Zeppelin's Real Estate Tech

2Q 2018: A Real Estate Newsletter by Zeppelin Real Estate Analysis Limited
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Surprise, Surprise! Trump and Kim might actually meet and talk things over. At almost the same time, the US has fired the first salvos in what many describe as a trade war toward China and now shots are being exchanged. Elsewhere, 100 plus missiles were fired by the US UK and France at Syrian targets. Not to mention Trump continues to fire his own staff. Meanwhile, the Hong Kong Hang Seng index appears unable to protrude above a certain ceiling amid a weakening HK$ and lots of firing...

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- **1994 to 2017: five cities' residential real estate marathon, who won?**
- **Toronto and Vancouver: how impactful are non-resident real estate purchases?**
- **Toronto apartments: getting smaller like Hong Kong**
- **Typical Canadian household income and expense profile**

"If you score a hole in one each and every time regardless, you will stop playing."

We would also like to hear from prospective readers / writers who wish to share their real estate experience with us.

This quarterly (generally published in spring, summer, fall, and winter) newsletter is circulated freely via email to over thousands of readers comprising real estate developers, investors, fund managers, financiers, owners, users, top executives, senior managers, prominent academics and related professionals from Hong Kong and abroad. Our content is / has also been published in newspapers and web portals such as the **South China Morning Post, China Daily**, **Hong Kong Economic Journal**, **21st Century Business Herald**, **Apple Daily**, **Sing Tao**, **Quamnet Magazine**, **The Standard**, **MITCRE Alumni Newsletter**, **Surveying Newsletter**, **Reidin.com, Centanet.com, Netvigator.com, Hongkong.com, E-finet.com, Red-dots.com, PacificProperties.net**, **Soufun.com** and **House18.com**. We had also been quoted in the **Asian Wall Street Journal** and interviewed by **USA Today**, **i-Money**, **Ming Pao, Radio Hong Kong**, **Cable TV (Money Café), DBC Radio,** and **Commercial Radio**. We also publish monthly articles and analyses in the months in between. This newsletter is now into its **22nd year** and **87th** issue.

We also operate a website **www.real-estate-tech.com** through which we intend to share some of our real estate knowledge and ideas with interested parties. There are close to 1,000 content items, in English or Chinese, including analyses, articles, charts, and tables, plus spreadsheets, tutorials, e-books, and the like, the majority of which is free with some requiring a token fee. The website is regularly visited by thousands from all over the world and focuses on China / Hong Kong real estate markets.

Zeppelin Real Estate Analysis Limited is involved in real estate development, investment, and management with a focus on **independent real estate analysis**. Together with **Zeppelin Partners Limited**, we offer services related to real estate asset management [analysis, investment strategy, and portfolio allocation], project management [architectural design, cost control, and contract administration], and facility management [facility utility assessment, facility strategy, and building maintenance]. We are based in Hong Kong with associated operations in Mainland China and we also have access to regional and global professional networks.

Who? Me?

Stephen Chung
Managing Director, Zeppelin Real Estate Analysis Limited
Creator and Writer, Real Estate Tech Quarterly Newsletter
Real Estate Website Developer, www.Real-Estate-Tech.com

Stephen is an independent real estate analyst – number cruncher and chartered surveyor and has been involved in real estate development, investment, and management in Hong Kong / China / Asia and North America.

Stephen provides relevant real estate market insights and macro-micro assessments to real estate developers, investors, owners, financiers, funds, and civic organizations, and possesses many years of experience in building economics, project management, facility strategy, marketing, and research.

Stephen is also a regular real estate writer - columnist and his articles have been published in both English and Chinese media including the following:

- China Daily
- Hong Kong Economic Journal
- South China Morning Post
- Apple Daily, Sing Tao Daily
- Quamnet Magazine
- Real estate and finance websites such as Soufun.com, Finet.com etc
- Journals of professional institutes such as the Hong Kong Institute of Surveyors

Stephen is an honorary adjunct professor of the University of Hong Kong and has been invited to speak to audiences from:

- Universities: such as the University of Hong Kong, City University of Hong Kong, York University
- Professional Institutes: such as the Hong Kong Institute of Surveyors, Canadian Institute of Quantity Surveyors, Royal Institute of Chartered Surveyors
- Business Associations: such as the Rotary Clubs

Stephen has written 4 real estate books in Chinese to date as follows:

Online book = Easy Real Estate Lectures
Hard copy = Real Estate Investment Know-How above 101
Hard copy = The Real Estate Market Turning Point
E-Report = USA Residential Real Estate Analysis

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Our services can be obtained and delivered via a) tailor-made professional consultation; b) online report purchases; c) emailed discussions and advice; and / or d) phone discussions.

1994 to 2017: five cities' residential real estate marathon, who won?

Real Estate Tech, 2Q 2018

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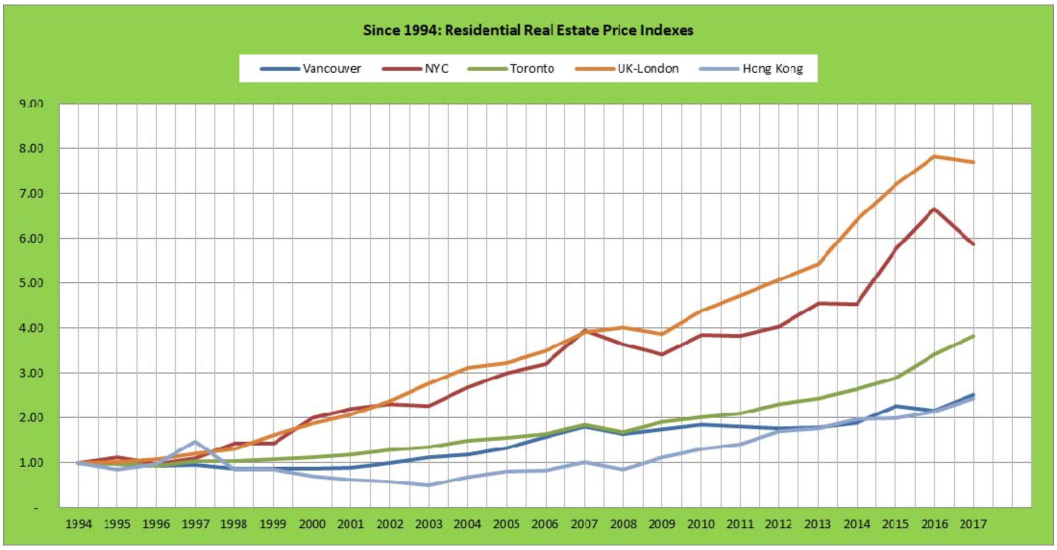
Depends on vintages (courtesy of wine-searcher.com)

The five cities (markets) are Hong Kong, Vancouver, Toronto, London (UK), and New York City. Real estate data were collected on them from various published sources and their residential price performances were indexed, and their returns and volatilities were calculated including a simple return to risk (using volatilities as a proxy) ratio. 1994 is the base year of 1.00:

A) Residential price indexes 1994 to 2017



Note the indexes were compiled using the relevant currencies which the markets generally use e.g. Vancouver and Toronto in Canadian dollars, New York City in US$, and the results might have been different if their exchange rates e.g. to the US$ were used.

Also, some indexes involve more than one source of data, and sometimes the data sources might have amended their methodology and scope of data during the period. That is, there could be an element of subjectivity when your humble author sought to reconcile the figures provided. Nonetheless, the indexes may still reflect the macro directional trends of the markets.

Briefly, overall the Hong Kong market has the weakest performance during the period albeit this might also be a surprise to some readers.

Watch closer and one might realize the importance of timing! You could have selected the most viable market in which to invest but if you enter it at a less than opportune time, your performance might not be any better than entering a lesser market, sometimes even worse. Ditto for exit timing too i.e. it also matters how long you hold onto the investment. Too short and your investment has not quite fully matured to give you the optimal return. Conversely, too long could mean its prime has passed.

Just like wine; while the wine maker matters, the vintage and the 'drinkable' years are important factors to consider too.

B) Return and Risk 1994 to 2017

Cities:	Vancouver	NYC	Toronto	UK-London	Hong Kong
2017 Return %	151%	487%	283%	670%	143%
Std Dev/Average	35%	52%	45%	59%	47%
Return / Risk Ratio	4.31	9.34	6.29	11.28	3.06

Dividing the second row figures by their respective third row figures would yield the return to risk ratios. Hong Kong has the smallest ratio i.e. it has only around 3 units of return for every 1 unit of risk taken.

The above figures can be plotted onto a graph as follows:

The X-axis is the return and generally the 'righter' the better. Y-axis is the risk and the lower the better. Incidentally, Vancouver – Toronto – New York City – London collectively conform to the "the higher the return, the higher the risk" pattern with Hong Kong as an outlier which return matches that of Vancouver albeit at a much riskier level.

In wine language, 1994 is not Hong Kong's good vintage year.

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Toronto and Vancouver: how impactful are non-resident real estate purchases?

Real Estate Tech, 2Q 2018

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Converting all these to Canadian Loonies (courtesy of nerdwallet.com)

The Toronto and Vancouver residential real estate markets, notwithstanding hiccups along the way, have seen prices mostly trending up in the last ten years or so. Coupled this with pricey purchases made by seemingly well-to-do foreign buyers (to some this read Chinese buyers), the impression that these non-residents have been pushing up prices has a lot of takers.

Statistics Canada has published some figures which separately list and compare purchase prices made by residents and non-residents on different types of residence (detached, semi-detached, townhouse, and apartment) and floor area sizes. Note that ‘resident’ in this context may include foreigners who reside in Canada e.g. students attending a Canadian education facility.

Your humble author has abstracted the data and presented them in the tables below:

A) Toronto

TORONTO		Prices:							
		Average C$				Median C$			
Property Type	Floor Area ft2	Resident	Non-Resident	Difference C$	% Difference	Resident	Non-Resident	Difference C$	% Difference
Detached House	Less than 1,000	486,100	497,000	(10,900)	-2.24%	471,000	468,200	2,800	0.59%
	1,000 to 1,999	627,100	671,900	(44,800)	-7.14%	594,000	626,000	(32,000)	-5.39%
	2,000 to 2,999	802,000	868,100	(66,100)	-8.24%	757,000	819,000	(62,000)	-8.19%
	3,000 and up	1,335,600	1,580,400	(244,800)	-18.33%	1,114,000	1,289,000	(175,000)	-15.71%
Semi Detached	Less than 1,000	549,900	556,700	(6,800)	-1.24%	541,500	542,000	(500)	-0.09%
	1,000 to 1,999	578,400	619,200	(40,800)	-7.05%	545,000	588,000	(43,000)	-7.89%
	2,000 to 2,999	728,400	806,300	(77,900)	-10.69%	640,000	736,000	(96,000)	-15.00%
	3,000 and up	1,435,100	1,355,000	80,100	5.58%	1,336,500	1,248,000	88,500	6.62%
Townhouse	Less than 1,000	402,800	400,800	2,000	0.50%	388,000	399,000	(11,000)	-2.84%
	1,000 to 1,999	523,100	555,400	(32,300)	-6.17%	494,000	527,000	(33,000)	-6.68%
	2,000 to 2,999	728,400	801,900	(73,500)	-10.09%	658,000	754,000	(96,000)	-14.59%
	3,000 and up	1,392,200	1,320,900	71,300	5.12%	1,289,500	1,200,000	89,500	6.94%
Apartment	Less than 1,000	337,300	369,200	(31,900)	-9.46%	328,000	356,000	(28,000)	-8.54%
	1,000 to 1,999	432,400	501,200	(68,800)	-15.91%	377,000	447,000	(70,000)	-18.57%
	2,000 to 2,999	1,327,000	1,433,300	(106,300)	-8.01%	1,170,500	1,225,000	(54,500)	-4.66%
	3,000 and up	2,801,800	3,418,500	(616,700)	-22.01%	2,490,000	2,653,000	(163,000)	-6.55%

B) Vancouver

VANCOUVER		Prices:							
		Average C$				Median C$			
Property Type	Floor Area ft2	Resident	Non-Resident	Difference C$	% Difference	Resident	Non-Resident	Difference C$	% Difference
Detached House	Less than 1,000	903,000	843,400	59,600	6.60%	786,400	718,100	68,300	8.69%
	1,000 to 1,999	1,099,700	1,313,300	(213,600)	-19.42%	944,000	1,234,600	(290,600)	-30.78%
	2,000 to 2,999	1,398,300	1,759,400	(361,100)	-25.82%	1,259,000	1,483,500	(224,500)	-17.83%
	3,000 and up	2,344,700	3,393,500	(1,048,800)	-44.73%	1,735,000	2,566,000	(831,000)	-47.90%
Semi Detached	Less than 1,000	Incomplete data	Incomplete data	Incomplete data	Incomplete data	Incomplete data	Incomplete data	Incomplete data	Incomplete data
	1,000 to 1,999	1,117,300	1,261,300	(144,000)	-12.89%	1,093,000	1,220,000	(127,000)	-11.62%
	2,000 to 2,999	1,206,200	1,234,000	(27,800)	-2.30%	1,098,100	1,107,000	(8,900)	-0.81%
	3,000 and up	1,816,200	2,364,800	(548,600)	-30.21%	1,208,000	1,391,000	(183,000)	-15.15%
Townhouse	Less than 1,000	461,700	493,500	(31,800)	-6.89%	423,000	463,000	(40,000)	-9.46%
	1,000 to 1,999	629,400	731,400	(102,000)	-16.21%	544,300	649,000	(104,700)	-19.24%
	2,000 to 2,999	893,400	1,004,900	(111,500)	-12.48%	768,000	862,000	(94,000)	-12.24%
	3,000 and up	1,479,600	2,391,100	(911,500)	-61.60%	1,045,000	1,311,500	(266,500)	-25.50%
Apartment	Less than 1,000	419,100	491,800	(72,700)	-17.35%	396,000	472,000	(76,000)	-19.19%
	1,000 to 1,999	710,200	1,023,400	(313,200)	-44.10%	569,000	858,000	(289,000)	-50.79%
	2,000 to 2,999	3,025,900	3,764,800	(738,900)	-24.42%	2,751,500	3,734,000	(982,500)	-35.71%
	3,000 and up	6,707,100	6,916,100	(209,000)	-3.12%	6,219,000	6,673,000	(454,000)	-7.30%

Several observations can be made:

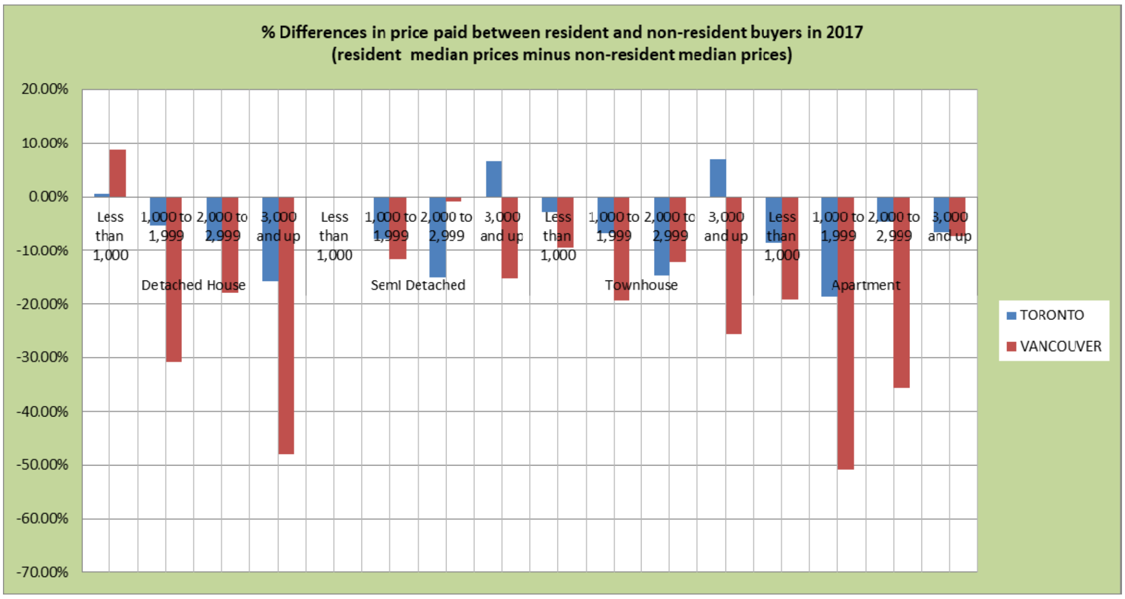
1) Non-resident purchase prices are generally higher than those of resident purchase prices = for the same house types and floor area sizes, whether calculated in average prices or median prices, or be these for Toronto or Vancouver properties.

2) Vancouver generally has larger percentage differences between resident and non-resident purchase prices than Toronto.

3) The percentage differences tend overall to be more pronounced in the larger units of different home types, and also in the detached and apartment types.

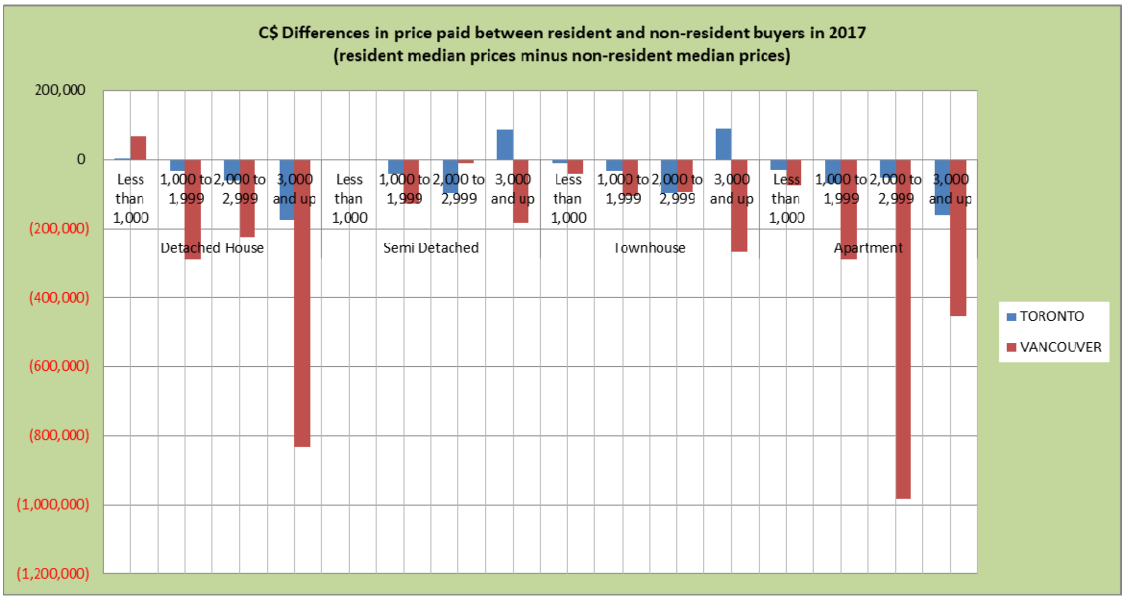
Perhaps these charts can help with illustrating the above observations:

C) Toronto and Vancouver: % price differences using average prices



D) Toronto and Vancouver: % price differences using median prices

E) Toronto and Vancouver: C$ price differences using average prices



F) Toronto and Vancouver: C$ price differences using median prices

Based on the above, it does seem the non-residents tend to pay more for similar properties whether in Toronto or Vancouver. However, many of the percentage price differences tend to be 20% or less with some in single digits, in particular the smaller units. It is mostly in the larger units, and especially those in Vancouver, where we find the gaps to be 30% or larger. In short, the non-residents do pay more but probably not to the extent which some might have imagined.

As to why, perhaps the non-resident buyers have only a short time opening for the buying process e.g. a week whereas residents can spend months looking and negotiating their deals. Another possibility is that what they end up buying are of better (fancier) quality or newer etc. There is also a chance that knowingly or unknowingly they overpay for the properties due to individual circumstances including not being quite familiar with the market, language, and law.

In any event, your humble author thinks one factor might have been overlooked or at least has been understated: and that is easy money, or more commonly known as QE (quantitative easing) , and be this achieved via money-printing, government reserve depletion, private loan absorption, easing of lending restrictions, or the like. Without QE, many assets – real estate included - around the globe would not see the prices seen to date.

And by this logic, you wouldn't have seen those seemingly stacked non-resident real estate buyers either…

Toronto apartments: getting smaller like Hong Kong

Real Estate Tech, 2Q 2018

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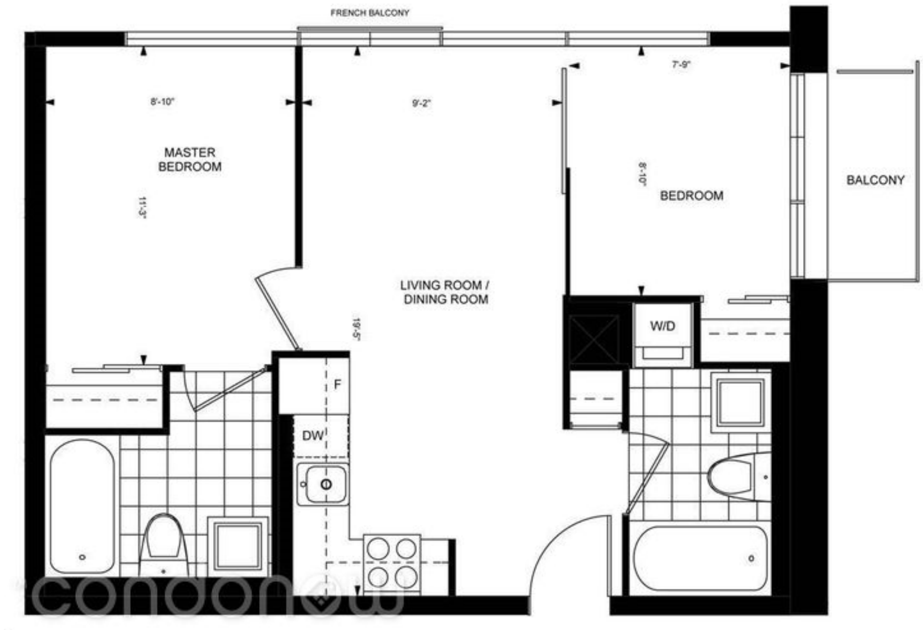

2Bed 2Bath (full) 560 ft2 net (courtesy of condonow.com)

200 ft2 or so apartment units are not a rare sight in Hong Kong and given nowadays few private housing estates sell for less than HK$10K per ft2 net (roughly US$1300 or C$1700 / ft2 net), even these tiny apartments (called flats in Hong Kong) are being scooped up upon sale.

As to why, the simple answer is income and wealth increases lag behind real estate price growths and thus the developers, sensing numerous keen homebuyers, chop up the floor area into more but smaller flats to 'satisfy' the demand.

By no means are Toronto apartment units (popularly referred to as 'condos') getting this tiny yet they seem to be trending down in terms of floor size in recent times. For instance, using your humble author's experience as an anecdote, a 2Bed 2Bath condo unit built in the early 1990s tended to be around 1,000 ft2 net while a 1Bed 1Bath unit averaged 650 ft2 net. Today, a typical newly built 2Bed 2Bath condo unit has only around 800 ft2 net while 1Bed 1Bath tends to be under 600 ft2 net. Moreover, there are now studio units which average 400 ft2 plus or minus 50ft2 net. Your humble author even found a 2Bed 2Bath condo unit under 600 ft2 net:

https://condos.ca/toronto/edge-on-triangle-park-36-lisgar-st/unit-1803-C4095563
(This link may not work if the listing is sold or taken out of the market)

Stating the obvious, we are not marketing this listing nor do we have anything to do with it or the broker i.e. it is included herein just to show that condo unit design in Toronto is getting very practical in the sense that almost no inch of floor space is 'wasted' or underutilized.

Again as to why, your humble author thinks these might play a part:

a) Demand = Toronto is the largest metropolitan in Canada and offers a wider range of job and career opportunities, sucking in migrants from other parts of Canada, not to mention the world. Some population projects suggest increases in tens of thousands per year up to 2020 or so, and the metro residential vacancy rate of less than 2% is a testament to this condition.

And when real estate supply in terms of floor area can't keep up with the increased demand, one way is to build more condo units by making them smaller.

b) Weekday homes = recently, there has been a phenomena of suburbia professionals and executives preferring to buy / rent a small condo unit in or near downtown – where they work and do business on weekdays – thus saving the time (and frustration) in commuting between their suburban homes and downtown offices on a daily basis. They spend their weekends at the suburban homes.

In short, one household doesn't mean the need for just one residence. It may involve two homes in some cases.

c) Students = there are quite a few universities and colleges in Toronto e.g. the University of Toronto, York University, Ryerson etc. Many come from abroad or other parts of the country and university accommodation could be scarce. Renting a condo unit remains the only alternative and studio and 1Bed units fit their needs best, especially those located in downtown.

In addition, there are the elderly detached-house homeowners who have just become empty-nesters and thus might want to move into a townhouse or condo unit. Since they might not always want a tiny condo unit, they collectively are likely to outbid the 1st time homebuyers for the more sizable condo units. This in turn makes the 1st time homebuyers, as a group, settling for the smaller ones, especially when prices have gone up.

Will this trend be reversed e.g. when prices settle down or even decline? That's plausible. However, do note the condo management fees (many, not all, include the condo units' own utilities, or part of them) now average 60 to 70 cents per ft2 net per month.

That means even if prices were to go down, the condo fees tend to be less flexible or, in economics term, comparatively inelastic. Ditto the municipal taxes which homeowners have to pay.

In short, smaller condo units are likely to stay given increased buying and maintaining costs.

Typical Canadian household income and expense profile

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O Canada! (Courtesy of worldatles.com.com)

In analyzing real estate markets of a country, it is essential to have information and data on population, households, demographics, income, expense, and so on. Here we offer a basic and rough Canadian household profile (data comes from Statistics Canada):

1) 2017 Total disposable income = C$1,209,638,000,000

2) 2016 Census population = close to 36,000,000 rounded

3) Average persons per household = around 2.50

4) Rough number of households (item 2 divided by item 3) = around 14,400,000

5) Typical disposable income per household (item 1 divided by item 4) = C$84,000 rounded

6) Close of 90% of this disposable income is derived from employee compensation

7) 2017 Total Household Final Consumption Expenditure [HFCE] = C$1,208,065,000,000

8) Household expenditure [HFCE] per household = C$83,900 rounded (i.e. C$100 or so savings)

9) Household expenditure [HFCE] % allocation per typical household:

B) Household final consumption expenditure (HFCE)	Of HFC Expense
Food and non-alcoholic beverages	9%
Alcoholic beverages and tobacco	3%
Clothing and footwear	4%
Housing, water, electricity, gas and other fuels	24%
Furnishings, household equipment and other goods and services related to the dwelling and property	5%
Health	4%
Transport	16%
Communications	3%
Recreation and culture	8%
Education	2%
Food, beverage and accommodation services	8%
Insurance and financial services	9%
Miscellaneous goods and services	5%

Stating the obvious, housing and housing related expenses (furnishings and the like) occupy close to a 30% of the expenditure. If one adds transport to the equation, then these two aspects together total up to 45% of the expenditure.

10) 2017 Pension entitlements = C$41,337,000,000 or close to C$2,900 rounded per household (i.e. adding the C$100 savings, a typical household saves C$3,000 or so)

The typical household seems quite stretched financially from a household income and expense bookkeeping angle notwithstanding individual households may be cash and / or asset rich.

Nonetheless, if there were to be any major price downturn in (residential) real estate, some households, in particular home-owners who have mortgaged to the tilt, might find themselves in deep trouble.

In short, the overall residential real estate's 'defensive' capability to withstand economic downturns or financial malice could be weak, although not all markets (cities) are equal.

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