Zeppelin's Real Estate Tech

2Q 2025: A Real Estate Newsletter by Zeppelin Partners Limited

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Tariffs outcomes, wars big and small ended or ending (hopefully), and big super bombs.

In this issue:

- **Home price indexes: US and Canada**
- **RE investment allocation: a simplified illustration**
- **City of Toronto residential real estate: charts and tables**

"One knows not the brilliant if one hasn't experienced the dull."

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 **115th** 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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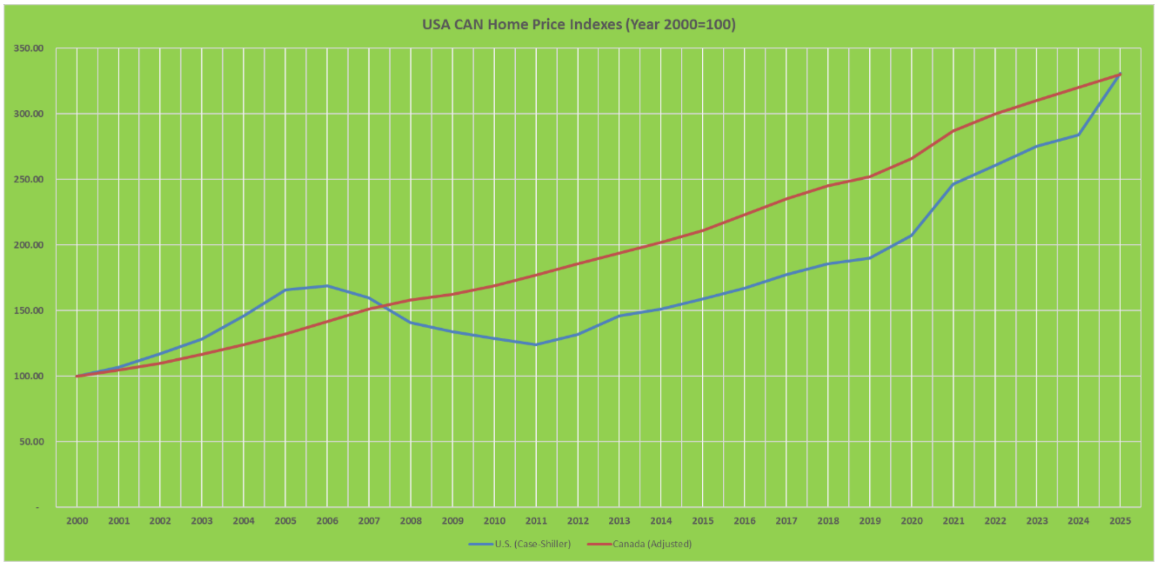
Home price indexes: US and Canada



Marching to the same destination but not exactly hand in hand

Your humble author is an ignoramus in terms of AI application. Just beginning to explore it. In this issue, Grok AI was used, and the above data was abstracted through it. Your humble author hasn't verified the data, although Grok AI quoted the web sources it used, resolved discrepancies at best it could where found, and warned against total reliance on the data. Anyway, assuming the data set was reasonably sound, a few rough observations could be made. These are based on the average national home prices.

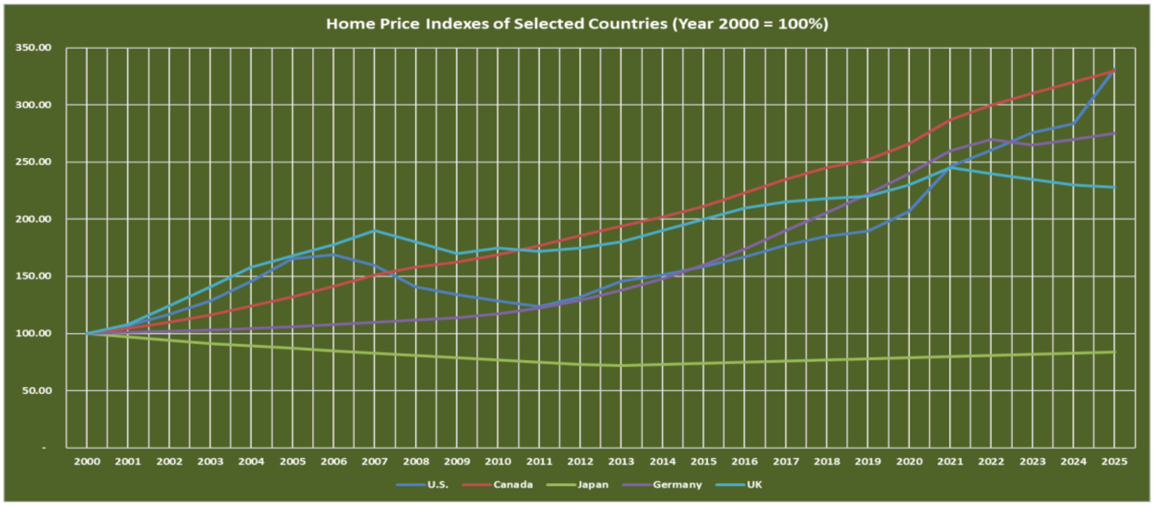
1) Both markets are quite correlated at 0.90 = Although Canada shows less ups and downs than the US.

2) Since the Financial Tsunami in 2008 = The US underperformed compared to Canada but has caught up with it in recent years.

3) Both markets share similar issues = Such as home prices in many cities outpacing income growth making it hard, especially for the young, to buy a home.

The fact the two national home markets are so correlated implies, from a return to risk ratio angle, more effort and patience are required to find, if any exists, Canadian / Americans cities and regions which home prices don't correlate so highly, so as to achieve a more optimal (return to risk) investment portfolio.

RE investment allocation: a simplified illustration
Real Estate Tech, 2Q 2025



Data from Grok, chart by your humble author, but as Grok indicates, no guarantees on the data accuracy

Your humble author has been playing around with AI, in this case, Grok. It scrounged the home prices of five countries: Canada, the US, Germany, the UK, and Japan. It searched for data, resolved the data discrepancy where any, and warned against probable errors. Here, the intent is to use the data to illustrate very roughly an investment portfolio allocation concept from a return and risk angle. That is, this isn't an investment analysis meant for suggesting where to invest. Besides, much more data and effort are needed when investing across countries in different continents. Data goes from 2000 to mid-2025.

First, the correlations between the five countries' home markets:

Correlations between:					R
USA		Canada			0.90
		Japan			-0.18
		Germany			0.92
		UK			0.81
Canada		Japan			-0.49
		Germany			0.97
		UK			0.92
Japan		Germany			-0.30
		UK			-0.64
Germany		UK			0.87

Four of the home markets are quite correlated, which are Canada, the US, Germany, and the UK. Japan is the exception, showing negative correlations to all four of them. Put simply, while the four have moved in the same direction, Japan moved in the other.

2) If one had put money into one or more of the four home markets in North America and Europe, one would on average have made some price gains. Not in Japan. In fact, one would face some loss, around a 16% drop from 2000 to mid-2025.

3) Should Japan be excluded totally from the portfolio? Not exactly and not so fast. Due to Japan not conforming to the other four countries in terms of home price trends, with correlations ranging from a negative 18% to a negative 64%, it may be used as a counterbalance in terms of risk reduction.

Note that ever since the Financial Tsunami in 2008 and the various quantitative easing across the globe that has continued to this day, finding uncorrelated markets is getting more difficult. Japan is one of the few that may offer some prospects. Stating again the obvious, the above is just to illustrate a risk reduction concept in a very simplistic way. Not suggesting these countries are necessarily a go.

City of Toronto residential real estate: charts and tables

Real Estate Tech, 2Q 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 June 2025. Rough charts and tables were compiled and some of these are listed below:

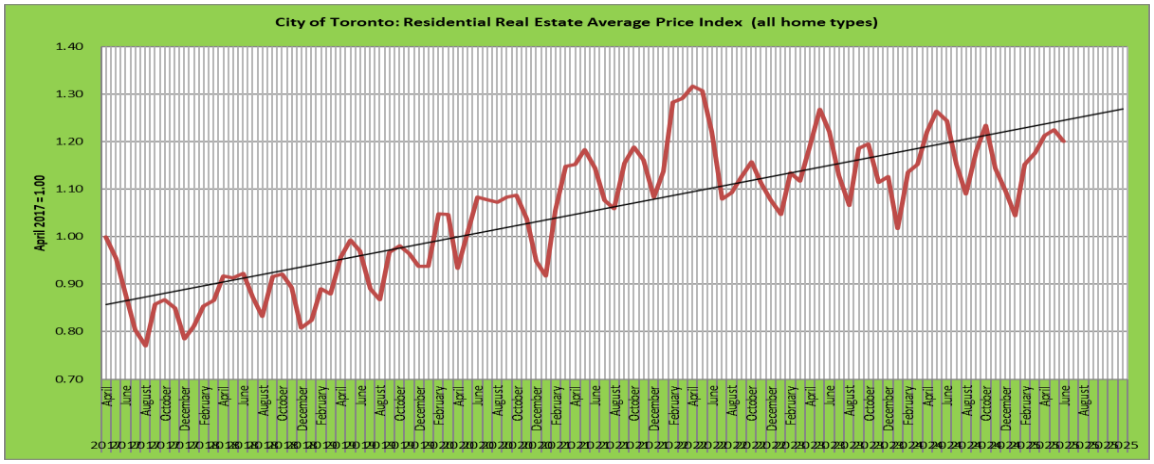
1) From April 2017 (the last price peak) to June 2025 price changes in percentages, major home types

City of Toronto:	Apr17 to Jun25
All Home Types	20.00%
Detached	4.01%
Semi-detached	15.80%
Townhouse	22.54%
Apartment	26.45%

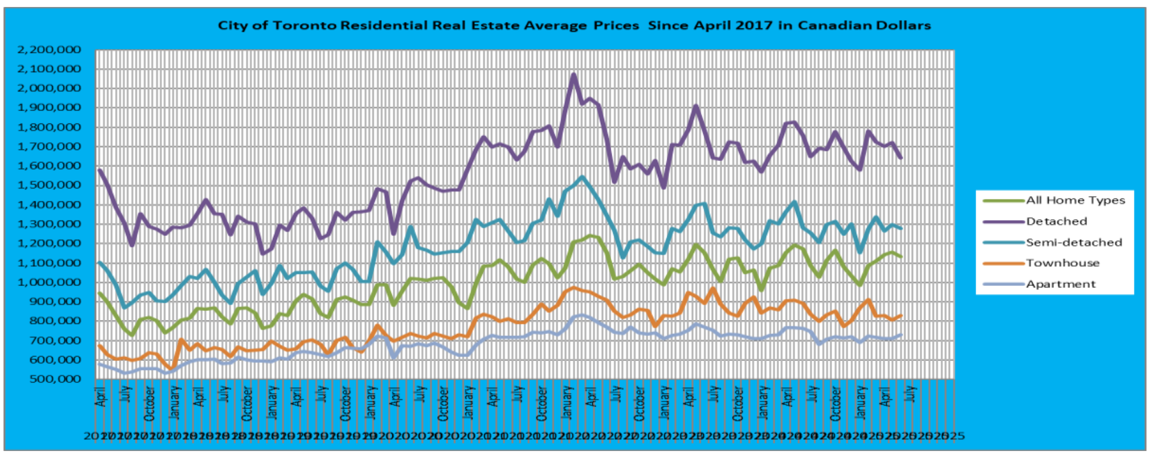
2) May and June 2025 average and median home prices, major home types

Metro Region	Sub-district		May-25 Average C$	Jun-25 Average C$	Difference C$ May-Jun25	Percentage +or- (Jun-May)/May 2025	May-25 Median C$	Jun-25 Median C$	Difference C$ May-Jun25	Percentage +or- (Jun-May)/May 2025
Metro Toronto	All Home Types		1,155,616	1,132,709	-22,907	-1.98%	927,500	910,000	-17,500	-1.89%
	Detached		1,719,937	1,641,868	-78,069	-4.54%	1,385,000	1,323,900	-61,100	-4.41%
	Semi-detached		1,299,387	1,278,434	-20,953	-1.61%	1,188,000	1,192,000	4,000	0.34%
	Townhouse	Condo	804,887	827,936	23,049	2.86%	750,000	740,000	-10,000	-1.33%
	Apartment	Condo	709,905	731,232	21,327	3.00%	607,000	607,000	0	0.00%
Metro West	All Home Types		1,098,153	1,119,085	20,932	1.91%	940,000	972,000	32,000	3.40%
	Detached		1,533,601	1,482,481	-51,120	-3.33%	1,300,000	1,261,500	-38,500	-2.96%
	Semi-detached		1,122,248	1,101,987	-20,261	-1.81%	1,005,000	1,020,000	15,000	1.49%
	Townhouse	Condo	809,412	764,862	-44,550	-5.50%	774,500	735,000	-39,500	-5.10%
	Apartment	Condo	647,410	648,047	637	0.10%	577,500	570,000	-7,500	-1.30%
Metro Central	All Home Types		1,242,154	1,187,566	-54,588	-4.39%	845,000	800,000	-45,000	-5.33%
	Detached		2,427,154	2,423,701	-3,453	-0.14%	2,071,500	2,200,000	128,500	6.20%
	Semi-detached		1,565,260	1,497,333	-67,927	-4.34%	1,400,000	1,360,000	-40,000	-2.86%
	Townhouse	Condo	888,496	998,488	109,992	12.38%	849,000	870,000	21,000	2.47%
	Apartment	Condo	758,214	785,990	27,776	3.66%	633,000	647,000	14,000	2.21%
Metro East	All Home Types		1,060,589	1,053,984	-6,605	-0.62%	978,500	965,000	-13,500	-1.38%
	Detached		1,284,321	1,264,069	-20,252	-1.58%	1,090,250	1,102,750	12,500	1.15%
	Semi-detached		1,221,623	1,237,213	15,590	1.28%	1,180,000	1,220,000	40,000	3.39%
	Townhouse	Condo	722,662	687,800	-34,862	-4.82%	722,500	678,800	-43,700	-6.05%
	Apartment	Condo	564,123	558,550	-5,573	-0.99%	525,000	530,000	5,000	0.95%

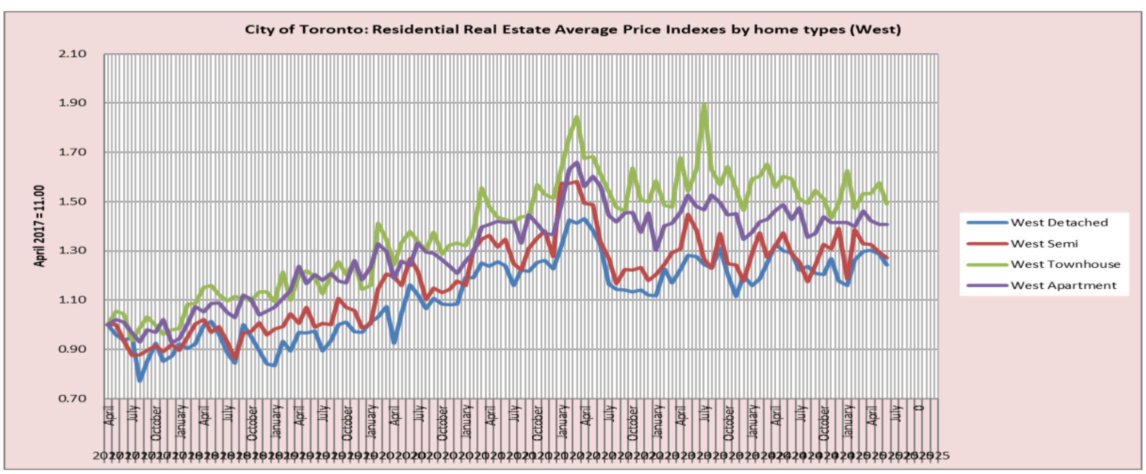
3) From April 2017 to June 2025 home price trend



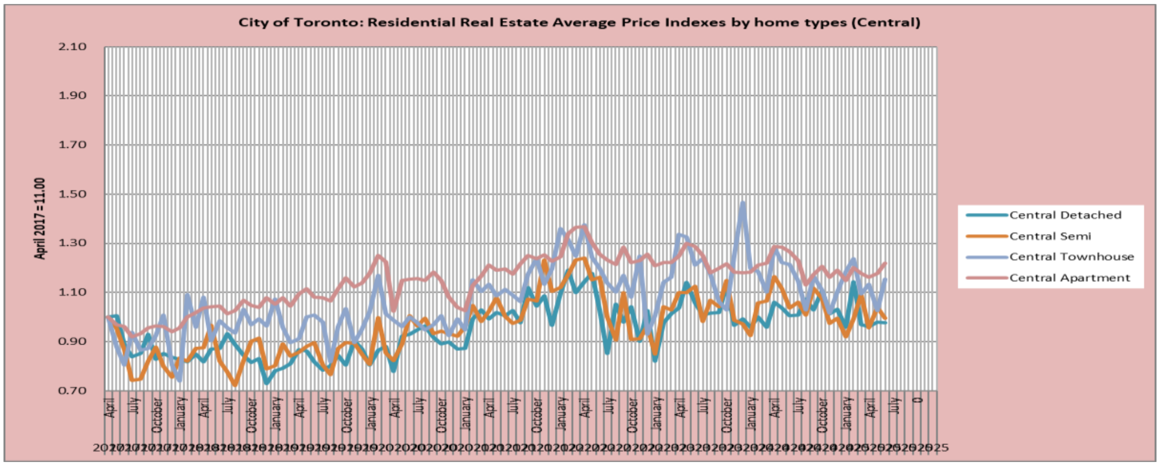
4) From April 2017 to June 2025 average prices of major home types



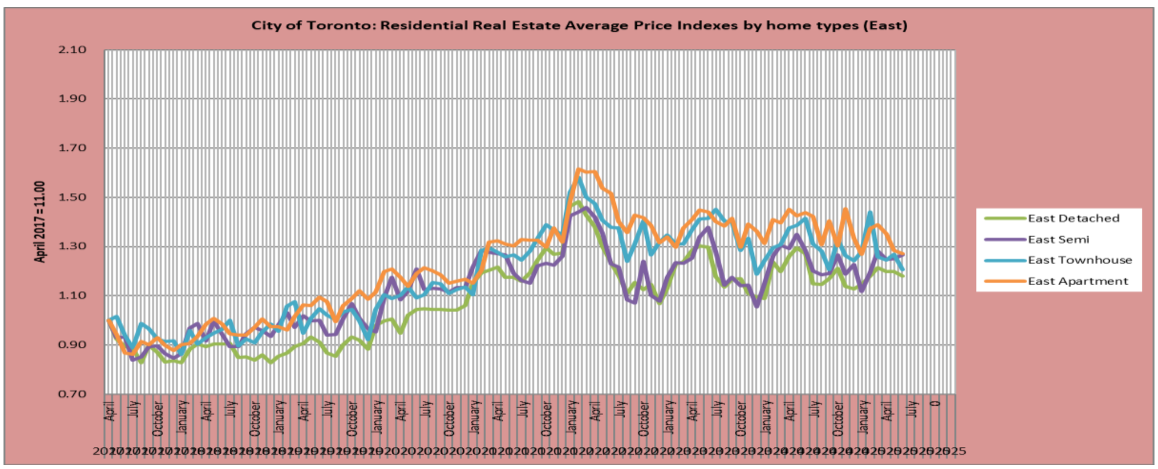
5) From April 2017 to June 2025 average price trends, major home types, West Toronto



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



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



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