HOUSING MARKET UPDATE:

USA &

CANADA

June, 2019

LEGAL

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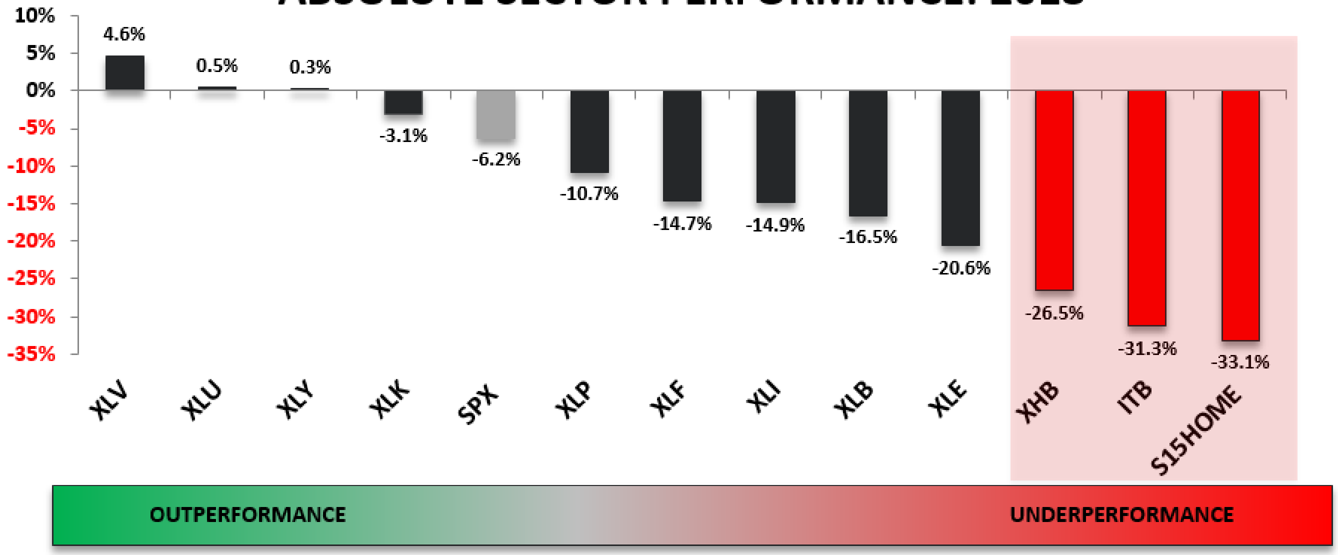
USA – HOUSING MARKET RECAP & OUTLOOK

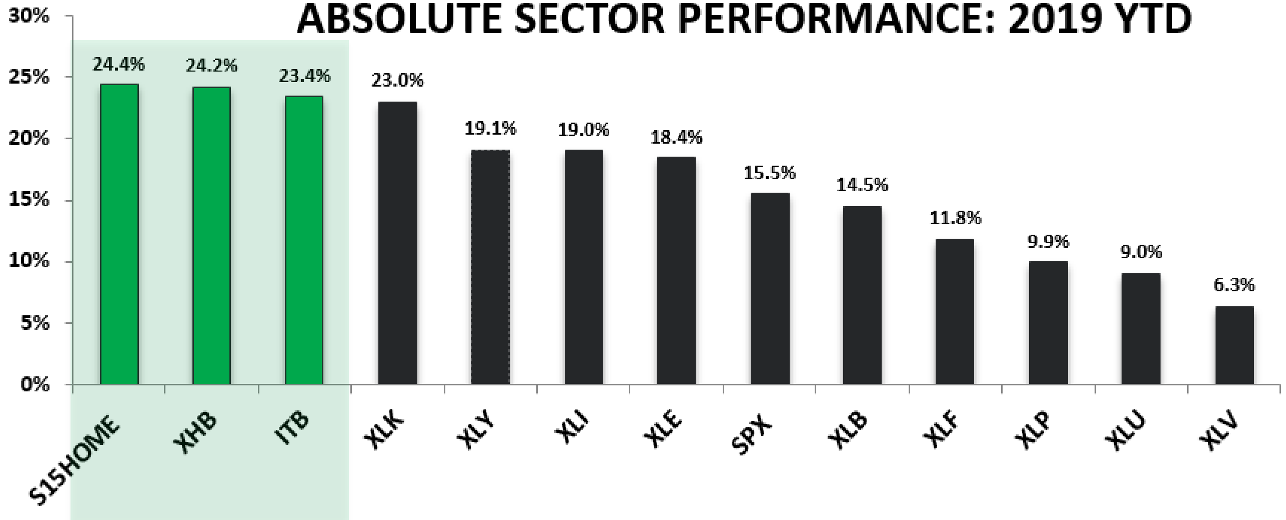
2019 HOUSING PERFORMANCE: ↑↑↑↑

FOR PERSPECTIVE, 2018 HOUSING EQUITY PERFORMANCE WAS EVEN WORSE THAN 2008, AND WAS THE SECOND WORST YEAR FOR PERFORMANCE IN THE LAST TWO DECADES. 2018: (-33.1%), 2007: (-55.5%), 2008: (-31.9%). BY CONTRAST, 2019 HAS HAD THE THIRD BEST START OF ANY YEAR IN THE LAST TWO DECADES

ABSOLUTE SECTOR PERFORMANCE: 2018



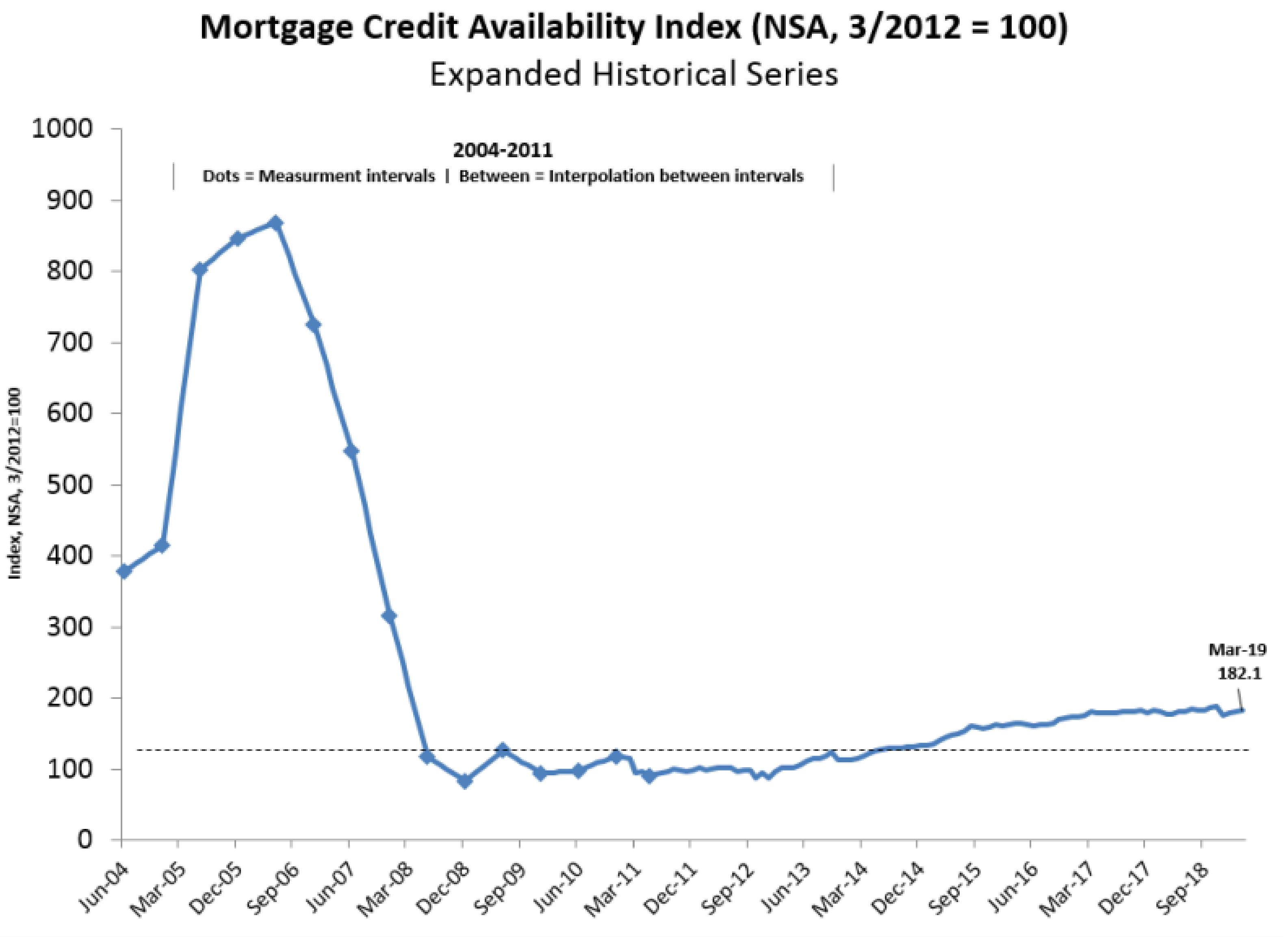
ABSOLUTE SECTOR PERFORMANCE: 2019 YTD



S15Home Index, Qtrly Performance

Year	1Q	2Q	3Q	4Q
2000	-3.4%	-5.5%	37.1%	22.7%
2001	5.5%	7.5%	-17.2%	45.5%
2002	8.8%	10.2%	-21.1%	1.1%
2003	3.5%	38.1%	8.9%	26.6%
2004	13.5%	-13.0%	13.8%	21.3%
2005	4.3%	20.5%	-4.4%	-4.3%
2006	-5.1%	-26.3%	0.8%	13.2%
2007	-19.2%	-9.3%	-34.8%	-6.9%
2008	15.6%	-29.4%	24.0%	-32.7%
2009	-4.3%	3.6%	24.7%	-4.5%
2010	13.7%	-21.0%	8.4%	5.2%
2011	-0.3%	-1.6%	-28.7%	34.4%
2012	24.3%	20.5%	15.7%	6.4%
2013	13.4%	-9.6%	-5.2%	14.0%
2014	-2.8%	5.4%	-12.3%	15.3%
2015	11.6%	-2.9%	-3.4%	1.1%
2016	-2.2%	1.6%	-1.7%	-2.5%
2017	20.4%	7.3%	9.2%	23.9%
2018	-11.2%	-4.9%	-10.1%	-11.9%
2019	18.4%			
Ave	4.0%	-0.1%	-1.0%	8.4%
Median	4.3%	0.0%	-2.5%	5.8%
% Time (+)	55%	47%	47%	68%
% Time (-)	45%	53%	53%	32%

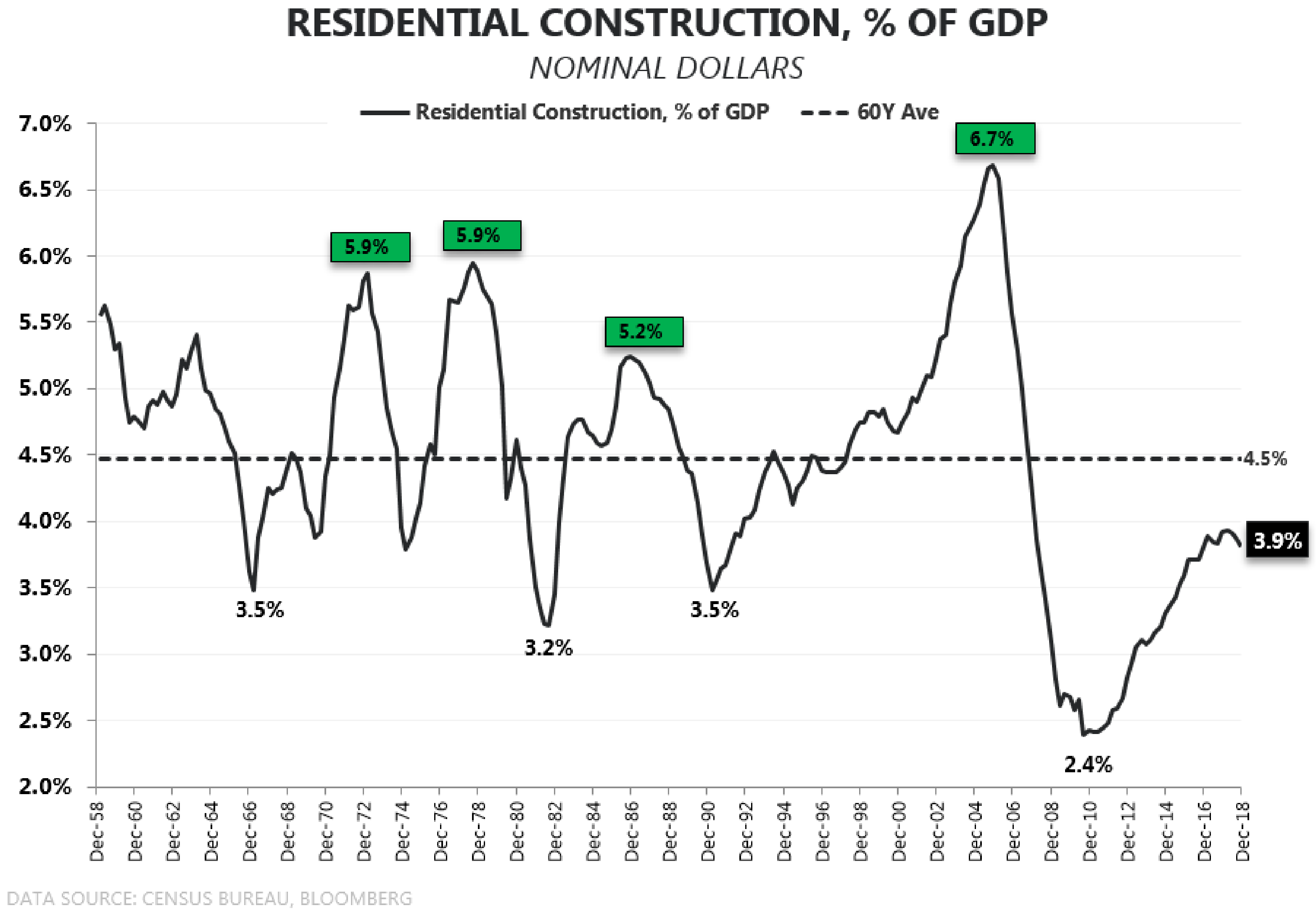
THE CREDIT BOX – 2004 TO PRESENT



DATA SOURCE: MORTGAGE BANKERS ASSOCIATION; POWERED BY ELLIE MAE'S ALLREGS® MARKET CLARITY

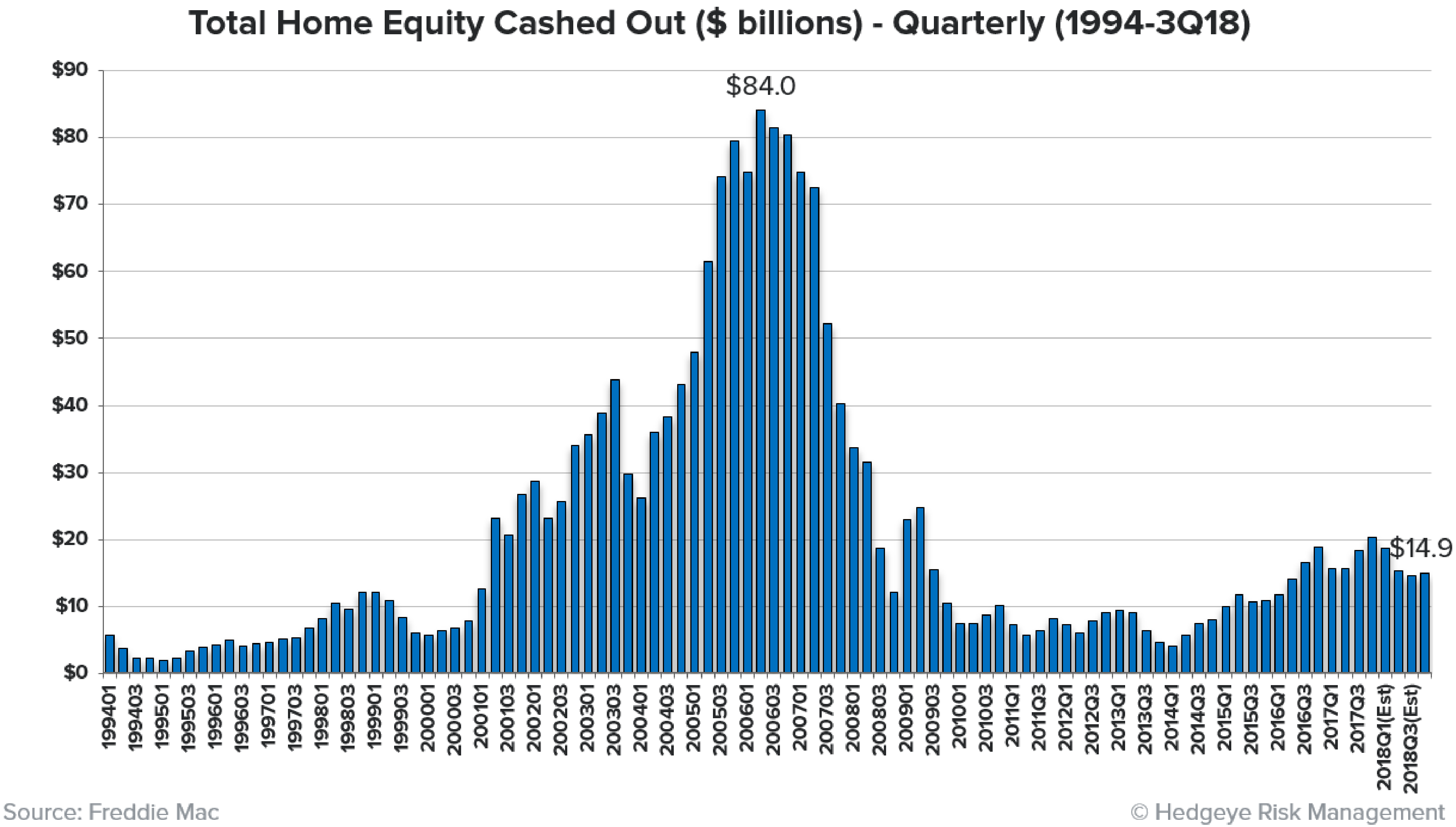
THE HOUSING CYCLE IS (STILL) MID-CYCLE

REMARKABLY, DESPITE ONE OF THE LONGEST EXPANSIONS EVER AND 6 YEARS OF STEADY IMPROVEMENT IN THE HOUSING MARKET, RESIDENTIAL CONSTRUCTION AS A SHARE OF GDP REMAINS WELL BELOW EVEN AVERAGE LEVELS OBSERVED OVER PRIOR CYCLES. THE RECENT 4Q18 DIP WAS ATTRIBUTABLE TO THE 2018 RATE SHOCK.



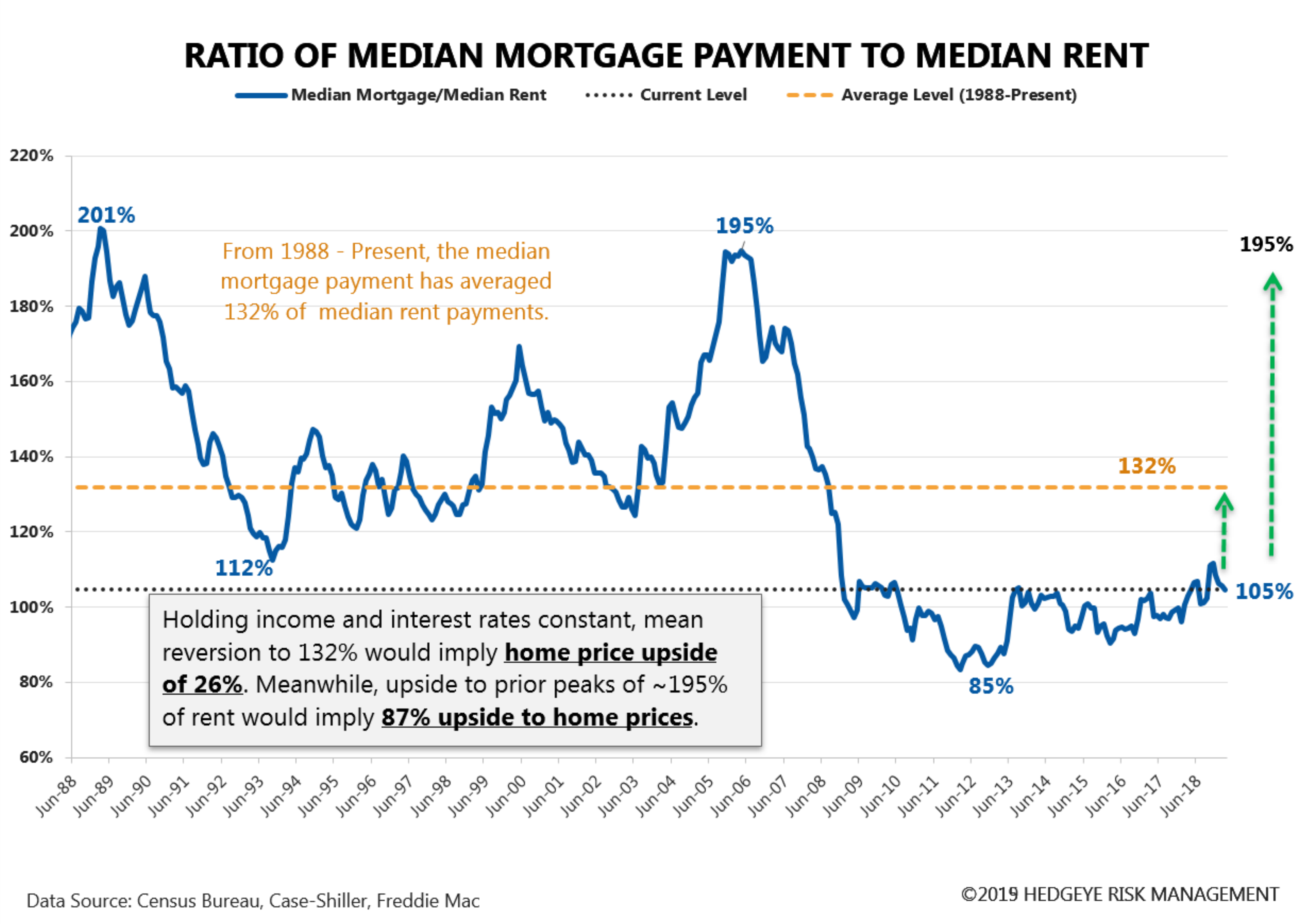
DATA SOURCE: BLOOMBERG

IRRATIONAL EXUBERANCE?



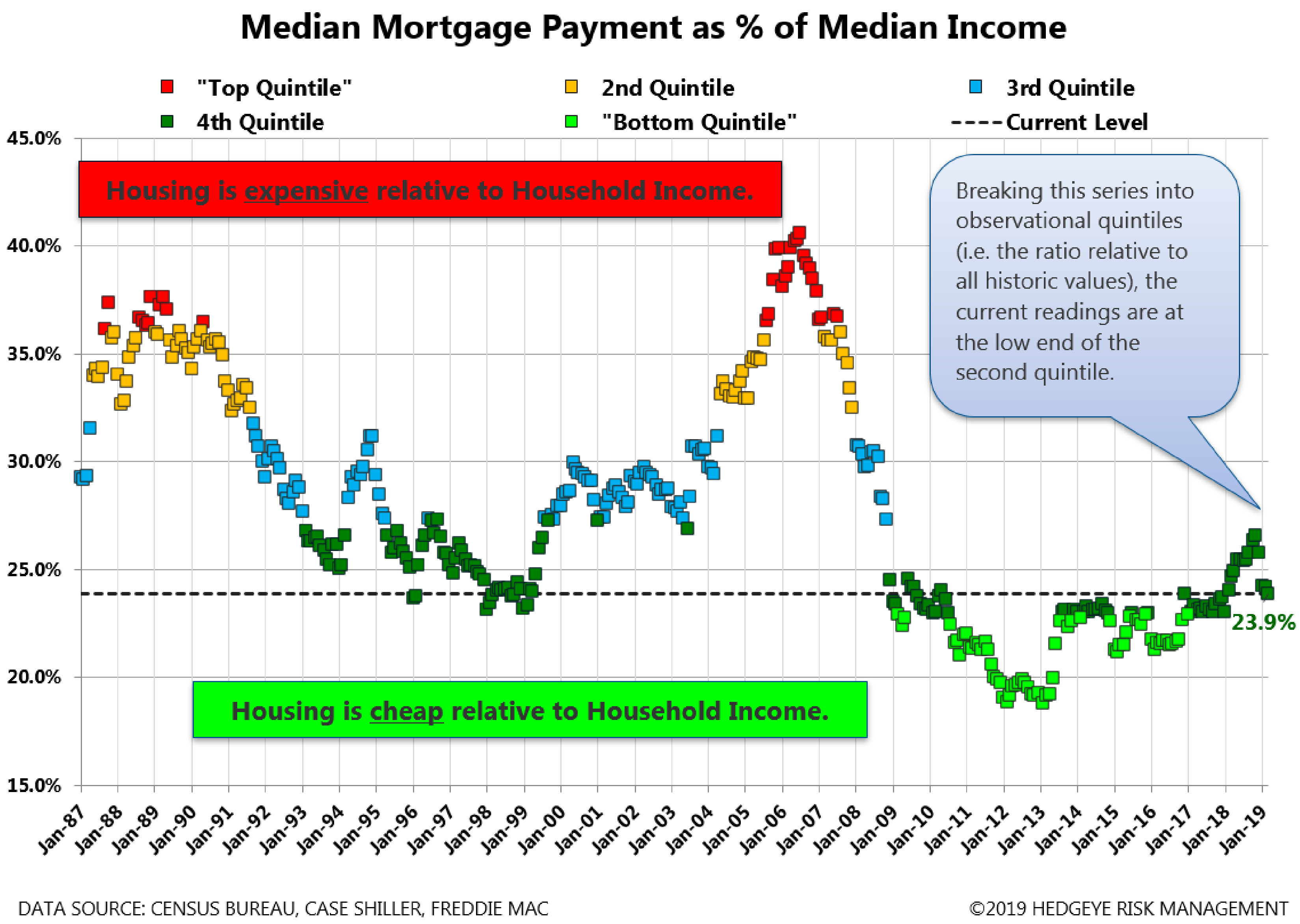
Cash-out refi home equity withdrawal amounts reached obscene levels in the 2005-2007 period, averaging $70-80 billion per quarter. Currently, levels are in the $10-20 billion range per quarter, and that's not adjusted for inflation, which means today's equity extraction is still running below 1/5th of what occurred during the bubble.

MEDIAN MORTGAGE TO RENT = (STILL) FAVORABLE



Historically, mortgage payments have peaked around 2x rent payments nationally and troughed near parity, which is where they stand today.

AFFORDABILITY REMAINS FAVORABLE NATIONALLY

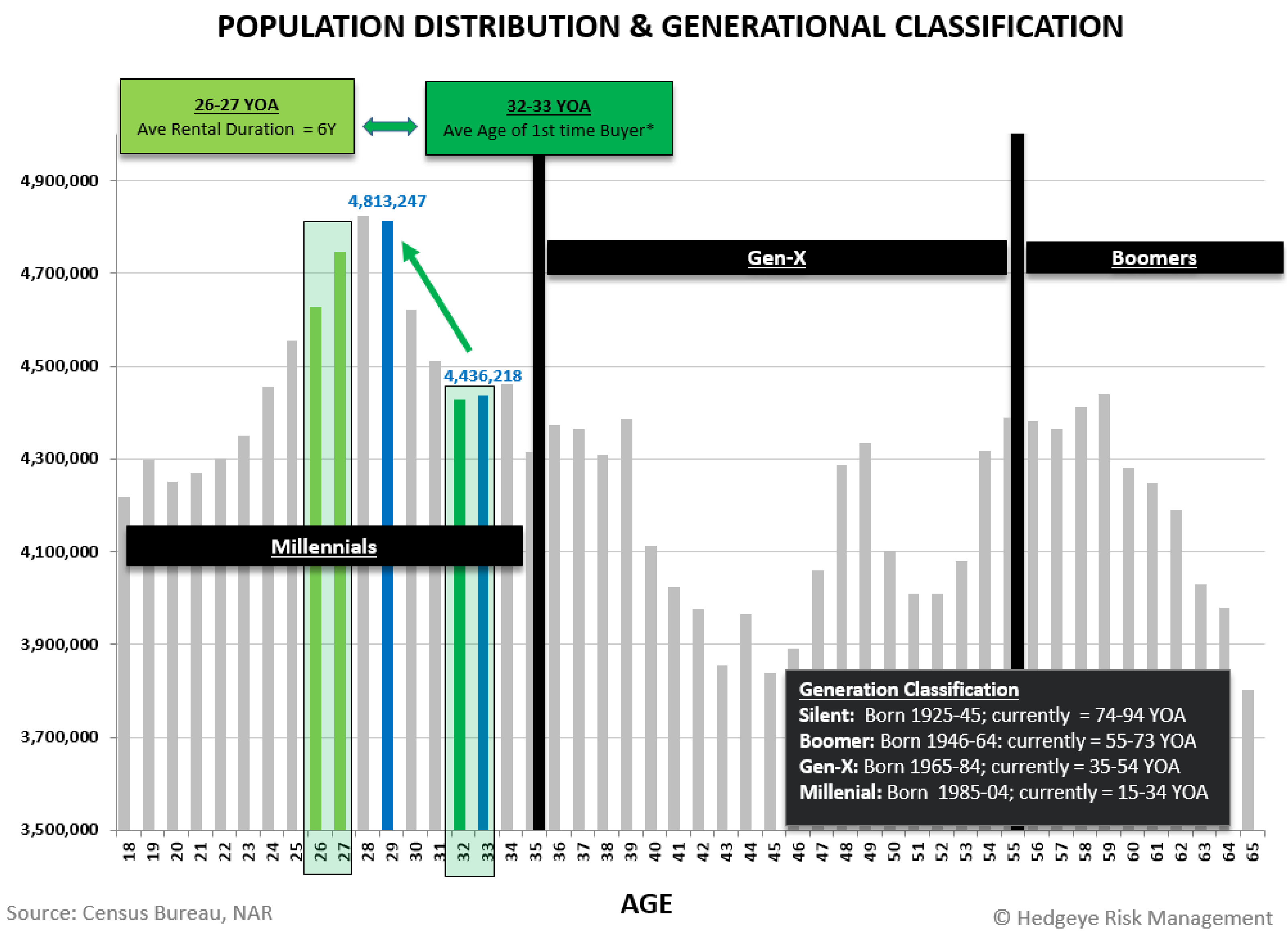


Based on the last 3 decades of data, Housing is still cheap vs national income.

The green quintile bands indicate early cycle and a go-forward tailwind for housing, while the red band signals very late cycle and an incoming correction/crash.

As can be seen, the formation of data over the past few months is still in the green, retracing back towards the bottom quintile alongside falling mortgage rates.

LONGER-TERM → THE DEMOGRAPHIC DEMAND WAVE



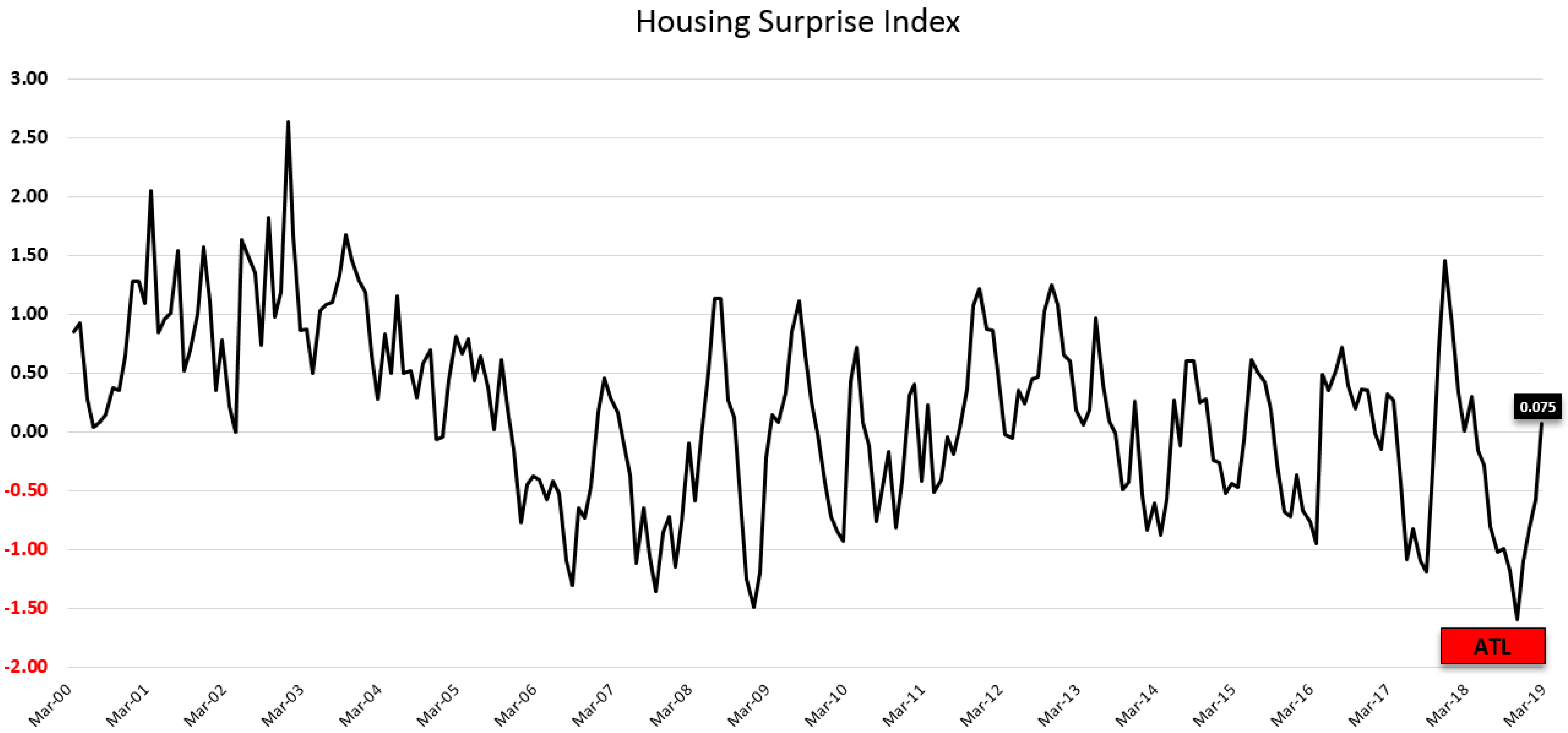
Knowing that the median first time buyer age is 32/33 is critical because it allows us to look at the coming demographic wave.

This chart shows the size of the current 32/33 YOA cohort – roughly 4.4 million. The 28/29 YOA cohort is 4.8 million by comparison.

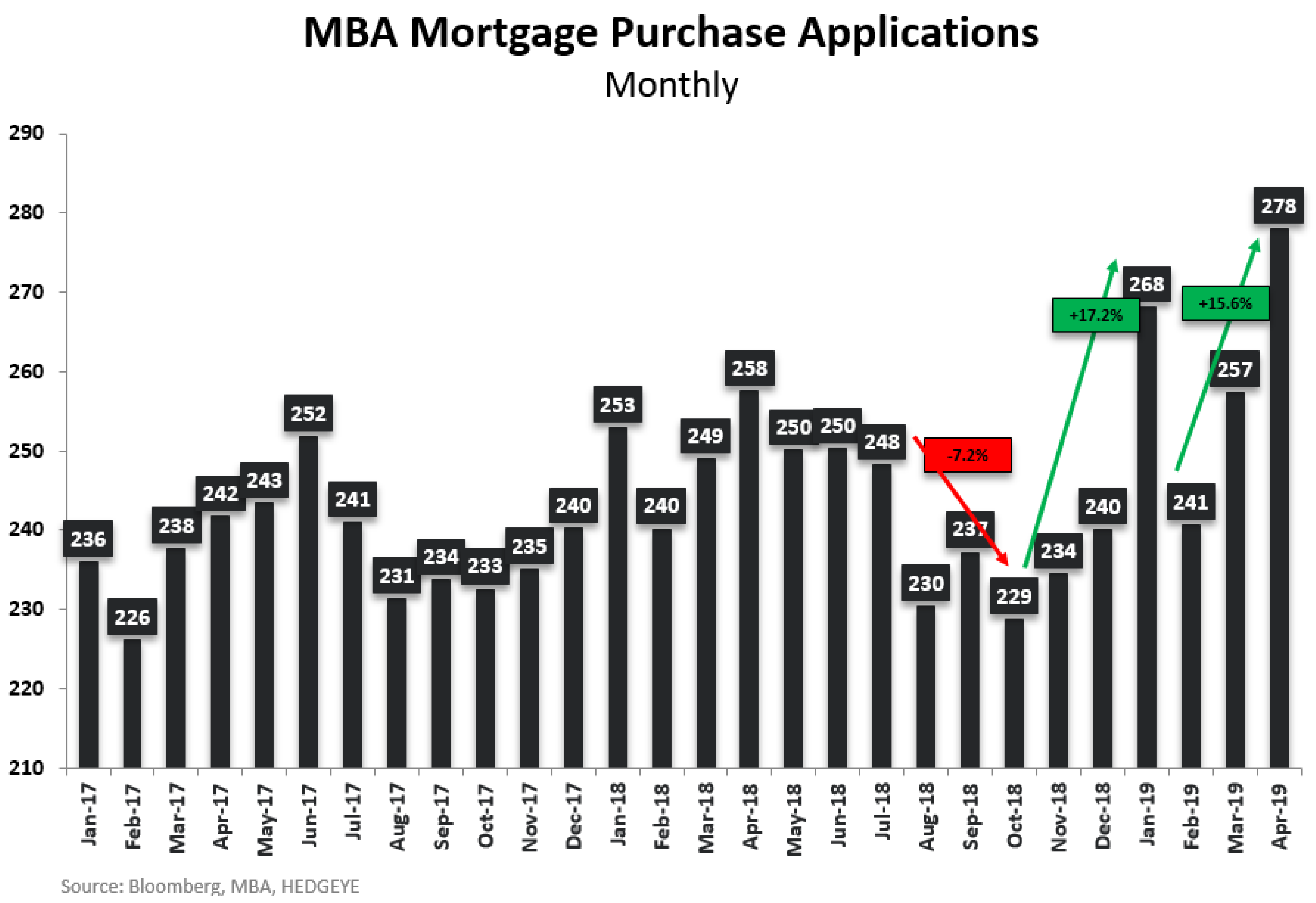
As those 28/29 year-olds matriculate to the purchase market, 2020-2023 should see an extraordinary housing bull market.

HOUSING DATA → THE BOUNCE

FOLLOWING THE POSTING OF AN ALL TIME LOW LATE LAST YEAR, THE HOUSING SURPRISE INDEX HAS RALLIED IMPRESSIVELY THROUGH THE FIRST THREE MONTHS OF THE YEAR



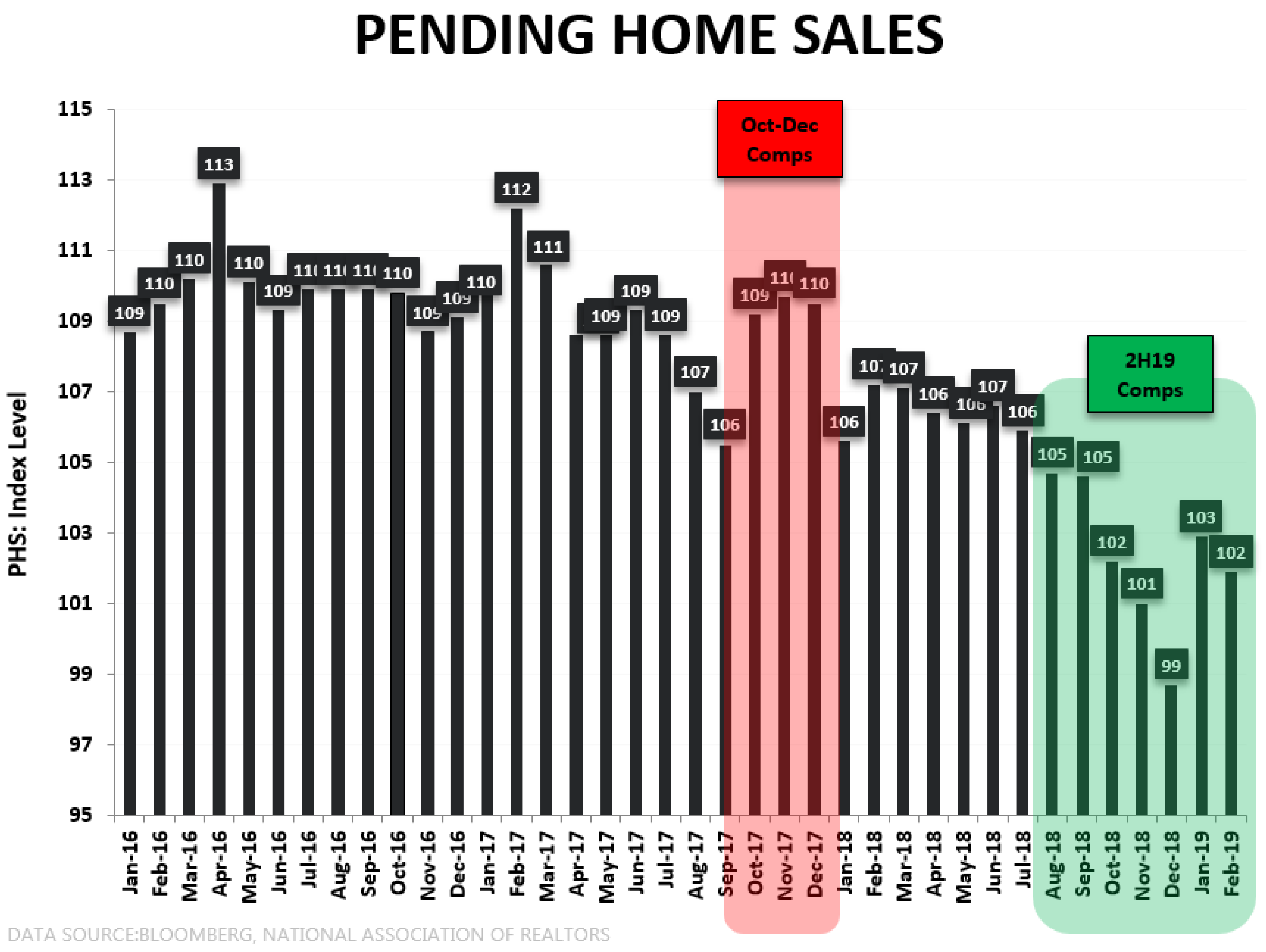
PURCHASE DEMAND: THE 2H18 FALL ➔ 1Q19 REBOUND



The Purchase Party soldiers on alongside the cratering in rates.

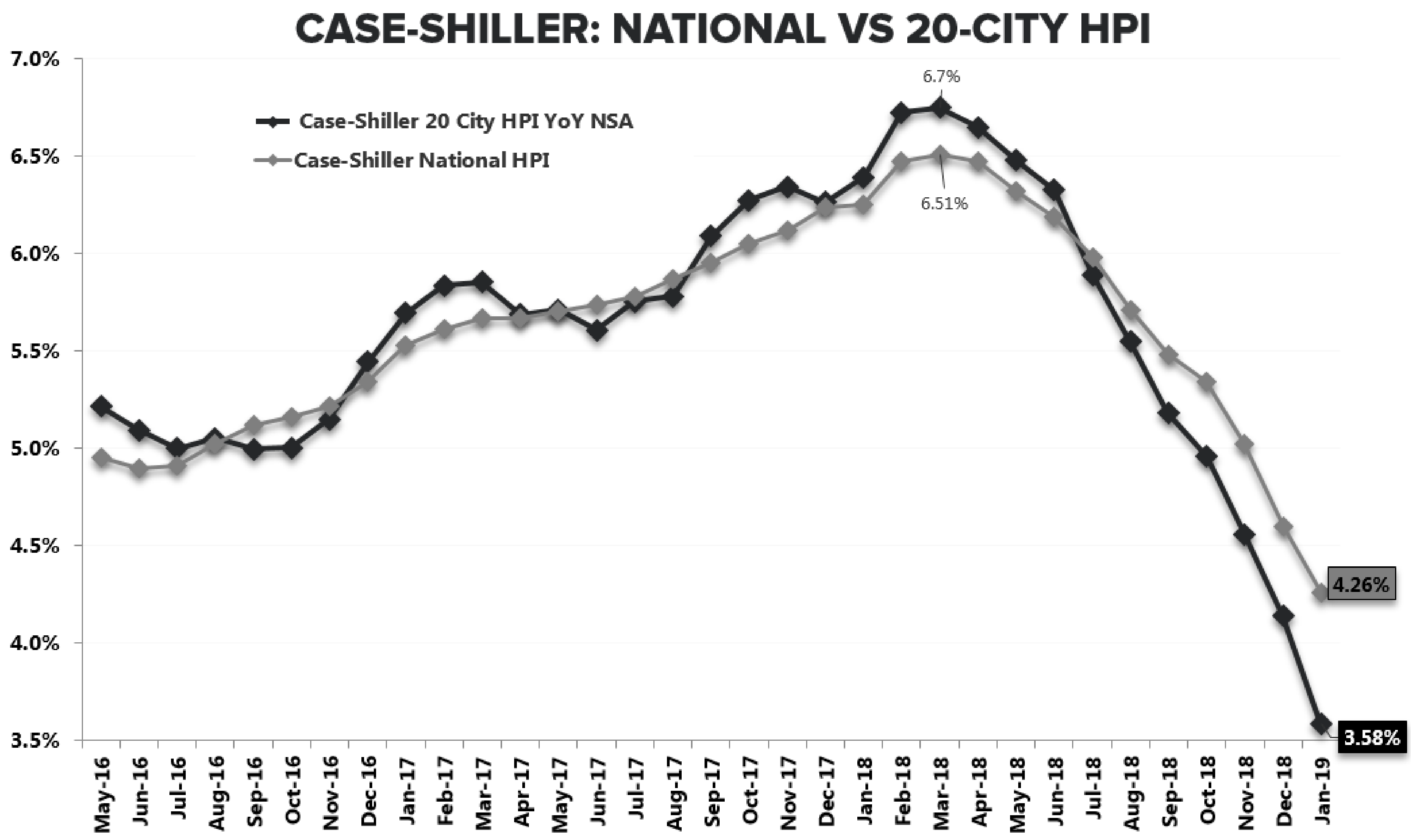
Purchase Apps have been running at their best level since 2010 in recent weeks and early April data is signaling another month of solidity.

PHS = YTD BOUNCE, BUT STILL WEAK



Pending Home Sales declined precipitously in Oct/Nov/Dec only to rebound in Jan/Feb. However, the rebound has not returned PHS to its 1H18 level of activity. Based on this, comps will remain a headwind for the sales of existing homes through July and won't meaningfully ease until October, setting the stage for another 4Q19/1Q20 less-bad-is-good rally.

HPI = FADING FAST

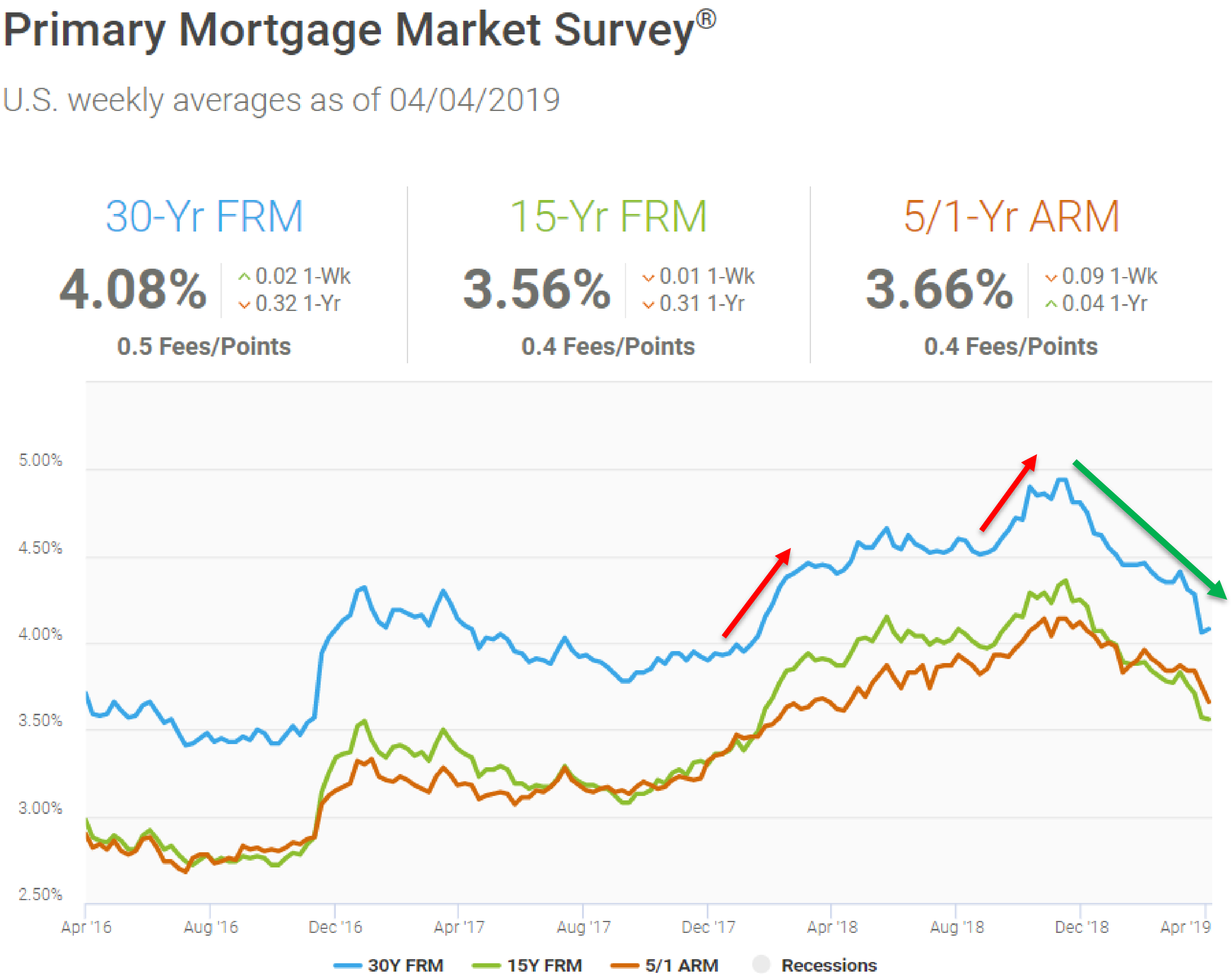


DATA SOURCE: BLOOMBERG

Rising rates and declining affordability drove a decline in volume → leading to a change in behavior and increased price cutting by sellers on a lag → which is showing up in closed transaction prices on a further lag.

All three primary price indices – Case-Shiller, FHFA & CoreLogic – are currently entrenched in multi-month slowdowns.

RATES RISING → LAGGED EFFECTS

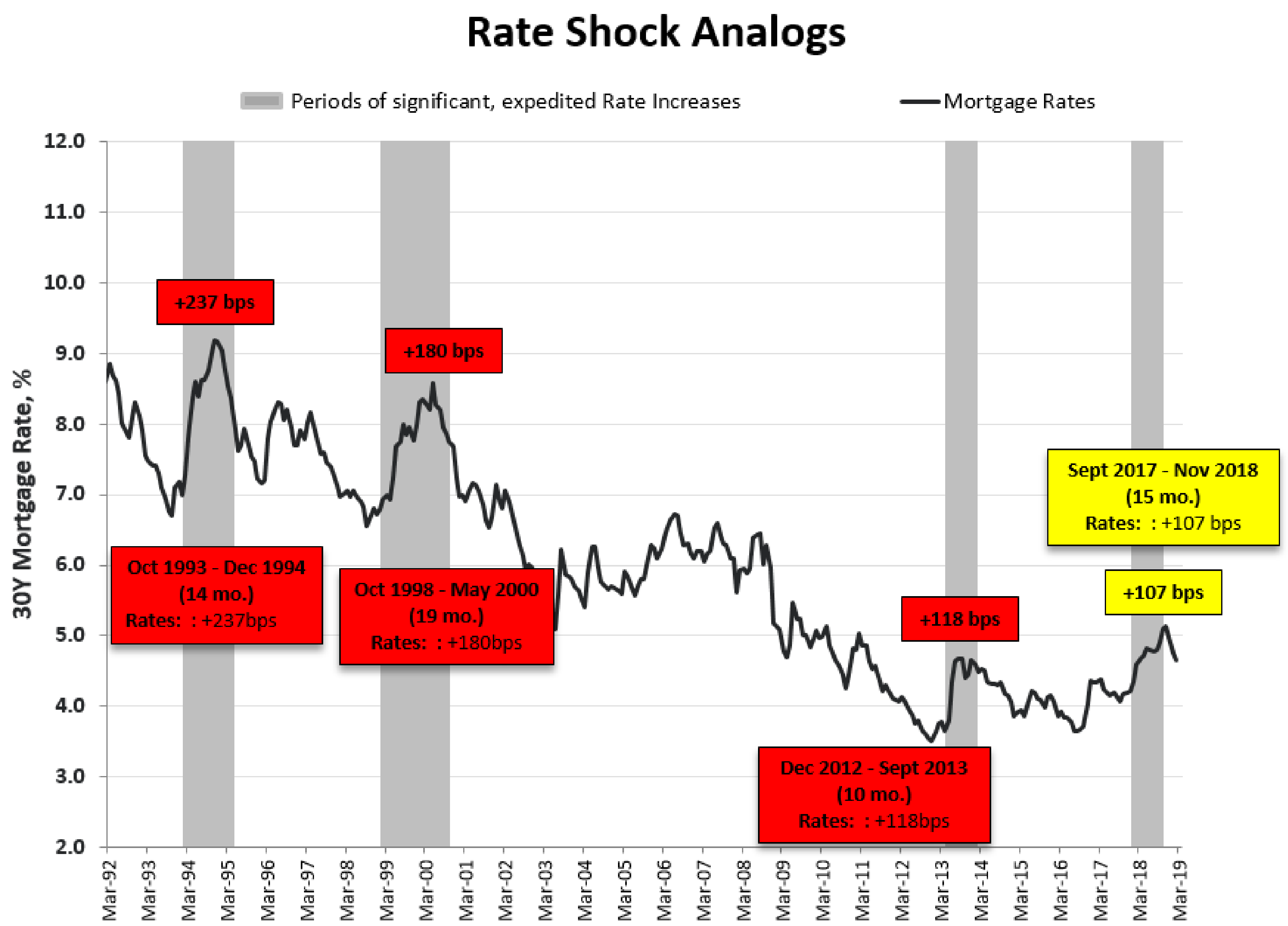


Rates step functioned higher in 1Q18 and again into 4Q18, but have backed off approximately -90bps of the 4Q18 peak.

Rate shocks (in both directions) flow through the fundamental data on a variable lag. The market discounts them more efficiently with prices reflecting the probably flow through impact well before they are reflected in fundamental trends.

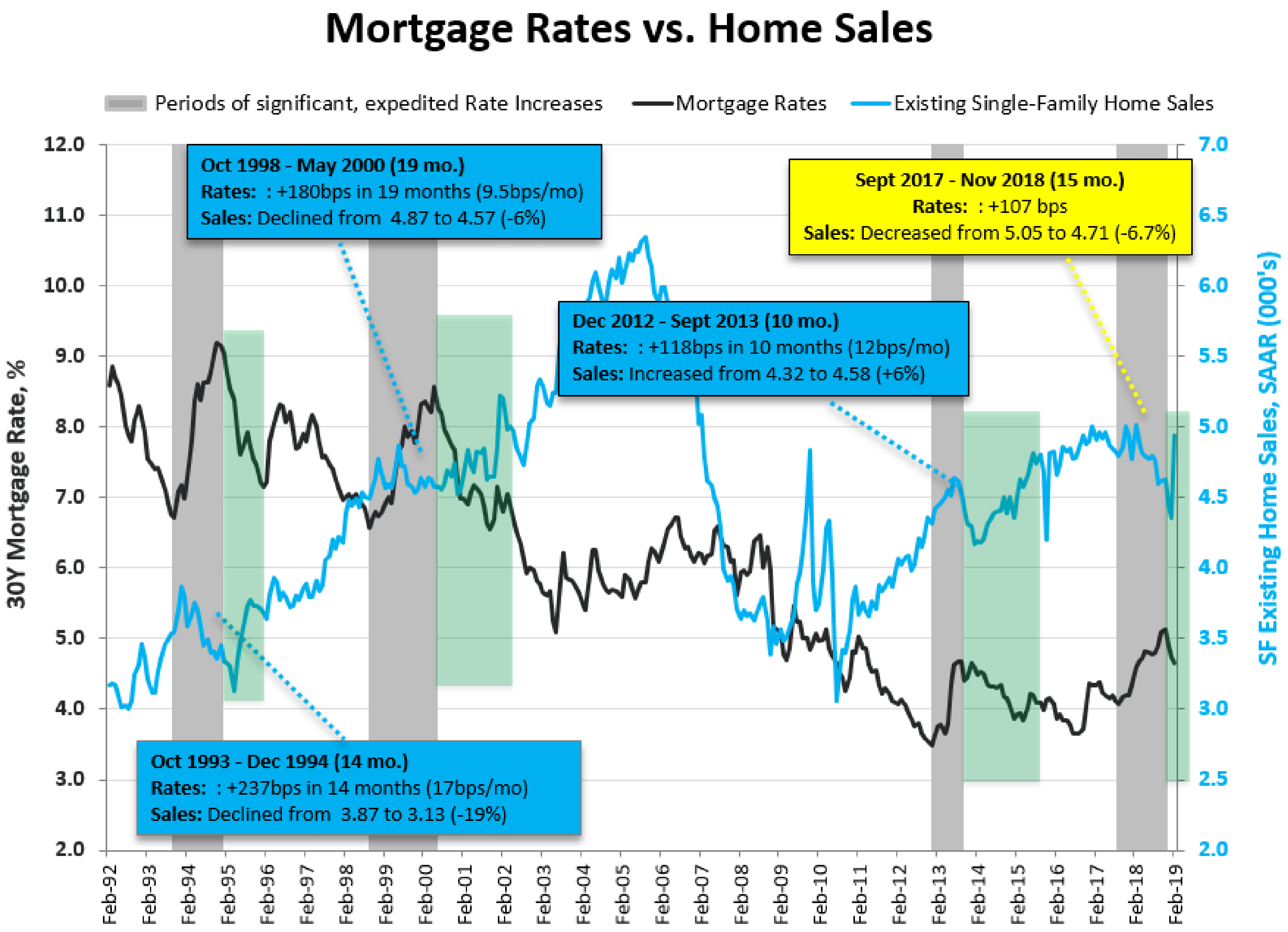
Data Source: Freddie Mac

RATE SHOCK REDUX



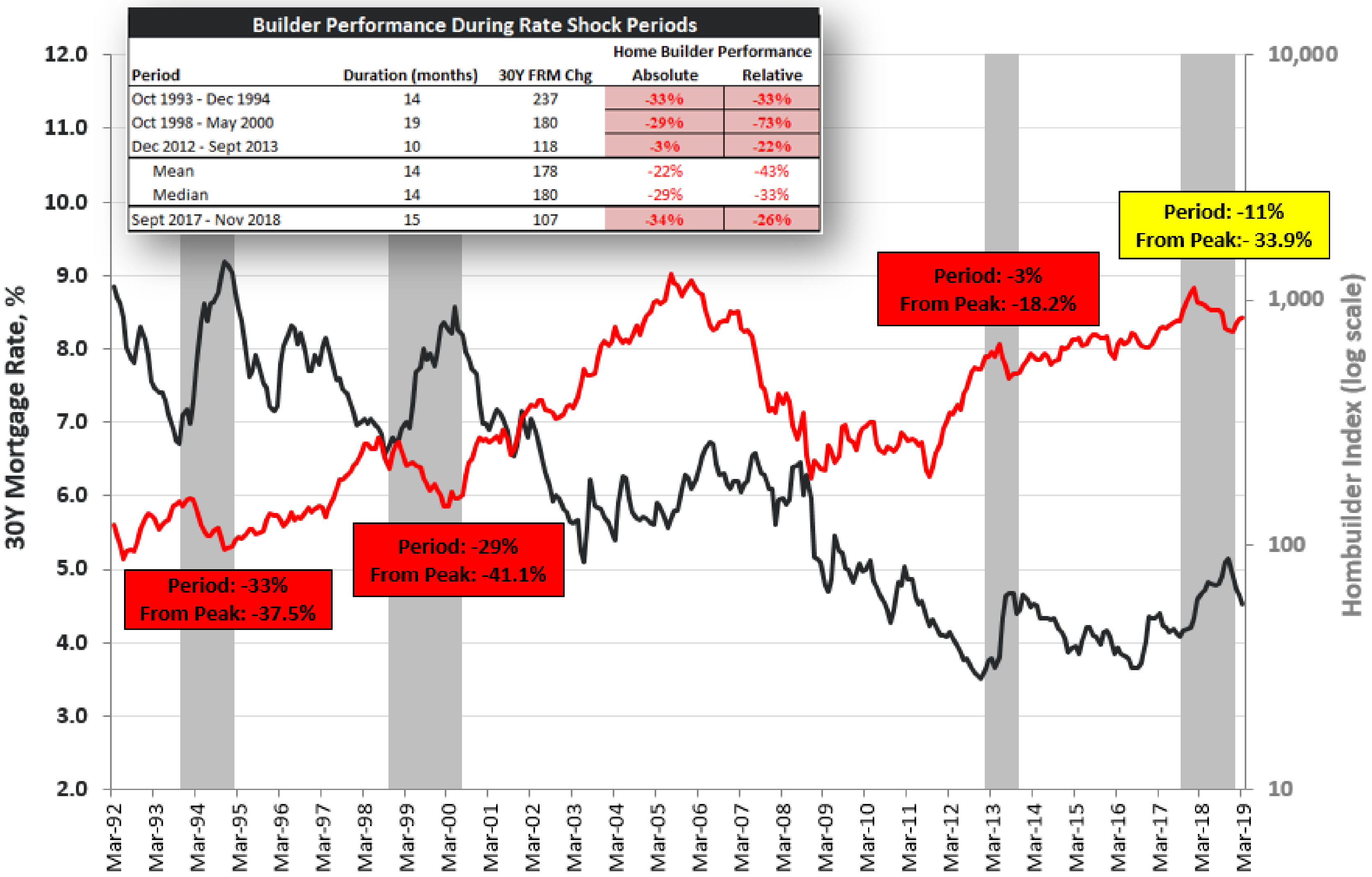
DATA SOURCE: BLOOMBERG

RATES VS HOME SALES



RATE SHOCK VS BUILDER PERFORMANCE

Mortgage Rates vs. Homebuilder Performance



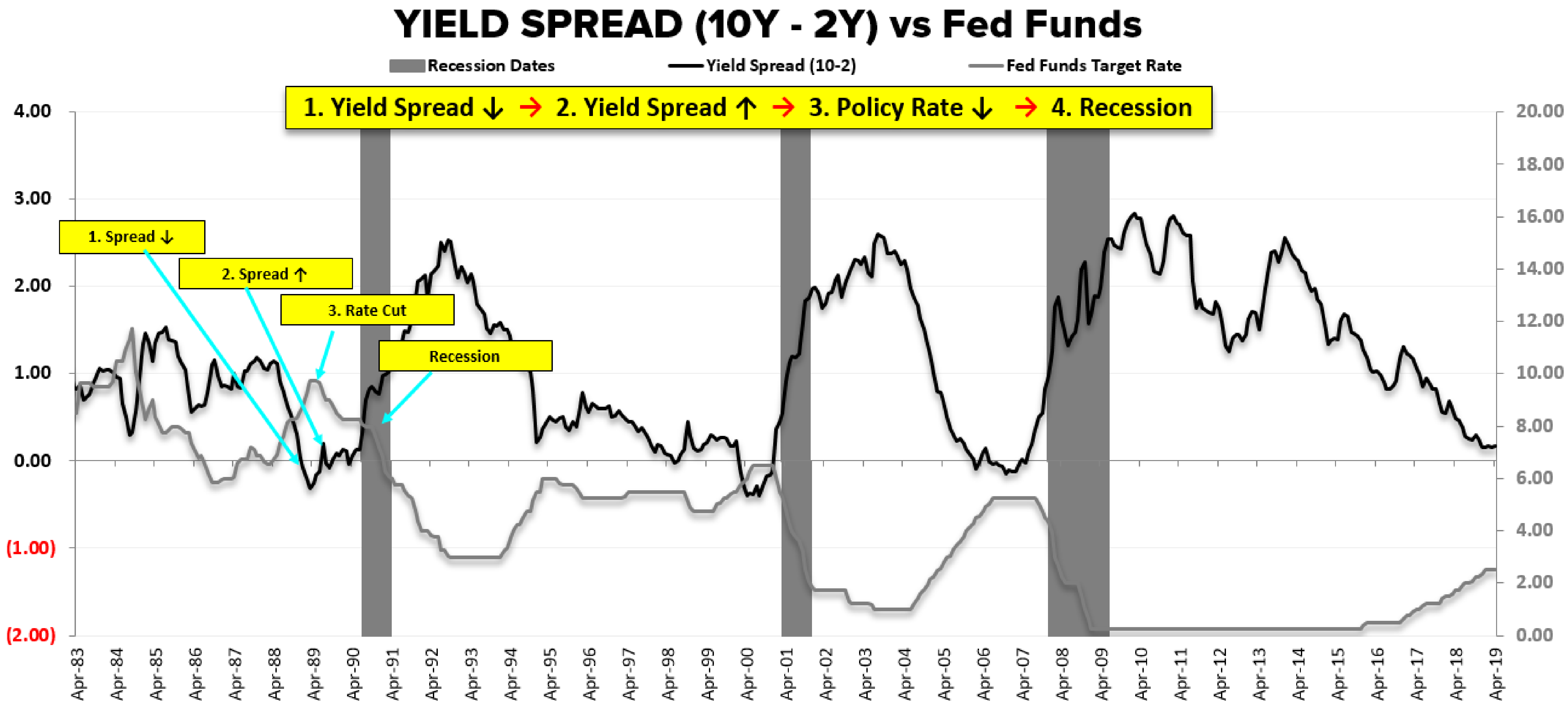
Builder Performance During Rate Shock Periods

Period	Duration (months)	30Y FRM Chg	Home Builder Performance Absolute	Home Builder Performance Relative
Oct 1993 - Dec 1994	14	237	-33%	-33%
Oct 1998 - May 2000	19	180	-29%	-73%
Dec 2012 - Sept 2013	10	118	-3%	-22%
Mean	14	178	-22%	-43%
Median	14	180	-29%	-33%
Sept 2017 - Nov 2018	15	107	-34%	-26%

DATA SOURCE: BLOOMBERG, HEDGEYE CALCULATIONS

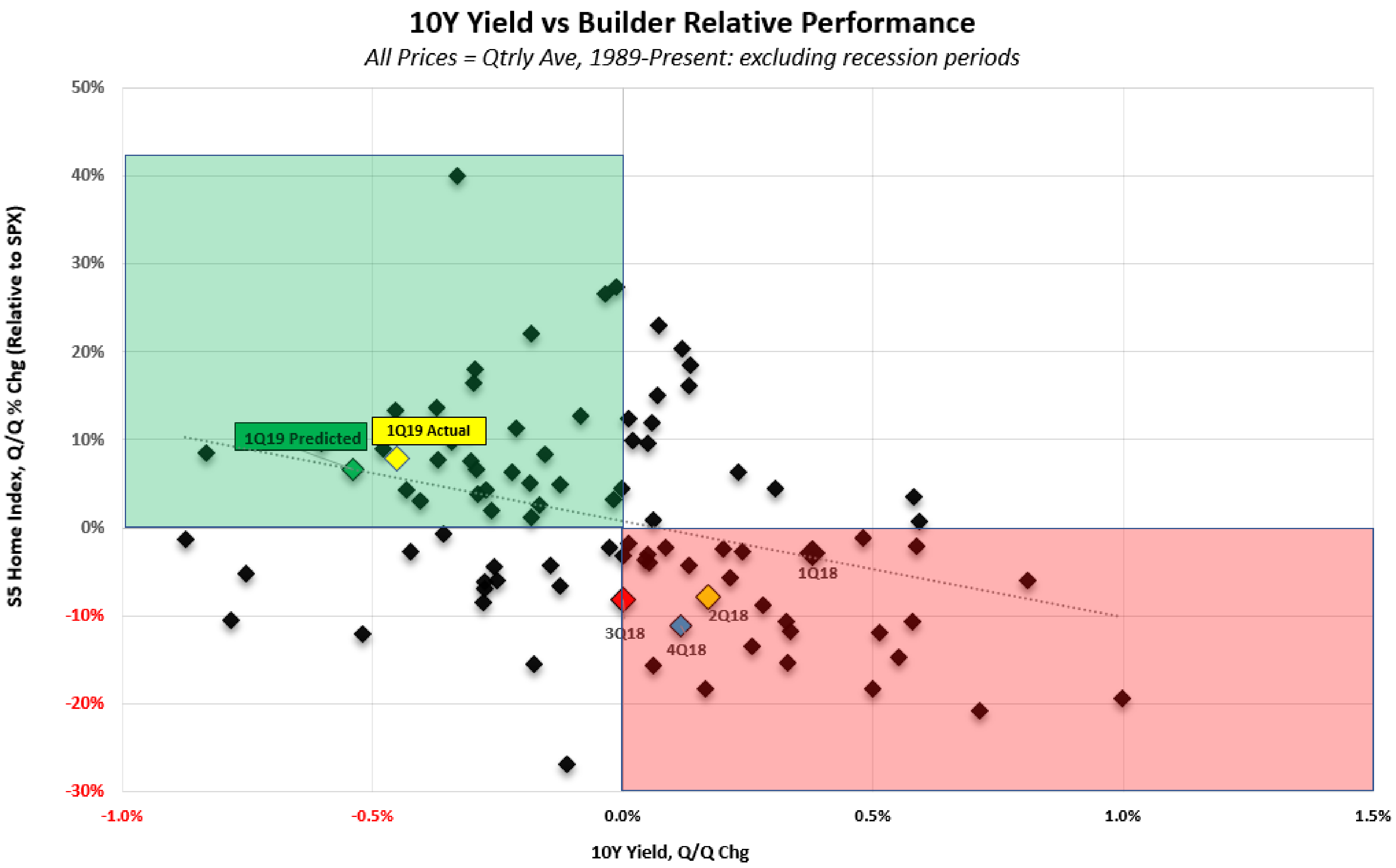
CURVE COMPRESSION

THE CURVE FLATTENS AS THE CYCLE AGES AND POLICY TIGHTENING SUPPORTS SHORT-RATES WHILE DAMPENING THE LONGER-TERM GROWTH/INFLATION OUTLOOK. RE-STEEPENING BEGINS ALONGSIDE EXPECTATIONS FOR A POLICY MISTAKE/OVERTIGHTENING AND AS THE MARKET BEGINS TO DISCOUNT POLICY EASING AND SHORT-END RATES BEGIN TO SLIDE. ACTUAL RATE CUTS THEN BEGIN SHORTLY THEREAFTER FOLLOWED BY RECESSION. EACH OF THE PAST 4 CYCLES HAS FOLLOWED THE SAME SEQUENCING PATTERN.



RATES MATTER TO HOUSING, A LOT … IN BOTH DIRECTIONS

HOUSING RELATED EQUITIES ARE ACUTELY INTEREST RATE SENSITIVE. HISTORICALLY, PERIODS OF EXPEDITED RATE INCREASE = MARKED UNDERPERFORMANCE ACROSS THE HOUSING COMPLEX. WITH RATES UP ALMOST A FULL 100 BPS IN 2018, THE UNDERPERFORMANCE WAS UNSURPRISING … BUT THE TIDE HAS SHIFTED ALONGSIDE THE MARKETS AND THE FED'S ACKNOWLEDGMENT AND ACCEPTANCE OF QUAD 4 FUNDAMENTALS.



Data Source: Bloomberg, Hedgeye

THREE CASE STUDIES IN RISING RATES – THE YEAR AFTER

1

DECEMBER 1994 – DECEMBER 1995

The S&P 500 Homebuilding index gained +35% during this 12 month span. Meanwhile, the S&P 500 was also higher by 35%.
Absolute return: +35%. Relative return: 0%.

2

MAY 2000 – MAY 2001

The S&P 500 Homebuilding index gained 75% during this 12 month span, but the S&P 500 lost -14%.
Absolute return: +75%. Relative return: +89%.

3

SEPTEMBER 2013 – SEPTEMBER 2014

The S&P 500 Homebuilding index gained 19% during this 12 month span. By contrast, the S&P 500 was up 22% over the corresponding period.
Absolute return: +19%. Relative return: -3%.

Data Source: Bloomberg, Hedgeye Calculations

REMINDER, HOUSING RETURNS TEND TO BE SEASONAL

Seasonality in Housing Returns

S15Home Index, Qtrly Performance

Year	1Q	2Q	3Q	4Q
2000	-3.4%	-5.5%	37.1%	22.7%
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2003	3.5%	38.1%	8.9%	26.6%
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2016	-2.2%	1.6%	-1.7%	-2.5%
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Ave	4.0%	-0.1%	-1.0%	8.4%
Median	4.3%	0.0%	-2.5%	5.8%
% Time (+)	55%	47%	47%	68%
% Time (-)	45%	53%	53%	32%

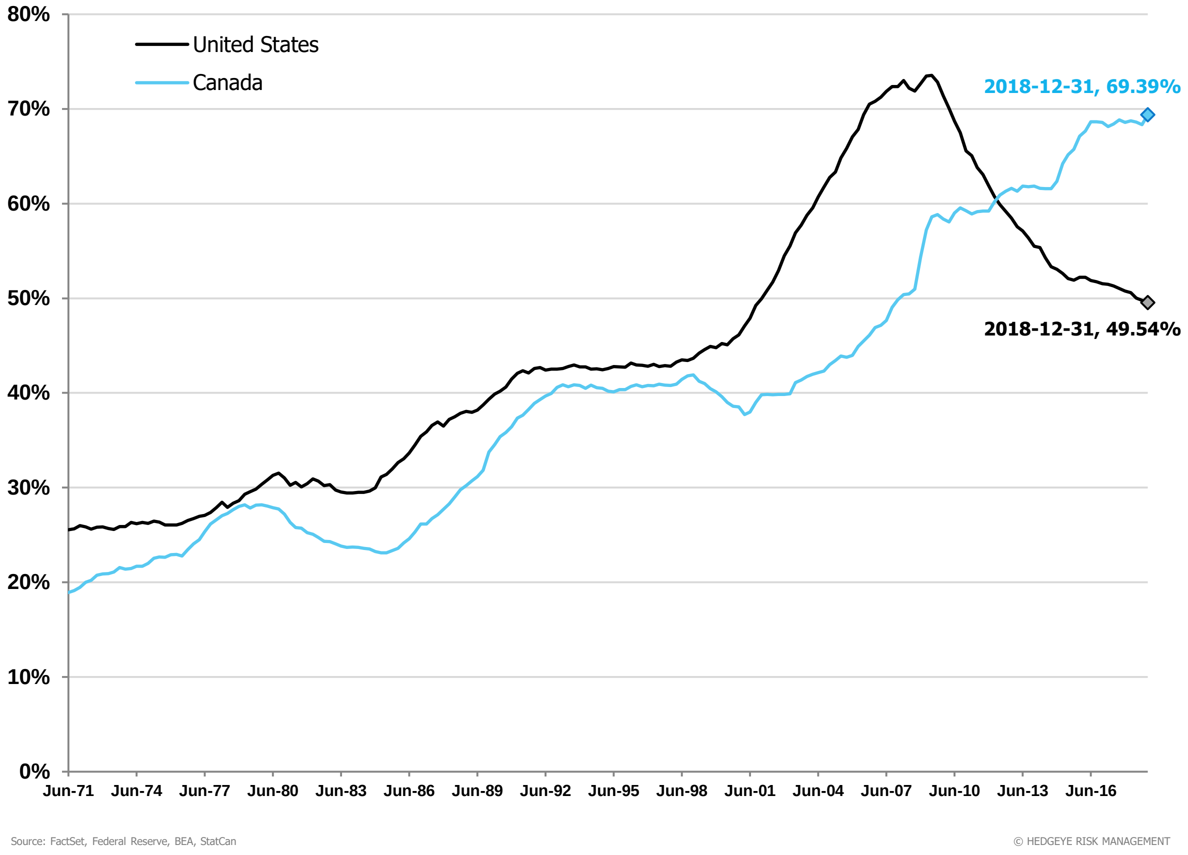
GFC: excluding the GFC, the seasonal distribution of returns is even more stark

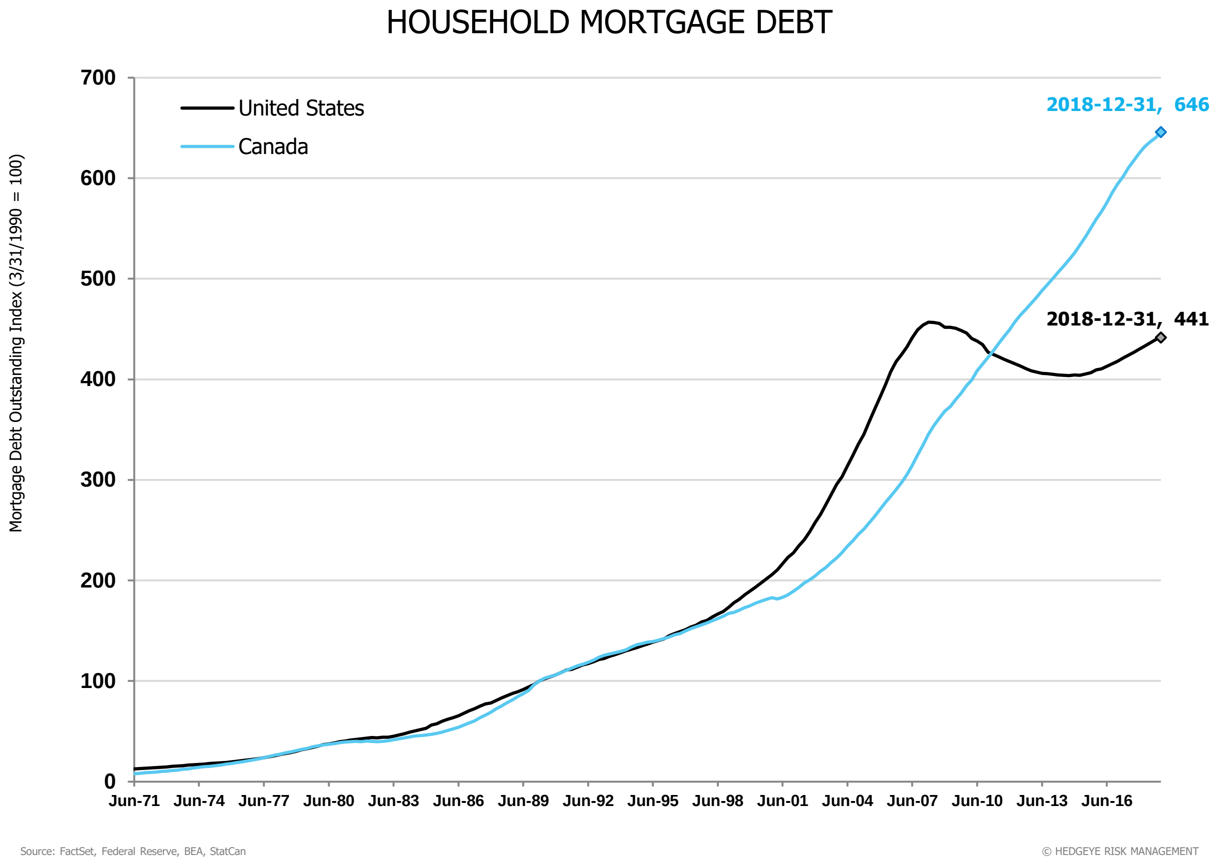
Seasonality in housing returns reflects a psycho-behavioral phenomenon whereby investors recurrently attempt to front-run fundamentals → buying the hope of a strong spring selling season and concentrating returns in the 4th and 1st quarters.

Notably, seasonality isn't just pronounced in the returns, but also in the volatility of returns with the STDEV of performance lowest in 4Q/1Q.

CANADA – HOUSING MARKET RECAP & OUTLOOK

SWELLING MORTGAGE DEBT





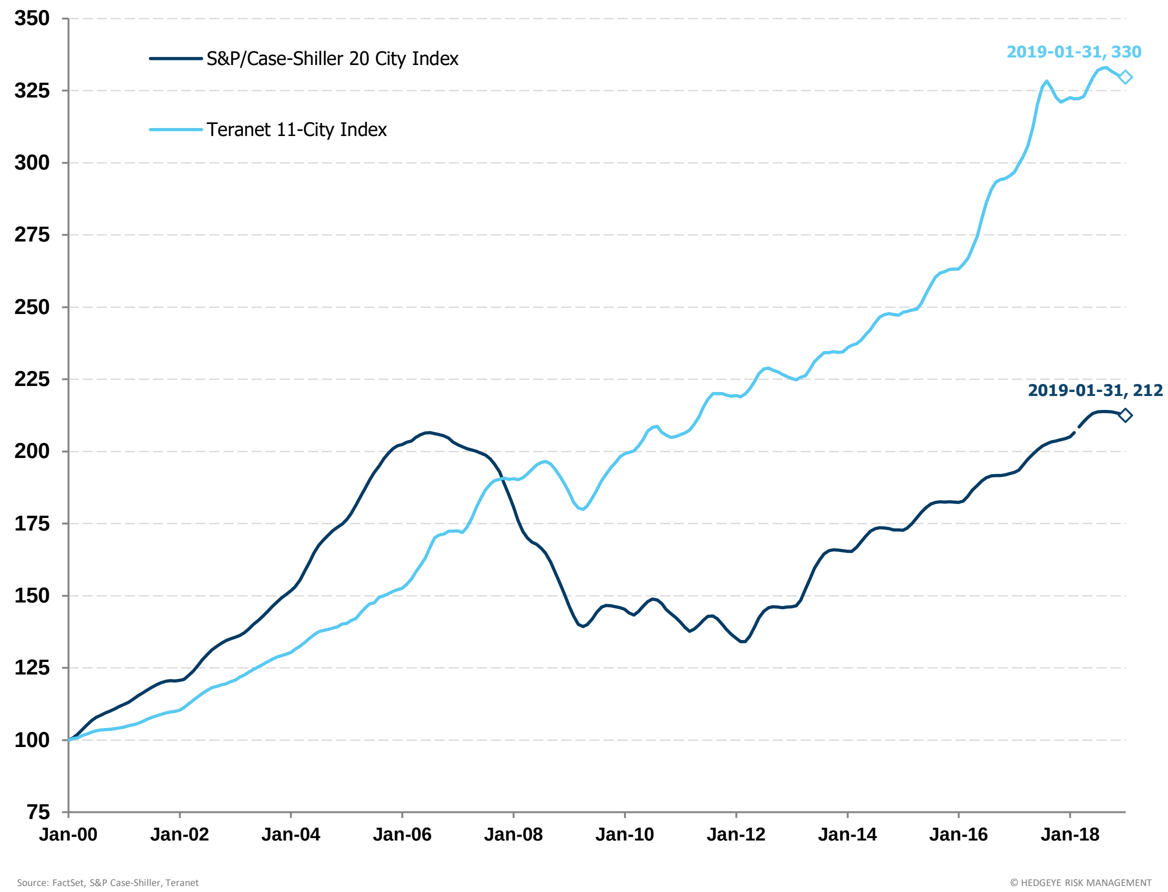
HOUSEHOLD MORTGAGE DEBT TO GDP

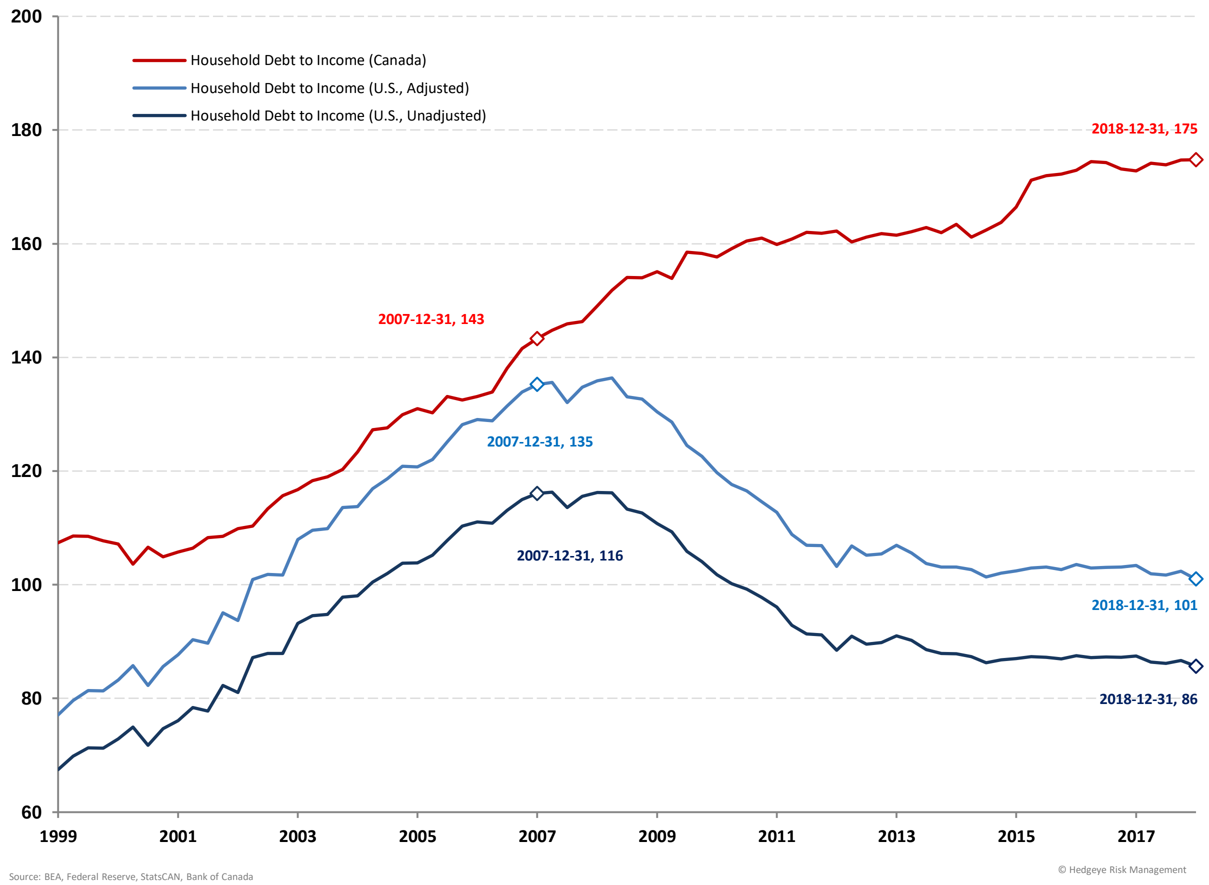
While total mortgage debt as a share of GDP has not yet reached the U.S. peak, it remains on a trajectory to do so.

HOUSEHOLD MORTGAGE DEBT INDEXED

Speaking to that trajectory, we can see that Canadian mortgage debt has thoroughly outpaced its U.S. equivalent in the years following the financial crisis.

ASSET PRICE INFLATION + HEAVY DEBT BURDEN





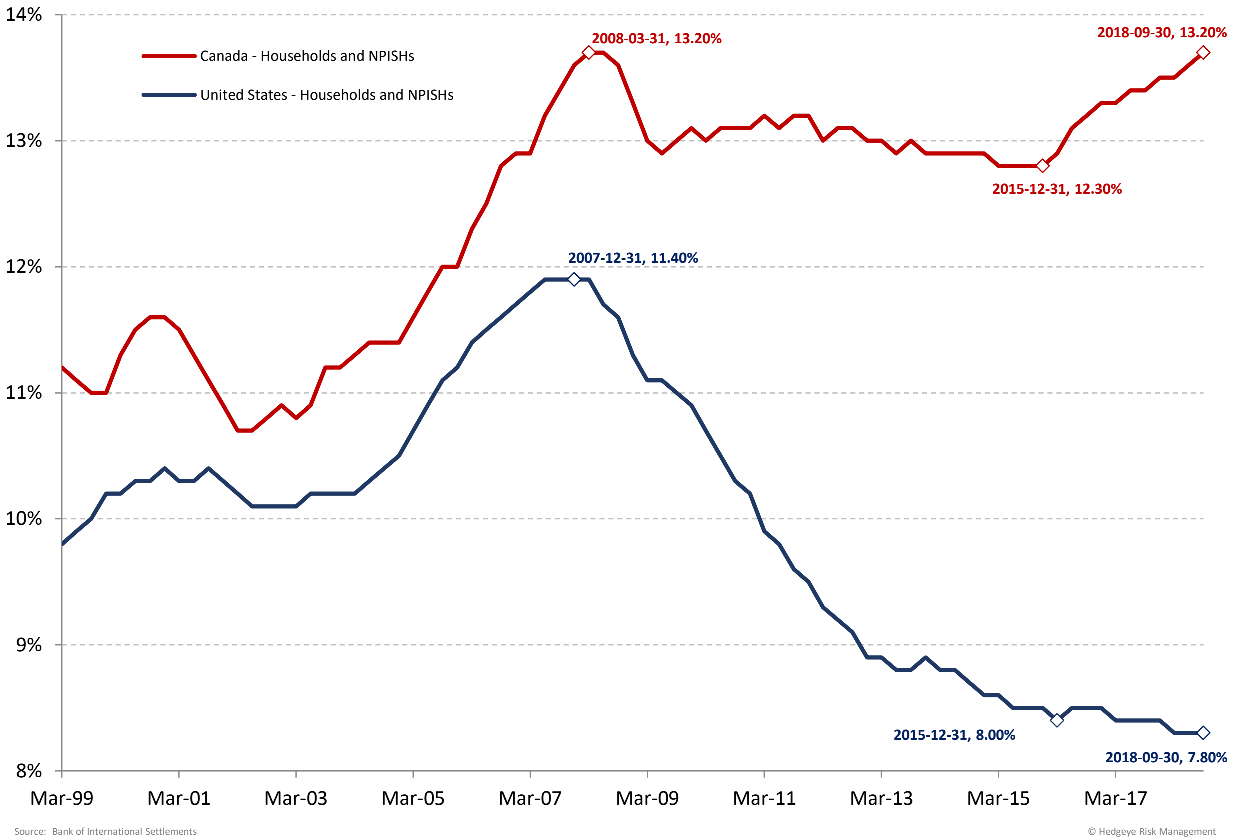
CANADA VS. US HOME PRICES

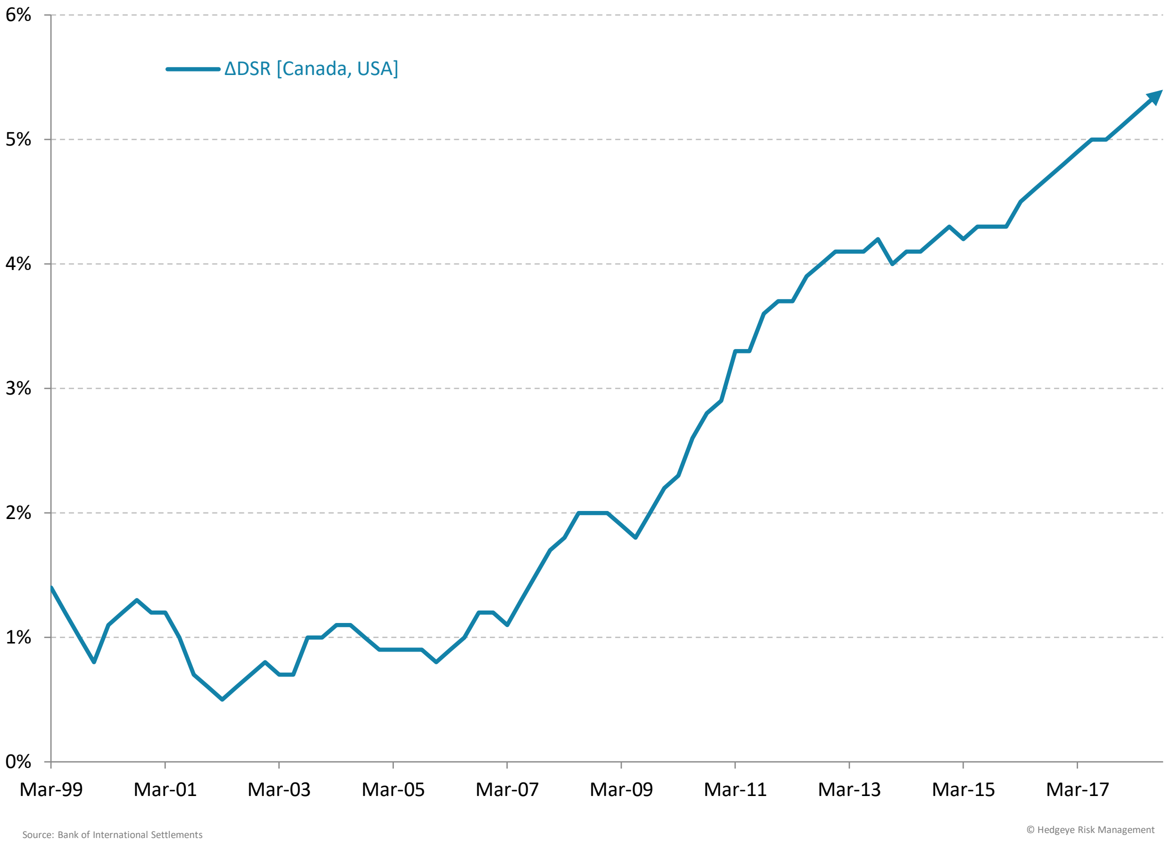
In the years following the financial crisis, Canadian real estate has thoroughly outpaced its neighbor to the south. In particular, the run-up in Canadian housing has surpassed the level of appreciation seen in the U.S. from 2000-2007.

HOUSEHOLD DEBT TO DISPOSABLE INCOME

Canadian household debt to income continues to move up and well ahead of the levels of its southern neighbor, even after adjusting U.S. incomes down for healthcare spending.

DEBT SERVICE RATIO BIS





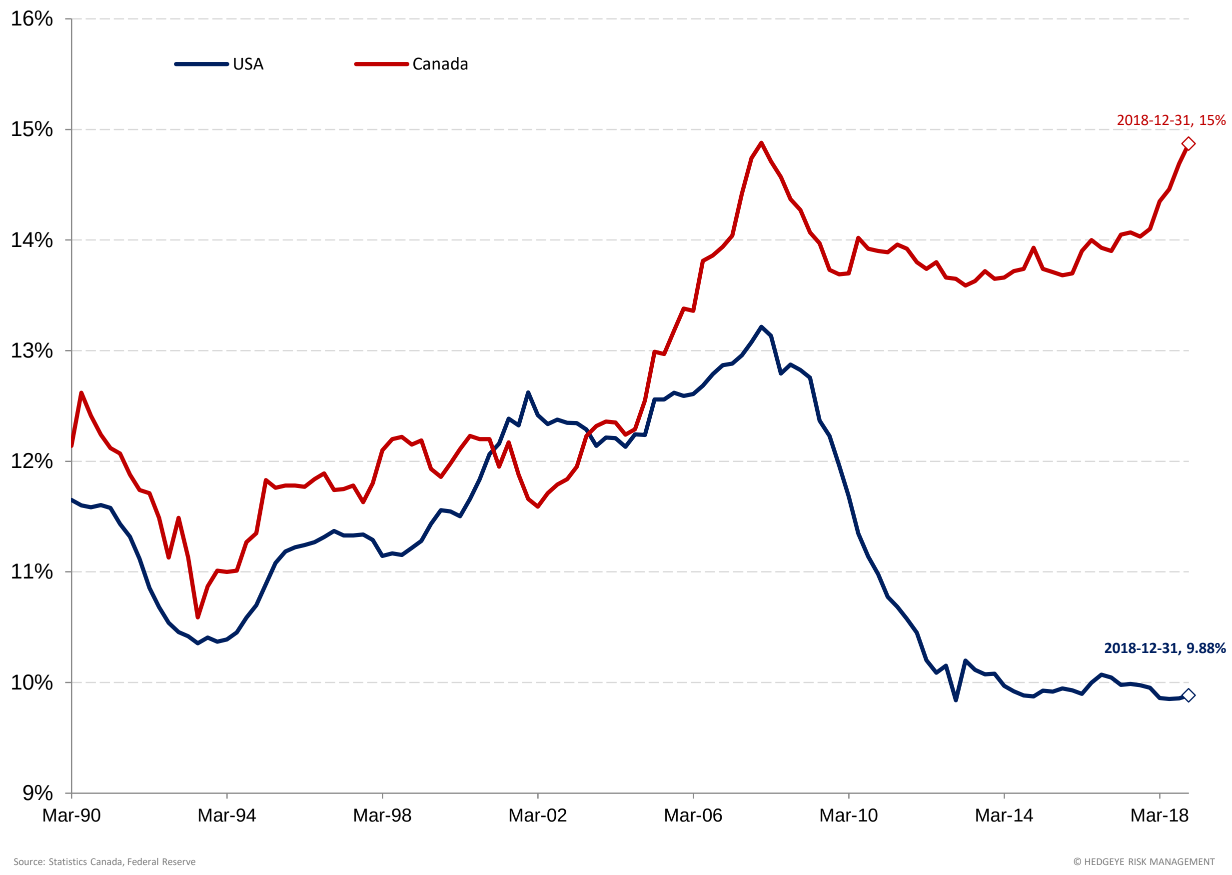
CROSS-BORDER DIVERGENCE

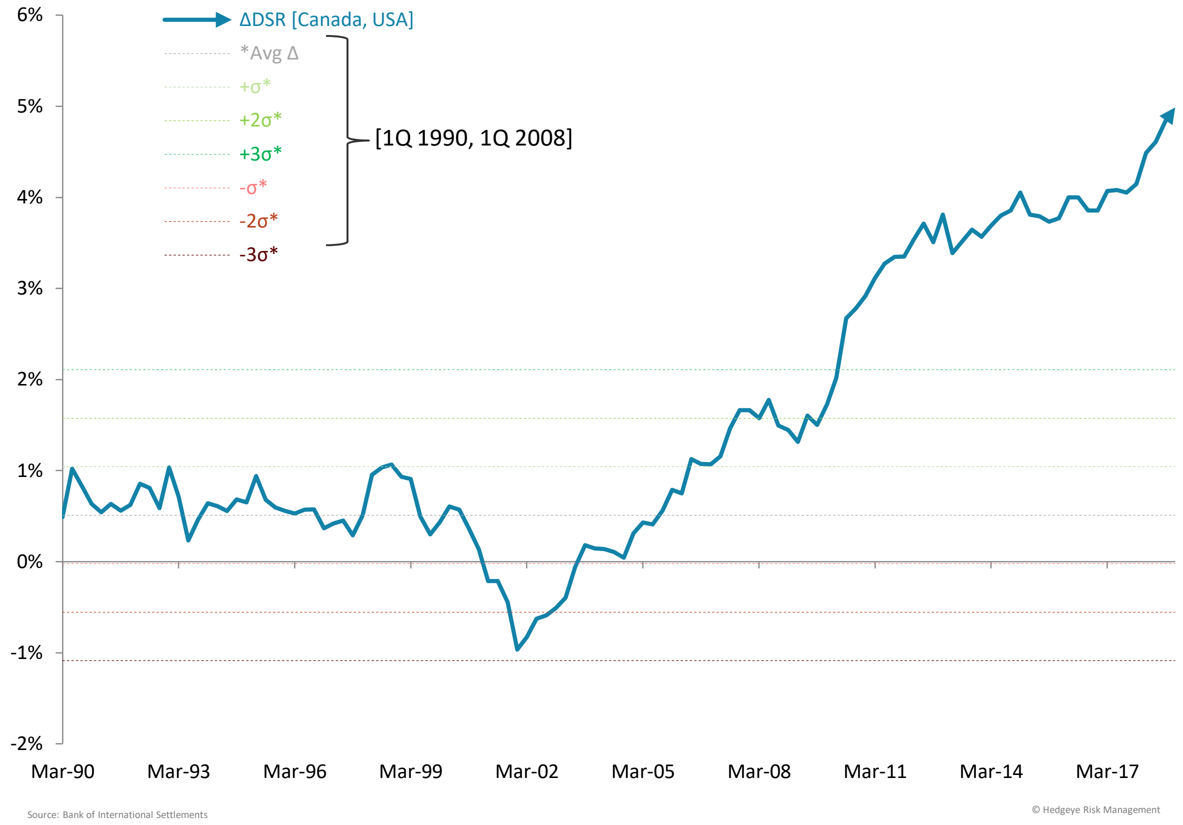
U.S. disposable income is likely not adjusted for healthcare spend, but this does not take away from the significant divergence in debt service ratios for U.S. and Canadian households.

BEYOND STRUCTURAL DISPARITY

The delta clearly extends beyond structural differences in disposable income.

DEBT SERVICE RATIO STATISTICS CANADA, FED COMPOSITION





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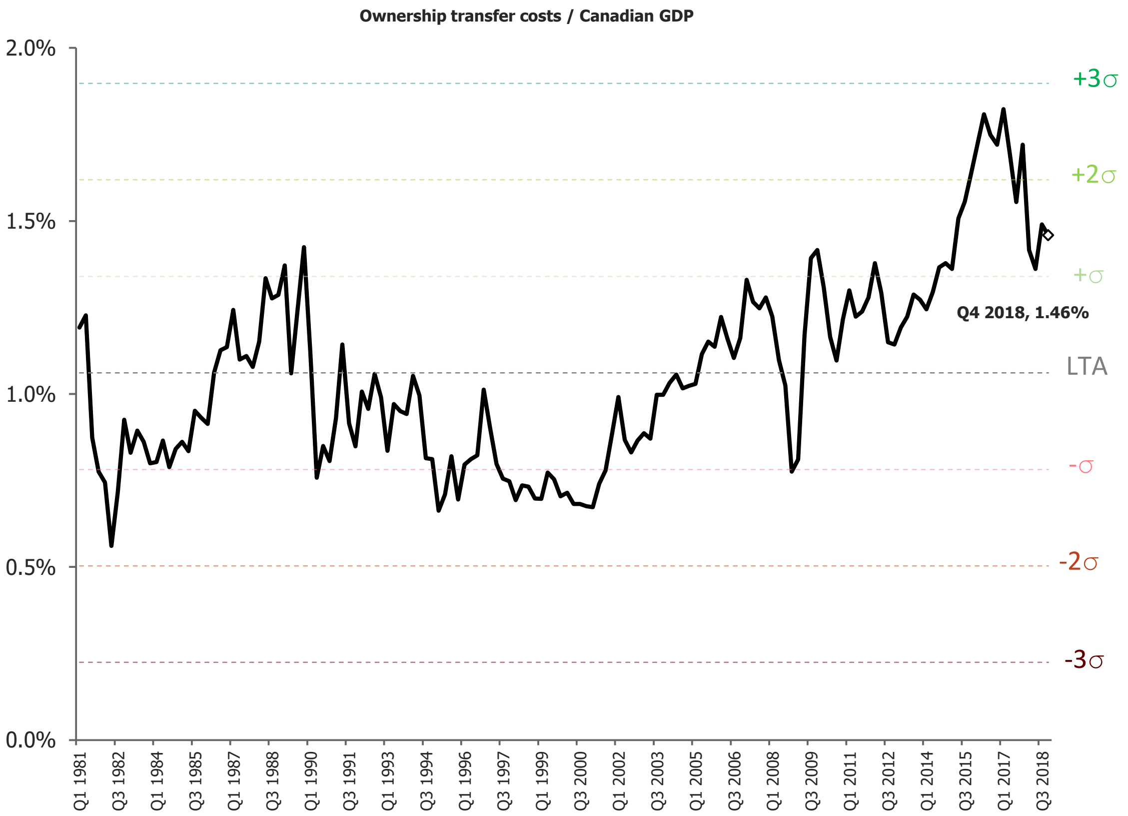
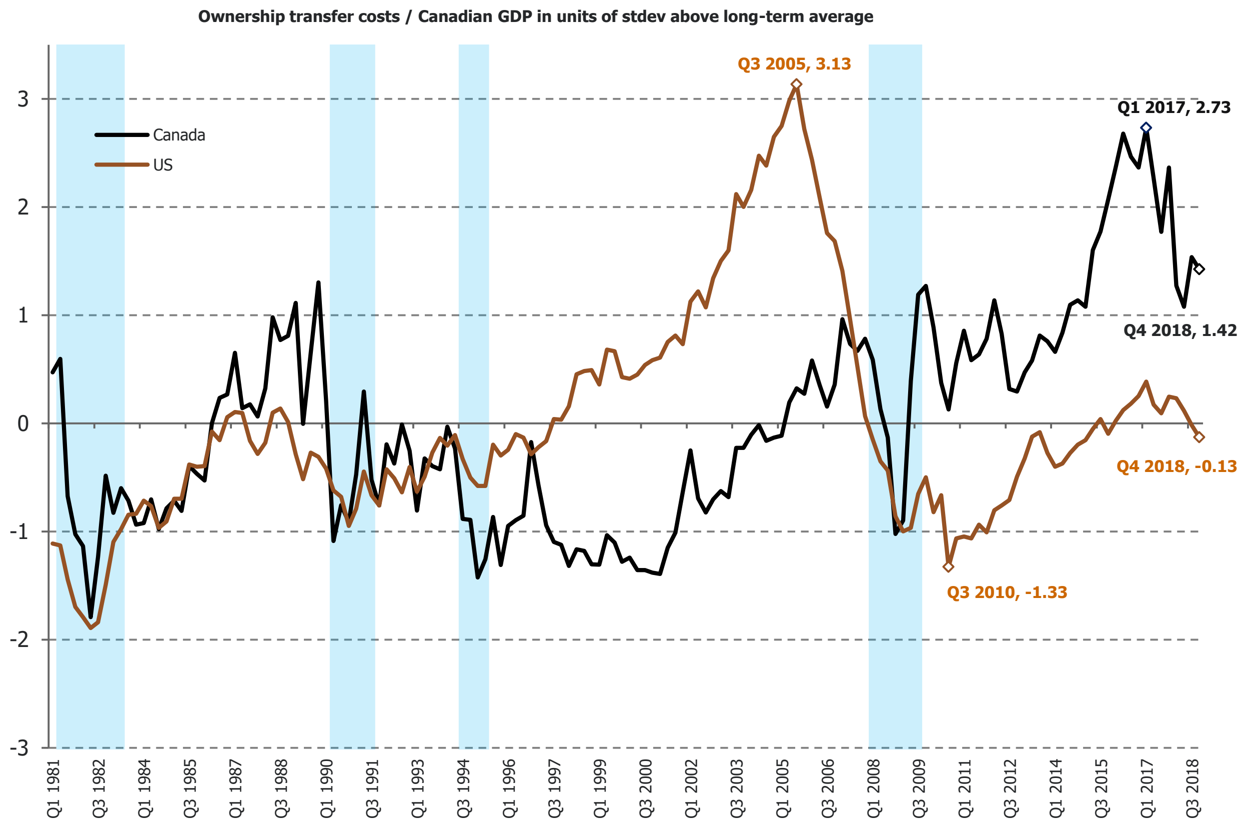


Source: Statistics Canada



Source: Statistics Canada

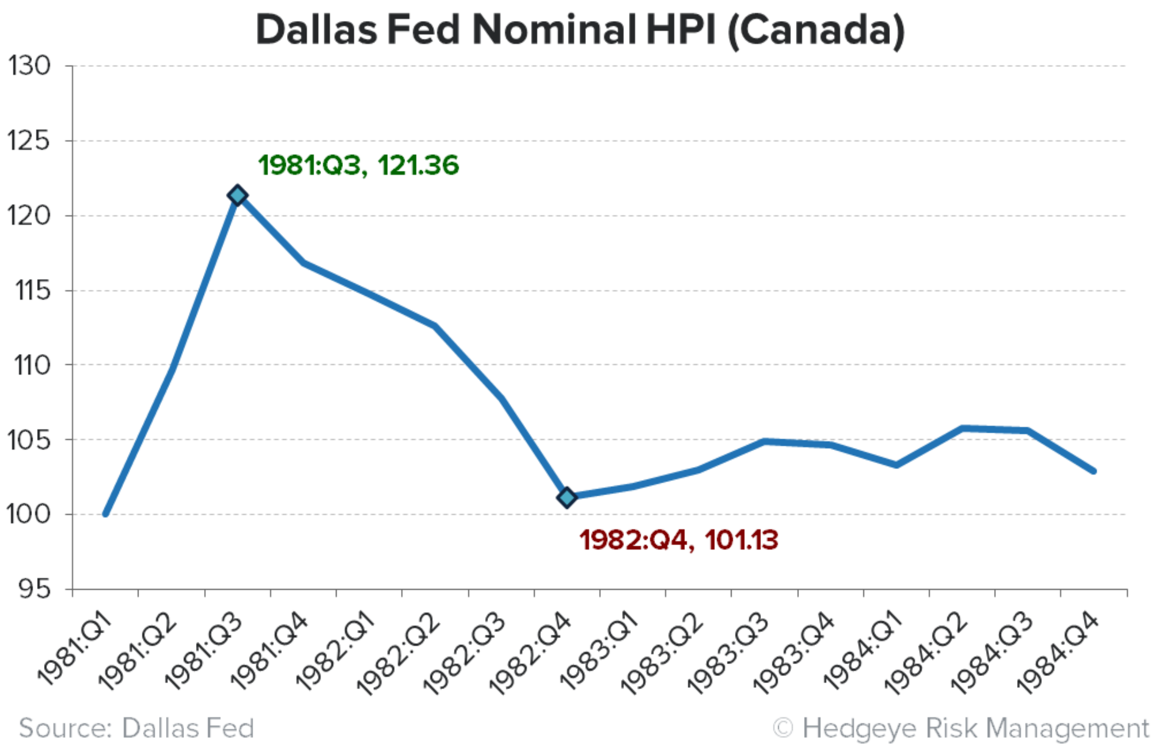
BROKER COMMISSIONS 1.46% OF GDP

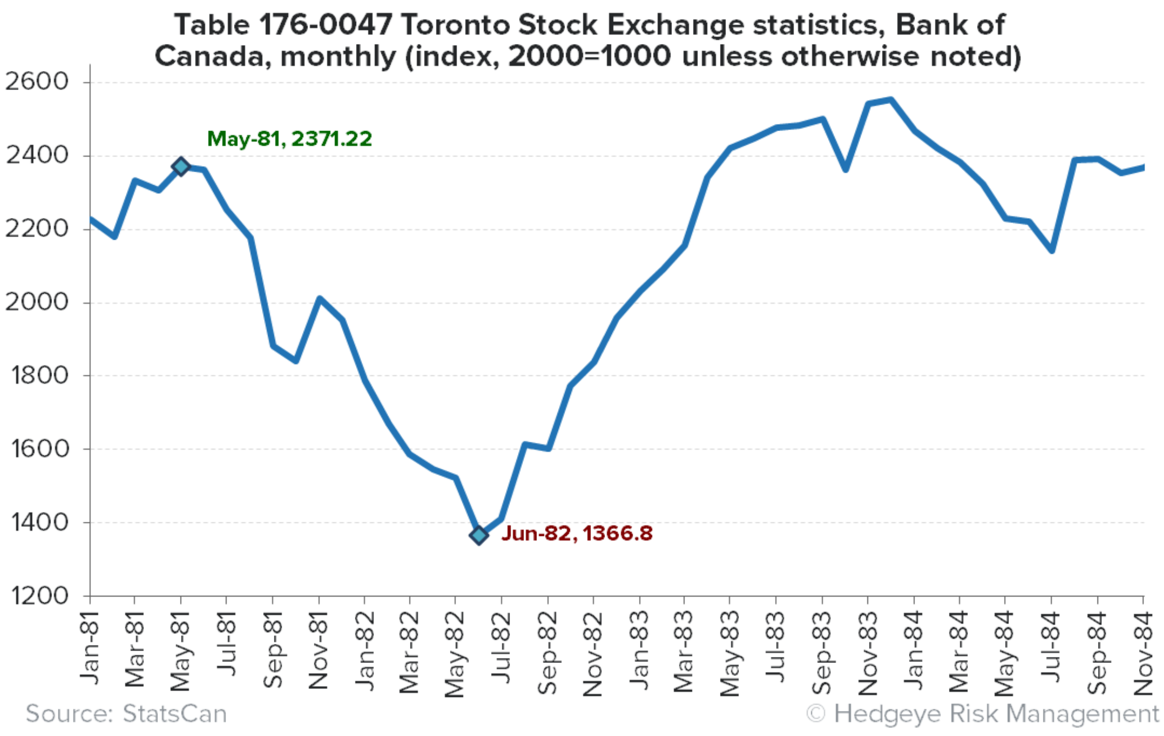
Another useful measure of the housing craze north of the border is broker commissions and other ownership transfer fees as a share of GDP. This figure once stood at 1.82% or > 2.5 standard deviations above its long-term average.

THE FORMER IN STDEV TERMS

On a relative basis, broker commissions and other ownership transfer fees once nearly eclipsed levels reached during the U.S. housing peak, having come down meaningfully in the last year.

FLASHBACK: CANADA 1981





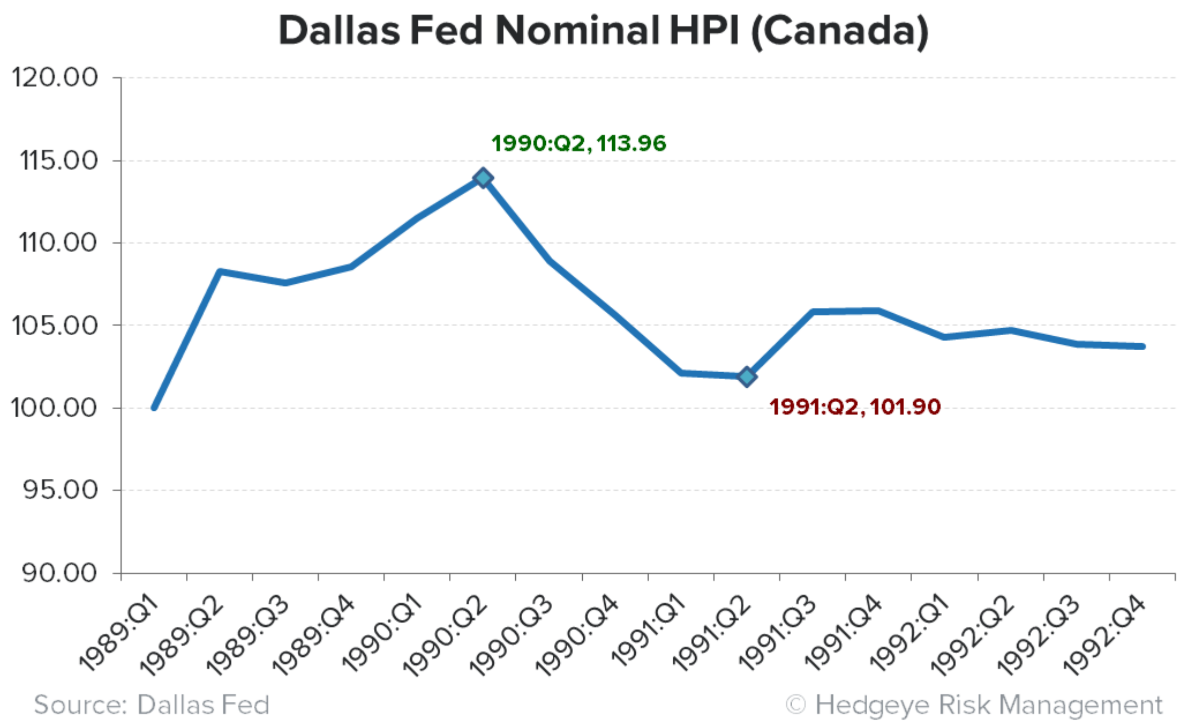
NATIONWIDE: HOME PRICES ↓17%

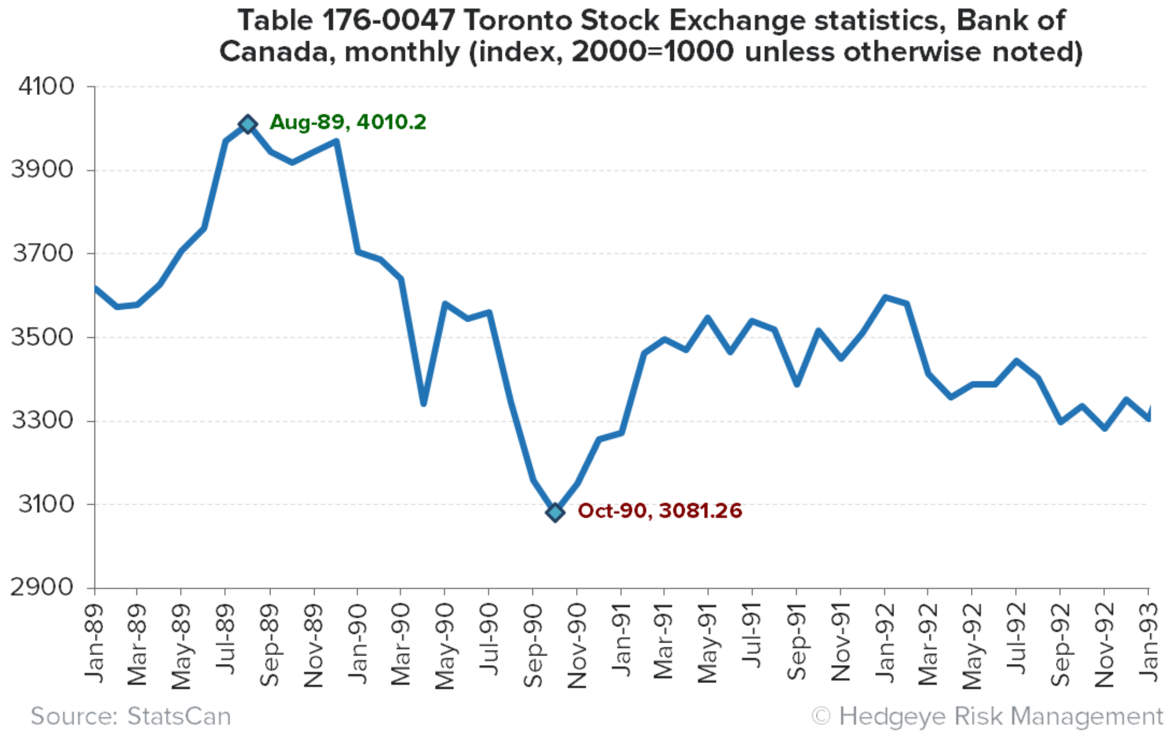
A policy-induced spike in immigration led to increasing population/settlement along the west coast of Canada, ultimately spurring a run-up in Vancouver housing from 1970-1980. Like the current state of Canadian housing, this local/regional phenomenon extended outwards and had a contagion effect on the broader market.

TSX ↓42%

From May 1981 to June 1982, the TSX lost -42% of its value, with the financial services index faring slightly better.

FLASHBACK: CANADA 1990





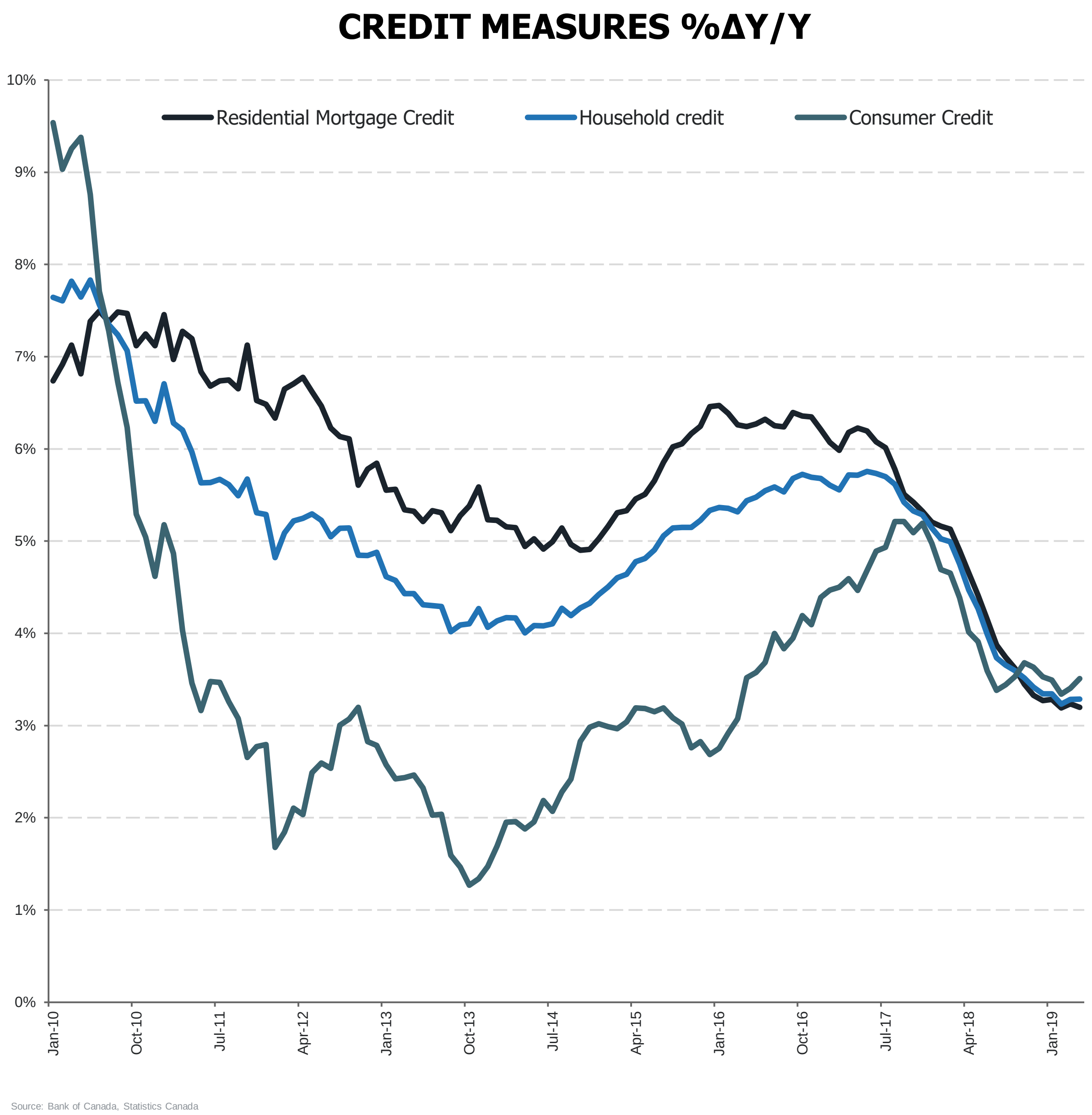
NATIONWIDE: HOME PRICES ↓11%

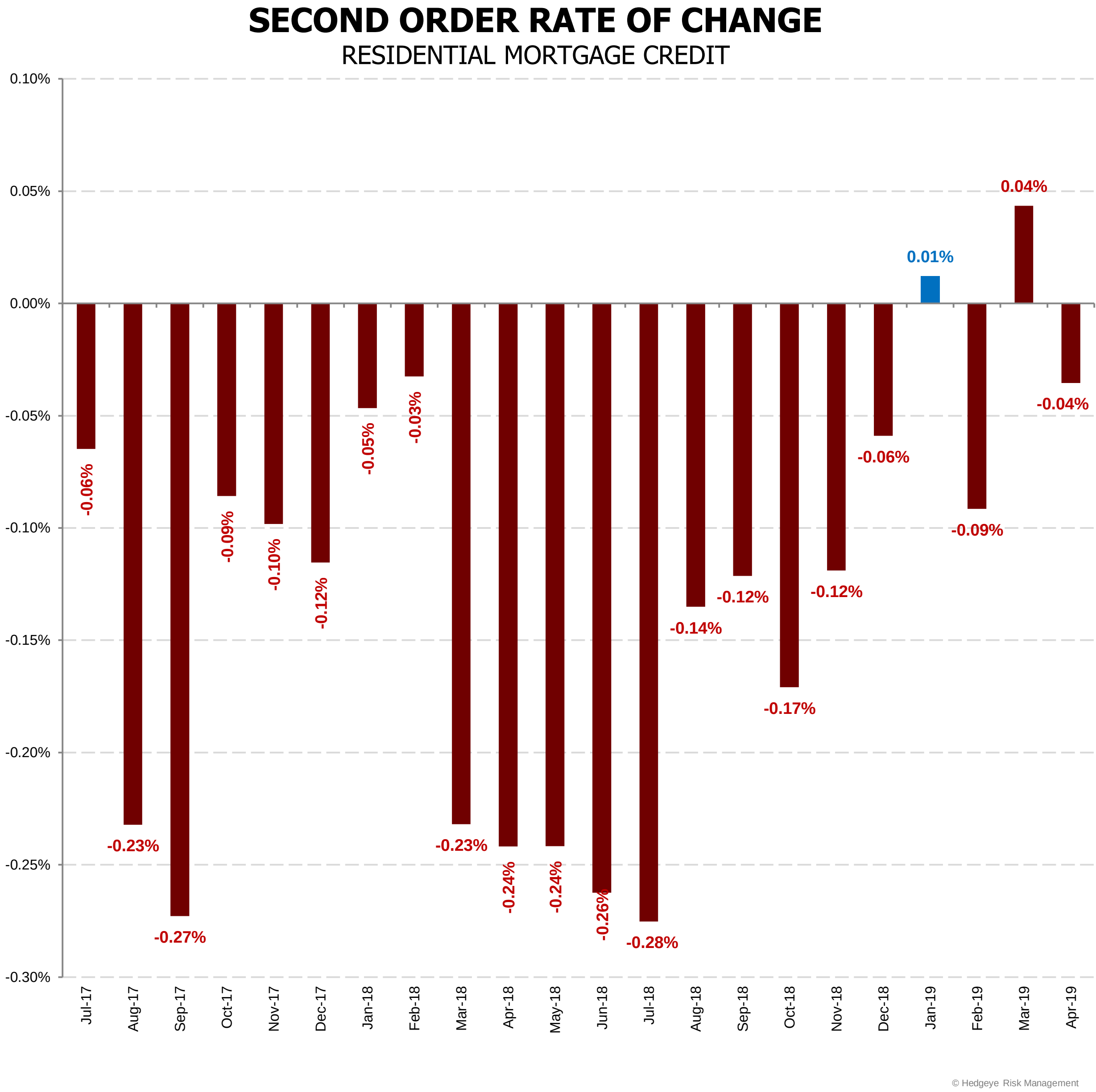
The housing hysteria of the late 80's originated from a rampant increase in condo development in the city of Toronto. Like the current state of Canadian housing, this local/regional phenomenon extended outwards and had a contagion effect on the broader market.

TSX ↓11%

From August 1989 to October 1990, the TSX fell -23% **with the financial services index faring far worse at -30% over this same period**.

TIGHTENING CREDIT ACROSS THE CONSUMER CREDIT COMPLEX

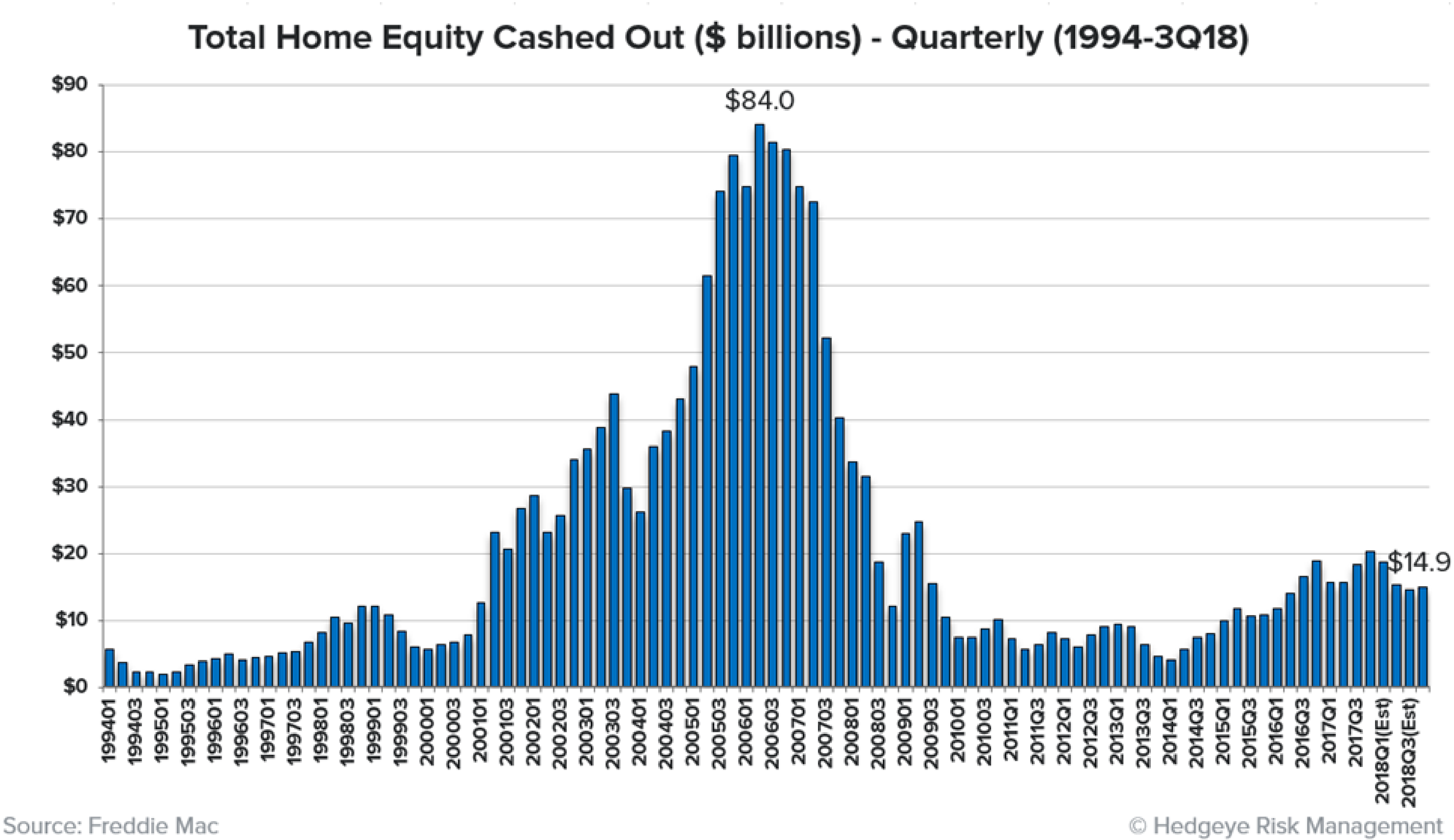




Data Source: Bank of Canada, Statistics Canada

DETERIORATING HOUSEHOLD FINANCES

IRRATIONAL EXUBERANCE



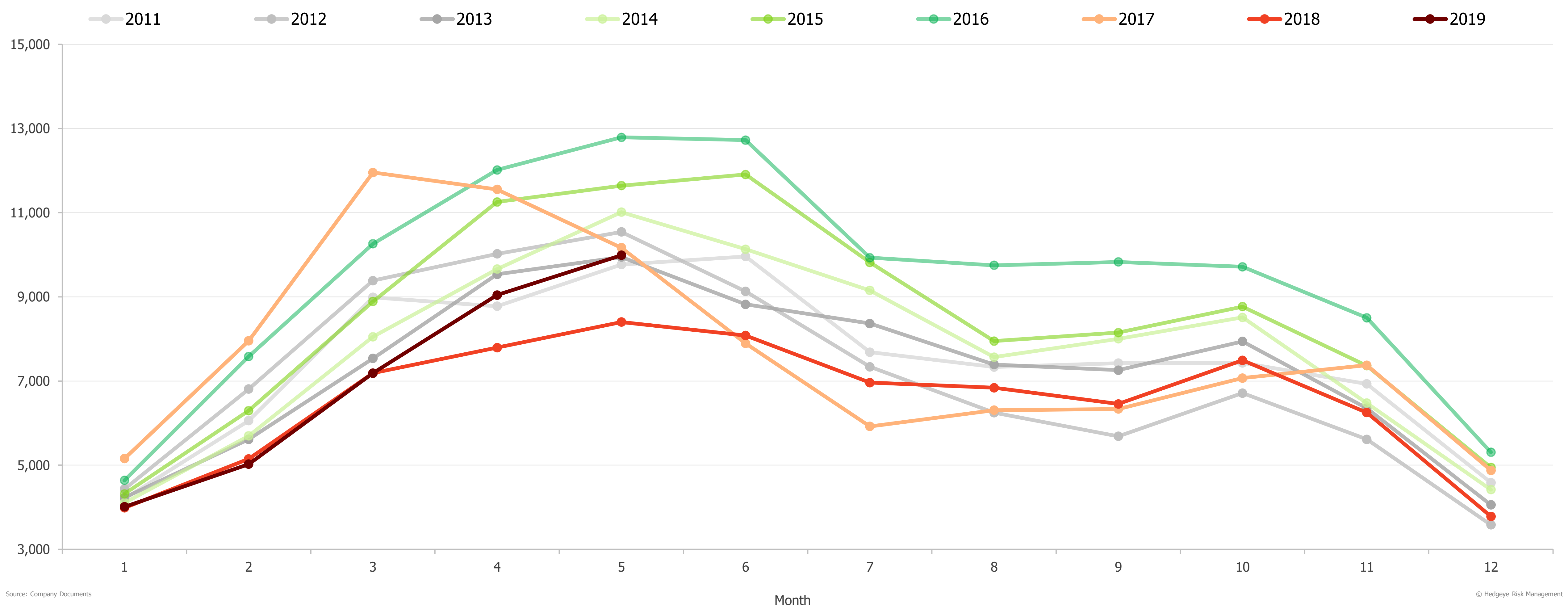
This chart shows US cash-out refi home equity withdrawal amounts, which reached obscene levels in the 2005-2007 period, averaging $70-80 billion per quarter. Currently, levels are in the $10-20 billion range per quarter, and that's not adjusted for inflation, which means today's equity extraction is still running below 1/5th of what occurred during the bubble.

On a per capita basis, HELOC balances in Canada were $4,849 in October, more than quadruple the $1,080 in the U.S., according to Bloomberg calculations based on DBRS and Federal Reserve data.

That would equate to ~$67 billion on the chart on the left.

EXISTING HOME SALES, STACK

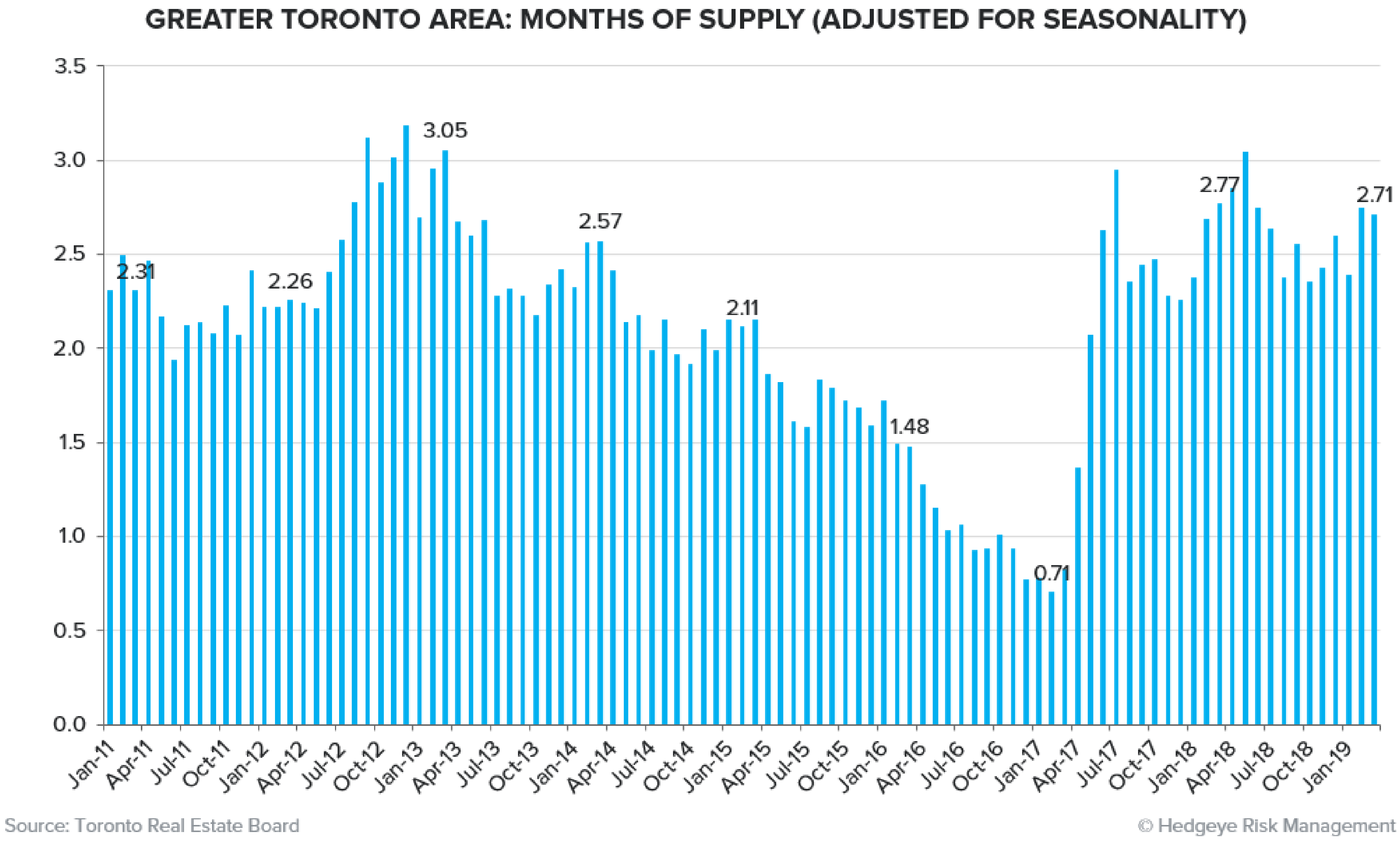
GREATER TORONTO AREA



BOTTOM-DWELLING

Sales volumes reside at the lows of the past 9 years.

MONTHS OF SUPPLY



A meaningful build up in supply.

Data Source: TREB

GTA: Adjusted Months Supply Sensitivity Analysis

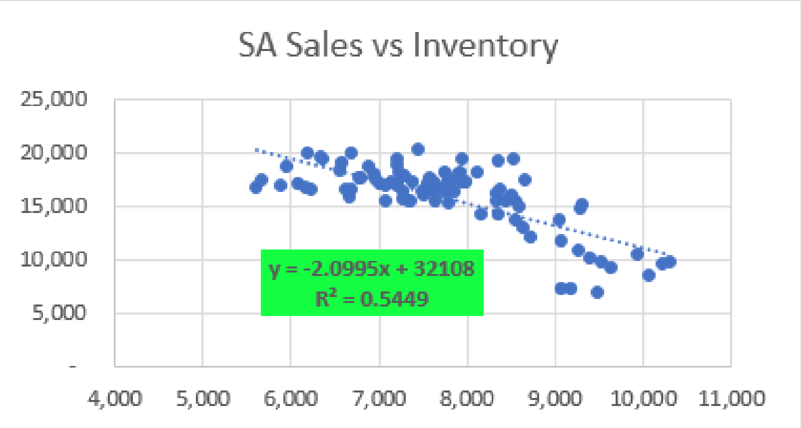
Change in Unit Inventory

Change in Unit Sales	-10%	-5%	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
10%	2.49	2.63	2.77	2.91	3.05	3.19	3.32	3.46	3.60	3.74	3.88	4.02	4.15
5%	2.61	2.76	2.90	3.05	3.19	3.34	3.48	3.63	3.77	3.92	4.06	4.21	4.35
0%	2.74	2.89	3.05	3.20	3.35	3.50	3.66	3.81	3.96	4.11	4.27	4.42	4.57
-5%	2.89	3.05	3.21	3.37	3.53	3.69	3.85	4.01	4.17	4.33	4.49	4.65	4.81
-10%	3.05	3.22	3.39	3.55	3.72	3.89	4.06	4.23	4.40	4.57	4.74	4.91	5.08
-15%	3.23	3.41	3.58	3.76	3.94	4.12	4.30	4.48	4.66	4.84	5.02	5.20	5.38
-20%	3.43	3.62	3.81	4.00	4.19	4.38	4.57	4.76	4.95	5.14	5.33	5.52	5.71
-25%	3.66	3.86	4.06	4.27	4.47	4.67	4.88	5.08	5.28	5.48	5.69	5.89	6.09
-30%	3.92	4.14	4.35	4.57	4.79	5.01	5.22	5.44	5.66	5.88	6.09	6.31	6.53
-35%	4.22	4.45	4.69	4.92	5.16	5.39	5.63	5.86	6.09	6.33	6.56	6.80	7.03
-40%	4.57	4.82	5.08	5.33	5.59	5.84	6.09	6.35	6.60	6.86	7.11	7.36	7.62
-45%	4.99	5.26	5.54	5.82	6.09	6.37	6.65	6.92	7.20	7.48	7.76	8.03	8.31
-50%	5.48	5.79	6.09	6.40	6.70	7.01	7.31	7.62	7.92	8.23	8.53	8.84	9.14

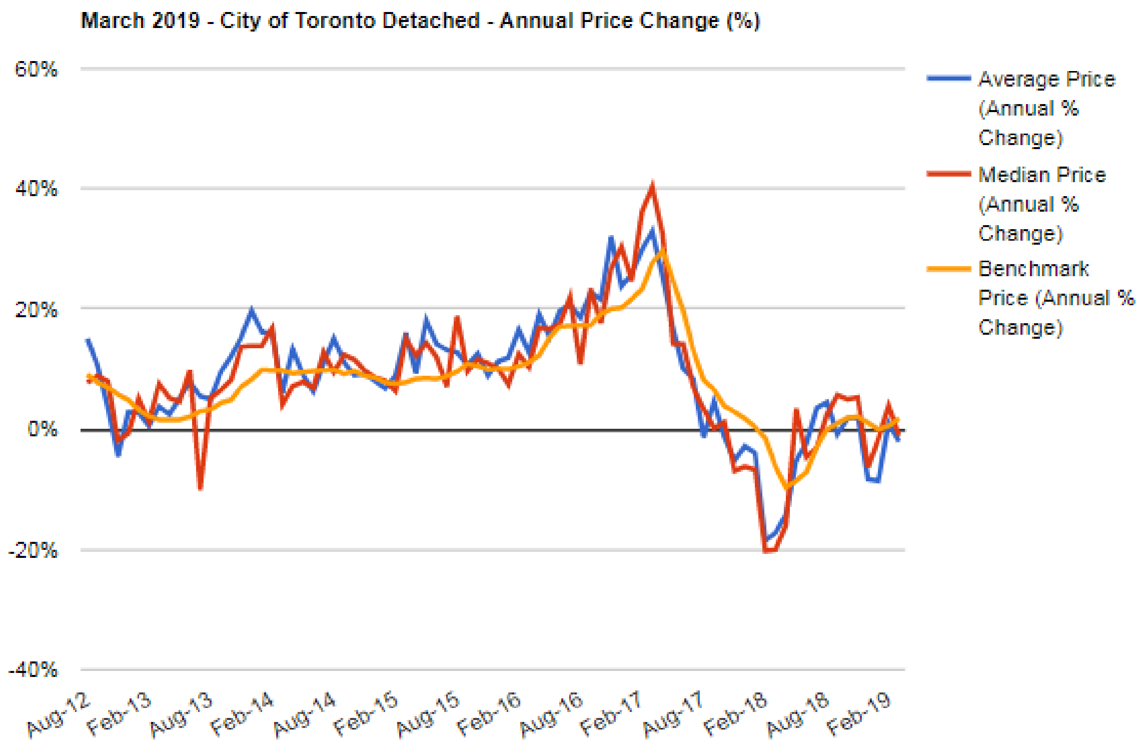
Key: y = -0.10x + 0.30

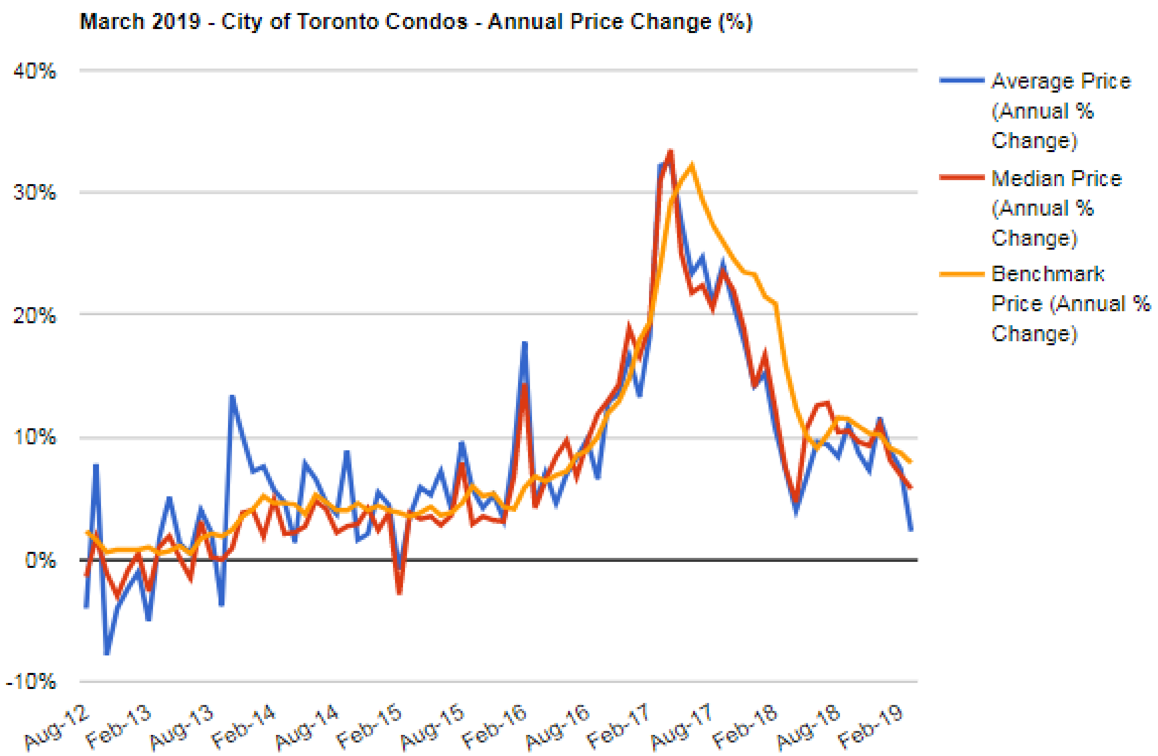
Months Supply		Home Price %ΔY/Y
0.50	=	25%
1.00	=	20%
1.50	=	15%
2.00	=	10%
2.50	**=**	**5%**
3.00	**=**	**0%**
3.50	=	-5%
4.00	=	-10%
4.50	=	-15%
5.00	=	-20%
5.50	=	-25%
6.00	=	-30%

** SA Sales Changes Explain ~54% of SA Inventory Changes **



PRICE IMPACTS ACROSS THE GTA





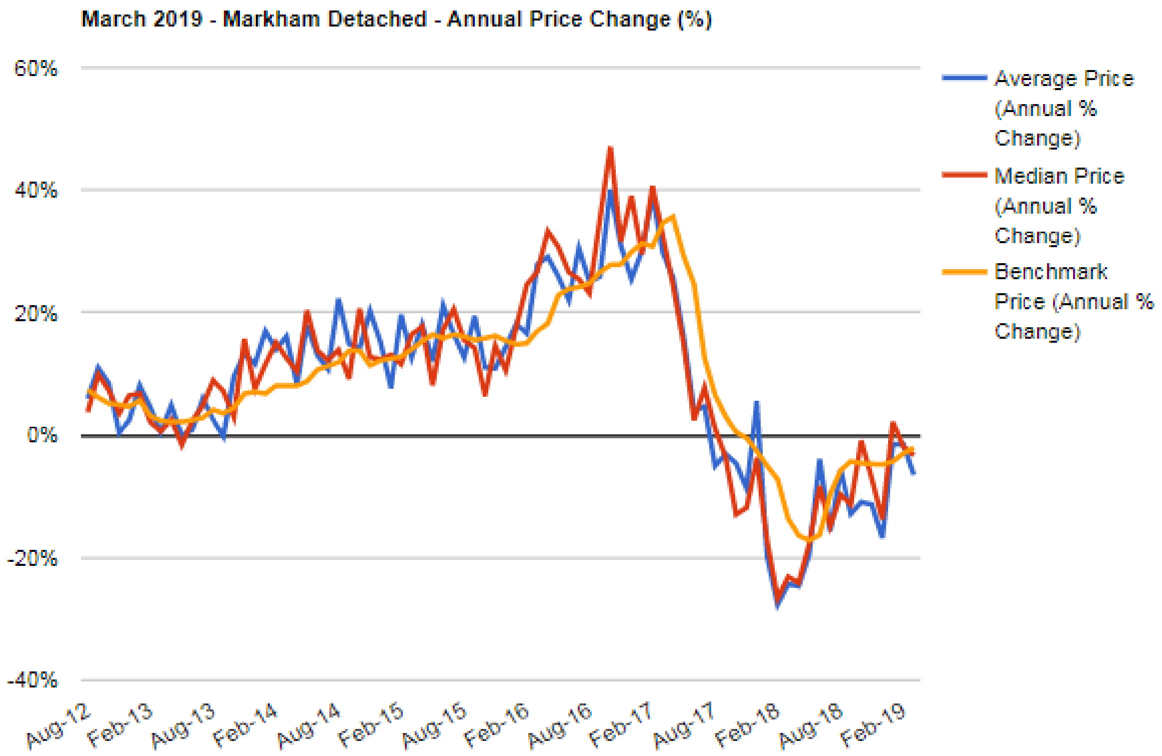
CITY OF TORONTO DETACHED HOMES

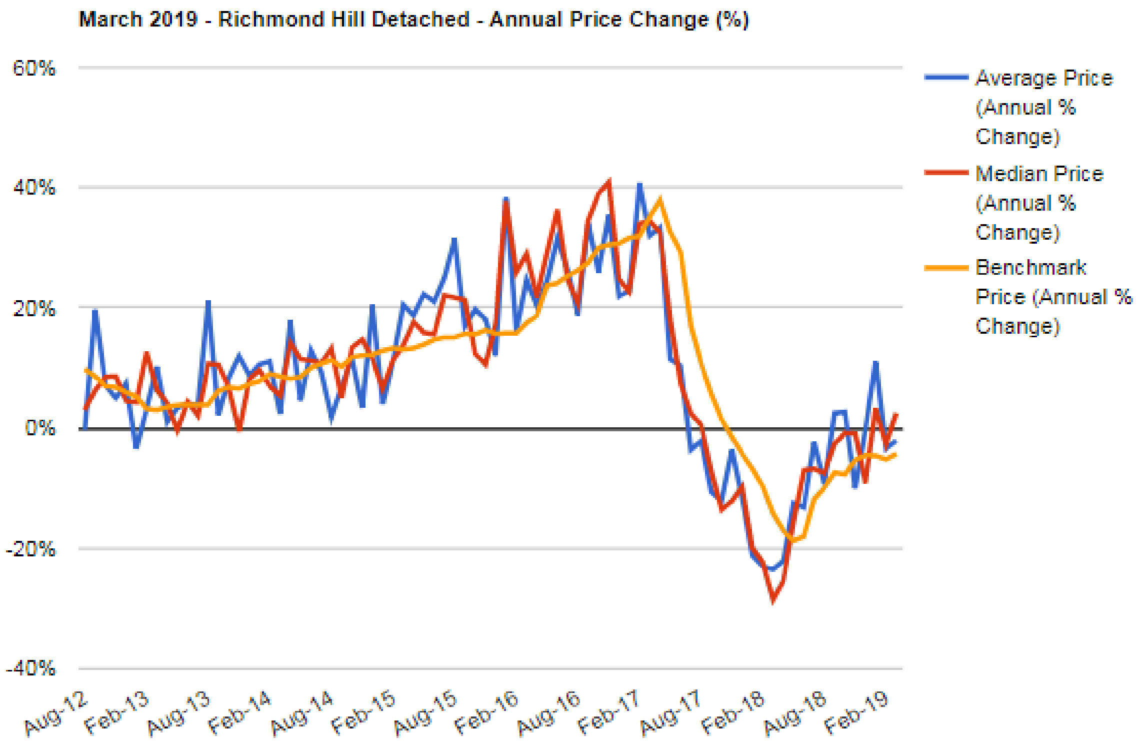
At worst, those who bought in March 2017 saw their homes lose ~ -20% in one year. The average, median, and benchmark prices of a detached home in March of 2017 were $1.57M, $1.26M, and $1.17M, respectively.

CITY OF TORONTO CONDOS

Despite declining sales, condominium prices have held steady as sellers have not yet capitulate.

PRICE IMPACTS ACROSS THE GTA CONT.





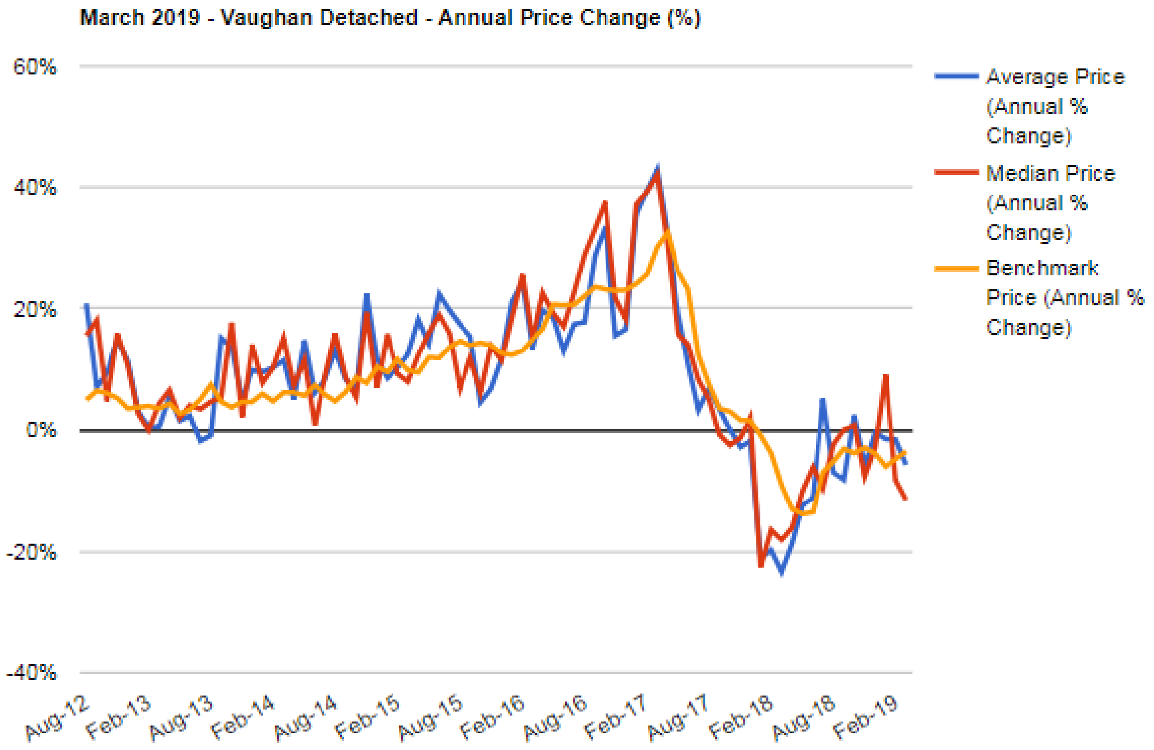
MARKHAM DETACHED

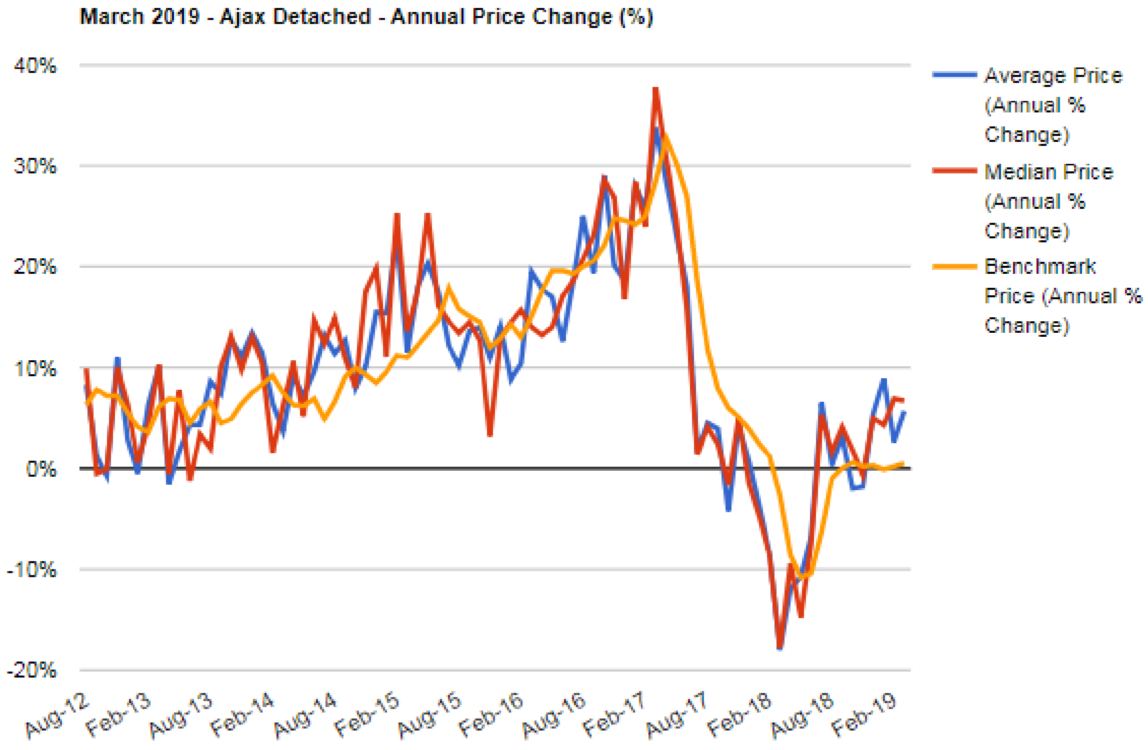
Those who bought in March 2017 saw their homes lose ~ -27.6% in one year. The average, median, and benchmark prices of a detached home in March of 2017 were $1.68M, $1.26M, and $1.17M, respectively.

RICHMOND HILL DETACHED

At worst, those who bought in March 2017 saw their homes lose ~ -28.5% in one year. The average, median, and benchmark prices of a detached home in March of 2017 were $1.84M, $1.68M, and $1.45M, respectively.

Data Source: TREB





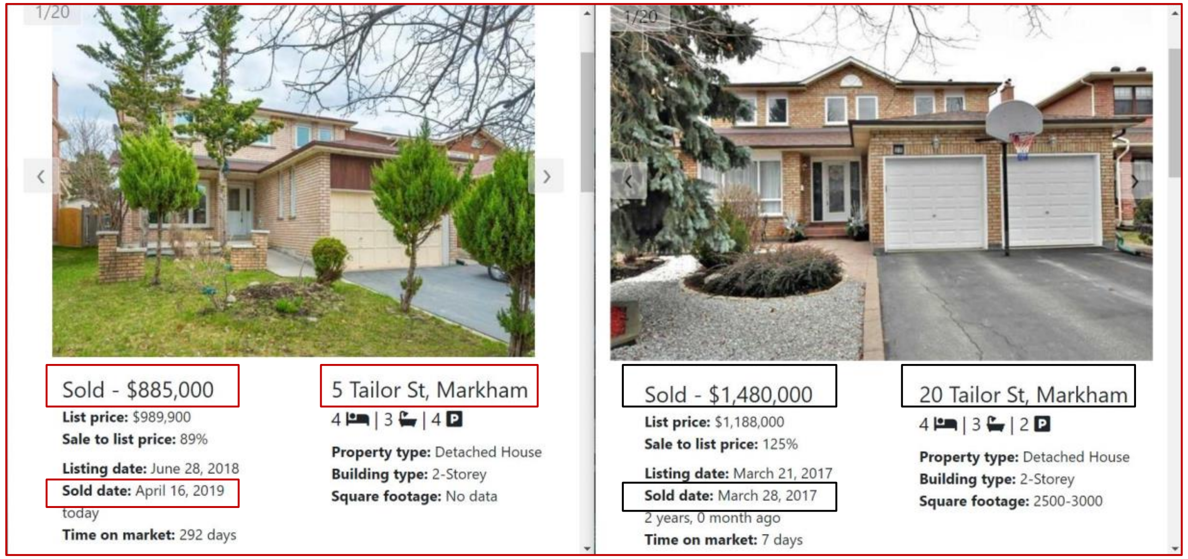
VAUGHAN DETACHED

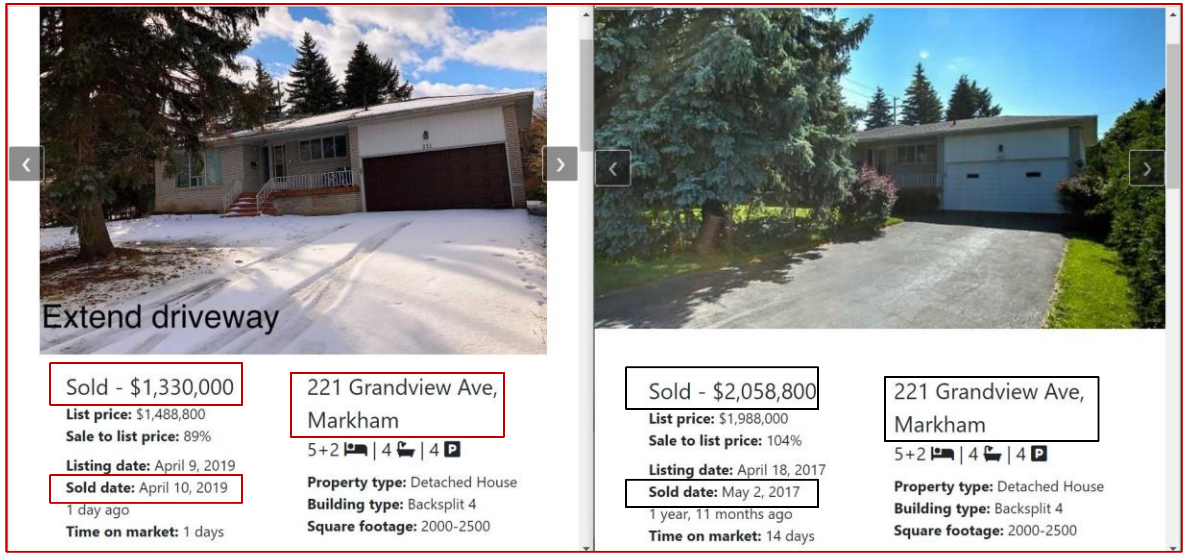
Those who bought in March 2017 saw their homes lose ~ -23% in one year. The average, median, and benchmark prices of a detached home in March of 2017 were $1.61M, $1.45M, and $1.13M, respectively.

AJAX DETACHED

At worst, those who bought in March 2017 saw their homes lose ~ -17.8% in one year. The average, median, and benchmark prices of a detached home in March of 2017 were $842K, $821K, and $669K, respectively.

Data Source: TREB





TWO HOMES, SAME STREET

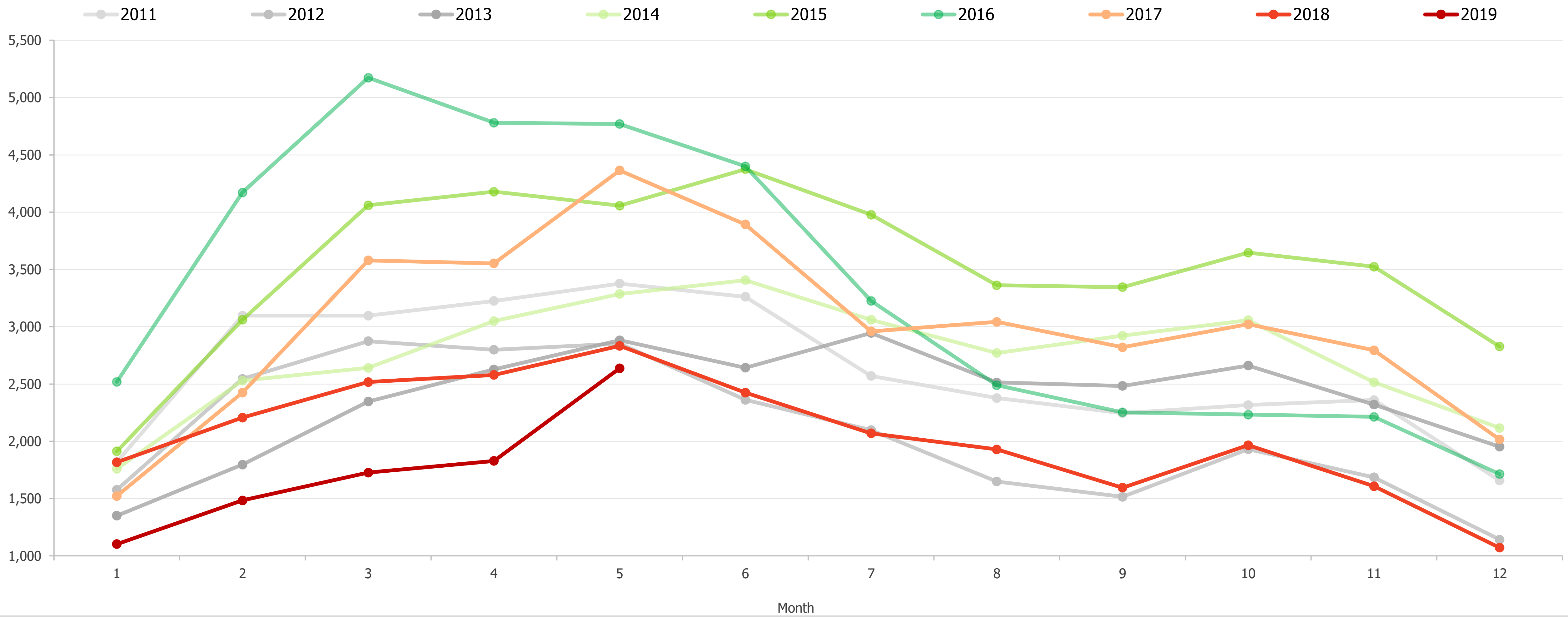
While no two houses are the same, even on the same street, someone is still eating a considerable loss here. The house on the left is not renovated at all, so let's generously throw in $200K for renovations – that's still an implied loss of $395K or -27%.

SAME HOME, -$730K LOSS

Buying at the peak and taking a -35% haircut two years later – brutal, to say the least.

EXISTING HOME SALES, STACK

METRO VANCOUVER AREA



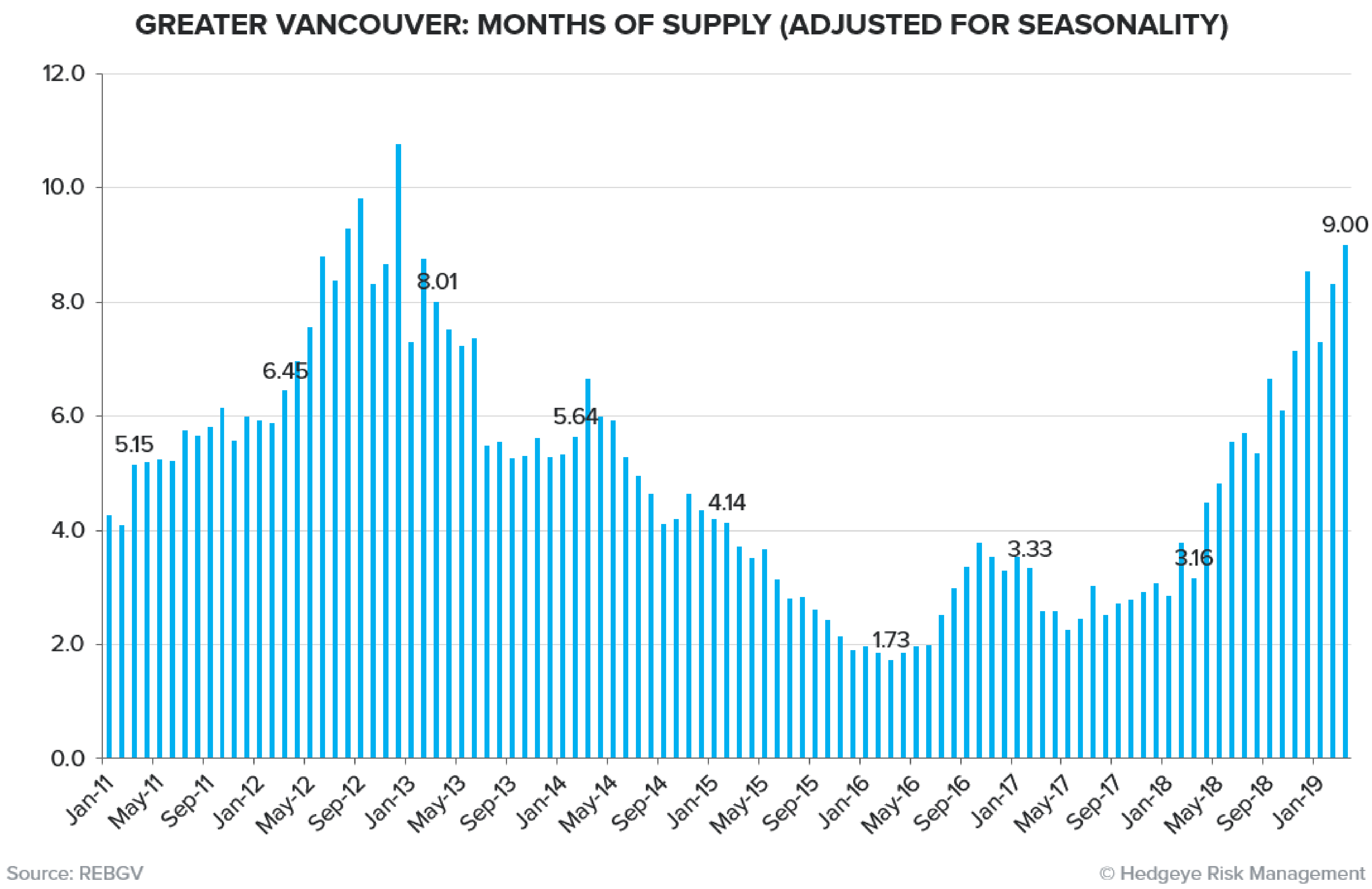
BOTTOM DWELLING

Sales volumes reside at the lows of the past 9 years.

Data Source: REBGV

MONTHS OF SUPPLY

METRO VANCOUVER AREA



A massive rise in supply.

GVA: Adjusted Months Supply Sensitivity Analysis

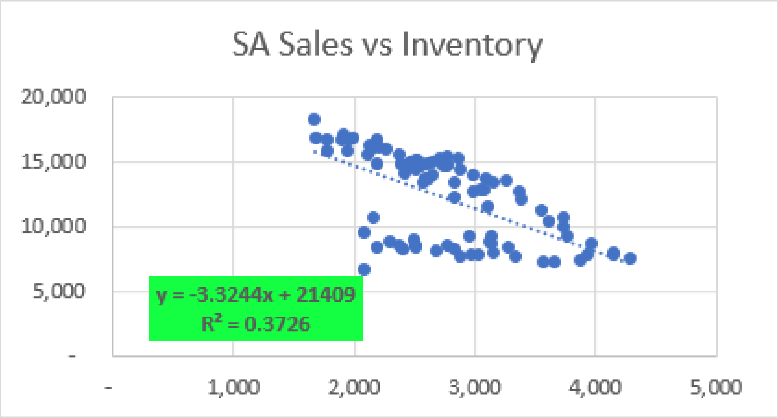
Change in Unit Inventory

Change in Unit Sales	-10%	-5%	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
10%	3.94	4.16	4.38	4.60	4.82	5.04	5.26	5.48	5.70	5.92	6.14	6.36	6.57
5%	4.13	4.36	4.59	4.82	5.05	5.28	5.51	5.74	5.97	6.20	6.43	6.66	6.89
0%	4.34	4.58	4.82	5.06	5.30	5.54	5.79	6.03	6.27	6.51	6.75	6.99	7.23
-5%	4.57	4.82	5.08	5.33	5.58	5.84	6.09	6.34	6.60	6.85	7.11	7.36	7.61
-10%	4.82	5.09	5.36	5.62	5.89	6.16	6.43	6.70	6.96	7.23	7.50	7.77	8.04
-15%	5.10	5.39	5.67	5.96	6.24	6.52	6.81	7.09	7.37	7.66	7.94	8.22	8.51
-20%	5.42	5.73	6.03	6.33	6.63	6.93	7.23	7.53	7.83	8.14	8.44	8.74	9.04
-25%	5.79	6.11	6.43	6.75	7.07	7.39	7.71	8.04	8.36	8.68	9.00	9.32	9.64
-30%	6.20	6.54	6.89	7.23	7.58	7.92	8.27	8.61	8.95	9.30	9.64	9.99	10.33
-35%	6.68	7.05	7.42	7.79	8.16	8.53	8.90	9.27	9.64	10.01	10.38	10.76	11.13
-40%	7.23	7.63	8.04	8.44	8.84	9.24	9.64	10.04	10.45	10.85	11.25	11.65	12.05
-45%	7.89	8.33	8.77	9.20	9.64	10.08	10.52	10.96	11.40	11.83	12.27	12.71	13.15
-50%	8.68	9.16	9.64	10.12	10.61	11.09	11.57	12.05	12.54	13.02	13.50	13.98	14.46

Key: y = -0.042x + 0.290

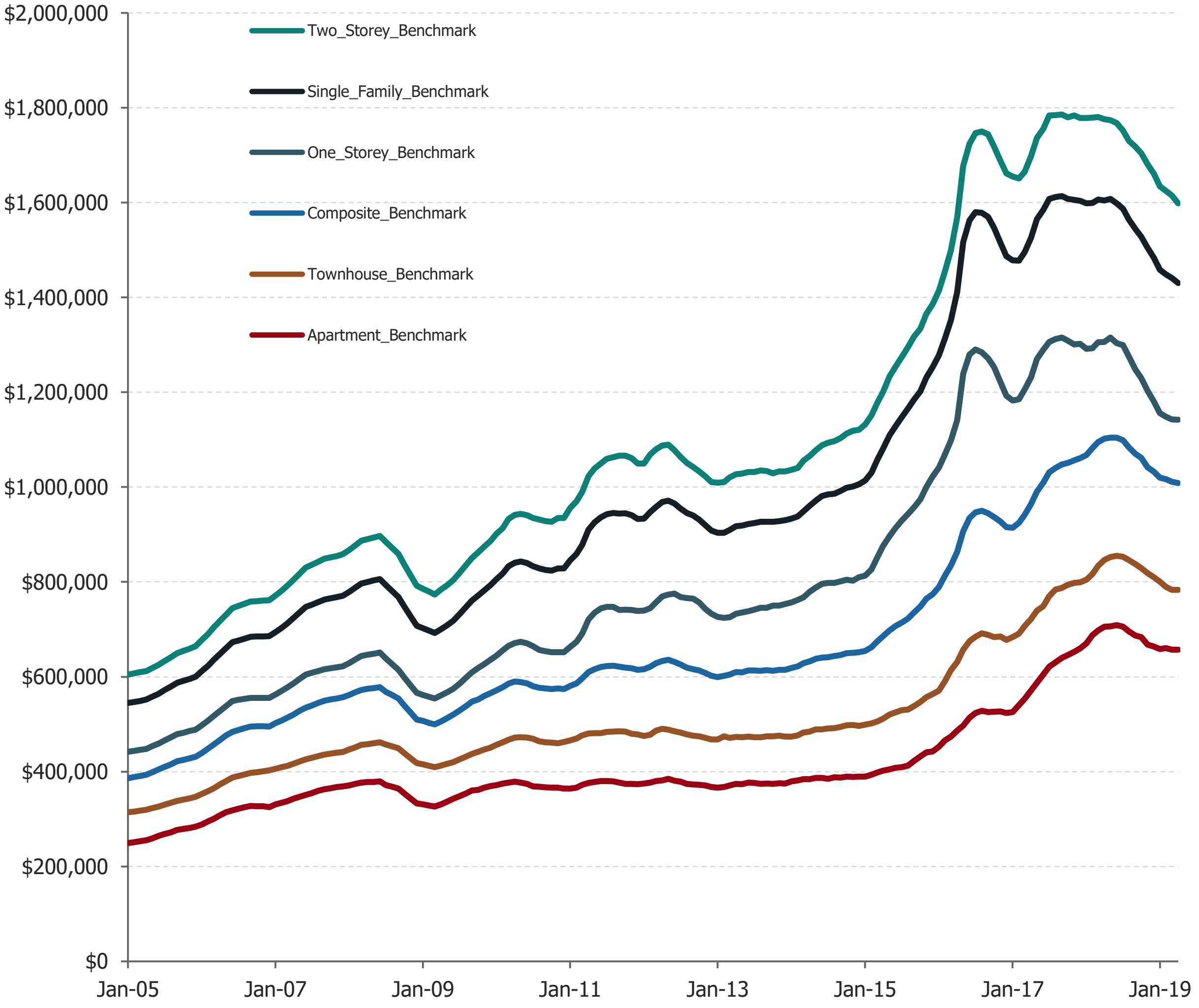
Months Supply		Home Price %ΔY/Y
1.00	=	25%
2.00	=	21%
3.00	=	16%
4.00	=	12%
5.00	=	8%
6.00	=	4%
7.00	=	0%
8.00	=	-5%
9.00	**=**	**-9%**
10.00	=	-13%
11.00	=	-17%
12.00	=	-21%

** SA Sales Changes Explain ~37% of SA Inventory Changes **



PRICING DYNAMICS: ROLLING OVER

METRO VANCOUVER AREA, MLS HPI



Source: CREA, MLS HPI

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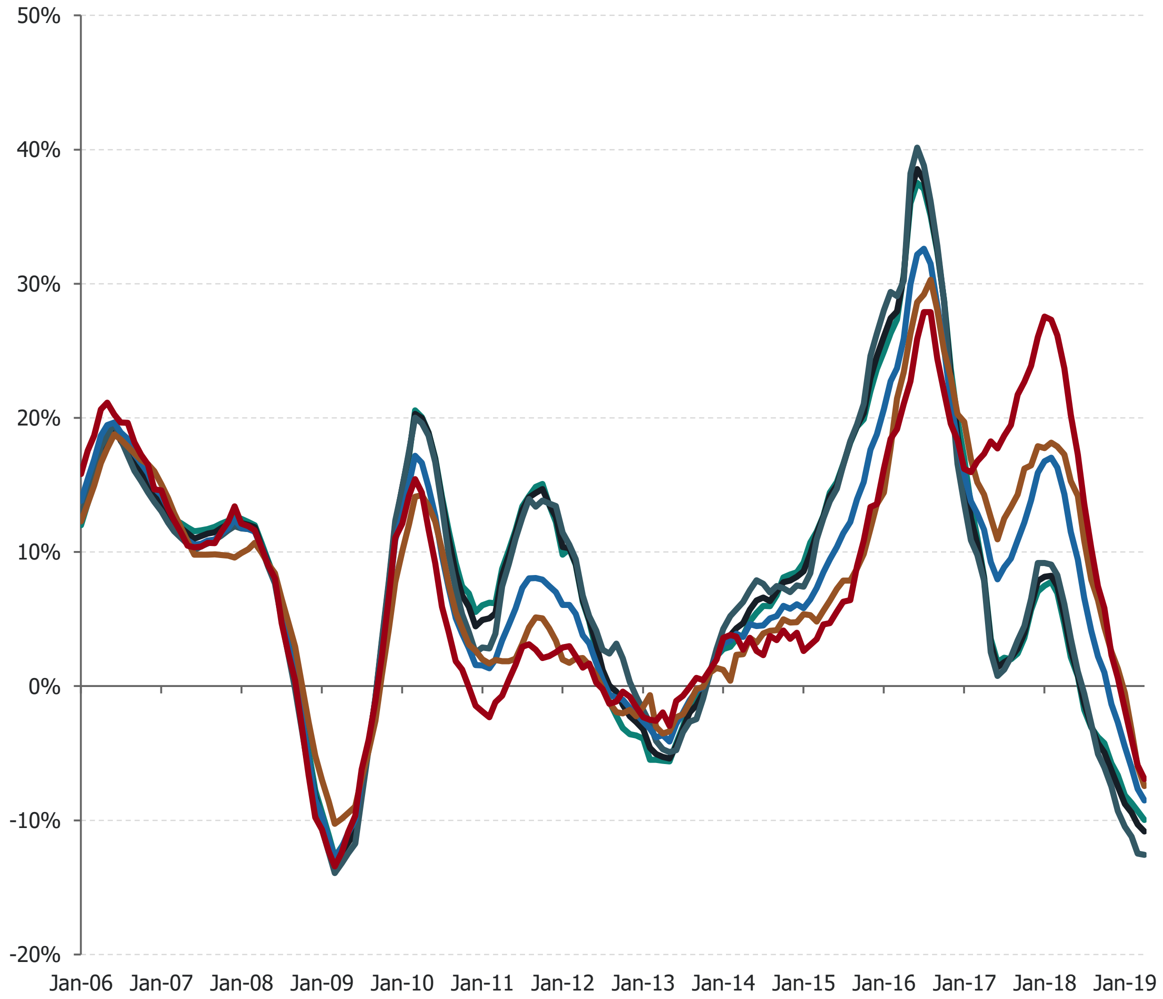
%ΔY/Y



Source: CREA, MLS HPI

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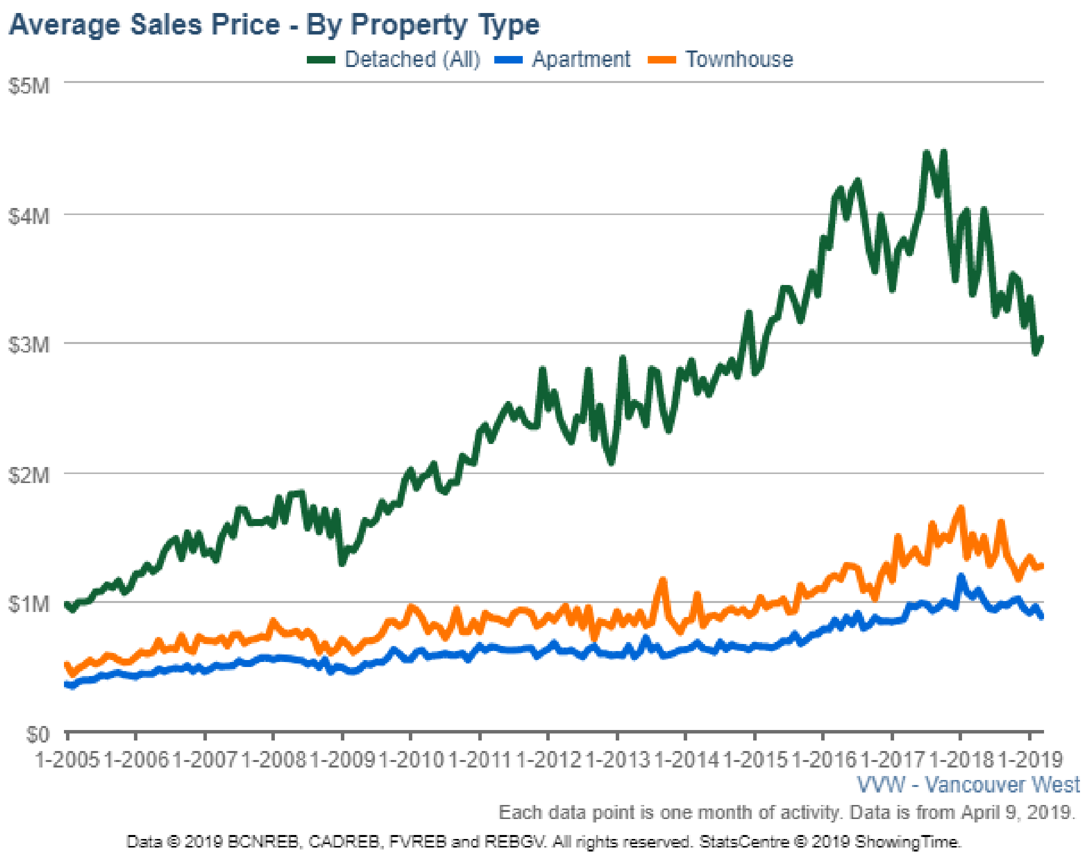
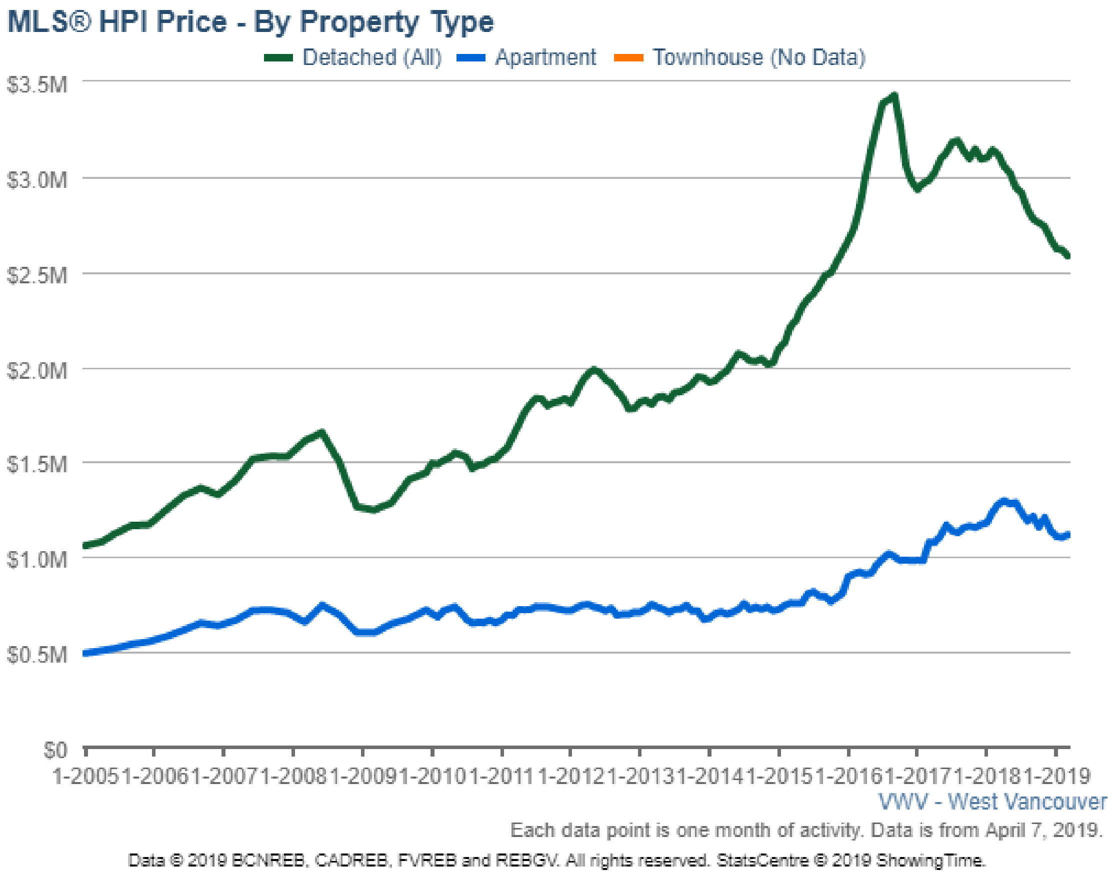
Data Source: CREA, MLS HPI

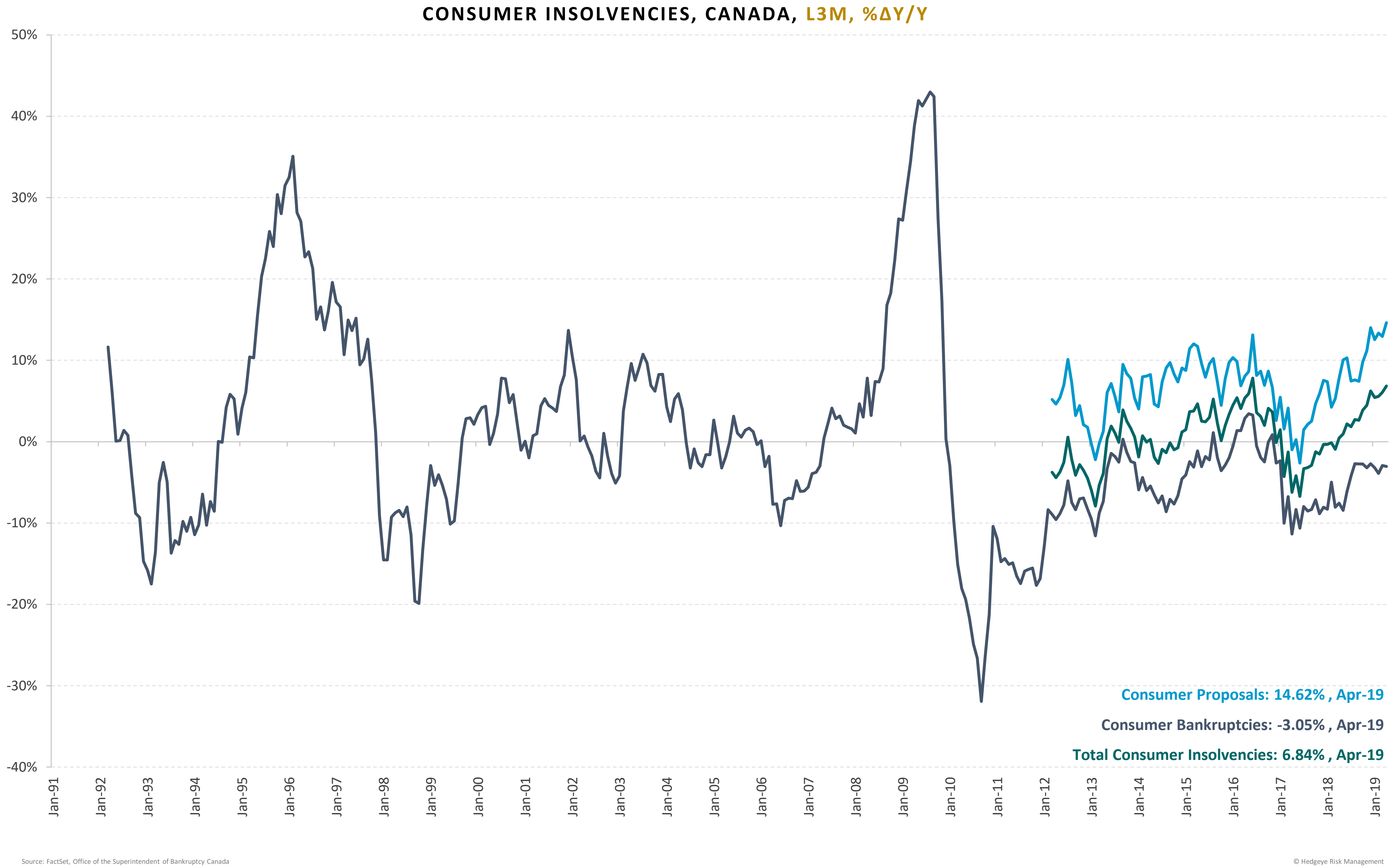
AVERAGE SALES PRICE OF DETACHED HOME DOWN -32% FROM 2016 PEAK



BENCHMARK SALES PRICE OF DETACHED HOME DOWN -25% FROM 2016 PEAK



DETERIORATING HOUSEHOLD FINANCES



Increasing consumer proposals are causing total consumer insolvencies to rise as borrowers seek alternatives to personal bankruptcy.

Recall, a consumer proposal is a formal, legally binding process to negotiate an offer to pay creditors a percentage of what is owed to them, or extend the time until the debts must be paid off.

THE BIG 6 BANKS

THE BIG 6 – RESIDENTIAL MTG + HELOC EXPOSURE

The Big 6: Canadian Residential Mortgage and HELOC Exposure as at January 31, 2019 / 1Q19

CAD (MM)	**BMO**			**BNS**			**CM**		
	Insured	Uninsured	Total	Insured	Uninsured	Total	Insured	Uninsured	Total
Ontario	18,444	43,600	62,044	41,050	79,205	120,255	33,200	81,400	114,600
British Columbia	5,866	21,106	26,972	13,429	29,634	43,063	11,800	35,100	46,900
Alberta	10,349	8,877	19,226	18,113	15,695	33,808	14,400	13,900	28,300
Quebec	8,019	13,277	21,296	7,658	9,332	16,990	6,300	9,800	16,100
Other	5,426	5,327	10,753	11,441	11,306	22,747	8,600	8,700	17,300
Total	48,104	92,187	140,291	91,691	145,172	236,863	74,300	148,900	223,200
% of Total									
Ontario	13%	**31%**	44%	17%	**33%**	51%	15%	**36%**	51%
British Columbia	4%	**15%**	19%	6%	**13%**	18%	5%	**16%**	21%
Alberta	7%	6%	14%	8%	7%	14%	6%	6%	13%
Quebec	6%	9%	15%	3%	4%	7%	3%	4%	7%
Other	4%	4%	8%	5%	5%	10%	4%	4%	8%
	34%	66%	100%	39%	61%	100%	33%	**67%**	100%
Gross Consolid. Loans			**399,232**			**571,216**			**376,776**
Mtg Book % of Total			35%			41%			**59%**

CIBC (TSX:CM) has the greatest uninsured exposure to Ontario and B.C., home to Canada's two most notorious property markets.

THE BIG 6 – RESIDENTIAL MTG + HELOC EXPOSURE

The Big 6: Canadian Residential Mortgage and HELOC Exposure as at January 31, 2019 / 1Q19

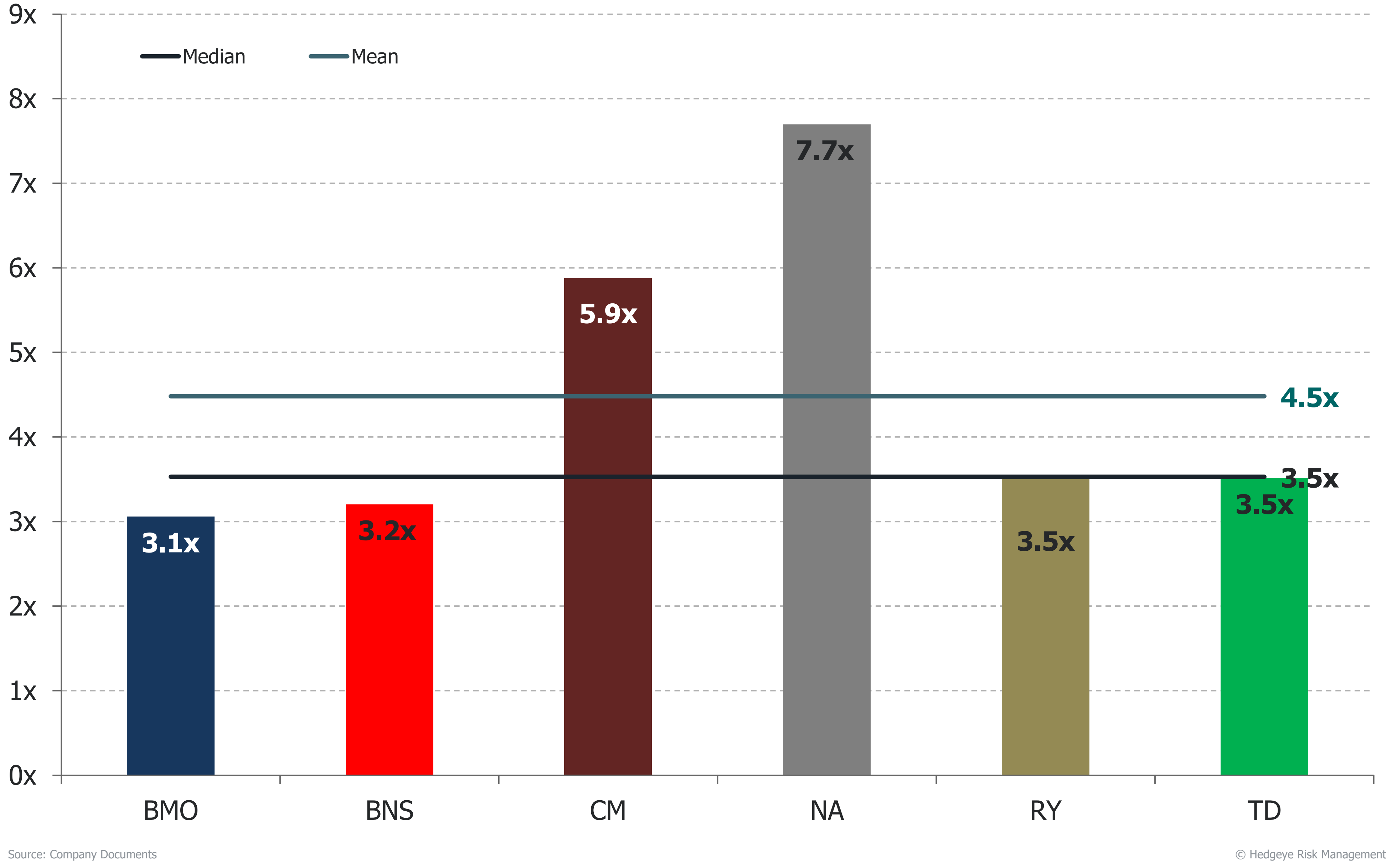
CAD (MM)	**NA**			**RY**			**TD**		
	Insured	Uninsured	Total	Insured	Uninsured	Total	Insured	Uninsured	Total
Ontario	7,497	10,441	17,938	37,802	97,183	134,985	41,261	102,510	143,771
British Columbia	2,151	2,359	4,510	15,274	42,248	57,522	14,000	38,360	52,360
Alberta*	3,537	1,712	5,249	20,490	23,629	44,119	26,632	26,102	52,734
Quebec	12,678	24,138	36,816	12,777	23,031	35,808	10,236	14,077	24,313
Other	2,089	1,303	3,392	16,525	19,547	36,072	3,869	3,908	7,777
Total	27,952	39,953	67,905	102,868	205,638	308,506	95,998	184,957	280,955
% of Total									
Ontario	11%	**15%**	26%	12%	**32%**	44%	15%	**36%**	51%
British Columbia	3%	**3%**	7%	5%	**14%**	19%	5%	**14%**	19%
Alberta	5%	3%	8%	7%	8%	14%	9%	9%	19%
Quebec	19%	36%	54%	4%	7%	12%	4%	5%	9%
Other	3%	2%	5%	5%	6%	12%	1%	1%	3%
	41%	59%	100%	33%	**67%**	100%	34%	**66%**	100%
Total Gross Loan Book			**147,374**			**592,881**			**652,197**
Mtg Book % of Total			46%			52%			43%

*TD accounts for Alberta loans within its Prairies grouping

Royal Bank of Canada (TSX:RY) has the largest uninsured domestic mortgage book both on an absolute and relative basis.

Data Source: Company Documents

UNINSURED BOOK TO REGULATORY CAPITAL



National Bank's (TSX:NA) uninsured mortgage book amounts to 7.7x of CET1, albeit a large part of that book is based in Quebec.

Meanwhile, CIBC's uninsured book constitutes 5.9x its CET1 capital, while maintaining the largest exposure to Ontario and B.C. among the big 6 banks.

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