

Study: The impact of the manufacturing decline on local labour markets in Canada

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It is widely known that employment in the manufacturing sector has fallen since the early 2000s in Canada. However, the degree to which the manufacturing decline reduced the employment rates and the wages of Canadian workers living in the affected areas has not yet been quantified.

This question is important for several reasons. Manufacturing used to be a major source of employment for less educated men. Therefore, the disappearance of manufacturing jobs might reduce employment opportunities for these workers, and for their highly educated counterparts.

Furthermore, many manufacturing jobs used to pay higher-than-average wages. The disappearance of these jobs reduces workers' options, and their bargaining power during wage negotiation. As employment in the manufacturing sector declines, employment opportunities and wages might also fall in industries that sell intermediate inputs to manufacturing firms.

For these reasons, it is important to determine whether the manufacturing decline reduced wages and employment rates in local labour markets. Today's study addresses this issue.

The manufacturing decline reduces full-year, full-time employment rates for men

As employment in the manufacturing sector fell, proportionately fewer men became employed on a full-year, full-time basis. From 2000 to 2015, the percentage of Canadian men aged 21 to 55 who were employed mainly full time for at least 48 weeks fell by 5 percentage points, from 63.6% in 2000 to 58.6% in 2015.

The decline in men's full-year, full-time employment rates was generally more pronounced in census metropolitan areas (CMAs) and census agglomerations (CAs) that experienced larger-than-average declines in the relative importance of the manufacturing sector.

For example, from 2000 to 2015, men's full-year, full-time employment rates fell by 10 percentage points or more in the Ontario areas of Windsor, Oshawa, St. Catharines–Niagara and Kitchener–Cambridge–Waterloo.

In these areas, the share of the population aged 21 to 55 employed in manufacturing fell by between 8 and 10 percentage points from 2000 to 2015. This is roughly twice as large as the 5-percentage-point average decline observed across all CMAs and CAs during that period.

Using census data, this study finds that, from 2000 to 2015, a 5-percentage-point decline in the share of the population employed in manufacturing in a given CMA or CA led to, on average, a 4.5-percentage-point decline in full-year, full-time employment rates among men living in that CMA or CA.

These results take into account several economic factors—including changes in the demand for workers in the construction and the oil and gas extraction sectors—that may have affected employment opportunities in various CMAs and CAs during the period studied.

The results also indicate that two-thirds or more of the decline in men's full-year, full-time employment rates observed from 2000 to 2015 in CMAs such as Montréal, Ottawa–Gatineau, Windsor, Oshawa, Toronto, Hamilton, St. Catharines–Niagara, Kitchener–Cambridge–Waterloo and Guelph can be attributed to the manufacturing decline.

In contrast, the results provide little evidence that the decline in employment in the manufacturing sector observed since the early 2000s led to reduced full-year, full-time employment rates for women in various CMAs or CAs. The factors behind this gender difference remain to be determined.



Table 1
Selected statistics for employment in census metropolitan areas and census agglomerations, by province

	2000	2000 to 2015	
	Share employed in manufacturing ¹	Change in share employed in manufacturing	Change in percentage of men working full year, full time ²
	%	percentage points	
Newfoundland and Labrador	4.9	-1.3	-3.0
Prince Edward Island	7.3	-1.1	-2.0
Nova Scotia	6.4	-1.8	-2.0
New Brunswick	8.0	-2.9	-0.2
Quebec	13.9	-5.2	-5.3
Ontario	14.8	-6.9	-8.2
Manitoba	11.9	-4.2	-6.9
Saskatchewan	6.4	-1.9	-2.9
Alberta	8.0	-3.0	-7.0
British Columbia	8.0	-2.8	-2.3

1. The share employed in manufacturing refers to the percentage of the population aged 21 to 55 employed in manufacturing.

2. Individuals working full-year, full-time worked mainly full time for at least 48 weeks during the census reference year.

Note(s): The census reference years are 2000 for the 2001 Census of Population and 2015 for the 2016 Census of Population.

Source(s): Census of Population (3901).

The manufacturing decline reduces real wages for men, especially less educated men

The study also finds that, from 2000 to 2015, a 5-percentage-point decline in the share of the population employed in manufacturing in a given CMA or CA led to, on average, at least a 6.9% decline in the real weekly wages of male employees living in the affected areas.

Less educated men were somewhat more affected. Estimates suggest that a 5-percentage-point decline in the share of the population employed in manufacturing reduced the real weekly wages of men with a high school diploma or less by at least 7.3%, compared with a decline of at least 4.8% for their counterparts with a bachelor's degree or higher.

The estimated effects are even larger for young men with less education. For men aged 21 to 35 with a high school diploma or less, a 5-percentage-point decline in the share of the population employed in manufacturing was associated with a decline of at least 8.7% in real weekly wages, at the CMA or CA level.

The finding that the manufacturing decline reduced real wages for men remained, even after accounting for the possibility that the composition of the male workforce in various CMAs and CAs may have changed during the 2000-to-2015 period because of internal migration.

As is the case for full-year, full-time employment rates, the study finds little evidence that the manufacturing decline reduced real wages for women.

Similar results are found in the United States for men

To facilitate comparisons with the United States, the study used statistical methods, concepts and samples that were similar to those of a recent US study conducted by Charles, Hurst and Schwartz (2018).

The main findings of today's study are similar to those of the US study for men, but are different for women.

As mentioned above, Canadian estimates obtained over the 2000-to-2015 period suggest that a 5-percentage-point decline in the share of the population employed in manufacturing led to at least a 6.9% decline in men's real weekly wages in local labour markets.

US estimates obtained over the 2000-to-2016 period suggest that the corresponding estimated decline in men's real hourly wages was similar, at about 6.2%.

Canadian and US estimates suggest that a 5-percentage-point decline in the manufacturing share reduced men's local employment rates by about 2 percentage points in both countries.

However, while Canadian data provide little evidence that the manufacturing decline reduced women's wages and employment rates, US data suggest that the negative impact of the manufacturing decline on local wages and local employment rates was similar for men and women.

The factors underlying this cross-country difference are currently unknown and remain to be determined in subsequent empirical analyses.

Note to readers

The study uses the 2001 and 2016 censuses of population. In line with Charles, Hurst and Schwartz (2018), the sample consists of individuals aged 21 to 55. The study was restricted to individuals living in the 145 census metropolitan areas (CMAs) and census agglomerations (CAs) of the 10 Canadian provinces. The CMAs and CAs are defined on a consistent basis using the 2011 boundaries.

Full-year, full-time employment rates measure the percentage of the population that worked mainly full-time (i.e., at least 30 hours per week) for at least 48 weeks during the census reference year. The census reference year is 2000 for the 2001 Census of Population, and 2015 for the 2016 Census of Population.

Employment rates measure the percentage of the population that is employed during the census reference week. The census reference week is measured during the month of May in 2001 and 2016.

Real weekly wages of employees are obtained by deflating weekly wages by the national Consumer Price Index (all items).

Reference:

Charles, K., E. Hurst, and M. Schwartz. 2018. "The transformation of manufacturing and the decline in US employment," National Bureau of Economic Research Working Paper No. 24468.

Definitions, data sources and methods: survey number [3901](#).

The research paper "[The Impact of the Manufacturing Decline on Local Labour Markets in Canada](#)," part of the *Analytical Studies Branch Research Paper Series*, is now available.

For more information contact us (toll-free 1-800-263-1136; 514-283-8300; STATCAN.infostats-infostats.STATCAN@canada.ca).

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