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Making Housing More Affordable in Canada: The Need for More Large Cities

Housing affordability in Canada's largest cities has been a long-standing issue. Fixing it requires our smaller cities to become more attractive places to live and work.

Jeremy M. Kronick and Paul Beaudry

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Making Housing More Affordable in Canada: The Need for More Large Cities

by Jeremy M. Kronick and Paul Beaudry

- **This paper asks how best to make housing more affordable – especially in our large cities – for the current generation of renters and potential new buyers.**
- **We begin by showing that if increasing housing supply is a key element of the solution, simply doing so in our major metropolitan areas is unlikely to improve affordability on its own. This is because more housing located uniquely in our superstar cities will cause people to relocate to the latter from Canada's less populous cities.**
- **We then argue that what is necessary for improving housing affordability in big cities is to make our currently less populous cities more attractive, and larger, allowing them to take advantage of agglomeration effects and supply housing at lower cost.**
- **The requisite policies to make this happen require action at all levels of government.**

Introduction

Housing affordability is widely recognized as a grave concern for Canadians. The extent to which the affordability of housing in Canada has deteriorated over time can be shown through a number of different measures, and is most notable in our large metropolitan areas. The question that arises is how best to address this issue – that is, how best to make housing more affordable for the current generation of renters and potential new buyers.

Our approach to this question proceeds in two steps. We begin by highlighting what may appear as something of a paradox for housing supply advocates. As we will show, Canada stands out among advanced countries on several measures in terms of the increase in the cost of housing over the last few decades. However, in terms of investing in the supply of housing – even after adjusting for changes in demand due to population growth – Canada has not been as bad a laggard as is sometimes suggested.

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In fact, according to some measures, Canada's investment in housing has been above average and sometimes leading. How can it be then that we are investing more in housing per person than is the case in many other countries, but our house prices – driven by big cities – have nonetheless increased faster than in those same countries? All things being equal, isn't greater housing supply expected to reduce the price of housing?

In the second part of the paper, we address this apparent paradox. Our claim is that even if increasing housing supply is a key element of the solution, simply doing so in our major metropolitan areas is unlikely to improve affordability on its own. To be clear, this is not to say we should not increase supply there. But what is essential for improving housing affordability in big cities is to make our currently less populous, or "secondary" as we define them, cities more attractive, allowing them to take advantage of agglomeration effects – the advantages from industries and people locating in urban settings – and supply housing at lower cost. In the absence of this approach, any increase in the supply of housing focused only on our large metropolitan areas will be offset by increased in-migration from other Canadian cities, causing house prices – adjusting for wages – in our current large cities to either remain unchanged or even increase.

We want to highlight that such an outcome could potentially have a positive impact on GDP, as it would be concentrating a larger fraction of the population in highly productive cities. However, it would not improve affordability (nor increase the welfare) of current renters and prospective house buyers in major cities – the focus of this paper. To do that, we need more large cities.

Context Setting: Housing Affordability, International Comparisons and the Supply of Housing

Changes in Housing Affordability in Canada

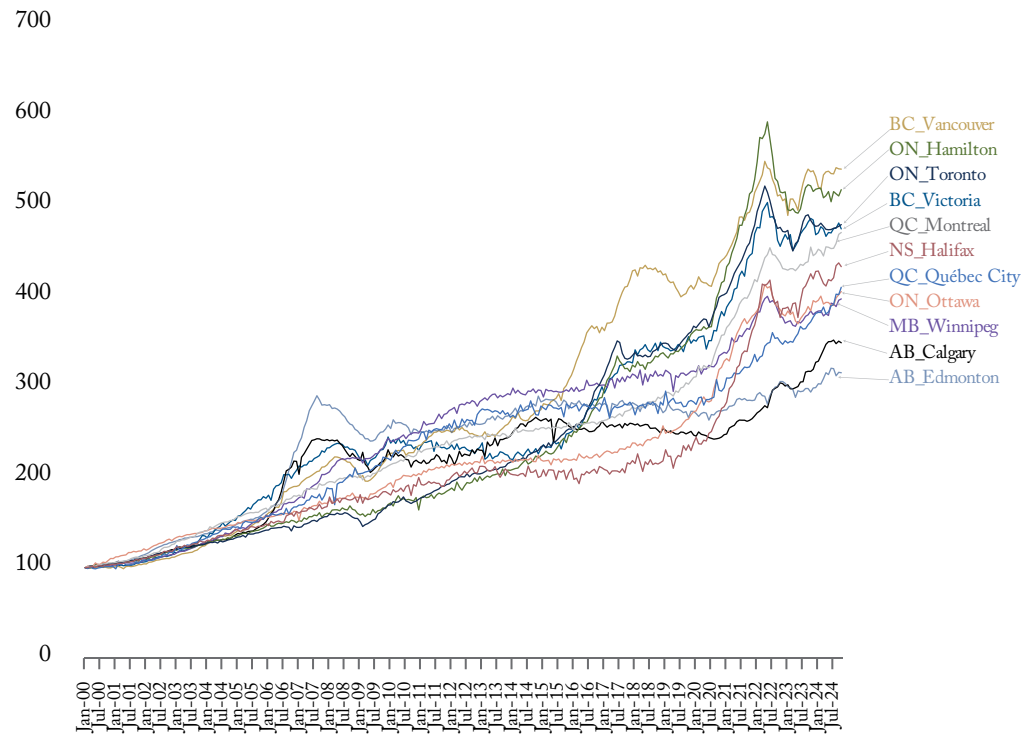
We acknowledge up-front that the optimal measure of housing affordability is probably the price per square foot per person living in a particular dwelling. As far as we are aware, however, this level of detail – across cities and countries – is not readily available. We, therefore, rely as much as possible on different indices, including the Teranet House Price Index for Canada which assumes: "constant level quality of the single-family dwellings and that any price changes are driven only by market trends. Thus, the indices attempt to reflect market prices by minimizing or eliminating the influence of any changes in the physical characteristics (e.g., renovations) of the houses."[1]

With that caveat out of the way, we often talk about Canada's housing market as if it is singular. However, Canada is made up of a number of housing markets with different characteristics and economies. And, while Toronto and Vancouver typically get the affordability headlines, our other big cities have not been spared (see Figure 1).

Since the turn of the century – starting before the period of low interest rates and more recent immigration surge – our nine largest cities by population, as well as Halifax and Victoria (ranking 12th and 15th in population, respectively), have experienced significant house price gains. Edmonton, which has seen the least price growth, is still three times more expensive than it was in 2000, while Vancouver, Hamilton, and Toronto – which have seen prices grow the most – have all

1 Teranet house price index: https://housepriceindex.ca/wp-content/uploads/2017/08/Teranet-National-Bank-House-Price-Index-Methodology-Overview.pdf. There are no cost-of-living adjustments.

Figure 1: Big Canadian City House Prices, Jan. 2000 – Oct. 2024, Index, Jan. 2000 = 100



Source: Teranet House Price Index. Cities are defined as Census Metropolitan Areas.

grown approximately five times more expensive (in nominal terms).

House price growth picks up markedly in the Figure after the Great Financial Crisis ("GFC") as we enter the period of low interest rates. During the ten years between the GFC and the COVID pandemic (end of 2009 to end of 2019), we saw big increases in house prices across all these cities. Of course, the true measure of affordability is whether income growth has kept pace with price growth (see Table 1). At a macro level, looking at nominal GDP per capita growth, in some cities like Calgary, Quebec, and Edmonton, the answer is yes. For some, it is clearly no – Toronto, Hamilton, Vancouver, Ottawa, Victoria, and Montreal – while in Halifax and Winnipeg, house prices grew just a bit more than income per capita. This says nothing, however, of the distribution of those income gains, for example in Calgary where GDP growth outpaced house price growth, and whether those gains were concentrated at the top with those who already own homes.

Nevertheless, we are left with affordability issues in many Canadian cities, felt most acutely in Toronto and Vancouver.

Canada's housing markets also have significant implications for debt levels. Debt-to-GDP in Canada has gone from 63 percent in 2000 to 100 percent today (Q3 2024). While worrying, Canada's high debt-to-GDP ratio does not in and of itself say anything about affordability. When interest rates fall and are low – as they were for

Table 1: GDP per Capita and House Price Growth, 2009–2019

City	House Price Index	GDP Growth Index	Gap Growth Rates
Toronto, ON	217.1	135.4	81.7
Hamilton, ON	212.6	133.7	78.9
Vancouver, BC	181.3	135.9	45.4
Ottawa-Gatineau, ON part, ON/QC	141.6	115.9	25.7
Victoria, BC	144.0	122.2	21.8
Montréal, QC	146.2	132.3	13.9
Halifax, NS	130.4	124.1	6.3
Winnipeg, MT	130.7	126.5	4.2
Edmonton, AB	105.8	110.4	-4.6
Québec, QC	128.3	134.9	-6.6
Calgary, AB	107.0	119.0	-11.9

Source: Teranet House Price Index, Statistics Canada Table: 36-10-0468-01. GDP per capita growth is indexed to 100 to match the house price index starting point (2009 in this case). Subtracting one from the other would say that over a 10-year period, house prices grew by X percentage points more or less than GDP per capita. For all data, we are looking at the Census Metropolitan Areas (CMAs).

much of the period after the GFC – asset prices increase, and it is not clear ex-ante whether the cost of servicing the debt undertaken to buy that asset has gone up because of higher prices, or down, because of lower interest rates.

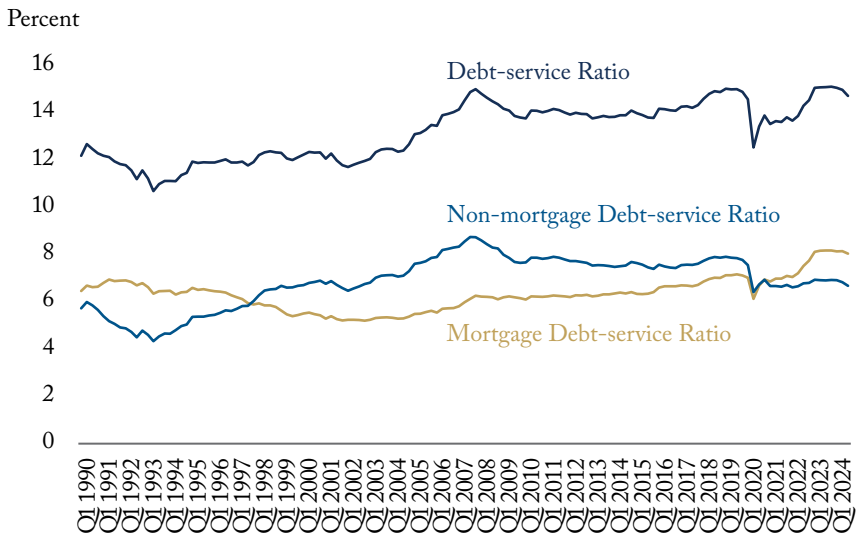
The total debt-service ratio in Canada – which is the cost of servicing one's debt relative to one's income – has been quite flat over much of the last 35 years (see Figure 2). This is mostly due to the impact of (on both existing and new mortgages) lower interest rates counterbalancing higher mortgage principal payments. However, more recently, the debt-service ratio on mortgage debt has increased significantly as interest rates were increased very quickly to combat inflation while house prices did not materially fall.

An increased cost of servicing one's mortgage debt is a signal of potential decreased housing affordability. However, even in the pre-COVID period, where this debt-servicing ratio was relatively flat, affordability can still be affected. With higher house prices, one needs a higher downpayment. As a simple example, you could have a flat debt-servicing ratio but the 10 percent downpayment has gone from $50,000 on a $500,000 house, to $100,000 on a $1 million house. This doubling of the downpayment creates a significant barrier to many.

International Comparisons

How do changes in house prices in Canada compare with what is happening outside of our borders?

Figure 2: Debt-service Ratios and Components, Q1 1990 – Q3 2024



Source: Statistics Canada, Table: 11-10-0065-01. The debt-service ratio is debt-servicing costs divided by disposable income.

In order to look at this issue, we gathered house price information from the Bank for International Settlements (BIS) for the largest one or two cities (in terms of population, based on data availability) in a number of developed-world economies to compare with Canada's (in this case Toronto). The BIS dataset makes a number of adjustments to allow for cross-country comparisons. Because of data availability, we index each city to 2010 for the comparison (see Figure 3).[2]

Toronto, alongside Berlin, leads the pack in terms of house price growth over the last decade and a half. However, this is not unique to these two cities, with all but the Italian cities at least 30 percent higher in 2024 than they were in 2010 (50 percent higher if we exclude Paris and Madrid).

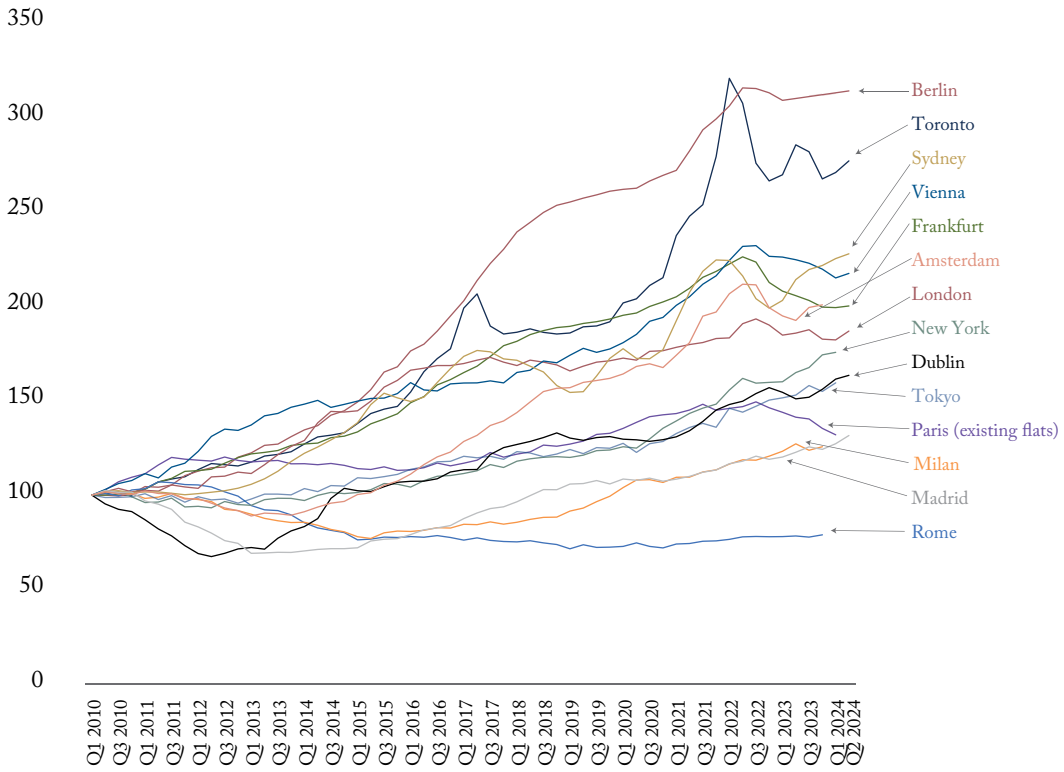
To expand the comparison to a greater number of countries, we change the focus to country-level measures as opposed to city measures (Figure 4). Here, we again see the same pattern: robust house price growth throughout advanced economies, but Canada, once again, experiencing the greatest increase. A similar pattern emerges when focusing on debt-to-GDP ratios across countries (Figure 5).[3]

Another area where Canada does poorly in international comparisons is the ratio of after-tax

2 Despite Toronto having the second-highest house price growth since 2010 of the cities we look at here, this might, in fact, understate the relative size of Toronto's house price growth because it did not experience the collapse during the Great Financial Crisis (i.e., pre-2010) that many other cities did.

3 We note that assets – in this case house prices – have grown with debt, so net assets divided by GDP will be flatter, but the point is that the increase in debt-to-GDP indicates the difficulty for those not currently in the housing market in getting in.

Figure 3: City House Price Index by Country, Q1 2010 – Q2 2024, Index 2010 = 100



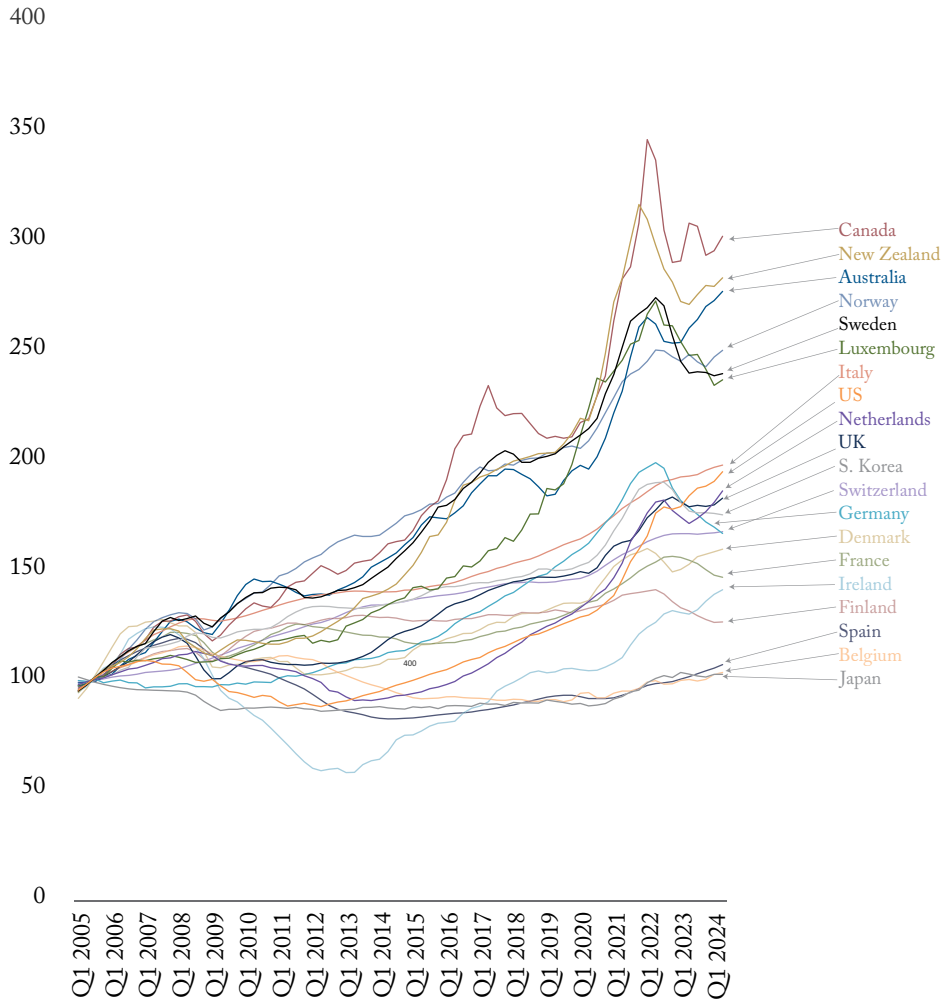
Note: All dwellings used for all cities except Paris – existing flats – and New York – single-family houses – because of data availability.
Source: Bank for International Settlements: https://data.bis.org/topics/RPP.

disposable income to house prices, which takes into consideration both parts of the affordability coin. Since 2005, this ratio has decreased in several countries. But the greatest deterioration observed within our sample of countries was in Canada (Figure 6).

To summarize, then, in Canada:

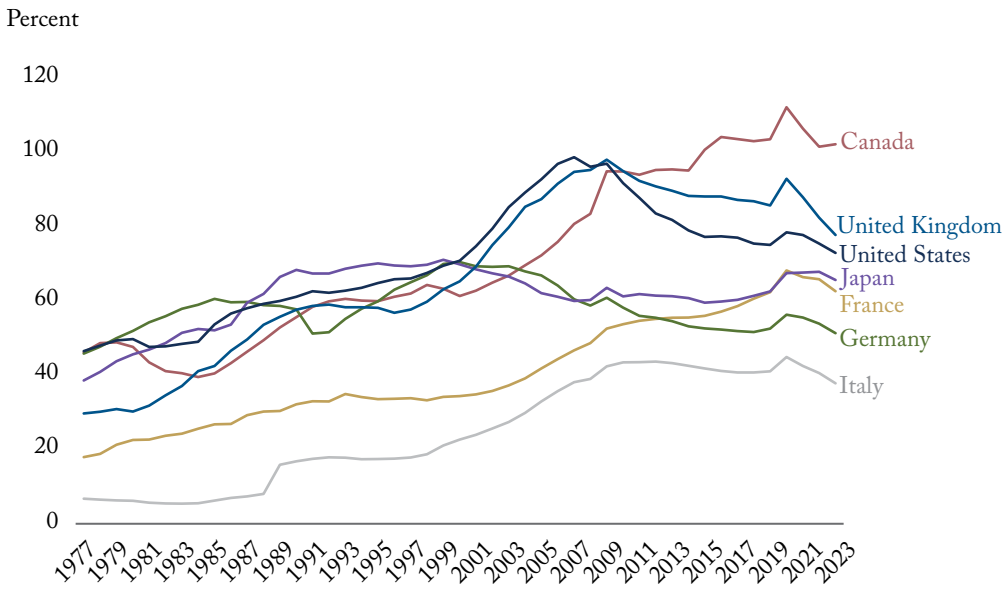
1) Housing affordability has decreased considerably over time, and this is reflected in all measures. While some measures suggest less of an increase than others (for example, debt-servicing costs versus house prices to income), all measures point in the same direction.
2) Many of the same patterns are shared with other countries. In particular, house prices have increased substantially in almost all advanced countries over the last several decades, with the pattern being most evident in the largest and most international cities.
3) Despite the similarity across countries, and across major cities, Canada finds itself leading the pack on many measures. In this sense, the decrease in house affordability seen in Canada is shared with other countries but it appears more acute in Canada.

Figure 4: Country House Price Index, Q1 2005 – Q2 2024



Source: Federal Reserve Bank of Dallas: https://www.dallasfed.org/research/international/houseprice.

Figure 5: Household Debt/GDP Ratio, 1977 – 2023



Source: IMF Household debt, loans and debt securities (percent of GDP).

Housing Supply

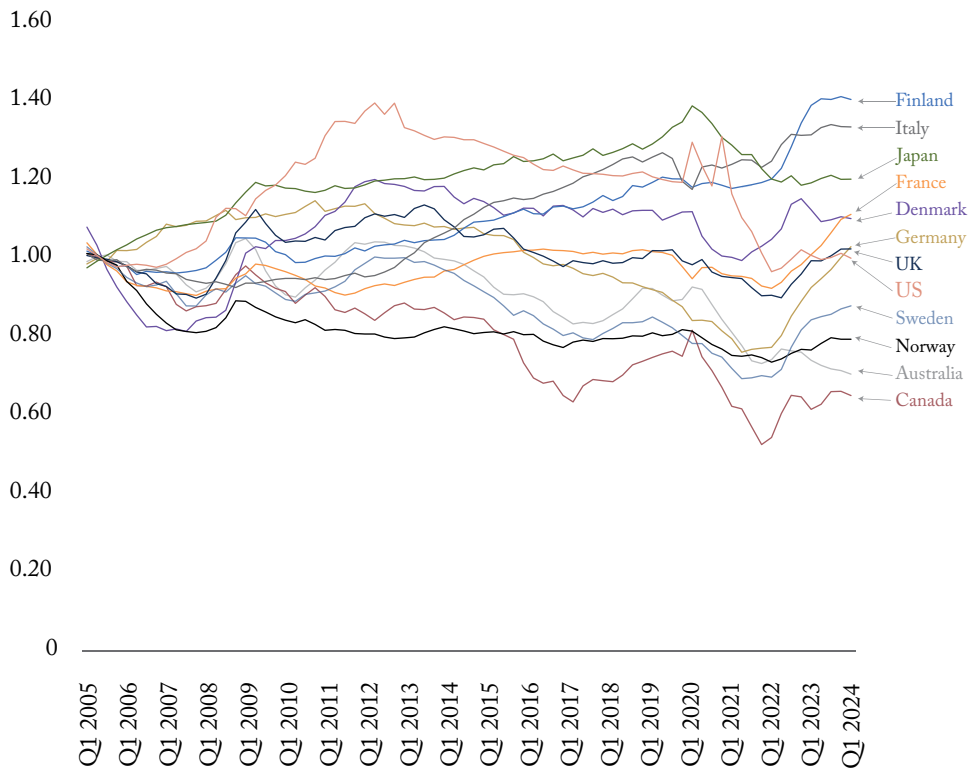
The main strategy, repeatedly advocated, to address our housing affordability issue is to increase the supply of housing and, in particular, reduce burdensome housing regulation in our major cities to support more building. While we agree, there are good reasons to question whether an unconditional "increase supply" view, when focused singularly on our major cities, is an approach that is likely to reduce the affordability crisis – the focus of this paper.

There are several pieces of evidence suggesting that this simple "increase supply" policy, if not properly targeted, will not achieve the goal of increased affordability.[4] First, housing stock has largely kept pace with the population, except for the very recent period of surging immigration (Figure 7). Admittedly, with smaller-sized families, we might need to do more than keep pace, getting us back on an increasing trend.[5] However, overall, we've been building more than is often recognized.

Second, if we look both over time and across countries, controlling for demand, Canada has witnessed a considerable *increase* in resources targeting the supply of housing. The federal government, as part of its National Housing Strategy, has launched a number of initiatives aimed at boosting supply: the Federal Lands Initiative, Innovation Fund, Affordable Housing Fund, Rapid Housing Initiative, and Apartment Construction Loan Program. The share of construction

4 This should create the conditions to house more people in major cities, but not necessarily reduce the cost of housing.
5 See, for example, CMHC (2023), which estimates Canada needs 3.5 million homes built by 2030 to restore affordability.

Figure 6: Ratio of Disposable Income (per capita) to House Prices, Q1 2005 – Q1 2024, 2005 = 1*



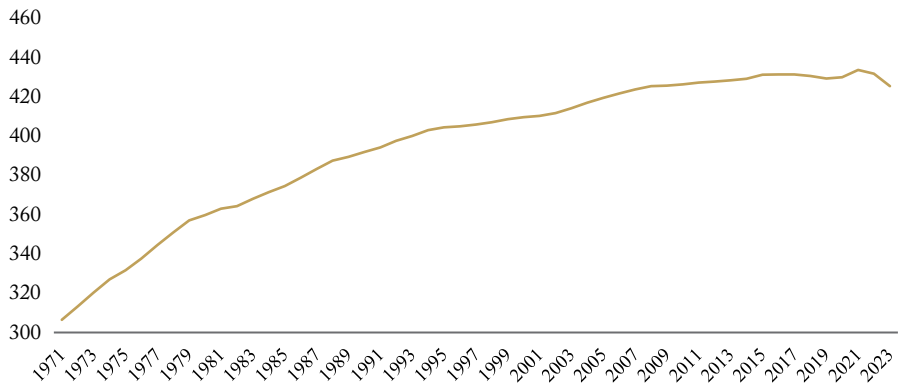
* Not quite 1 given the timing of the data calculations.

Source: Federal Reserve Bank of Dallas: https://www.dallasfed.org/research/international/houseprice.

employment in total employment has gone from 5 percent at the turn of the century, to nearly 8 percent at the time of writing (see Figure 8). Of late, we have had a higher fraction of the population working in construction than at any time over the past 50 years. However, we would note that this construction is heavily skewed towards major cities where affordability issues are most acute. To date in 2024, 17.5 percent of housing starts were in Toronto (CMA) while 12.2 percent were in Vancouver (CMA) – both exceeding their percentage of Canada's population.

More telling are the international comparisons. On this front, Canada has been a leader in the amount of investment per capita in housing when compared to other countries, with the gap between Canada and its peer countries growing over time (see Figure 9, which excludes land). This pattern remains true even relative to countries with similar rates of international in-migration, Australia most

Figure 7: Housing Stock as a Percentage of Population (Dwellings per 1,000 People), Canada – 1971 – 2023



Source: C.D. Howe Institute Graph of the Week series. https://www.cdhowe.org/publication/graph-week-canadas-housing-stock-falls-behind-population-growth/

notably.[6] As a pure percentage of their own gross fixed capital formation, Canada leads all OECD countries (for which there are data) in investment on dwellings.[7] Yes, this may perhaps indicate that it takes more investment in Canada to get one unit built, the extra construction resources going towards that inefficiency as compared to elsewhere, but if anything it suggests that while we continue to remove the barriers creating these problems, we need to be even more precise about where we build in order to achieve the goals we set out – in this case, affordability.

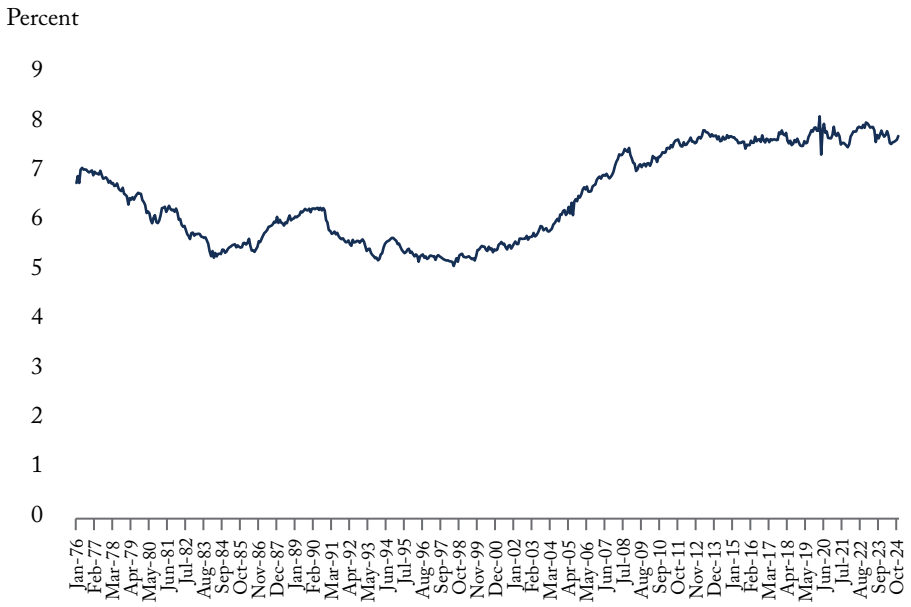
Nevertheless, if simply directing an increased portion of a country's relative resources – i.e., per capita housing construction spend or construction employees/per total available employees – at boosting housing supply was the magic bullet to improve affordability, then we would not expect Canada to be doing worse than most other countries. Obviously, countries with higher population growth need to build more houses. This is why comparing our performance with countries like Australia, New Zealand, and the United States with per capita ratios is so relevant. Compared to these countries, our investment rates have been high, yet our house price growth has been higher.

It is also worth noting that there has been a litany of different policies tried across countries – on both the demand and supply side – to improve

6 Canada's immigrants represent 21.33 percent of our population, compared with 30.14 percent in Australia. https://worldpopulationreview.com/country-rankings/immigration-by-country.

7 See OECD data, where the most recent data point is 2022. https://www.oecd.org/en/data/indicators/investment-by-asset.html

Figure 8: Construction Employment Ratio (as a percent of total), Jan. 1976 – Nov. 2024



Source: Statistics Canada, Table: 14-10-0355-01.

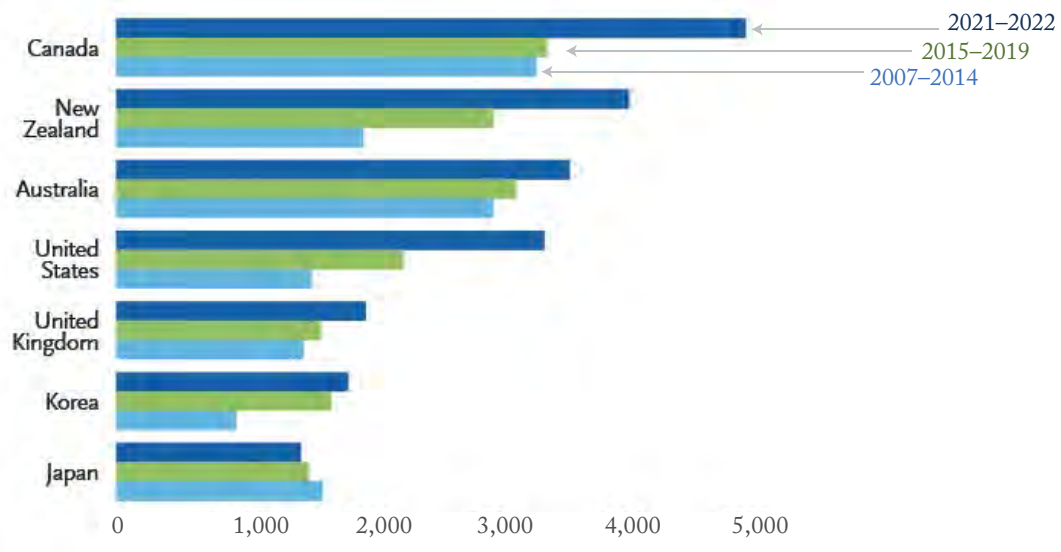
affordability, to varying degrees of success, as we have seen. In addition to the supply-side solutions in Canada mentioned above, there have been, for example, build-to-rent policies, which have been prominent in France, Germany, and the US (see UK Parliamentary Report 2018). Policies that support modern methods of construction have produced a far greater volume of housing in Japan and the Scandinavian countries (ibid). What, then, explains the fact that we have not seen much improvement in affordability in big cities, despite many of these supply-side measures being implemented?

The above-mentioned data patterns give rise to a certain paradox: How can it be that Canada's housing supply has largely kept pace with population growth, it has invested in housing in an above-average manner relative to the population, but has still experienced a higher growth rate in house prices? Why is Canada's growth in housing prices not closer or below that of its peers (who weren't an overly successful benchmark either, as we have shown)? Is this not contrary to the most basic of market principles? In the second part of the paper, we address this issue with the use of standard tools from spatial/urban economics.[8]

Our main claim, explored below, is that focusing exclusively on increased housing supply in our major cities is unlikely to improve affordability

8 For more on spatial economics, see, among others Combes, Duranton, and Overman (2005).

Figure 9: Investment in Dwellings per Capita



Source: Bennett Jones 2024.

in those big metropolitan areas. Instead, this will likely contribute to greater population in our major cities and increasing or constant house prices. Such a policy may be beneficial to existing landowners in these cities, and it may even increase GDP due to agglomeration effects (see National Bureau of Economic Research (2010) for more on agglomeration economics), but it is unlikely to decrease the cost of housing and make life more affordable for people and families not yet vested in major cities. Instead, we argue the way to decrease the relative cost of housing in our large cities, and increase housing affordability more generally across Canada, is to increase the attractiveness and growth potential of secondary cities. Increasing housing supply can achieve the goal of increased housing affordability; however, much of this increased supply must also be directed at our secondary cities. It is only by making our secondary cities more competitive with our larger cities as places to live that housing will become more affordable across the country. We present the logic behind this view next.

When Does Increasing Supply Improve Housing Affordability?

With this context in mind, we turn now to making the case for why focusing only on increased housing supply in our major cities is unlikely to make housing more affordable there, and why building up secondary cities in addition to our largest, or superstar, cities is so important. The key element in our argument is the recognition that in a country like Canada, where people can make choices on where to live and work, the size of different cities

will adjust until the net benefit of living in different locations is approximately equalized. This is the core tenet of spatial economics. The net benefit of living in a city reflects many elements: local amenities, employment opportunities, wages, cost of housing, commuting costs, etc. For the sake of clarity, we will focus here on highlighting how wages and housing costs tend to adjust in an environment where people can choose to move between cities. For the formal mathematics behind our argument, see the Model Appendix (online Appendix A). For the main text, we discuss the core mechanism of the model presented in the Appendix with the use of simple figures.

Like any model, there are caveats and simplifications; most notably, our model abstracts from the heterogenous impact that agglomeration can have on people with different skills, working in different sectors. Instead, we treat people as similar except for whether they are landowners or not. This simplification allows us to focus on how different policies affect landowners versus non-landowners, which is central to the debate around housing affordability. While introducing more heterogeneity would impact the nature of the curves we show in this section, it does not change our model's primary conclusions. For more on these caveats, see online Appendix B.

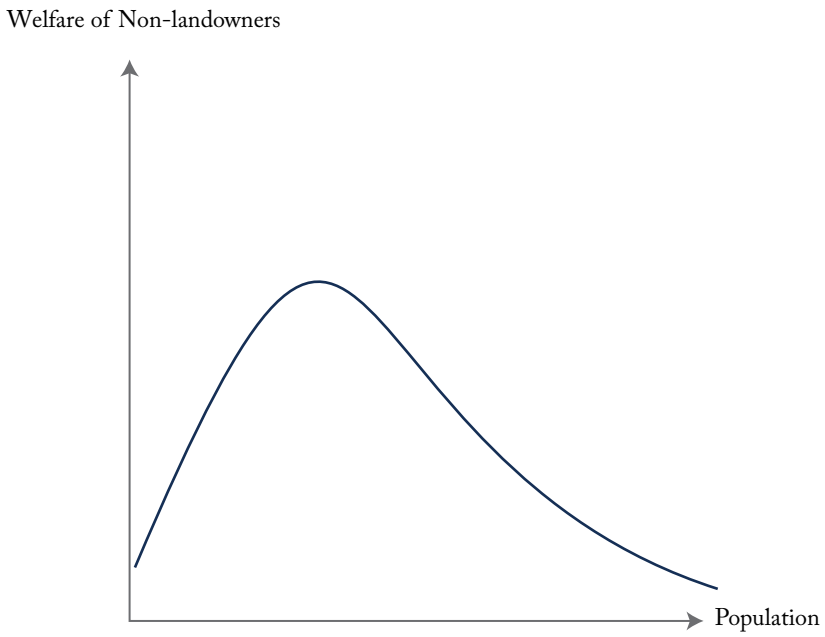
The model also treats the size of the total Canadian population as given, and examines how different policies create incentives for people to move across cities and how this feeds back to housing prices and affordability. By treating population size as given, we are not aiming to explain international immigration. International immigration in our setup simply corresponds to a change in total Canadian population, where the adjustment process following an influx of new immigrants can depend on where new immigrants initially settle and the policies in place. In the main text, we focus on the effects of housing policy for a given level of total population, while in online Appendix C we discuss more directly the effects on international immigration. The main point we highlight in that Appendix is that accommodating all immigrants in the big city leaves you in a similar situation to that which we describe in the first half of this section, while a scenario wherein out-migration is encouraged to the small cities leaves us in a similar situation to that which we refer to in the second half of this section, when we discuss the more optimal building of secondary cities.

A city can be seen as becoming more affordable if housing costs, adjusting for wages, are lowered. Accordingly, to understand how different policies affect housing affordability, we need to discuss both the determination of wages and housing costs at the city level. A key feature of cities, which is extensively documented in the literature,[9] is their tendency to become more productive as they grow in size. This reflects a combination of factors associated with the gains to specialization. Because cities become more productive as they grow, employers in larger cities are able to pay higher wages. We will refer to this force as agglomeration gains. If this was the only force present in a country with mobile individuals, we would end up with only one city in a country. The reason: the largest city would become more and more attractive as it becomes even larger, and everyone would eventually desire to move there.

However, higher wages due to agglomeration gains are not the only force affecting the attractiveness of cities. An important offsetting force is the cost of housing. This force operates in the opposite direction. As a city grows, housing tends to become more expensive, as documented, for example, in Gyourko, Mayer, and Sinai (2013). Such an increase reflects either the higher cost of living in the city center, or the net cost – inclusive

9 See for example, Combes, Duranton, Gobillon, and Puga (2012) or Baum-Snow and Pavan (2012).

Figure 10: Non-landowner Welfare and Population Size



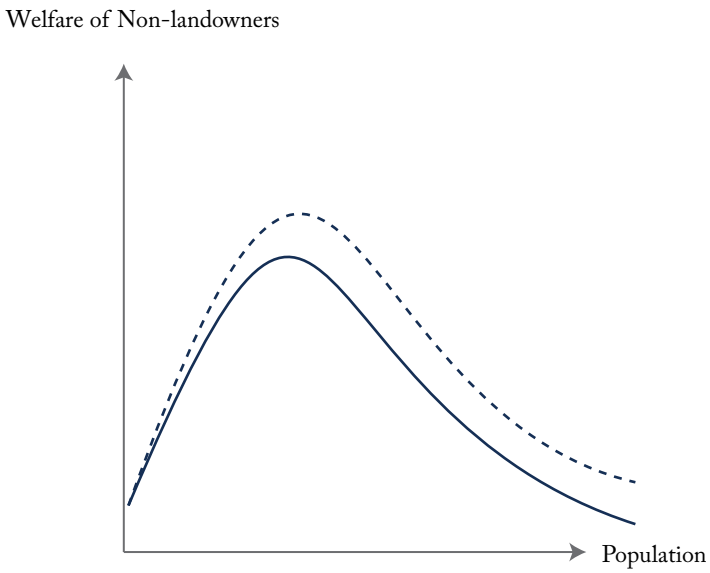
Source: Authors' model, online Appendix A.

of commuting – of living in a city suburb. Hence, as a city grows in size, the question of whether it becomes more or less affordable/attractive to newcomers depends on whether agglomeration gains dominate, or are dominated by, housing costs.

The general pattern, illustrated in Figure 10, is that cities can be seen as progressing between two phases. Note that in this figure, the horizontal axis represents the population size of the city while the vertical axis represents the net value (or welfare) of living in such a city for a non-landowner. The curve represents the attractiveness – or affordability, as measured by the suite of costs involved in housing – of the city for different population sizes. In the first phase, when a city is growing but not yet a mega-city, agglomeration gains tend to dominate any increase in housing costs, making the city more attractive and affordable as it grows. The city then reaches a threshold size at which any further increase in size renders the city less affordable to newcomers as the agglomeration gains are no longer sufficient to offset the increase in housing costs. So as the population increases above the threshold size, affordability decreases even if wages keep increasing.

The location of a city's threshold size depends on many factors. A particularly important element is its geographical location, which determines how much land is potentially available for building. Land availability and related housing regulation is also a key determinant. If more land becomes available

Figure 11: Non-landowner Welfare and Population Size – Increased Land Availability



Source: Authors' model, online Appendix A.

for building, as for example is being implemented through changes in zoning in Toronto,[10] this will tend to lower housing costs for any given level of population and increase the threshold size of the city. Allowing for greater density has a similar effect. The effects of such changes are illustrated in Figure 11, where increased land availability increases both the attractiveness of a city and its threshold size. Hence, for any given fixed level of population, we see that affordability increases due to supply-friendly policies. This encapsulates the argument that pro-supply housing policies should improve housing affordability.

However, such a conclusion rests on taking the population of the city, or the rate of population growth, as given.[11] The important element to add to this analysis is the adjustment process which determines city size. To discuss this process, we need to consider an environment with more than one city.

Before examining how policies may affect city size and housing affordability, let us note that hidden behind Figures 10 and 11 are similar figures

10 As but one example: https://www.toronto.ca/city-government/planning-development/planning-studies-initiatives/zoning-by-law-simplification-and-modernization-for-low-rise-residential-zones/

11 Relaxing building restrictions holding population constant acts like a pure supply effect. The adjustment to such a change will have many dimensions. For example, consider a young adult who lives with their parents and is looking to buy a dwelling. If building restrictions are relaxed, this should allow this young adult to more easily buy a dwelling, because more housing can be built, while the population has remained the same.

for incumbent landowners. The link between city size and the welfare of landowners shares many similarities to those of non-landowners.[12] However, they also involve important differences. For one, the welfare of landowners will tend to also initially increase as a city gets larger due to the agglomeration gains, and will similarly tend to reverse as the city gets large enough due to congestion effects. However, since the incumbents do not experience increased housing costs as the city grows, the threshold at which their welfare starts to decrease with city size is likely to be higher than that of non-landowners (the solid line equivalent in the figure above).

The main difference between the two sets of households (non-landowners and landowners) is with respect to how they experience changes in supply policies (the dashed line equivalent in the figure above). For landowners, many supply policies will be viewed as negative when taking population as exogenous, as this will tend to reduce the value of their land without any offsetting gains (see online Appendix A for more on this point). From this perspective, housing policy can be seen as creating conflicts between landowners and non-landowners when taking city size as given. However, as we shall show, the situation can be very different, even reversed, when considering the way city populations are likely to adjust in response to supply-side policy changes.

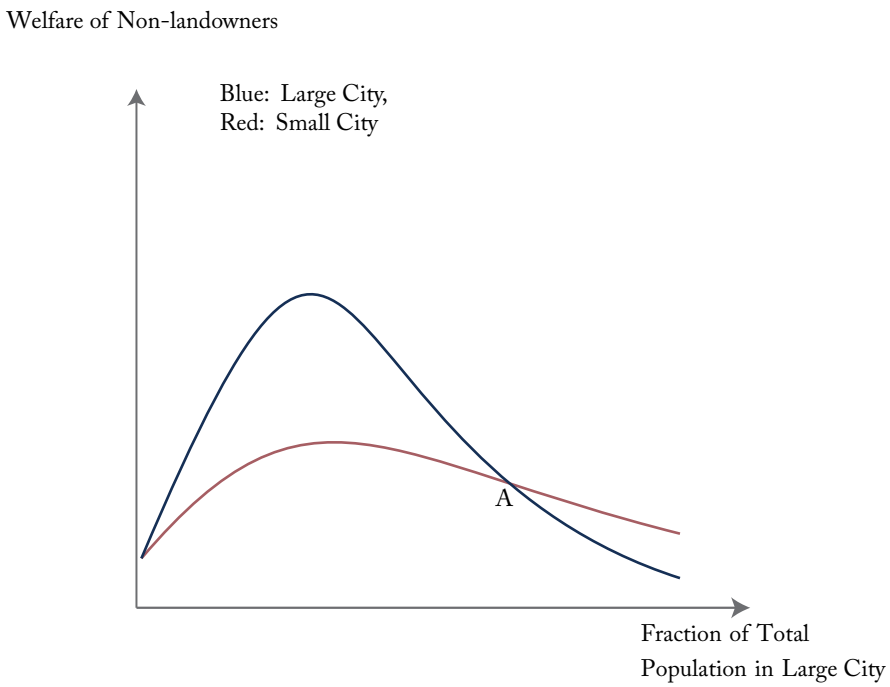
Effects of Supply Policies when People Can Move between Cities

We now want to use the forces represented in Figures 10 and 11 to examine how policy affects housing affordability when individuals can choose where they live, i.e., when city population can adjust in response to a chosen policy. To keep the discussion as simple as possible, we will focus on the case of only two cities. One city can be understood as representing our major cities like Toronto and Vancouver, while the other city can be thought to represent smaller secondary cities like Kitchener/Waterloo and Kamloops. To be clear, our model works when thinking of the secondary city as either a commuter city or a standalone city.

As noted previously, a basic tenet of spatial economics is that city size should be seen as adjusting up to the point where the attractiveness of different cities to newcomers is equalized. This then rules out the possible configuration where both cities were below their respective threshold. This is because one city tends to grow at the expense of the other city until it passes its threshold level. Given this, there are only two possible resting point configurations that can arise with two cities: either both cities are above their respective threshold level where housing cost effects dominate agglomeration effects, or the larger city is above the threshold and the small city is below. This latter case will be our main focus as it appears the most relevant for the Canadian situation today. The notion that Canada's large cities are above this threshold is supported by the widespread view that, as international migration has increased the size of our major cities, affordability has been reduced. If these cities were below this threshold, international migration would have increased the affordability of large cities because gains in agglomeration would dominate increased housing costs.

12 In the model presented in online Appendix A, we allow for both resident and non-resident landowners. The effects of housing policy on these two groups are generally similar, with the exception that non-resident landowners are only affected by changes in population size through their effect on land prices, while resident landowners could in principle also experience congestion costs when city population increases. To keep the presentation in the Appendix simple, we have not explicitly included congestion costs. In contrast to the model in the Appendix, in the text we discuss the implications of different policies for resident landowners and omit the discussion of welfare implications for non-resident landowners. Furthermore, we include in this discussion the potential additional effects associated with congestion.

Figure 12: Non-landowner Welfare and Population Size – Large and Small City

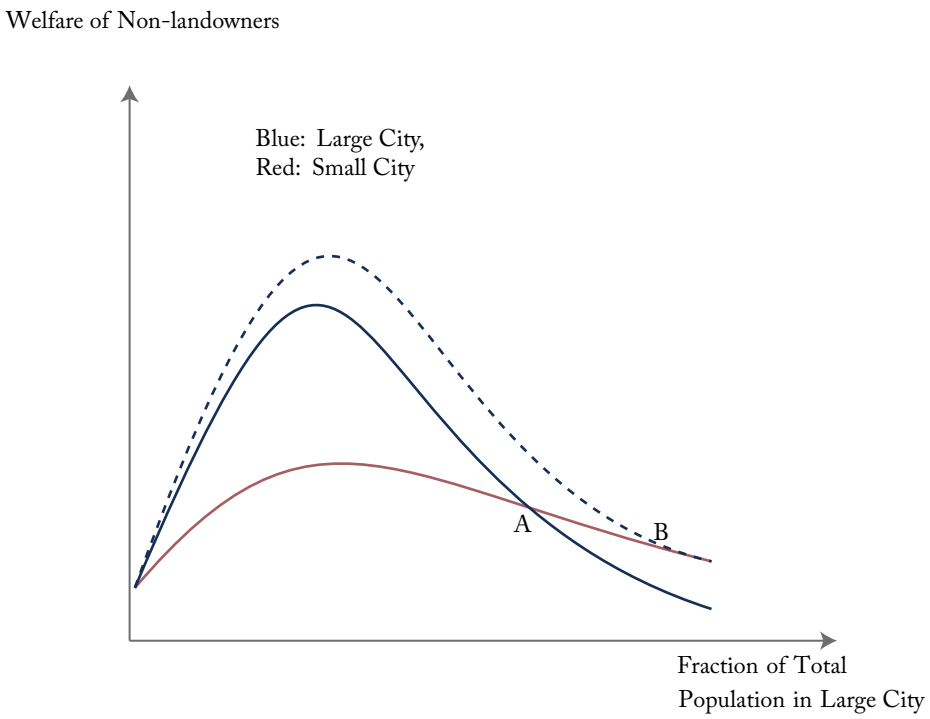


Source: Authors' model, online Appendix A.

This configuration, with the large city being above its threshold and the small city being below its threshold, is illustrated in Figure 12. In this figure, total population is normalized to 1, with the horizontal axis now representing the fraction of the population living in the big city. The blue line represents the attractiveness of the big city when we increase the fraction of total population living in that city. As before, housing affordability initially increases as the population in the large city is increased, and then decreases once the fraction is high enough and housing costs start to dominate agglomeration gains. Attractiveness (housing affordability) for the small city is captured by the red line. For the smaller city, an increase in the fraction of the population in the large city represents a reduction in its population. Point A, where the two curves cross, gives the population allocation which equalizes the attractiveness/affordability between the two cities. At point A, relative to the small city, the big city will have higher housing costs, but higher wages as well due to the agglomeration gains. The smaller city has both lower housing costs and lower wages compared to the big city, making both cities equally attractive but with a different mix of wages and housing costs.

Now let us consider the effects of reduced housing regulation to boost supply, but only in the big city. We can think of this, as above, as a change in zoning by-laws in Toronto. This is illustrated in Figure 13. As we discussed in Figure 11, such

Figure 13: Non-landowner Welfare and Population Size – Increased Land Availability Only in Large City



Source: Authors' model, online Appendix A.

a policy will act to shift up the attractiveness of the large city for any given level of population. However, this change will also affect where people want to live. In particular, the direct effect of the policy will entice people to move from the small city to the larger city. This will make the small city less attractive, favouring even more migration into the big city. The net results are given by point B in Figure 13, where now the large city is larger and the small city smaller. The key insight from this figure is that at the new resting point, point B, housing affordability – as captured by the welfare of non-landowners – in both cities has been reduced by decreasing housing regulation in the big city and favouring more supply. In the large city, housing affordability has worsened because the induced in-migration has made housing costs increase faster than wages, despite the greater supply of land or increased densification. While in the small city, which was below its threshold population size, wages decrease faster than house prices, making it less attractive. The net result in this case is to reduce housing affordability across the board.

Does anyone gain from such a policy? Incumbent landowners in the big city may gain as house prices increase despite the increased supply. But they may also lose. If there are sufficient congestion effects due to the increased population, even landowners may feel worse off when housing de-regulation leads the larger city to expand. The net effect for them is ex-ante ambiguous.

In summary, as illustrated in Figure 13, a policy focused entirely on increasing housing supply in large cities may backfire from the perspective of improving affordability because of how it affects the incentives to move. By favoring migration from small cities to large cities, it tends to decrease housing affordability overall, despite the fact that its direct effect – holding population constant – would have been to improve affordability in the big city.

It is interesting to note that such a policy could simultaneously decrease welfare for all, but nevertheless be captured in our national account system as an increase in GDP and productivity. This arises since more people would be working in the more productive big city, earning higher wages. The higher housing costs are also viewed as a positive in the national accounts. Together this would make measured GDP higher. Such a policy can therefore create a situation where we manage to crowd in more people in our big cities without improving affordability. Landowners may gain, GDP may be higher, but the initial goal of improving housing affordability – again, the focus of this paper – and the welfare of non-landowners is unlikely to be achieved.[13]

What should be done instead? Even if the goal is to increase affordability mainly in large cities, for this to happen it is essential that the attractiveness of smaller cities increase as well. In other words, we need policies that also increase the attractiveness of cities that are below the threshold at which housing costs start dominating agglomeration gains.

Let us take as a case study Kitchener/Waterloo and Toronto when thinking through an example where these kinds of policies were undertaken.[14] On the one hand, as before, we have a change in zoning that favours more supply in Toronto. On the other hand, we have a policy shift, such as the introduction and subsequent increase in GO transit between Toronto and Kitchener/Waterloo, that makes the smaller city more attractive to live in while also being more attractive for firms to settle there, knowing that the occasional commute to Toronto would be easy.[15] This policy mix implies that the attractiveness curve for both cities is increased simultaneously, allowing the economy to move from point A to point C on the figure (Figure 14). At point C, housing affordability in both cities has increased. The increased affordability in Toronto is maintained largely because of the complementary policy in Kitchener/Waterloo, which acts to hold back some of the inter-city migration that would undo the desirable effects of the big-city policy.

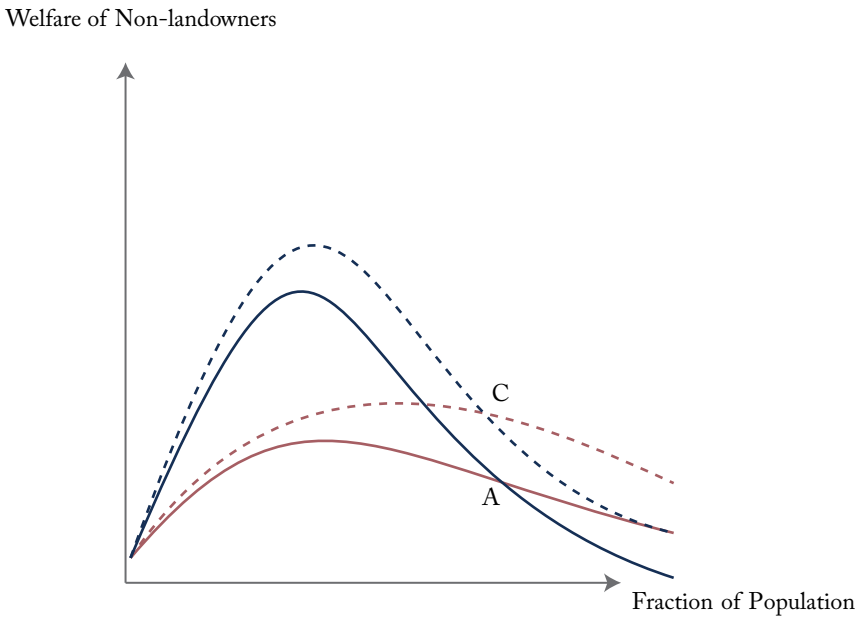
It should be noted that if policy authorities were to want to improve housing affordability in large cities but could only implement one policy – either a supply policy in the largest cities or a supply/infrastructure policy in small cities – our analysis indicates that they should choose the latter. This can be visualized as raising the red curve while leaving the blue curve fixed, which would move the intersection point up and to the left, increasing welfare and, therefore, affordability in both cities, though with a different mix of populations between

13 When discussing the value of different housing policies, and making any cost-benefit analysis, it is very important to specify the goal. In particular, if the goal is to favour housing affordability for non-landowners, they may involve choosing a policy which appears sub-optimal in terms of general efficiency.

14 In this example we are treating the total population in the combined Toronto-Kitchener/Waterloo area as fixed. In online Appendix C we discuss an alternative scenario where the big city receives an influx of international immigrants and we compare two policy responses: a first policy designed to accommodate the international immigrants in the big city, and a second policy designed to encourage a countervailing outflow of people from the big city toward the smaller city.

15 Kitchener/Waterloo's population in 2011 when the GO line extended to Kitchener was approximately 500,000 (https://www12.statcan.gc.ca/census-recensement/2021/as-sa/fogs-spg/Page.cfm?lang=e&topic=1&dguid=2021S0503541). At the end of 2023 it was 673,910 (https://www.regionofwaterloo.ca/en/regional-government/population.aspx), for a growth over this period of 35 percent. In Ontario, only London over the 2016-2021 period had higher population growth.

Figure 14: Non-landowner Welfare and Population Size – Increased Land Availability in Both Cities



Source: Authors' model, online Appendix A.

the two cities than if both policies were possible. This may at first pass appear counter-intuitive. However, if we recognize that the welfare of citizens in the small city acts as the reservation value, dictating how unaffordable large cities can be, then the mechanism becomes clearer. If the attractiveness of small cities increases, housing prices in large cities will need to decline to maintain their attractiveness.[16]

Policy Discussion and Conclusion

The takeaway of this paper is not that we should stop policies geared at increasing supply in big cities; it is rather that a *unique* focus on increasing supply in these cities is unlikely to do very much to improve affordability. What is needed is a comprehensive approach to increasing supply in Canada that puts the emphasis on both big cities

16 We note, as previously mentioned, that there is also the case where both the small and the large city are above the threshold where housing costs dominate agglomeration gains. For Canada, we do not think it is the more relevant case, but it is nonetheless worth discussing, if briefly. In this case, since both cities are above their threshold, the desirable policy would be to encourage the creation of an entire new city so that people from both the large and small cities would be attracted. This would have the effect of moving both the large and small cities toward their threshold level where housing costs overtake agglomeration effects.

and smaller cities and, in particular, that favours the emergence of new big cities that can rival our existing ones. This will require coordination amongst all levels of government.

What might the full suite of policies look like?

Much has been written on changes we can make in cities like Toronto and Vancouver to help increase supply. On this front, our analysis does not have much to add. It is nevertheless worth reiterating a few examples, such as lowering up-front development charges by making them more user-based and spread out over time, reducing regulatory restrictions on land use, and improving public transportation (Dachis 2023a).[17]

As Dachis points out, an important element that governments need to reform is up-front development charges on new housing. Certainly, those who benefit from services should pay for them – but the question is one of timing, and it is more appropriate for them to pay over the life of the asset, not entirely up-front. It is more efficient for cities to pay for infrastructure services with per-use fees financed by debt or equity investment.

There is also a need to improve zoning. Urban planners tend to set "command-and-control" density targets for neighbourhoods. A better approach than setting single-density levels would be for provinces and cities to set a broad target for increased relative density. Dachis uses as an example "50 percent higher around transit stations as opposed to just 30 percent higher elsewhere." Policymakers could set rules such that applications with these gradual density increases relative to the surrounding area could be given automatic approval.[18]

We would add to this list approaches that make better use of modern methods of construction, which take advantage of efficiencies that come with manufacturing off-site in prefabricated and modular housing factories.

What about turning smaller cities into big cities?

To the extent that supply in these secondary cities is held back by similar barriers to those in big cities, the same suggestions we just discussed apply. However, in many smaller cities, more is needed. What is necessary for smaller cities to compete with larger cities is for them to develop sufficient scale so as to offer a large set of employment opportunities and amenities. In general, for smaller cities, some subsidization of infrastructure will be necessary to direct the marginal dollar towards these locations. The argument for this kind of subsidy is the positive externality to society as a whole of building up smaller cities (as we have shown in this paper) – a situation with which the market, left to its own devices, does not sufficiently engage. It is beyond the scope of this paper to determine whether the cost of these subsidies is worth it from an overall economic perspective. Our purpose is to point out that they are necessary if the goal is to improve affordability for non-resident landowners in big cities.

Subsidies aimed at favoring the emergence of new big cities will need to come from higher levels of government. Since agglomeration externalities often only arise if cities grow to a certain size, such subsidies should not be spread out thinly across the entire country. If they are spread out across too many cities, no individual city will become large enough to rival our big cities, and affordability will not improve. Infrastructure subsidies aimed at city growth must therefore be designed in such a way to allow a few new major cities to emerge. This is different from a blanket policy of regional development. It is a policy that recognizes the value of agglomeration and supports the smaller cities best placed to become our new big cities.

17 For more on the role of the federal government, see Dachis (2023b).

18 We note that density may not be the magic bullet to reducing housing costs that many expect it to be, as there is evidence that Toronto, Vancouver, and Montreal are denser than typically viewed. See, for example, Cox (2022), who shows that those three cities are in the top five in density in North America.

What factors can help choose those secondary cities? There are examples globally of success stories in which secondary cities have grown into larger cities, with research pointing to a few key attributes. From Buciuni and Coro (2023): "Global connectivity; the interplay of local universities and the private sector; and local finance and entrepreneurship are the three factors that make secondary cities competitive. For this model to succeed, all three factors must be in place simultaneously." They point to specific examples – Raleigh-Durham, USA; Bologna, Italy; Ruhr Valley, Germany; and Galway, Ireland. Still, the lessons here are varied. For Galway, for example, there was an initial flow of foreign direct investment from American multinationals, and collaborations with the local university that created a curriculum in bio-tech engineering. This led to new local ventures that were supported with financing from both public and private investors. Bologna's success, on the other hand, was driven by an integration of industries that had been around a long time, e.g., the automotive industry, with new ones coming from the local universities and firms that were involved with global supply chains.[19]

One key policy across the different examples does appear to be the importance of funding world-class research at universities. Higher levels of government are critical in this regard. London, Ontario, a secondary city with a world-class university in Western University, seems an example that fits this bill.

In a particular area, municipalities are more directly in control: their attractiveness to businesses (see Gibbs et al. 2021). Policies municipalities can consider to make themselves more attractive to businesses include, among others:

- Providing access to finance and other business support to SMEs which, relative to larger companies, face disproportionately higher financing costs (see Omran and Kronick 2019). Options for consideration include (see Gibbs et al. (2021) for more): "providing information, providing incentives to lenders (for example, tax breaks for lenders who loan to SMEs), indirectly providing finance to SMEs (for example, loan guarantees), or directly providing finance to SMEs."
- Supporting the training of workers displaced by disproportionate (relative to big cities) changes to industry composition. These programs tend to work better when created at the local or community level, as opposed to the national level (see Gibbs et al. (2021)).

Post-secondary institutions will, again, be critical in providing job training programs that generate labour ready to join the workforce in certain professions. This labour will incentivize businesses to locate in these smaller cities.

The bottom line: A well-thought-out strategy that aims to create more big cities, along with the growth of our existing big cities, is key to improving housing affordability.

19 For a larger summary of their work, see https://www.tcd.ie/news_events/articles/2023/how-secondary-cities-can-compete-with-superstar-cities-and-combat-innovation-polarisation--new-research/.

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