TD Economics

Housing Bubble Watch

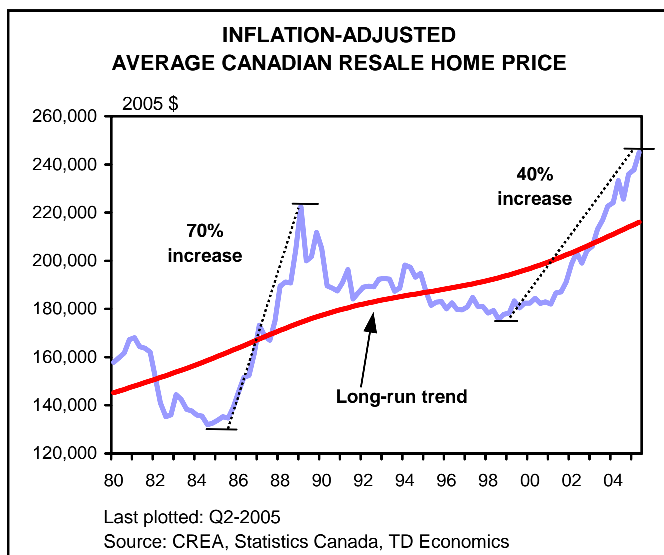
July 27, 2005

COOLING HOUSING MARKET SHOWS NO SIGNS OF BUBBLY BEHAVIOUR

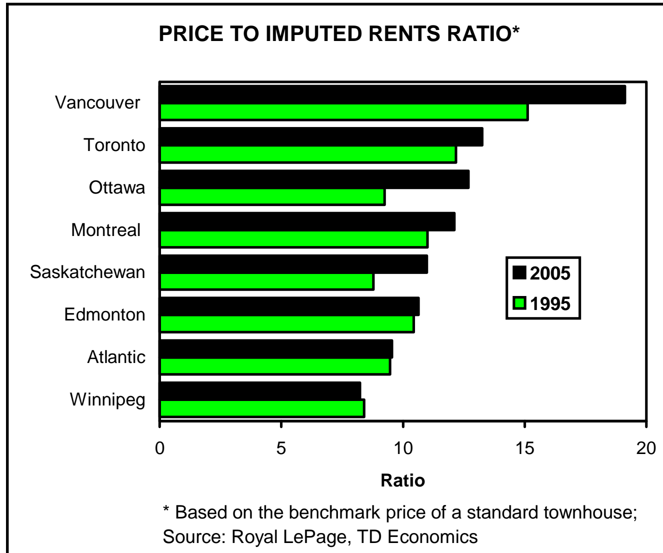
This new quarterly report monitors for the presence of a speculative housing bubble in local markets across Canada. In this regard, several indicators are used to look for generally agreed upon characteristics of bubble behaviour: i.e., whether the level of home prices are being bid up beyond what is consistent with underlying fundamentals and whether homebuyers are doing so with the expectations of future price increases. It is important to note, however, that it is, by definition, impossible to identify a bubble before it bursts, since rational investors would refuse to hold any asset whose price was certain to fall.

Canadian home prices rose by more than 8 per cent from a year ago in the second quarter, buoyed by a dip in mortgage rates that helped to improve affordability. (The average five-year chartered bank posted mortgage rate dropped by about 15 basis points to 6 per cent in the second quarter). At first glance, the current pace of home price appreciation might sound excessive to some and might raise concerns about a growing speculative bubble akin to the late 1980's experience or the "frothy" condition south of the border. However, Canada's recent price gains must be put into context.

First, the pace of today's inflation-adjusted home price gains is much slower than the late 1980's (i.e., during the last national housing bubble.) For example, the trough to peak gain during the 1980's bubble was about 70 per cent and occurred over just 16 quarters. In the current cycle, which is now in its 27th quarter, the trough to peak gain in inflation-adjusted home prices has only been 34 per cent. Moreover, the annual rate of home price appreciation has already begun to moderately cool from the double-digit pace registered last year thanks to an increase in housing supply (both from the new and resale market). This has helped to provide potential homebuyers with more choice and accordingly, the market is rationally responding to the increase in supply by reducing the rate at which prices are growing.



Second, and perhaps more importantly, the economic backdrop in which the current price gains are occurring are fundamentally more supportive to the housing market than they were in the late 1980's. In particular, employment rates are high while interest rates are significantly lower than in the late 1980s and they are expected to eventually rise only modestly thanks to a relatively benign inflation environment. To that end, we can effectively rule out the existence of a nationwide housing bubble since



national home prices do not appear to be irrationally overheating, but are in fact already cooling.[1] However, since there is also no "national housing market" to speak of, we should also look at the characteristics of regional markets in Canada.

Since the most basic definition of a housing bubble is that prices are being bid up beyond what their underlying fundamentals would justify, then most regional housing markets in Canada would not qualify for "bubble" status either. The best evidence of this comes from the stability of housing price/earnings (P/E) ratios across most local markets in Canada. (See page 7 for our bubble watch indicators and their definitions.)

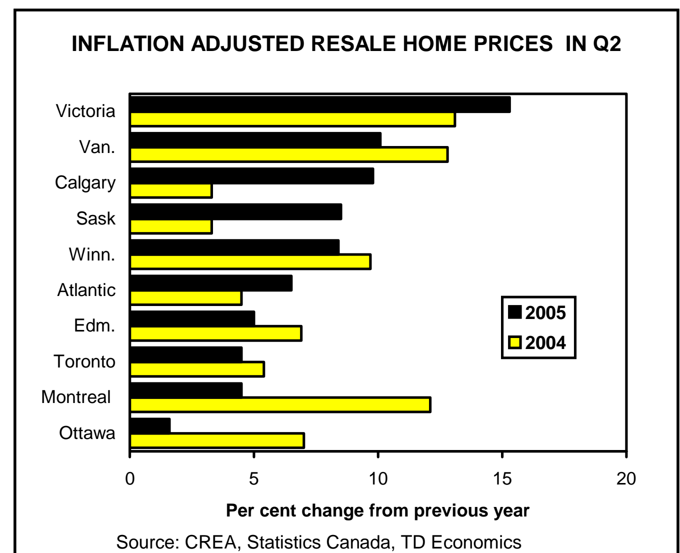
While it is true that almost every region has seen some increase in their P/E ratios over the past few years, much of this can be justified on the grounds that historically low borrowing rates have helped to boost the equilibrium value of home ownership.[2] Support for this conclusion comes directly from the own vs. rent indicator, which has not only improved from last year in most regions of Canada but is also in some cases, even better than in 1995. Clearly, this suggests that despite higher general prices, low mortgage rates have been a major fundamental factor supporting the value of home ownership across most of Canada.

Regional Overviews

Atlantic – Housing markets in the Atlantic remain effectively balanced with an increase in the inventory of existing home listings helping to stave off any excessive price pressure. As a result, the Atlantic P/E ratio remained rangebound at 9.5 in the second quarter of 2005 while its own vs. rent indicator improved to 55.3 in the second quarter from 64.9 a year ago. Meanwhile, the decline in mortgage rates during the second quarter helped to improve affordability to 17.1 per cent and this remains one of the best rates in Canada. Given the benign readings registered by our indicators, the threat of a housing bubble in the Atlantic looks extremely low.

Montreal - A substantial improvement in the supply of new and resale housing has helped to cool down price pressure in this city. For example, the annualized inflation-adjusted home price gain the second quarter of 2005 was 4.5 per cent, less than half the rate it was just a year ago. Part of this slowdown in pricing pressure can also be related to the substantial reduction of what appeared to be speculative buying in Montreal's housing market last year. For example, in the second quarter of 2004, Montreal's irrational exuberance indicator was up at 26.8 but has since fallen to an unthreatening level of 8.4. This, combined with the recent slowdown in pricing growth, effectively rules out the possibility of a growing housing bubble in Montreal.

Ottawa – Ottawa's housing market has also cooled down substantially from last year. Although existing home sales remain elevated, there has been a solid increase in new listings, which has effectively helped to keep the city's housing market in balanced territory. The result is a significant slowdown in the annualized rate of inflation-adjusted home price growth to 1.6 per cent. With little evidence of speculative activity and a P/E ratio that has only



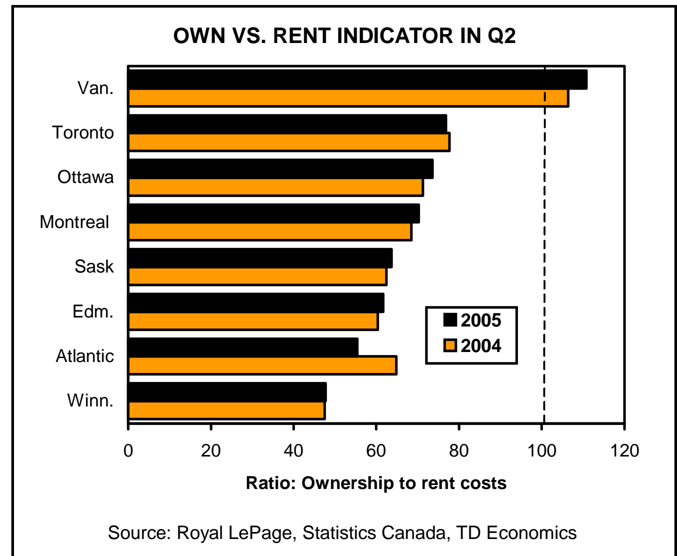
risen off of previous lows, there appears to be no risk of a housing bubble in Ottawa.

Toronto - Much has recently been made of Toronto's red-hot real estate market. However, the city's current housing P/E ratio (at 13.3) is not that different from its 1995 value (i.e., before the current housing boom) and it remains well below the 14.4 reading back in 1989 during the height of the last housing bubble. This suggests that while home prices have indeed risen in Canada's largest city, effective rents, which should reflect economic fundamentals, have largely kept up as well. Furthermore, there are few signs of irrational exuberance in Toronto's housing market as our indicator sits at just 8.0 compared to a whopping 48.6 during the late 1980's. These factors along with a marginal improvement in affordability during the second quarter of 2005 should provide enough evidence to quash any talk of a housing bubble in Toronto.

Winnipeg –An increase in the inventory of new listings has not been able to satisfy the growing number of potential buyers in Winnipeg. As a result, pricing pressure remains intense (inflation adjusted home prices are up 8.4 per cent from a year ago). But the strong growth in prices in this traditionally stable housing market should be viewed as a correction from past undervalued levels. Indeed, Winnipeg's housing P/E ratio only increased to 8.2 in the second quarter of 2005, and is still the lowest in the country. Furthermore, Winnipeg remains one of the least expensive cities to own a home given its own vs. rent indicator is holding steady at 48 and its affordability indicator is sitting at just 10.9 per cent.

Saskatchewan – The province's vibrant resource based economy has stimulated a solid increase in housing activity this year. The result is a substantial pick-up in its inflation-adjusted rate of price appreciation to 8.5 per cent in the second quarter from 3.3 per cent the year before. But the jump in pricing pressure should not be viewed as indicative of a bubble given that affordability remains sound and has actually improved to 16.1 per cent from 16.2 per cent the year before. This improvement is not only due to lower mortgage rates, but also stronger income growth as well.

Calgary – Housing activity is picking up again in Calgary this year. As a result, its inflation adjusted home prices increased a solid 9.8 per cent from a year ago in the second quarter after slowing to just 3.3 per cent during the same period last year. While the recent increase in prices is largely due to tighter market conditions, increased speculative activity is also a minor factor given that our irrational exuberance indicator recently moved to 13.5 in the second quarter – the second highest in the country. However, the threat of a burgeoning housing bubble remains low in Calgary given that underlying economic fundamentals remain strong. In particular, affordability improved to 17.7 per cent from 18.4 per cent the year before partially thanks to a booming oil patch that has generated strong income growth.



Edmonton - Despite a decline in posted mortgage rates during the second quarter, slightly slower income growth prompted a marginal erosion of affordability to 13.9 per cent in Edmonton. However, even with that erosion, Edmonton still remains the second most affordable large city to own a home in the country. And with its P/E ratios remaining generally stable along with little evidence of speculation, risks of a housing bubble developing in Edmonton are also very low.

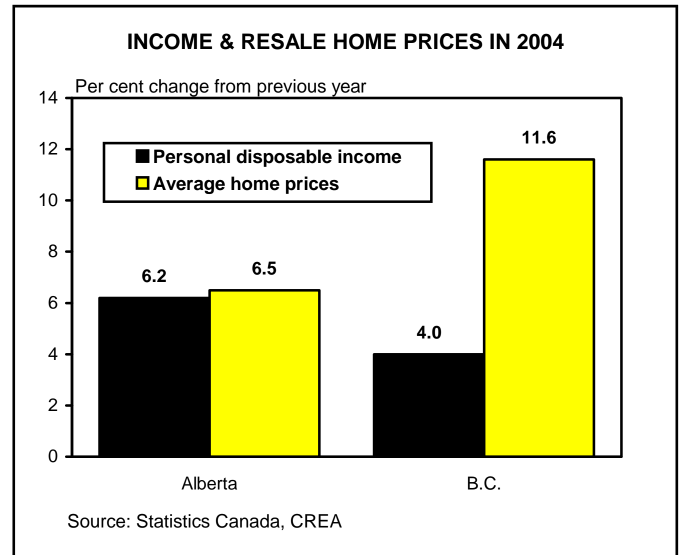
Vancouver - Vancouver's housing P/E ratio has risen much faster than any other major city in Canada over the past few years. Certainly, supply constraints related to Vancouver's unique and picturesque geography can partly explain why the price of its housing and therefore the level of its P/E ratio are typically higher than other regions in Canada. But it cannot be used to explain the relative change in this ratio from one period to the next since there would be no fundamental reason to expect such a "geographical premium" to grow so significantly over such a short pe-

riod of time. Therefore it is likely that increased speculation by both investors and potential homebuyers in Vancouver has been a significant factor in driving up home prices in that city beyond underlying rents. Indeed, our "irrational exuberance" indicator in Vancouver was as high as 21.7 last year and has only recently moderated to 15.4. In addition, despite recent lows in mortgage rates, the deterioration of Vancouver's own vs. rent indicator suggests that it is currently cheaper to rent than to own our benchmark property (townhouse) in this city. As a result, we believe the risks of a speculative bubble are elevated in Vancouver's housing market.

Victoria - While estimated rents (and therefore P/E ratios) are unavailable for Victoria, other indicators are pointing to increasing risk of a housing bubble in Victoria. For example, income growth has struggled to keep pace with the inflation adjusted 15 per cent rise in average home prices from a year ago, resulting in the significant erosion of affordability. In fact, among the regions examined, Victoria is the second least affordable city to own our benchmark property (the least affordable is Vancouver). Furthermore, our indicators suggest that Victoria's rapid price gains can be linked to an elevated level of irrational exuberance. Anecdotal reports of speculative interest in Victoria as a resort destination, especially from potential American buyers, lend support to this assertion. And this becomes even more troubling given that some of the cash being used to support American real estate interests in Victoria (and to some extent in Vancouver as well) may itself have been derived from over-inflated home prices in some U.S. cities.

SPECIAL FOCUS: WHY THE RISKS OF A HOUSING BUBBLE ARE HIGHEST IN VANCOUVER AND VICTORIA

Admittedly, it should be acknowledged that booming economic conditions in British Columbia thanks to high commodity prices and strong investment demand along with a recovery in population growth can justify *some* of the outsized home price gains in Vancouver and Victoria. But it cannot justify *all* of it. To illustrate, consider a simple comparison of economic fundamentals between Alberta and British Columbia. In 2004, British Columbia experienced a solid 4.0 per cent increase in personal disposable income growth, although just as strong economic



conditions in Alberta resulted in disposable income growth that was slightly faster than British Columbia's. And while Vancouver and Victoria saw their populations increase by 0.9 and 0.6 per cent respectively in 2004, population growth in Calgary and Edmonton was nearly twice as fast at 1.8 and 1.1 per cent respectively. Yet, home prices in Alberta did not see the same type of appreciation in B.C. nor did Alberta see as much erosion in housing affordability either.

This point emphasizes the fact that current economic conditions cannot fully account for the pace of housing price growth in Vancouver and Victoria. Furthermore, even if economic growth in B.C. was expected to be significantly stronger than Alberta's in the *future*, then the estimated P/E ratio for Vancouver should have remained fairly stable since effective rents should have also grown to reflect that.

Olympics could justify some of the recent premium in prices

In some cases, the outsized growth in the price of an asset like a home can be partly justified by a premium that would reflect unrealized future economic gains yet to be captured by current cash flows. In terms of Vancouver's home prices, one of those frequently cited premiums relates to the awarding of the 2010 Winter Olympics. Indeed, past Olympic host cities have seen significant house price premiums after their awarding of the Games due to expected future benefits accruing from improved facili-

HOUSE PRICE CHANGES IN OLYMPIC CITIES IN THE 5 YEARS LEADING UP TO THE GAMES			
	5 Yr. % increase Host City	5 Yr. % increase Host Nation	Premium (%)
1996 Atlanta	19	13	7
2000 Sydney	50	39	11
2004 Athens	63	55	8
Average			8.7
Source: Halifax			

ties and transport links and to a lesser extent, from increased tourism.

For example in 1996, the Olympic host city of Atlanta experienced a cumulative 7 percentage point premium in house price growth over its national average in the five years leading up to the Games. In 2000, the host city of Sydney experienced a cumulative 11 percentage point growth premium over its national average during the same time frame. However, in only the two years since its awarding of the Games, the cumulative increase in Vancouver's home prices was 6 percentage points more than the Canadian average growth rate. If Vancouver's home prices continued to appreciate at its current pace over the next five years, its comparable "Olympics house price premium" would be almost double the respective gains made in these two previous host cities. And that could only be justified if Vancouver homeowners somehow derived larger economic benefits from the Olympics than their counterparts in either Sydney or Atlanta – a prospect that seems highly unreasonable.

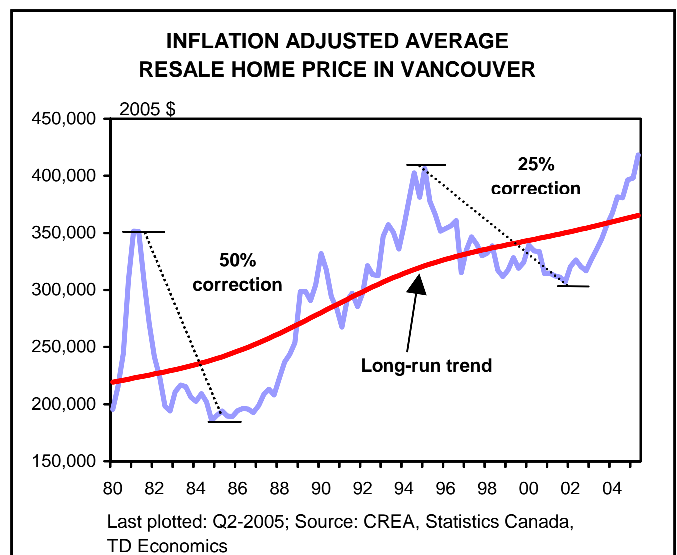
Of course, it is harder to use the coming Olympics as the justification behind Victoria's cumulative 14 percentage point gain in house prices over the national average since the awarding of the Games. That's because its not at all clear how Victoria would stand to benefit from the infrastructure enhancements occurring on the Lower Mainland because of the Olympics, aside from spillover tourist effects.

Is there a correction in the cards for these B.C. cities?

Thus, it has become increasingly difficult to reconcile the outsized pace of home price growth in Vancouver and Victoria with underlying fundamentals in these regions. While this may not definitively prove the existence of a housing bubble in Vancouver and Victoria, our analysis does suggest that these two cities have the greatest risk in Canada of seeing a price correction at some point in the future.

If history is any guide, past housing price corrections in Vancouver have resulted in cumulative real price declines of anywhere from 50 per cent (1981-83) to about 25 per cent (1996- 2001).[3] This is not to suggest that a correction of similar magnitude is forthcoming for Vancouver and Victoria, especially given that many of the factors partly driving B.C.'s home prices today are, and should continue to be, more supportive than previous housing cycles. In particular, it is extremely unlikely that the macroeconomic picture (i.e., inflation and interest rates) will deteriorate to the same extent as previous cycles. But these past corrections serve as a reminder that just because a location is geographically attractive and growing, that does not preclude a fall in its real home prices.

But predicting exactly when such a possible correction will occur is difficult since potential speculative bubbles can persist for much longer than fundamentals warrant. For example, despite Alan Greenspan's famous 1996 warnings of "irrational exuberance," the stock market continued to grow for another four years. And while homes in Sydney did ultimately see material benefits from hosting the Olympics, that home price premium now looks to have been overly optimistic, given that Sydney's average home prices have subsequently fallen by about 15 per cent since 2003. Furthermore, Sydney's home price correction was triggered without either a big hike in interest rates or a weakening economy. This is an important point: no single fundamental factor would necessarily provoke a correc-



tion should there be a bubble. What usually provokes it is a significant change in buyer psychology, and predicting that is almost always impossible.

Consequently, any attempts to quantify or time (and thereby profit from) a possible market correction in Vancouver or Victoria would be a rather futile if not dangerous endeavor. But what prices will do in the next five years should not be of great importance to any potential homeowner in Vancouver or Victoria who is simply buying for the long-run since real home prices have consistently grown over the longer-term despite short-term cyclicality. Therefore, what is important is whether homeownership fits a potential buyer's lifestyle and whether that potential buyer can reasonably afford to make the payments on their home. In this regard, if a potential homebuyer is financially comfortable enough to make their mortgage payments while enjoying their house, any potential fall in the market price of their home should have little to no impact on their standard of living.

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Endnotes:

[1] This reflects our view in a recent topic paper. See: http://www.td.com/economics/topic/cg0405_housing.pdf

[2] Since a home can be thought of as an income-producing asset, then the value of such an asset should ideally be the discounted present value of the net income it provides, with the discount rate being the current yield on a competing asset with comparable risk characteristics. Even if the net income stream remains constant, any decline in the discount rate (because of innovations in credit markets or lower liquidity risks) would boost the equilibrium value of the asset.

[3] Given data limitations, historical precedents for home price corrections are not available in Victoria. However, historical precedents for home price corrections in other Canadian cities are available – the most famous is the cumulative 41 per cent real decline in Toronto home prices following its 1989 housing bubble.

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BUBBLE WATCH INDICATORS - Second Quarter of Each Year										
	Atlantic	Montreal	Ottawa	Toronto	Winn.	Sask	Calgary	Edm.	Van.	Victoria
Real Annualized Price Gain (%)										
1989	-1.7	1.8	2.3	20.1	-4.5	-2.2	6.5	2.7	31.1	12.6
1995	-3.4	-5.3	-5.0	-4.2	-4.3	-0.7	-3.1	-3.8	1.0	-5.5
2004	4.5	12.1	7.0	5.4	9.7	3.3	3.3	6.9	12.8	13.1
2005	6.5	4.5	1.6	4.5	8.4	8.5	9.8	5.0	10.1	15.3
P/E Ratio										
1989	N/A	12.0	10.5	14.4	8.8	N/A	N/A	8.5	11.6	N/A
1995	9.5	11.0	9.2	12.2	8.4	8.8	N/A	10.4	15.1	N/A
2004	10.7	11.3	11.8	12.8	7.9	10.3	N/A	10.0	17.6	N/A
2005	9.5	12.1	12.7	13.3	8.2	11.0	N/A	10.6	19.1	N/A
OWN vs. RENT Ratio										
1989	N/A	115.8	101.6	138.6	84.6	N/A	N/A	81.9	111.7	N/A
1995	71.3	82.9	69.6	91.7	63.3	66.1	N/A	78.7	113.9	N/A
2004	64.9	68.5	71.3	77.7	47.5	62.5	N/A	60.4	106.4	N/A
2005	55.3	70.3	73.6	76.8	47.7	63.7	N/A	61.7	110.8	N/A
Irrational Exuberance Indicator										
1989	-1.3	7.2	5.3	48.6	-14.6	-6.1	9.8	4	57.9	17.6
1995	-15.8	-29.7	-21.2	-6.3	-21.5	-7.7	-11.9	-15.4	16.1	-14.9
2004	8.0	26.8	11.3	10.7	13.2	4.1	6.0	9.9	19.0	16.8
2005	13.0	8.4	3.0	8.0	10.4	13.4	13.5	7.5	12.3	17.6
Affordability (%)										
1989	N/A	28.7	20.7	49.2	20.6	19.7	21.9	15.9	34.0	32.5
1995	19.3	23.0	18.1	27.3	13.0	13.8	17.2	16.2	39.8	43.2
2004	18.1	23.2	20.1	25.3	10.6	16.2	18.4	11.6	35.3	34.7
2005	17.1	24.1	20.4	24.9	10.9	16.1	17.7	13.9	39.2	35.0
N/A = not available										

INDICATOR DEFINITIONS

Real Annualized Price Gain: The twelve-month increase in average home prices deflated by the consumer price index (CPI). Sources: Canadian Real Estate Association, Statistics Canada, TD Economics.

Price to Earnings (P/E) Ratio: This indicator measures the price of a benchmark property in relation to its expected future cash flow. For real estate, this is broadly thought to be the imputed rent yielded by the property. On this basis, imputed rents should theoretically reflect all fundamental factors affecting the property including expected economic conditions. An increase in the P/E ratio suggests that a property's price may have risen faster than what the underlying earnings of that property could generate, potentially implying some overvaluation. A standard townhouse is chosen as a benchmark property since it conceivably represents a median housing choice in the housing market (i.e., this property contains attributes that are similar to both condos and single-family homes). It is also a property type that is consistently found in most urban markets thereby allowing for regional comparisons. Source: Royal Lepage, Statistics Canada, TD Economics.

OWN vs. RENT Indicator: The ratio between the estimated monthly ownership costs of a benchmark townhouse and its imputed monthly rent. Ownership costs only consist of principal and interest payments for the property based on the current 5 year average mortgage rate and a 25 per cent down payment amortized over 25 years. The more the indicator moves above 100, the cheaper it is to rent that property type, all else equal. Sources: Royal LePage, Statistics Canada, TD Economics

Irrational Exuberance Indicator: The ratio between the twelve month percentage increase in inflation-adjusted average home prices and underlying supply and demand conditions. The latter term is estimated as the ratio between sales to new listings in the representative market. The Irrational Exuberance Indicator effectively suggests to what degree home prices are growing in relation to market conditions. For example, an indicator greater than 10, suggests that prices are growing faster than what market conditions would warrant, implying increasing risk of speculative activity. Conversely, an indicator less than –10 would suggest greater negative sentiment than the market would imply. Source: Canadian Real Estate Association, TD Economics.

Affordability Indicator: The percentage of household income needed to service the ownership costs of a benchmark property (townhouse). Ownership costs only consist of monthly principal and interest payments based on the current 5 year average mortgage rate and a 25 per cent down payment for the property amortized over 25 years. Household income is based on median total income for all economic family types. The greater this indicator, the more income it takes to service the costs of ownership. Source: Royal LePage, Statistics Canada, TD Economics