**Economics and Strategy** 



February 6, 2020

# Home affordability deteriorated slightly in Q4 2019

By Matthieu Arseneau & Kyle Dahms

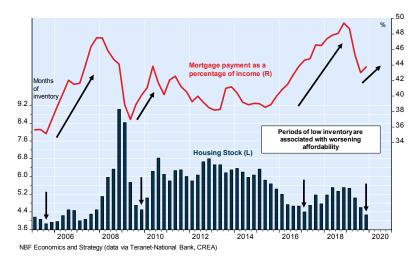
The streak of improvements in home affordability in major Canadian urban centers came to an end after three quarters with a slight deterioration in Q4 2019. While mortgage interest rates were essentially unchanged from Q3, income growth was unable to keep pace with the rise in home prices for the urban composite. The later registered its strongest increase in more than 2 years. Among the 10 urban centers covered, only Vancouver and Winnipeg saw income increasing faster than housing prices during the quarter. Vancouver was the only market showing an improvement in affordability, the monthly mortgage payment as a percentage of income registering a fourth consecutive decline, a first since 2008-2009 when the global economy was mired in a recession. While our national housing affordability composite index stands on the cusp of its two-decade average, we note significant divergence in affordability among urban centers. Indeed, despite some ameliorations over the past year, the Vancouver, Toronto and Hamilton markets are still exhibiting affordability concerns while all other markets are either in-line with their historical norms or even better. The widespread improvement in affordability occurred in 2019 thanks to an 85 basis points decline in mortgage interest rates and one of the smallest increases in home prices among OECD countries (+1.2%, see chart page 13). That said, we doubt that a further improvement in home affordability is possible at this point as we see interest rates levelling off and home prices should accelerate given tight supply in the resale market. Indeed, the national active listings to sales ratio is at its lowest since 2007Q2, a level generally associated with worsening affordability (left chart).

### **HIGHLIGHTS:**

- Canadian housing affordability worsened after three consecutive quarters of improvements in Q4 2019. The mortgage payment on a representative home as a percentage of income (MPPI) rose 0.7 point after a 2.3-point decline in Q3'19. Seasonally adjusted home prices increased 1.8% in Q4'19 from Q3'19; the benchmark mortgage rate (5-year term) edged up 3 basis points; while median household income rose 0.4%.
- Among the ten markets covered, affordability improved only in Vancouver in the fourth quarter. All other markets showed a deterioration with Toronto, Hamilton and Ottawa-Gatineau leading the worsening (see chart on the right). Vancouver remained its most affordable level since 2016. Countrywide, affordability waned in both the condo segment and the non-condo portion. See detailed statistics on page 12.
- The time required to save for the down payment on a representative home at a savings rate of 10% trimmed down 1.7 months to 309.6 months in Vancouver but rose in Toronto (+3.2 to 92.4 months) and Montreal (+0.3 to 33.7 months) in Q4 2019.

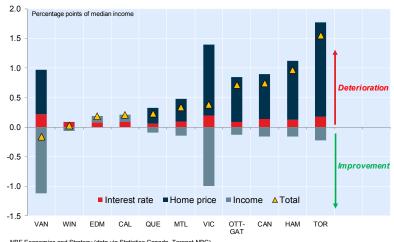
# Canada: Perspective on affordability and resale inventory

Housing affordability index vs active listings to sales ratio (2019Q4)



### Canada: Q4 change in housing affordability in 10 metropolitan areas

Q/Q change in mortgage payment on median-price home (25-year amortization, 5-year term)



NBF Economics and Strategy (data via Statistics Canada, Teranet-NBC)

**Economics and Strategy** 



# **Toronto**

Toronto's housing affordability deteriorated in both the non-condo and condo segments in the fourth quarter. Indeed, slightly higher interest rates and rising home prices have contributed to worsening affordability in Canada's largest city. An increase in incomes was not enough to offset the deterioration in affordability. Home price for condos rose +3.2% q/q and other dwellings +2.8% q/q). Home prices for all dwellings are now up 3.6% on an annual basis. All told, the composite for all dwellings showed a waning in the MPPI\* for the quarter (+1.6pp) but an improvement for the year (-6.3pp). \*See tables on page 12 for more information.

Non-Condo

Condo

\$572,948

Price of the representative home

in the metropolitan market

Price of the representative condo in the metropolitan market

\$934,902 \$193,550

Household annual income needed to afford the representative home

\$120,778

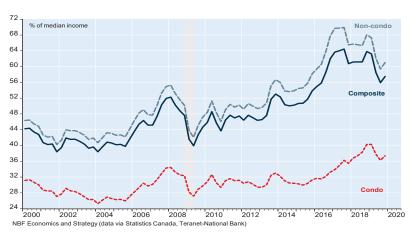
Household annual income needed to afford the representative condo

# Toronto: Perspective on housing affordability

Monthly mortgage payment on median home price (25 year amortization, 5-year term)



ORONTO



# Mortgage payment as a % of income (MPPI)

Non-Condo

61.0%

+

1.6%

Q/G

Condo

37.4%

+

1%

Q/Q

100

Months of saving required for the down payment (saving rate of 10%)

47

Months of saving required for the down payment (saving rate of 10%)

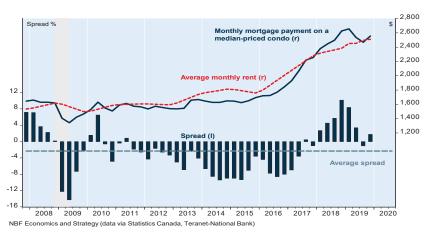
28.5%

Premium for buying compared to the national urban composite

1.8%

Premium/discount for buying compared to renting a two-bedroom condo in the GTA

### Toronto: Buying compared to renting



**Economics and Strategy** 



# **Montreal**

In Montreal, affordability as measured by the MPPI deteriorated for both the condo (+0.7pp) and non-condo (+0.3pp) segments. Prices continued their upward trajectory in this comparatively affordable city and were impacted by slightly higher financing costs. Incomes for their part helped offset some of the worsening. Accordingly, for the aggregate of all dwellings, the MPPI\* rose to 30.0 %, on the cusp of its historical average. On a yearly basis, home prices have risen by 5.6%, essentially in line with income growth which progressed 5.2 % in the same period. \*See tables on page 12 for more information.

Mortgage payment as a % of income (MPPI)

Non-Condo 32.4%

**+** 0.3%

Q/Q

Condo

24.8%

- 0.79

Q/G



Non-Condo \$387,956

Price of the representative home in the metropolitan market

\$82,333

Household annual income needed to afford the representative home 36

Months of saving required for the down payment (saving rate of 10%)

-46.7%

Premium for buying compared to the national urban composite



Condo

MONTREAL

\$296,343

Price of the representative condo in the metropolitan market

\$62,891

Household annual income needed to afford the representative condo 28

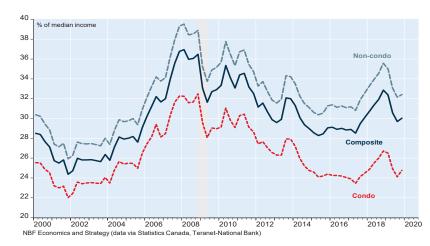
Months of saving required for the down payment (saving rate of 10%)

4.7%

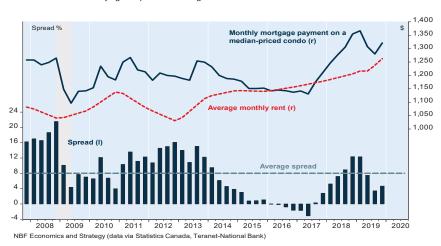
Premium/discount for buying compared to renting a two-bedroom condo in Montreal

# Montreal: Perspective on housing affordability

Monthly mortgage payment on median home price (25 year amortization, 5-year term)



### Montreal: Buying compared to renting



**Economics and Strategy** 



# Vancouver

Vancouver's housing affordability as quantified by the MPPI\* improved for the condo segment and stayed the same for the non-condo sector (-0.6pp and 0.0pp respectively). This was the fourth improvement in the condo segment, a first since 2014. The mortgage payment for the non-condo portion held steady and requires a 83.9% share of the median household pre-tax income to service. For the aggregate, this percentage fell this guarter on the back of higher incomes more than offsetting rising home prices and interest rates. Home prices for the aggregate are now up 1.1% in the quarter but down -5.4% over the past year. \*See tables on page 12 for more information.

Price of the representative home in the metropolitan market

\$222,381

Household annual income needed to afford the representative home

\$127,849

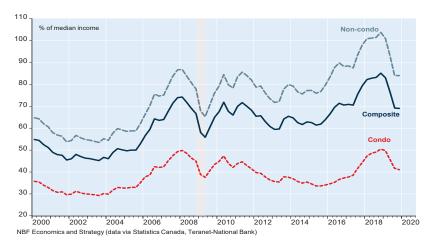
Household annual income needed to afford the representative condo

\$608,121

Price of the representative condo in the metropolitan market

# Vancouver: Perspective on housing affordability

Monthly mortgage payment on median home price (25 year amortization, 5-year term)



Mortgage payment as a % of income (MPPI)

Non-Condo

84.0%

0.0%

Condo

41.1%



Non-Condo

Condo

**VANCOUVER** 

\$1,244,341

Months of saving required for the down payment (saving rate of 10%) 71.0%

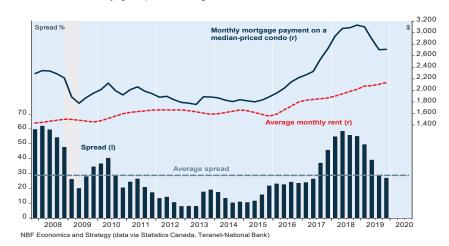
Premium for buying compared to the national urban composite

54

Months of saving required for the down payment (saving rate of 10%) 26.9%

Premium/discount for buying compared to renting a two-bedroom condo in Vancouver

### Vancouver: Buying compared to renting



**Economics and Strategy** 



# Calgary

Calgary saw a slight deterioration in the MPPI\* for both the non-condo (+0.2pp) and condo (+0.1pp) segments. On a quarterly basis, home prices for the city were flat and remain lower on a year-overyear basis (-1.3% y/y). Incomes were rising at a tepid pace on an annual basis (+1.0%) but the quarterly decline in wages combined with slightly higher financing costs contributed to worsening affordability. Calgary has become less affordable on a relative basis with stagnant home prices and tepid income growth still indicative of economic woes in the province. \*See tables on page 12 for more information.

Mortgage payment as a % of income (MPPI)

Non-Condo

30.7%

**▲** + 0.2%

Q/Q

Condo

16.0%

0.1%

Q/G



Non-Condo \$490,528

Price of the representative home in the metropolitan market

\$104,101

Household annual income needed to afford the representative home 34

Months of saving required for the down payment (saving rate of 10%)

-32.6%

Premium for buying compared to the national urban composite



\$256,227

Price of the representative condo in the metropolitan market

\$54,377

Household annual income needed to afford the representative condo 18

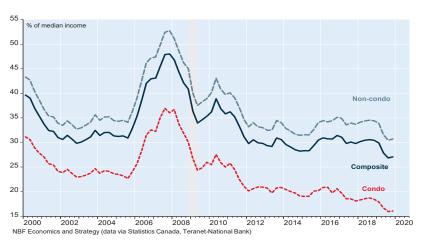
Months of saving required for the down payment (saving rate of 10%)

-26.5%

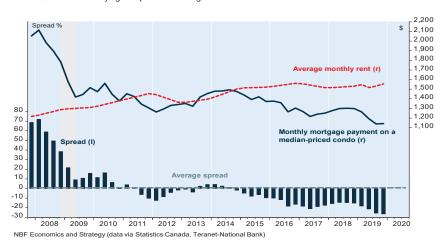
Premium/discount for buying compared to renting a two-bedroom condo in Calgary

### Calgary: Perspective on housing affordability

Monthly mortgage payment on median home price (25 year amortization, 5-year term)



### Calgary: Buying compared to renting



**Economics and Strategy** 



# **Edmonton**

Edmonton mirrored a similar situation as the one observed in Calgary. There was a worsening in affordability for the non-condo segments while the condo portion showed a slight improvement. The slowdown in the housing market can be seen by flat prices for all dwellings on a quarterly basis while home prices are still down -2.0% from 12 months ago. Looking at the annual perspective, the MPPI\* for the composite fell by 3.3-points. That improvement was still below the urban composite, a result of slower income growth. \*See tables on page 12 for more information.

Mortgage payment as a % of income (MPPI)

Non-Condo

26.8%

+

0.3%

Q/Q

Condo

14.2%

\_

% Q



Non-Condo \$416,004

Price of the representative home in the metropolitan market

\$88,286

Household annual income needed to afford the representative home 30

Months of saving required for the down payment (saving rate of 10%)

-42.8%

Premium for buying compared to the national urban composite



Condo

EDMONTON

\$219,888

Price of the representative condo in the metropolitan market

\$46,665

Household annual income needed to afford the representative condo 16

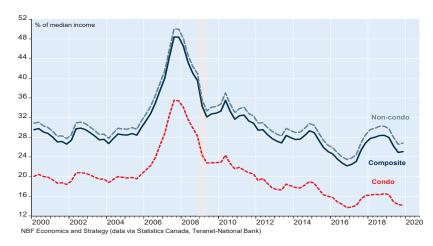
Months of saving required for the down payment (saving rate of 10%)

-32.3%

Premium/discount for buying compared to renting a two-bedroom condo in Edmonton

### **Edmonton: Perspective on housing affordability**

Monthly mortgage payment on median home price (25 year amortization, 5-year term)



### Edmonton: Buying compared to renting



**Economics and Strategy** 



# Ottawa/Gatineau

In Ottawa-Gatineau, the MPPI\* for both the non-condo and condo segments showed a worsening in affordability of -0.7pp and -0.6pp, respectively. Rising incomes were not enough to offset a rise in home prices for both segments of the market. For the aggregate of all dwellings, this was the first deterioration following 3 consecutive augrters of improvements. All told, the MPPI rose 0.7pp in the quarter but was down 2.0pp from a year ago. \*See tables on page 12 for more information.

Mortgage payment as a % of income (MPPI)

Non-Condo

31.8%

Condo

19.7%



Non-Condo \$461,393

Price of the representative home in the metropolitan market

\$97,918

Household annual income needed to afford the representative home

36

Months of saving required for the down payment (saving rate of 10%) -36.6%

Premium for buying compared to the national urban composite



Condo

TTAWA/GA

\$285,839

Price of the representative condo in the metropolitan market

\$60,662

Household annual income needed to afford the representative condo

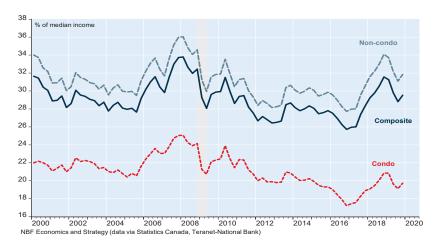
22

Months of saving required for the down payment (saving rate of 10%) -23.1%

Premium/discount for buying compared to renting a two-bedroom condo in Ottawa/Gatineau

# Ottawa/Gatineau: Perspective on housing affordability

Monthly mortgage payment on median home price (25 year amortization, 5-year term)



# Ottawa/Gatineau: Buying compared to renting



**Economics and Strategy** 



# **Quebec City**

Canada's cheapest market got slightly more expensive in the quarter. Quebec city's MPPI\* deteriorated for non-condo dwellings (+0.3pp) but improved marginally for the condo (-0.2pp) seament. On a yearly basis however, the composite of all dwellings saw its MPPI fall 2.6-points. This improvement in housing affordability can be attributed to an 85 bps decrease of the mortagae rate while incomes rose 5.2% in the year leading to the guarter. These factors were more than enough to offset the rise in home prices (+2.3% y/y). \*See tables on page 12 for more information.

Mortgage payment as a % of income (MPPI)

Non-Condo

20.6%

Condo

14.6%



Non-Condo \$295,364

Price of the representative home in the metropolitan market

\$62,683

Household annual income needed to afford the representative home

Months of saving required for the down payment (saving rate of 10%) -59.4%

Premium for buying compared to the national urban composite



Condo

QUEBEC

\$209,271

Price of the representative condo in the metropolitan market

\$44,412

Household annual income needed to afford the representative condo

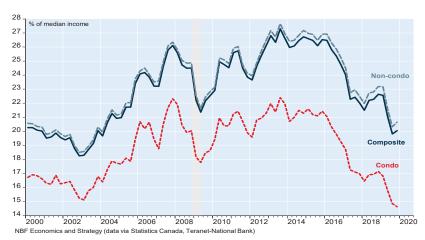
16

Months of saving required for the down payment (saving rate of 10%) -10.2%

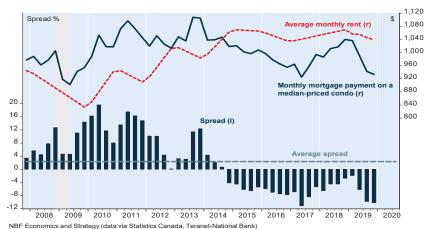
Premium/discount for buying compared to renting a two-bedroom condo in Quebec City

# Quebec city: Perspective on housing affordability

Monthly mortgage payment on median home price (25 year amortization, 5-year term)



### Quebec City: Buying compared to renting



**Economics and Strategy** 



# Winnipeg

Winnipeg saw affordability stay unchanged in the fourth quarter of the year. Indeed, the MPPI\* showed no change in both the non-condo segment and the condo portion. For the aggregate of all dwellings, home prices were essentially flat on a quarterly basis while incomes progressed at a slow pace and interest rates remained relatively stationary. In addition, the MPPI was down 3.1points in the year as a 3.2% jump in income combined with relatively flat home prices (+0.9%) and a decrease of the mortgage rate improved conditions. \*See tables on page 12 for more information.

Mortgage payment as a % of income (MPPI)

Non-Condo

25.1%

0.0%

Condo

17.4%

0.0%



Non-Condo \$324,094

Price of the representative home in the metropolitan market

\$68,780

Household annual income needed to afford the representative home

28

Months of saving required for the down payment (saving rate of 10%) -55.5%

Premium for buying compared to the national urban composite



Condo

WINNIPEG

\$225,203

Price of the representative condo in the metropolitan market

\$47,793

Household annual income needed to afford the representative condo

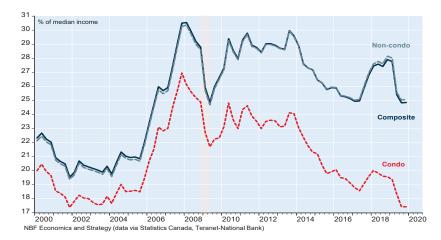
20

Months of saving required for the down payment (saving rate of 10%) -28.5%

Premium/discount for buying compared to renting a two-bedroom condo in Winnipeg

# Winnipeg: Perspective on housing affordability

Monthly mortgage payment on median home price (25 year amortization, 5-year term)



# Winnipeg: Buying compared to renting



**Economics and Strategy** 



# Hamilton

In Hamilton, the MPPI\* for both the non-condo and condo segments showed a deterioration in affordability of -1.0pp respectively. For the aggregate of all dwellings, the MPPI rose by 1.0-point in Q4, but follows three consecutive improvements and the largest enhancement in the post-recession period in the second quarter of 2019. Indeed, the MPPI was down 3.9-points from a year earlier, but that remains less than the 5.7 points decline for our urban composite. This can be credited to home prices rising by +4.8% y/y which were enough to offset decent income gains of 4.7% year on year. \*See tables on page 12 for more information.

Mortgage payment as a % of income (MPPI)

Non-Condo

43.3%

**▲** + 1.0%

Q/Q

Condo

32.4%

1.0%

Q/C



Non-Condo \$626,519

Price of the representative home in the metropolitan market

\$131,548

Household annual income needed to afford the representative home 58

Months of saving required for the down payment (saving rate of 10%)

-13.9%

Premium for buying compared to the national urban composite



Condo

**HAMILTON** 

\$468,795

Price of the representative condo in the metropolitan market

\$99,489

Household annual income needed to afford the representative condo

36

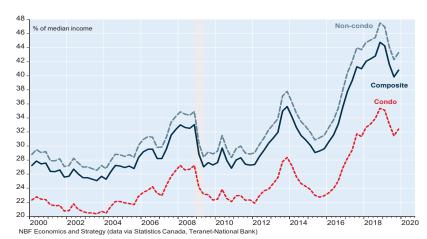
Months of saving required for the down payment (saving rate of 10%)

46.7%

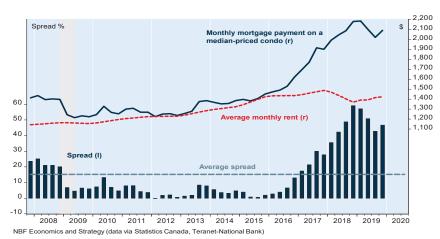
Premium/discount for buying compared to renting a two-bedroom condo in Hamilton

### Hamilton: Perspective on housing affordability

Monthly mortgage payment on median home price (25 year amortization, 5-year term)



# Hamilton: Buying compared to renting



**Economics and Strategy** 



# Victoria

Victoria experienced an improvement in affordability for the condo portion (-0.4pp) while the MPPI\* showed a deterioration for the non-condo (+0.6pp) segment. For the composite of all dwellings, the MPPI rose by 0.9-point in Q4 up to 61.6%. This relatively unaffordable market was down 9.9-points from a year earlier essentially thanks to lower interest rates and income growth reaching 6.3% y/y, as home prices were mostly flat. \*See tables on page 12 for more information.

Mortgage payment as a % of income (MPPI)

Non-Condo

65.1%

**▲** + 0.6%

Q/Q

Condo

37.3%

- 0.49

Q/G



Non-Condo \$854,308

Price of the representative home in the metropolitan market

\$177,346

Household annual income needed to afford the representative home 103

Months of saving required for the down payment (saving rate of 10%)

17.4%

Premium for buying compared to the national urban composite



Condo

\$489,871

Price of the representative condo in the metropolitan market

\$103,962

Household annual income needed to afford the representative condo 42

Months of saving required for the down payment (saving rate of 10%)

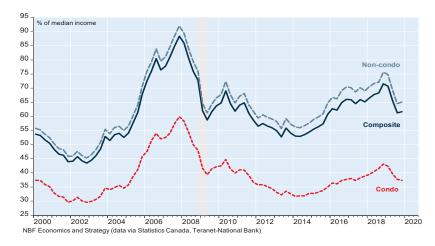
27.5%

Premium/discount for buying compared to renting a two-bedroom condo in Victoria

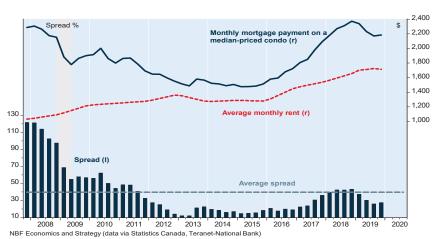
### Victoria: Perspective on housing affordability

Monthly mortgage payment on median home price (25 year amortization, 5-year term)

# **VICTORIA**



### Victoria: Buying compared to renting



Economics and Strategy



# Housing affordability statistics

Table 1		Α	В	С		D	E	F		G	Н	ĺ	J	K		L		М	N		
All dwellings	Мє	edian home price	Q/Q % change	Y/Y % change	Down	payment \$	Downpayment: Months of saving	Avg. Since 2000	m	lonthly ortgage ayment	Mortgage payment as % of income	Q/Q diff. PP	Y/Y diff. PP	Avg. Since 2000		tualifying ual Income		lian annual Income	Home- ownership rate (2016)		
Urban Composite	\$	579,969	1.8	1.2	\$	32,997	55.8	34.9	\$	2,586	43.8	0.7	-5.7	40.2	\$	122,190	\$	70,904	68%		
Toronto	\$	880,934	2.9	3.6	\$	63,093	92.4	46.7	\$	3,928	57.5	1.6	-6.3	48.2	\$	182,699	\$	81,983	66%		
Montreal	\$	359,327	1.3	5.6	\$	17,966	33.7	25.3	\$	1,602	30.0	0.3	-2.8	30.2	\$	76,257	\$	64,026	56%		
Vancouver	\$	1,022,165	1.1	-5.4	\$	204,433	309.6	87.3	\$	4,558	69.0	-0.2	-16.1	62.2	\$	182,675	\$	79,239	64%		
Calgary	\$	432,340	0.0	-1.3	\$	21,617	30.3	27.0	\$	1,928	27.1	0.2	-3.4	33.4	\$	91,752	\$	85,484	73%		
Edmonton	\$	389,217	0.0	-2.0	\$	19,461	28.1	24.2	\$	1,735	25.1	0.2	-3.3	30.2	\$	82,601	\$	83,033	70%		
Ottawa/Gatineau	\$	427,918	2.6	7.8	\$	21,396	33.1	24.3	\$	1,908	29.5	0.7	-2.0	29.1	\$	90,814	\$	77,539	67%		
Quebec	\$	286,783	1.3	2.3	\$	14,339	22.5	19.6	\$	1,279	20.0	0.2	-2.6	23.0	\$	60,862	\$	76,574	60%		
Winnipeg	\$	321,349	0.1	0.9	\$	16,067	27.9	21.5	\$	1,433	24.9	0.0	-3.1	25.4	\$	68,198	\$	69,187	67%		
Hamilton	\$	590,529	2.5	4.8	\$	34,053	52.8	27.2	\$	2,633	40.8	1.0	-3.9	30.8	\$	124,312	\$	77,410	70%		
Victoria	\$	808,902	2.0	0.5	\$	55,890	95.5	54.7	\$	3,607	61.6	0.4	-9.9	60.8	\$	168,217	\$	70,220	63%		
Table 2	Α		В	C D		D	E	F		G	Н	l J		K	L		М		N (		0
Condo	Median home price		Q/Q % change	Y/Y % change	Downpayment \$		Downpayment: Months of saving	Avg. Since g 2000		Ionthly ortgage ayment	Mortgage payment as % of income	Q/Q diff. PP	Y/Y diff. PP	Avg. Since 2000	Qualifying Income		Median Income		Home- ownership rate (2016)	rate Monthly average rent	
Urban Composite	\$	413,612	1.6	1.9	\$	20,681	35.0	24.6	\$	1,844	31.2	0.5	-3.8	29.5	\$	87,778	\$	70,904	9%	\$	1,977
Toronto	\$	572,948	3.2	6.8	\$	32,295	47.3	26.7	\$	2,555	37.4	1.1	-2.9	30.9	\$	120,778	\$	81,983	15%	\$	2,511
Montreal	\$	296,343	2.9	7.1	\$	14,817	27.8	22.0	\$	1,321	24.8	0.7	-2.0	26.4	\$	62,891	\$	64,026	11%	\$	1,262
Vancouver	\$	608,121	-0.1	-5.0	\$	35,812	54.2	33.3	\$	2,711	41.1	-0.6	-9.4	38.3	\$	127,849	\$	79,239	22%	\$	2,137
Calgary	\$	256,227	0.0	-3.5	\$	12,811	18.0	18.9	\$	1,142	16.0	0.1	-2.4	23.9	\$	54,377	\$	85,484	14%	\$	1,555
Edmonton	\$	219,888	-1.5	-4.9	\$	10,994	15.9	15.9	\$	980	14.2	-0.1	-2.4	20.3	\$	46,665	\$	83,033	12%	\$	1,449
Ottawa/Gatineau	\$	285,839	3.3	9.0	\$	14,292	22.1	17.5	\$	1,274	19.7	0.6	-1.1	21.1	\$	60,662	\$	77,539	9%	\$	1,658
Quebec	\$	209,271	-1.3	-1.5	\$	10,464	16.4	15.9	\$	933	14.6	-0.2	-2.5	18.8	\$	44,412	\$	76,574	9%	\$	1,039
Winnipeg	\$	225,203	-0.1	0.9	\$	11,260	19.5	17.5	\$	1,004	17.4	0.0	-2.1	21.0	\$	47,793	\$	69,187	6%	\$	1,404
Hamilton	\$	468,795	3.1	5.3	\$	23,440	36.3	21.1	\$	2,090	32.4	1.0	-3.0	24.6	\$	99,489	\$	77,410	11%	\$	1,425
Victoria	\$	489,871	0.3	1.1	\$	24,494	41.9	31.5	\$	2,184	37.3	-0.4	-5.8	38.8	\$	103,962	\$	70,220	14%	\$	1,713
Table 3		Α	В	С		D	Е	F		G	Н	I	J	K		L		М	N		
Other dwellings	Me	edian home price	Q/Q % change			payment \$	Downpayment: Months of saving			lonthly ortgage ayment	Mortgage payment as % of income	Q/Q diff. PP	Y/Y diff. PP	Avg. Since 2000	Qualifying Income		Median Income		Home- ownership rate (2016)		
Urban Composite	\$	727,761	1.8	1.1	\$	47,776	80.9	46.0	\$	3,245	54.9	0.9	-7.2	50.2	\$	151,903	\$	70,904	59%	l	
Toronto	\$	934,902	2.8	3.1	\$	68,490	100.3	50.4	\$	4,168	61.0	1.6	-7.0	51.3	\$	193,550	\$	81,983	52%		
Montreal	\$	387,956	1.0	5.3	\$	19,398	36.4	27.1	\$	1,730	32.4	0.3	-3.2	32.3	\$	82,333	\$	64,026	45%	l	
Vancouver	\$	1,244,341	1.3	-5.5	\$	248,868	376.9	124.7	\$	5,548	84.0	0.0	-19.7	74.7	\$	222,381	\$	79,239	42%		
Calgary	\$	490,528	0.0	-1.0	\$	24,526	34.4	30.0	\$	2,187	30.7	0.2	-3.7	37.0	\$	104,101	\$	85,484	59%	l	
Edmonton	\$	416,004	0.2	-1.7	\$	20,800	30.1	25.4	\$	1,855	26.8	0.3	-3.4	31.6	\$	88,286	\$	83,033	57%		
Ottawa/Gatineau	\$	461,393	2.5	7.7	\$	23,070	35.7	26.0	\$	2,057	31.8	0.7	-2.2	31.1	\$	97,918	\$	77,539	58%	l	
Quebec	\$	295,364	1.7	2.9	\$	14,768	23.1	19.9	\$	1,317	20.6	0.3	-2.5	23.4	\$	62,683	\$	76,574	51%		
Winnipeg	\$	324,094	0.1	0.9	\$	16,205	28.1	21.5	\$	1,445	25.1	0.0	-3.1	25.3	\$	68,780	\$	69,187	61%	l	
Hamilton	\$	626,519	2.4	4.8	\$	37,652	58.4	29.3	\$	2,793	43.3	1.0	-4.2	32.7	\$	131,548	\$	77,410	60%		
Victoria	\$	854,308	2.2	0.4	\$	60,431	103.3	58.2	\$	3,809	65.1	0.6	-10.6	63.8	\$	177,346	\$	70,220	49%	1	

NBF Economics and Strategy (data via Statistics Canada, Teranet-NBC, CREA)

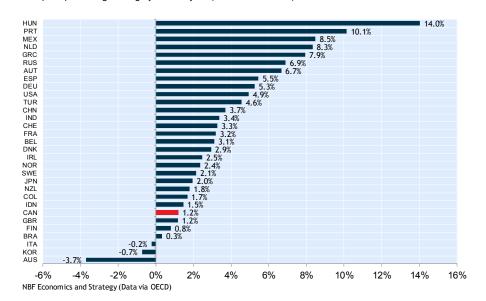
**Economics and Strategy** 



# Global perspective on housing affordability

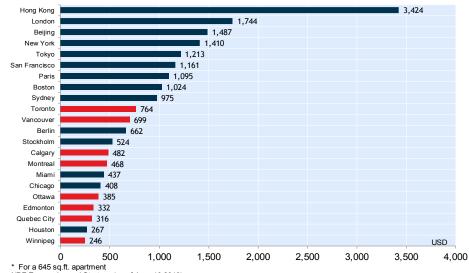
# World: Perspective on home price growth

Home price percentage change year over year (Last data available)



# World: Home prices do not seem extreme in Canada

Price per square feet in USD for downtown living\* (June 2019)



NBF Economics and Strategy (as of June 10 2019)

**Economics and Strategy** 



# Methodology

The National Bank Housing Affordability Report measures housing affordability in 10 major census metropolitan areas (CMAs) and summarizes the results in a weighted-average composite of the 10 CMAs. We track the **condo market**, **other dwellings** (single detached, semi-detached) and the **market as a whole**.

We measure two hurdles for the purchase of a home. First, a household must save the **down-payment** amount. We measure this requirement as the number of months a median-income household will require to save for the minimum cash down payment (CMHC insured mortgage) of the representative home at a savings rate of 10% of its pretax income. We evaluate the representative home using the Teranet-National Bank House Price Index for the market in question to calculate the home price for months before and after the median home price measured by the 2016 Census. For **median household income** in each CMA, we take the Statistics Canada annual data up to 2013. For subsequent months, we extend the series using average weekly earnings growth as a proxy.

The second hurdle for the purchase of a home is the monthly mortgage payment. We measure this as the monthly payment on a median-priced home assuming a 25-year amortization period and a 5-year term. The resulting amount is presented as a percentage of income calculated as described above (sometimes referred as MPPI). Note that we do not take the down payment into account in this calculation because there is an opportunity cost in a household's use of these funds for that purpose. Also, we do not wish policy changes in this regard to affect our indicator over time. We also calculate the income needed to purchase the median property assuming that a household devotes 32% of its pre-tax income for a mortgage payment at the posted rate (defined as **qualifying income** and is adjusted for the down-payment). For the condo market, we also compare the monthly mortgage payment to the average rent for a two-bedroom condo in the same market. We calculate that rent from annual CMHC data, updated to the current month by the rent component of the Consumer Price Index. Note that data in the report was seasonally adjusted when necessary.

**Economics and Strategy** 



# **Economics and Strategy**

# Montreal Office 514-879-2529

### Stéfane Marion

Chief Economist and Strategist stefane.marion@nbc.ca

# Krishen Rangasamy

Senior Economist krishen.rangasamy@nbc.ca

### **Kyle Dahms**

Economist kyle.dahms@nbc.ca

### Matthieu Arseneau

Deputy Chief Economist matthieu.arseneau@nbc.ca

### Paul-André Pinsonnault

Senior Economist paulandre.pinsonnault@nbc.ca

# **Jocelyn Paquet**

Economist jocelyn.paquet@nbc.ca

### Marc Pinsonneault

Senior Economist marc.pinsonneault@nbc.ca

# **Angelo Katsoras**

Geopolitical Analyst angelo.katsoras@nbc.ca

# Toronto Office 416-869-8598

### Warren Lovely

Chief Rate Strategist, Economics and Strategy warren.lovely@nbc.ca

# **Taylor Schleich**

Associate, Rates Strategist, Economics and Strategy taylor.Schleich@nbc.ca

### General

This Report was prepared by National Bank Financial, Inc. (NBF), (a Canadian investment dealer, member of IIROC), an indirect wholly owned subsidiary of National Bank of Canada. National Bank of Canada is a public company listed on the Toronto Stock Exchange.

The particulars contained herein were obtained from sources which we believe to be reliable but are not guaranteed by us and may be incomplete and may be subject to change without notice. The information is current as of the date of this document. Neither the author nor NBF assumes any obligation to update the information or advise on further developments relating to the topics or securities discussed. The opinions expressed are based upon the author(s) analysis and interpretation of these particulars and are not to be construed as a solicitation or offer to buy or sell the securities mentioned herein, and nothing in this Report constitutes a representation that any investment strategy or recommendation contained herein is suitable or appropriate to a recipient's individual circumstances. In all cases, investors should conduct their own investigation and analysis of such information before taking or omitting to take any action in relation to securities or markets that are analyzed in this Report. The Report alone is not intended to form the basis for an investment decision, or to replace any due diligence or analytical work required by you in making an investment decision.

This Report is for distribution only under such circumstances as may be permitted by applicable law. This Report is not directed at you if NBF or any affiliate distributing this Report is prohibited or restricted by any legislation or regulation in any jurisdiction from making it available to you. You should satisfy yourself before reading it that NBF is permitted to provide this Report to you under relevant legislation and regulations.

National Bank of Canada Financial Markets is a trade name used by National Bank Financial and National Bank of Canada Financial Inc.

### **Canadian Residents**

NBF or its affiliates may engage in any trading strategies described herein for their own account or on a discretionary basis on behalf of certain clients and as market conditions change, may amend or change investment strategy including full and complete divestment. The trading interests of NBF and its affiliates may also be contrary to any opinions expressed in this Report.

NBF or its affiliates often act as financial advisor, agent or underwriter for certain issuers mentioned herein and may receive remuneration for its services. As well NBF and its affiliates and/or their officers, directors, representatives, associates, may have a position in the securities mentioned herein and may make purchases and/or sales of these securities from time to time in the open market or otherwise. NBF and its affiliates may make a market in securities mentioned in this Report. This Report may not be independent of the proprietary interests of NBF and its affiliates.

This Report is not considered a research product under Canadian law and regulation, and consequently is not governed by Canadian rules applicable to the publication and distribution of research Reports, including relevant restrictions or disclosures required to be included in research Reports.

# **Economics and Strategy**



### **UK Residents**

This Report is a marketing document. This Report has not been prepared in accordance with EU legal requirements designed to promote the independence of investment research and it is not subject to any prohibition on dealing ahead of the dissemination of investment research. In respect of the distribution of this Report to UK residents, NBF has approved the contents (including, where necessary, for the purposes of Section 21(1) of the Financial Services and Markets Act 2000). This Report is for information purposes only and does not constitute a personal recommendation, or investment, legal or tax advice. NBF and/or its parent and/or any companies within or affiliates of the National Bank of Canada group and/or any of their directors, officers and employees may have or may have had interests or long or short positions in, and may at any time make purchases and/or sales as principal or agent, or may act or may have acted as market maker in the relevant investments or related investments discussed in this Report, or may act or have acted as investment and/or commercial banker with respect hereto. The value of investments or evalue of the uncestments discussed in this Report, or may act or have acted as investment and/or commercial banker with respect hereto. The value of the respect hereto. The value of the investments or evalue of the investments which are illiquid may be difficult to sell or realise; it may also be difficult to obtain reliable information about their value or the extent of the risks to which they are exposed. Certain transactions, including those involving futures, swaps, and other derivatives, give rise to substantial risk and are not suitable for all investors. The investments contained in this Report are not available to retail customers and this Report does not constitute or form part of any offer for sale or subscription of or solicitation of any offer to buy or subscribe for the securities described herein nor shall it or any part of it form the basis of or be relied on in connection with

This information is only for distribution to Eligible Counterparties and Professional Clients in the United Kingdom within the meaning of the rules of the Financial Conduct Authority. NBF is authorised and regulated by the Financial Conduct Authority and the Financial Conduct Authority to accept deposits in the United Kingdom.

### **U.S. Residents**

With respect to the distribution of this report in the United States of America, National Bank of Canada Financial Inc. ("NBCFI") which is regulated by the Financial Industry Regulatory Authority (FINRA) and a member of the Securities Investor Protection Corporation (SIPC), an affiliate of NBF, accepts responsibility for its contents, subject to any terms set out above.

To make further inquiry related to this report, or to effect any transaction, United States residents should contact their NBCFI registered representative.

This report is not a research report and is intended for Major U.S. Institutional Investors only.

This report is not subject to U.S. independence and disclosure standards applicable to research reports.

### **HK Residents**

With respect to the distribution of this report in Hong Kong by NBC Financial Markets Asia Limited ("NBCFMA") which is licensed by the Securities and Futures Commission ("SFC") to conduct Type 1 (dealing in securities) and Type 3 (leveraged foreign exchange trading) regulated activities, the contents of this report are solely for informational purposes. It has not been approved by, reviewed by, verified by or filed with any regulator in Hong Kong. Nothing herein is a recommendation, advice, offer or solicitation to buy or sell a product or service, nor an official confirmation of any transaction. None of the products issuers, NBCFMA or its affiliates or other persons or entities named herein are obliged to notify you of changes to any information and none of the foregoing assume any loss suffered by you in reliance of such information.

The content of this report may contain information about investment products which are not authorized by SFC for offering to the public in Hong Kong and such information will only be available to, those persons who are Professional Investors (as defined in the Securities and Futures Ordinance of Hong Kong ("SFO")). If you are in any doubt as to your status you should consult a financial adviser or contact us. This material is not meant to be marketing materials and is not intended for public distribution. Please note that neither this material nor the product referred to is authorized for sale by SFC. Please refer to product prospectus for full details.

There may be conflicts of interest relating to NBCFMA or its affiliates' businesses. These activities and interests include potential multiple advisory, transactional and financial and other interests in securities and instruments that may be purchased or sold by NBCFMA or its affiliates, or in other investment vehicles which are managed by NBCFMA or its affiliates that may purchase or sell such securities and instruments.

No other entity within the National Bank of Canada group, including National Bank of Canada and National Bank Financial Inc, is licensed or registered with the SFC. Accordingly, such entities and their employees are not permitted and do not intend to: (i) carry on a business in any regulated activity in Hona Kona; (ii) hold themselves out as carrying on a business in any regulated activity in Hona Kona; or (iii) actively market their services to the Hona Kona; or (iii) actively market their services the Hona Kona; or (iii) actively market their services the Hona Kona; or (iii) actively market their services the Hona Kona; or (iii) actively market their services the Hona Kona; or (iii) actively market their services the Hona Kona; or (iii) actively market their services the Hona Kona; or (iii) actively market their se

### Copyright

This Report may not be reproduced in whole or in part, or further distributed or published or referred to in any manner whatsoever, nor may the information, opinions or conclusions contained in it be referred to without in each case the prior express written consent of NBF.

### Disclaimer: Teranet - National Bank House Price Index

The index data and related information and materials ("Index Data") are protected by copyright law, both individually and as a collective work or compilation, and by trade-mark law, and other applicable laws. National Bank of Canada ("NBC") and Teranet Enterprises Inc. ("Teranet") grant to you a limited non-exclusive, non-transferable license to view, copy and print this report, provided that all copies that you make must be solely for your non-commercial, personal use, and must retain all copyright and other notices that are required. Except as provided in the previous sentence, you may not (for either commercial or non-commercial use) use, distribute, sell, modify, transmit, revise, reverse engineer, republish, post or create derivative works (where applicable) of any content of this report without the prior written permission of Teranet and National Bank (who are referred to collectively herein as the "Index Data Providers". Without limiting the generality of the foregoing, the Index Data and other Index Data Provider intellectual property contained in this report may not be used as a basis for any financial instruments or products (including, without limitation, passively managed funds and index-linked derivative securities), or used to verify or correct data in any other compilation of data or index, or used to create any other data or index (custom or otherwise), without the Index Data Providers' prior written permission. You acknowledge and agree that you will not acquire any rights or licenses in the content of this report. The Index Data is for informational purposes only, and the user of the information contained in the Index Data assumes the entire risk of any use made of the Index Data. You understand and agree that the Index Data is provided "as is" and neither NBC nor Teranet warrants the accuracy, completeness, non-infringement, originality, timeliness or any other characteristic of the Index Data. The Index Data is not an offer or recommendation to buy or sell or a solicitation of an offer to buy or sell any security or instrument or to participate in any particular trading strategy. Further, none of the Index Data is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Reproduction, redistribution or any other form of copying or transmission of the Index Data without the Index Data Providers' prior written consent is strictly prohibited. Without limiting the generality of the foregoing, the Index Data and other Index Data Provider intellectual property may not be used as a basis for any financial instruments or products (including, without limitation, passively managed funds and index-linked derivative securities), or used to verify or correct data in any other compilation of data or index, or used to create any other data or index (custom or otherwise), without the Index Data Providers' prior written permission. In no event shall any of NBC, Teranet, their respective affiliates, any of their or their direct or indirect information providers nor any other third party involved in, or related to, compiling, computing or creating any of the Index Data (collectively, the "Index Data Provider Parties") have any liability to any person or entity for any damages, whether direct, indirect, special, incidental, punitive, consequential (including, without limitation, loss of use, lost profits or revenues or any other economic loss) arising in any manner out of your use or inability to use any of the Index Data contained in this report, even if such party might have anticipated, or was advised or notified of, the possibility of such damages.