

Zeppelin's Real Estate Tech

4Q 2021: A Real Estate Newsletter by Zeppelin Partners Limited

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Inflation, chip scarcity, shortage of big ticket items, Evergrande, crypto, and well, geopolitics.

In this issue:

- **Canada: home price to GDP per capita, prime rate, and mortgage rate**
- **Tracking price ratios to find investment possibilities**
- **City of Toronto residential real estate: charts and tables**

"No evidence' these days may simply mean no investigation has been done, thus no evidence."

We also like to hear from readers wishing 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 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 [25th](#) year and [101st](#) 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 has been visited by tens of thousands from all over the world.

Zeppelin Partners Limited is involved in real estate development, investment, and management and offers 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, property management strategy, and building maintenance]. We are based in Hong Kong with access to regional and global professional networks.

Stephen Chung, who created and writes this newsletter, is now Honorary Advisor to Zeppelin Partners Limited. He will continue to write this newsletter.

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Who? Me?

Stephen Chung

Honorary Advisor, Zeppelin Partners Limited
Founder 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

We welcome enquiries from interested parties and could be reached as follows:

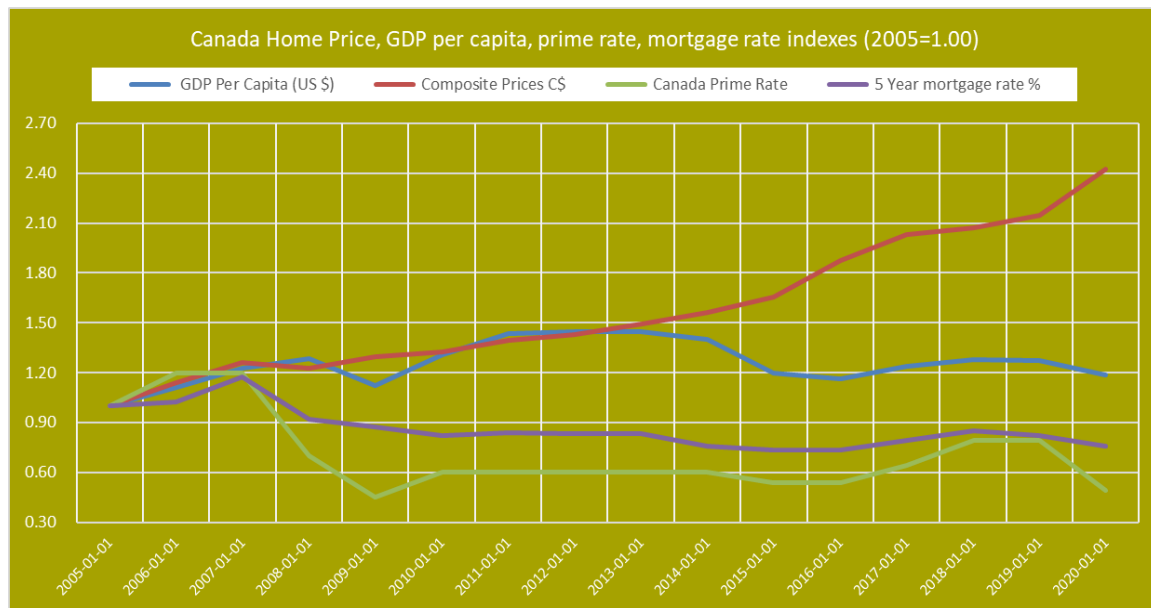
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Canada: home price to GDP per capita, prime rate, and mortgage rate

Real Estate Tech, 4Q 2021

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GDP per capita to home price: "hey, wait for me!?"

There have been sayings of overheated residential real estate markets in Canada in recent years. Yet so far, no significant market U-turns have been observed. Out of curiosity, your humble author has collected some rough annual figures, namely the average home price in Canada since 2005, and the GDP per capita, prime rate, and (5 year) mortgage rate during the period, from various web sources such as www.crea.ca and came up with the chart above:

1) Starting around 2013, the Canadian national average home price doesn't seem to bear much relationship to the Canadian GDP per capita, an income marker. In fact, the two parted and went their separate ways; the home price shot up while the GDP per capita fell, contrary to the traditional thinking that home prices reflect and trend with incomes. The correlation between the two during the period is insignificant.

2) The home price trends up while the cost of money, reflected by the prime rate or the mortgage rate, drops. These also give an idea of the availability of money in the form of financing. The correlations between these two and the home price are significant, albeit negative (in opposite directions).

What to make of it? No solid idea, however, one may speculate: a) from the traditional thinking that home prices tread incomes (you pay what you earn), the current state of a decoupling between the two aspects can be worrying; b) the relative lower cost of money (financing) has taken over income as a major factor, perhaps enticing some to pay more (for a home in this case) than what they earn; c) to avoid any potential market U-turn, either the income factor starts to catch up and / or the cost of money remains low, notwithstanding the latter might not last forever.

Que sera, sera...

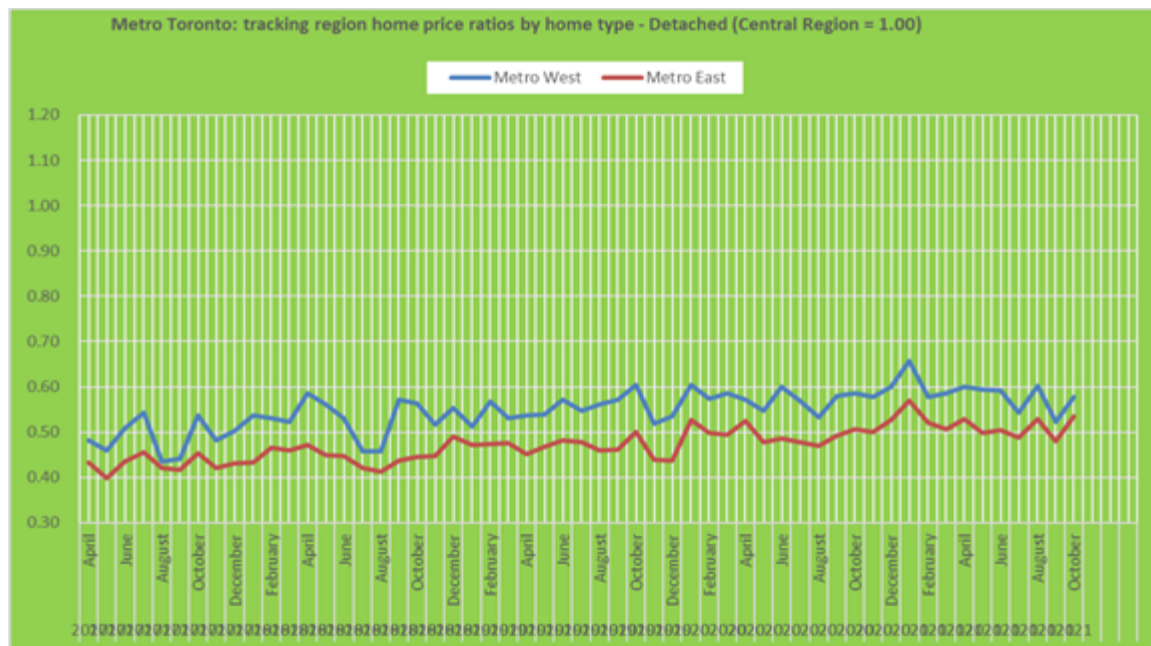
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Tracking price ratios to find investment possibilities

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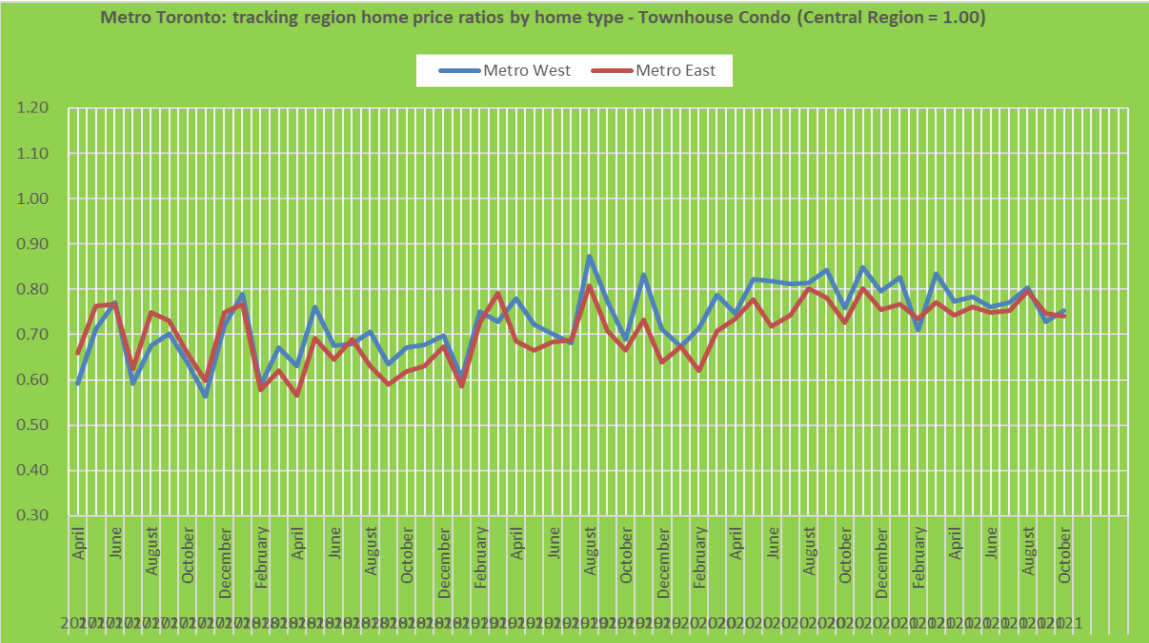
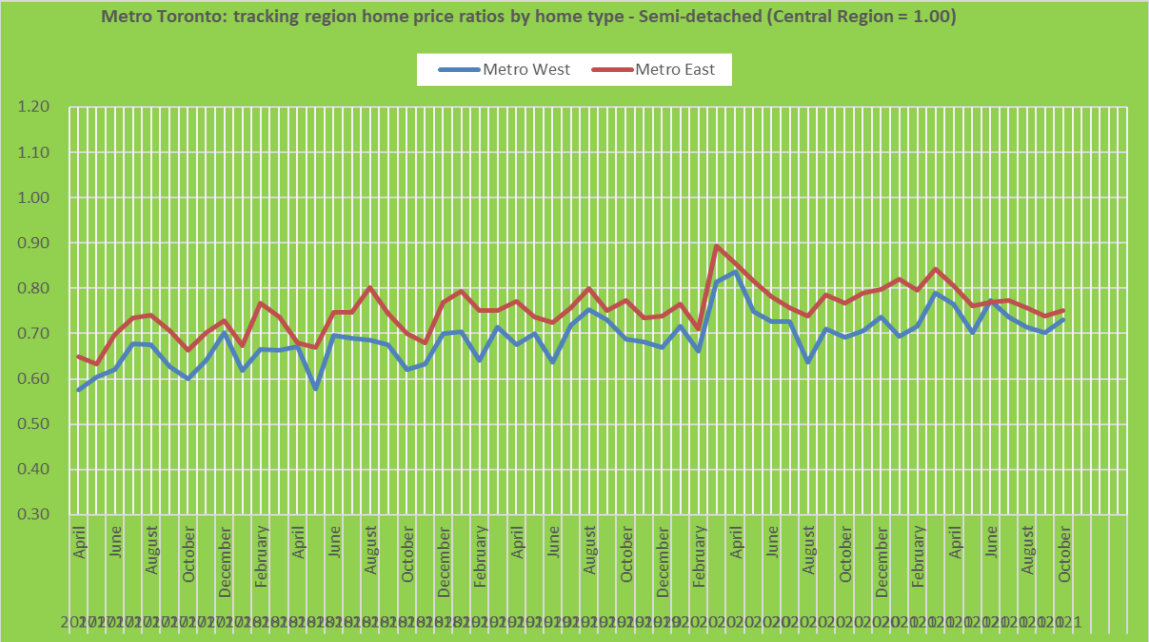
Toronto West and Toronto East have lower detached house prices than Toronto Central

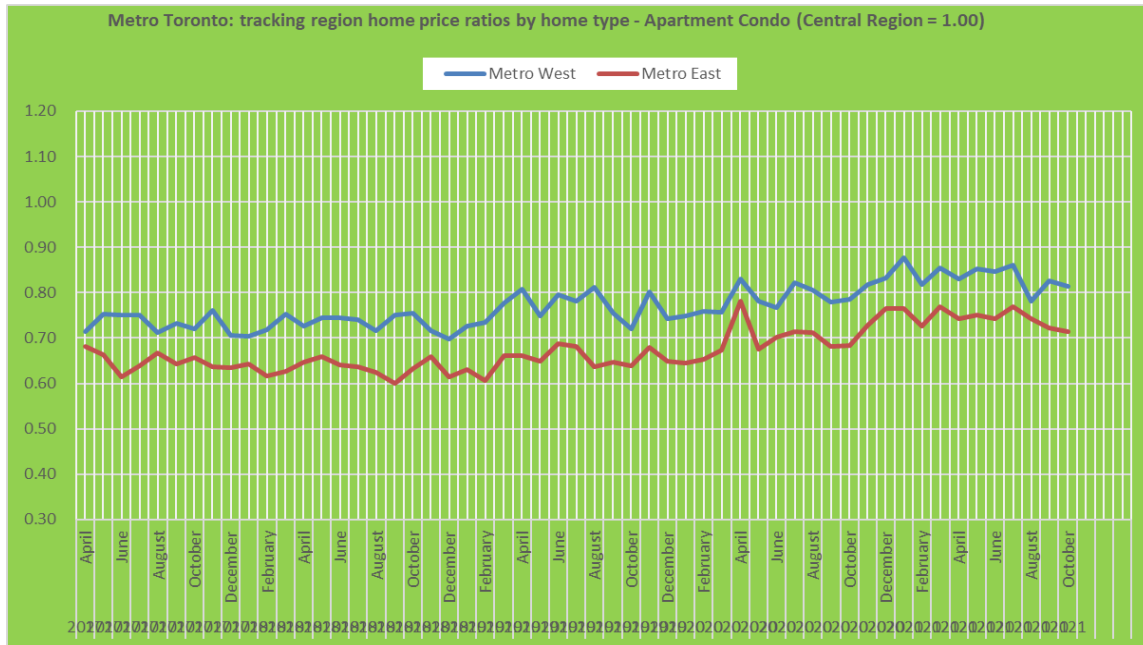
On a more macro level, the real estate price ratio between two places (be this city to city, district to district, neighborhood to neighborhood, or even housing complex to housing complex) may exhibit a certain degree of consistency over a defined period of time, normally in terms of years.

For example, the average home price in neighborhood A is 1.50 times, meaning 50% higher than, to that of neighborhood B, and fluctuates normally with 1.45 to 1.55. As such, when the ratio is 1.40, it may mean (note it is "may", not "must") neighborhood A homes are a better buy than homes in neighborhood B 'on average at that moment'. Conversely, a ratio of 1.60 may indicate the opposite, that is homes in neighborhood B can be better bargains.

Of course, such a ratio can change due to changed macro environment or improved externalities. For instance, neighborhood A is now going to have a park built, normally considered a plus in terms of amenities, its home price ratio to B may be increased from 1.50 to 1.65 (just saying). Nonetheless, such changes aren't usually frequent or common.

As an illustration, we have compiled some simple data on City of Toronto's (West, Central, and East regions') residential prices and calculated their ratios based on <https://trre.ca/>. The ratios between the average detached house prices between the three regions are listed above under this article heading (Toronto Central region's prices are the benchmark at 1.00). The following charts cater to the other home types, namely semi-detached, townhouse condo, and apartment condo:





Here are (from the above charts) the average price ratios and their standard deviations (ranges) for each of the home types in Toronto's West and East regions when compared to the same home type in the Toronto's Central region:

City of Toronto: average home price ratios			High SD Level	Average	Low SD Level
Detached		Metro West	0.59	0.55	0.50
		Metro East	0.51	0.47	0.44
Semi-detached		Metro West	0.74	0.69	0.64
		Metro East	0.80	0.75	0.70
Townhouse	Condo	Metro West	0.80	0.73	0.66
		Metro East	0.77	0.71	0.64
Apartment	Condo	Metro West	0.82	0.77	0.72
		Metro East	0.72	0.67	0.63

One simple way to interpret and use the above charts and the table is to look at the most current ratio and see if it is within the above range (from the high standard deviation level via the average to the low standard deviation level) or outside the range. We shall use the detached price ratios above for demonstration:

a) Say the Metro West detached ratio is now 0.69 which is higher than the high standard deviation level of 0.59, let alone the average of 0.55. Then it 'may' mean Metro West detached prices are now on the high side and opportunities may exist in the Metro Central detached sector.

b) Conversely, if the current ratio for Metro West detached is 0.45 i.e. lower than even the low standard deviation ratio of 0.50, then it may imply there could be investment opportunity in Metro West detached than Metro Central detached.

What if the ratio is within range? Purely based on this method, have a coffee and relax.

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City of Toronto residential real estate: charts and tables

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(Courtesy of www.publicdomainpictures.net)

We have collected data from the website of the Toronto Regional Real Estate Board (<https://trreb.ca/>) focusing on the **City of Toronto's** residential real estate market (largely the secondary market). These data start from April 2017 and end in October this year (2021). Rough charts and tables were compiled and some of these are listed below:

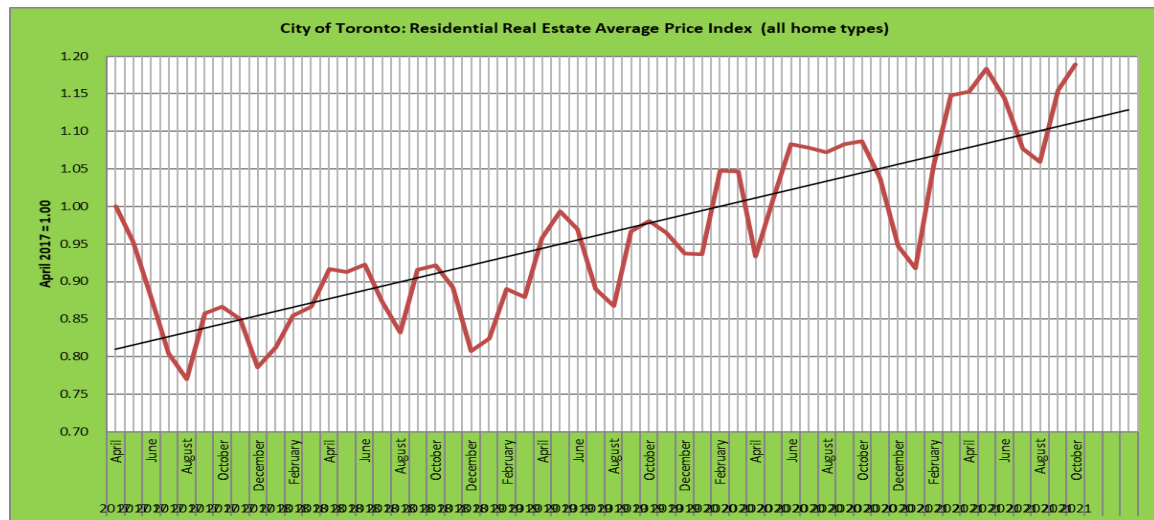
1) From April 2017 (the last price peak) to October 2021 price changes in percentages, major home types

City of Toronto :	Apr17 to Oct21
All Home Types	18.91%
Detached	13.08%
Semi-detached	19.76%
Townhouse	31.62%
Apartment	27.90%

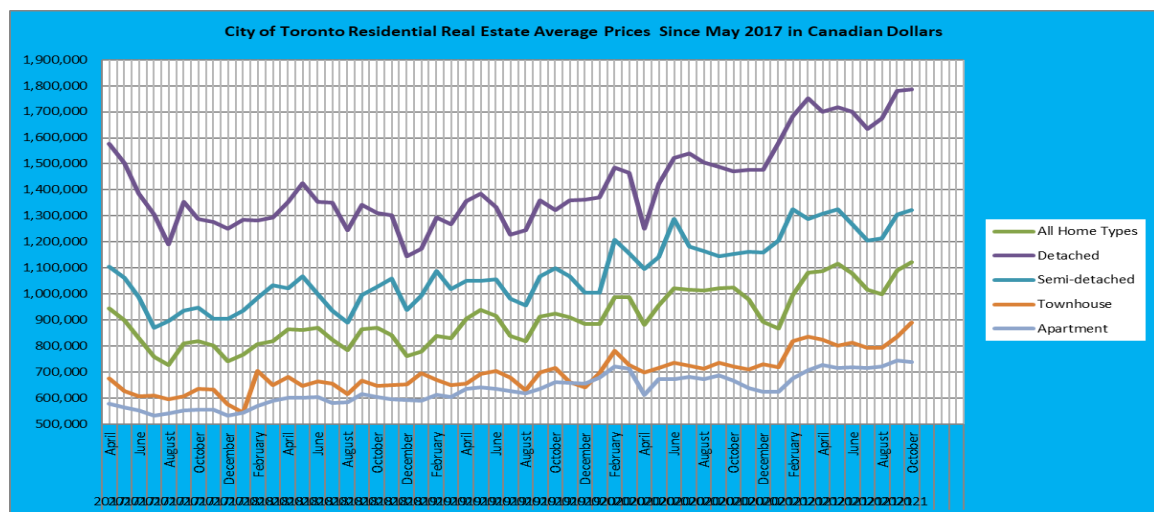
2) April 2021 versus October 2021 average and median home prices, major home types

Metro Region	Sub-district		Sep-21 Average C\$	Oct-21 Average C\$	Difference C\$ Sep-Oct21	Percentage +or- (Oct-Sep)/Sep 2021	Sep-21 Median C\$	Oct-21 Median C\$	Difference C\$ Sep-Oct21	Percentage +or- (Oct-Sep)/Sep 2021
Metro Toronto	All Home Types		1,090,196	1,122,463	32,267	2.96%	860,000	880,900	20,900	2.43%
	Detached		1,778,928	1,784,979	6,051	0.34%	1,390,000	1,401,000	11,000	0.79%
	Semi-detached		1,304,504	1,322,229	17,725	1.36%	1,178,000	1,185,000	7,000	0.59%
	Townhouse	Condo	837,047	889,294	52,247	6.24%	761,250	803,000	41,750	5.48%
	Apartment	Condo	744,730	739,647	-5,083	-0.68%	650,000	653,000	3,000	0.46%
Metro West	All Home Types		1,013,816	1,057,318	43,502	4.29%	900,000	950,000	50,000	5.56%
	Detached		1,451,725	1,493,766	42,041	2.90%	1,290,000	1,300,000	10,000	0.78%
	Semi-detached		1,135,091	1,171,208	36,117	3.18%	1,040,000	1,075,000	35,000	3.37%
	Townhouse	Condo	740,172	805,460	65,288	8.82%	712,000	742,000	30,000	4.21%
	Apartment	Condo	665,561	649,653	-15,908	-2.39%	609,000	600,000	-9,000	-1.48%
Metro Central	All Home Types		1,176,764	1,188,000	11,236	0.95%	791,444	808,500	17,056	2.16%
	Detached		2,777,650	2,588,917	-188,733	-6.79%	2,200,000	2,050,000	-150,000	-6.82%
	Semi-detached		1,615,666	1,603,955	-11,711	-0.72%	1,500,900	1,450,000	-50,900	-3.39%
	Townhouse	Condo	1,016,585	1,070,367	53,782	5.29%	840,000	895,000	55,000	6.55%
	Apartment	Condo	806,242	797,705	-8,537	-1.06%	700,000	698,500	-1,500	-0.21%
Metro East	All Home Types		1,004,058	1,054,956	50,898	5.07%	960,500	1,012,000	51,500	5.36%
	Detached		1,335,425	1,387,083	51,658	3.87%	1,208,000	1,255,000	47,000	3.89%
	Semi-detached		1,193,322	1,203,941	10,619	0.89%	1,120,000	1,158,000	38,000	3.39%
	Townhouse	Condo	759,727	791,919	32,192	4.24%	735,000	785,000	50,000	6.80%
	Apartment	Condo	582,275	569,265	-13,010	-2.23%	554,000	550,000	-4,000	-0.72%

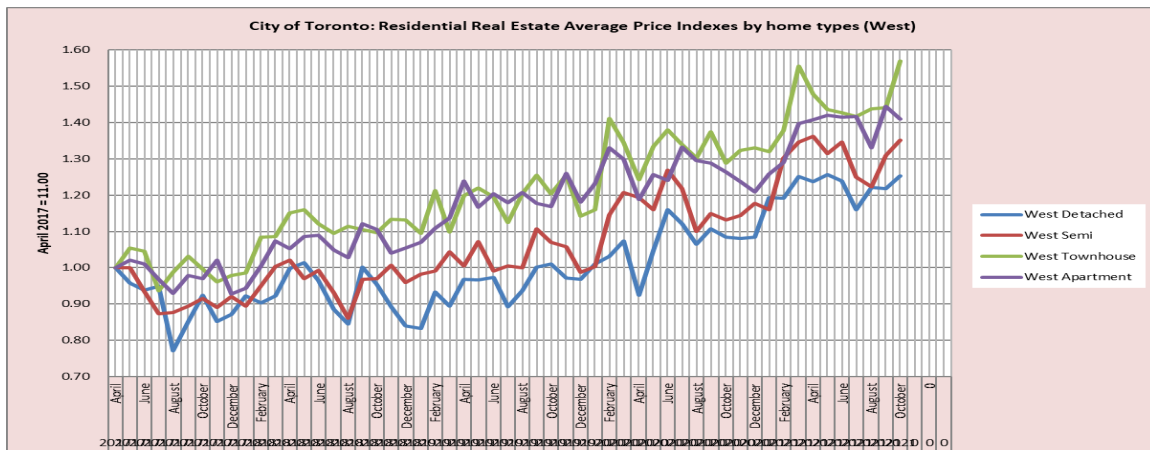
3) From April 2017 to October 2021 home price trend



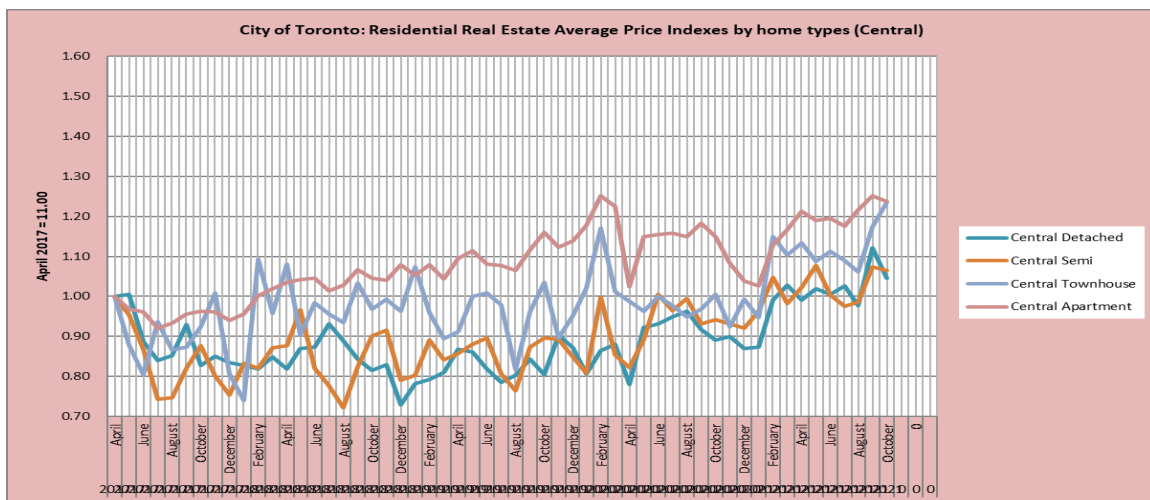
4) From April 2017 to October 2021 average prices of major home types



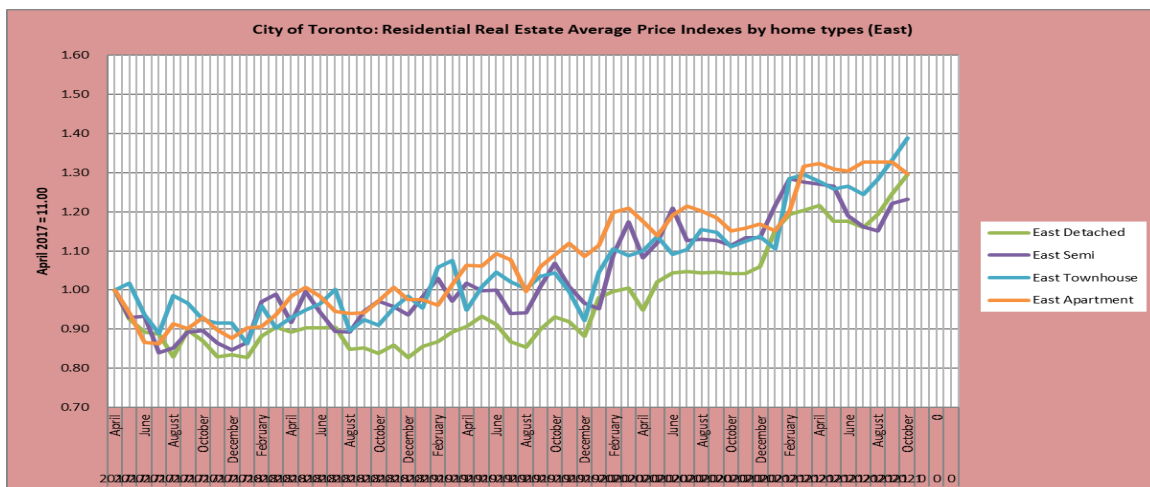
5) From April 2017 to October 2021 average price trends, major home types, West Toronto



6) From April 2017 to October 2021 average price trends, major home types, Central Toronto



7) From April 2017 to October 2021 average price trends, major home types, East Toronto



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