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Research article

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Abstract

Canada has experienced relatively low productivity growth in the construction sector over the last several decades. This study examines the evolution of labour productivity in residential construction by using firm-level data from the National Accounts Longitudinal Microdata File. The residential construction industry is dominated by small firms, with those employing fewer than 20 workers accounting for 66.1% of total employment in the industry in 2023. Labour productivity growth, measured as real gross output per worker, declined by a cumulative 37.3% from 2001 to 2023—an average decrease of 2.1% per year—in the residential construction industry. The decline occurred across all firm-size categories, with smaller firms experiencing the largest decrease. A decomposition shows that smaller firms with fewer than 20 employees accounted for the dominant share of the decline. From 2001 to 2023, the share of firms with fewer than 20 employees decreased, while the share of firms with 20 employees or more increased. This reallocation toward relatively larger firms made a small positive contribution (less than 5%) to aggregate labour productivity growth over the period, since the productivity advantage of larger firms in the residential construction industry is small. There is great variation between geographic areas—labour productivity in residential construction is falling in most parts of Canada, but some provinces and cities have managed to achieve positive growth. Finally, the study finds that the residential construction industry is characterized by high rates of firm entry and exit, which are typically associated with productivity improvements, though high exit rates may also point to a difficult business environment for residential construction firms

Keywords: labour productivity, construction, subprovincial analysis

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Introduction

It is estimated that Canada requires a massive increase in housing starts to meet demand and improve affordability by 2035 (Canada Mortgage and Housing Corporation [CMHC], 2025). Yet, labour productivity growth in Canada's construction sector has been slow and has lagged compared with that of other business sectors over the last 20 years. This may have contributed to reduced housing affordability and rising prices (Caranci & Marple, 2024; CMHC, 2025).[1] In fact, the issue is severe enough that the Government of Canada has created a new federal agency, Build Canada Homes, with the goal of improving labour productivity and increasing the number of homes built per year (Prime Minister of Canada, 2025).

Ailing labour productivity in residential construction is not unique to Canada. In fact, low or negative labour productivity growth is prevalent throughout the world, affecting the United States, Australia, and countries across Europe and the Asia-Pacific (Bureau of Labor Statistics [BLS], 2025; Changali et al., 2015; Goolsbee & Syverson, 2023; Wilson, 2025). Since many existing studies rely on aggregate-level data, less is known about which types of firms are contributing to slow labour productivity growth (Dixit et al., 2019).

This study focuses on firm size and its contribution to aggregate labour productivity growth. Previous studies, such as that by Baldwin and Gu (2011), have found that firm entry and exit play a significant role in productivity growth. This paper also examines the business dynamics of the residential construction industry sector and compares the rates of firm entry and exit in construction with those in the overall business sector.

Existing studies and discussions on construction productivity focus on possible causes of low productivity. An early study by Sharpe (2001), focusing on Canada, analyzes the limited innovation, low investment and low capital–labour ratios in the overall construction industry. In a global study, Changali et al. (2015) point to insufficient project management and risk management, noting that large-scale capital projects often have cost overruns and delays. They also note that shortages of skilled tradespeople are common in high-income countries, with this segment of the workforce eroding because of retirement. In the United States, Assaad and El-adaway (2021) found that measures of workforce and workplace variables, such as turnover, were linked to fluctuations in labour productivity in the construction industry. Discussions specific to the Canadian residential construction industry have also noted a shortage of specialized labour and, more recently, soaring material costs caused by extreme weather and other supply chain disruptions (Canadian Construction Association, 2025; CMHC, 2025). High regulatory burden may also play a role, with the issue being complicated by the fact that construction is affected by policies at the federal, provincial and municipal levels (Caranci & Marple, 2024; Laberge, 2024). Some authors have pointed out that the construction sector is highly fragmented, with a higher-than-typical number of very small firms, resulting in a lack of scale economies (Sharpe, 2001; Caranci & Marple, 2024; Laberge, 2024).

Some articles also discuss the possible impacts of the COVID-19 pandemic on the construction industry. The World Health Organization announced that COVID-19 was a pandemic in March 2020 and declared the end of the global health emergency in May 2023 (Wise, 2023). In the United States and Canada, the pandemic caused supply chain disruptions and delays in receiving construction materials (Alsharef et al., 2021; Rothfischer & Thomson, 2023). In Canada, some provinces and territories limited what construction

1. Labour productivity is related to housing supply because it reflects the efficiency at which jobs (or hours worked) are used in production. In other words, higher labour productivity allows an industry to produce more with less. Housing supply will also depend on industry size—a firm with high labour productivity but a small number of employees will have limited output. The gap between supply and demand also depends on a variety of demand-side factors (see Zhao & Liu [2023] and Hou et al. [2025]), and it is possible for supply to be increasing but to not be keeping pace with demand. This study does not speak to demand-side factors.

activities could occur during the pandemic, lifted deadlines for courts to respond to construction-related litigation, and mandated onsite health and safety protocols (Rankin & Annibale, 2020). The current study does not focus specifically on the pandemic but does include most pandemic years (2020 to 2022), which can be used to examine whether labour productivity fell or slowed during the pandemic. Further research will be needed as data become available to assess labour productivity following the pandemic.[2]

Data and methods

To examine trends in labour productivity in the residential construction industry by firm characteristic, this study uses firm-level data from the National Accounts Longitudinal Microdata File (NALMF; Statistics Canada, 2022a). The NALMF includes incorporated firms and unincorporated firms that either have employees or remit the goods and services tax, but the study population is restricted to firms with employees. Unincorporated firms with employees are rare, so this means that most firms in the study are incorporated. Included firms also have a North American Industry Classification System (NAICS) code of 236110, indicating that the main activity of the firm is residential building construction (Statistics Canada, 2024b). This differs from the residential construction estimates produced for the Canadian labour productivity accounts, where the scope is activity-based and includes specialty contractors (Statistics Canada, 2025f). Since these specialty contractors may work on commercial or industrial construction, focusing only on residential building construction allows the production of a measure that is more closely associated with new housing construction.

In addition to providing statistics on labour productivity growth, the study decomposes the growth in labour productivity by firm size (by number of employees) and province, showing which types of firms contribute to aggregate growth. It also provides statistics on labour productivity growth for some large census metropolitan areas (CMAs; Statistics Canada, 2022b). The study period is 2001 to 2023. Results should be interpreted with the knowledge that Canada experienced two recessions during this study period: the 2008/2009 recession and the COVID-19 recession in 2020 and 2021 (C.D. Howe Institute, n.d.).

There are a few caveats to this research.

First, caution should be taken when comparing this report with other articles, studies or tables, since there is more than one measure of labour productivity. Labour productivity can be defined either as gross output per unit of labour or as value added per unit of labour. Labour productivity based on gross output is a more useful measure for tracking changes in the price and efficiency of housing construction, since it captures the full value of output and reflects the contribution of all inputs—capital, labour and intermediate inputs. Labour productivity based on value added—the difference between gross output and intermediate inputs—is more appropriate when the objective is to assess the contribution of residential construction to real value added or living standards in the total economy.

Statistics Canada's Labour Productivity Program, which reports on all industries, uses real value added in the numerator (Statistics Canada, 2025e). The current study uses real gross output (deflated revenues) as the numerator, following the strategy of the BLS in the United States for measuring construction

2. While most reports focus on barriers to labour productivity, changes in consumer preferences may also influence labour productivity, and these effects could take a long time to be realized. During the pandemic, demand shifted toward more expensive homes (Durango & ab Iorwerth, 2021) and homes in suburban areas (Morel, 2022). If these changes in preferences are permanent, builders and investors may change their strategies concerning the type and locations of new builds, and this will eventually affect labour productivity.

productivity (BLS, 2025; Sveikauskas et al., 2016).[3] Unfortunately, the data used in the current study do not contain information on hours worked, which is used as the denominator in the BLS program. Thus, annual average employment, as reported on the Canada Revenue Agency's payroll remittance form (the PD7), is used instead.

Second, the administrative data are not specifically designed to capture construction activity and lack the type of information contained on a census of construction, which is performed in some other countries, including the United States (United States Census Bureau, n.d.).

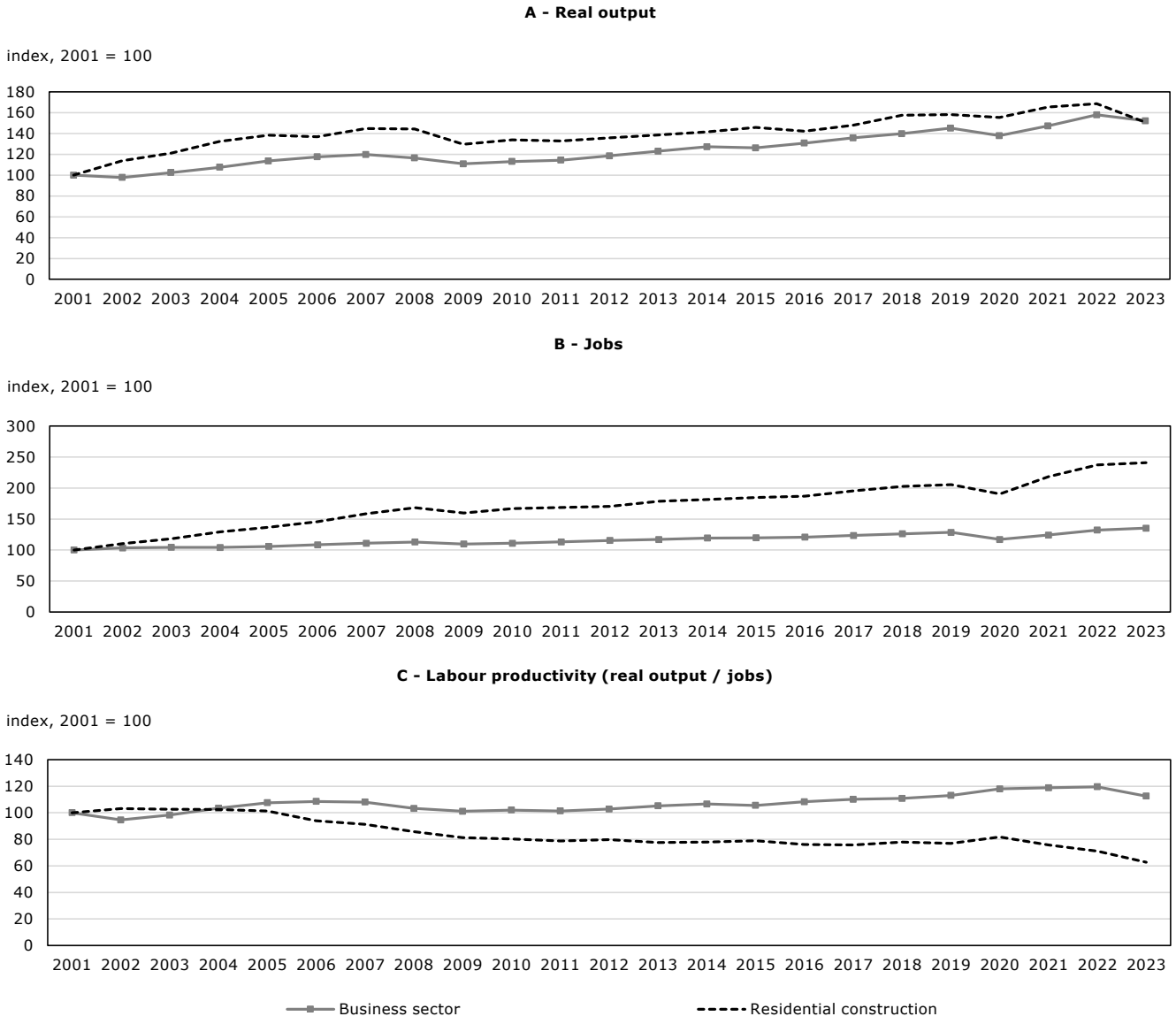
There is no information on the features or the quality of the dwellings built by firms, which may have changed over time in ways that are not reflected in real output, nor is there information on the type of buildings being constructed by the firms. In the United States and Australia, multi-family and high-density construction has driven productivity growth (BLS, 2025; Wilson, 2025). Future research could incorporate data on building permits to determine whether firms engaging in high-density construction experience more productivity growth. Third, the NAICS code 236110 does not capture all firms involved in residential construction (Statistics Canada, 2024b). Specialty contractors are captured in another NAICS code, as are firms that engage in offsite construction, wherein dwellings or parts of dwellings are manufactured and then moved to the construction site. It is not possible to tell when these types of firms are involved in residential construction (versus commercial or industrial construction), and thus they are not included. It is possible that some productivity gains (or losses) related to residential construction are missed because of this exclusion.[4]

Labour productivity in residential construction fell from 2001 to 2023, in contrast with the overall business sector

For the period from 2001 to 2023, labour productivity in residential construction trended downwards, and the total change in the labour productivity index was -37.3%, or -2.1% per year (Table 1). Over the same period, the labour productivity index for the business sector (which includes all firms except those in public administration) went up by 12.5%, or 0.5% per year. This difference was caused by changes both in the numerator and in the denominator of labour productivity—real output (the numerator) in residential construction increased relatively less, and the number of jobs (the deflator) rose relatively more, with an especially large gain in jobs during the pandemic.

3. Revenue is deflated using the provincial and territorial deflators for housing investment from the household economic accounts (Statistics Canada, 2025a). These deflators incorporate prices of new construction of private and social residential housing, residential renovations, and ownership transfer costs. To compute real output for the overall business sector, a deflator from the KLEMS database is used (Statistics Canada, 2010).
4. Offsite construction may offer productivity advantages compared with traditional construction, so it is likely that its exclusion misses productivity gains (Baidoo et al., 2024; de Laubier et al., 2019; Ontario Ministry of Municipal Affairs and Housing, 2022). Currently, there is no precise publicly available estimate of the proportion of Canadian residential construction done offsite, but it is known that adoption of offsite construction has been hindered by regulatory barriers, and the current proportion is believed to be low (Baidoo et al., 2024; Canadian Industrialized Construction Coalition, 2025). However, given that the Government of Canada seeks to increase offsite construction (Prime Minister of Canada, 2025), its exclusion may become a growing problem for future research.

Chart 1
Business sector versus residential construction: Indexes of real output, jobs and labour productivity (2001 = 100), 2001 to 2023



Notes: Jobs are based on annual average PD7 employment. Firms without employees are excluded.
Source: National Accounts Longitudinal Microdata File and authors' calculations.

The estimates of labour productivity based on gross output obtained from the NALMF are largely consistent with those available from Statistics Canada's Multifactor Productivity (MFP) Program. This program also estimates labour productivity growth based on gross output for the business sector and the total construction sector from 1961 to 2021, the most recent reference year for the supply and use tables (Statistics Canada, 2025e). For the period from 2001 to 2021, labour productivity growth based on gross output per hour worked was 0.8% per year for the business sector, according to the MFP Program. The labour productivity measure defined as gross output per worker from the NALMF was 0.9% per year over the same period.

The MFP Program does not provide labour productivity estimates based on gross output for the residential construction industry, but it does produce corresponding measures for the total construction

sector (Statistics Canada, 2025e). For the total construction sector, labour productivity growth was virtually zero from 2001 to 2021, significantly lower than the labour productivity growth in the business sector.

Smaller firms (with fewer than 20 employees) had lower productivity growth than larger firms (with 20 or more employees)

Some authors have speculated that construction may lag behind the business sector because the industry contains a large proportion of smaller firms, in terms of the number of employees (Caranci & Marple, 2024; Laberge, 2024). Table 1 shows the labour productivity index from 2001 to 2023, by firm size and region, and Chart 2 shows labour productivity growth in terms of the compound annual growth rate (CAGR), defined by the following formula:

$$\text{CAGR} = \left(\frac{\text{End value}}{\text{Beginning value}}\right)^{\left(\frac{1}{\text{number of years}}\right)} - 1 \qquad (0.1)$$

Using a CAGR can make analysis sensitive to the selection of the end points of the study period, and in some cases, using two- or three-year averages can produce more representative results. In this case, results are similar whether single years or an average of years is used, and the study presents the results using single years (2001 and 2023).

Labour productivity growth is worse for smaller firms (Table 1; Chart 2)—the growth rates are -2.3% for firms with fewer than 5 employees, -2.2% for firms with 5 to 19 employees, -1.7% for firms with 20 to 49 employees, and -2.0% for firms with 50 or more employees. All firm size classes show the same pattern: real output increased (though not by much for the smallest firms), but the number of employees rose much faster than real output, resulting in negative labour productivity growth (Chart 2). The story is similar when examining the results by region—real output grew in every province, but generally, the number of employees grew faster. Only Prince Edward Island, Nova Scotia and New Brunswick achieved positive labour productivity growth.

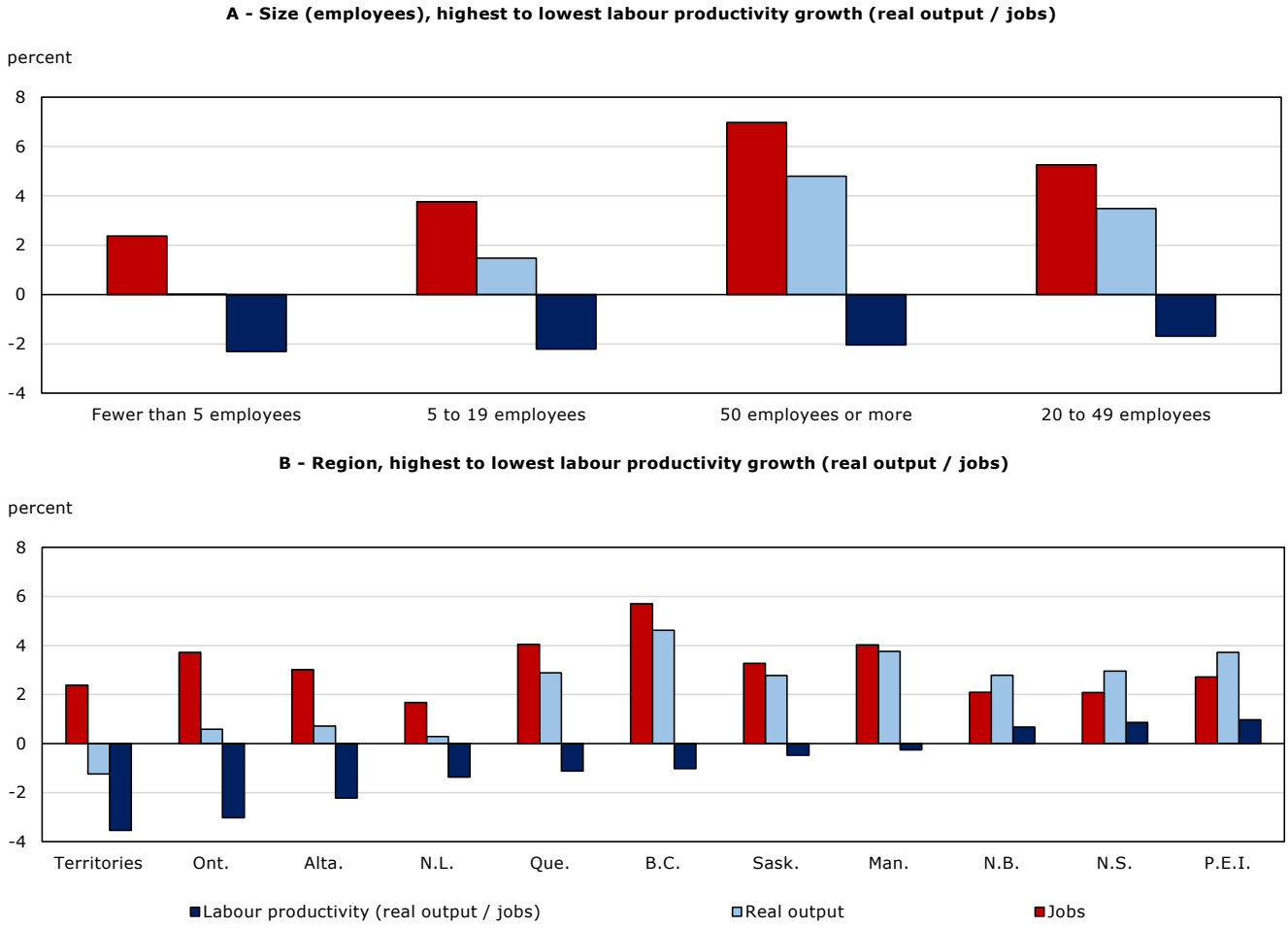
Table 1
Labour productivity (real output / jobs) of residential construction firms, by characteristic, indexed to start year, 2001 to 2023

		Size (employees)				Region										
	Total	Fewer than 5	5 to 19	20 to 49	50 or more	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Territories
									index, 2001 = 100							
2001	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2002	103.1	102.4	101.7	101.4	108.3	110.7	90.8	114.9	102.9	106.3	101.4	90.3	110.8	102.2	108.3	80.9
2003	102.6	101.3	99.9	96.2	116.8	119.7	110.7	123.2	109.7	108.9	99.2	91.9	106.2	100.1	111.7	63.8
2004	102.5	98.9	101.4	98.3	114.4	133.8	99.1	121.8	114.8	107.7	99.7	116.2	105.4	98.2	111.4	55.8
2005	101.2	92.1	100.9	91.5	130.2	129.6	96.5	117.1	112.5	106.3	91.8	115.8	107.9	104.1	120.3	54.6
2006	94.0	91.0	92.2	89.9	104.5	123.2	95.0	109.5	113.3	101.8	83.6	106.5	100.4	95.6	108.0	65.3
2007	91.3	86.7	88.7	84.4	107.9	118.4	104.6	111.9	117.0	104.9	84.2	103.6	90.1	83.7	98.8	57.7
2008	85.8	81.1	84.6	80.8	96.0	117.3	102.8	110.6	120.1	101.2	81.8	93.8	91.6	74.4	89.6	52.8
2009	81.2	79.1	83.1	82.3	72.5	118.3	102.2	102.2	111.3	100.4	72.4	90.1	100.8	69.2	96.6	58.6
2010	80.3	80.6	79.5	83.2	71.4	115.9	100.9	104.8	107.4	101.8	74.2	98.5	100.3	68.7	83.7	58.1
2011	78.8	77.7	80.2	81.5	68.4	112.0	115.7	106.8	105.3	100.9	71.7	100.4	107.6	67.9	80.6	70.1
2012	79.7	75.3	82.3	78.1	77.9	115.0	116.3	112.7	101.1	101.7	67.9	104.3	113.6	69.9	92.2	49.0
2013	77.6	75.5	80.0	72.5	73.9	117.7	109.4	97.1	105.6	87.9	66.3	103.4	103.4	71.5	95.8	62.5
2014	78.0	74.4	78.9	75.9	77.5	109.8	107.3	85.0	105.9	92.7	65.9	101.1	104.7	70.1	94.0	78.3
2015	79.0	78.1	77.6	78.9	76.8	105.1	123.5	83.4	101.9	91.7	66.0	97.6	102.6	73.8	97.6	75.7
2016	76.1	75.4	76.7	73.5	71.6	92.4	116.3	90.2	100.1	90.2	64.8	97.5	103.0	66.8	95.2	84.4
2017	75.7	76.2	76.4	68.0	73.6	91.8	137.0	90.5	102.8	90.1	65.2	101.7	98.0	62.4	97.6	68.4
2018	77.9	76.4	77.1	68.3	83.3	85.5	134.3	111.8	105.7	94.8	66.7	106.3	102.2	64.7	97.0	82.1
2019	77.0	74.1	75.8	72.9	80.4	91.1	123.3	113.3	106.1	96.0	66.2	110.8	93.0	61.9	95.4	75.1
2020	81.7	84.6	81.7	75.4	74.5	97.3	136.1	132.0	121.2	105.5	66.5	120.7	114.6	67.5	103.8	80.3
2021	75.7	75.8	73.4	74.8	73.1	90.2	125.3	130.5	119.0	99.2	61.2	107.1	96.3	66.3	92.8	70.1
2022	71.0	66.6	67.7	71.7	75.1	87.6	126.3	130.6	120.3	89.1	55.3	97.4	96.8	71.8	88.5	56.6
2023	62.7	58.4	59.9	67.6	62.2	72.8	125.0	121.8	116.8	77.2	49.3	94.2	89.5	59.6	78.9	43.7
									percent							
CAGR	**(2.0)**	**(2.3)**	**(2.2)**	**(1.7)**	**(2.0)**	**(1.4)**	**1.0**	**0.9**	**0.7**	**(1.1)**	**(3.0)**	**(0.3)**	**(0.5)**	**(2.2)**	**(1.0)**	**(3.5)**

Notes: CAGR = compound annual growth rate. Jobs are based on annual average PD7 employment. Firms without employees are excluded. Table A-1 of the appendix provides counts of firms. Table A-2 of the appendix provides an alternate version of the table where productivity is indexed to a reference group rather than the start year.

Source: National Accounts Longitudinal Microdata File and authors' calculations.

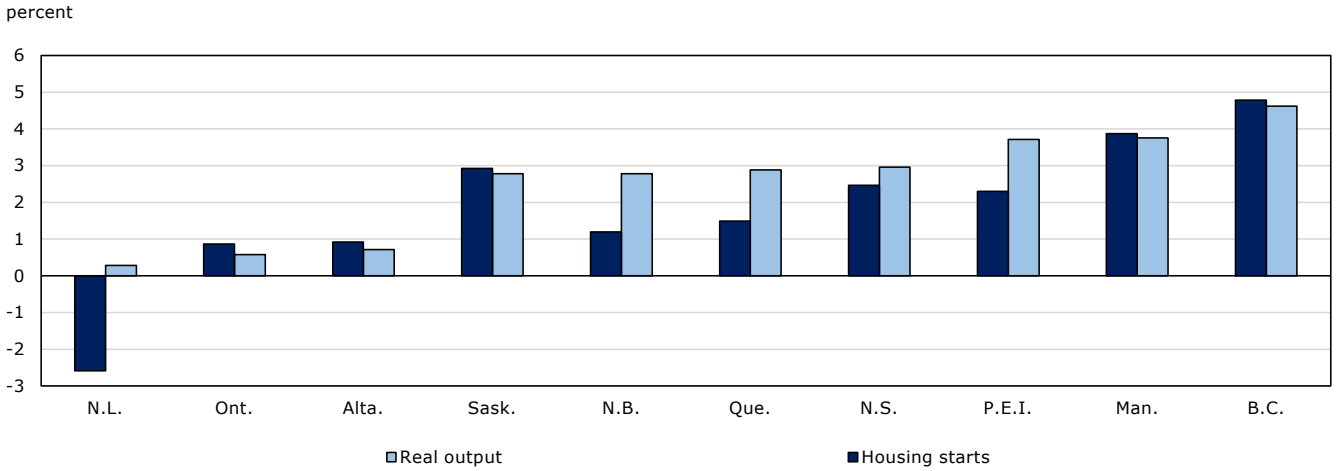
Chart 2
Compound annual growth rates of real output, jobs and labour productivity (real output / jobs), by selected characteristic, 2001 to 2023



Note: Jobs are based on average annual PD7 employment.
Source: National Accounts Longitudinal Microdata File.

As a validation exercise, Chart 3 compares growth in real output with growth in total housing starts, obtained from CMHC (Statistics Canada, 2025c). Total housing starts include single-family housing and multi-family housing (e.g., apartments) and can be easier to interpret than real output because they are expressed as a number of units, rather than in dollar terms. However, it is unfortunately not possible to produce housing starts by firm size. While real output is not expected to correspond exactly to housing starts, major discrepancies would indicate measurement issues. The ranking of provinces when using real output or housing starts is highly similar, though Saskatchewan is a bit of an anomaly, ranking much better in terms of housing starts.

Chart 3
Compound annual growth rates of real output versus housing starts in residential construction, by province, 2001 to 2023



Note: Jobs are based on average annual PD7 employment.
Source: National Accounts Longitudinal Microdata File, employer firms only.

Firms with fewer than five employees and firms in Ontario were responsible for the decrease in labour productivity

Table 2 decomposes the labour productivity growth that occurred from 2001 to 2023. There are two separate decompositions: one by size and one by region. The decomposition allocates the total change in the labour productivity index (-37.3%) across the subcategories of each variable (size and region), showing the contribution of each group of firms to the overall change in labour productivity. This contribution of each group can be calculated as follows:

$$\text{Total effect} = \text{Within effect} + \text{Between effect} = s_o(LP_1 - LP_0) + LP_1(s_1 - s_0) \qquad (0.2)$$

where s represents the share of jobs provided by the given group and LP represents the labour productivity of the given group. In the equation above, the change in labour productivity from period 0 to period 1 is decomposed into two effects: the within-firm effect and the between-firm effect. The within-firm effect (the first term on the right-hand side) captures the contribution of productivity growth within groups of firms (such as by firm size or region). The between-firm effect (the second term) reflects the impact of the reallocation of employment across different groups of firms. If employment shifts toward firms (such as larger firms) with relatively higher labour productivity, the between-firm effect will be positive.

In Table 2, the within and between effects are divided by labour productivity in 2001, so that the effects can be expressed in percentage point terms. The decline in labour productivity from 2001 to 2023 was driven primarily by smaller firms with fewer than 20 employees. Firms with fewer than five employees accounted for 22.4 percentage points of the total 37.3% decrease in labour productivity over the period. Firms with 5 to 19 employees contributed 16.1 percentage points of the total decline. Only firms with 50 employees or more made a positive contribution to labour productivity from 2001 to 2023.

During this period, the employment share of smaller firms (those with fewer than 20 employees) declined from 79.6% to 66.1%. This shift in employment away from smaller firms toward more productive larger firms (those with 20 or more employees) added only 2.1 percentage points over the period. This is because the relative productivity advantage of larger firms is small in the residential construction industry. The smallest firms, with fewer than five employees, are the least productive. However, the productivity gap between these smallest firms and the other size groups is relatively modest, at around 10%. The differences among the other three size groups are even smaller.

As could be expected, the provinces with the highest populations (and highest labour shares) have the largest impacts on aggregate labour productivity (Table 2). British Columbia is the only province to make a positive contribution to labour productivity, but this is only through the between effect, with the labour share of the province increasing substantially, from 12.9% of jobs to 19.2% of jobs. Ontario contributed -24.7 of the -37.3-percentage-point change in labour productivity, mostly through the within effect, indicating that labour productivity fell substantially for Ontario firms. Results for the provinces are highly similar when housing starts are used in the numerator, rather than real outputs.

Table 2
Contributions to the percentage change in labour productivity measures for residential construction, by firm size and region, 2001 to 2023

	Labour share of group		Real output / jobs			Housing starts / jobs		
	2001	2023	Total change	Within effect	Between effect	Total change	Within effect	Between effect
	percent				percentage points			
Overall change	...	...	**(37.3)**	...	...	**(38.8)**	...	...
Decomposition by firm size (employees)								
Fewer than 5	41.8	29.8	(22.4)	(16.0)	(6.4)	..	..	..
5 to 19	37.4	36.3	(16.1)	(15.5)	(0.7)	..	..	..
20 to 49	11.4	15.4	(1.1)	(4.1)	3.0	..	..	..
50 or more	9.4	18.5	2.3	(3.9)	6.2	..	..	..
Decomposition by region								
N.L.	1.9	1.1	(0.5)	(0.2)	(0.2)	(0.8)	(0.7)	(0.2)
P.E.I.	0.7	0.6	(0.0)	0.1	(0.1)	(0.1)	(0.0)	(0.1)
N.S.	3.6	2.4	(0.3)	0.3	(0.6)	(0.7)	0.2	(0.9)
N.B.	2.8	1.9	(0.2)	0.2	(0.4)	(1.0)	(0.4)	(0.6)
Que.	21.9	22.6	(3.5)	(4.0)	0.5	(7.1)	(7.4)	0.3
Ont.	38.3	36.9	(24.7)	(23.8)	(0.9)	(22.3)	(21.3)	(1.0)
Man.	2.9	3.0	(0.1)	(0.1)	0.1	(0.0)	(0.1)	0.0
Sask.	2.3	2.0	(0.4)	(0.2)	(0.2)	(0.3)	(0.1)	(0.2)
Alta.	11.8	9.7	(9.0)	(7.1)	(1.9)	(8.8)	(6.7)	(2.0)
B.C.	12.9	19.2	1.7	(2.1)	3.8	2.3	(1.9)	4.2
Territories	0.8	0.6	(0.4)	(0.3)	(0.1)	..	..	..

.. not available for a specific reference period
... not applicable

Notes: Jobs are based on annual average PD7 employment. Firms without employees are excluded.
Source: National Accounts Longitudinal Microdata File and authors' calculations.

Table 3 disaggregates the change in labour productivity by firm size within the four most populous provinces—Quebec, Ontario, Alberta and British Columbia (Statistics Canada, 2025b). The results for the four provinces are consistent with the national trend reported in Table 2. The decline in labour productivity from 2001 to 2023 in these provinces was driven by falling productivity among smaller firms with fewer than 20 employees. At the same time, the employment share of smaller firms declined in all four provinces, making a modest positive contribution to overall labour productivity growth as employment shifted toward larger and more productive firms with 20 or more employees. However, there are also some differences between provinces. In Quebec, firms were smaller on average than in the other three provinces in both 2001 and 2023, but despite this, Quebec fared much better than Ontario and Alberta in terms of the change in labour productivity. Ontario is the only province where labour productivity decreased for each firm size class (as illustrated by the negative within effects). This decomposition cannot be performed using housing starts in the numerator, since housing starts are not available by firm size.

Table 3
Contributions to the percentage change in labour productivity measures for residential construction, by firm size, within selected provinces, 2001 to 2023

	Labour share of group		Real output / jobs		
	2001	2023	Total change	Within effect	Between effect
	percent		percentage points		
Quebec	…	…	**(22.8)**	…	…
Fewer than 5 employees	52.8	38.3	(25.9)	(16.6)	(9.3)
5 to 19 employees	35.6	40.4	(10.3)	(14.0)	3.7
20 to 49 employees	9.5	15.2	7.9	2.4	5.5
50 employees or more	2.1	6.2	5.5	1.2	4.3
Ontario	…	…	**(50.7)**	…	…
Fewer than 5 employees	35.2	26.3	(24.7)	(20.6)	(4.0)
5 to 19 employees	37.6	33.2	(20.5)	(18.3)	(2.2)
20 to 49 employees	12.9	15.2	(2.4)	(3.8)	1.4
50 employees or more	14.2	25.3	(3.1)	(8.0)	4.9
Alberta	…	…	**(40.4)**	…	…
Fewer than 5 employees	41.9	28.9	(16.9)	(10.6)	(6.3)
5 to 19 employees	35.8	29.1	(19.8)	(15.9)	(3.9)
20 to 49 employees	12.1	15.6	(9.5)	(11.8)	2.3
50 employees or more	10.3	26.4	5.7	(5.5)	11.2
British Columbia	…	…	**(21.1)**	…	…
Fewer than 5 employees	38.7	25.5	(22.8)	(13.7)	(9.1)
5 to 19 employees	36.6	36.5	(6.0)	(5.9)	(0.1)
20 to 49 employees	13.9	15.4	(3.3)	(4.6)	1.3
50 employees or more	10.8	22.6	11.0	(0.0)	11.0

… not applicable

Notes: Jobs are based on annual average PD7 employment. Firms without employees are excluded.
Source: National Accounts Longitudinal Microdata File and authors' calculations.

Out of nine census metropolitan areas examined, only Halifax and Moncton had positive labour productivity growth

There are some caveats when comparing CMAs. The deflator used in the study is at the provincial level; this assumes that all CMAs within a province have experienced the same price increases. Additionally, for a given firm, real output (revenues) and employment are allocated to the headquarters of a firm, even though some firms may operate in multiple CMAs. Given these limitations, Chart 4 shows some exploratory estimates of the CAGRs for the largest CMA (in terms of employment) in each province. Smaller CMAs, not analyzed here, may be unfairly disadvantaged by the use of the province-level deflator, and their relatively smaller values make them more sensitive to potential data issues. If future work is to incorporate additional subprovincial analysis, it would be appropriate to investigate acquiring a CMA-level deflator and work on disaggregating values for firms that have locations in multiple CMAs.

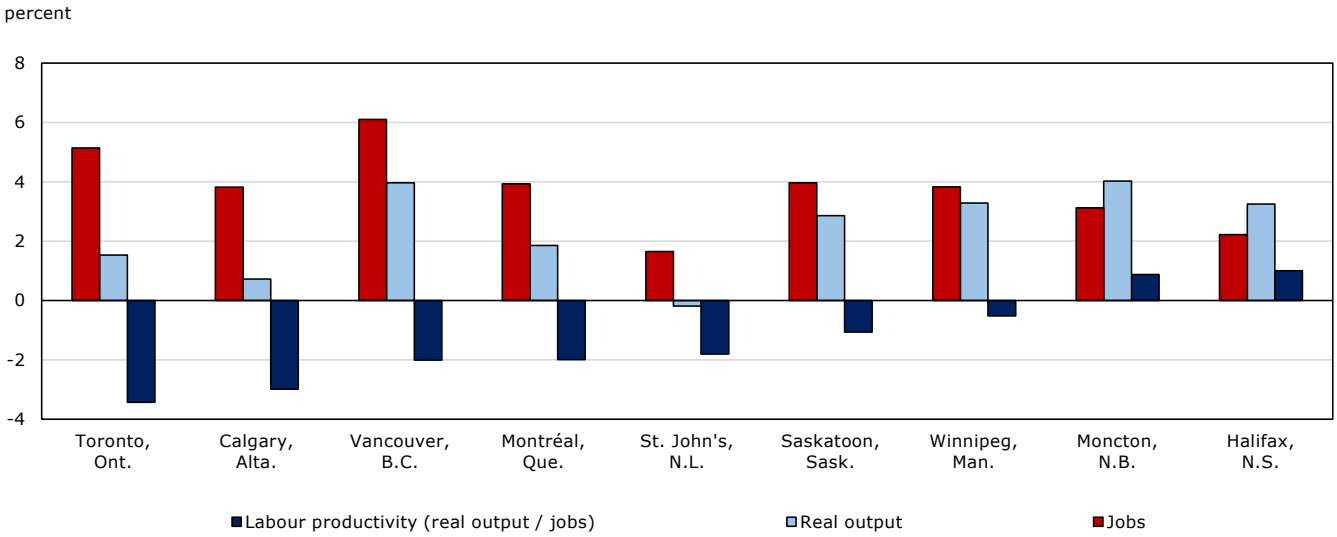
With these limitations in mind, Chart 4 shows the CAGRs for real output, jobs and labour productivity (real output / jobs), for the largest CMA (in terms of employment) in each province.[5] The CMA for a given

5. Prince Edward Island does not have a CMA.

firm is based on the most recent CMA boundaries. In other words, when the boundaries of the CMAs are adjusted (this can occur every five years with the Census of Population [Statistics Canada, 2025d]), the firms do not change classifications. Instead, Vancouver firms, for example, are firms that are or were within the current CMA boundaries for Vancouver. This prevents jumps in values that could occur if a large firm was reclassified into (or out of) a CMA. Unfortunately, the housing starts data are not revised in this way, and as a result, CMA-level housing starts are not strictly comparable over a long period (Statistics Canada, 2025d). Therefore, this study does not compare CMA-level real output to CMA-level housing starts, since much of the change in housing starts from 2001 to 2023 is caused by classification changes.

Out of the nine CMAs examined, only Halifax and Moncton have positive labour productivity growth (the growth in real output is higher than the growth in jobs). For all other CMAs examined (Winnipeg, Saskatoon, St. John's, Montréal, Vancouver, Calgary and Toronto), growth in the number of jobs exceeded growth in real output. St. John's was the only CMA with a decrease in real output from 2001 to 2023.

Chart 4
Compound annual growth rates of real output, jobs and labour productivity (real output / jobs), by selected census metropolitan area, 2000 to 2023



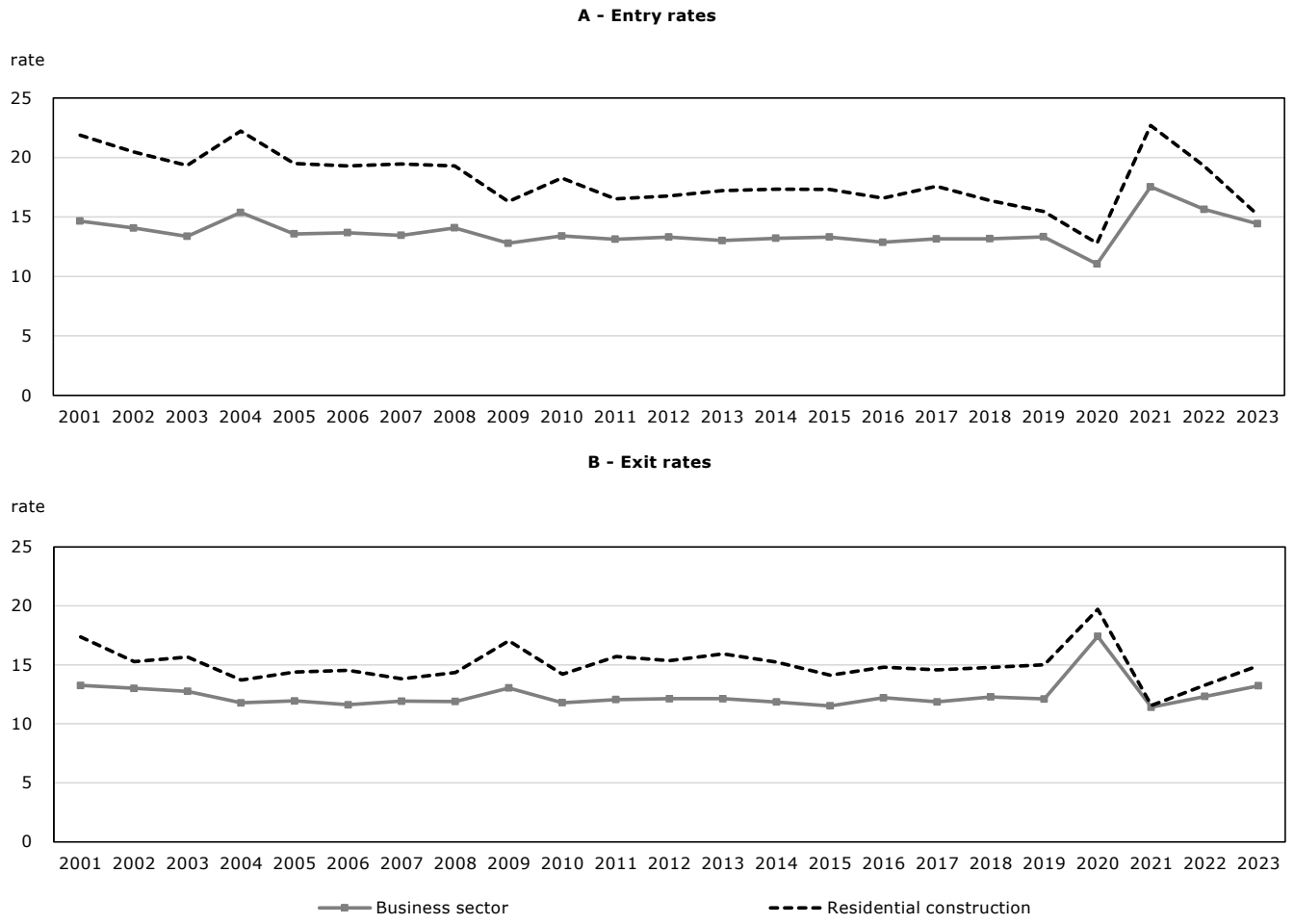
Notes: Jobs are based on average annual PD7 employment.
Source: National Accounts Longitudinal Microdata File.

Residential construction firms entered and exited the market at a higher rate, compared with all business sector firms

Lastly, Chart 5 examines firm entry and exit in residential construction, compared with all private firms. Entry and exit rates are related to productivity because entrants can bring new ideas to markets and inefficient firms can be replaced (Cefis et al., 2022). Firm entries and exits are found to make a significant contribution to productivity growth in Canada (Baldwin & Gu, 2011). At the same time, excessively high firm exits can indicate an increase in adverse market conditions and can be disruptive to the partners and clients of firms.

Firms are entrants when they are present in the given year but were not present the year before. Firms are exits when they are not present in the given year but were present in the year before. To compute entry and exit rates, the number of entrants and exits is divided by the average number of firms between the given year and the year before. Temporary exits, where the firm returns in a future year, are captured in the exit rates, and reopenings are captured in the entry rates. This is why entry rates are high in 2021 (Chart 5)—they are partially elevated by firms that reduced annual average PD7 employment to less than one in 2020, then increased annual average PD7 employment to more than one in 2021.

Chart 5
Business sector versus residential construction: Entry and exit rates, 2001 to 2023



Notes: Firms without employees are excluded. Rates for the business sector differ from official estimates (Statistics Canada, 2024a), which use different data sources.
Source: National Accounts Longitudinal Microdata File and authors' calculations.

From 2001 to 2023, the entry and exit rates are higher in residential construction than in the business sector overall in every year (Chart 5). The residential construction industry is characterized by high rates of firm entry and exit, which in principle should support productivity growth. Further research is needed to examine the implications of firm turnover and competitive market dynamics for productivity performance in the industry.

Though the baseline entry and exit rates were higher, movements in the entry and exit rates in residential construction were similar to those in the business sector during the pandemic. For example, during the first year of the pandemic (2020), the exit rate for residential construction firms increased from 15.0% to 19.7% (+4.7 percentage points) and the exit rate for business sector firms increased from 12.1% to 17.5% (+5.4 percentage points).

Conclusion

Labour productivity in Canadian residential construction decreased from 2001 to 2023, while labour productivity increased in the overall business sector. This study investigated the hypothesis that smaller firms cause these productivity woes and found that smaller firms with fewer than 20 employees accounted for the dominant share of the entire decline. From 2001 to 2023, the share of firms with fewer than 20 employees decreased, while the share of firms with 20 or more employees increased. This reallocation toward relatively larger firms made a small positive contribution (less than 5%) to aggregate labour productivity growth over the period, since the labour productivity advantage of larger firms was small. The national evidence showing that smaller firms accounted for the overall decline in labour productivity, as well as the decrease in their share of total employment, was also observed in the four largest provinces: Quebec, Ontario, Alberta and British Columbia.

Finally, the study found that there is great variation between geographic areas—labour productivity fell in most parts of Canada, but some provinces and cities managed to achieve positive growth. In Ontario, firms had negative labour productivity growth regardless of size, and the province was responsible for over half of the decrease in aggregate labour productivity.

Altogether, it appears that market fragmentation is a factor in low productivity growth, but consolidation will not be sufficient to solve Canada's labour productivity woes, since the difference in labour productivity levels is modest between small and large firms.

The study found that the residential construction industry is characterized by high rates of firm entry and exit. Further research is needed to examine the implications of firm turnover and competitive market dynamics for productivity performance in the industry.

Future work could focus on investigating why results vary so much by province and CMA. However, this would require some data development and investigation to overcome data issues related to subprovincial analysis, such as the lack of a CMA-level deflator. Productivity differences in residential construction between CMAs may be at least partially explained by differences in policies and regulations, which were not investigated in this paper. Another possible difference between geographic areas concerns single-family versus multi-family housing—adding data on building permits to the firm-level data would be needed to investigate whether firms focusing on multi-family housing construction are more productive.

Interpretation of the results is also complicated by the fact that the examined industry is narrowly defined, capturing firms that engage primarily in onsite residential building construction. Future studies could also investigate related firms, such as specialty contractors that may subcontract for residential construction firms, or manufacturing firms that produce prefabricated buildings or parts of buildings.

Table A-1

Residential construction firms and counts, by characteristic, 2001 to 2023

		Size (employees)				Region										
	Total	Fewer than 5	5 to 19	20 to 49	50 or more	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Territories
								count								
2001	15,945	12,646	2,971	267	61	369	124	603	551	4,215	5,308	429	397	1,847	2,016	86
2002	16,700	12,948	3,368	311	73	381	142	612	557	4,386	5,567	466	388	1,959	2,154	88
2003	17,221	13,128	3,643	368	82	401	130	610	538	4,549	5,696	467	391	2,062	2,294	83
2004	18,676	14,210	3,987	386	93	428	140	670	561	4,910	6,043	507	414	2,194	2,720	89
2005	19,638	14,946	4,176	413	103	419	147	697	551	5,167	6,246	523	438	2,326	3,032	92
2006	20,612	15,584	4,460	450	118	424	145	688	575	5,238	6,428	555	456	2,604	3,412	87
2007	21,823	16,490	4,655	542	136	429	141	712	579	5,385	6,684	577	517	2,945	3,763	91
2008	22,923	17,270	4,924	586	143	465	144	726	586	5,635	6,878	630	615	3,097	4,047	100
2009	22,739	17,393	4,662	570	114	509	150	725	637	5,810	6,823	663	672	2,880	3,777	93
2010	23,680	17,984	4,995	577	124	561	162	749	647	6,030	7,129	689	742	2,971	3,905	95
2011	23,870	18,276	4,893	562	139	589	159	750	630	6,159	7,247	726	757	2,890	3,864	99
2012	24,222	18,558	4,941	594	129	609	167	707	612	6,267	7,431	752	801	2,939	3,834	103
2013	24,450	18,659	5,016	627	148	610	160	696	567	6,334	7,550	789	857	3,072	3,716	99
2014	24,914	19,058	5,057	629	170	615	156	685	543	6,428	7,706	803	853	3,174	3,858	93
2015	25,659	19,662	5,213	619	165	586	151	654	532	6,543	8,118	824	854	3,229	4,074	94
2016	26,039	19,888	5,363	629	159	548	159	668	552	6,549	8,433	832	792	3,037	4,367	102
2017	26,778	20,318	5,617	669	174	515	166	698	563	6,722	8,852	835	752	2,930	4,650	95
2018	27,154	20,500	5,743	713	198	488	173	679	568	6,822	9,002	842	705	2,932	4,844	99
2019	27,239	20,401	5,916	727	195	449	177	682	552	6,943	9,181	835	685	2,786	4,850	99
2020	25,402	19,174	5,402	648	178	414	174	642	508	6,846	8,277	810	609	2,496	4,514	112
2021	28,238	21,015	6,231	785	207	449	188	665	549	7,752	9,308	850	686	2,659	5,018	114
2022	29,750	21,999	6,635	873	243	439	210	732	582	8,240	9,866	896	695	2,764	5,210	116
2023	29,722	21,930	6,658	865	269	432	208	745	568	8,348	9,885	896	693	2,733	5,098	116
								percent								
CAGR	**2.7**	**2.4**	**3.6**	**5.2**	**6.7**	**0.7**	**2.3**	**0.9**	**0.1**	**3.0**	**2.7**	**3.3**	**2.5**	**1.7**	**4.1**	**1.3**

Notes: CAGR = compound annual growth rate. Firms without employees are excluded.

Source: National Accounts Longitudinal Microdata File and authors' calculations.

Table A-2

Residential construction firms and labour productivity (real output / jobs), by characteristic, indexed to reference group, 2001 to 2023

	Size (employees)				Region										
	Fewer than 5	5 to 19	20 to 49	50 or more	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Territories
	index, <5 = 100				index, Ont. = 100										
2001	100.0	112.1	120.7	120.5	36.7	27.0	34.7	28.8	65.6	100.0	57.1	58.2	122.1	62.6	58.0
2002	100.0	111.4	119.5	127.5	40.0	24.2	39.3	29.2	68.8	100.0	50.8	63.6	123.0	66.8	46.3
2003	100.0	110.6	114.6	138.9	44.2	30.1	43.1	31.8	72.1	100.0	52.8	62.3	123.2	70.5	37.3
2004	100.0	115.0	120.0	139.4	49.2	26.8	42.4	33.2	70.9	100.0	66.5	61.5	120.2	69.9	32.5
2005	100.0	122.8	119.9	170.4	51.8	28.4	44.2	35.3	76.0	100.0	72.0	68.4	138.5	82.0	34.5
2006	100.0	113.7	119.2	138.4	54.1	30.7	45.4	39.0	79.9	100.0	72.7	69.9	139.7	80.8	45.3
2007	100.0	114.7	117.5	150.1	51.6	33.6	46.1	40.0	81.8	100.0	70.2	62.3	121.4	73.5	39.8
2008	100.0	116.9	120.3	142.6	52.6	34.0	46.9	42.3	81.2	100.0	65.4	65.1	111.0	68.5	37.4
2009	100.0	117.8	125.5	110.5	59.9	38.1	48.9	44.2	90.9	100.0	71.0	81.0	116.7	83.5	46.9
2010	100.0	110.6	124.6	106.7	57.3	36.7	49.0	41.7	90.0	100.0	75.8	78.7	113.0	70.6	45.4
2011	100.0	115.8	126.6	106.1	57.3	43.6	51.7	42.3	92.3	100.0	79.9	87.4	115.6	70.4	56.7
2012	100.0	122.5	125.2	124.5	62.1	46.3	57.6	42.9	98.2	100.0	87.6	97.3	125.7	85.0	41.8
2013	100.0	118.7	115.8	117.8	65.1	44.5	50.7	45.8	87.0	100.0	88.9	90.8	131.6	90.4	54.7
2014	100.0	118.8	123.1	125.5	61.1	44.0	44.7	46.3	92.4	100.0	87.5	92.5	129.8	89.3	69.0
2015	100.0	111.5	122.0	118.5	58.4	50.6	43.9	44.5	91.3	100.0	84.4	90.5	136.6	92.6	66.6
2016	100.0	114.0	117.5	114.4	52.3	48.5	48.3	44.5	91.4	100.0	85.9	92.6	125.9	92.0	75.6
2017	100.0	112.5	107.7	116.3	51.7	56.8	48.2	45.4	90.8	100.0	89.0	87.5	117.0	93.8	60.8
2018	100.0	113.1	107.9	131.3	47.0	54.4	58.1	45.6	93.3	100.0	90.9	89.2	118.4	91.0	71.4
2019	100.0	114.7	118.8	130.7	50.4	50.3	59.3	46.2	95.1	100.0	95.5	81.7	114.1	90.1	65.7
2020	100.0	108.2	107.5	106.1	53.6	55.3	68.8	52.5	104.0	100.0	103.6	100.3	123.8	97.7	70.0
2021	100.0	108.6	119.2	116.2	54.0	55.3	73.9	56.0	106.4	100.0	99.8	91.6	132.3	94.9	66.5
2022	100.0	113.9	129.9	135.8	58.1	61.7	81.9	62.7	105.8	100.0	100.5	101.9	158.6	100.2	59.3
2023	100.0	114.9	139.7	128.2	54.1	68.4	85.6	68.2	102.7	100.0	109.0	105.7	147.5	100.1	51.4

Notes: Jobs are based on annual average PD7 employment. Firms without employees are excluded.

Source: National Accounts Longitudinal Microdata File and authors' calculations.

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