Zeppelin's Real Estate Tech

1Q 2025: A Real Estate Newsletter by Zeppelin Partners Limited

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Tariffs, Ukraine talks, DOGE, Greenland, Panama, Deep Seek, etc., etc. Who needs TV?

In this issue:

- **From whole to part and from macro to micro**
- **Greater Toronto Area (GTA): Industrial, Retail, and Office comparisons-continued**
- **City of Toronto residential real estate: charts and tables**

"What is the meaning of 'prefect'? Someone who is almost perfect. LOL"

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 likely comprising real estate developers, investors, fund managers, financiers, owners, users, top executives, senior managers, prominent academics and related professionals. Our content 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**. This newsletter is now into its **28th** year and **114th** 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 continues to write this newsletter.

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 had been an honorary adjunct professor of the University of Hong Kong and the City University of Hong Kong and had spoken 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 Institution 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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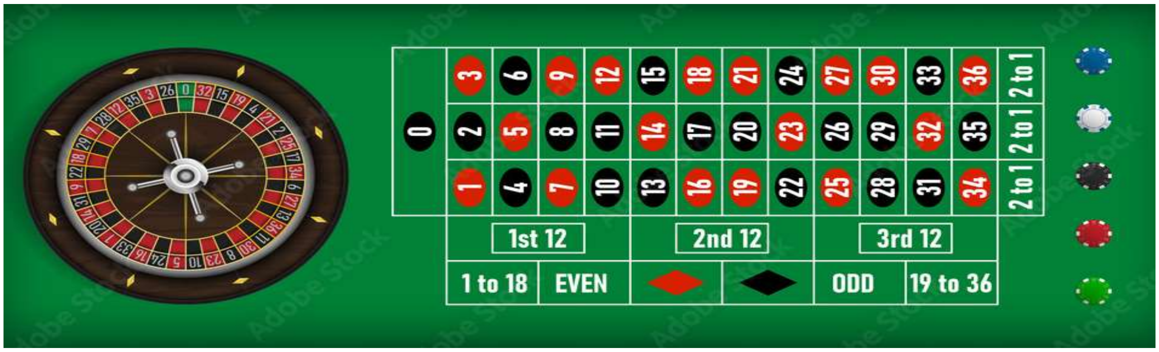
From whole to part and from macro to micro

Real Estate Tech, 1Q 2025



Place Your Bets! (Courtesy of Adobe.com)

Your humble author was trained as a quantity surveyor (QS for short). For readers not familiar with what a QS is, we count the number of bricks and price it. In short, we are proficient, or should be proficient, in estimating how much it may cost to construct one or more buildings. Apart from construction costs, we are also experienced in construction contracts and construction contractual systems.

Like engineers, there are various types of surveyors. QS aside, there are valuation surveyors (focus on values of properties), building surveyors (building maintenance and control), land surveyors (land boundary demarcation and topographical surveys), and others. Despite the different professional focuses and skills, one subject links us together: the basic knowledge of how land surveys are done, even if not practiced by all surveyors on a day-to-day basis.

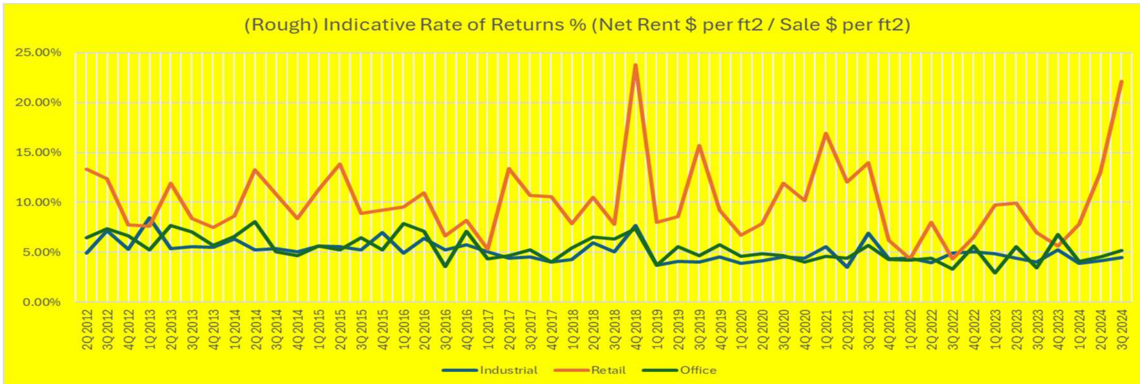
Your humble author still remembers the lecturer who taught him the basic land survey principle: From whole to part. Suppose you are to measure a sizable area with many parcels of sub-sites. The approach is to measure the whole area first and then the sub-sites. In this way, the (marginal) errors will be contained within the whole. If one starts with the individual sub-sites, the collective errors, when added up, will likely be more pronounced. Naturally, with GPS and AI, today’s survey techniques should offer a much higher degree of accuracy.

Similar applies to real estate analysis: From macro to micro. Macro refers to the analytical effort needed in deciding whether a market (usually a city, a country, or an economy) is worth considering. Factors such as demographics, GDP, population, growth, the legal framework, governmental competence, and so on are taken into account. No particular project is in mind yet. Upon satisfaction that the market is worth investing, individual projects and properties may be sought. At this point, micro analysis begins with specific opportunities in mind. This said, the macro and micro analyses may share some of the data sets. The macro analysis may also be used for a period, say, a few years. That is, there is no need to redo it every time an investment opportunity in the (same) market arises. Micro? Yes, done for each opportunity.

Macro is particularly vital if one is eyeing a portfolio of properties across markets. If done properly, and the better markets are identified, the investor is already halfway to investment success. It is also preferable if these identified markets aren’t correlated in terms of real estate cycles. Yet, this hasn’t been easy since 2008 when the world started to produce easy monies. Previously uncorrelated markets have become more correlated, making risk reduction difficult, if not impossible.

In short, it’s about allocation of one’s investment chips.

Greater Toronto Area (GTA): Industrial, Retail, and Office comparisons-continued



If these were three guys (Industrial, Retail, and Office), wow, the Retail guy was erratic.

Your humble author had hoped to have the TRREB 4th quarter 2024 commercial report, but it still wasn't published in early April 2025, hence he had to rely on whatever data he was able to assemble to date. Readers may wish to refer to the counterpart article published in 4Q 2024. In this issue, we shall look at the volatilities of the various commercial market sectors. A few notes before we begin:

1) The data, calculations, and graphics, including indicative rates of returns, are at best rough.

2) Within each commercial sector, there are sub-sectors. For instance, industrial ranges from warehouses to logistics distribution centers, retail includes neighborhood strip plazas, supermarkets, and regional malls, and office can mean various grades, sizes, and heights of buildings.

3) Rents and sale prices are expressed in $/ft2 and reflect only those transactions in which the rents or prices have been made known. Note the rents and sale prices are likely to come from different properties.

4) The indicative rates of returns are based on dividing the rents $/ft2 by the sale prices $/ft2. The rents may not have reflected rent-free periods, if any, or other leasing and sale conditions and terms that may influence the indicative rates of return.

5) We saw no 2Q 2024 report on the website and so we just used assumptive dummy values by adding the figures in 1Q 2024 and 3Q 2024 and dividing the sums by 2.

Here we go:

A) Various commercial sectors' rental and price volatilities: (from 1Q2012 to 3Q2024)

Commercial sectors:	Industrial	Retail	Office
Rental volatilities	0.47	0.27	0.17
Price volatilities	0.56	0.40	0.32

Volatilities indicate how fluctuating the sector's rent and price may be. Generally, the higher the figures, the higher the fluctuations. In turn, higher fluctuations are deemed to be higher risks. As such, at a glance, the industrial sector tops the sectors in terms of risks (fluctuations), be such in rents or prices. Retail comes second and office third with the lowest scores.

B) Various commercial sectors' rent-to-price correlations: (from 1Q2012 to 3Q2024)

Commercial sectors:	Industrial	Retail	Office
Correlations (R)	0.96	0.33	0.67

Correlations measure how close or not two sets of numbers are to one another. They don't prove cause and effect, however. Anyway, the industrial sector has a highly significant correlation, the retail is essentially low on this score, and the office has some.

From an investment perspective, if the above correlations hold, then one may expect rents to offer a good guess on how prices, or vice versa, may perform in the industrial and, to a lesser extent, office sectors. However, neither rents nor prices offer a reasonable hint of one another in the retail sector.

Hence, perhaps this explains and jives with our observation that the retail sector is comparatively speaking the erratic uncle in the broad commercial real estate market.

City of Toronto residential real estate: charts and tables

Real Estate Tech, 1Q 2025

(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 March 2025. Rough charts and tables were compiled and some of these are listed below:

1) From April 2017 (the last price peak) to March 2025 price changes in percentages, major home types

City of Toronto:	Apr17 to Mar25
All Home Types	17.69%
Detached	9.18%
Semi-detached	21.15%
Townhouse	22.14%
Apartment	23.89%

2) February and March 2025 average and median home prices, major home types

Metro Region	Sub-district		Feb-25 Average C$	Mar-25 Average C$	Difference C$ Feb-Mar25	Percentage +or- (Mar-Feb)/Feb 2025	Feb-25 Median C$	Mar-25 Median C$	Difference C$ Feb-Mar25	Percentage +or- (Mar-Feb)/Feb 2025
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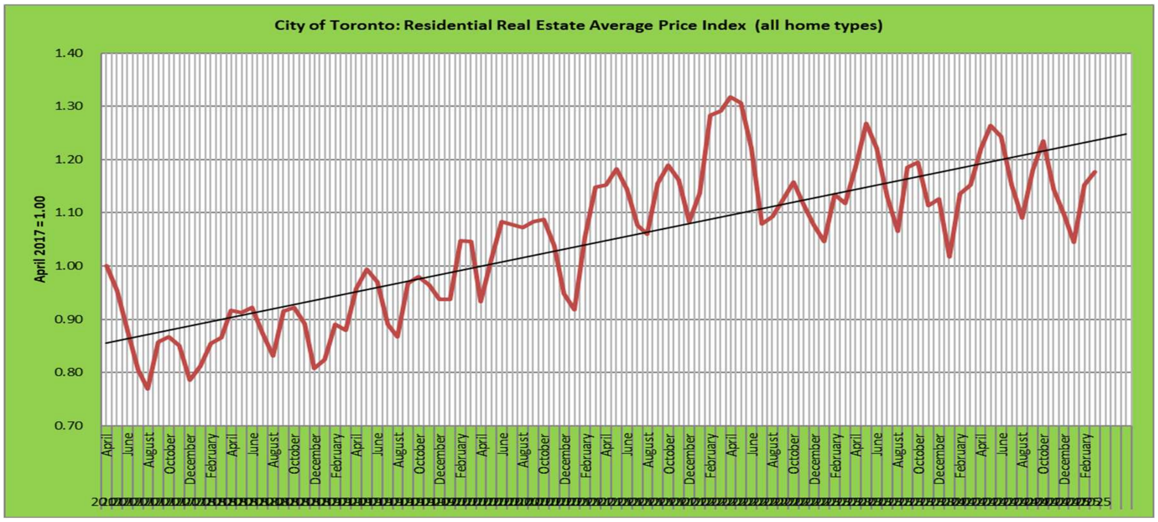
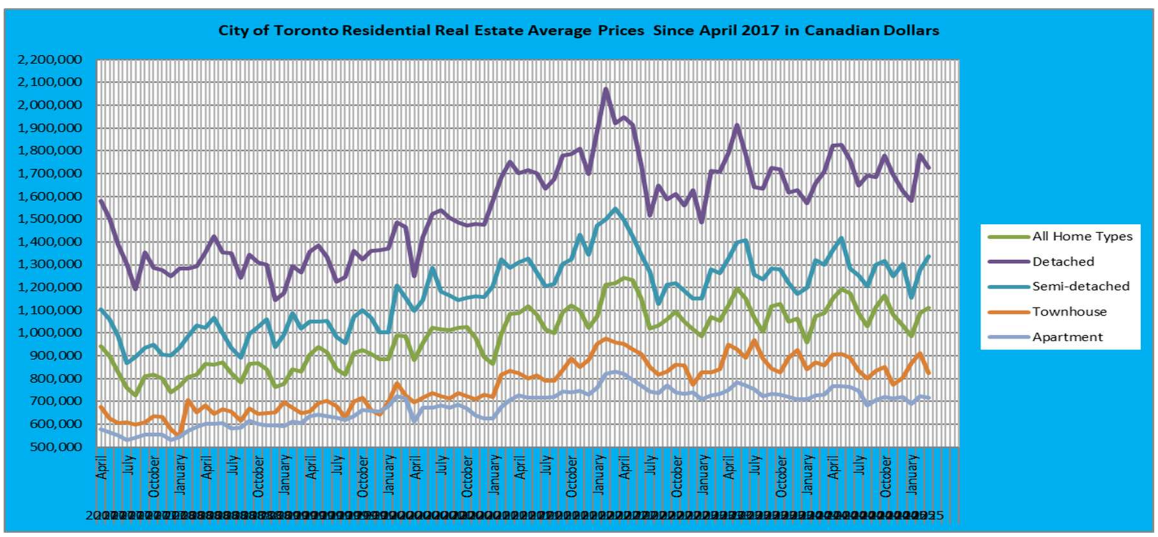
Metro Toronto	All Home Types		1,087,077	1,110,924	23,847	2.19%	842,500	895,000	52,500	6.23%
	Detached		1,782,262	1,723,489	-58,773	-3.30%	1,331,000	1,440,000	109,000	8.19%
	Semi-detached		1,275,214	1,337,498	62,284	4.88%	1,190,000	1,229,000	39,000	3.28%
	Townhouse	Condo	912,334	825,222	-87,112	-9.55%	834,000	766,610	-67,390	-8.08%
	Apartment	Condo	724,632	716,460	-8,172	-1.13%	621,000	617,500	-3,500	-0.56%
Metro West	All Home Types		1,001,528	1,093,149	91,621	9.15%	843,950	952,500	108,550	12.86%
	Detached		1,507,837	1,546,060	38,223	2.53%	1,213,000	1,365,000	152,000	12.53%
	Semi-detached		1,200,240	1,152,077	-48,163	-4.01%	1,135,000	1,085,000	-50,000	-4.41%
	Townhouse	Condo	755,675	786,126	30,451	4.03%	790,000	727,000	-63,000	-7.97%
	Apartment	Condo	644,465	673,178	28,713	4.46%	608,000	601,000	-7,000	-1.15%
Metro Central	All Home Types		1,155,470	1,169,539	14,069	1.22%	760,000	800,500	40,500	5.33%
	Detached		2,836,983	2,400,804	-436,179	-15.37%	2,116,101	2,175,000	58,899	2.78%
	Semi-detached		1,493,605	1,644,947	151,342	10.13%	1,278,000	1,484,000	206,000	16.12%
	Townhouse	Condo	1,070,431	946,193	-124,238	-11.61%	940,000	906,500	-33,500	-3.56%
	Apartment	Condo	773,514	758,119	-15,395	-1.99%	645,000	644,000	-1,000	-0.16%
Metro East	All Home Types		1,036,183	1,018,555	-17,628	-1.70%	999,000	962,000	-37,000	-3.70%
	Detached		1,262,912	1,300,656	37,744	2.99%	1,190,000	1,175,000	-15,000	-1.26%
	Semi-detached		1,167,955	1,253,655	85,700	7.34%	1,087,500	1,254,000	166,500	15.31%
	Townhouse	Condo	821,222	716,496	-104,726	-12.75%	810,000	699,000	-111,000	-13.70%
	Apartment	Condo	602,263	609,536	7,273	1.21%	561,000	550,000	-11,000	-1.96%

3) From April 2017 to March 2025 home price trend

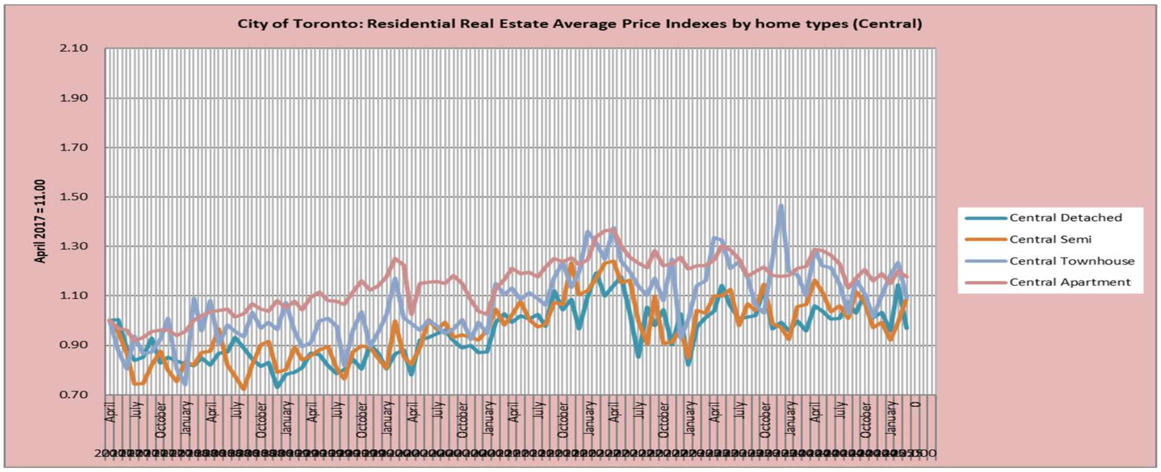


4) From April 2017 to March 2025 average prices of major home types

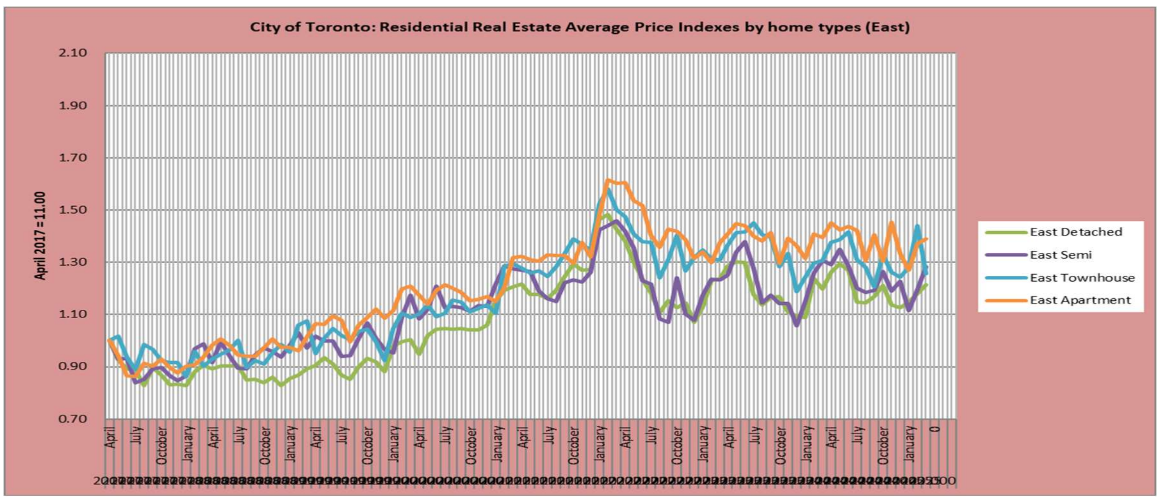


5) From April 2017 to March 2025 average price trends, major home types, West Toronto

6) From April 2017 to March 2025 average price trends, major home types, Central Toronto



7) From April 2017 to March 2025 average price trends, major home types, East Toronto



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