Viewpoint: Housing Supply and Housing Affordability in Canada

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Abstract

Since 2000, housing markets across Canada have experienced growth rates in prices that far exceed corresponding rates of household income growth. However, rents have grown at similar rates to household incomes. Annual per capital housing unit new construction rates have remained steady at about 0.007 across all types of markets since 1991, with the composition shifting markedly from single-family homes to multi-family structures. Purpose-built rental construction has recently risen from very low levels. To understand these patterns, we consider local regulatory environments and infrastructure provision, rental housing supports, sources of housing demand growth, and Canada's macroprudential regulatory institutions and environment.

1 Introduction

We provide an overview of the evolution of Canadian housing markets since 1981, with a particular focus on recent declines in housing affordability. We document that the torrid rates of housing price growth across all types of Canadian markets since 2000 have not been matched with similar rates of rent or household income growth. Indeed, the rising affordability challenge in Canada is uniquely oriented toward the owner-occupied market segment. As with the US, growing construction costs are coincident with rising home prices. However, unlike the US, Canada has been uniquely successful at expanding multi-family housing supply, even in its smaller metropolitan areas. This comes despite very low rates of purpose built rental construction in the Toronto and Vancouver "superstar" markets from the 1970s until 2021.

We draw on multiple strands of literature to understand the nature and consequences of declining affordability in Canada, emphasizing both similarities and differences with US housing markets. We situate this work among a set of papers and review articles that speak to declining affordability in the US (Baum-Snow, 2023; Baum-Snow and Duranton, 2025; Glaeser and Gyourko, 2025a) and worldwide (Knoll et al., 2017; Saiz, 2023). Baum-Snow and Duranton (2025) show that, as in Canada, US housing prices grew rapidly relative to incomes after 2000, though Canada's superstar housing markets had owner-occupied housing affordability declines that were much greater than their US superstar counterparts. Unlike in Canada, US rents have grown faster than incomes, though only in the 2000-2010 period. Also unlike in Canada, most US markets have experienced marked declines in construction rates along with reduced housing teardown rates since the 2008 US Financial Crisis. The lack of a corresponding financial crisis in Canada went along with its more stable housing market conditions.

Understanding the drivers of changes in housing supply, including regulations that raise construction costs, is central to diagnosing declines in housing affordability. The nature of US housing market regulations have been extensively reviewed in Gyourko and Molloy (2015), Molloy (2020), and Ellickson (2022), among many others. In Canada, we highlight some similar political economy forces that promote land use regulation. However, Canadian cities have made some progress at reducing regulations directly in an environment with less local pressure to regulate (Davidoff et al., 2022). Municipal amalgamations and large urban jurisdictions reduce incentives to regulate at levels chosen by US municipalities (Favilukis and Song, 2025). Moreover, Ontario has taken a particularly active role in overruling local jurisdictions to approve large real estate development projects; a power not afforded to any US state.

Canadian regimes for land use planning, infrastructure provision, and direct federal involvement in construction financing have all supported the transition toward multi-family housing construction. Canada's greater emphasis on transit over highway construction and larger local jurisdictions have facilitated less severe land use regulation and more spatially concentrated demand growth. The Canada Mortgage and Housing Corporation (CMHC) facilitates the financing of (in particular) multi-family housing construction through mortgage loan insurance, mortgage securitization, and direct construction loans to affordable housing developers. In addition, Canada's demand conditions might be more amenable to multi-family living, with high immigrant shares and lower household incomes.

Our empirical findings motivate both the study of housing cycles and a distinction between renting and owning, which is especially notable given that price growth has outpaced rent and income growth at an extraordinary rate. Literature on the macroeconomics of housing markets has recently engaged more with the tenure choice decision, which is particularly relevant for understanding recent trends in housing affordability (Davis and Van Nieuwerburgh, 2015; Piazzesi and Schneider, 2016; Duca et al., 2021). Duca et al. (2021) reviews issues surrounding the measurement of housing costs for owner-occupants from which we draw. In Canada, Head and Lloyd-Ellis (2016) demonstrate the challenges of assessing the extent of housing overvaluation, and Bordo, Redish and Rockoff (2015) study why housing markets did not collapse during the US Financial Crisis. More broadly, we believe that the integration of housing price dynamics into spatial equilibrium frameworks, such as Greaney, Parkhomenko and Van Nieuwerburgh (2025), will be important for potential future quantitative evaluations of the affordability crisis.

In this paper, we describe the institutions that shape the structure of the rental and owner-occupied housing markets in Canada. On the demand side, the foreign buyer tax, and now ban, along with high immigration rates has shifted demand from the owner-occupied to the rental market. However, various tax incentives for first-time buyers, in addition to the capital gains tax exclusion for the primary residence, promote homeownership among other groups. Mortgage market regulation in Canada exceeds that in the US, with policies that are intended to both encourage housing affordability and financial system stability. CMHC's mortgage insurance and mortgage securitization promote lending, while mortgage stress test rules imposed by the Office of Superintendent of Financial Institutions (OSFI) promote financial stability. With housing prices at historic highs, debt to income and housing debt to GDP ratios are both signs for some concern.

Ultimately, there is no way around alleviating current housing affordability challenges through facilitating more construction and more elastic supply. Given constrained accessibility to most exurban regions of metropolitan areas, this means finding ways to make it easier

for developers to build and densify while providing the infrastructure needed to support such densification. Moreover, it means reducing frictions that hinder the conversion of housing units between the owner-occupied and rental market segments.

This paper is organized as follows. In Section 2, we describe our headline empirical facts about rising unaffordability in Canada. In Section 3, we assess how impediments to housing construction can and can not explain these facts. Section 4 details features of the rental housing market may explain relatively low rent growth. Section 5 explores the extent to which both housing and homeownership demand has skyrocketed. Section 6 discusses how rising unaffordability may influence Canadian financial stability. Section 7 concludes.

2 Facts

Housing costs have risen rapidly in most developed economies worldwide, including Canada, since WWII (Knoll et al., 2017). In the case of the US, such rising costs have been concentrated in more recent decades and have been attributed to a combination of forces. Rising material and construction costs (Baum-Snow and Duranton, 2025), increasingly stringent land use regulations affecting both the supply of housing units and the size of these units (Gyourko et al., 2021), the increasing scarcity of land available for development (Baum-Snow and Duranton, 2025), and strong demand growth arising from both smaller household sizes and rising incomes at the top of the income distribution (Couture et al., 2023) are all contributing factors. Moreover, declining affordability has been more pronounced in "superstar" housing markets including San Francisco, New York, and Boston (Moretti, 2012; Gyourko et al., 2013).[1]

With this understanding of the recent US experience in mind, we begin by establishing a set of uniquely Canadian facts about housing supply and affordability between 1981 and 2024. This time period was marked by steady but relatively sluggish GDP growth of just over 1% per year. We stress that Canadian housing has become notably less affordable over this period, but for apparently different reasons and on different margins than in the US. There are two emergent themes that tie our facts together. First, the incidence of declining affordability for households is spread out more unevenly between owners and renters. House price growth far exceeded growth in rents, the latter of which grew remarkably similarly to incomes over the past 40 years. This explosion in value growth has likely negatively impacted young households intending to become owners and strongly benefited incumbent homeowners, while leaving lifetime renters no worse off.

Second, as in the US, declining housing affordability is not concentrated in Canada's

[1]The rapid housing price divergence between US "superstars" and other markets before 2000 slowed in subsequent decades (Baum-Snow and Duranton, 2025; Glaeser and Gyourko, 2025a).

superstar housing markets of Toronto and Vancouver. House values, rents, and household incomes have grown at surprisingly similar rates when comparing both Toronto and Vancouver to rural Canada. We show that this is coincident with Toronto and Vancouver building high-density, multifamily housing units at greater rates than occurred in US cities of similar sizes. The most important margin of new housing supply in the US has historically been through land development and not through the densification of developed land (Baum-Snow, 2023; Baum-Snow and Han, 2024). One overarching message is that affordability declines nationwide have been partially offset by the densification of housing in Canada's most prosperous central cities.

2.1 Measuring housing quantities and prices

To aid in the interpretation of the facts presented below, we start by conceptualizing the measurement of housing prices and quantities. As in neoclassical models of housing markets, we take as primitive the quantity of *housing services* h_{ij} provided by an indivisible dwelling unit i in housing market j. The index value h_{ij} incorporates observed and unobserved features of a housing unit (dwelling) i that provide value to residents. These attributes include floorspace, the quality of construction materials, finishings, and bedroom counts. This index of housing services can be thought of as a vertical measure of quality. If there are N_j dwellings in j, the total quantity of housing services in market j is $H_j = N_j \bar{h}_j$, where $\bar{h}_j$ is the average quantity of housing services provided by a housing unit in j. Households consume one housing unit each, which may differ in this housing services index. Finally, we assume that market j has a uniform price per unit of housing services P_j and this price adjusts to equate the aggregate supply and aggregate demand for housing services in the market.[2] This means that the price of any dwelling is the combination of both price and quantity, $P_j h_{ij}$, and so any observed changes in housing prices may reflect changes in either or both components.

Following a positive housing demand shock, both housing prices P_j and the total supply of housing services H_j may rise, with the relative increase governed by the price elasticity of housing supply. Positive demand shocks in supply elastic markets manifest through relatively more growth in H_j whereas those in supply inelastic markets manifest more as price than quantity growth. Additionally, the change in H_j can be decomposed into four margins: (i) new dwellings built on previously undeveloped land ("new developments"), (ii) new dwellings built on previously developed land ("redevelopment"), (iii) existing dwellings that fully depreciate or entirely disappear ("teardowns"), and (iv) existing dwellings that decay

[2] A uniform price per unit of housing services arises endogenously in models where housing units can be combined and divided without cost to form new units that provide higher and lower quantities of housing services, respectively (Piazzesi and Schneider, 2016).

or are renovated ("renovations"). Responses along each of these margins may affect both the total quantity of housing units and the average quantity of housing services provided by those units. New housing supply can also manifest in different types of structures, including single family homes and large condominium towers.

So far, our conceptual environment has two shortcomings. First, there is no clear definition of housing affordability that maps to household welfare. Second, it makes no distinction between renters and owners, which we demonstrate to be important in the Canadian context. To think about these issues, we next develop standard user cost formulations of housing costs faced by households.

The rental rate r_{jt} per unit of housing services captures the flow cost of housing consumption paid by renters at time t. Since housing is durable, the price of housing is not the same as the flow cost of housing services for owner-occupants. Instead, implicit annual housing consumption costs for owner-occupants are typically measured as the *user cost of capital*. Absent taxes and ignoring uncertainty, the user cost p_{jt} per unit of housing services is defined as

$$p_{jt} = P_{jt}(\tilde{r}_t + \delta - g_{jt}) \tag{1}$$

where P_{jt} is the price index for housing, $\tilde{r}_t$ is the real risk free interest rate,[3] δ is the rate at which housing services depreciate, and g_{jt} is the capital gains rate of housing services in market j. For simplicity, we take $\tilde{r}_t$ as varying over time but not geography and δ to be constant across markets and over time. Given an equilibrium price per unit of housing services P_{jt}, higher interest rates $\tilde{r}_t$ and lower capital gains rates g_{jt} increase user costs. Conversely, a rise in P_{jt}, for example through a positive market demand shock, raises implicit costs for existing owners through higher foregone investment returns and a greater amount of asset depreciation as balanced against higher capital gains, all as measured in dollar terms.

If investors have the option to invest in housing or an alternative investment with the real rate of return $\tilde{r}_t$, user costs for owner occupiers and housing rents must coincide such that

$$\text{for every } jt, \quad r_{jt} = p_{jt}. \tag{2}$$

This is sometimes referred to as a *no arbitrage* condition.[4] If this is the case, we can express the price of owner-occupied housing P_j at some time t as the present discounted value of the stream of rents that it would earn on the rental market per unit of housing. If rents r_{jt} grow at the rate $\dot{r}_{jt}$, this is

[3] This is the mortgage rate for a "risk-free" home loan.

[4] This no-arbitrage condition is equivalent to a landlord earning zero profit on the rental market after making mortgage interest and maintenance payments, while also reaping capital gains. It can also be justified by equilibrium indifference between renting and owning.

$$P_{jt} = \int_t^{\infty} e^{-\int_t^{t'} (\tilde{r}_{\tilde{t}} + \delta - \dot{r}_{j\tilde{t}}) d\tilde{t}} r_{jt} dt' \tag{3}$$

Moreover, the no-arbitrage condition allows for the characterization of the equilibrium ratio of housing prices to rents. Defining the *user cost rate* $u_{jt} = \tilde{r}_t + \delta - g_{jt}$, the following holds:

$$\frac{P_{jt}}{r_{jt}} = \frac{1}{u_{jt}} = \int_t^{\infty} e^{-\int_t^{t'} (\tilde{r}_{\tilde{t}} + \delta - \dot{r}_{j\tilde{t}}) d\tilde{t}} dt' \tag{4}$$

at all time periods t. That is, price to rent ratios are inversely proportional to user cost rates, and reflect by how much housing rent grows in the future relative to interest and depreciation rates.

In practice, housing rents and user costs for owner occupants deviate persistently for important reasons. In the US, p_{jt} is typically less than r_{jt} because many owner-occupants can deduct mortgage interest payments from their taxable income (Poterba and Sinai, 2008) and maintenance costs are higher for rental properties, though preferred tax treatment of depreciation for rental properties pushes in the other direction.[5] Canada's preferred tax treatment of capital gains and rent regulations pushes r_{jt} below p_{jt} in many markets. (Both Canada and the US exclude capital gains tax for primary residences.) Housing market frictions, including transaction costs, moving costs, and credit constraints, also contribute to deviations between r_{jt} and p_{jt} (Duca et al., 2021). In addition, most households have paid off at least some of their mortgage at time t, which itself may reflect past prices and interest rates.[6]

Frictions in the housing market imply that the user cost of capital is not the sole consideration in assessing the welfare consequences of declining affordability for two main reasons. First, rising housing prices affect young households by making it more difficult for them to afford a minimum down payment on a mortgage. Even if high capital gains rates make user costs low, credit constraints may make homeownership unaffordable. Second, transactions costs make it difficult for owners to flexibly adjust housing consumption. It can be difficult and costly for owners to fully realize capital gains on rising home prices. Given Canada's considerable regulation of both rental and mortgage markets, as discussed below, considerations beyond user costs are relevant for rationalizing price-rent ratios and assessing the welfare consequences of rising home prices.

[5] In 2017, the US Tax Cuts and Jobs Act limited tax deductions on mortgage interest payments, making this distortion quantitatively less relevant.

[6] With 5 year fixed rate mortgage contracts most common in Canada, mortgage rates have only short lags. Typical 30 year mortgage contract make this source of divergence a larger issue for studying US markets.

2.2 Geographies

We present facts about housing prices and quantities for four different types of location in Canada. When defining these regions, our goal is to group locations with similar supply and demand profiles. To ease comparisons to analogous facts for the US, we build these regions to be consistent with the definitions used in Baum-Snow and Duranton's (2025) parallel analysis of US housing markets.

To this end, we use Census Metropolitan Areas (CMAs) as building blocks for our regional definitions. Each CMA is a collection of municipalities of at least 100,000 people that also contains a central city of at least 50,000. These are analogous to US Metropolitan Statistical Areas. We adopt CMA definitions from the 1981 Census, which includes 12 of the largest Canadian metros today.[7] We harmonize CMA boundaries over time to these 1981 definitions using the smallest geographic unit available in the public-use census: the Census Subdivision (CSD), which roughly corresponds to a municipality. There were approximately 5,600 CSDs in Canada in 2001, with an average population of about 6,000. Average populations put CSDs on par with US census tracts, though CSDs cover large land masses in low population density areas.

We partition the nation into three mutually exclusive regions using these harmonized CMAs. First, Rural Regions comprise all non-CMA areas and had a population of 15 million in 2001. Second, Large CMAs comprise all metropolitan areas with more than 1 million people in 2021 and include Toronto, Vancouver, Montreal, Edmonton, Calgary, and Ottawa. Large CMAs had an aggregate population of 13 million in 2001 and mostly include suburban neighborhoods. Third, Small CMAs include all remaining 1981-definition CMAs and had an aggregate population of 2.7 million in 2001. A fourth region includes the Toronto and Vancouver central municipalities only, and excludes large surrounding suburban areas. This region is also included within Large CMAs and had a 2001 population of 3 million. Due to some data constraints, we deviate from these geographies in a few cases, while also striving to maintain comparability across reported measures.

These regions have experienced unique 1981-2021 population trajectories. Rural regions and Small CMAs, comprising over half of the Canadian population in 2001, experienced low annualized population growth rates of 0.7% and 0.9%, respectively, despite copious land available for development. Large CMAs experienced the fastest population growth of 1.4% per year, mirroring that of the suburban US where both demand growth and land availability were high over the same time period. In this group, the Calgary and Edmonton CMAs led the pack, with higher housing costs in the Toronto and Vancouver CMAs likely constraining

[7] These are Calgary, Edmonton, Halifax, Hamilton, Montreal, Ottawa, Quebec City, Regina, St. John's, Toronto, Vancouver and Winnipeg.

their population growth rates (ab Iorwerth, 2025). The Toronto and Vancouver municipalities grew by 0.7% annually despite having by far the lowest availability of land for new housing development, suggesting that these cities experienced a combination of demand growth and regulatory environments that were conducive to housing densification.

2.3 Home prices and rents

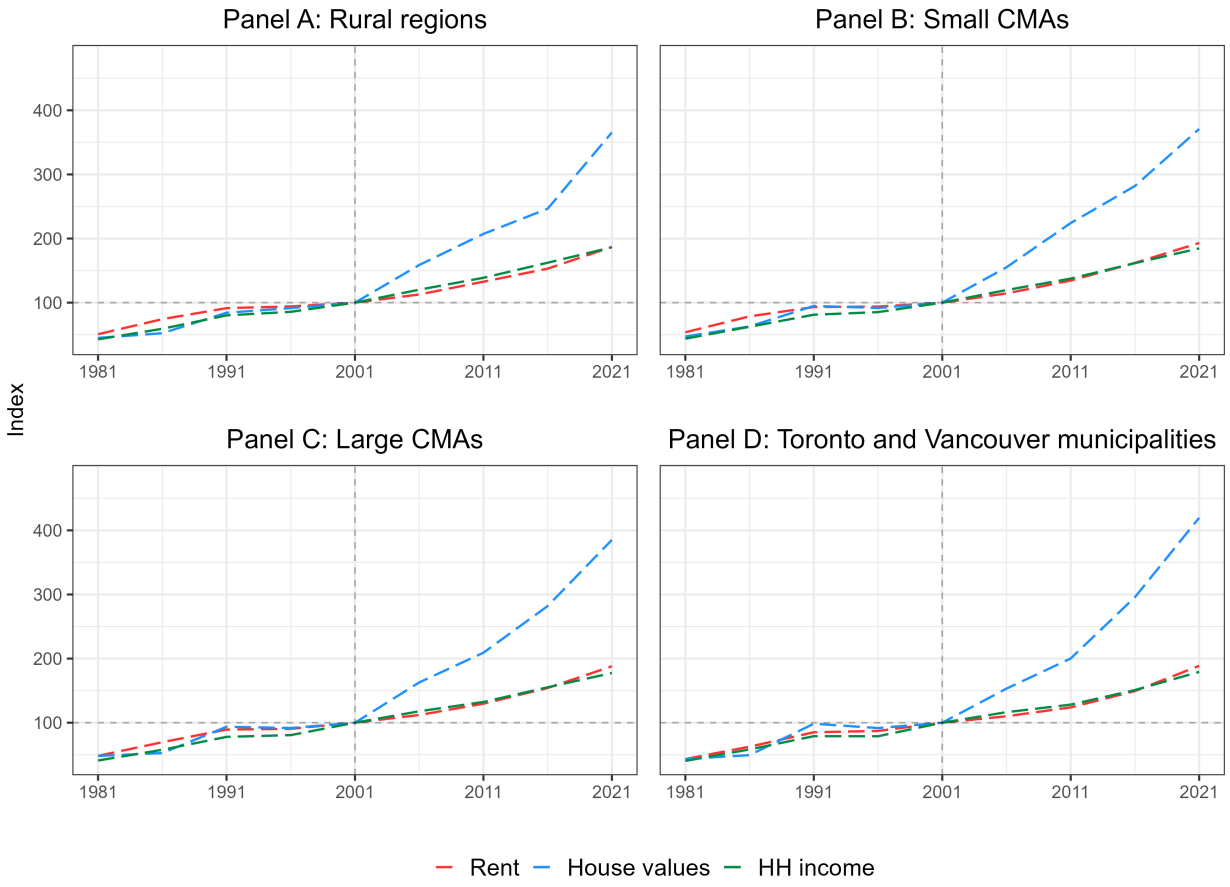
We first document how nominal rents, home values and incomes have grown across the country in Figure 1. To show this, we draw from data on household self-reported gross incomes, rents, and home values in all semi-decadal censuses 1981-2021, as broken out for the four regions described in Section 2.2.[8] Each variable is indexed to 100 in 2001 for comparability over time. The measures of rents and home values should be thought of as inclusive of both prices per unit of housing services and average quantities per housing unit ($r_{jt}\bar{h}_{jt}^{\text{rent}}$ and $P_{jt}\bar{h}_{jt}^{\text{own}}$, respectively). As with the US Census, rents and home values are reported for renter-occupied and owner-occupied properties, respectively.

Figure 1 uncovers that rents and incomes have grown at practically the same rate for all regions across the country (2.9% annually) over the full 1981-2021 study period. This contrasts with the US experience, where rents have grown by approximately 1.5% percentage points more per year than incomes in many different regional housing markets since 2000, with most of this divergence occurring in the 2000-2010 period (Baum-Snow and Duranton, 2025). Moreover, an important source of rent growth in the US has been the growing demand to live in supply constrained cities like San Francisco (Howard and Liebersohn, 2021). In contrast, we find no evidence that Toronto and Vancouver have experienced more rapid rent than income growth, despite evidence that the metropolitan areas containing these two cities have low elasticities of housing supply (CMHC, 2018).

Figure 1 also demonstrates that home values grew approximately parallel to incomes before 2001 but doubled relative to incomes between 2001 and 2021. This cumulative value growth outpaced that in the US by roughly 50 percentage points over the same time period (Baum-Snow and Duranton, 2025). This translates to home values growing at an annualized 2001-2021 rate of just under 7%, exceeding income growth by upwards of 4.2 percentage points annually. The result was a near quadrupling of nominal home prices between 2001 and 2021. While this post-2001 uptick in home value growth rates is a nationwide phenomenon, there remains some regional variation. Cumulative 2001-2021 value growth in Large CMAs was approximately 50 percentage points greater than in small CMAs and rural regions, despite

[8] Total household income in the Canadian Census includes income from wages and self employment, all investment sources, pensions, child support and alimony, and all (positive) financial government transfers. It is not net of income tax, which features higher rates in Canada than in the United States in exchange for greater in-kind government transfers.

Figure 1: Rents, House Values and Incomes



Data are constructed using 5-year census waves 1981-2021. Each variable is independently indexed to its own geography in 2001. As with the US Census, rent data come from the universe of renting households and housing value data come from the universe of owner-occupiers. Both are self-reported. House value and rent data are aggregated from the Census Subdivision level using renter and owner-occupied housing unit weights, respectively. Income data come from the universe of all working households, and are aggregated using household weights.

these regions experiencing almost identical income growth. This modest spatial variation is remarkably similar to differences in value growth across US regional markets (Baum-Snow and Duranton, 2025).

There is also variation in the baseline 2001 levels of home values, rents and incomes across geographic regions. In Figure 6 of Appendix A, we plot the same data as in Figure 1 but indexing Small CMA values only to 100 in 2001. In Large CMAs and the Toronto and Vancouver municipalities, the figure shows that households spend a slightly greater share of income on rents relative to other regions. This mirrors well-documented patterns for the US (Couture et al., 2023; Albouy et al., 2016), but is less pronounced.

More rapidly rising home values than incomes do not necessarily result in rising unaffordability for two reasons. First, consistent with the no-arbitrage condition (2), rising prices

may not reflect higher user costs for existing homeowners. They may instead reflect some combination of lower interest rates and higher capital gains rates. Second, these measures of affordability are inclusive of the consumption of housing services. That is, one may confuse declining affordability for growing consumption of housing services.

To this end, we document how various indexed costs of housing services for renters and owners have changed over time. One such measure is Statistics Canada's disaggregation of the Consumer Price Index (CPI) into *rental housing* and *owned housing* components. The rent CPI is collected through a survey of renting households. It is quality-adjusted by comparing the same rental units over time (Claveau et al., 2009) and thus can arguably be thought of as a measure of r_{jt}. The owner CPI compares a consistent set of owner-occupied housing units over time and comprises directly measurable payments associated with homeownership, including maintenance costs, mortgage interest, and property taxes. The owner CPI differs from the (perhaps ideal) user cost of capital in two ways. First, it excludes expected capital gains. Second, it includes interest payments on *historical* mortgages, which does not capture forgone returns on *current* housing wealth. However, Sabourin and Tarkhani (2024) show that growth rates in the owner CPI co-move with independent measures of the user cost under various assumptions about discount rates and expectations about capital gains.[9] With this in mind, we view the owner CPI as a rough measure of p_{jt} for residents of owner-occupied housing in each regional market. However, rapidly rising home prices after 2001 means that the user cost for new home purchasers has likely risen faster than the owner CPI.

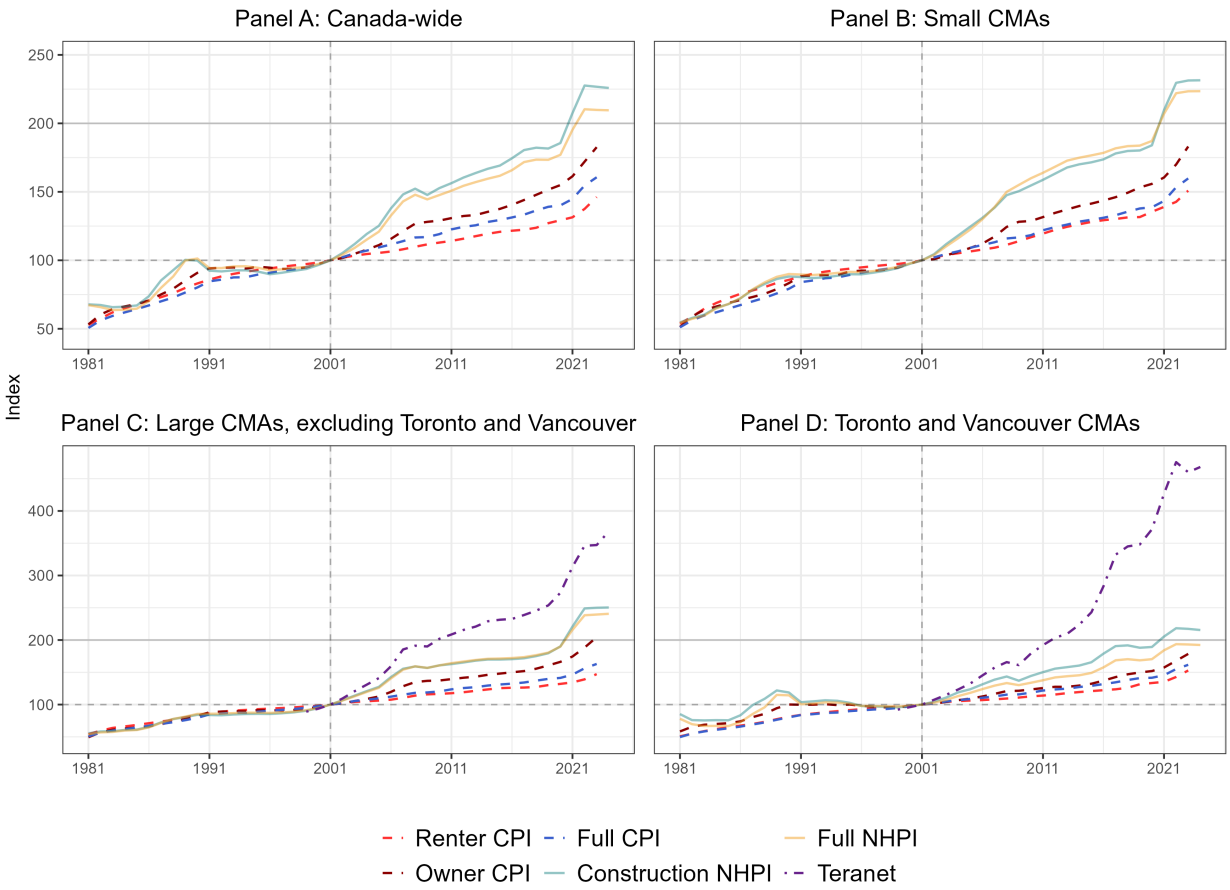
Figure 2 plots the full CPI alongside its rent and ownership components. Due to reporting coverage being at only the CMA level, we break down each CPI component for four different geographic units: Small CMAs, Large CMAs excluding Toronto and Vancouver, Toronto and Vancouver CMAs, and Canada-wide. Each variable is indexed by region to 100 in 2001. Figure 2 shows that the owner CPI grew by an annualized 2.2%, outpacing growth in the aggregate CPI in all regional markets. Growth in the owner CPI is much lower than that of home values seen in Figure 1, likely because this measure incorporates mortgage payments on past purchases that lag appreciating home values. For large CMAs, we also plot Teranet's repeat sales index of single-family homes, which grew at similar rates to home values, indicating little change in the quality of typical owner-occupied homes. Typical homeowners' annual costs of owning grew less rapidly than the price of housing services.

For 2001-2021, the rent CPI grew markedly slower than aggregate CPI. The expanding gap between indexed rents in Figure 2 and total rents in Figure 1 suggests small increases in the quality of rental units. Combined with the fact that incomes have grown at the same

[9]Chart 5 in Sabourin and Tarkhani (2024) indicates that while growth rates are somewhat correlated across these measures over time, the user cost is consistently lower than the official owner CPI before 2020, reflecting the contribution of capital gains.

rate as total housing rents in Figure 1, this suggests that the rent per unit of housing services r_{jt} has been falling relative to incomes in all regional markets. Figure 2 corroborates our running evidence that owning has become more costly than renting over time.[10]

Figure 2: Growth in Indexed Housing Costs



Rental cost, owner cost, and aggregate CPI measures, along with the New Housing Price Index are published for various CMAs by Statistics Canada. All variables are aggregated from the CMA level to the region level using population weights.

To understand the extent to which rising construction costs have contributed to rising unaffordability, we draw from Statistics Canada's New Housing Price Index (NHPI). This index is compiled from a survey of the value new housing developments. It compares price changes over time for new builds with similar observed characteristics. The survey is restricted to single-family freehold homes (detached, semi-detached, and townhouses). This means that derived indices are biased toward development at the urban fringes of CMAs (Stewart, 2022). The survey also elicits builders' estimates of material and labour costs for

[10] Head and Lloyd-Ellis (2016) argue that the rent CPI published by Statistics Canada grows too slowly. They offer an alternative non quality adjusted measure and show it has grown at similar rates to US real rent indices since 1970.

standardized homes, allowing us to distinguish between the potential drivers of rising prices of new builds absent land and permitting costs. Importantly, the NHPI is an index of housing prices and *not* an index of the user cost of capital.

Figure 2 reports both the total NHPI and the construction cost component of the NHPI, showing three important facts about the costs of new construction. First, the 2001-2021 growth in the NHPI exceeded the CPI and its housing cost components by at least 30 percentage points nationally. This suggests that the cost of building new housing accounts for at least some of the rise in home values. The greater growth rates in the component of NHPI absent land and permitting costs indicates important roles for rising materials and labour costs, with this gap particularly large in the Toronto and Vancouver CMAs. Finally, the NHPI grew at considerably lower rates than home values and prices. We note that there is little variation in NHPI growth across regional markets, though the Toronto and Vancouver CMAs experienced lower growth rates than did other areas of Canada. This is in contrast to our findings for indexed house prices.

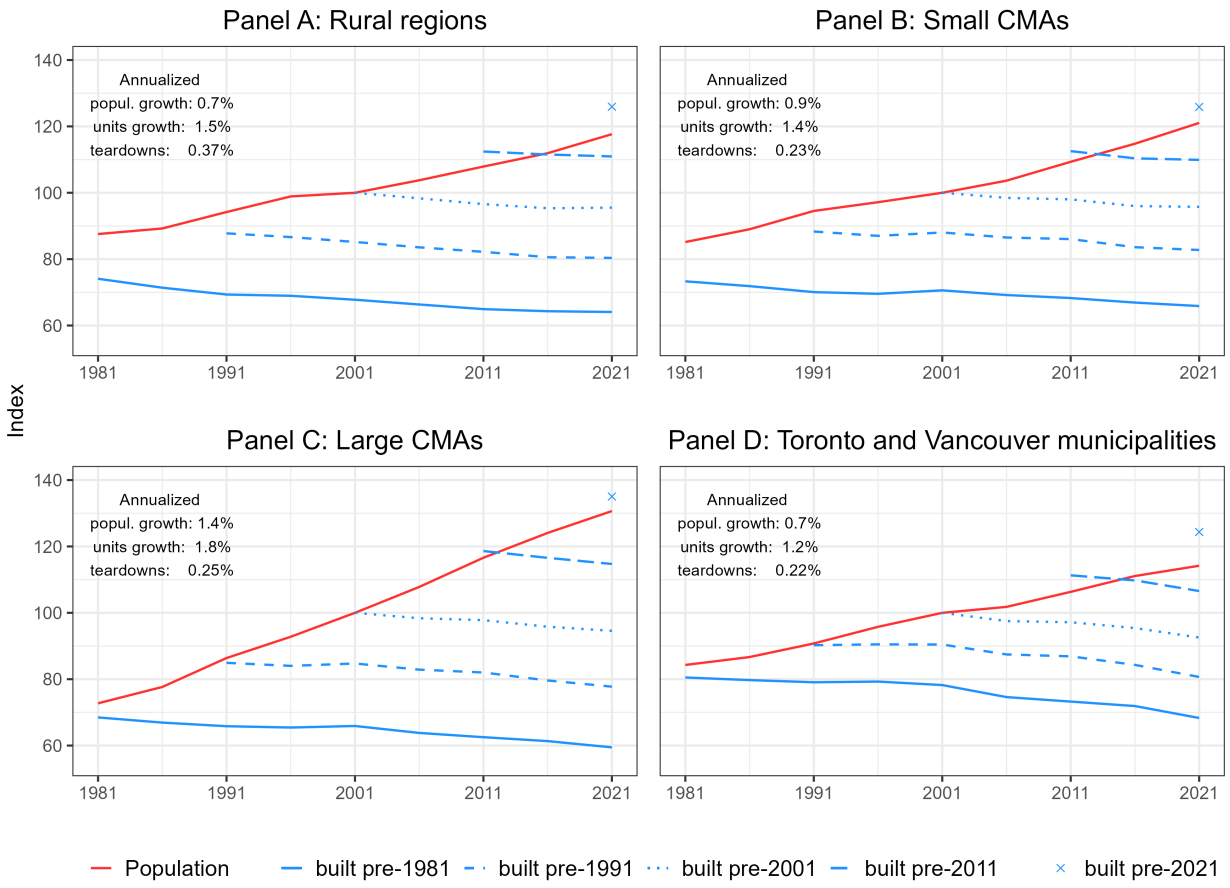
By how much are the rising indexed prices of new housing driven by increasing construction relative to land costs? Figure 2 shows that, for large and small CMAs, construction costs of new housing have grown at similar rates as the NHPI for new builds with similar characteristics. The same is not true of Toronto and Vancouver CMAs, where construction costs have increased relative to the total NHPI by an additional 0.8 percentage points per year post 2001.[11] This may reflect either increasing intensive margin housing supply elasticities in these cities, as the share of land in construction falls, or more rapid growth in prices of non-land than land inputs to construction. Indeed, new single family homes are disproportionately built at urban fringes where land values remain low but where construction costs may be rising. Since new construction in Toronto and Vancouver comprise a significant share of national development, their increase in construction costs relative to new housing prices is reflected in national indices (Panel A).

We stress the importance of this finding because it contrasts with the US experience. In US superstar housing markets, construction costs grew considerably *less* than indexed house values (2.1 percentage points less per year), while these two objects grew at more similar rates in all other regional markets (Baum-Snow and Duranton, 2025). In Canada, price and value growth exceeded construction cost growth in all types of markets. US cities of all types, beginning with superstars but spreading to sunbelt markets more recently, have become more supply constrained over time (Baum-Snow, 2023; Glaeser and Gyourko, 2025b). In contrast, the cost structure for typical new construction units in Canadian superstars has become much

[11] In the case of Vancouver, construction cost growth exceeded the total NHPI for every year post 2001 (unreported). In Toronto, cumulative construction cost growth exceeded NHPI growth only after 2011.

more capital intensive over time. To better understand why Toronto and Vancouver's cost structures are apparently changing, we now turn to data on the various margins of housing supply and how they have evolved over time relative to other regions.

Figure 3: Population and Housing Units by Vintage



Population and housing unit data by vintage are independently indexed to 2001 values in each respective geography. Housing unit data apply only to occupied units. Vintage bins are inconsistently recorded across 5-year Census waves, so we harmonize the data by constructing a set of aggregated vintage bins with decadal frequency. Population and housing unit growth rates are defined as the arithmetic average annualized rate calculated via each 5-year Census wave. Teardown rates are calculated over a 5 year horizon and are well-defined for every Census wave in an even year (i.e. 1986, 1996 ...), where we can observe structures that were built before the wave five years prior. Cumulative differences in population and housing unit growth rates can be discerned by comparing the relative position of the red and the blue curves in 1981 and 2021.

2.4 Housing quantity and quality

Figure 3 plots cohorts of occupied housing stocks in blue and populations in red. Each blue line tracks the evolution of the housing stock that was built prior to its first indicated year across subsequent decades. Therefore, slopes of the blue lines indicate teardown rates and vertical gaps indicate construction rates. These two objects sum to indicated average annualized occupied unit growth rates. Populations and housing unit counts are indexed to

100 in 2001 by region. For any given year, differences in housing unit counts that existed across decadal cohorts indicates the age distribution of the housing stock. Trends in household sizes can be inferred by comparing differential growth in populations and occupied housing units. Underlying data on populations and the stocks of housing units by vintage are from decennial Censuses.

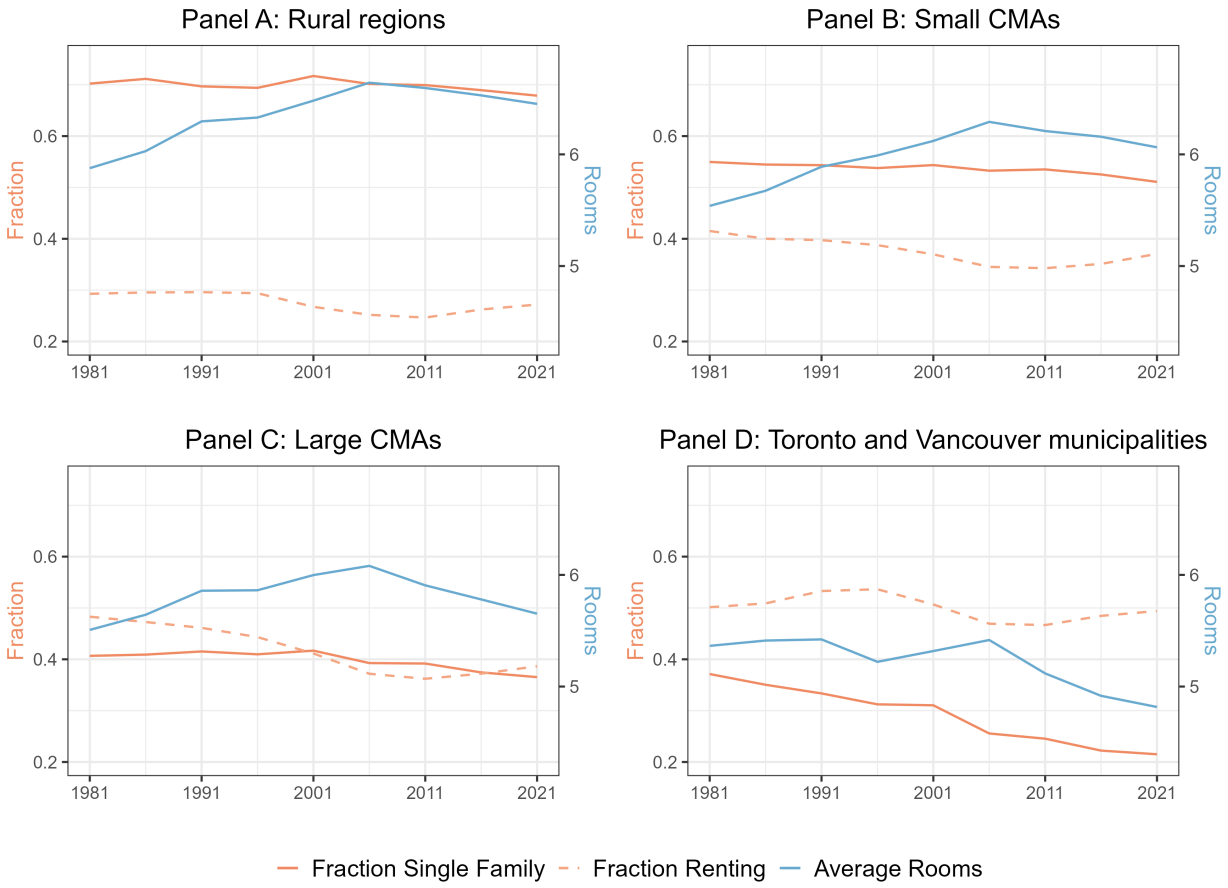
Stronger housing demand growth has mostly been accommodated through new construction rather than reduced teardowns, though both margins matter. Large CMAs, which grew the fastest, experienced the largest increases in the share of the housing stock comprised of new structures. Rural regions, with the weakest demand growth, had an average annualized teardown rate of 0.37%, which is at least 50% greater than those in the other three study regions. Land availability is weakly correlated with housing teardown rates across Canadian markets. While rural Canadian teardown rates are about half as large as their American counterparts, those for superstar cities are similar. However, net housing units growth rates in Toronto and Vancouver of 1.2% per year are double those of their American superstar counterparts. Canadian cities have been much more successful at finding ways to expand housing supply, reflecting their high rates of multifamily housing construction that we discuss below.

We also find that housing is becoming significantly less crowded. Occupied housing unit growth exceeds population growth across the country by an annualized 0.5 percentage points over the full sample period. This decrease in crowding is happening almost twice as fast as in the US, and is remarkably similar across regions. In contrast, most of the decreased crowding in the US is happening in small and rural counties, and not in superstar housing markets or suburban neighborhoods where demand growth is stronger and undeveloped land is scarce (Baum-Snow and Duranton, 2025). Canada's lack of regional variation in reduced crowding rates reflects a broadening of options for living in smaller, high-density housing units in Toronto and Vancouver that are appropriate for smaller household sizes. The net outflow of native born Canadians from parts of Toronto and Vancouver, with more elderly homeowners remaining at higher rates, also helps to account for reduced crowding. Large declines in household sizes may have precipitated the strong housing demand growth responsible for the rapid Canadian housing price growth we document above.

To build on our analysis of housing unit quantities, we now turn to understanding how the characteristics of these housing units have changed over time. To this end, we draw from information on housing characteristics in the Census. In Figure 4, we plot the share of housing units that are rented (which tend to be lower quality units), single family structures, and the average number of rooms per housing unit. Toronto and Vancouver have a greater fraction of renting households, fewer single family structures, and fewer rooms per unit; the

opposite is true in small CMAs and rural regions.

Figure 4: Evolution of Housing Characteristics

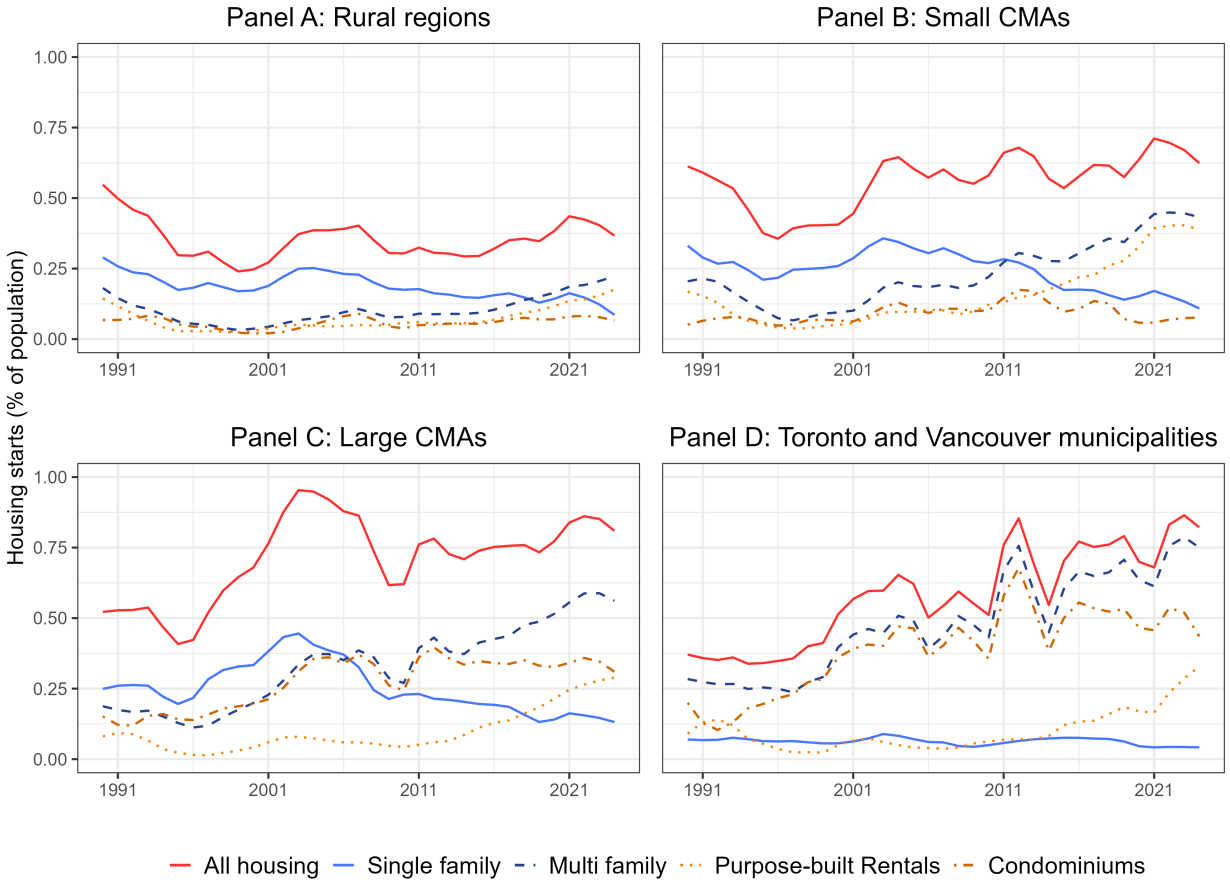


All household characteristics reported in this figure are derived from Census waves. Data are aggregated from the CSD level to the region level using housing unit weights.

Over the past decade, new construction housing units are considerably smaller nationwide. In all regions, the average number of rooms across all dwellings was stable or slightly increasing until 2011, after which it fell. While stable elsewhere, in Toronto and Vancouver, the share of housing units in single family structures almost halved from about 40% to about 20% between 1981 and 2021. This reflects large swaths of new multifamily housing in Toronto and Vancouver that we look at next in detail. As the fraction renting has not changed much in these cities, a lot of this new housing is in owner-occupied condominiums.

Figure 5 presents the magnitude and composition of new housing starts in different types of structures. To do this, we draw from the Starts and Completions Survey maintained by the Canadian Mortgage and Housing Corporation (CMHC). This survey measures monthly starts broken down by structural classifications we refer to as *types* and *purposes*. Types make the distinction between single family and multifamily structures, which exhausts virtually all

Figure 5: Housing Starts as a Percent of Population



Starts are obtained from the CMHC's Starts and Completions Survey, and are smoothed with a locally-weighted regression. "All housing" refers to the total number of housing units in started structures. Starts are assigned two classifications: "Types" and "Purposes", which are not mutually exclusive and not exhaustive of all housing starts. "Types" are broken down into the 'Single family" and "Multi family" mutually exclusive sub-classes in blue. These designations exclude townhouses and semi-detached housing. "Purposes" are broken down into Purpose built Rentals and Condominiums (mutually exclusive) in orange. Purpose built rentals refer to rental buildings intended to be owned by institutional landlords. Population figures used to normalize housing starts are interpolated from the Census.

housing starts in the survey. Purposes include distinctions between purpose-built rentals[12] and condominiums; together, these constitute almost half of all housing starts. Types and purposes are not mutually exclusive. The data are available at the CSD level, allowing us to keep the geography constant at 1981 Census CMA boundaries. Figure 5 plots all housing starts, along with breakdowns by type (in blue) and purposes (in orange), expressed as percentages of the regional population.

Figure 5 shows that per-capita construction has been both remarkably strong (exceeding 0.6% annually) and similar when comparing Toronto and Vancouver to large CMAs overall. Moreover, large CMAs are building more housing per capita than other regions in Canada,

[12]Almost all purpose-built rentals are in multifamily structures.

with multifamily condominiums comprising almost the majority of these housing starts. This is in marked contrast to the US, where the vast majority of new constructions remain single-family homes and construction rates dropped precipitously after 2010 (Baum-Snow and Duranton, 2025; Baum-Snow, 2023). While US rural and suburban per-capita construction exceeded 0.6% annually until 2010, they both fell by about 40% by 2020. Both Toronto and Vancouver municipalities are building considerably more housing per-capita than their US superstar counterparts, which expanded supply by 0.3% per capita in 2020, with this new housing comprised almost *exclusively* of condominium units in large multifamily structures.[13] This new construction is supplemented by the increasing construction cost share of housing value that we observe for newly built, low-density structures in the Toronto and Vancouver CMAs (Figure 2). Even in rural regions and small CMAs, the share of housing starts in multi-family buildings has grown markedly in recent years, reaching approximately 45% and 65%, respectively. These fractions are much higher than those for US counterparts.

Before our characterization of Canada's housing market institutions in the following sections, we highlight two central observations in Figures 1 to 5. First, since 2001 Canada's home price growth has far exceeded income growth, though rent and income growth have been similar. This has made housing much less affordable for new home buyers than for renters and existing owners. Second, Canada's largest cities have accommodated rapidly growing demand by facilitating the construction of many more housing units, most of which are now multi-family condominium structures. Indeed, Canada has been uniquely successful at permitting new construction of multi-family buildings in all types of markets nationwide. While they remain the majority of housing units in all types of markets, the consequence has been a secular decline in the importance of single-family homes in the Canadian housing stock.

3 The Built Environment and Housing Construction

We have seen that in recent years in particular, Canada has been much more successful at building housing than the US. Moreover, this phenomenon is mostly accounted for by high rates of multi-family construction in all types of markets, including small CMAs. In both countries, the era of single family home building at urban peripheries is largely over.

In urban areas, land use and zoning regulations typically constrain the amount of housing that is allowed to be built. While more central locations in larger cities have sufficient demand to justify the construction of tall buildings, in many cities around the world this

[13] Figure 7 of Appendix A shows housing starts per capita for the Toronto and Vancouver municipalities separately. Relatively low population growth rates in the Toronto and Vancouver municipalities helps to account for their elevated per-capita construction rates.

demand is not fulfilled because of land use restrictions (Ahlfeldt et al., 2023). Like their US counterparts, each Canadian city has a detailed bespoke zoning code. Provincial "Planning Acts" have facilitated the development of municipalities' broad "Official Plans" and more detailed zoning by-laws. By law, municipalities have the right to enforce and adjust these codes, with some limited restrictions intended to protect the interests of property owners and developers (Brooks, 2006). Municipalities also have the right to levy development charges. Complicated rule differences across locations makes the process difficult for even large developers to navigate. As such, each developer tends to focus on building housing in the few jurisdictions for which they have developed knowledge of the land use planning regime and review process for requested zoning variances. The associated large municipality level fixed costs of doing business limit the size of real estate developers (D'Amico et al., 2024).

Based on the observed profiles of recent construction, Canadian provinces and cities have made it possible for some developers to navigate the land use regulation regime in some neighbourhoods for large development projects. In the Toronto and Ottawa markets, one contributing factor is clear. Unlike any US state, the province of Ontario holds the ultimate power to approve zoning variance applications. While the process can be lengthy and costly, appeals to the Ontario Land Tribunal, and its predecessor the Ontario Municipal Board, have resulted in the approved construction of many tall buildings that had been denied permission to build by the city of Toronto. The costliness of navigating this process likely only makes it economically justifiable for large buildings with high market valuations, hence the fact that large condominium buildings make up most recent new construction housing supply in Toronto.

In other provinces, municipalities maintain more complete control over land use planning. Unlike in the US, however, Canadian municipalities tend to be much larger with more heterogeneous residential populations. For example, the city of Calgary dominates the Calgary CMA with 88% of its population. Larger jurisdictions tend to be more friendly to housing development. Tricaud (2025) finds evidence for this phenomenon using data from French municipalities and Mast (2024) presents similar evidence by comparing US cities with ward-based versus at-large forms of voter representation. Favilukis and Song (2025) observe descriptively that more fragmented US metropolitan areas have stricter zoning and propose a conceptual framework in which smaller municipalities choose more restrictive zoning in order to limit congestion externalities, despite associated reductions in housing affordability.[14] This is a version of the "Homevoter Hypothesis" (Fischel, 2001), which states that owner-occupiers vote for restrictive zoning to maintain their property values by limiting negative

[14] Favilukis and Song (2025) also present event study evidence indicating that Toronto became more development friendly after the 1998 amalgamation.

fiscal externalities that would be imparted by migrants into the jurisdiction.

The Homevoter Hypthesis mechanism is perhaps less important in Canada than in the US given Canada's larger municipalities. There are few small homogeneous suburban municipalities in Canada like those surrounding most US central cities. Nevertheless, many prime locations in Canada's large cities successfully restrict development to single-family housing, prompting a national conversation about how regulatory limits constrain expanded housing supply. This has prompted recent relaxations of the zoning codes in Toronto, Vancouver, and several US cities and states to allow Accessory Dwelling Units (ADUs) by right. ADUs are additional housing units on existing tax parcels in structures exterior to the main house that require no special permitting. They often come in the form of apartments either above garages or that replace garages. However, given their high fixed cost of development, ADUs have at best been modestly successful at expanding housing supply, at least in Vancouver (Davidoff et al., 2022).

One additional element of the environment makes building easier in Canada than in the US. Most mid-size Canadian cities still have large amounts of land available for development at their outskirts. Most prairie CMAs in particular are not yet land constrained, and Calgary has grown fastest in recent years as a result. However, we see this as a relatively minor explanation for the Canada's continued high housing construction rate. Despite the existence of greenbelts restricting development in their exurbs, the Toronto and Vancouver CMAs continue to deliver relatively large amounts of new housing every year. Canada's success has been in facilitating the development of multifamily housing.

The development of denser housing requires sufficient demand for that density. Transport networks shape the spatial distribution of demand for dense housing within cities. The extensive highway networks covering US cities have decentralized housing demand to low-density peripheries (Baum-Snow, 2007). Most Canadian cities are more poorly served by highways, keeping stronger housing demand more centralized. Moreover, Canada has been more committed than the US to expanding urban transit, which boosts real estate demand in more central locations near stations. Vancouver, Edmonton, Calgary, Toronto, Ottawa, and Montreal have all established or expanded their rail transit systems since 2010. Quebec City is currently building a light rail system. Federal funding commitments have helped to support the continued expansions of transit networks across the country.

An important factor that helps to explains rising housing costs is lagging construction productivity growth. Using US data, Goolsbee and Syverson (2023) document that the value added per construction worker in 2019 was about 30% lower than that in 1977. This is in marked contrast to an almost doubling of value added per worker in the US economy overall over this period. Their underlying data primarily covers single-family houses for which

the construction process has if anything become more fragmented over time. Firm size in the construction industry remains small and work practices continue to involve complicated contracting relationships, a regime that has not changed for decades. With less land available for development, it is no longer feasible to construct hundreds of single-family houses together on large tracts of land. All of this explains productivity declines in the construction sector. Indeed, Glaeser and Gyourko (2025b) identify small construction firm size as emblematic of slow productivity growth in the industry.

One commonly proposed path forward for resolving the productivity problem in construction is to build more prefabricated modular housing. Indeed, CMHC has established the "Affordable Housing Innovation Fund" to promote technological advances in the development of prefabricated housing solutions. Both Toronto and Vancouver are testing the use of prefabricated affordable housing for supporting those at risk of homelessness. Several Canadian companies sell and install modular manufactured single-family homes at considerably lower cost than bespoke new construction. Modular construction could represent the future of housing supply. However, land use regulation limits its current implementation. Land available for single-family home development in good locations is increasingly scarce and modular homes cannot be used for large-scale construction. There is also some question as to whether the relatively high income buyers looking to purchase newly built homes are in a market segment that can be satisfied with prefabricated modular construction.

To the extent there has been innovation, it is perhaps most evident in the construction of tall buildings. Steel frame technology dominated tall buildings into the 1960s. Since then, reinforced concrete technology has slowly become dominant, first in the developing world and more recently in North America, such that 80% of newly constructed tall buildings are now framed in reinforced concrete (Council on Tall Buildings and Urban Habitat, 2022). Crane technology has also improved over time. Tower cranes developed in the 1950s giving way to mobile cranes in the 1960s and climbing tower cranes in the 1970s. Computer Aided Design (CAD), developed in the 1970s and 1980s, has automated many of the structural engineering tasks required to plan tall buildings. These innovations have lowered the "cost of height" over time, facilitating the construction of thousands of tall buildings around the world in the past 50 years (Ahlfeldt et al., 2023). Canada's land use planning regimes have allowed it to take particularly strong advantage of these productivity changes, facilitating the increasingly capital-intensive multi-family construction in the largest cities seen in Figure 2.

One source of rising housing costs may be the higher depreciation rates and required construction resilience caused by climate change. More extreme weather, flooding events, and sea level rise have raised depreciation rates for housing in some areas. The result is higher maintenance and construction costs and, ultimately, reduced supply in areas most

exposed to climate risk (Bakos and Evans, 2022). The International Residential Building Code has been updated to require greater energy efficiency and to specify requirements for weatherization. There is a subtle balance between ensuring such resilience and facilitating lower construction costs. One commonly voiced concern about building codes is that they have been developed and updated with only benefits in mind, regardless of costs. While climate-induced increases in depreciation rates could drive higher costs, increasingly onerous building codes could be one source of the declining productivity in the construction sector.

Housing supply elasticities summarize the costs of constructing or maintaining additional units of housing services in the housing stock. The higher the supply elasticity, the greater is the quantity response to a price increase, either through additional new construction or reduced teardowns. Housing supply elasticities incorporate restrictions from land use regulation, the greater costs of building in denser areas, and capital construction costs for additional housing, which are influenced by building codes and innovation in the construction sector. Evidence from the US is that housing supply elasticities have been falling sharply over time, especially in the past decade (Glaeser and Gyourko, 2025b). Even sunbelt cities, with lots of land available for development, have estimated housing unit supply elasticities that are now well below 1. Baum-Snow and Han (2024) estimate median housing unit supply elasticities of 0.4 and housing services supply elasticities of 0.6 across US metropolitan areas for the 2000-2010 period.

The small amount of evidence we have on housing supply elasticities for Canadian cities is slightly more optimistic than what is seen for the US. Using variants of panel regressions of housing starts on price levels, CMHC (2018) estimates average supply elasticities of about 1 across large CMAs. Estimates for Toronto and Vancouver are less than 0.5, those for Calgary are about 0.9, and those for Montreal and Edmonton are greater than 1.5. Using observed relationships between regional and local home price volatilities at an annual frequency, controlling for local industrial structure as in Guren et al. (2021), Paixao (2021) estimates local housing services supply elasticities of between 0.5 and 1 for Regina, Victoria, Montreal, Vancouver, Toronto, Victoria, and Kelowna and very high supply elasticities of over 5 in the smaller communities of Sudbury, Kitchener-Cambridge-Waterloo, St. John's, London, and Saguenay. These estimates are correlated with topographical constraints on land available for development, home prices, and home price growth. The median estimated housing services supply elasticity across Canadian CMAs is 1.9. Using the method akin to that in Saiz (2010), regressing price growth on housing expenditure growth instrumented with industry shift-shares, Hong (2024) estimates a unified housing services supply elasticity of about 1.2.

A key policy challenge will be to maintain these opportunities to develop additional housing as housing demand continues to grow. The following two sections consider trends in

demand for the rental and owner-occupied segments of the market, respectively.

4 Rental Housing

Rentals have always been the primary type of housing for young, low-income, and new Canadians. Given our observations of rapid home price growth, but not rents, renting has become an ever more important source of affordable housing. In the 2021 census, 35% of Canadian households were renters, up slightly from 31% in 2011. The cities of Toronto, Vancouver, and Montreal had 2021 renter shares of 48%, 55%, and 64% respectively, with their corresponding CMAs closer to the national rate of 35%. The cities of Calgary and Edmonton have lower rates of renting at 21% and 26%, respectively. With longer times required to save for down payments and various restrictions on foreign buyers, renting is the only housing option for many households. The 7.3% of the Canadian population in 2025 without citizenship or permanent residency are now banned from buying a home in most of Canada, pushing them into the rental market. This segment of the population has grown rapidly, from only an estimated 3.5% in 2021.

By various measures, the 2025 rental market is tight in most of Canada. One measure of tightness is the vacancy rate. A rule of thumb used in the industry is that a vacancy rate of less than 3 percent reflects a shortage of units for immediate occupancy. In the fall of 2024, the national vacancy rate was 2.2% for purpose built rentals and 0.9% for rented condominiums (CMHC, 2024a). While these rates have ticked up over the past few years, they remain well below their ten year averages.

Reflecting the tightness of the rental market, rents rose by 8% nationally in 2022-2023 and 5% in 2023-2024. Calgary led the pack, reflecting its large growth in housing demand and relatively elastic housing supply. The tight rental market can lead to large increases in rent, particularly when units turns over. Ontario and British Columbia limit growth in rents for incumbent renters (for rental units built before 2018 in Ontario) but allow landlords to raise rents for new tenants. They also make it difficult to evict tenants. Cities in these provinces have thus had relatively low tenant turnover rates, below 10%. The rent-control system in Quebec is softer because it allows increases in rents (indexed to units) to maintain incentives for maintenance and new construction. Montreal turnover rates have been somewhat higher. But it is Calgary and Edmonton, given Alberta's lack of rent and tenancy regulations, where rental unit turnover rates are the highest, at over 20% (CMHC, 2024a).

As almost all low-income households rent and housing is the largest expenditure in household budgets, subsidized rental housing is a central component of the social safety net. Social and affordable housing makes up an important part of the Canadian rental system. Here, rents are subsidized and managed in some form by a provincial or local entity, with sup-

port from various levels of government. CMHC estimates that social & affordable housing accounts for about 4 per cent of the housing stock across Canada.

Households eligible for subsidized rental housing programs must have a "Core Housing Need" (CHN), an indicator of demand for social and low-priced market rental housing. A household is in CHN if it spends more than 30% of its gross income on housing, lives in a dwelling needing major repairs or lacking enough bedrooms to accommodate its household size, and cannot afford an adequate or suitable home in its community. A household cannot afford alternative appropriate housing in its community if its before-tax income is below its market's CHN income threshold. In most areas of Canada, households qualify for CHN through this affordability criterion.

The share of households in CHN in Canada has been in the 10 to 15 per cent range since 1991. In the 2021 Census, 10.1 per cent of Canadians were in CHN, but this is likely artificially low because of pandemic-era income subsidies. Core Housing Need is higher in the Territories. A high proportion of housing in the Territories, particularly outside of Whitehorse and Yellowknife, receive some degree of government support, so affordability is less of a challenge. The challenges in the North are of building quality and overcrowding.[15] The rate of CHN in Nunavut was 33 per cent in the 2021 Census, notably because of overcrowding.

The Canadian government has mostly attempted to address rental affordability challenges by subsidizing rental housing construction. To reduce the number of households in CHN, the government introduced the National Housing Strategy in 2017, a ten-year, $115+ billion plan. It includes $42 billion in federal contributions, $7.5 billion cost-matched funding by provinces and territories, and $65 billion in loans. Of the loan funding, $55 billion is dedicated to the Apartment Construction Loan Program. This program provides funding for financing construction of market-oriented rental buildings with enhanced accessibility, affordability, or environmental standards. Additional reductions in financing costs for multi-family construction have come through greater CMHC support for insurance and securitization of mortgages backed by multi-family developments. The volume of insured multi-family mortgages approximately doubled between 2021 and 2025 after CMHC introduced its "MLI Select" product (CMHC, 2025). CMHC is the only Canadian insurer of mortgages for multi-family rental properties. In 2024, 88 percent of new secured purpose-built rental housing starts were backed by CMHC's Multi-Unit Mortgage Loan Insurance products and the Apartment Construction Loan Program, up from just five percent in 2017. See Fraser et al. (2022) for a full discussion of CMHC's involvement in supplying affordable housing in Canada.

Along with recent greater market demand for rentals, the National Housing Strategy has contributed to the recent upsurge of purpose-built rental construction seen in Figure 5.

[15] In some indigenous communities, the typical housing unit only lasts for 6 years.

Toronto and Vancouver's strong tenant protections and rent control laws have disincentivized such construction in these markets for several decades. But the number of new purpose-built rental structures in these cities has now reached 1970 levels, though the rate of construction remains much lower as a fraction of the population. Canada's current stock of purpose-built rental structures was largely constructed in the 1960s and 1970s. A range of government policies, from high interest rates to defeat inflation to the introduction of rent controls and the end of construction subsidies, have been blamed for the decline in such new construction.

Purpose-built rentals were also displaced with the spread of condominium buildings. Condominium apartments typically have lower user costs than single-family homes, and many condominiums are owned by investors who rent them out. This secondary rental market (units rented in structures that were intended to be purchased by homeowners) has become an important part of the rental system, particularly in high-priced Toronto and Vancouver. Rented condominium units tend to be larger, better equipped, and newer than purpose built rentals, thereby commanding higher rents. Since owners have the right to move back into their units, however, tenure may not be as stable. Moreover, individual investors may not have the same management skills as professional owners.

Pre-selling to individual investors has been a central source of financing for condominium construction, with the large majority of units typically sold before construction is able to start. Access to these funds lowers developers' risk and typically makes the construction of condominium apartments easier to finance than purpose-built rentals. However, with the recent downturn in the economy and foreign buyer ban, the condominium construction boom across Canada has almost entirely come to a halt.

5 Homeownership and Housing Demand

Evidence in Section 2 indicates that while housing values have increased substantially since 2000, rents have grown at about the same rate as household income. This relative value growth has been higher in Canada's superstar central cities and metros. In this section, we detail how growing demand for housing and homeownership has contributed to these divergent trends. We mainly consider the fundamental determinants of housing demand growth: population growth through immigration, income growth, falling household sizes, low interest rates, relaxed credit constraints, tax incentives for homeownership, and a growth in foreign investors. We also briefly discuss the possibility that housing price levels are no longer justified by such fundamentals, or the possible existence of an irrational housing bubble.

Fundamental Sources of Demand Growth: As for any normal good, demand for housing shifts out with population and income growth. Population growth in Canada has been

slightly larger than in the US, at around 1.3% per year since 1981. This greater Canadian population growth rate has been supported entirely by higher immigration rates, which have averaged 0.95% of the population per year, thrice that in the US. Indeed, if both countries had similar immigration rates, population growth would be higher in the US because of its higher fertility rates. Canadian immigration has also recently skyrocketed: according to the Census, 1.3 million immigrants came to Canada between 2016 and 2021. Today, nearly one in four people in Canada are immigrants, the highest proportion of the population in more than 150 years. There are two features of landing immigrants that matter for their impact on aggregate housing demand. First, immigrants to Canada tend to be more educated than those going to the US because Canadian admissions criteria give more preference to skilled workers.[16] Their higher incomes may lead immigrants to impart greater pressure on housing prices in Canada than in the US. As noted above, newly arrived immigrants tend to rent rather than own because of insufficient, savings, more constraints on access to credit, and the recent foreign buyer ban.

Immigration has been perhaps the most important source of housing demand growth for the past 40 years. This leads to a somewhat puzzling fact: housing unit growth has exceeded population growth throughout the country by greater amounts than in the US (Figure 3). This has occurred despite the fact that immigrants have larger household sizes than the average population.[17] Falling household sizes reflect two underlying forces. First, as noted previously, it may reflect a regulatory environment conducive to the construction of small, multi-family housing. Second, it may reflect demand growth stemming from demographic trends. The demand component is likely important for explaining Canadian home value growth. Smaller household sizes are associated with more housing consumption per capita because housing is a partially nonrival good (Albouy et al., 2016). In the US, around half of the increase in land consumption per person in the 1980s and 1990s can be attributed to falling household sizes (Overman et al., 2008).

Growth in aggregate housing demand from the sources above affect national home values. However, *where* demand growth occurs matters for average home values, too. Identical demand shocks manifest in differential price growth across regional markets: more in supply-inelastic locations, and less in elastic ones. In the US, strong demand growth in inelastic locations accounted for over half the rise in aggregate rent over the past few decades (Howard and Liebersohn, 2021). First, like in the US and many other countries, immigration is generally concentrated in the price-inelastic, superstar metros (Toronto and Vancouver). This

[16]Still, immigrants earned less than Canadian-born individuals. In 2000, recent immigrants earned 18% less, and long-term immigrants earned roughly the same (Crossman et al. (2021), Table 2).

[17]In 2001, the average household size nationally was 2.5 people, compared to 3.5 for immigrant households landing that year (Statistics Canada, 2003).

reflects immigrants' lower demand for expensive non-tradeables (Albert and Monras, 2022) and likely the self-reinforcing proliferation of ethnic enclaves (Dai and Schiff, 2023). Second, housing unit growth exceeded population growth in inelastic CMAs and municipalities, which was not true of their US counterparts. This explains the differential evolution of home values across geographies (Figure 1). Puzzlingly, all the mechanisms we consider so far should also explain the evolution of rents, but they do not. We discuss this point in more detail below.

The logic that demand growth by location matters for affordability also applies to a post-COVID world. As in the US, the opportunity to telecommute has displaced housing demand toward the outskirts of CMAs and to CMAs with higher land availability, which tend to be more price elastic (Delventhal and Parkhomenko, 2024; Baum-Snow and Han, 2024). In the 2020-2025 period, there has indeed been large population growth in Alberta, representing a mix of immigration and inter-provincial migration from Ontario and British Columbia (McQuillan, 2025). Albertan cities are estimated to be relatively price elastic (CMHC, 2018). This trend is analogous to recent US inter-state migration toward relatively elastic housing supply cities like Houston and Atlanta.

Our analysis of demand growth thus far ignores that housing is a durable asset. The user cost model in Section 2, which incorporates this observation, helps us to understand how home values can have grown faster than rents. The analysis relies heavily on the characterization of the price-to-rent ratio as the discounted stream of future rents (Equation 4).

Rent Growth Expectations: Demand for owner-occupied housing depends on expectations about implicit future rent growth, which is capitalized into present home values (Equation 4). To what extent can the rapid value-to-rent growth we observe be attributed to expectations that future rents will rise? Moreover, can differing expectations across the regions we study account for observed cross-sectional differences in value-to-rent growth? Admittedly, it is difficult to reconcile similar rates of *realized* rent and income growth with expectations of excessive rent growth, especially in Canada's large metros. Nevertheless, expected growth in the fundamental demand shifters we considered above – immigration and smaller household sizes – would, in principle, be reflected in the evolution of home values. Moreover, a low housing supply elasticity would mean that future positive demand shocks beget higher rent growth, and this may be capitalized into current housing prices. This is a point made by Gyourko, Mayer and Sinai (2013) to explain why US superstar metros have higher value-to-rent ratios.[18] In their model, the superstar metro differs from a typical metro primarily through a lower housing supply elasticity. Nationwide population growth increases aggregate housing demand (and in Canada, immigration is particularly relevant here).

[18] Molloy, Nathanson and Paciorek (2022) also provide theory and evidence for this mechanism.

Increased demand manifests in disproportionate rent growth in the supply-inelastic metro. This disproportionate rent growth supports higher value-to-rent ratios. As is true in the US, we observe consistently higher value-to-rent ratios in large CMAs, particularly Toronto and Vancouver (Figure 6). Strong immigration expectations could be important in the Canadian context, as immigration is concentrated in expensive CMAs with lower elasticities of housing supply (Albert and Monras, 2022; CMHC, 2018).

Interest Rates: The demand for housing depends on both the cost and access to financing, as well as the opportunity cost of holding other assets. Theoretically, lower real interest rates $\tilde{r}_t$ reduce the opportunity cost of capital (or decrease interest payments on a mortgage), and therefore increase the value of holding housing as an asset for a given stream of housing rents (Equation 4). This means that lower interest rates increase the house value to rent ratio, all else equal. Like the US, Canada has experienced persistently low interest rates leading up to and especially after the Great Financial Crisis (GFC), which coincides with the explosive house value growth we observe. Importantly, unlike the US, Canada did not experience a housing bust (Figure 1).

There is a large literature in the macroeconomics of housing markets that studies how interest rates affect value-to-rent ratios in the context of the US boom-bust cycle. A typical approaches involves examining counterfactual experiments that vary the interest rate on identified models. Different modeling frameworks deliver a range of answers: lower interest rates have been found to explain one-fifth of the price-to-rent growth from 1996-2006 (Glaeser, Gottlieb and Gyourko, 2010), roughly one third (Greenwald and Guren, 2021), and virtually none (Favilukis et al., 2017). Moreover, Amaral et al. (2024) argue that lower national risk free interest rates may also generate *disproportionately* higher value-to-rent growth in larger US cities. This is because foregone interest takes a larger share of user costs in cities with high value-to-rent ratios. This logic may apply to Canadian CMAs, and represents an alternative explanation to that of stringent regulation anchoring expectations about future rent growth (Gyourko et al., 2013).[19]

The relationship between interest rates and value-to-rent ratios is also complicated by the endogeneity of the housing risk premium. Favilukis, Ludvigson and Van Nieuwerburgh (2017) show that leading up to the GFC, low interest rates could not explain high value-to-rent ratios in the US. They do so with a general equilibrium model in which homeowners allocate savings between risk free assets, risky equity, and housing. In their model, the large inflow of inelastically-supplied foreign capital into US risk free assets leading up to the

[19]There is also model-free empirical evidence that lower interest rates increase housing values at roughly the magnitude implied by theory, e.g. Favara and Imbs (2015) and Adelino et al. (2025).

GFC reduces risk free interest rates and displaces domestic asset demand toward leveraged positions in housing (and risky equity). In response, the risk premia for housing *increases*, substantially offsetting the effect of lower risk free rates. It is not clear if this logic can be applied to Canadian housing markets, as a similarly sized shock to foreign demand for risk free assets may not have occurred. There is, however, much more of a policy debate in Canada surrounding foreign demand for investment in housing, a point we discuss later in this section. On the other hand, regulations that curb mortgage leverage have been persistently tighter in Canada relative to the US. In their model, the degree to which leverage constraints bind matters for housing risk premia.[20] In Section 6, we discuss differences in credit constraints between the US and Canada.

In Canada, there is a unique interest in understanding how persistently low rates have caused housing price growth, especially because the country did not experience the US housing bust. To this end, Head and Lloyd-Ellis (2016) use an asset pricing model that allows user costs to deviate from rents based on (potentially) irrational expectations about future rent and interest rate growth. They show that Canadian value-to-rent growth up to 2016 can *almost* be rationalized by households' beliefs that the low interest rates post-GFC were permanent. Of course, they were not permanent. Interest rates rose after COVID, and CMHC believes that this will have an impact on housing demand that will continue to play out. CMHC estimates that the positive interest rate shock in 2023 reduced housing starts by 30,000 nationwide (CMHC, 2024b). This is a 15% reduction relative to the prior year. The estimate reflects, at least in part, expectations that housing demand growth will be weaker.[21] It also reflects differences in the structure of mortgages between the US and Canada. A typical US mortgage features fixed rates for the entire duration of the mortgage. In Canada, the typical mortgage fixes interest rates for only 5 years. This means that rising interest rates will more quickly pass through to rates on outstanding Canadian mortgages and thus likely affect Canadian housing demand more quickly, relative to the US.[22] We take this Canadian evidence to suggest that low interest rates have been an important driver of disproportionately high home value growth, at least up to 2020.

Tax Treatment of Housing: Our discussion in Section 2 noted that tax incentives in the US matter for user costs faced by American owners. While the 2017 "Tax Cuts and Jobs Act" reduced its reach, by far the most important US housing tax incentive has been

[20] This is because fluctuations in home prices driven by aggregate risk will endogenously change households' collateral constraints, generating fluctuations in their ability to ensure themselves against idiosyncratic income risk.

[21] Of course, higher interest rates also affect housing developers' capital costs.

[22] We discuss other key differences in mortgage structure in the context of credit constraints and Canadian financial stability (Section 6).

the Mortgage Interest Deduction (MID), which allows owner occupants to deduct interest payments on their mortgage from their taxable income. This drives a wedge between user costs for owner-occupants and landlords because imputed rental income is untaxed. Canada's tax system provides no such incentive for owners. This means that higher housing prices result in greater user costs associated with mortgage interest payments for new Canadian owners relative US ones.[23]

Working in the opposite direction, Canada provides a complete tax exemption for capital gains on primary residences. This is compared against the capital gains exclusion of up to $\$250,000$ for single US households and $\$500,000$ for couples. In the context of Equation (4), higher Canadian value-to-rent growth could have been supported by lower expected tax payments on rising capital gains. Moreover, a $10,000 tax credit exists for first time buyers. Finally, local and provincially levied property transfer taxes inhibit migration in response to local shocks, thereby resulting in some spatially misallocated owner-occupied housing demand (Dachis et al., 2012).

Credit Constraints: In addition to interest rates and tax incentives, credit constraints shift housing and homeownership demand by limiting the amount of leverage that can be taken on mortgages. There are two constraints that are particularly salient in North America. The first is the loan-to-value (LTV) constraint, which dictates that the total debt a household can take must be no greater than the value of their home; it also defines the minimum down-payment on a mortgage. The second is the payment-to-income (PTI) constraint, which requires that mortgage payments not exceed some fraction of current income.[24] To understand the effects of these credit constraints, consider the no-arbitrage equation (2). A key consequence of the no-arbitrage condition absent credit constraints and other frictions is that the household is indifferent between renting and owning. Each tenure choice demands the same cost for the consumption of housing services because rents and user costs are equal.

It is useful to compare this benchmark case to one in which a credit constraint binds for some households but the user costs of owning and renting remain equal. For the following example, we consider the LTV constraint. Absent the LTV constraint, a household choosing between owning and renting would desire to consume the same amount of housing services irrespective of their tenure choice. However, if this household had both low wealth and high permanent income, it would be forced to consume less housing services if owning, as it could not afford a down-payment on its optimally sized home. Credit constraints would cause this

[23]The same logic applies to property tax payments. In the US, property taxes are also tax deductible for owner occupiers (with some limits as of the Tax Cuts and Jobs Act), and this is not true in Canada.

[24]Both constraints do not appear in the standard user cost formula. Instead, they appear as explicit constraints over how much owned housing can be consumed (alongside the standard budget constraint).

household to choose to rent. In general equilibrium, credit constraints decrease the value-to-rent ratio to offset the lower demand for homeownership and break the no-arbitrage condition under certain modeling frameworks.

As with interest rates, there is also a large literature in macroeconomics that assesses the importance of relaxing credit constraints in explaining the 1996-2006 US housing boom. Papers that use different modeling frameworks disagree on this assessment. For example, Favilukis, Ludvigson and Van Nieuwerburgh (2017) and Landvoigt, Piazzesi and Schneider (2015) argue that relaxed credit constraints have strong explanatory power, while Kaplan, Mitman and Violante (2020) argue that relaxed credit constraints explain virtually none of the housing boom. Greenwald and Guren (2021) show that these polarized conclusions stem from assumptions about the degree of segmentation between rental and owner-occupied housing markets. Segmentation is high when it is difficult and costly to convert owner-occupied housing units into suitable rental units, and vice versa. To understand why segmentation matters, consider a landlord who is not credit constrained and makes a choice between selling a housing unit to an owner-occupier or to continue renting it out. If there is no segmentation, this landlord is indifferent to doing so if the no-arbitrage condition (4) holds, or if home prices are equal to the (correctly) discounted sum of future rents. However, if there is segmentation and prices exceed the discounted sum of future rents, the landlord may not be indifferent because the costs to repurpose the home for the owner-occupied market offset the arbitrage opportunity. Hence, models with high segmentation need not feature the no-arbitrage condition as an equilibrium outcome. Greenwald and Guren (2021) recognize that the degree of segmentation is empirically testable. High segmentation means that relaxing credit constraints have significantly higher impacts on value-to-rent ratios and relatively little effect on homeownership rates; the latter observation reflects the difficulty of landlord arbitrage. Empirically, this is what they find in the US context.

How important was the relaxation of credit constraints for explaining Canadian value-to-rent growth? First, it is not clear if Canada exhibits more or less tenure segmentation than the US. On one hand, Canada has a tradition of tighter legal protections for renters (e.g. widespread rent control and eviction protections everywhere except Alberta), which may act as a barrier to entry and exit in the rental market. On the other hand, Toronto and Vancouver have been constructing large multifamily condominiums that often serve both the rental and owner-occupant markets, even within the same structure (see Figures 5 and 7). Nationwide, there has also been historically little purpose-built rental construction since 1981, units which are likely the most difficult to convert across tenure classes. However, this trend appears to be reversing as of the last decade (Figure 5). At face value, our facts suggest a large degree of segmentation if relaxed credit constraints were responsible for

disproportionate value growth. During the 1996-2006 US housing boom, Canadian value to rent ratios increased substantially, accompanying a moderate rise in homeownership rates in every region we study (Figure 4).

Second, Canada did not experience loosening credit constraints to the extent that the US did. In the US during the 1996-2006 boom, the LTV constraint was effectively relaxed by over 10 percentage points (from 85% of home values) by the rise of riskier "subprime" mortgages (Keys et al., 2012; MacGee, 2009). By 2006, 22% of all US mortgages were subprime. The Canadian subprime mortgage market also grew rapidly over the same time period.[25] However, the subprime market remained comparatively smaller in levels, at 5% of Canadian mortgages by 2006. This reflects, in part, the dominance of government-mandated mortgage insurance for high LTV loans and strict rules for their qualification (MacGee, 2009). Most importantly, tightening constraints in Canada after the GFC did not appear to slow down value-to-rent growth at all.[26] This descriptive evidence limits the power of changing credit constraints to explain Canadian rising home values, though we believe they played some role in the early 2000's.

Foreign Investors: Favourable credit conditions have likely increased Canadians' demand for homeownership, if only slightly. Considerable policy attention has instead been paid to strong foreign demand for Canadian housing as an investment vehicle. In 2022, Statistics Canada reported that non-resident ownership was 4.3% in Vancouver and 2.6% in Toronto. Whether these represent meaningful shares of overall housing demand is not clear. Theoretically, a major issue with foreign investors is that they are willing to invest in housing units without renting them out to locals. Using a quantitative model, Favilukis and Van Nieuwerburgh (2021) show that these investors increase rents and home values substantially by taking units off of the rental market. Very small price effects would otherwise occur if all investors acted as landlords.

Two Canadian policy changes surrounding foreign investors have sparked a large empirical literature. In August 2016, the city of Vancouver imposed a 15% tax on home purchases by foreigners, with Toronto following suit about one year later. Numerous studies show that these taxes reduced housing prices by between 5 and 20% in some neighbourhoods (Pavlov et al., 2024; Andolfatto and Rekkas, 2024; Du et al., 2022; Hartley et al., 2024). Moreover, most of the units impacted by the tax were single-family, luxurious, and expensive housing. While

[25]This growth was concurrent with entry of private, high-LTV mortgage insurers (e.g. Genworth Financial).

[26]This tightening included a reinstatement of a minimum 5% down payment on government-insured mortgages, reduced amortization periods for government insured mortgages, and the introduction of the mortgage stress test (which requires the PTI constraint to be satisfied at higher interest rates than those actually provided). We discuss the role of the CMHC in providing mortgage insurance extensively in Section 6.

affordability issues matter the most in low quality segments, reduced demand for higher-end housing could have promoted affordability for lower-end housing through vacancy chains (Mast, 2023; Mense, 2025).[27]

Irrational Bubbles: Our analysis has suggested that large rent growth expectations that could rationalize high Canadian value-to-rent growth appear quite inconsistent with low realized rent growth. Such an inconsistency could point to an "irrational" overvaluation of housing beyond fundamental determinants of its value. There is a large literature that emphasizes the role of bubbles during the US boom-bust cycle. In Canada, fear of housing bubbles pervade the public discourse, especially in the past few decades.

The challenge with the academic study of irrational bubbles is that rationality generates practically all testable predictions in Economics. Indeed, Glaeser and Nathanson (2015) write in the context of the US housing boom: "once perfect rationality is dropped, an essentially infinite array of assumptions are possible". Nevertheless, one could argue for or against housing overvaluation by comparing deviations in realized home value growth against reasonable values for future interest rates and rent growth expectations – that is, by checking if the data satisfy Equation (4). This is precisely the approach taken by Head and Lloyd-Ellis (2016) in the context of Canadian housing. They find consistent overvaluations even under the assumption that low interest rates pre-2020 were persistent, especially in some Canadian cities. However, this evidence cannot definitively prove that there is an irrational bubble. We described many frictions in the housing market that break the no-arbitrage condition without any mention of irrational expectations, which would lead to erroneous conclusions about overvaluation. The consumption value of homeownership relative to renting could have also increased (Head and Lloyd-Ellis, 2016).

6 Household Debt and the Financial System

The rapid home value growth that we observe has implications that extend beyond the welfare of individual households and toward the broader issue of macroeconomic stability. The debt to income ratio for the typical household in Canada has exceeded 1.7 since 2016, after having risen steadily from near parity in 1996 (Statistics Canada, 2025b). As about three-quarters of household debt is mortgage debt, regulators place a particular focus on the stability of Canadian mortgage markets. In this section, we discuss Canada's extensive macroprudential policies that regulate and insure mortgages in order to limit mortgage defaults. The result has been the stable but high debt to income ratio.

[27]Price spillovers from high quality market segments to low quality ones as a result of foreign investor demand is the key result of a model extension in Favilukis and Van Nieuwerburgh (2021).

Canadian Mortgage Contracts: Mortgages in Canada have reached $2.2 trillion in value in 2025 (Statistics Canada, 2025b). Mortgages can have fixed or variable rates. Unlike in the US, mortgage collateral can be ported when the borrower moves to a new home. As noted previously, Canadian mortgages tend to be for 5-year periods, but the system accommodates a range of term options up to 10 years. Recent higher interest rates have, for example, led to greater demand for shorter-duration mortgages than the traditional 5-year mortgage and greater demand for variable rate mortgages.

Historically, most mortgages amortized over a 25 year period. More recently, 30 year amortization periods, like in the US, have become more common. The frequent renegotiation of mortgage contracts in Canada makes payments more sensitive to changes in interest rates along that amortization period. Unlike in the US, mortgages are usually full recourse in Canada, although Alberta and Saskatchewan allow non-recourse loans. Full-recourse mortgages allow the lender to pursue other assets if the borrower defaults on the mortgage.

Prepayment penalties for mortgages tend to be higher in Canada than in the US. If the borrower puts down less than 20% for the down-payment, federally regulated institutions require the borrower to obtain mortgage loan insurance (MLI) from either CMHC or one of two private insurers. The federal government largely guarantees these payments. Borrowers with as little as a 5 percent down-payment and MLI routinely qualify for mortgage interest rates that are similar as those for uninsured mortgages with at least 20% down. However, monthly payments are greater to reflect insurance premiums. CMHC offers MLI for purchase of housing up to $1.5 million (previously $1 million), with a 5% down payment required on the first $500 thousand of the sales price and 10% required on the amount above this (Department of Finance Canada, 2024). Since those limits are low relative to the price of homes in Vancouver and Toronto given the extent of the price escalation, the role of MLI has diminished in the Canadian housing system. Eighty percent of outstanding mortgages in Canada were uninsured in 2025 (CMHC, 2024c; Statistics Canada, 2025a).

Mortgage Market Regulation: Chartered banks account for nearly 80 per cent of outstanding mortgages. In turn, this implies that most of the mortgage system in Canada is federally regulated. The regulatory system includes a combination of government agencies, financial institutions, and policy frameworks designed to ensure stability and affordability. The main regulators are listed as follows. The Office of the Superintendent of Financial Institutions (OSFI) oversees federally regulated lenders and sets mortgage underwriting standards. The Bank of Canada influences mortgage rates through monetary policy, adjusting interest rates to manage inflation and economic stability. The Canada Mortgage and Housing Corporation (CMHC) provides mortgage insurance for high-ratio loans (less than 20% down

payment) and supports affordable housing initiatives. The Department of Finance Canada develops policies affecting mortgage lending, including risk-sharing frameworks and regulations on insured mortgages. The 20% of mortgage loans held by credit unions and non-bank lenders are regulated by the province in which the lender is located. As well as operating independently, the organizations listed above interact and share information through a series of financial system committees coordinated by the Bank of Canada. These committees exist to monitor and share information and concerns.

In 2017, OSFI established a set of binding regulations on federally regulated lenders (the B-20 regulations) to ensure sound mortgage underwriting practices (OSFI, 2017). The B-20 regulations include the following components. Mortgage stress test rules require lenders to verify that borrowers qualify for a mortgage at the greater of the Bank of Canada's posted rate 5-year benchmark rate or the contract rate plus 2 percentage points to ensure they can withstand potential rate increases. Lenders must assess the ability to repay the loan through income verification. Lenders must conform to loan-to-value (LTV) limits, which caps the size of the mortgage loan relative to the value of the home. Finally, debt-service ratios limit the proportion of the borrowers' income that may go towards housing costs. An additional motivation for regulation is concerns about money laundering through the housing system. A public inquiry was called in British Columbia that led to recommendations on combating financial crimes, including the expansion real estate licensing requirements. The Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) enforces anti-money laundering and anti-terrorist financing regulations for mortgage administrators, brokers, and lenders.

Mortgage Securitization: Securitization aggregates and then splits up insured mortgages held by financial institutions to sell as packages to investors. These are liquid tradable mortgage-backed securities (MBS). The resulting increased liquidity and pooling of risk leads to greater supply of financing to support Canadians' housing purchases (Mordel and Stephens, 2015). Unlike in the US, securitization has been dominated by the government in Canada. MBS can be sold directly by financial institutions based on their holding of insured mortgages. CMHC guarantees interest and principal to lower financial risk but investors retain the risk of borrowers repaying their mortgages early (prepayment risk). CMHC also administers the Canada Housing Trust that purchases insured mortgages through issuing Canada Mortgage Bonds. CMBs are similar to regular bonds, including quarterly payments. By the third quarter of 2024, CMHC guaranteed $118 billion of MBS and $46bn of CMB securities through its securitization program (CMHC, 2024d). Morningstar DBRS estimates that the size of the entire Canadian private securitization market to be $115bn of which residential mortgages

were 19 percent (or roughly $20bn) (DBRS, n.d.). As prepayment penalties are higher in Canada than in the US, prepayment risk is lower, making the Canadian MBS market less volatile than its American counterpart. The much smaller sub-prime mortgage market in Canada also makes the Canadian MBS securitization market much smaller.

Canadian Household Debt: Canada's household debt now exceeds the size of its economy. Although it has fallen back somewhat from 2020 levels, the latest IMF data show Canadian household debt at 102 percent of GDP, exceeded only by Switzerland and Australia (IMF, 2023). The high level of household debt in Canada leads to two risks.

First, as happened in the US in the Global Financial Crisis, a negative economic shock could be exacerbated by high debt. While Canadian households have traditionally done their utmost to avoid defaulting on debt on their homes, a significant spike in unemployment would force some households into mortgage arrears and forced home sales. This negative demand shock would lead to house prices declines beyond what would be justified from an economic contraction, which could then cascade to broad macroeconomic financial instability (Mian et al., 2017; Alter et al., 2018).

Second, the diversion of significant resources to pay for housing and interest expenses draws resources away from more productive investment for long-term productivity growth. Research by the Bank of International Settlement finds that a 1 percentage point increase in the household debt-to-GDP ratio tends to lower growth in the long run by 0.1 percentage points, with the negative long-run effects on consumption intensified as the household debt-to-GDP ratio exceeds 60% (Lombardi et al., 2017). In Canada, the recent increase in interest rates to stem inflation has led to concerns about the impact on Canadian households of higher interest payments as mortgages renew (CMHC, 2024c).

These two concerns have been mitigated by the introduction of macroprudential policies, including the mortgage loan stress test by OSFI. While macroprudential policies have strived to address macroeconomic concerns, their effectiveness has not as of yet been fully tested. Clark and Li (2022) highlight incentives for banks to adjust their qualifying rates in order to maintain lending. A second effect mitigating short-term economic harm in the event of a shock is that Canadian households have built up significant equity in their homes. Al Aboud et al. (2025) report that 70 per cent of outstanding mortgages in Canada have a current loan-to-value ratio of 65 per cent or less. It would therefore take a major price decline on the average home before many households had negative equity.

Prospects for Macroprudential Policies in Canada: There can be tensions between different policy instruments and various goals in the Canadian housing system. This leads to

the need for greater policy coordination. For example, Duprey et al. (2024) examines aligning monetary policy aimed at price stability with financial stability (see also Peterson, 2023). Holding interest rates low to support consumption may encourage additional risk taking by some, which would need to be managed by macropudential policy. Gete and Zecchetto (2023) explore the implications of full-recourse mortgages, which encourage more lending by allowing lenders to seize the assets of defaulting mortgage holders. They argue, however, that full recourse mortgages may exacerbate downturns as indebted borrowers are more incentivized to cut back on consumption in order to afford continued mortgage payments.

There are also broader challenges in the goal of addressing housing affordability given the need for macroeconomic and macroprudential policies. Stress tests may have encouraged households to delay the purchase of housing until they had higher incomes to qualify for a mortgage. The result is lower risks to financial stability with only a small intertemporal shift in the long-term growth in demand for housing. There is little here that improves housing affordability and keeps households from continuing to take on large amounts of debt.

A further tension is between the need for more lending to finance construction to address housing supply shortages, but concerns over such lending from a financial risk perspective. Higher interest rates to address inflation – including housing costs – and tighter controls on lending have recently limited developers' access to finance. But this lowers long-term housing supply aimed at addressing affordability concerns. Assessing this situation is difficult in practice as there do not appear to be solid data on the extent of lending for construction and development by Canadian financial institutions.

These concerns are still relevant for high-priced markets in Canada today (ab Iorwerth, 2025). Price declines for apartments since the pandemic, along with relatively weak increases in incomes and hence in rents, have led to concerns about investors in condominium apartments in Toronto and Vancouver with negative equity. They bought apartments as investments and rely on rental income from those properties to service debt. Negative returns on these investments may now encourage them to sell their apartments and discourage them from providing financing for future construction. This challenge extends to individual investors in housing. The absence of large investors in the construction of large rental apartments structures has meant that Toronto and Vancouver came to rely on individual investors renting out condominium apartments in the secondary rental market on the hope that rental income would cover costs of financing a mortgage. In the resale market, such investors could lead to unduly appreciating house prices because they also relied on expected capital gains. Exuberant expectations of price gains may have led these investors to bid too aggressively on apartments thus leading to financial risks. However, these investors were also an important source of upfront capital to get condominium apartments built in the first

place. Tighter regulation on them while limiting short-term financial risk could exacerbate long-term affordability challenges because of the absence of supply.

7 Conclusions

Canada's high rate of housing price growth since 2000 reflects a combination of strong demand growth, inelastic supply of single-family homes, and apparent strong expected future capital gains. The strong demand growth has come through high population growth rates from immigration, some implicit mortgage subsidies for qualifying home buyers, and favorable tax treatment for owner-occupied homes. Government subsidies for first time home buyers, mortgage insurance, and mortgage loan securitization have all been sources of housing demand strength.

While multi-family housing construction has risen markedly across Canada, single family home construction has waned, even in rural areas, despite rising prices. This is evidence of inelastic single-family home supply. Growing demand along with inelsatic supply inevitably leads to rising prices.

While the great majority of Canadian housing units are still single-family detached houses, since 2000 Canada's housing markets have all systematically shifted markedly toward multifamily housing, and mostly condominiums. Until recently, increases in price-rent ratios for the many rental condos that entered the Canadian housing stock since 2010 must have reflected both optimism about continued future home price growth and low borrowing costs. With recent rises in interest rates and more general macroeconomic uncertainty, the condo market in particular has experienced notable price-rent compression, and declines in both.

Ultimately, there is no way around alleviating current housing affordability challenges through facilitating more construction and more elastic supply. Given constrained accessibility to most exurban regions of metropolitan areas, this means finding ways to make it easier for developers to build and densify while providing the infrastructure needed to support such densification. Moreover, it means facilitating less frictional movement of housing units between the owner-occupied and rental market segments. With rents consistently lower than prices, making it easier for households to exist as long-term renters is one path toward progress in the housing affordability challenge. Ultimately we need more research to help understand the extent to which all the (small) housing units built in Canada over the past 20 years have the right profile for the market they serve. Without further action to facilitate their expanded supply, it seems likely that even smaller single family homes will become increasingly unaffordable for the typical home buyer.

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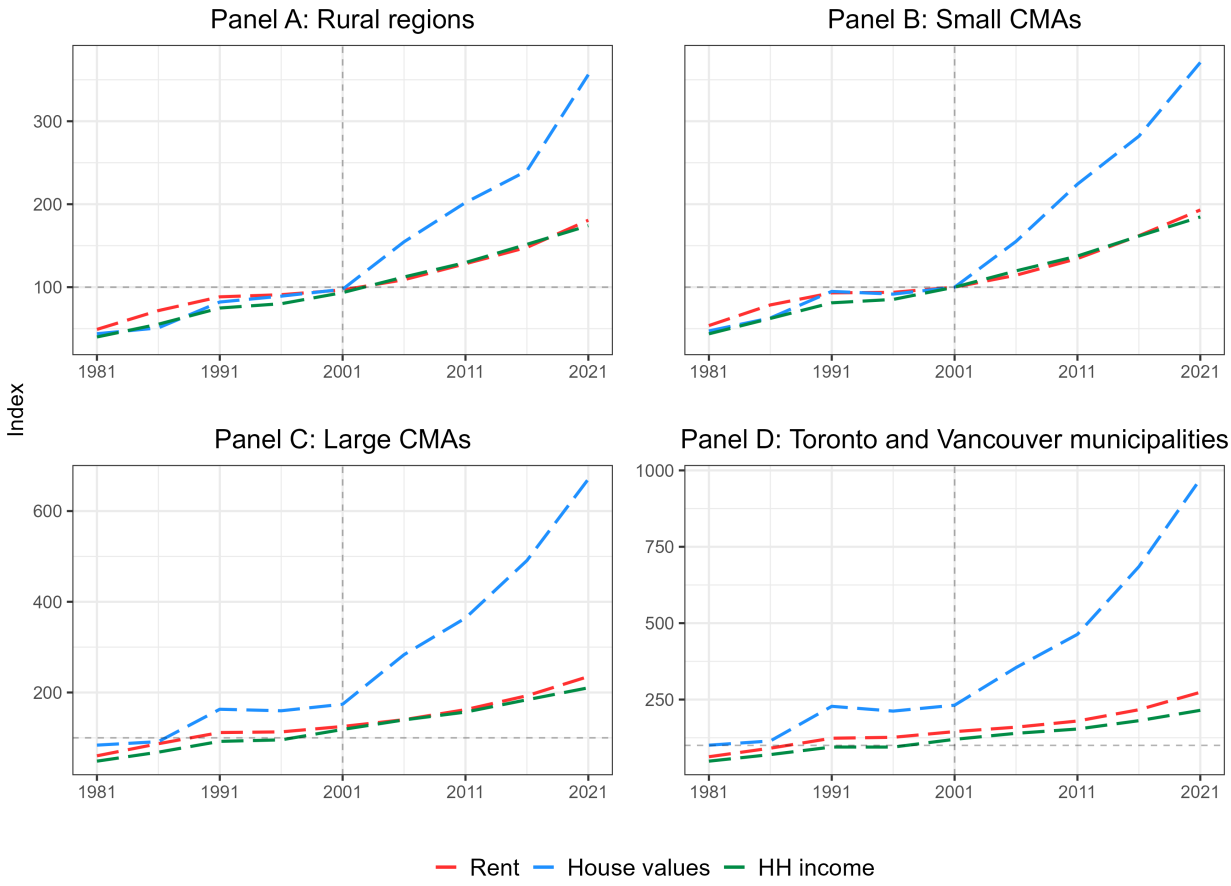
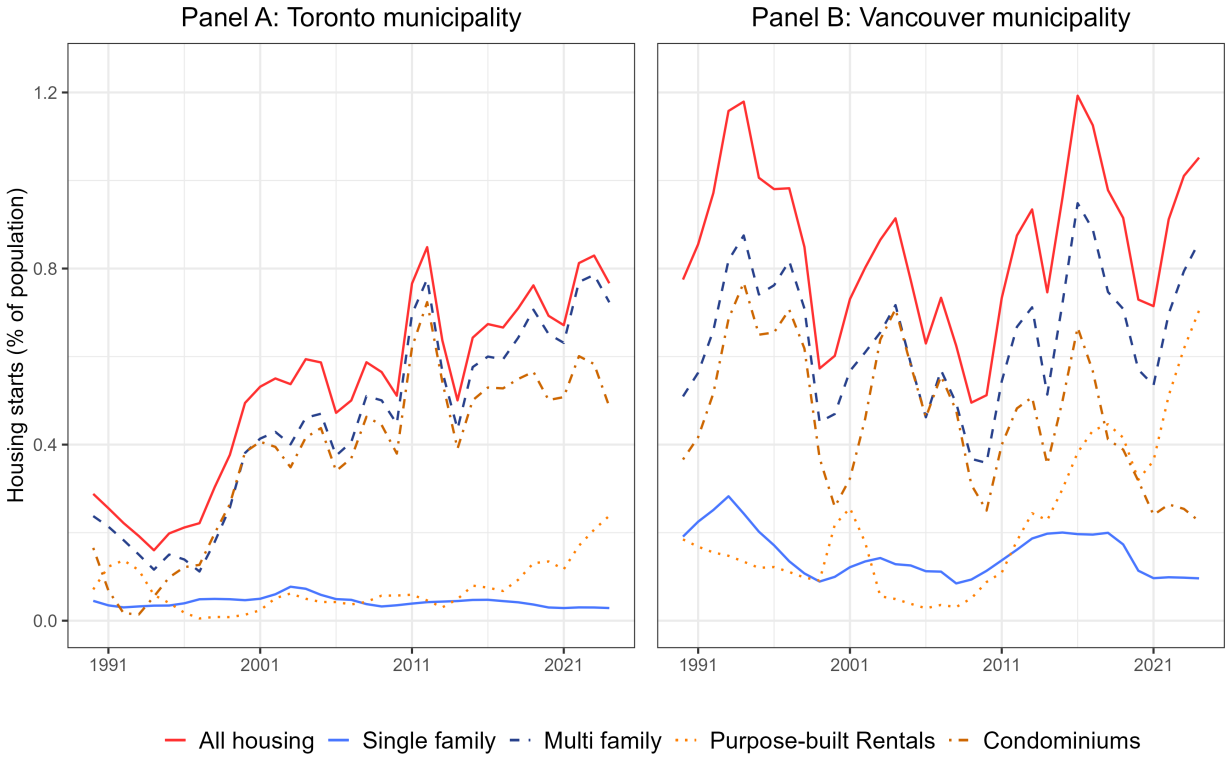
A Additional Figures

Figure 6: Rents, house values and incomes; comparable across geographies



Data constructed using 5-year census waves between 1981-2021. Each variable is indexed to Small CMA values in 2001. As with the US Census, rent data come from the universe of renting households, and price data come from the universe of owner-occupants and are self-reported (not based on transactions). Price and rental data are aggregated from the Census Subdivision level using rental and owner-occupied housing unit weights, respectively. Household income data is reported pre-tax and comes from the universe of all working households, and are aggregated using household weights.

Figure 7: Housing starts within the Toronto and Vancouver municipalities



Starts are obtained from the CMHC's Starts and Completions Survey, and are smoothed with a locally-weighted regression. "All housing" refers to the total number of housing units in started structures. Starts are assigned two classifications: "Types" and "Purposes" of which are not mutually exclusive and not exhaustive of all housing starts. "Types" are broken down into two mutually exclusive sub-classes: "Single family" and "Multi family" that are assigned the colour blue. Both the single family and multifamily designation exclude townhouses and semi-detached housing. "Purposes" are broken down into Purpose-Built Rentals and Condominiums (mutually exclusive) that are assigned the colour orange. Purpose-built rentals refer to rental buildings intended to be owned by institutional landlords. Population figures used to normalize housing starts are interpolated from the Census waves.