19.1	64.0	1 213	19.3	7.8	10.0	2 237 725
Western Interior	14.2	17.6	64.1	2 184	37.6	13.0	18.0	4 232 280
British Columbia	6.9	21.5	66.5	1 412	11.8	10.2	12.0	2 744 470
Yukon	11.5	9.1	71.1	13	.2	.04	.12	23 150
N.W.T.	12.6	7.1	74.1	19	.3	.05	.19	45 740
Canada	6.8	24.2	63.6	12 267	83.4	2 969	7 802	24 343 180
								-
								75.7

^aThese data do not add up to 100 percent because they exclude the share of the unspecified labour force.

Sources: Labour force data have been derived from information published in Alan G. Green, *Regional Aspects of Canada's Economic Growth* (Toronto: University of Toronto Press, 1971), Appendix C, pp. 102-7; Statistics Canada, *Labour Force Annual Averages 1975-78* (Ottawa: 1979), Table 10, p. 54; and Statistics Canada, *Census of Canada, 1981*. Green's analysis for 1891, 1929, and 1956 excludes Newfoundland. Population data have been compiled from information in *Census of Canada, 1891-1981*.