

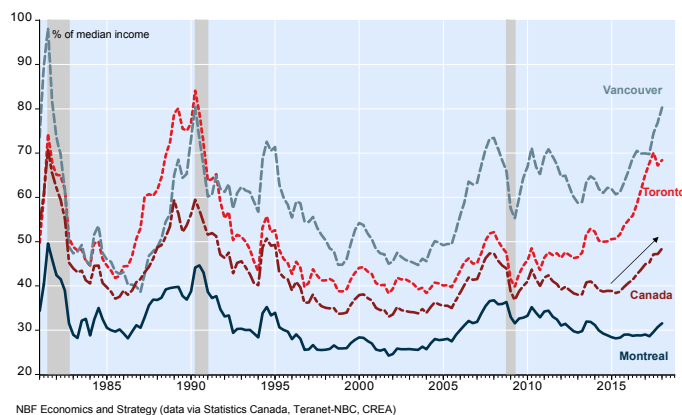
Rising interest rates crimped housing affordability in Q1

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

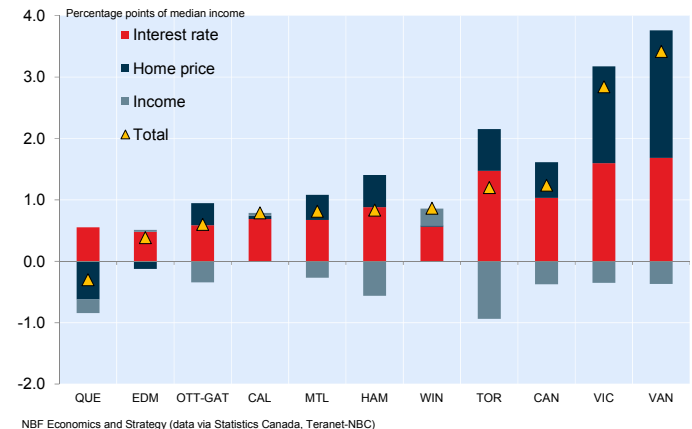
Mortgage payment on a median-price home as % of median income (25-year amortization, 5-year term)



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

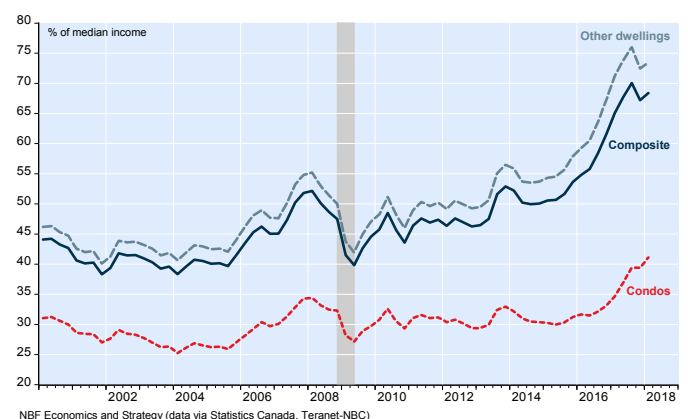
Q/Q change in mortgage payment on median-price home (25-year amortization, 5-year term)



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)

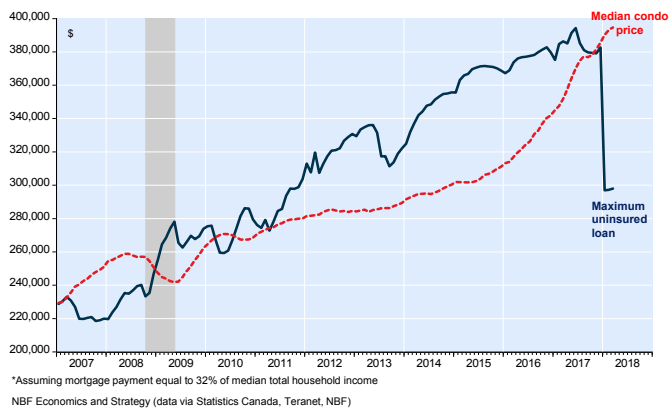


On top of rate rises, the stress-test measures introduced in January are further obstacles to homebuying. Even buyers putting up a down payment of 20% must now qualify for the higher of (1) the contracted rate plus 2 percentage points and (2) the posted rate of Canadian banks. By our calculation, the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

Housing Affordability Monitor

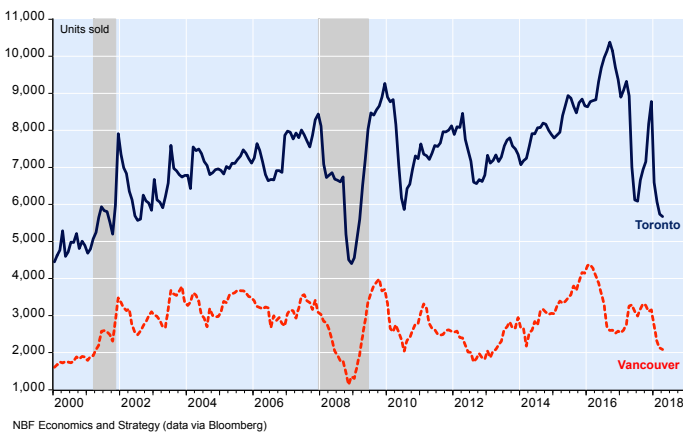
could borrow was reduced about 20% with the entry into effect of this measure (chart). The maximum loan amount is down to where it was in 2011 though interest rates are now 60 bps lower and incomes 17% higher than they were then. On the bright side, only 10% of recent mortgage applicants for uninsured 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.

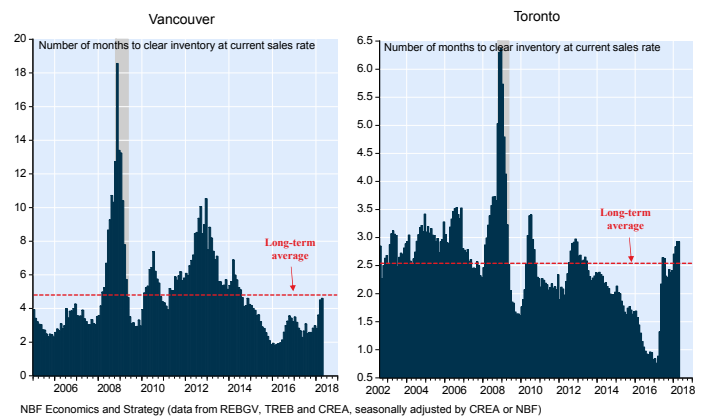
Sharp slowing of Toronto and Vancouver resales
Monthly sales of existing homes, seasonally adjusted



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

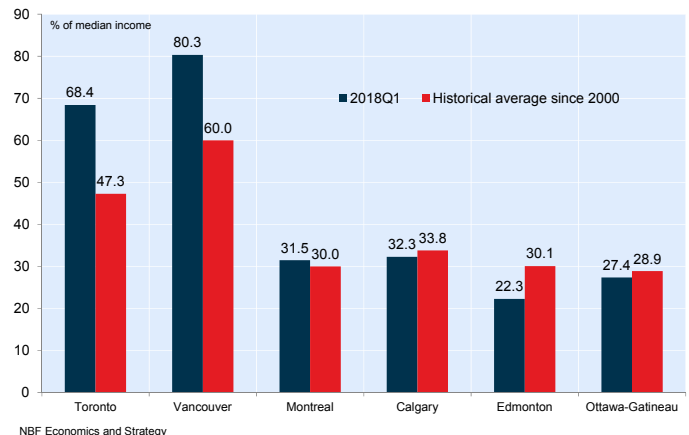
long-term averages (chart). But additional rate rises that we see coming could further slow these markets. Since we don't see how Vancouver and Toronto homebuyers could pay a higher share of their incomes for shelter, a downward adjustment of prices is conceivable. If our scenario for interest rates 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

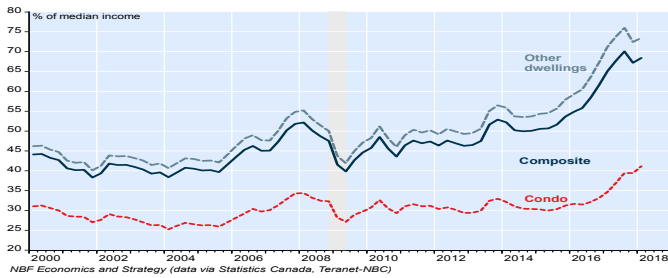
	A	B	C	D	E	F	G	H	I	J	K	L	M
Other dwellings	Median home price	Q/Q % change	Y/Y % change	Downpayment: Months of saving	Avg. Since 2000	Mortgage payment as % of income	Q/Q diff. PP	Y/Y diff. PP	Avg. Since 2000	Qualifying income	Median income	Home-ownership rate (2016)	Monthly mortgage payment
Urban Composite	\$ 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

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

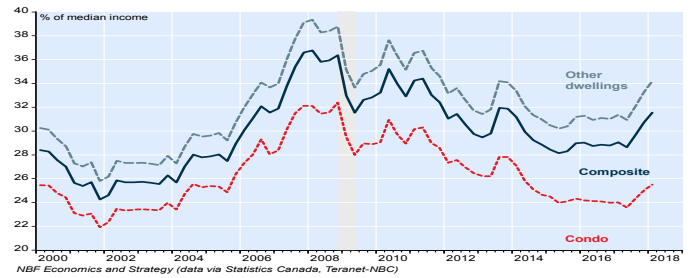
Housing Affordability Monitor

Mortgage payment for a representative home as a % of income

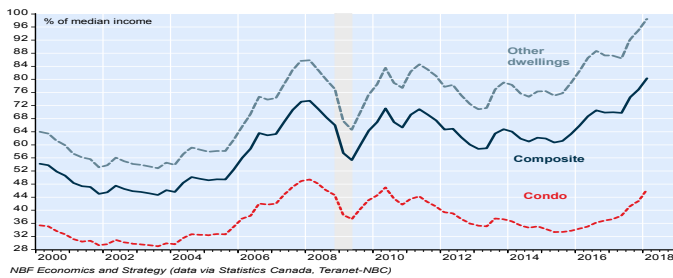
TORONTO



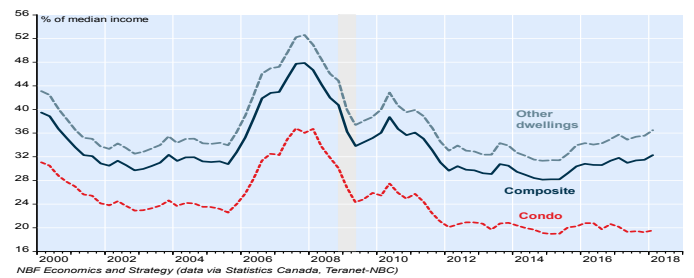
MONTREAL



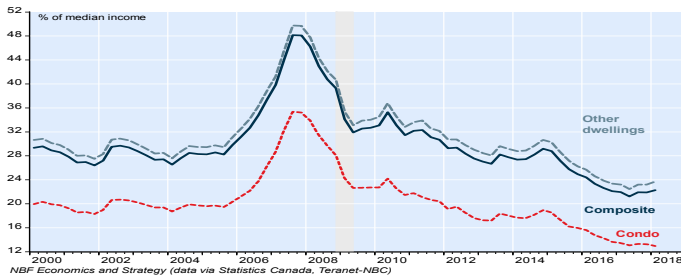
VANCOUVER



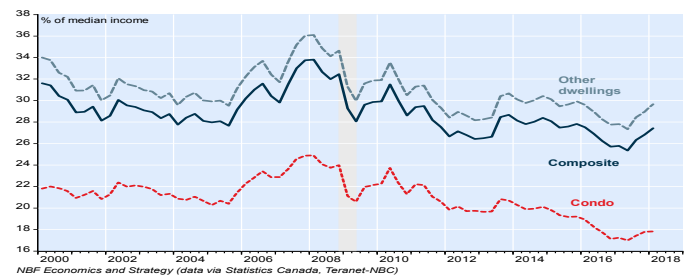
CALGARY



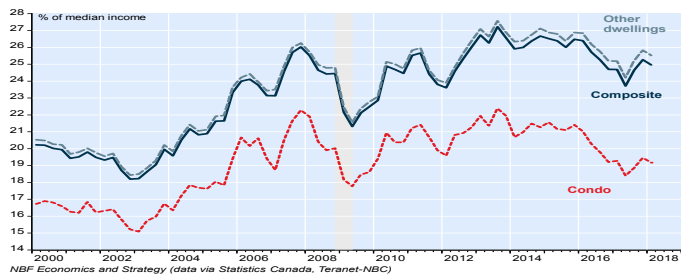
EDMONTON



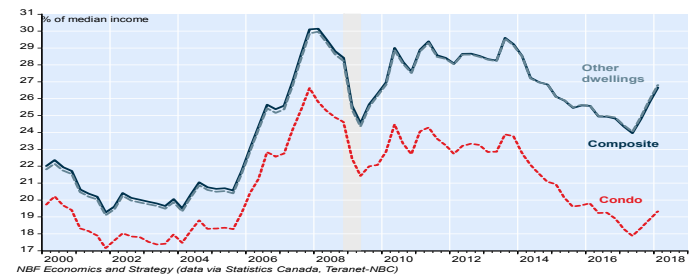
OTTAWA/GATINEAU



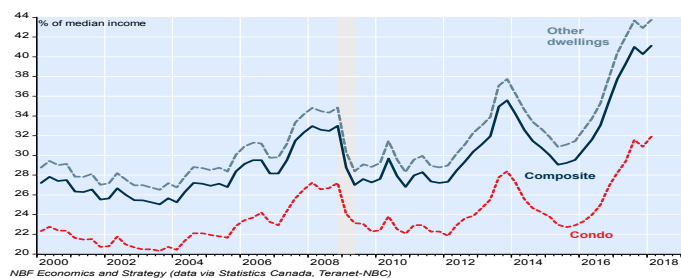
QUEBEC CITY



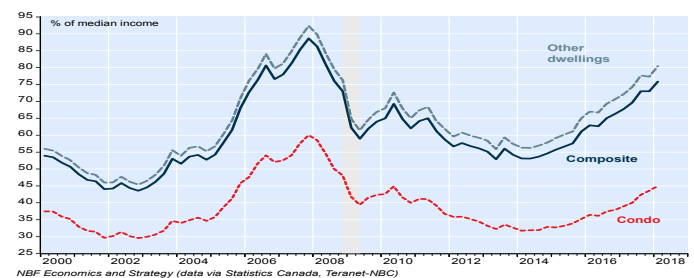
WINNIPEG



HAMILTON



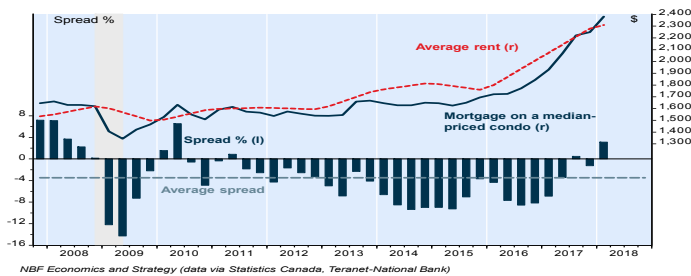
VICTORIA



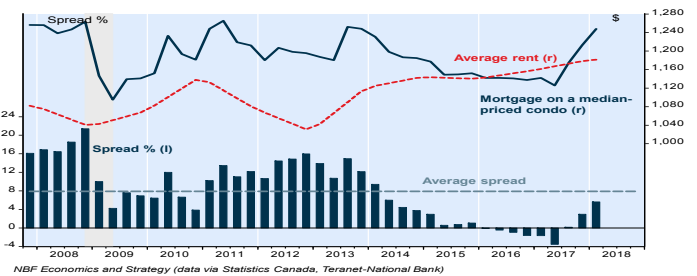
Housing Affordability Monitor

Monthly rent vs. mortgage payment for a condo

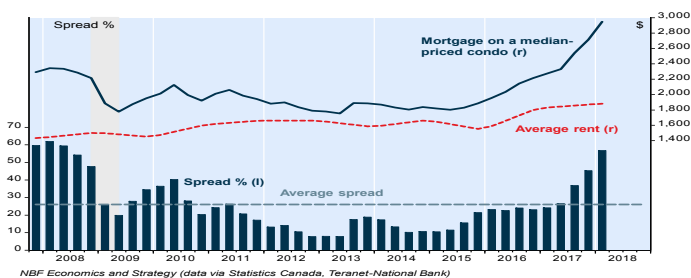
TORONTO



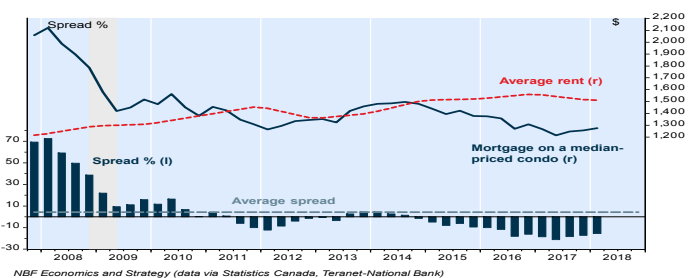
MONTREAL



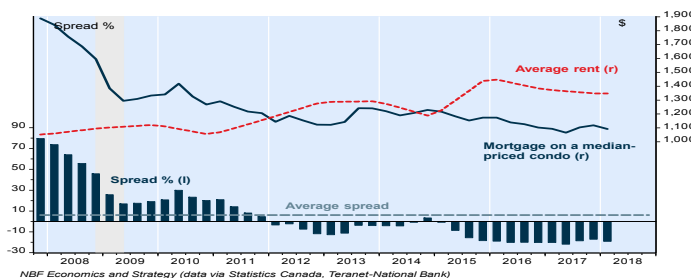
VANCOUVER



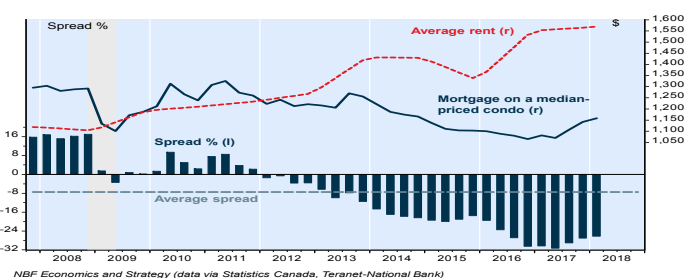
CALGARY



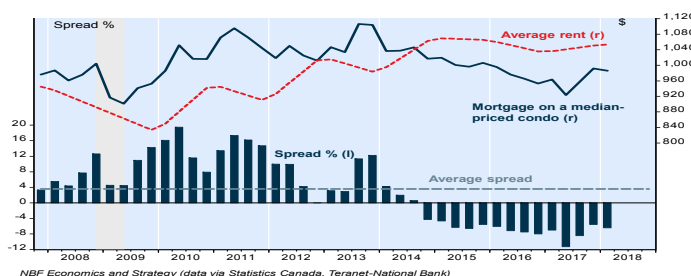
EDMONTON



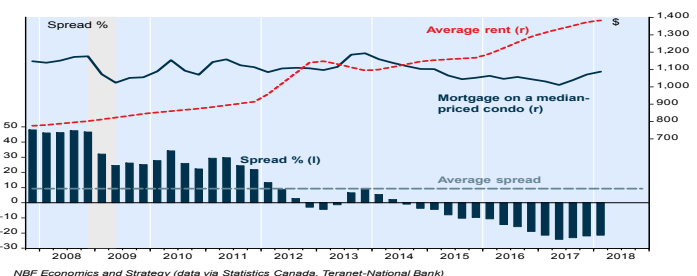
OTTAWA/GATINEAU



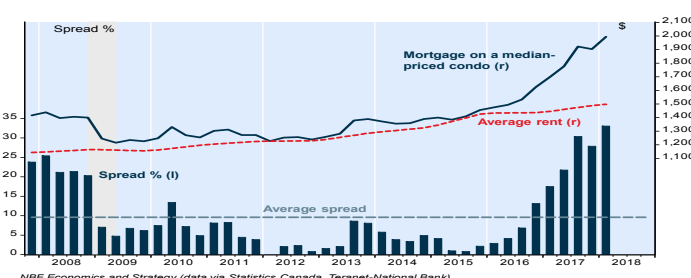
QUEBEC CITY



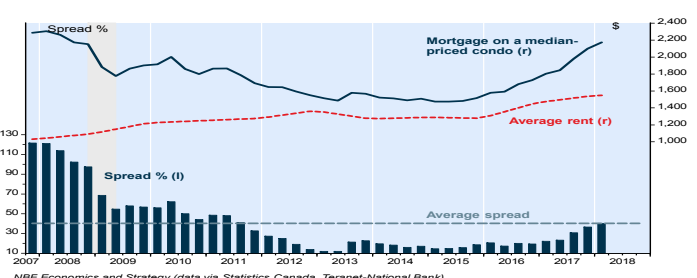
WINNIPEG



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.

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.

Housing Affordability Monitor

Economics and Strategy

Montreal Office 514-879-2529

Stéfane Marion

Chief Economist and Strategist
stefane.marion@nbc.ca

Paul-André Pinsonnault

Senior Fixed Income Economist
paulandre.pinsonnault@nbc.ca

Krishen Rangasamy

Senior Economist
krishen.rangasamy@nbc.ca

Marc Pinsonneault

Senior Economist
marc.pinsonneault@nbc.ca

Matthieu Arseneau

Senior Economist
matthieu.arseneau@nbc.ca

Angelo Katsoras

Geopolitical Analyst
angelo.katsoras@nbc.ca

Kyle Dahms

Economist
kyle.dahms@nbc.ca

Jocelyn Paquet

Economist
jocelyn.paquet@nbc.ca

Toronto Office 416-869-8598

Warren Lovely

MD & Head of Public Sector Strategy
warren.lovely@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.

National Bank Financial Inc. or an affiliate thereof, owns or controls an equity interest in TMX Group Limited ("TMX Group") and has a nominee director serving on the TMX Group's board of directors. As such, each such investment dealer may be considered to have an economic interest in the **listing of securities on any exchange owned or operated by TMX Group, including the Toronto Stock Exchange, the TSX Venture Exchange and the Alpha Exchange. No person or company is required to obtain products or services from TMX Group or its affiliates as a condition of any such dealer supplying or continuing to supply a product or service.**

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.

Housing Affordability Monitor

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, and the income derived from them, can go down as well as up and you may not get back the amount invested. Past performance is not a guide to future performance. If an investment is denominated in a foreign currency, rates of exchange may have an adverse effect on the value of the investment. 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 is not for distribution to retail clients (within the meaning of the rules of the Financial Conduct Authority). Persons who are retail clients should not act or rely upon the information in this Report. 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 any contract or commitment whatsoever.

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 has its registered office at 71 Fenchurch Street, London, EC3M 4HD.

NBF is not authorised by the Prudential Regulation Authority and the Financial Conduct Authority to accept deposits in the United Kingdom.

U.S. Residents

National Bank of Canada Financial Inc. (NBCFI), a broker-dealer registered with the U.S. Securities and Exchange Commission and a member of the Financial Industry Regulatory Authority (FINRA), and a member of the Securities Investor Protection Corporation (SIPC), is distributing this Report in the United States. NBCFI operates pursuant to a 15 a-6 Agreement with its Canadian affiliate, NBF Inc.

This Report has been prepared in whole or in part by personnel employed by non-US affiliates of NBCFI that are not registered as broker/dealers in the US. These non-US personnel are not registered as associated persons of NBCFI and are not licensed or qualified as research analysts with FINRA or any other US regulatory authority and, accordingly, may not be subject (among other things) to FINRA restrictions regarding communications by a research analyst with the subject company, public appearances by research analysts and trading securities held in a research analyst account.

The author(s) who prepared these Reports certify that this Report accurately reflects his or her personal opinions and views about the subject company or companies and its or their securities, and that no part of his/her compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this Report as to the securities or companies.

NBF compensates the authors of this Report from a variety of sources, and such compensation is funded by the business activities of NBF including, Institutional Equity and Fixed Income Sales and Trading, Retail Sales, the correspondent clearing business and Corporate and Investment Banking.

Because the views of its personnel may differ, members of the National Bank Financial Group may have or may in the future issue Reports that are inconsistent with this Report, or that reach conclusions different from those in this Report. To make further inquiry related to this Report, United States residents should contact their NBCFI registered representative.

This document is intended for institutional investors and is not subject to all of the independence and disclosure standards under FINRA rules applicable to debt research Reports prepared for retail investors. This Report may not be independent of the proprietary interests of NBF, NBCFI, or their affiliates. NBF, NBCFI, or their affiliates may trade the securities covered in this Report for their own account and on a discretionary basis on behalf of certain clients. Such trading interests may be contrary to **the recommendation(s) offered in this Report.**

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 Hong Kong; (ii) hold themselves out as carrying on a business in any regulated activity in Hong Kong; or (iii) actively market their services to the Hong Kong public.

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.