

Canada's Housing Woes: How Housing Problems Differ Across Community Size & Tenure

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ABSTRACT: I examine how three housing indicators, measured by unaffordable housing, inadequate housing, and unsuitable housing, have evolved since 2016 in Canada by community size and tenure type (owners vs. renters). Using data aggregated at the census subdivision level, I find notable differences in the change of the housing indicators based on community size, driven primarily by homeowners. Overall, the proportion of households in unaffordable housing declined by 2.7 percentage points over the 2016 to 2021 period for Canada's urban centres with populations above 50,000. These declines increased in magnitude for communities of less than 50,000 people.

I also find heterogeneity in the distribution of the housing indicators based on tenure type. The average proportion of unaffordable housing for renters in census subdivisions is 19 percentage points higher than for homeowners, who also have a much tighter distribution. More extreme values of all three of the housing indicators are also primarily faced by renters. Unaffordable housing is seen in greater proportions in larger centres, whereas inadequate housing tends to be more of a problem for smaller communities. Unsuitable housing is most prevalent in the smallest and largest communities, which may be due to differing factors. Policy around housing should account for these heterogeneous conditions and be tailored for the size of community and tenure type, with focus on renters given they see more extreme conditions on average.

1 - Introduction

Housing conditions in Canada, and particularly affordability, have been widely discussed in recent years and especially in the post-pandemic period. Concerns about rising shelter costs across the country, tight vacancy rates in major cities, and their impact on marginalized groups are reported near-daily in the media. The focus of these issues, however, is largely in the most-populated regions of Canada. Toronto, Vancouver, and Montreal are widely regarded to be less affordable than their suburbs

and other regional centres. Although, it is less clear how, if at all, smaller communities' housing conditions are changing over time. They likely are co-related as those priced out of the city move into these communities, affecting equilibrium prices and quantities.

In this paper, I examine how three housing indicators, unaffordability; inadequacy; and unsuitability; have evolved since 2016. My key research questions are 1) Has the change in housing affordability, adequacy, and suitability over recent years differed across Canadian communities based on their population, and 2) How are these changes in housing dependent on whether one rents or owns their home. Using data from the 2016 and 2021 censuses, I analyze these changes at the census subdivision level, which roughly equates to the municipal level and its rural equivalent. I also examine how the distribution of the housing indicators differ across subdivisions to see if one group faces more extreme housing problems than the other.

The rise in housing prices over the last 10 years across urban Canadian communities is well documented. In 2018, the pricing gap between real house sales and what is considered attainable reached 50 percent in Toronto and Vancouver, and was as high as 60 percent in Hamilton (International Monetary Fund, 2019). In a March 2024 Royal Bank of Canada report, it was estimated that 68 percent of Canadian households cannot afford to purchase a home based on earned income alone (Freestone, 2024).

The residential real estate sales and rental markets in major Canadian cities have been adversely affected by the COVID-19 pandemic and recent inflation. In early 2024,

shelter prices were the largest factor in recent consumer price index increases (Bank of Canada, 2024b). In Canada's major cities, rent growth exceeded wage growth by a large margin and significantly lower vacancy rates were reported in Toronto, Montreal, Edmonton, and Calgary. For the least expensive units, low-income renters faced even lower than average vacancy rates (Dugan & Hughes, 2024)

The census data reveals notable variability in conditions across community size and tenureship. Unaffordable housing is most acute in Canada's largest cities, consistent with media reports, but differences over time vary more by community size for homeowners whereas changes in affordability for renters is less responsive. In fact, as measured by the proportion of households in a census subdivision, the proportion living in unaffordable housing declined over the five year period despite simultaneous shelter price increases. For communities with 50,000 to 200,000 people, the proportion in unaffordable housing is on average 2.7 percentage points lower in 2021 than it was in 2016 after controlling for a set of subdivision-level covariates including age makeup, income, family status and other variables.

Homes that are considered unsuitable (lacking enough bedrooms for household composition) appear mostly in the smallest and largest community groupings. This could indicate differing factors preventing people from accessing more appropriate housing, such as lack of availability in smaller centres and, in larger centres, a tradeoff between suitable housing and affordability where housing prices are relatively higher. Unsuitable housing is growing most rapidly for renters in larger cities.

Inadequate housing (homes requiring major repairs) is predominantly a smaller community problem. Communities below 1000 people faced inadequacy rates on average of 14 percent in 2016, which lowered by 1.75 percentage points in 2021. The largest declines are happening in the smallest communities and are driven by homeowners.

Renters are more likely to face more extreme levels of unaffordability, inadequacy, and unsuitability in a census subdivision. The mean value of the proportion of unaffordable housing is 31 percent for renters but just 12 percent for homeowners. The distribution for homeowners is also more centred around its mean. The mean proportion of unsuitable housing is also nearly three times as large for renters than it is for homeowners. In each housing indicator distribution, the vast majority of right-tail values come from the renter sample.

The rest of the paper is organized as follows: section 2 reviews relevant literature and past work, sections 3 and 4 discusses the data and methods used for analysis, section 5 presents the key findings and provides limitations to analysis, and section 6 concludes with a discussion and suggests areas for future work.

2 - Literature Review

The literature does not contain recent work on the evolution of housing indicators in Canada based on community size. Work has been completed relating housing problems

to other geographic, economic, and demographic factors. These studies have been mostly limited to urban centres.

There is evidence of common patterns in housing in Canadian communities where the resource industry, particularly oil and gas, plays a large role in the local economy.

Okkola & Brunelle (2018) studied the impact of the growth of the resource sector on housing affordability from 1991 to 2011. Their results showed that income growth experienced by increased labour demand for resource-workers had negative effects on housing affordability for those not in the industry and particularly those who were low-to-middle income, who saw lower relative income growth over the 20-year period.

Skaburkis (2004), focusing on urban Canada specifically, investigated how the prevalence and incidence of housing affordability problems differed in cities' income, demographics, and employment factors using microdata from the 1991 and 1996 censuses. He found that most influential factors were variation in employment levels and household income sources. Young, non-family households saw largest increases in housing unaffordability over the period whereas older, longer-term homeowners were insulated from these price shocks through previous purchase of their homes. Migration and immigration also play a minor, independent role due to informational barriers faced particularly by recent immigrants to Canada as they settle into the local labour market, often starting out with lower incomes until they do (Skaburskis, 2004).

Outside of Canada, there is evidence of correlation between housing adequacy and the urban-suburban and urban-rural divides. Aizawa et al. (2020) examine these divides, comparing conditions in 10 developing countries in Asia to U.S. data. Evaluating data between rural areas, small cities, and major cities, they found that in Asia, the proportion of small-city residents living in adequate housing was on average 6.1 percentage points lower than their major city counterparts. This difference tripled comparing small city residents to rural areas. They also find disparities in adequate housing between central cities, suburbs, and non-metropolitan areas of the United States, though at smaller magnitudes compared to the Asian case. American suburbs have the highest proportion of adequate housing, followed by central cities and non-metropolitan areas.

Concern for the evolution of affordable, adequate, and suitable housing is warranted given its impacts on social and economic wellbeing. Qualitative evidence suggests that home environment characteristics including location, noise, dilapidation, and affordability affects family functioning and the social development of children. Children who grow up in inadequate housing may have disadvantages in escaping the cycle of poverty (Bartlett, 1998). There are also links between housing and population health, given their rise to inequality in daily social circumstances that affect the endocrine, immune and central nervous systems over time (Dunn & Hayes, 2000).

The housing affordability problem also has interactions with social inequities of poverty and the burden of housing costs. Economic hardship is linked to poverty status and

housing cost burdens, and their influences differ along racial lines (Mimura, 2008).

Non-family households are also among the most affected by changes in housing affordability (Skaburskis, 2004). Interactions also exist between unaffordability and living in inadequate or unsuitable housing in Canada, as those who experience severe unaffordability problem also tend to live in housing that is physically inadequate, clustered in impoverished areas with poor access to services (Moore & Skaburskis, 2004).

While homeownership is found to promote equality, issues of affordability can limit these benefits. Foster and Kleit (2015) examined how the effects of homeownership, housing affordability, and subprime lending on social inequality evolved in the United States over the 1980 to 2010 period. The role of subprime mortgage lending in the 1990s had differing consequences in the 2000s up to the Great Recession. Subprime lending opened homeownership to low and mid-income families, and particularly to racial minorities who were underserved historically in credit markets. They found that subprime lending rates, county-level housing affordability and homeownership rates do not have consistent relations over time or across more and less populated areas.

3 - Data

The data on housing indicators and controls come from the 2016 and 2021 editions of the Canadian Census of Population. Each subdivision is identified by a unique geographical ID, which is used to link housing indicator data with other census data.

Housing indicator data is split by tenure type which illustrates the situation for

homeowners, renters, and the total sample separately. After cleaning, there are 4115 observations covering the total sample, 3361 for owners and 2289 for renters. There is limited data in some small communities (less than 1000 people) and many of them do not have well-established rental markets, which explain the differences in total observations across tenure types.

The unit of observation is a census subdivision in each census year. Census subdivisions equate to municipal or equivalent rural administrative boundaries. A metropolitan area is made up of several census subdivisions, usually one for each municipality. I selected subdivision-level data for analysis due to it being the most granular level of community observation available for which individuals within face the same set of local laws that affect housing markets. More information on geographic units used in the census can be found in Appendix B.

The housing indicator variables report the proportion of households within each census subdivision that meet the criteria for units that are considered, unaffordable, unsuitable, or inadequate. Unaffordable housing covers households for which more than 30 percent of total before-tax household income is spent on shelter costs. Inadequate housing are homes reported by residents as requiring major repairs. Unsuitable housing lacks enough bedrooms for the size and composition of resident households according to the National Occupancy Standards (Government of Canada, 2022).

The primary independent variable is subdivision population in 2021. Other data at the subdivision level is used as additional covariates to control for other influential factors related to housing. These include: median after-tax income, proportion below low-income cutoff, proportion of non-Canadian citizens, highest educational attainment, unemployment rate, marital and family status, and community age makeup. Provincial fixed effects are also added to account for the differing legislative environments among the provinces.

The 2021 census was conducted near the height of COVID-19 restrictions in Canada. The pandemic caused numerous industries to reduce employment or shut down entirely, leading to unprecedented short-term layoffs and affecting the income of large groups of workers. To mitigate variation extending from this effect, two COVID-19 related controls are added to the model: the proportion of residents in each subdivision receiving COVID-19 emergency benefits and the average payout among recipients.

Table 1: Summary Statistics

Tenure	Total					
Variable	Mean	Std. Dev.	Min	Median	Max	Obs.
Total Households	6796	39000	75	1220	1160890	4115
Inadequate Housing (%)	8.5	5.3	1.5	7.4	73	4115
Unsuitable Housing (%)	3.6	4.8	0.2	2.5	58	4115
Unaffordable Housing (%)	15	6.3	1.5	15	67	4115

Tenure	Owner					
Variable	Mean	Std. Dev.	Min	Median	Max	Obs.
Total Households	5454	23725	20	1275	602920	3361
Inadequate Housing (%)	7.8	5.1	1	6.8	65	3361
Unsuitable Housing (%)	2.7	3.3	0.2	2	57	3361
Unaffordable Housing (%)	12	5	1.6	11	50	3361

Tenure	Renter					
Variable	Mean	Std. Dev.	Min	Median	Max	Obs.
Total Households	3954	24735	35	545	557970	2289
Inadequate Housing (%)	9.8	6.2	1.5	8.3	56	2289
Unsuitable Housing (%)	7.3	6.3	0.6	5.7	61	2289
Unaffordable Housing (%)	31	11	2	32	66	2289

Table 1: Summary statistics for housing indicators

Notes: Table 1 reports the summary statistics for the three housing indicators (unaffordable housing, inadequate housing, and unsuitable housing). The units are measured in percentage points.

Data Source: Statistics Canada (Table 98-10-0259-01)

Table 1 reports summary statistics for the housing indicators. Of note, there is a large difference in the means of the unaffordable housing rate between owners and renters; the average for owners is 19 percentage points lower than is the case for renters, and the distribution is much more spread for renters (the standard deviation is double that of the owner sample). The average proportion of renters living in unsuitable housing among subdivisions is 4.6 percentage points higher than for owners, who face an

average unsuitability rate of 2.7 percent. Overall, an average and median of 15 percent of households among subdivisions live in unaffordable housing, suggesting that at the subdivision level, unaffordable housing rates are normally distributed. The distribution of total households by subdivision is extremely positively-skewed, as indicated by a median value of 1220 households but a maximum of 1.16 million in the subdivision of Toronto.

Table 2 reports summary statistics for the controls. Most of the controls are similarly distributed across the census subdivisions by tenure type. Population density and the proportion of non-citizens are notable exceptions. The renter sample also tends to include subdivisions that are younger. The difference in average COVID-19 benefit amounts was less than 200 dollars, and the proportion that received COVID-19 benefits differed by less than one percentage point.

Table 2: Summary Statistics for Controls

Tenure	Owner						Renter						Total					
Variable	Mean	Std. Dev.	Min	Median	Max	Obs.	Mean	Std. Dev.	Min	Median	Max	Obs.	Mean	Std. Dev.	Min	Median	Max	Obs.
married	63	14	17	67	95	3361	61	14	12	65	95	2289	62	15	12	66	95	4115
marr_w_child	26	11	2.8	26	69	3361	27	10	5.9	26	68	2289	25	11	0	25	69	4115
cov19aid.pc	24	5.5	8	24	63	3361	25	6.1	8	24	70	2289	24	6	8	24	70	4115
av_cov19aid	8260	962	4400	8320	13000	3361	8415	941	5700	8480	13000	2289	8246	1037	4200	8300	13250	4115
med_at_inc	70581	14980	32800	68500	144000	3361	71532	15383	35200	70000	144000	2289	69435	14902	32800	67500	144000	4115
bel_lco	2.9	1.5	0.3	2.6	25	3286	3.1	1.7	0.5	2.8	25	2215	2.9	1.5	0.3	2.6	25	3976
age_15to24	2	1.7	0	1.6	19	3361	2.3	1.8	0	2	19	2289	2	1.9	0	1.7	19	4115
age_25to34	11	4.5	0	11	30	3361	12	4.6	0	12	36	2289	11	4.8	0	11	36	4115
age_35to44	15	4.5	0	15	38	3361	16	4.2	4.5	16	33	2289	15	4.7	0	15	38	4115
age_45to54	16	3.5	0	16	36	3361	17	3.4	5.9	16	30	2289	16	3.7	0	16	36	4115
age_55to64	23	4	6.5	22	41	3361	22	3.6	8.7	22	44	2289	22	4.2	6.5	22	44	4115
age_65to74	20	5.2	0	19	39	3361	19	5	0	18	38	2289	20	5.4	0	19	46	4115
age_75to84	9.9	3.4	0	9.7	28	3361	9.6	3.5	0	9.6	23	2289	9.9	3.7	0	9.7	28	4115
age_85_plus	3	1.9	0	2.8	14	3361	3.1	1.9	0	2.9	13	2289	3	2	0	2.8	14	4115
non_cdn	2.8	3.4	0	1.8	44	3360	3.4	3.8	0	2.2	44	2289	2.6	3.3	0	1.7	44	4111
he_highschool	27	7.3	7.2	28	53	3361	26	7	3.8	27	53	2289	27	7.7	3.8	28	54	4115
he_postsec	59	11	11	59	91	3361	60	11	11	60	92	2289	58	12	11	59	92	4115
unemp	9.3	4.7	0	8.4	39	3361	9.3	4	0	8.6	42	2289	9.4	5	0	8.4	42	4115

Table 2: Summary statistics for control variables

Notes: Table 2 reports the summary statistics for census subdivision-level controls for the total sample and split by tenure. Variables are measured in percent, except for COVID-19 aid amount and median income, which are measured in dollars.

Data Source: 2021 Canadian census

4 - Methods

The primary method of analysis is Ordinary Least Squares (OLS) regression with the following functional form:

$$p_{it}^{indic.} = \alpha + \sum_{k=1}^K \beta_k CENTRE_k + \gamma YEAR_t + \sum_{k=1}^K \omega_k CENTRE_k YEAR_t + \delta' X_{it} + \epsilon_{it}$$

where $p_{it}^{indic.}$ is the proportion of the indicator in subdivision i in year t , $CENTRE$ is a set of dummy variables indicating community size, $YEAR_t$ is an indicator for census year, and X_{it} is a vector of covariates, and ϵ_{it} is an error term. The coefficients for the interaction term between subdivision and year, ω_k , are of primary interest for determining if the change in unaffordable housing and other indicators over time varied by community size.

OLS is the best (in terms of minimum variance) unbiased linear estimator under the Gauss-Markov assumptions of linearity, exogeneity, no perfect multicollinearity, and homoskedasticity. Given the non-random sampling, it is unlikely that the exogeneity condition holds, indicating that the omission of key variables may bias the estimates and that findings are limited to observational conclusions. To account for heteroskedasticity in the housing indicators, HC2 corrected standard errors are used. This is implemented using the sandwich package available in the R programming language (Zeileis, 2006).

Observations are grouped into five distinct bins based on their population. These bins are sorted as follows: population below 1000; 1000 to 2500; 2500 to 10,000; 10,000 to 50,000; 50,000 to 200,000; and above 200,000. The 50,000 to 200,000 bin is used as the omitted category in the regression due to its relatively large sample size compared to the largest category and reflects the circumstances of most of Canada's urban landscape outside of the largest centres.

There are notable differences in tenure across the composition of the population bins. Figure 1 shows the relative frequency of observations by population bin, stratified by tenure type. The sample of census subdivisions are more concentrated in lower-population communities for homeowners, whereas the renter sample contains proportionally more observations in centres with more than 10,000 people. About 62 percent of the renter sample contains census subdivisions with less than 10,000 people, whereas it makes up just less than 75 percent for homeowners. In rural communities, rental markets are less-established than they are in their urban counterparts and the price of real estate is lower on average, reducing the need to rent and promoting homeownership in these places.

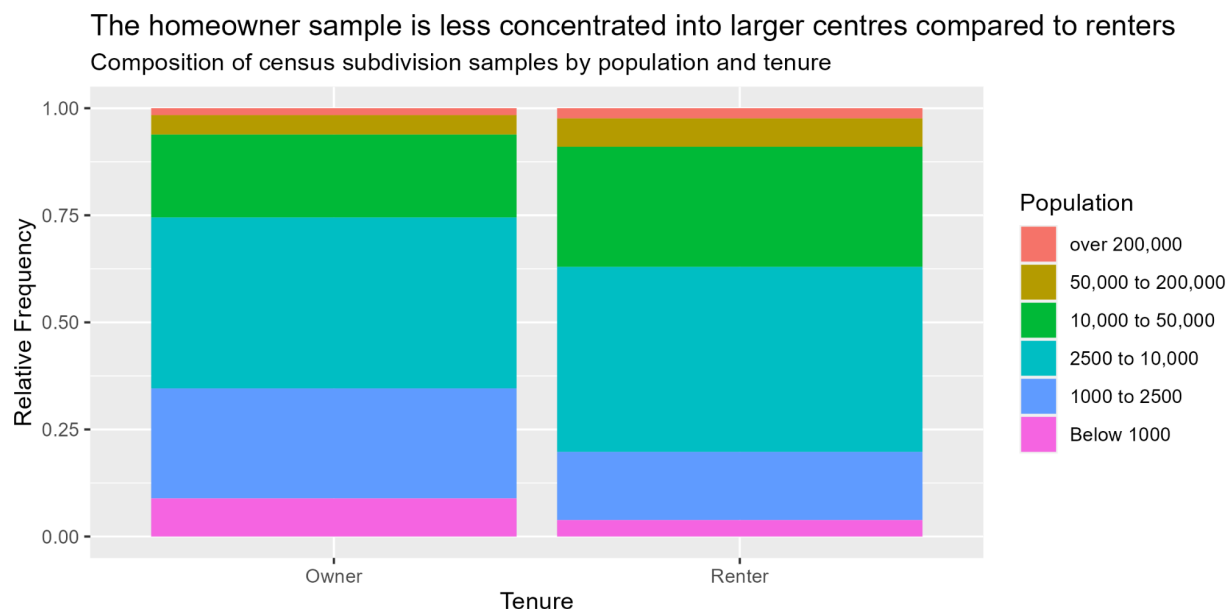


Figure 1: Composition of population bins conditional on tenure type.
Data source: compiled by author using 2021 census.

5 - Results

Changes over time

Table 3 reports the regression coefficients for the specification in equation 1 across indicators and samples, relative to the omitted category of census subdivisions with populations between 50,000 and 200,000. For unaffordable housing, there is a statistically significant difference in trends over time for lower-population centres among homeowners. After accounting for controls outlined in section 3, the proportion of households considered unaffordable was 1.5 percentage points lower in 2021 compared to 2016 for homeowners in the omitted category. Centres between 1000 to 10,000 people saw a decline over the period that was on average 1.3 percentage points larger in magnitude compared to the 50,000 to 200,000 category or, in other words, 2.8

percentage points overall. Centres with populations of 10,000 or more people did not have changes that differed statistically from the reference category. This suggests that the unaffordable housing problem eased at a faster rate for smaller towns than their urban counterparts for homeowners.

For the renter sample, results were less sensitive to community size. In the 50,000 to 200,000 category, the proportion of households considered unaffordable was 6.4 percentage points lower in 2021 compared to 2016, after accounting for controls. The only grouping with a statistically different estimate were communities in the 2500 to 10,000 category, which had an additional decline of 1.7 percentage points (8.1 percentage points total). While the renter sample is more concentrated in larger centres, there are sufficient observations in the lower population categories.

For the inadequate housing indicator, there is no statistically significant difference over time for the 50,000 to 200,000 population category at the five percent level. Statistically significant results show up for populations between 1000 and 10,000 people in the owner sample, suggesting a modest decline of between 0.5 and 0.8 percentage points after accounting for controls. For the renter sample, the only significant estimate suggests an increase of 1.4 percentage points in the proportion of inadequate households in small towns of 1000 to 2500 people. These results suggest that inadequate housing was more stable in the short term than unaffordable housing, although owners in smaller centres saw marginal improvements.

Table 3: Regression Estimates By Tenure

	<i>Dependent variable:</i>								
	Total	Unaffordable Housing Owners	Renters	Total	Inadequate Housing Owners	Renters	Total	Unsuitable Housing Owners	Renters
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Time	-2.663*** (0.464)	-1.454*** (0.421)	-6.433*** (0.595)	-0.230 (0.175)	-0.178 (0.200)	-0.489* (0.264)	0.600*** (0.156)	0.354*** (0.117)	0.836*** (0.211)
Below 1000 * Time	-2.049*** (0.681)	-2.557*** (0.765)	-1.126 (2.326)	-1.097** (0.518)	-1.251* (0.640)	-0.452 (2.232)	-0.664* (0.384)	-0.828** (0.410)	-1.901 (1.942)
1000 to 2500 * Time	-1.152** (0.522)	-1.297*** (0.494)	-1.592 (1.172)	-0.648*** (0.247)	-0.761** (0.296)	1.355** (0.652)	-0.535** (0.209)	-0.252 (0.161)	-0.402 (0.556)
2500 to 10,000 * Time	-1.109** (0.497)	-1.265*** (0.452)	-1.696** (0.760)	-0.463** (0.209)	-0.501** (0.237)	-0.230 (0.381)	-0.456*** (0.172)	-0.190 (0.137)	-0.937*** (0.275)
10,000 to 50,000 * Time	-0.410 (0.525)	-0.594 (0.480)	-0.325 (0.733)	-0.048 (0.217)	-0.061 (0.237)	0.164 (0.334)	-0.344** (0.175)	-0.144 (0.133)	-0.495* (0.270)
Above 200,000 * Time	-0.066 (0.995)	0.035 (1.204)	0.218 (1.349)	0.034 (0.382)	0.085 (0.402)	-0.107 (0.616)	0.141 (0.468)	0.016 (0.334)	0.239 (0.805)
COVID-19 Controls	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Base Controls	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Observations	3,976	3,286	2,215	3,976	3,286	2,215	3,976	3,286	2,215
R ²	0.602	0.522	0.584	0.438	0.443	0.391	0.541	0.469	0.577

Note:

*p<0.1; **p<0.05; ***p<0.01
Reference category: Population between 50K and 200K

Table 3: Regression estimates by indicator and tenure type

Notes: Estimates are measured in percentage points. All regressions include controls in Table 2 alongside time and provincial fixed effects.

Across the samples and after accounting for controls, there are statistically significant increases in the proportion of households considered unsuitable for the makeup of the family unit in Canada's largest communities. For centres with populations between 50,000 and 200,000, the proportion of households in unsuitable housing was 0.6 percentage points higher in 2021 compared to 2016 across the total sample after controls. There is a notable differential conditioning on tenure type; the estimate is 0.84 percentage points for renters and 0.35 for homeowners, suggesting renters on average have been more severely impacted by changes in unsuitable housing over the period. There is no statistically significant difference in unsuitable housing for centres above 200,000 people. In communities below 1000 people, the sign switches for homeowners. For renters, a statistically significant negative coefficient for centres with 2500 to 10,000 people negates the association observed in larger centres.

Overall, the results in Table 3 provide evidence of declining rates of unaffordable housing across the total sample with more mixed results for the inadequate and unsuitable housing indicators. There were marked differences based on community size, with statistically significant estimates suggesting relative improvements in conditions for smaller communities compared to their larger urban counterparts. The differences across community size were more apparent for homeowners than for renters, which were relatively more homogenous over time.

Differences across community size and provinces

Figure 2 presents estimates of the mean proportion of unaffordable housing in each subdivision for each province, weighted by subdivision population to better reflect what the typical resident faces and excluding controls in the previous section. In Ontario, Quebec, and British Columbia – Canada’s three most populated provinces – there are notable declines in unaffordable housing as measured by the proportion of households in a census subdivision. Other provinces showed more marginal or statistically insignificant declines with the exception of Alberta, which had a higher point estimate in 2021 but one that did not differ statistically from their 2016 estimate. Indeed, despite ongoing attention and increasing salience of the housing issue by anecdotal reports, the data suggest that unaffordable housing improved during the period.

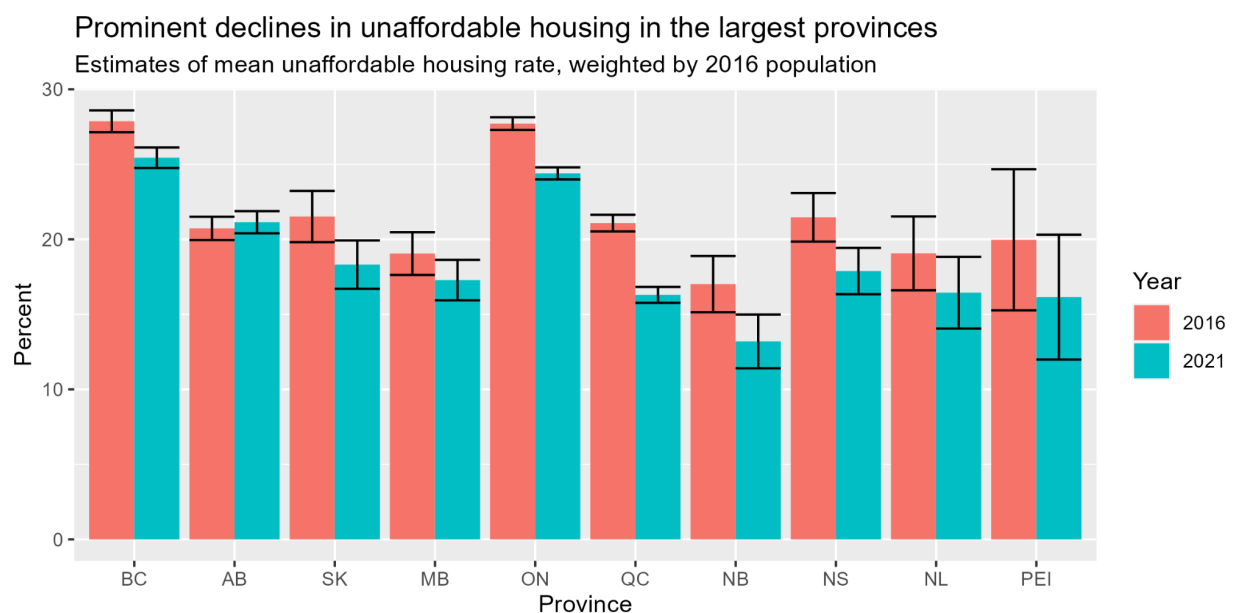


Figure 2: Estimates of mean unaffordable housing on the census subdivision level across the provinces.
Notes: Observations are weighted by population and do not include controls to reflect what a typical resident would face.
Data source: Statistics Canada (Table 98-10-0259-01), compiled by author

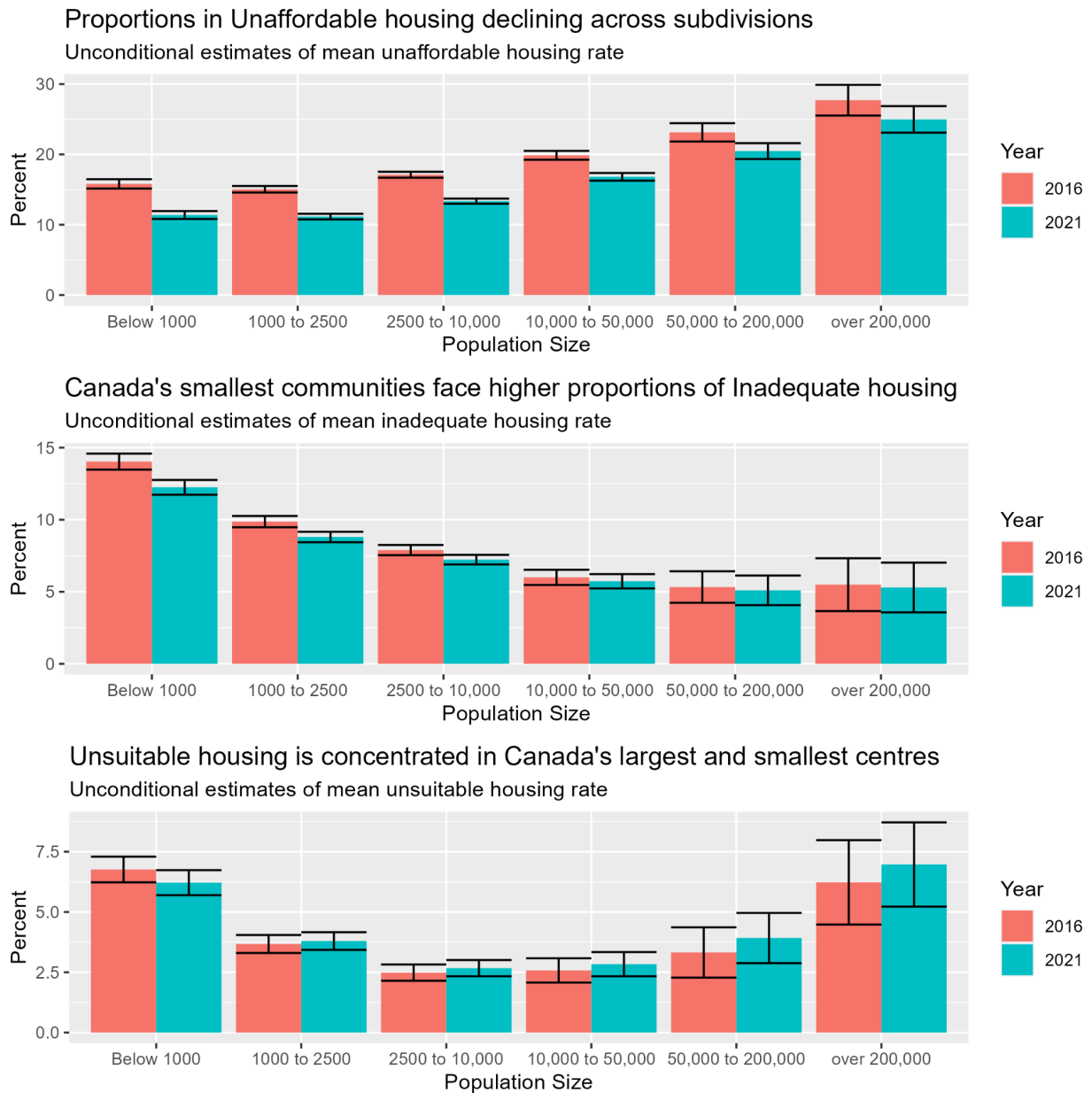


Figure 3: Estimates of mean unaffordable housing, inadequate housing, and unsuitable housing across census subdivisions by community size.
Data source: Statistics Canada (Table 98-10-0259-01), compiled by author

Across community size, there are notable differences in the incidence of the housing indicators. Figure 3 reports the estimated unconditional means of unaffordable housing (and the other indicators) across subdivisions by community size. Unaffordable housing is seen in higher proportions in Canada's larger centres, with those over 200,000 people

having 25 percent or more of households in unaffordable housing. Communities with 2500 people or below, however, have average proportions as low as approximately 11 percent. As indicated previously in Table 2, there are significant declines in unaffordable housing over time for smaller centres, which is not seen in larger urban areas.

Inadequate housing, as the figure suggests, is proportionally more of a smaller community problem. This is consistent with conclusions from Aizawa et al. (2020). The point estimate for inadequate housing in census subdivisions below 1000 people was around 14 percent in 2016. For both the 50,000 to 200,000 and the above 200,000 population bins, inadequate housing affected on average around 6 percent of households. The figure shows a consistent negative relationship between community size and inadequate housing, suggesting that households located in smaller centres may be less able to conduct major repairs to their homes or otherwise major repairs are required more so than is the case in large urban centres.

Unsuitable housing, as measured by the point estimates, exhibits a U-shaped pattern across community size. Centres with populations below 1000 or above 200,000 have the highest proportion of unsuitable housing among their household stocks. This is minimized in communities with populations between 2500 and 50,000 people. While the smallest and largest communities in Canada have high rates of households in unsuitable housing, it is not clear if it is driven by the same factors. In small settlements, it could be that more suitable housing does not exist in the community, whereas in

larger centres such housing could exist, but other factors such as affordability may be preventing households from moving to more suitable lodging.

Distributions of housing indicators across tenureship

It is evident in the literature and preceding analysis that renters face differing circumstances compared to their home owning counterparts. Particularly, homeowners appear to be better able to shield themselves from future affordability shocks than is the case for renters (Skaburskis, 2004). This section will compare and contrast the distribution of unaffordable, unsuitable, and inadequate housing across subdivisions for owners and renters.

Figure 4 plots the distribution at the census subdivision level of the housing indicators conditional on tenure type. The distributions show notable differences across both the indicators and tenure type. As noted previously in the summary statistics, the proportion of households in a given subdivision that live in unaffordable housing is 19 percentage points lower on average for homeowners than is the case for renters. The distribution for renters is also much more spread out, with the mean value for renters being located in what is the right tail for the owners distribution. It is evident in this plot that renters are disproportionately affected by housing problems. Renters tend to live in larger communities which may explain part of the distributional difference.

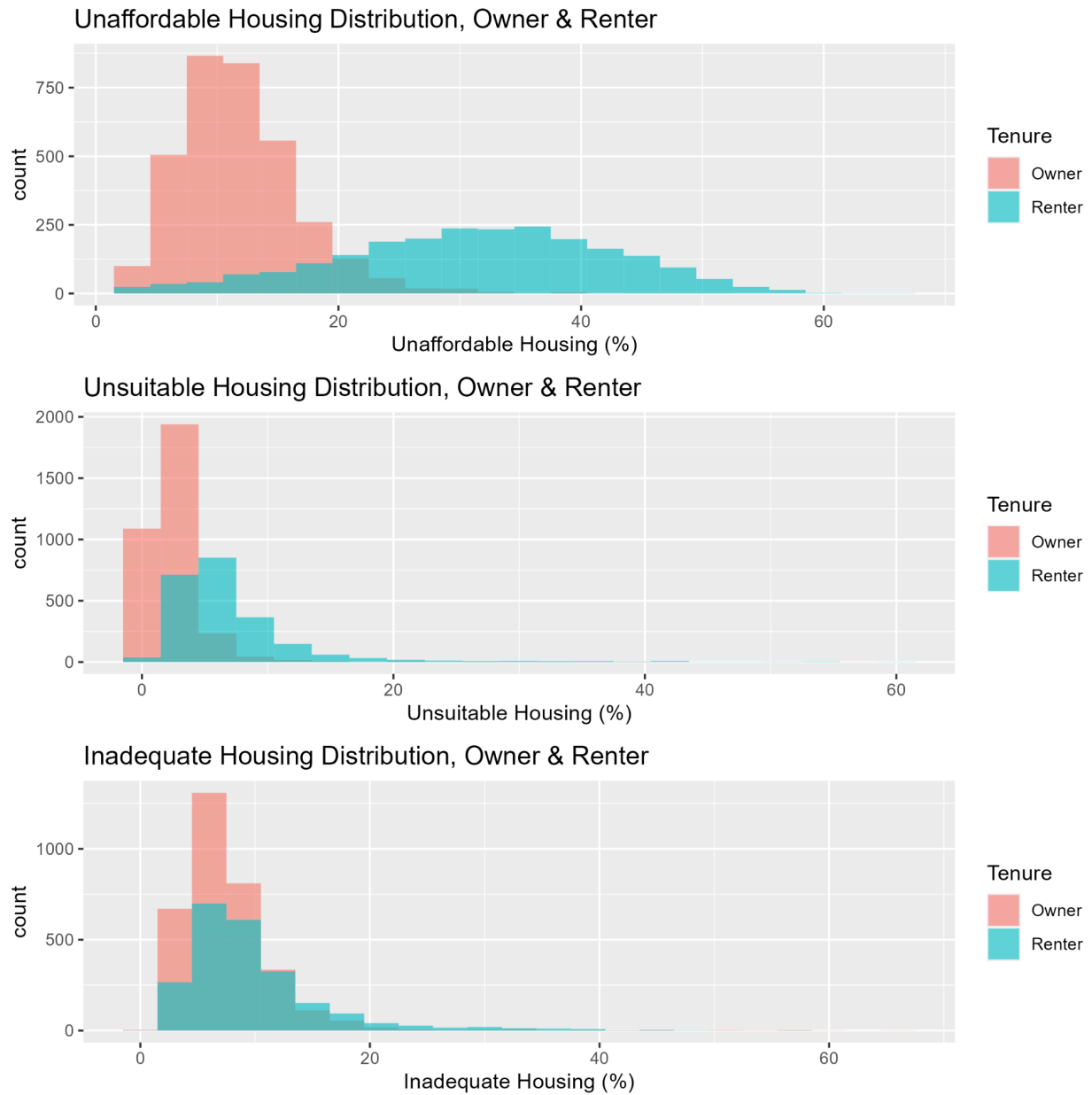


Figure 4: Distributions of the housing indicators, plotted separately by tenure type.

Notes: Distributions are at the census subdivision level.

Data source: Statistics Canada (Table 98-10-0259-01), compiled by author

For inadequate housing, the distributions are similarly centred. However, the right tail extends farther for renters than is the case for owners. This suggests that in the more

extreme cases of inadequate housing, they are more likely to be faced by renters than homeowners.

While the distributions for unsuitable housing have similar shape, homeowners are more concentrated in the lower-proportion bins. Renting households have a higher mean rate of unsuitable housing and like the plot for inadequate housing, have more density in the right tail. Communities with more extreme values of unsuitable housing tend to be faced disproportionately by renters, as seen with the other indicators.

Limitations to analysis

The conclusions made are observational and no causal linkage can be inferred due to the presence of omitted variables. Estimates discussed in previous sections are correlational only. Further, the renter sample encountered notable missing values in the smallest census subdivisions. It is likely this is due to lack of data or census subdivisions being so lowly-populated that rental markets are undeveloped. However, if there are other systematic linkages between census subdivisions that have missing rental data, important missing information would have been excluded from the results included.

The analysis on unaffordable housing and other indicators looks only at the proportion of households who meet the criteria of each category and its change over time. This does not tell us how welfare has changed for groups who remained in affordable housing or unaffordable housing over the census periods. It is possible that while unaffordable housing as a proportion of housing stock in census subdivisions declined,

those who already spent well over 30 percent of their before-tax income on housing in 2016 are spending an even larger share of their income on housing in 2021, or a smaller share that is still above the 30 percent threshold.

It would be preferred if more timely data was available across census subdivisions for analysis in the short term. However, regularly released data on housing variables are usually only available for larger urban centres. While the dataset is comprehensive in that it includes the smallest communities that exist in Canada, it is updated only with the release of the newest available census.

6 - Discussion

There are notable differences among community size and tenure type in both the levels and change over time of housing-related problems in Canada. As suggested in other literature and in media reports, the housing crisis is most acute for renters in the largest urban communities. That said, there is notable heterogeneity in the distribution of housing problems. Unaffordable housing is most prominent in larger communities, whereas inadequate housing (households requiring major repairs) appears more proportionally in smaller communities. Unsuitable housing is concentrated in the largest and smallest centres, which may indicate that differing forces could be driving poorer housing matches in these communities.

Problems relating to affordability, adequacy, and suitability are faced by both renters and owners. However, across their distributions the most extreme circumstances observed

are primarily faced by those who rent, and it appears that consistent with Skaburskis (2004), homeowners are better able to insulate themselves from these conditions, which may in part be explained by income differences. From a policy perspective, this suggests that actions to reduce these pressures in communities with extreme housing problems would benefit from tailoring their response primarily to renting households.

Why are renters worse off in terms of their probability of facing more extreme levels of unaffordable, inadequate, and unsuitable housing? While the insulating effect of homeownership may be a factor, it may be that homes available for purchase are of higher quality on average than those available for rent. To the extent that rentals are provided by private markets, homeowners who own multiple properties would likely choose to live in the highest-quality unit they can afford and rent the remainder. If that is true, it would be expected that the distribution of available rental properties would be lower quality than properties for sale.

Future work

It is interesting that while renters had seen economically significant declines in the proportion of households that are living in unaffordable housing, there is also evidence that the proportion in unsuitable housing has risen in Canada's largest centres during the same period. One possible explanation is that to reduce the cost burden of housing, renters are increasingly willing to live in units less suited to their needs based on their family composition as they continue to be priced out of more suitable housing. The evidence would be consistent with this explanation, but future work is needed to determine if these causal links hold.

In March 2022, the Bank of Canada began raising its policy rate target from its low of 0.25 percent (Bank of Canada, 2024a). In less than two years, the rate rose up to 5.0 percent to control spikes in inflation related to the pandemic recovery, supply chain strains, and other global events. The data do not reflect these maneuvers by the central bank, and its impact on these housing variables would be warranted in future studies. From a theoretical perspective, it is likely that higher rates discouraged first-time homebuyers from buying property *ceteris paribus* given it raises mortgage payments and, on the developer side, discouraged project starts in the short term due to increased borrowing costs to fund development.

While this article shows that there is a correlation between both the change and levels of unaffordable housing with community size, the mechanisms for which this phenomena occurs is unclear. Perhaps due to their greater infrastructure networks and available amenities, people prefer to live in larger centres and are willing to pay for it. Or, there could be frictions that prevent city residents from taking advantage of better availability of more affordable housing in smaller communities, such as inadequate skills match for the local labour market or the inability to transfer social capital (i.e. personal and professional networks) developed in larger centres.

Canada's housing problems are multidimensional and not just limited to differences in community size and tenure type. A one-size-fits-all approach to provide affordable, adequate, and suitable housing may not be optimal. Policy relating to housing should

proactively respond to the differing trends seen in Canadian communities to best improve the wellbeing of those affected. While this paper provides evidence that the proportion of unaffordable housing is declining in Canada as measured at the census subdivision level, price growth is still strong and upward pressures on affordability exist. It will take a multi-faceted approach responding to the unique needs of renters, owners, and their communities to improve housing conditions as a whole.

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Appendix A: Population bins by province

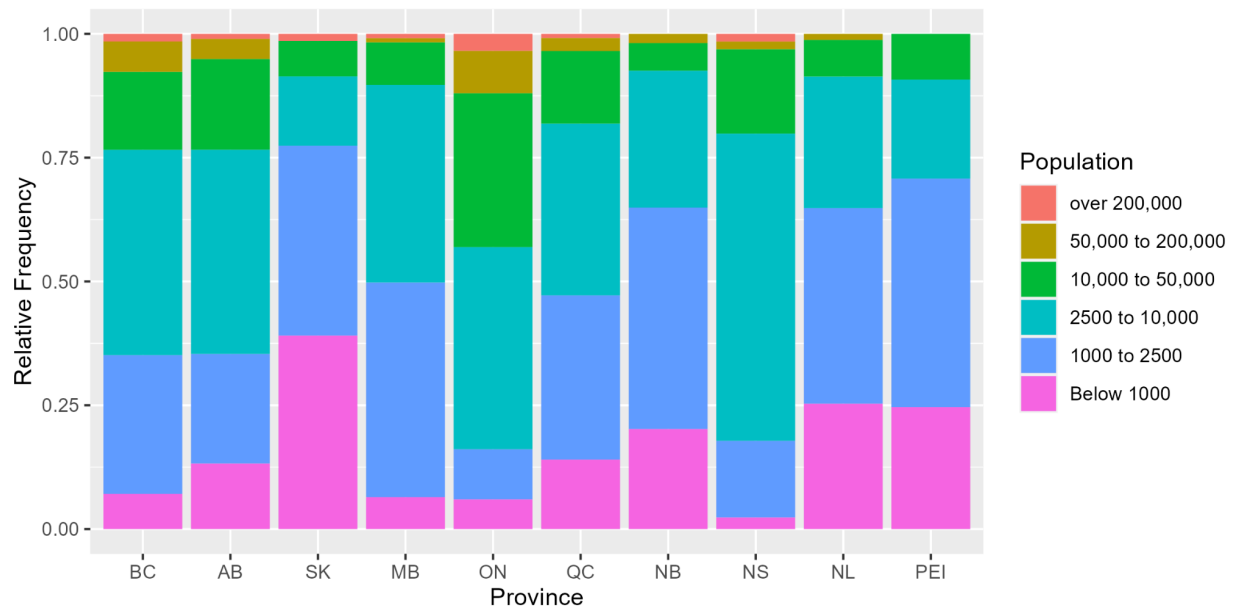


Figure A1: Distribution of population bins by province.
Data Source: 2021 census, compiled by author

Figure A1 reports the proportion of census subdivisions falling into each of the five population bins by province. Saskatchewan, New Brunswick, Newfoundland and Labrador, and Prince Edward Island have the highest proportions of communities below 2500 people in their census subdivision composition. Urban centres of 50,000 or more people have the largest shares in Ontario, British Columbia, and Alberta. The Atlantic provinces (except for Halifax, Nova Scotia) do not have any municipalities with over 200,000 people. Nova Scotia has the highest intraprovincial proportion of small towns of 2500 to 10,000 people.

Appendix B: Additional notes on census geographical units

There are a variety of different geographical units available for Canadian census data and related information. The largest unit, naturally, is all of Canada, and subsequently its provinces and territories. This is followed by census divisions which, depending on province and population, equates to regional boundaries larger than single municipalities but lower than the province/territory level. These include counties, regional municipalities, regional districts (British Columbia) and municipalités régionales de comté (Quebec).

Census subdivisions, the units for analysis, are defined as follows by Statistics Canada:

“Census subdivision (CSD) is the general term for municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes (e.g., Indian reserves, Indian settlements and unorganized territories). Municipal status is defined by laws in effect in each province and territory in Canada.

Census subdivisions (CSDs) are classified into 57 types according to official designations adopted by provincial, territorial or federal authorities. Two exceptions are 'subdivision of unorganized' (SNO) in Newfoundland and Labrador, and 'subdivision of county municipality' (SC) in Nova Scotia, which are geographic areas created as equivalents for municipalities by Statistics Canada, in cooperation with those provinces, for the purpose of disseminating statistical data.” (Government of Canada, 2021)

In short, Statistics Canada defines census subdivisions as municipality-like designations based primarily on provincial and territorial definitions. This makes census subdivisions the ideal unit to examine differences across legally defined communities.

Other census geographical units include federal electoral districts, economic regions, census metropolitan areas, census tracts, and other boundaries. Given different municipal jurisdictions and heterogeneity of the population within them, census divisions and metropolitan areas were not used for analysis in favour of more granular units of observation.