

Change in occupation mix: Agriculture, forestry, fishing & hunting 2006-2016 Vol. 7, No.3, 2019

Highlights

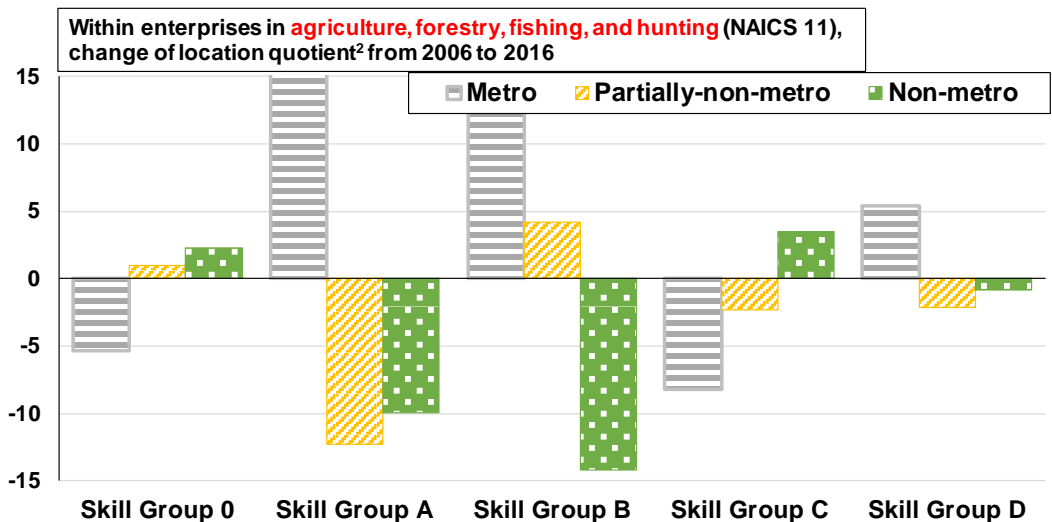
- Between 2006 and 2016, the relative intensity of employment in management (including self-employed operators) increased in non-metro census divisions in the agriculture, forestry, fishing and hunting sector.
- Relative to Ontario as a whole, the share of employment in Skill Groups “A” and “B” in this sector declined in non-metro census divisions.
- Cautionary caveat: We are using a delineation of skills as delineated by Employment and Skills Development Canada that is based on the level of educational attainment usually required for a given occupation. However, non-metro workers know that heavy equipment mechanics (Skill Group “B”) are not less skilled than teachers (Skill Group “A”) – the required skills are simply different.

Why look at the mix of occupations?

For centuries, machines have been substituted for manual labour. In the agriculture and forestry sector, there is an on-going shift to larger and more sophisticated machines and the requisite skills to operate and maintain these machines.

The objective of this Fact Sheet is to show the change in the mix of occupations (grouped into skill groups¹) in agriculture, forestry, fishing and hunting² (AFFH) from 2006 to 2016³.

Figure 1 Among enterprises in agriculture, forestry, fishing and hunting, the share of non-metro employment in Skill¹ Groups “O” & “C” increased, relative to the Ontario average, 2006-2016



1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). Group A usually requires a university education; Group B usually requires a college education or apprenticeship training; Group C usually requires a secondary school or occupation-specific training; Group D usually requires on-the-job training; Group O includes management occupations
2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).
Source: OMAFRA, EMSI ANALYST database. Chart by Ray D.Bollman@sasktel.net

Summary data for each sector is in an appendix⁴.

Findings

Employment in AFFH declined by 15% in Ontario from 2006 to 2016 (Table 1). The decline was largest (21%) in non-metro⁵ census divisions (CDs).

Employment declined in each skill group across each

comparison.” **Rural and Small Town Canada Analysis Bulletin** Vol. 5, No. 6 (Ottawa: Statistics Canada, Catalogue no. 21-006-XIE) (www.statcan.gc.ca/bsolc/english/bsolc?catno=21-006-X&CHROPG=1).

⁴ Appendix: Tables and Charts showing the Level and Change of Employment by Skill Group for each Industry Sector, by Type of Census Division, Ontario, 2006 – 2016.

⁵ Defined in “Rural Ontario’s Demography: Census Update 2016.” **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

¹ Occupations are classified to Skill Groups based on: **Employment and Skills Development Canada. National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; and **Group O** includes management occupations & self-employed individuals.

² Specifically, NAICS 11 in Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?obid=12-501-X&objType=2&lang=en&limit=0>).

³ From 1991 to 2001 in most industries, the share of employment in higher-skilled jobs increased (slightly) more in urban areas than in rural areas. See Erik Magnusson and Alessandro Alasia. (2004) “Occupational patterns within industry groups: A rural-urban

type of geography – except there was a small increase in the numbers employed in Skill Groups “A” and “B” in metro CDs.

The skill group with the largest number employed was Skill Group “O” which includes managers and self-employed operators of enterprises in AFFH. This group constituted 47% of employment in AFFH in non-metro counties followed by 41% in partially-non-metro CDs and 30% in metro CDs. Employment in this skill group declined between 8% and 16%, depending upon the type of region, from 2006 to 2016.

A location quotient (LQ) calculates a relative intensity (Columns 6 and 7 in Table 1). For example, Skill Group “O” represented 47% of AFFH employment in non-metro CDs in 2016. When we take this 47% share and divide by the 42 share at the Ontario level (and multiply by 100), we generate an LQ (or relative intensity) of 112 (in Column 7) as measure of the relative intensity of non-metro AFFH employment in Skill Group “O”, relative to 100 for Ontario as a whole. A figure more 100 indicates that this group has a higher share (or is more intensive) compared to Ontario as a whole. From 2006 to 2016, the non-metro LQ for employment in Skill Group “O” increased by 2 points (Figure 1). This increase indicates that the share of workers who were managers or self-employed increased more in non-metro CDs, compared to the change for Ontario as a whole. Note that the absolute decline in this occupation group was larger in non-metro CDs (than in other types of CDs) but other occupations declined even more in non-metro CDs such that the share of employment in Skill Group “O” went up from 44% in 2006 to 47% in 2016.

From 2006 to 2016, the positive change in Figure 1 for the non-metro LQ for Skill Group “O” and Skill Group “C” indicates a relative increase in the share of these occupations in non-metro AFFH employment, compared to Ontario as a whole. In 2016, metro CDs showed a higher intensity in each occupation groups except manager /

owner operators, and non-metro CDs displayed the reverse with only the manager / owner operator occupation group being more intense than Ontario.

Summary

Between 2006 and 2016, the relative intensity of employment in management (including self-employed operators) increased in AFFH in non-metro census divisions. Relative to Ontario as a whole, the share of employment in Skill Groups “A” and “B” declined in non-metro census divisions (plus a small relative decline in Skill Group “D”).

Table 1. Level and change in skill¹ structure of employment in agriculture, forestry, fishing and hunting enterprises (NAICS 11), by type of census division in Ontario, 2006 and 2016

Skill group ¹	Number employed (,000)		Percent change, 2006 to 2016	Number employed as percent of total		Location quotient ²		
	2006	2016		2006	2016	2006	2016	Change ³
Metro census divisions⁴								
O	5	4	-12	31	30	77	72	-5
A	0	0	69	1	3	112	168	56
B	2	2	4	14	16	94	125	31
C	7	6	-10	44	43	125	116	-8
D	1	1	-17	9	8	120	125	5
Total	15	14	-8	100	100	100	100	0
Partially-non-metro census divisions⁴								
O	17	16	-8	40	41	97	98	1
A	1	1	-3	1	2	116	104	-12
B	6	5	-22	14	13	95	99	4
C	16	15	-10	37	38	105	102	-2
D	3	2	-25	7	6	100	98	-2
Total	44	38	-12	100	100	100	100	0
Non-metro census divisions⁴								
O	22	19	-16	44	47	109	112	2
A	1	0	-15	1	1	82	72	-10
B	8	5	-42	16	12	106	92	-14
C	16	14	-14	31	34	88	92	3
D	3	2	-32	7	6	94	93	-1
Total	50	40	-21	100	100	100	100	0
All census divisions								
O	44	39	-13	41	42	100	100	0
A	1	1	4	1	2	100	100	0
B	17	12	-28	15	13	100	100	0
C	39	34	-11	35	37	100	100	0
D	8	6	-27	7	6	100	100	0
Total	109	92	-15	100	100	100	100	0

1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; **Group O** includes management occupations and self-employed individuals.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

3. The change in the location quotient indicates whether a given geographic group (e.g., non-metro census divisions) reported an increase or decrease in the percent of their employment in a given skill group, relative to Ontario as a whole.

4. The classification of census divisions is shown in Table 2 in "Rural Ontario's Demography: Census Update to 2016" **Focus on Rural Ontario** (March, 2017).

Source: OMAFRA, EMSI ANALYST database.

Rural Ontario Institute gratefully acknowledges the work of Ray Bollman in preparing this edition of **Focus on Rural Ontario**. Questions on data sources can be directed to RayD.Bollman@sasktel.net. Any comments or discussions can be directed to NRageltie@RuralOntarioInstitute.ca