SPECIAL REPORT

TD Economics

March 11, 2013

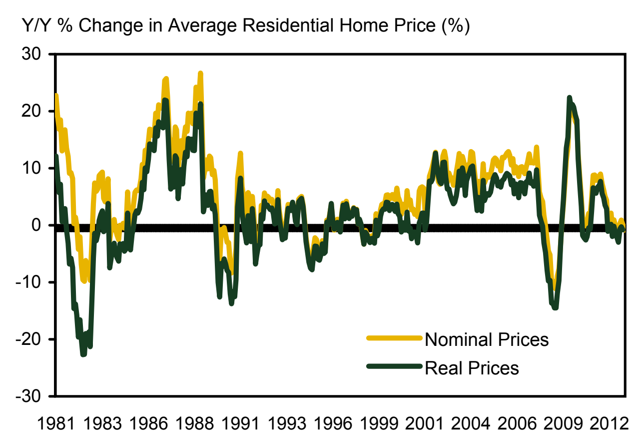
LONG-RUN RATE OF RETURN FOR CANADIAN HOME PRICES

Highlights

- With the slowdown in the Canadian housing market well entrenched, many are worried about the future value of their homes. This is not surprising as real estate is the largest financial asset most Canadians have in their possession.
- The housing market is prone to cyclical ups and downs and we should embark on a gradual, modest, downward adjustment over the next three years.
- We project a 3.5% annual rate of return on real estate to prevail beyond 2015 – this is the long-run rate of increase for home prices in Canada. However, this pace will be moderately lower than they have been historically (5.4%).
- A string of lacklustre performances over the next few years will mean that the annual rate of return for real estate in nominal terms will be roughly 2% over the next decade. In other words, home price gains should simply match the pace of inflation.
- The long-run rate of return for home prices is primarily driven by macroeconomic fundamentals, such as income and economic growth, and demographics (e.g., population and household formation).
- Structural changes, including an ageing populace and the number of immigrants as a share of total homebuyers, could influence real estate returns. However, the literature is mixed on whether these changes represent an upside or downside risk to our 3.5% status-quo projection.

With the slowdown in the Canadian housing market well entrenched, many are worried about the future value of their homes. The housing market is prone to cyclical ups and downs, and Canada is expected to embark a gradual, modest, downward adjustment over the next three years. A string of lacklustre performances will mean that the annual rate of return for real estate in nominal terms will be roughly 2% over the next decade. In other words, real estate gains are set to match the pace of inflation. Looking beyond 2015, home prices should rebound and record a 3.5% annual rate of return. After netting out headline CPI inflation, the expected price performance will represent a 1.5% annual gain for homeowners. This represents a weaker real return than what has been recorded since 1980. These projections are based on past housing price performances and the long-run trends assumed in several macroeconomic indicators.

AVERAGE CANADIAN RESALE HOME PRICE



Source: Canadian Real Estate Association/Statistics Canada.

When thinking about the future, we first look to the past

Economic factors drive short- and long-term price movements. In the short-run, influencing factors include interest rates, credit

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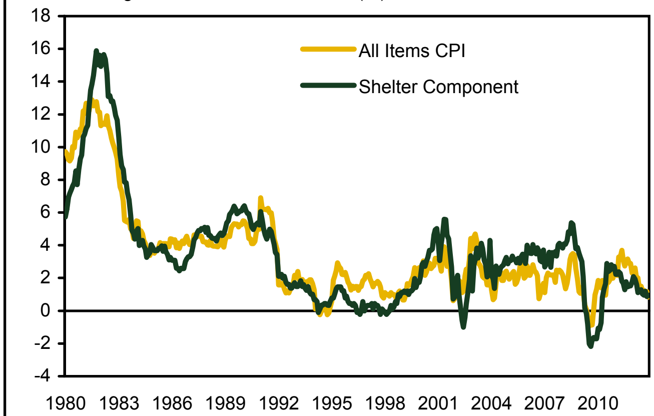
availability, land prices, the unemployment rate, and mortgage regulation changes. The supply of homes is also less flexible over the short-term.

Over a longer time frame, home prices move along a more stable growth path. They are also driven by more macroeconomic fundamentals than in the short-run. Looking back in time, Canadian residential home prices grew by an average 5.4% per year during 1980-2012. The timeframe for this historical review was chosen for two reasons. First, it is long enough to capture several business cycles, eliminating the possibility of the numbers being skewed by cyclical highs or lows. Second, 1980 is the first year that the Canadian Real Estate Association began to consistently publish average residential home prices. Headline inflation in Canada averaged 3.3% per year during this same period. When we account for inflation, we see that the annual real rate of return generated from real estate was 2.1%.

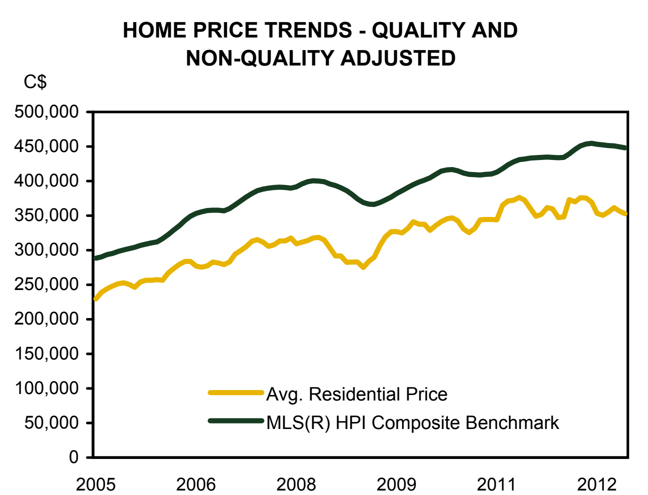
The data series used does not take into account compositional changes over time. It also does not capture adjustments for quality. Ideally, we should have used the MLS® HPI benchmark composite which strips out some of these compositional shifts. However, the series only begins in 2005, preventing us from getting a sufficient historical pattern with which to base our projection.

The next decade for home price gains will be sub-par

The past decade has been fairly positive for housing – home prices have grown by roughly 7% each year at the national level. In stark contrast, the Canadian housing market has undoubtedly cooled down over the past six months. Tighter mortgage rules and stricter lending guidelines are two of the catalysts contributing to the sales correction and slowdown in price growth. Even with the cool down, prices are still out of sync with underlying economic fundamentals like price-to-income, price-to-rent, and monthly affordability metrics. These trends, combined with higher interest rates and modest economic growth, should mean a gradual, downward housing market adjustment over the next few years. Beyond 2015, we project price growth to rebound to their long-run cruising speed of 3.5% based on our view of the underlying fundamentals. In light of the profile, the next decade as a whole will see measly 2.0% annual price gains.



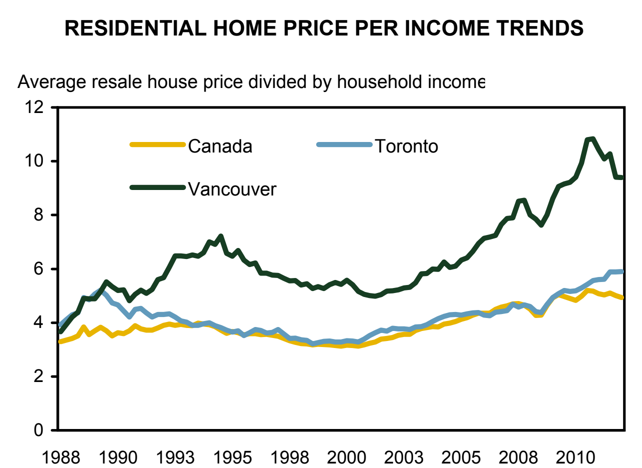
Source: Haver Analytics/Statistics Canada.



Source: Canadian Real Estate Association.

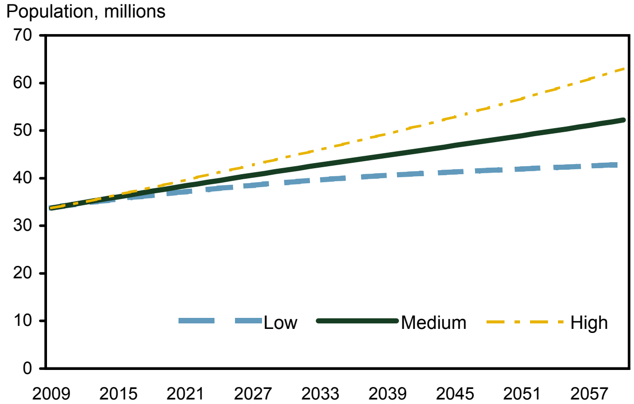
Macroeconomic factors influence long-run home prices

Economists have tried to isolate the parameters that influence movements in home prices. Examples include



Sources: Canadian Real Estate Association, Statistics Canada and Haver Analytics.

LONG-TERM POPULATION GROWTH PROJECTIONS FOR CANADA



Source: Statistics Canada: Population Projections for Canada, Provinces and Territories

the year of construction and what happened recently to home prices – did they go up or down? In the long-run, household-specific factors have a lesser impact on real estate price growth. Instead, macroeconomic factors carry the greater clout. The variables thought to contribute the most include: income and economic growth, and population and household formation. In the next few paragraphs, we discuss our long-run projections for each of these parameters.

We have published two reports[1,2] estimating the long-run economic cruising speed, at both the national and provincial levels. In these papers, we concluded that lower labour force participation and lacklustre productivity gains will serve as headwinds for the Canadian economic growth engine going forward. More precisely, we project long-run, annual real economic growth to be around 2% by 2021. In nominal terms, this translates into roughly 4% income and economic growth. Personal income growth typically tracks the pace of economic expansion. Therefore, the income and economic gains in store are roughly 1.5 percentage points slower than the long-term past. Trends in personal income are especially important, as gains in this variable act as constraints on overall housing affordability.

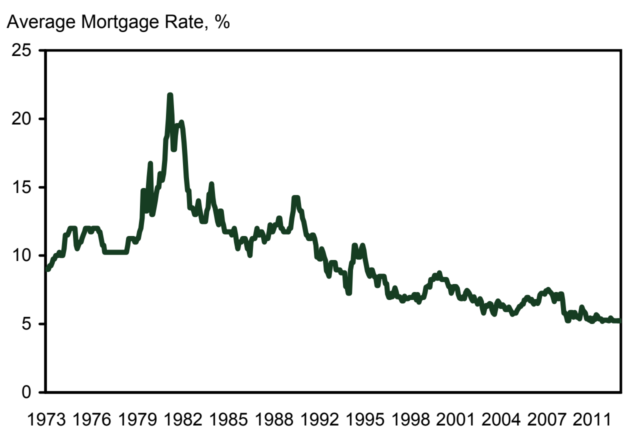
Switching to demographics, the latest Statistics Canada projections reveal that annual population growth will materially slow from the current 1.0% pace to around 0.6% in 2030.[3] While the numbers are subject to revision in light of the 2011 Census release, the changes should not alter the long-run trends materially. Demand for homes is driven by population growth. If the pace of population growth decelerates, one would expect that real estate price growth (a reasonably proxy for demand) would slow down as well.

Population growth is a good proxy for economic growth and overall housing demand. The role played by first time homebuyers (ages 25-34) is also important, as this subset of population represents a significant part of housing demand. This age group will gradually moderate over the coming years according to Statistics Canada's latest projections by age cohort, easing some upward pressure on house prices.

The rate of household formation also has significant influence on long-run housing price growth. Status-quo projections reveal that the annual pace of household formation is set to decrease from around 190,000 to somewhere between 145,000-155,000 over the next twenty to thirty years.[4]

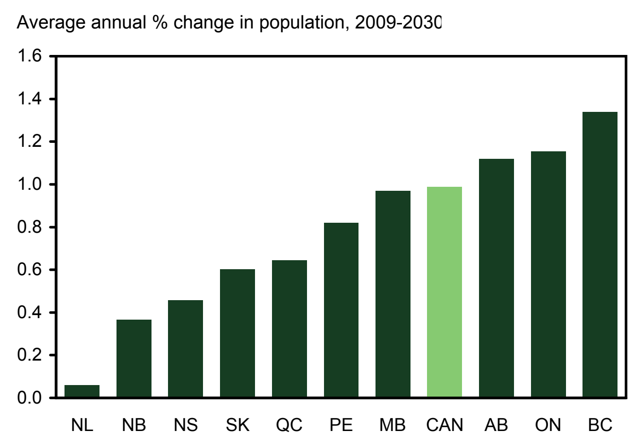
Even if population and household formation slows, it may not necessarily translate into dampened price returns. This would be the case if housing supply adjusts to meet housing demand. In this scenario, builders and developers

CONVENTIONAL 5-YEAR MORTGAGE RATES

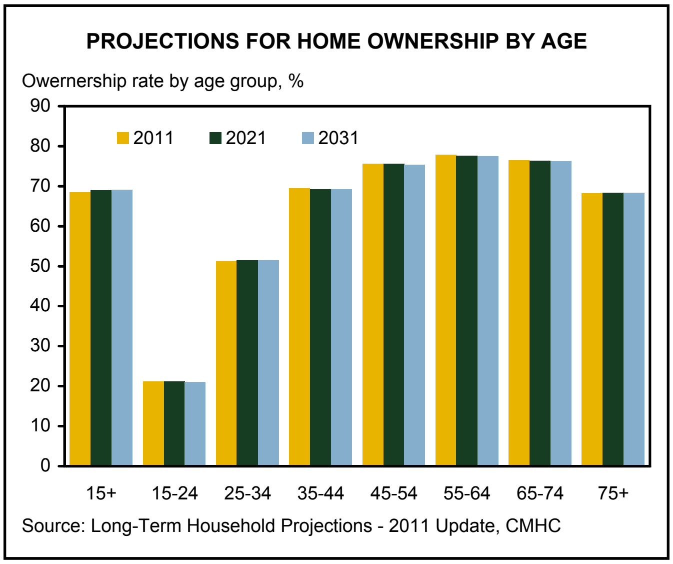


Source: Bank of Canada, Haver Analytics.

POPULATION PROJECTIONS BY PROVINCE



Source: Statistics Canada: Population Projections for Canada, Provinces and Territories



would adjust their pace of construction to match the underlying demand fundamentals.

Moving over to inflation, there has been a consistent declining trend in headline inflation since the early 1990s. In late-2011, the federal government renewed the Bank of Canada's inflation target of 2%, the mid-point of the 1-3% inflation-control range for another five years.[5] With this mandate in hand and what is expected to be tame inflationary pressures and a modest economic growth backdrop, we assume that a 2% long-run inflation rate remains a reasonable assumption.

Borrowing costs are also an important influence in assessing home price trends. While interest rates are stimulative at present, they are not destined to stay there indefinitely. According to our projections, a more neutral rate for the Bank of Canada's target overnight rate would be

FINANCIAL AND REAL ESTATE RETURN PROJECTIONS
Average Annual % Return

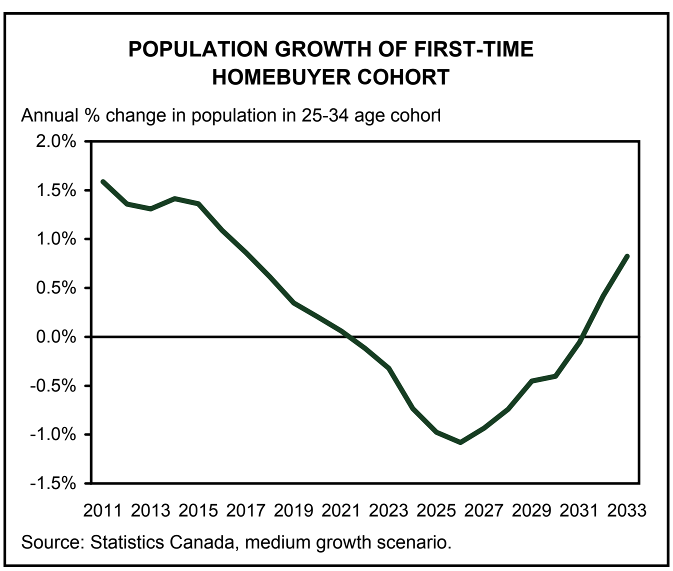
	Next Two Decades
Cash (3-Month T-Bills)	3.1
Bonds (DEX Universe Bond Index)	3.8
Equities	
Canada (S&P/TSX Composite)	7.0
U.S. (S&P 500)	7.0
International (MSCI EAFE)	7.0
Residential Home Prices	
Pre-tax equivalent return*	4.4
Net-tax return	3.5

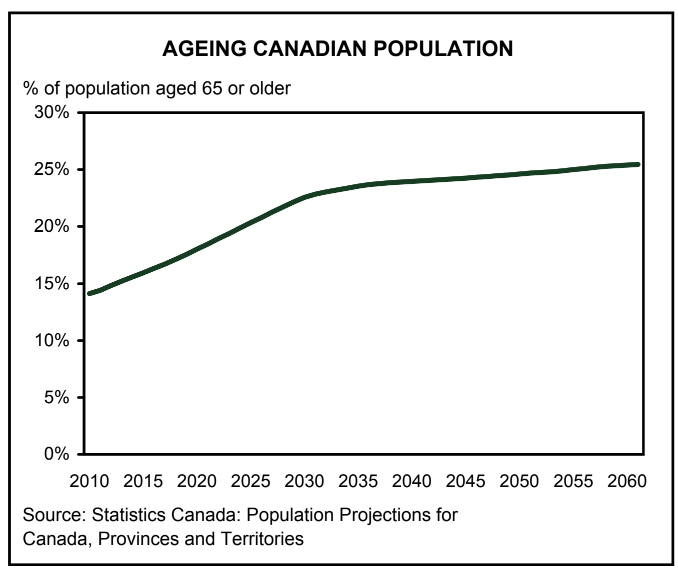
Note: * Based on average household income for Ontario resident. Projections by TD Economics as at January 2013.

around 3.5%. If we conduct a similar exercise for an average 5-year fixed mortgage, this would mean that the neutral mortgage rate will be around 7%. This implicitly assumes a 1.5 percentage point spread between the 5-year Government of Canada bond yield and the average 5-year conventional mortgage rate. With economic growth running slower and inflation more stable than the average over the past three decades, neutral short- and long-term rates are likely to be lower. As a point of comparison, the average 5-year fixed mortgage rate from 1980-2012 was 9.4%.

Putting it all together

The estimated long-run rate of annual return on real estate of 3.5% is noticeably lower than the 5.4% pace recorded since 1980. Tame inflationary pressures on the horizon represent a significant amount of the differential. The remaining amount is due to weaker income and economic growth. Lower interest rates and supply adjustments could be counter-balancing offsets to these downward pressures.





AVERAGE ANNUAL RATE OF RETURN ON CANADIAN REAL ESTATE BY METRO AREA 1980-2012		
	Nominal %	Real %
CANADA	**5.4**	**2.1**
Vancouver	6.4	3.2
Victoria	5.5	3.4
Calgary	4.7	1.2
Edmonton	4.4	1.0
Regina	5.9	2.5
Saskatoon	5.3	2.0
Winnipeg	5.2	1.9
Toronto	6.1	2.7
Ottawa	5.5	2.2
Halifax	5.2	2.0
Saint John	4.1	0.9

Note: Real rate of return for real estate is derived using the all-items Consumer Price Index for each metro region.
Source: Canadian Real Estate Association, Statistics Canada.

LONG-RUN RATE OF RETURN ON CANADIAN REAL ESTATE		
Performance vis-à-vis the National Picture		
Out-Performer	Par	Under-Performer
Vancouver	Regina	Halifax
Victoria	Saskatoon	Saint John
Calgary	Winnipeg	
Edmonton	Ottawa	
Toronto		

Projections by TD Economics as at January 2013.

Residential housing is often thought of as an investment good and a consumption good. The table on the previous page shows our projections for several financial instruments over the next ten and twenty years. Residential assets are typically allocated a premium over cash given that there is more liquidity risk.

For principle residences, the rate of return for real estate is non-taxable which would gross up the yield relative to competing cash, bonds and equities, as long as these investments are held outside a Registered Retirement Savings Plan (RRSP). In the table above, we have included a pre-tax and net-tax return for residential homes prices to enable a more apples-to-apples comparison. If we assume an average household income for an Ontario resident, the pre-tax equivalent return is projected to be approximately 4.4%, based on prevailing provincial and federal personal income tax rates. This means that home price growth should exceed that of cash and bonds – but not equities – over the next two decades.

Risks surrounding these projections

The previous sections of this report alluded to several forthcoming structural changes. Namely, the ageing demographics and the slower population growth expected to prevail in Canada. The literature is mixed on whether these changes have a positive or negative influence on home prices. Even when there is agreement, there is a lack of consensuses on magnitude.

As an individual approaches retirement and lives through retirement, s/he reaches several forks in the road: (1) s/he may become an empty nester and a smaller place may be easier to maintain or afford; (2) s/he may stay in the home; (3) s/he may take out a reverse mortgage to partially fund her/his retirement; and (4) depending on her/his health, an elderly care home or retirement community might be another option. It is these forks in the road that makes it difficult to assess what role the ageing populace will have on housing. Will it merely change the type of home consumed or will there be a mass exodus away from ownership?

One study found that home ownership rates continue to rise beyond forty after controlling for owner education levels.[6] Some studies conclude that demographics have no effect on prices and if they do, their impacts would be temporary in nature.[7] Yet others argue that an ageing population could actually lead to tighter labour market conditions.[8] The reduction in labour supply would translate to higher personal income, a plus for housing prices.

At the same time, with individuals ageing and eventually retiring, income dynamics need to be reviewed. As baby boomers age and eventually retire, there will be a greater share of individuals in the Canadian population on fixed-income retirement plans. These income streams could include a combination of the Canadian Pension Plan (CPP), the Québec Pension Plan (QPP), employer-sponsored pension plans or Old Age Security (OAS). Annual pension growth in many of these retirement schemes are pegged to inflation or some other cost of living indicator. In this context, as more baby boomers retire and their share of the total population increase, there will be downward pressure on overall income growth over the medium-term.

From this brief literature overview, we see that there is an absence of consensus as to what the demographic changes on tap will mean for real estate. In our projections, we have assumed that baby boomers will not sell their homes in droves, driving down average home prices. Even if they did – and the jury is still out on how many will downgrade their properties – baby boomers will not all sell their homes on the same day. These adjustments happen over years which mitigate their impact. What's more, supply tends to adjust to changing demand behaviour over time.

In addition to the ageing phenomenon, immigration will be increasingly relied upon to fuel population growth. A recent study looked at the housing experiences of New Canadians and concluded that immigrants face significant housing affordability concerns at the time of entry, especially in pricier housing markets like Toronto and Vancouver.[9] Rent is usually the go-to option for new immigrants. However, immigrants are able to eventually secure affordable housing, with roughly half of respondents in a home ownership position at the four-year mark.

If immigrants are almost exclusively going to be driving population growth, it could have a more material impact on housing demand than what is included in our projections. For example, in a 2012 study, we argued that the annual immigration target would need to increase from the current 250,000 level to 350,000 after 2016, to partially offset the impact of the ageing population.[10] If these projections are correct, new immigrants would account for an increasing share of overall household formation. The sometimes lengthy transition that many new immigrants experience could mean heightened demand for rental properties and/or more affordable properties in the first few years after arriving to Canada.

The type of mortgage product (fixed versus variable) that could come into the market over the next twenty years is also uncertain. In recent years, we have seen more uptake of variable versus fixed-rate mortgages, although recent data from the Canadian Association of Accredited Mortgage Professionals (CAAMP) seem to suggest that this trend may be in the early stages of stabilization or even reversal.[11] As we have seen over the past few years, the government can change the rules for insured mortgages and chartered bank lending practices. They also have the ability to tighten up lending practices to ensure consumer debt levels are not growing much faster than their incomes. Further regulatory changes – either tighter or looser – are not out of the question over the next twenty years.

Certain degree of heterogeneity in home prices

Housing market, economic and demographic trends differ significantly across the country. In the accompanying table, we have presented the historical home price gains seen in many of the major markets in Canada. The Canadian Real Estate Association does not compile data for Montréal and Québec City, so these are two noticeable omissions from the list. In nominal terms, annual home price growth ranged from 4.1% in Saint John to 6.4% in Vancouver from 1980-2012.

The regional divide seen in the historical past should endure. Using the same methodology as the national picture, we have classified metro housing markets into three categories based on their projected rate of return: above-average, par, and below-average.

- Home price growth has traditionally performed well for those in the above-average group. This trend ought to continue due to better-than-average economic growth and healthy levels of migration in store.[2] In the case of Vancouver and Toronto, supply might also be difficult to adjust given land constraints.
- The group at par are Regina, Saskatoon, Winnipeg and Ottawa. The first three will receive less support from population growth over the long-run. Ottawa should perform better on this front, but we still expect projected income growth to clock in close to the national pace.
- Tepid population trends, combined with modest historical rates of returns, should leave Halifax and Saint John in the sub-par group.

Bottom line

Macroeconomic fundamentals drive trends in home prices over the long-run. Our analysis suggests that the rate of return for Canadian real estate will come at roughly 2% over the next decade. The long-run cruising speed for price growth is projected to be 3.5%. There are several structural changes on the horizon including an ageing populace and population growth increasingly driven by immigration. The relationship between these trends and housing demand is not yet agreed upon. Differences in regional economic climates also mean that some metro areas will likely experience greater returns on real estate than others.

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3. We consider the 'medium scenario' population projection series which assumes annual immigration rates, inter provincial migration rates, and emigration rates remain consistent with recent history.

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