

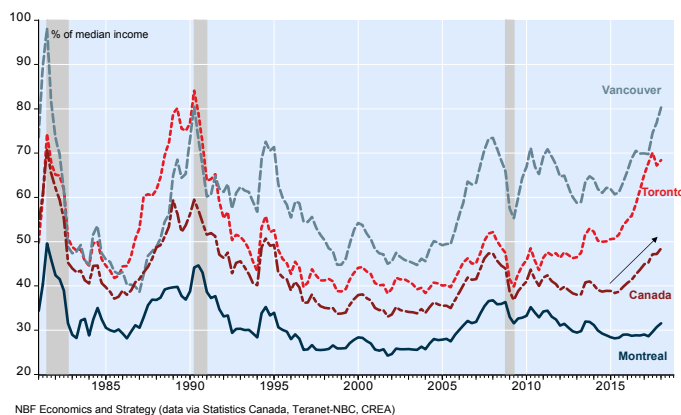
Rising interest rates crimped housing affordability in Q1

Over the last three quarters, the rise of interest rates has further reduced the affordability of Canadian housing, especially in Toronto and Vancouver. Since buyers can hardly lay out a higher share of their income on housing than these two markets already required, a decline of prices is conceivable over the next few quarters if rates rise as we expect.

Accessibility of home ownership in Canada deteriorated further in Q1: the mortgage payment on a representative home as a percentage of median income increased by 1.2 points. It was the 11th straight quarter of stiffening of this metric, the longest such run since the late 1980s (chart). Among the 10 metropolitan markets that we track, the worst deteriorations have been in Vancouver (+3.4 points) and Victoria (+2.8 points). The only improvement has been in Quebec City (-0.3 point).

Canada: Housing affordability since 1981

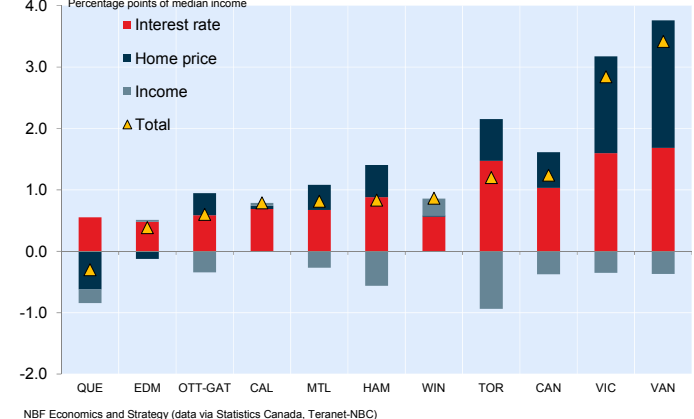
Mortgage payment on a median-price home as % of median income (25-year amortization, 5-year term)



Our benchmark mortgage rate rose for a third straight quarter in Q1 (+19 basis points). This headwind to affordability affected all markets, in particular the two most onerous, Vancouver and Toronto (chart). In Vancouver, the rise of borrowing costs did not prevent a further sharp rise of prices during the quarter (+2.7% q/q, seasonally adjusted), leaving this market less affordable than at any time since 1980.

Canada: Q1 change in housing affordability in 10 metropolitan areas

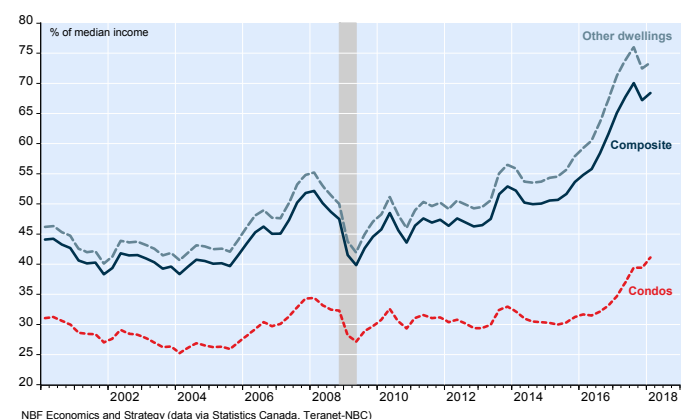
Q/Q change in mortgage payment on median-price home (25-year amortization, 5-year term)



The deterioration of affordability was less pronounced in the Toronto market than in Vancouver because prices rose less and incomes rose more. But Toronto-area homes remain very expensive by historical standards – our representative home now reach about \$840,000. First-time buyers can turn to condos, but even there the price of ownership is \$500,000. The monthly payment for a condo is now a record 41% of median income, compared to an average 29% since 2000 (chart).

Toronto: Housing affordability since 2000

Mortgage payments on a median-price home as % of median income (25-year amortization, 5-year term)

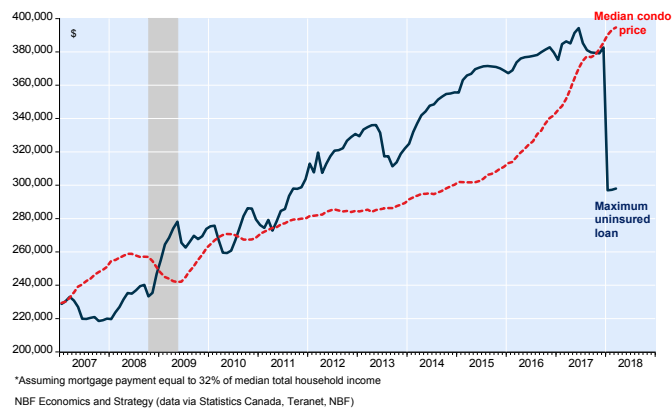


On top of rate rises, the stress-test measures introduced in January are further obstacles to homebuying. Even buyers putting up a down payment of 20% must now qualify for the higher of (1) the contracted rate plus 2 percentage points and (2) the posted rate of Canadian banks. By our calculation, the most that a median-income household

Housing Affordability Monitor

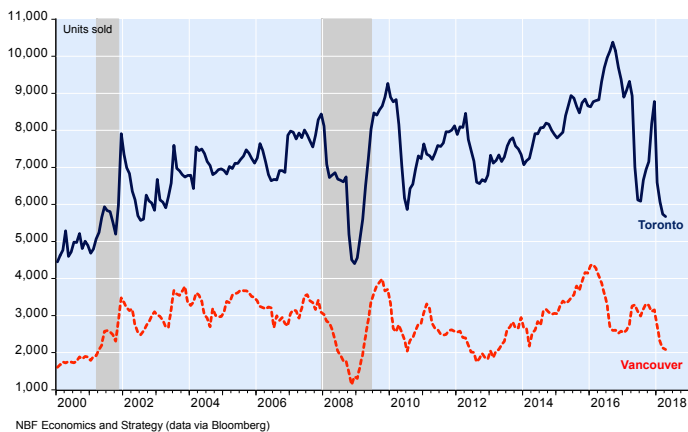
could borrow was reduced about 20% with the entry into effect of this measure (chart). The maximum loan amount is down to where it was in 2011 though interest rates are now 60 bps lower and incomes 17% higher than they were then. On the bright side, only 10% of recent mortgage applicants for uninsured loans would have been disqualified under the new rule which indicates that most households opt conservatively to apply for amounts well below the authorized limit¹.

Canada: Maximum uninsured loan and median condo price since 2007
Maximum mortgage loan based on qualifying rate and median household income (25-year amortization)*



The new measure, combined with interest-rate rises and the introduction of taxes on home purchases by foreigners, has eased pressures on the Toronto and Vancouver resale markets. In April, Toronto sales were at a 10-year low and Vancouver sales at a 5-year low.

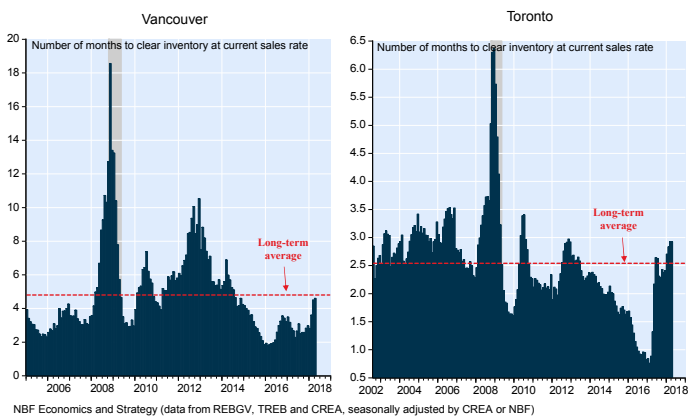
Sharp slowing of Toronto and Vancouver resales
Monthly sales of existing homes, seasonally adjusted



It is true that ratios of listings to sales have yet to herald a major correction of prices in these two markets. These ratios have simply returned to the neighbourhood of their

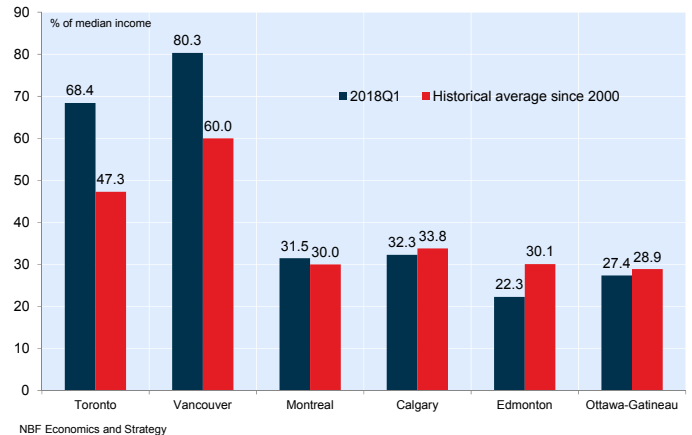
long-term averages (chart). But additional rate rises that we see coming could further slow these markets. Since we don't see how Vancouver and Toronto homebuyers could pay a higher share of their incomes for shelter, a downward adjustment of prices is conceivable. If our scenario for interest rates out to the end of 2019 materializes (+75 basis point on the 5-year mortgage rate), and assuming historically average income growth, prices would need to fall on the order of 2% to keep home affordability from deteriorating further. That being said, we do not rule out declines between 5% to 10% over this horizon in these two markets due to the lagged effect of macroprudential measures that have been put in place.

Toronto and Vancouver markets have become more balanced
Ratio of active listings to sales (last observation April 2018)



So home prices are likely to ease in the country's two largest markets (as measured by aggregate value of housing stock). In other large metropolitan areas the effect of macroprudential measures and rising rates is likely to be much smaller. These markets are still affordable by historical standards, suggesting that their buyers have some room to absorb higher mortgage payments (chart).

Excluding B.C. and Golden Horseshoe housing remains affordable
Mortgage payment on a median-price home as % of median income (25-year amortization, 5-year term)



Matthieu Arseneau / Kyle Dahms

¹ According to the November 2017 Financial System review of the Bank of Canada.

Housing Affordability Monitor

Housing affordability statistics

Table 1

	A	B	C	D	E	F	G	H	I	J	K	L	M
All dwellings	Median home price	Q/Q % change	Y/Y % change	Downpayment: Months of saving	Avg. Since 2000	Mortgage payment as % of income	Q/Q diff. PP	Y/Y diff. PP	Avg. Since 2000	Qualifying annual Income	Median annual Income	Home-ownership rate (2016)	Monthly mortgage payment
Urban Composite	\$ 568,083	1.2	6.0	57.7	32.8	48.4	1.2	3.6	39.5	\$ 100,078	\$ 66,104	68%	\$ 2,669
Toronto	\$ 843,227	1.0	3.7	102.5	42.9	68.4	1.2	3.3	47.3	\$ 148,549	\$ 69,483	66%	\$ 3,961
Montreal	\$ 328,600	1.3	6.1	33.6	24.5	31.5	0.8	2.5	30.0	\$ 57,889	\$ 58,740	56%	\$ 1,544
Vancouver	\$ 1,089,257	2.7	14.1	341.9	62.8	80.3	3.4	10.4	60.0	\$ 191,892	\$ 76,458	64%	\$ 5,117
Calgary	\$ 448,245	0.2	-0.1	34.3	26.7	32.3	0.8	0.4	33.8	\$ 78,966	\$ 78,316	73%	\$ 2,106
Edmonton	\$ 399,849	-0.6	0.0	23.7	23.4	22.3	0.4	0.3	30.1	\$ 70,440	\$101,193	70%	\$ 1,878
Ottawa/Gatineau	\$ 379,700	1.3	4.7	29.2	23.5	27.4	0.6	1.6	28.9	\$ 66,891	\$ 78,046	67%	\$ 1,784
Quebec	\$ 273,354	-2.5	-1.2	26.6	19.4	25.0	-0.3	0.3	23.3	\$ 48,156	\$ 61,729	60%	\$ 1,284
Winnipeg	\$ 319,124	0.1	3.7	28.4	20.5	26.7	0.9	2.3	24.9	\$ 56,219	\$ 67,502	67%	\$ 1,499
Hamilton	\$ 546,839	1.3	7.4	47.5	24.9	41.1	0.8	3.4	29.6	\$ 96,335	\$ 74,987	70%	\$ 2,569
Victoria	\$ 780,893	2.2	11.3	109.8	51.3	75.9	2.8	8.1	60.8	\$ 137,568	\$ 58,028	63%	\$ 3,668

Table 2

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Condo	Median home price	Q/Q % change	Y/Y % change	Downpayment: Months of saving	Avg. Since 2000	Mortgage payment as % of income	Q/Q diff. PP	Y/Y diff. PP	Avg. Since 2000	Qualifying Income	Median Income	Home-ownership rate (2016)	Monthly mortgage payment	Monthly average rent
Urban Composite	\$ 392,604	2.8	12.8	35.6	23.6	33.5	1.4	4.3	29.1	\$ 69,164	\$ 66,104	9%	\$ 1,844	\$ 1,812
Toronto	\$ 506,835	3.6	17.1	44.4	25.2	41.1	1.7	6.5	30.4	\$ 89,288	\$ 69,483	15%	\$ 2,381	\$ 2,309
Montreal	\$ 265,579	0.7	3.8	27.1	21.5	25.5	0.5	1.5	26.4	\$ 46,786	\$ 58,740	11%	\$ 1,248	\$ 1,182
Vancouver	\$ 627,635	6.3	23.2	59.3	30.5	46.3	3.5	9.0	37.2	\$ 110,569	\$ 76,458	22%	\$ 2,949	\$ 1,881
Calgary	\$ 271,658	-0.7	-4.4	20.8	19.0	19.6	0.3	-0.6	24.5	\$ 47,857	\$ 78,316	14%	\$ 1,276	\$ 1,512
Edmonton	\$ 232,459	-4.4	-5.1	13.8	15.6	13.0	-0.3	-0.5	20.5	\$ 40,952	\$101,193	12%	\$ 1,092	\$ 1,348
Ottawa/Gatineau	\$ 246,671	-0.7	1.8	19.0	17.0	17.8	0.0	0.6	21.0	\$ 43,455	\$ 78,046	9%	\$ 1,159	\$ 1,570
Quebec	\$ 209,850	-2.7	-2.8	20.4	15.9	19.2	-0.3	-0.1	19.2	\$ 36,969	\$ 61,729	9%	\$ 986	\$ 1,053
Winnipeg	\$ 231,436	-0.7	0.1	20.6	17.0	19.3	0.5	1.0	20.9	\$ 40,771	\$ 67,502	6%	\$ 1,087	\$ 1,383
Hamilton	\$ 424,306	2.5	11.5	34.0	19.7	31.9	1.0	3.7	23.8	\$ 74,749	\$ 74,987	11%	\$ 1,993	\$ 1,498
Victoria	\$ 462,720	1.3	14.5	47.8	30.7	45.0	1.3	6.0	39.0	\$ 81,516	\$ 58,028	14%	\$ 2,174	\$ 1,549

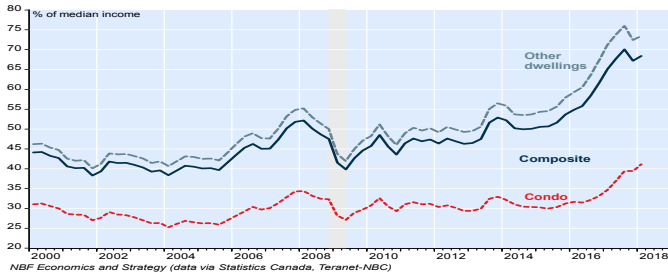
Table 3

	A	B	C	D	E	F	G	H	I	J	K	L	M
Other dwellings	Median home price	Q/Q % change	Y/Y % change	Downpayment: Months of saving	Avg. Since 2000	Mortgage payment as % of income	Q/Q diff. PP	Y/Y diff. PP	Avg. Since 2000	Qualifying Income	Median Income	Home-ownership rate (2016)	Monthly mortgage payment
Urban Composite	\$ 716,523	1.0	4.9	84.7	42.5	61.1	1.4	3.9	49.3	\$ 126,228	\$ 66,104	59%	\$ 3,366
Toronto	\$ 905,629	0.6	1.8	113.2	46.2	73.5	1.0	2.3	50.3	\$ 159,542	\$ 69,483	52%	\$ 4,254
Montreal	\$ 356,139	1.5	6.6	36.4	26.2	34.2	0.9	2.8	32.0	\$ 62,740	\$ 58,740	45%	\$ 1,673
Vancouver	\$ 1,335,541	1.9	12.2	419.2	96.3	98.5	3.5	11.3	71.8	\$ 235,279	\$ 76,458	42%	\$ 6,274
Calgary	\$ 506,916	0.3	0.5	39.4	29.5	36.5	0.9	0.7	37.3	\$ 89,302	\$ 78,316	59%	\$ 2,381
Edmonton	\$ 425,937	0.0	0.7	25.3	24.5	23.7	0.5	0.5	31.4	\$ 75,036	\$101,193	57%	\$ 2,001
Ottawa/Gatineau	\$ 410,657	1.6	5.0	31.6	25.1	29.7	0.7	1.9	30.9	\$ 72,344	\$ 78,046	58%	\$ 1,929
Quebec	\$ 279,458	-2.4	-0.9	27.2	19.7	25.5	-0.3	0.3	23.6	\$ 49,231	\$ 61,729	51%	\$ 1,313
Winnipeg	\$ 321,035	0.1	4.0	28.5	20.5	26.8	0.9	2.4	24.8	\$ 56,556	\$ 67,502	61%	\$ 1,508
Hamilton	\$ 581,866	1.1	6.9	53.1	26.7	43.7	0.8	3.4	31.4	\$ 102,506	\$ 74,987	60%	\$ 2,733
Victoria	\$ 827,850	2.3	10.7	119.5	54.5	80.4	3.1	8.3	63.8	\$ 145,840	\$ 58,028	49%	\$ 3,889

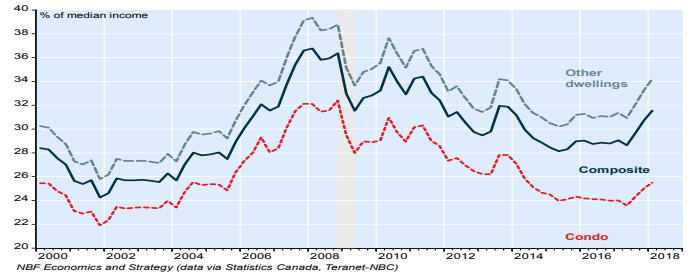
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Mortgage payment for a representative home as a % of income

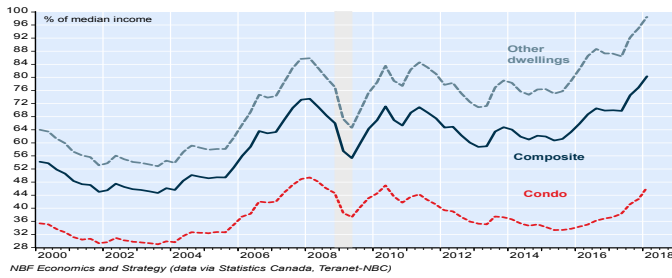
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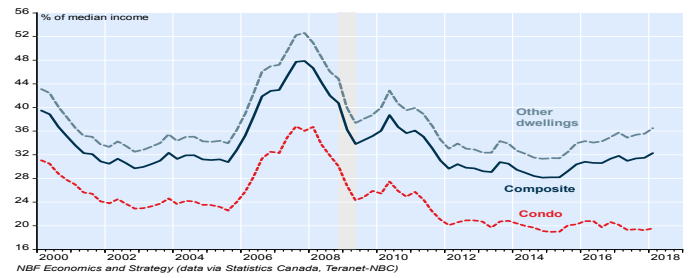
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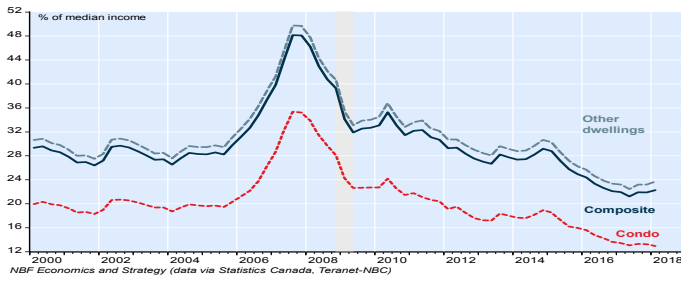
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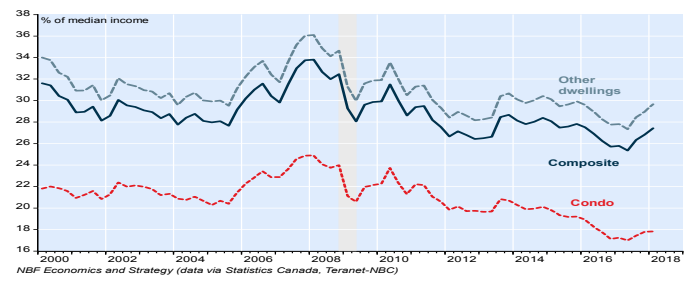
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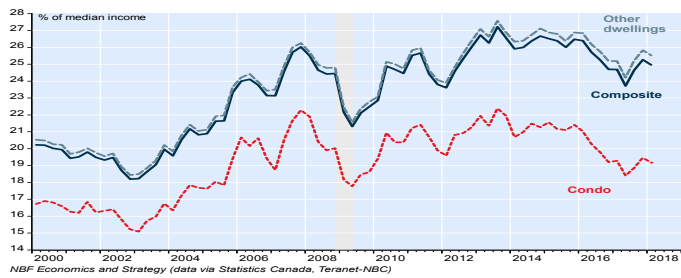
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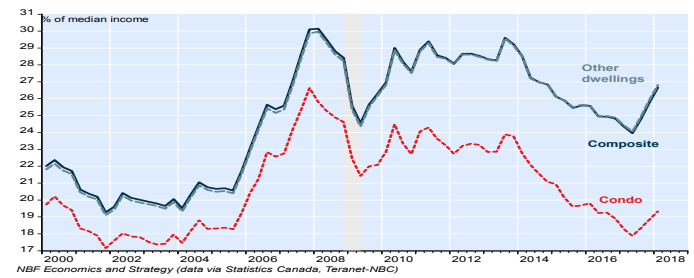
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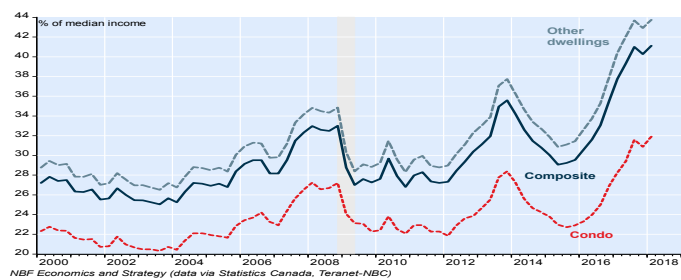
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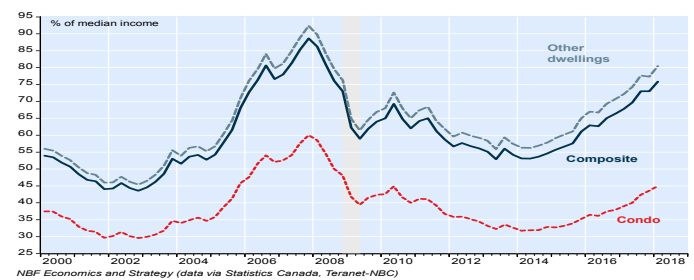
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HAMILTON



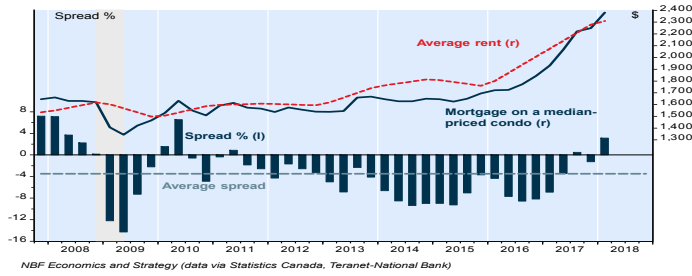
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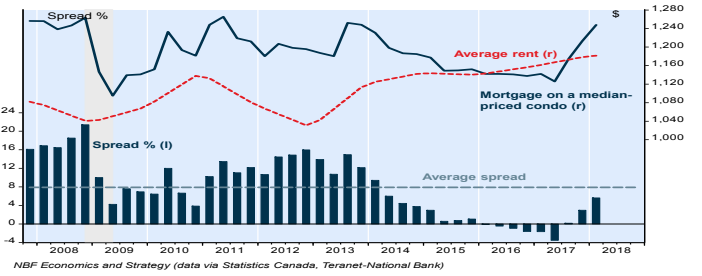
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Monthly rent vs. mortgage payment for a condo

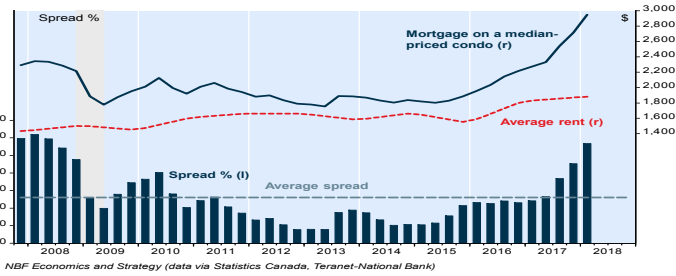
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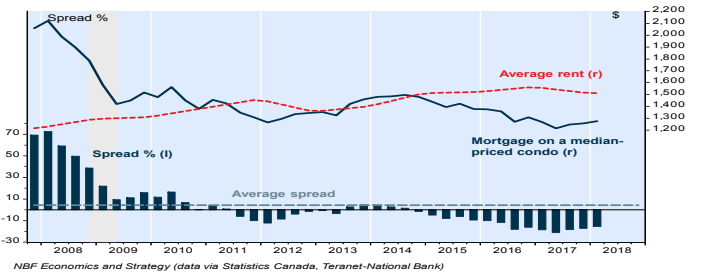
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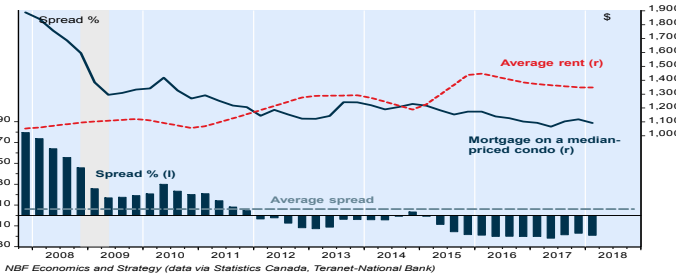
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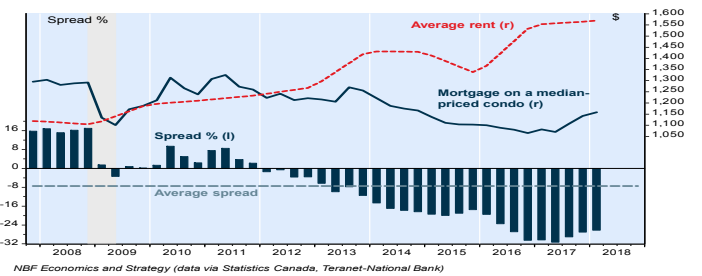
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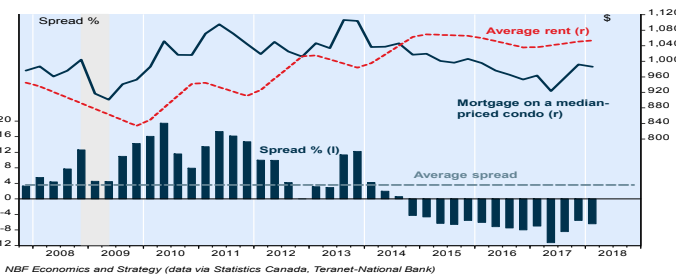
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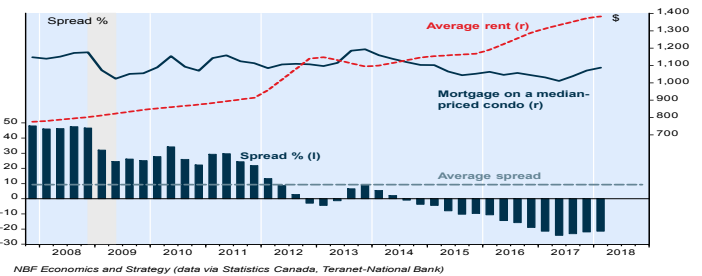
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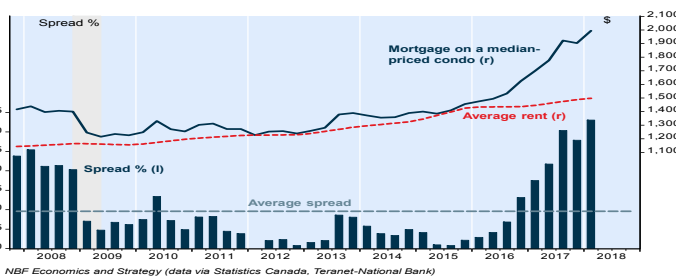
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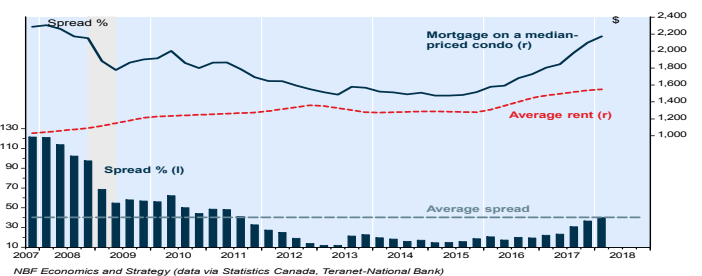
WINNIPEG



HAMILTON



VICTORIA



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 pre-tax 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 household devote 32% of its pre-tax income for mortgage payment (defined as **qualifying income**). 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.

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Housing Affordability Monitor

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