

ANALYSIS

February 12, 2019

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2019 Canada Housing Market Outlook: Slower, Steadier

Introduction

The Canadian housing market is going through a period of decompression: It is now well over two years since the first policy intervention to head off house price bubbles in Greater Vancouver and Toronto, along with addressing the affordability crisis in both metro areas. At this stage of the process, authorities can claim at least a partial success. House prices in Toronto and Vancouver have leveled off and affordability is no longer deteriorating, though it still has lots of room for improvement. At the same time, home resales and new-home sales are falling in the Prairie and Atlantic provinces, with prices level at best and falling at worst; currently, only Québec seems to have some degree of normality in its housing markets.

While the much slower price growth is good news for affordability, the likely downward pull on residential construction and on real estate agent and mortgage lender jobs across the country is starting to be felt. Canada is thus addressing the affordability crisis but with the side effect of increased macroeconomic vulnerability, so that the Bank of Canada will have less room to maneuver in the future when trying to avoid recession.

2019 Canada Housing Market Outlook: Slower, Steadier

BY ANDRES CARBACHO-BURGOS

The Canadian housing market is going through a period of decompression: It is now well over two years since the first policy intervention to head off house price bubbles in Greater Vancouver and Toronto, along with addressing the affordability crisis in both metro areas. At this stage of the process, authorities can claim at least a partial success. House prices in Toronto and Vancouver have leveled off and affordability is no longer deteriorating, though it still has lots of room for improvement. At the same time, home resales and new-home sales are falling in the Prairie and Atlantic provinces, with prices level at best and falling at worst; currently, only Québec seems to have some degree of normality in its housing markets.

While the much slower price growth is good news for affordability, the likely downward pull on residential construction and on real estate agent and mortgage lender jobs across the country is starting to be felt. Canada is thus addressing the affordability crisis but with the side effect of increased macroeconomic vulnerability, so that the Bank of Canada will have less room to maneuver in the future when trying to avoid recession.

Recent Performance

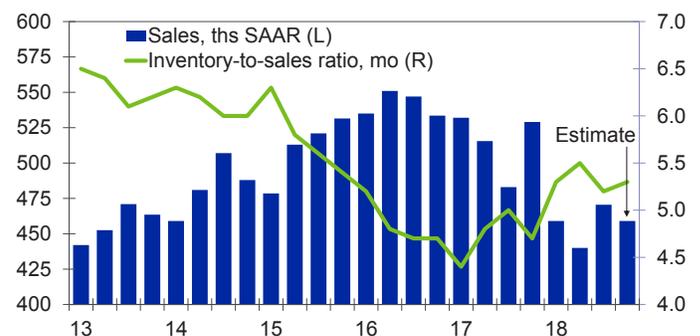
The housing downturn is most evident in total sales over the last three years, as measured by the Canadian Real Estate Association, or CREA. After peaking in mid-2016 at almost 550,000 annualized, total sales fell steadily through late 2018, with the exception of the last few months of 2017, when many purchasers rushed to acquire homes before the more stringent mortgage borrower stress tests from the Office of the Superintendent of Financial Institutions, or OSFI, took effect. As of the end of 2018, sales had fallen to approximately 460,000 annualized (see Chart 1). The national market has also loosened, with the inventory-to-sales ratio having increased since mid-2017 after a long

period of decline. By contrast, the Québec market has been less affected: Annualized sales in the fourth quarter came in at 75,400, up by about 6% from the previous year, and the Québec housing market continues to tighten.¹

Thanks to insufficient construction in Toronto and Vancouver, housing starts have been only slightly affected by downward demand pressure. As of November, housing starts are down by only a small amount year over year. However, residential permits trended down from May to November, indicating either that the backlog of non-started permits has decreased or that there is less

¹ The Québec Federation of Real Estate Boards (QFREB) is a member of CREA, and QFREB-recorded sales are included in the published CREA national totals, including a forecast. Québec sales totals are still worth mentioning separately, as they have not moved in the same direction as Toronto or British Columbia over the past two years.

Chart 1: Home Sales Are Down From Peak



Sources: CREA, Moody's Analytics

remodeling and renovation activity since mid-year. Further decline in construction is likely because the new-home market has loosened significantly: According to the Canada Mortgage and Housing Corp., or CMHC, the ratio of new single-family inventory to total absorptions shot up from 1.3 months in mid-2017 to 1.9 months as of November, and is now higher than its peak during the 2008-2009 financial crisis.

The combination of falling sales and a looser new-home market has yet to pull down existing-home prices nationally, but

has contributed to prices leveling off. Since mid-2016, house price growth has slowed drastically for Toronto and Vancouver; prices as measured by the RPS composite transactions-weighted index are now level year over year for Vancouver and down slightly for Toronto (see Chart 2). Unlike the situation three years ago, it is now the other metro areas that are driving a reduced pace of house price appreciation.

The short-term dynamics for house prices over the last six months are shown in Charts 3 and 4. As of November, Toronto house prices are down year over year, though they have started to increase in the past three months, whereas they were still falling in May. In May, Vancouver house prices were slipping, but they have since leveled off and Vancouver house prices in November were down only slightly year over year. Regina and Saskatoon have transitioned from level to falling house prices over the past six months, a plausible outcome given the lack of job growth in Saskatchewan over the past three years. The other Canada metro areas are on stable appreciation paths, though Montréal and Victoria have slowed slightly over the past six months.

Lastly, it should be emphasized that the slowdown in the housing market is due to demand reacting to policy changes. Neither tightening supply nor deteriorating mortgage debt performance is in the picture; mortgages in arrears are now at a 12-year low. The current housing market slowdown is entirely policy-caused.

Intervention and its discontents

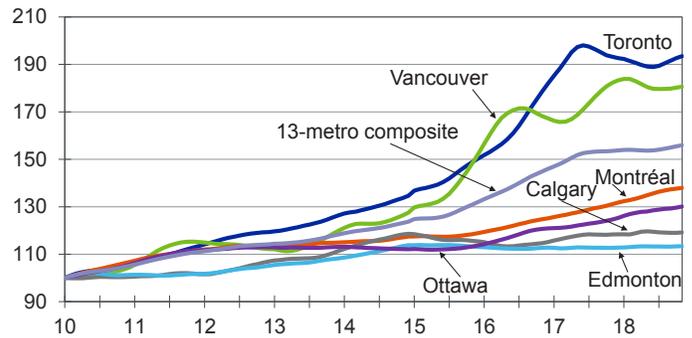
Although it has been described in previous Canada housing market outlook articles, the content and rationale of policy interventions are worth discussing again, especially in light of over two years of new data since the first such intervention. The justification for these interventions is well-known: In Toronto and Vancouver, single-family homes were becoming practically unaffordable for the average family; even condo apartments were becoming unaffordable. For the whole of Canada, both the median price-to-median income ratio and the Bank of Canada's affordability index measurably deteriorated in 2015-2017 (see Chart 5). Also of importance, the ratio of mortgage debt service to disposable income started rising again in 2014 and is still trending up.

The series of policy measures intended to address the affordability crisis included the following:

- » British Columbia's Bill 28 took effect in August 2016 and imposed a 15% transfer tax on foreign purchases of homes; recently, this tax has increased to 20%. In addition, the City of Van-

Chart 2: Toronto, Vancouver Lose Traction

RPS composite house prices, Jan 2010=100, SA



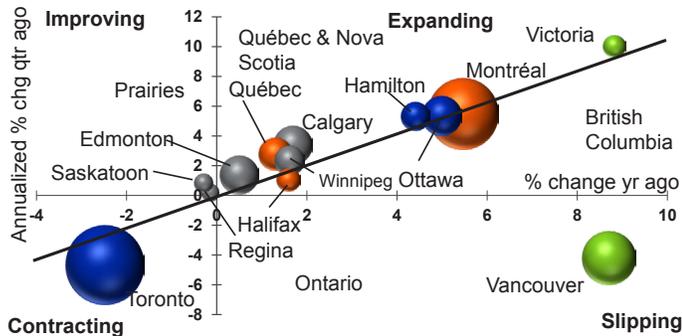
Sources: RPS, Moody's Analytics

couver was permitted to tax vacant residential properties. The real estate industry was also reformed in order to reduce practices such as multiple resales before the closing of a final purchase, which added to churn and to prices paid by purchasers.

- » The Ontario Fair Housing Plan was enacted a year later and included a similar transfer tax on foreign purchasers, a tax on vacant apartments, restrictions on how much rents can increase, and other measures.
- » The Bank of Canada continues to tighten rates. While lowering the overnight target rate from 1% to 0.5% in 2014-2015 may have been necessary to help cushion the effects of the downward oil price shock, it exacerbated the house price bubble in Toronto and Vancouver. The reaction has been vigorous: The rate steadily increased from 0.5% in

Chart 3: Toronto Slipped Earlier...

Composite index, 1-yr vs. 1-qr performance, 3-mo MA, May 2018

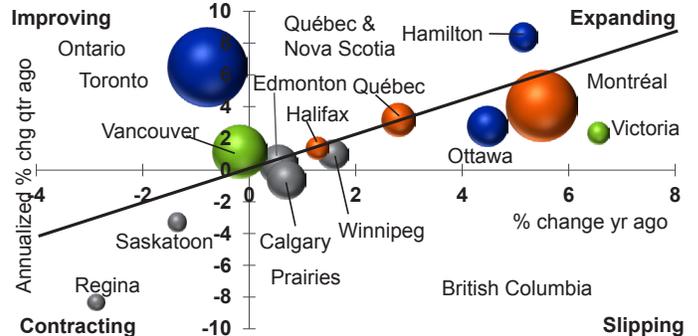


Sources: RPS, Moody's Analytics

Bubble size indicates # of households

Chart 4: ...But Has Started to Recover

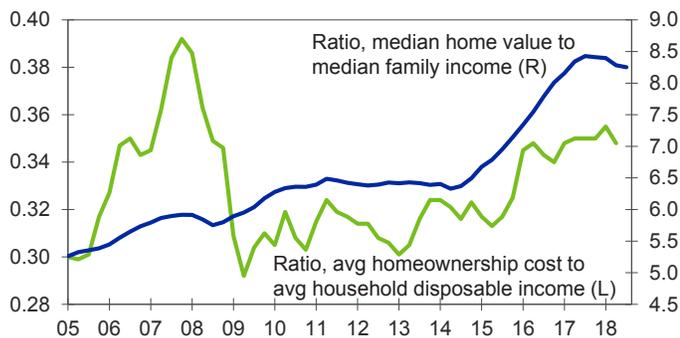
Composite index, 1-yr vs. 1-qr performance, 3-mo MA, Nov 2018



Sources: RPS, Moody's Analytics

Bubble size indicates # of households

Chart 5: Affordability Is Still Deteriorating



Sources: RPS, Bank of Canada, Statistics Canada, Moody's Analytics

mid-2017 to 1.75% by the end of last year. The effect on longer-term rates has been parallel and equally strong: The average five-year mortgage rate moved from 3.6% in mid-2017 to almost 4.6% by the end of 2018.

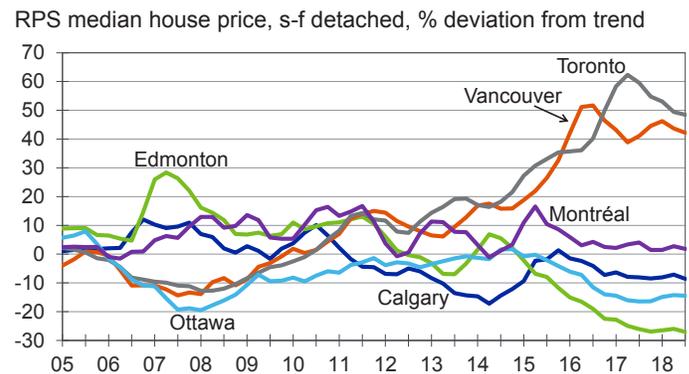
- » The most controversial policy intervention has been the OSFI's mortgage borrower stress test. Originally imposed in late 2016 on borrowers with down payments of less than 20% of the home price, it required borrowers to qualify for a mortgage using the fixed mortgage reference rate posted by the Bank of Canada, which is usually higher than the going market rate. In January 2018, the stress test was extended to all borrowers regardless of the size of down payment. Additional restrictions were imposed on borrowers for government-insured mortgages.

The above is not a comprehensive list. There are also OSFI restrictions on maximum loan size and debt service payments for insured mortgages and requirements that capital gains for sales of non-primary residences are to be reported to the Canadian Revenue Agency, but the four listed items have had the strongest effect on housing demand, sales and prices. But a negative reaction has already set in, based on the plausible argument that the third and fourth measures affect all Canada housing whereas the house price bubble is concentrated only in Toronto and Vancouver.

The first and most common criticism of the OSFI stress tests (and sometimes of BoC tightening as well) is that it is deploying a national policy in order to deflate a housing bubble that is essentially regional in nature, confined as it is to Greater Vancouver and the Golden Horseshoe region around Greater Toronto. While the effects of the stress test are difficult to disentangle from those of other policy measures and of the economic environment, simple before-and-after comparisons indicate that if there have been any effects on demand in the smaller metro areas, these may have hurt sales more than prices.

Table 1 shows a comparison of year-over-year house price appreciation for Canada's metro areas for December 2017, just before the full stress test came into effect, and December 2018. The RPS composite house price index is used in order to use the broadest possible coverage of the housing market. Of the six largest metro areas, Vancouver has had the largest slowdown, followed by Toronto. Smaller metro areas near Toronto and Vancouver also had fairly large slowdowns in price appreciation. By comparison, the change in appreciation for the Prairie provinces was rather muted while Québec had almost no change on average, and in the Atlantic provinces only Prince Edward Island took a large hit to house price growth. So far, the combination of policy interventions seems to have helped the affordability crunch while reducing sales across the country, but it has not yet led to a major price correction in the Prairie or Atlantic provinces as some analysts feared.

Chart 6: Vancouver and Toronto Hit Ceiling?



Sources: RPS, Moody's Analytics

Valuation

The Moody's Analytics forecast model for the RPS house price indexes compares current house prices with long-term trend prices. These trend prices are less sensitive to business cycles and are determined by local household income, population size, the national new house and land price index used as a proxy for overall land and construction costs, and for a few metro areas, the deflated stock market price index—a proxy for national wealth—interacting with metro area population dynamics. The divergence between the current price and this long-term trend price determines the degree of over- or undervaluation, which is an important driver of the house price forecast.²

In addition to standard mechanisms by which an overvalued housing market tends to move into correction territory—reduced demand due to low affordability and increased supply due possibly to resurgent construction—direct policy interventions such as the new stress tests and provincial transfer taxes are also part of what might be called the error correction mechanism by which house prices in a region return to their long-term trend values.

Further, it is important to note that a high degree of overvaluation or undervaluation is not necessarily a surefire guarantee that house prices will start to correct in the near future, especially if wealth inflows or other

² For full details on the Moody's Analytics forecast model for RPS house price indexes, see "Moody's Analytics Canada RPS House Price Index Forecast Methodology," available from Moody's Analytics or RPS.

Table 1: Composite House Price Index Appreciation, 2017 and 2018

	Dec 2017, % change yr ago	Dec 2018, % change yr ago	Difference
Canada	6.6	1.3	-5.3
Alberta	0.4	-0.2	-0.6
<i>Calgary, Census Metropolitan Area</i>	2.8	0.3	-2.5
<i>Edmonton, Census Metropolitan Area</i>	0.0	-0.2	-0.2
British Columbia	9.7	-0.7	-10.4
Abbotsford, Census Metropolitan Area	15.7	1.3	-14.5
Kelowna, Census Metropolitan Area	8.1	1.1	-7.1
<i>Vancouver, Census Metropolitan Area</i>	9.6	-2.7	-12.2
<i>Victoria, Census Metropolitan Area</i>	9.5	4.4	-5.1
Manitoba	1.7	1.7	0.0
<i>Winnipeg, census metropolitan area</i>	1.9	1.5	-0.3
New Brunswick	-0.2	2.2	2.5
Moncton, census metropolitan area	3.3	8.7	5.4
Saint John, census metropolitan area	-7.0	3.2	10.1
Newfoundland and Labrador	-3.2	-4.2	-0.9
St. John's, census metropolitan area	-2.6	-3.1	-0.5
Nova Scotia	2.1	0.4	-1.7
<i>Halifax, census metropolitan area</i>	2.8	0.7	-2.0
Ontario	7.2	2.2	-5.0
Barrie, census metropolitan area	11.5	-1.9	-13.4
Brantford, census metropolitan area	14.2	2.9	-11.3
Greater Sudbury, census metropolitan area	1.1	2.3	1.2
Guelph, census metropolitan area	11.5	4.5	-7.0
<i>Hamilton, census metropolitan area</i>	8.7	3.1	-5.6
Kingston, census metropolitan area	4.2	12.1	7.9
Kitchener, census metropolitan area	16.2	5.9	-10.4
London, census metropolitan area	12.0	12.0	0.0
Oshawa, census metropolitan area	6.3	1.6	-4.6
<i>Ottawa-Gatineau, census metropolitan area</i>	3.7	3.7	0.1
Peterborough, census metropolitan area	18.1	12.3	-5.8
St. Catharines-Niagara, census metropolitan area	16.6	7.0	-9.7
Thunder Bay, census metropolitan area	1.2	-2.1	-3.3
<i>Toronto, census metropolitan area</i>	5.8	0.3	-5.5
Windsor, census metropolitan area	14.1	13.3	-0.8
Prince Edward Island	16.4	2.0	-14.4
Québec	4.0	4.0	0.1
<i>Montréal, census metropolitan area</i>	5.3	4.9	-0.4
<i>Québec, census metropolitan area</i>	-0.3	3.3	3.7
Saguenay, census metropolitan area	1.9	-2.9	-4.8
Sherbrooke, census metropolitan area	2.3	4.1	1.8
Trois-Rivières, census metropolitan area	1.9	6.7	4.8
Saskatchewan	-1.3	-3.0	-1.8
<i>Regina, census metropolitan area</i>	-1.1	-2.5	-1.4
<i>Saskatoon, census metropolitan area</i>	-1.5	-0.6	0.9

Italicized metro areas are part of the RPS 13-metro-area composite index.

Sources: RPS, Moody's Analytics

such factors affecting local housing markets continue unabated. However, it does provide important directional guidance.

Chart 6 shows the valuation time series for median single-family home prices in the six largest metro areas. Not that much has changed since the last housing market outlook was published, but the turning point for Toronto and Vancouver looks more prominent, with overvaluation for both metro areas down perceptibly from their peaks. By contrast, the model shows home prices in Montréal are correctly valued, while home prices in Calgary, Edmonton and Ottawa are moderately to seriously undervalued. Also, the overvaluation for Toronto and Vancouver has not been a permanent feature of their housing markets, and started only in 2013-2014 in part due to an increase of capital inflows into both metro areas. From the point of view of regulators such as OSFI and policymakers including but not limited to the BoC, the important point is that the housing bubble in both metro areas is no longer expanding and is thus less likely to lead to serious financial consequences.

The effect of policy measures on the condo apartment has been more lagged, as shown in Chart 7. Condo apartment prices seem to have peaked in Toronto and Vancouver, but have yet to fall significantly. The lack of responsiveness so far is not surprising given the tight markets in both metro areas: According to CMHC data, apartment complexes with six or more units have vacancy rates of little more than 1% in both metro areas, way below the national average. With such low vacancy rates, a tax on vacant apartments is unlikely to be sufficient to increase the supply of apartments, and only increased construction or a more geographically dispersed distribution of apartment demand will help to loosen markets.

Another reason for the lack of downward apartment price adjustment has been pointed out by critics of the stress test. The median price for condo apartments is significantly lower than the national median for single-family detached homes. So it is quite likely that many borrowers who failed to pass the new stress tests to purchase a single-family home may have turned to

condo apartments instead; this substitution effect may have at least partially offset the condo market's share in the total reduction of purchases as a result of the stress test.³ As a result of this secondary effect, a key policy question is how much the Ontario and British Columbia housing measures are able to increase apartment construction in order to loosen apartment markets that everyone admits are too tight, whether for rental or condo purchases.

Macroeconomic outlook

Unfortunately, apartment or any other construction will be swimming against the macroeconomic tide. The BoC is likely to continue tightening short-term rates through 2020, while mortgage rates will take even longer to peak. Table 2 shows the Canada macroeconomic forecast for those indicators most relevant to the housing market, as well as the national RPS house price indexes. The average five-year mortgage rate will climb steadily through 2023, though its increase will slow after 2020. Consequently, residential construction will be unable to recover to its 2017 peak. Slower construction highlights one of the shortcomings of using monetary policy to cool down overheated housing markets: Reduced credit for residential con-

struction will have negative supply-side effects that will partially offset the downward price pressure from reduced demand.

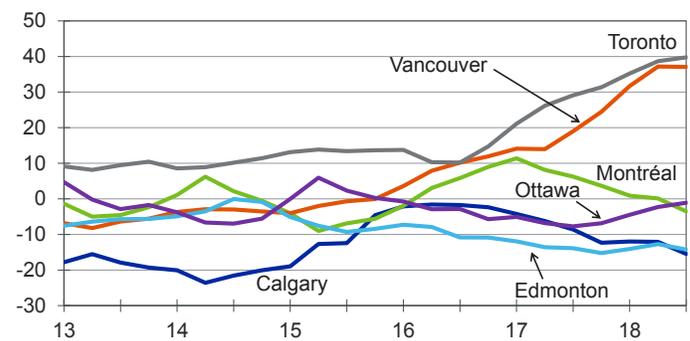
Table 2 also shows significantly slower house price growth, culminating in slight declines for December 2020, before demand recovers

sufficiently to start pushing prices back up again. The short-term slowdown will even be felt for condo prices as mortgage rates climb and as the shares of residential construction start to shift toward apartments. Slower house price growth is by no means bad news, as it also improves affordability: The ratio of the median dwelling price to median family income will start to fall in 2019 after a long period of trending upward. Lastly, the macroeconomic demand effects will make themselves felt outside of housing. The unemployment rate has most likely reached bottom and will start to tick up as credit gets tighter, peaking at 6.6% in 2021. While hardly a definite sign of recession, the upward movement in the mortgage rate will be a clear sign of a slowing economy.

Other than the mortgage rate, the forecasts that most clearly affect the long-term

Chart 7: Condos Are Still Climbing

RPS median condo apartment price, % deviation from trend



Sources: RPS, Moody's Analytics

trend of home prices are shown in Chart 8. The forecast calls for a one-year burst in disposable income growth, due to a combination of still-strong financial industry growth and a partial recovery in oil prices that will help the Prairie provinces. But from 2020 to 2022, income growth will slow as tighter credit starts to pull on spending. Tighter credit will also halt the slight upward trend in consumer price inflation, while also pulling down on the growth of new-house and land prices due to reduced residential construction. All told, after 2019 there will be somewhat less underlying momentum for house price appreciation.

Regional outlook

With the exception of a few smaller metro areas, the regional house price outlook has not changed much since the October

³ For a standard description of this effect in real estate publications, see Sarah Niedoba, "3 Ways the New Mortgage Stress Test Affected the Canadian Housing Market Last Month," Livabl.com, June 26, 2018.

Table 2: Canada Housing Market, History and Baseline Forecast

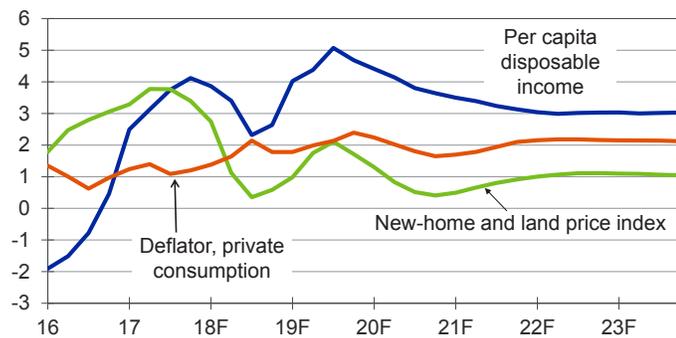
	Most recent	2016	2017	2018	2019	2020	2021	2022	2023
Detached single-family house price index, % change *	0.4	13.4	7.7	0.5	0.9	-0.1	1.9	3.0	2.9
Condo apartment price index, % change *	8.3	10.0	13.6	6.4	0.7	-0.5	1.3	2.3	2.2
Composite house price index, % change *	1.2	12.6	7.3	1.0	0.5	-0.5	1.6	2.7	2.6
Real per capita disposable income, % change	0.2	-1.9	2.1	1.3	2.4	2.0	1.4	0.8	0.9
Unemployment rate, %	5.9	7.0	6.3	5.8	6.0	6.5	6.6	6.5	6.5
Avg mortgage rate, 5-yr, %	4.40	3.70	3.80	4.34	5.23	5.68	5.70	5.86	5.91
Housing starts, ths	195.8	198.7	219.2	208.1	185.6	171.7	165.5	166.1	163.5
% change	0.4	0.3	0.5	0.5	0.7	0.6	0.5	0.5	0.5
Ratio, median dwelling price/median family income	8.3	7.7	8.3	8.3	8.1	8.0	7.8	7.8	7.8
Ratio, outstanding mortgage debt/dis. income	1.18	1.16	1.17	1.17	1.19	1.22	1.25	1.27	1.29

*Fourth qtr, yr over yr

Sources: RPS, Statistics Canada, CMHC, Moody's Analytics

Chart 8: Stronger Income Growth Ahead

Macroeconomic indicators, % change yr ago, baseline forecast



Sources: Statistics Canada, Moody's Analytics

outlook report, though it does reflect slightly slower forecast national house price appreciation. Over the coming year, only Montréal will have moderate house price appreciation compared with the other large metro areas, but in subsequent years there will be a partial recovery, with Toronto doing somewhat better, though Vancouver will still be lucky to maintain level prices given how overvalued house and apartment prices are currently.

Table 3 shows the short-term dynamics of the forecast for single-family home prices. The first column shows the percentage deviation from trend as of the third quarter of 2018 for all metro areas, not just the six previously shown in Chart 6.⁴ Given their large degree of overvaluation, the British Columbia metro areas will continue to have downward pull on their house prices due to a combination of reduced affordability, increased attrition in mortgage application stress tests, and possibly stronger than average construction. The Greater Toronto or Golden Horseshoe metro areas also have serious overvaluation, but their house prices have also shown less sensitivity to overvaluation in the historical data since 2005, and so will likely experience less downward price pressure.

The two large metro areas with significant undervaluation are Edmonton and Ottawa-Gatineau. Lower population density and better median family income relative to per capita income growth have contributed

to undervaluation for both metro areas. Lastly, the Québec and Atlantic province metro areas are all in the “correctly valued” range of plus or minus 10%, and should thus have steadier house price appreciation.

The second column of Table 3 shows house price appreciation in the

third quarter of 2018, an important consideration given that pricing inertia tends to carry over part of this appreciation into the subsequent three to four quarters. The strongest appreciation rates are for smaller Ontario metro areas, including Greater Sudbury, Kingston, London, Peterborough and Kingston. Depreciating metro areas include Regina and Saskatoon, as well as Saguenay in Québec and Kelowna in British Columbia.

The third column of Table 3 shows average forecast appreciation over the next four quarters, which tends to be significantly influenced by house price growth in the last historical quarter. Of the large metro areas, only Montréal will have moderate house price growth, with others such as Toronto having slight appreciation at best or depreciation at worst. The exception is Vancouver, which despite overvaluation and depreciation in the third quarter, still has significant upward effects in 2019 due to house prices moving back into growth territory in October and November.

The fourth column shows house price growth from the third quarter of 2019 to the third quarter of 2020, when persistence effects from the last quarter of history have faded out and house prices respond mainly to valuation and to changes in mortgage rates. In line with declining national appreciation, only a few smaller metro areas have appreciation at 3% or higher; the six largest metro areas are led by Toronto at 2.8%. The British Columbia metro areas revert to flat prices, where there is a dichotomy in Alberta between undervalued Edmonton

and correctly valued Calgary, with the latter undergoing slight depreciation. There is slight appreciation in Montréal and Newfoundland, but otherwise house prices in Québec and the Atlantic provinces are flat. Regina and Saskatoon will continue to correct downward, hamstrung by a combination of overvalued prices and slower income growth in Saskatchewan's economy.

Lastly, Table 4 looks at the changes between the August forecast used in the October report and the December forecast. Metro areas are ranked from top to bottom in terms of their projected five-year growth through the third quarter of 2023. The most significant changes in the December forecast are for Saskatchewan, where projected income growth was adjusted downward after August, and Abbotsford and Kelowna in British Columbia, where house prices are now more overvalued than in August.

With the exception of St. John's and Edmonton, the strongest appreciations, though far from spectacular, still belong to Ontario metro areas, but a word of caution is in order. Since the start of the RPS house price data in 2005, Ontario metro area house prices have had low sensitivity to over- or undervaluation, being led more by trend income growth, population growth, and changes in mortgage rates. But there is always the downside risk that further house price growth causes one or more affordability or mortgage debt burdens to go beyond a critical point, after which an actual price correction might indicate that prices are sensitive to overvaluation after all. It is this possibility that policymakers are trying to head off.

Risks: The sustainability question

Interventions by the BoC, OSFI, and the British Columbia and Ontario governments were by no means a capricious attempt to deflate a house price bubble for the mere sake of deflation. Financial and macroeconomic aggregates point to the possibility that the mortgage credit needed to sustain house price appreciation may be unsustainable. Since 2002, the ratio of mortgage debt service payments to disposable income has gone from a historical low point of little

⁴ Since the first draft of this report was written, RPS has released December house prices. Over- or undervaluation rates for the fourth quarter of 2018 will be computed with the forthcoming January RPS house price forecast.

Table 3: Canada Subnational Forecast, Median Detached-House Price

	% deviation from trend price, 2018Q3*	% change annualized, 2018Q3	Avg annualized house price growth, %, 2018Q4-2019Q3	Avg annualized house price growth, %, 2019Q3-2020Q3
Canada		2.4	0.9	0.4
Alberta		0.0	-1.5	-0.7
<i>Calgary, census metropolitan area</i>	-3.7	-0.5	-4.0	-3.5
<i>Edmonton, census metropolitan area</i>	-25.1	0.9	0.2	1.5
British Columbia		-1.2	3.5	0.0
<i>Abbotsford, census metropolitan area</i>	32.3	-1.2	1.4	-0.4
<i>Kelowna, census metropolitan area</i>	14.4	-3.3	-0.2	0.2
<i>Vancouver, census metropolitan area</i>	43.2	-2.8	3.8	-0.3
<i>Victoria, census metropolitan area</i>	23.7	6.8	3.8	-0.9
Manitoba		4.3	0.8	-1.4
<i>Winnipeg, census metropolitan area</i>	11.7	3.5	0.5	-1.9
New Brunswick		2.0	1.5	0.5
<i>Moncton, census metropolitan area</i>	-1.9	8.1	0.8	0.2
<i>Saint John, census metropolitan area</i>	-3.5	6.2	2.2	0.4
Newfoundland and Labrador		-1.8	-1.1	1.7
<i>St. John's, census metropolitan area</i>	3.1	-3.1	-1.7	1.5
Nova Scotia		1.2	1.4	-0.1
<i>Halifax, census metropolitan area</i>	-4.5	0.6	1.8	0.1
Ontario		4.6	1.2	2.0
<i>Barrie, census metropolitan area</i>	32.7	-1.3	-0.9	3.4
<i>Brantford, census metropolitan area</i>	34.2	1.1	-2.0	-0.8
<i>Greater Sudbury, census metropolitan area</i>	11.0	12.5	2.5	0.5
<i>Guelph, census metropolitan area</i>	26.0	2.0	0.3	3.6
<i>Hamilton, census metropolitan area</i>	38.0	6.6	0.2	-0.2
<i>Kingston, census metropolitan area</i>	-4.6	13.1	2.8	0.2
<i>Kitchener, census metropolitan area</i>	34.7	6.1	-0.2	-0.2
<i>London, census metropolitan area</i>	18.7	12.1	2.5	0.9
<i>Oshawa, census metropolitan area</i>	44.0	6.4	2.6	3.0
<i>Ottawa-Gatineau, census metropolitan area</i>	-14.2	4.3	0.7	2.5
<i>Peterborough, census metropolitan area</i>	27.3	12.7	2.7	0.7
<i>St. Catharines-Niagara, census metropolitan area</i>	28.4	6.6	0.0	-0.6
<i>Thunder Bay, census metropolitan area</i>	19.2	-1.6	-3.6	-1.1
<i>Toronto, census metropolitan area</i>	49.6	3.7	1.3	2.8
<i>Windsor, census metropolitan area</i>	7.5	17.6	5.6	-0.2
Prince Edward Island		7.4	-4.5	-2.4
Quebec		4.1	2.5	1.1
<i>Montréal, census metropolitan area</i>	2.1	5.7	3.3	1.2
<i>Québec, census metropolitan area</i>	8.7	2.8	0.6	-0.1
<i>Saguenay, census metropolitan area</i>	3.1	-6.1	-2.7	-0.9
<i>Sherbrooke, census metropolitan area</i>	-8.3	2.1	1.7	1.5
<i>Trois-Rivieres, census metropolitan area</i>	4.2	3.6	1.8	1.0
Saskatchewan		-6.7	-10.4	-10.0
<i>Regina, census metropolitan area</i>	33.1	-9.1	-14.8	-13.1
<i>Saskatoon, census metropolitan area</i>	18.2	-4.1	-8.1	-8.9

Italicized metro areas are part of the RPS 13-metro-area composite index.

*Census metropolitan areas only

Sources: RPS, Moody's Analytics

Table 4: Medium-Term House Price Outlook, Census Metropolitan Areas

Avg annualized projected single-family house price growth, %, 2018Q3-2023Q3

	Aug 2018 forecast	Dec 2018 forecast
Canada	1.8	1.6
Barrie	3.2	4.2
Guelph	3.5	4.0
Edmonton	3.3	3.7
Oshawa	2.3	3.4
St. John's	2.6	3.2
Toronto	1.8	2.9
Ottawa-Gatineau	2.4	2.6
Sherbrooke	1.9	2.0
Halifax	2.2	1.6
Montréal	2.7	1.6
Kingston	0.5	1.5
London	1.0	1.5
Vancouver	3.3	1.5
Greater Sudbury	1.1	1.2
Kelowna	4.1	1.2
Peterborough	0.8	1.2
Québec	1.3	1.2
Victoria	1.8	1.2
Windsor	-0.1	1.1
Kitchener	0.6	0.8
Moncton	1.5	0.7
Abbotsford	2.5	0.6
Brantford	0.6	0.6
Trois-Rivières	1.1	0.6
Saint John	0.9	0.5
Hamilton	0.4	0.4
St. Catharines-Niagara	0.3	0.4
Calgary	-0.1	-0.1
Winnipeg	0.7	-0.1
Saguenay	0.6	-0.4
Thunder Bay	-0.2	-0.8
Saskatoon	3.3	-1.4
Regina	0.1	-4.0

Italicized metro areas are part of the RPS 13-metro-area composite index.

Sources: RPS, Moody's Analytics

more than 5% in 2003 to almost 6.6% by the end of last year, according to data from the Canadian Bankers Association (see Chart 9). Of course, more than a rising debt service-to-income ratio is needed to make debt performance deteriorate. With the exception of the 2008-2009 recession, the share of first mortgages in arrears has steadily declined thanks to a combination of real median income growth, relatively low mortgage rates until 2017, and available credit for refi-

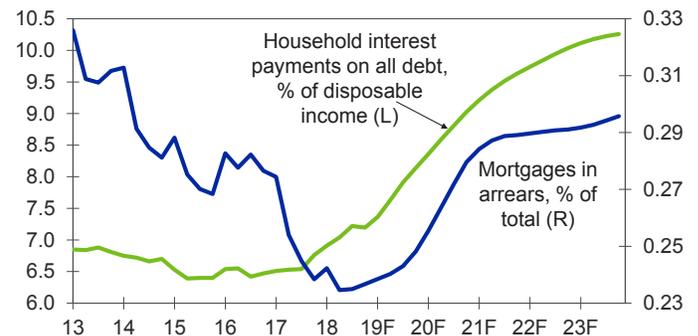
ancing. But the larger the debt service burden, the greater the likelihood that any deterioration in the overall economy might lead to an upturn in mortgage delinquency, and with more downside risks starting to materialize throughout the world economy, this is now a perceptible risk. Given the projected economic slowdown through 2020 shown in Table 2, it is no surprise that mortgage-related aggregates will show some deterioration. The combination of slower income growth over the next few years plus higher interest rates on consumer credit and possible strong growth of non-mortgage credit indicates that the ratio of household interest payments as a percentage of disposable income is likely to rise strongly over the next five years (see Chart

Chart 9: Mortgage Debt Is Good...for Now



Sources: Canadian Bankers Association, Statistics Canada, Moody's Analytics

Chart 10: Borrowers May Get Too Stretched



Sources: Statistics Canada, CBA, Moody's Analytics

10). Not surprisingly, the share of mortgages in arrears will also increase over that period, though at 0.3%, it will still be significantly below its historical average.

The combination of stress tests and higher mortgage rates can thus be seen as attempts to reduce the debt service burden at the expense of home sales first and house price appreciation second. Even with these interventions, the baseline outlook in Chart 10 indicates that consumer finances will become more fragile even if a recession is avoided. Increased fragility makes the downside risks more potent. The Moody's Analytics assumptions for an alternative protracted slump scenario, for example, include a range of adverse global outcomes, including a Chinese real estate crash, a no-deal Brexit, renewed austerity in Europe in the wake of fiscal instability, and a continuation of the U.S.-China trade war. These outcomes, by leading to a sharp global fall in financial asset values, could lead to a

shortage of refinancing credit at the very time the housing market most needs it. In a protracted slump scenario or in worse outcomes, which Moody's Analytics estimates have a combined probability of only 4%, mortgages in arrears might surge up to their historical peak of 0.65% of first mortgages; the mort-

gage debt service burden would fall not simply because of lower mortgage rates but because a significant portion of delinquent mortgages are written off.

When compared with such possibilities, the Moody's Analytics baseline forecast—despite looking mildly gloomy compared with

the most recent house price appreciation and residential construction—is relatively optimistic and shows the necessarily slower turnover that comes with trying to slow down consumer debt growth so that the debt load does not ignite with an adverse financial shock.

About the Author

Andres Carbacho-Burgos, PhD, is a Director with Moody's Analytics. As Head Housing Economist, Andres specializes in the U.S. housing market, residential construction, and regional economies. Before joining Moody's Analytics, he taught economics at Texas State University, where he also researched open-economy macroeconomics and income inequality. Born in Chile, he obtained his PhD and master's in economics from the University of Massachusetts at Amherst and his BA in economics from Carleton College.

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The RPS – Moody's Analytics House Price Forecasts are based on fully specified regional econometric models that account for both housing supply-demand dynamics and long-term influences on house prices such as unemployment and changes in mortgage rates. Updated monthly and providing a 10-year forward-time horizon, the forecasts are available for the nation overall, its 10 provinces and for 33 metropolitan areas, and cover three property style categories, comprising single-family detached, condominium apartments and aggregate, in a number of scenarios: a baseline house price scenario, reflecting the most likely outcome, and six alternative scenarios.

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