

Averages & Anecdotes: Deciphering Trends in Real Estate Prices, Part I

'The Law of Averages' is a term used to describe our beliefs about expected outcomes. We use it, for example, when betting at the roulette table: "Red is hot, so bet on red!" or when trying to predict the weather: "Tomorrow is sure to be sunny because it's been raining for the past five days!" Unfortunately, the Law of Averages is typically based more on wishful thinking and bad statistics than on any actual analytical rigor.

The 'average' (or arithmetic mean), as a concept, has become the commonplace measure of central tendency; the perception is that it gives us a middle-of-the-road picture about a given scenario, or a neat 'summary' of a wide range of outcomes or characteristics. Consider, however, a community centre where one room is occupied by a number of seniors playing bridge and the other by kids in daycare. While the average age of these two groups of people would be somewhere in the range of 40 years old, it would be erroneous at best, and misleading at worst, to use this average age as an indicator of daily activities at the community centre.

Unfortunately, media headlines about Canada's real estate markets have been relying on 'averages' as descriptors of current price trends and, much like the community centre example, are not adequately representing the true market context locally or nationally. In this vein, recent comments by Gregory Klump, chief economist at the Canadian Real Estate Association, show why it is important to move beyond averages when describing changes in Canada's real estate markets:

"Throughout the first quarter of 2011, the national average price was skewed higher by strong activity in a few pricey areas of Greater Vancouver. March 2011 was no exception, with an increase of 8.9 per cent year-over year.

A record number of multi-million dollar property sales in Richmond and Vancouver West are pushing up average prices for Greater Vancouver, British Columbia and nationally. If Vancouver is excluded from the equation, the national average price increase is cut by more than half to 4.3 per cent."¹

As exemplified by the CREA press release, using average prices as a descriptor of changes in the housing market suffers from the fact that extreme values at either end of the distribution distort the true picture. In this context, if a number of multi-million dollar home sales in the Greater Vancouver market are skewing the national picture, to what extent are these sales skewing the picture within the Lower Mainland?

Fortunately, Landcor Data Corporation was able to provide us with the required sales data to answer this question. As there are typically significant differences between prices in the detached and condo/apartment segments of the market, it is important to consider each segment individually to see how the composition of sales of each building type have impacted average price changes within the region.

Sales data show that in 2010 there were 21,901 sales of detached units in the Lower Mainland, two percent fewer than the 22,333 in 2009. While 2010 sales volumes fell below 2009, sales prices were up: detached sales prices in the region averaged \$810,398 in 2010, up 15 percent from a year earlier.² Over the same period median sales prices (the midpoint of sales prices, where an equal number of units were sold above and below this sales price) increased more slowly, growing by eleven percent, from \$575,000 to \$640,000. The difference between changes in the average price and the median price is a simple indicator of how skewed the underlying data are.

¹ CREA News Apr. 15, 2011; "National home sales hold steady in March"

² Sales of all improved single properties, January to December, 2008, 2009 & 2010

Another approach to considering the extent to which average prices are being influenced by outliers (either very high or very low sales prices) involves segmenting the sales price data into *quintiles* and examining how prices changed within each quintile. This involves ranking all sales from lowest to highest and then creating five price groups, that each contain an equal number of sales. Thus, each price range would contain 20 percent of the total number of sales.

Figure 1: Distribution of 2010 Detached Sales by Price, Lower Mainland Region*

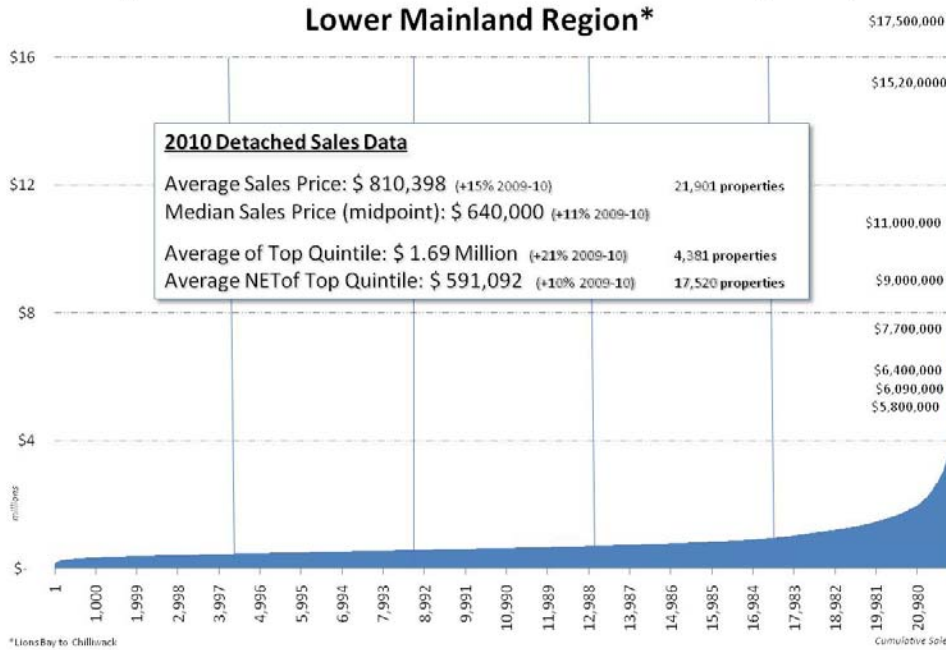


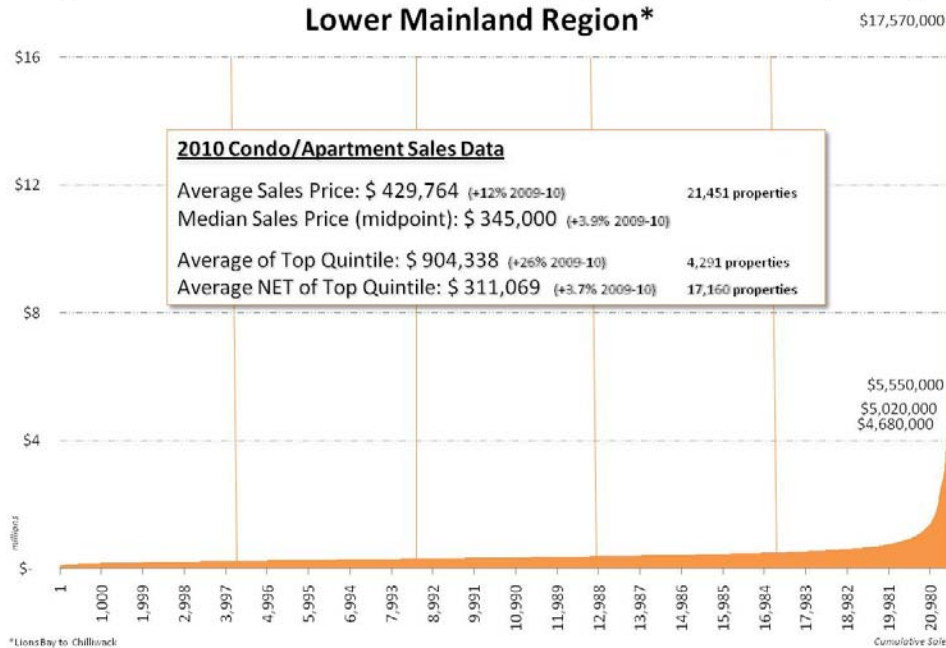
Figure 1 shows when all sales of detached units are ranked by price and grouped into quintiles the number of multi-million dollar sales become evident. Considering the top quintile (or top 20 percent of sales by value), which ranged up to \$17.5 million, the average price for these sales was a lofty \$1.69 million, twice the average price for all sales.

The average sales price net of this top quintile (the other 80 percent of sales which, it could be argued, are more representative of what most people would be purchasing) was \$591,092, 27 percent

below the average sales price which included the most expensive sales. When price changes between 2009 and 2010 are considered, average prices for the top quintile increase at twice the rate of sales in the bottom

80 percent of the market: relative to the 15 percent increase in average detached sales prices, the average prices in the top quintile increased by 21 percent while the other 80 percent of sales increased by ten percent.

Figure 2: Distribution of 2010 Condo/Apartment Sales by Price, Lower Mainland Region*



A similar situation is seen when the condo/apartment segment of the market is considered (Figure 2). In 2010 there were 21,451 condo/apartment sales in the Lower Mainland region, down 24 percent from 28,074 in 2009. Although volumes fell considerably, average sales prices for all condo/apartment

units increased by 12 percent, going from \$383,399 to \$429,764.

This increase was in large part influenced by sales at the top end of the market. In addition to the highest condo/apartment sale price exceeding the top detached sale price (\$17,571,125 versus \$17,500,000), prices in the uppermost quintile rose by more than six times the rate of those in the bottom 80 percent of the market (a 26 percent increase versus four percent). This resulted in a 2010 average sales price for the top quintile of \$904,338, while the average sales price for the remaining 80 percent was only \$311,069.

So for both the detached and condo/apartment markets, price increases for the most expensive 20 percent of units serves to skew overall average price changes between 2009 and 2010. Again, while the average sales price of all condo/apartment units increased by 12 percent, the price of the 80 percent of units that most people would consider purchasing only increased by 3.7 percent. And while the average value of all detached units increased by 15 percent, the increase was only ten percent if the most expensive 20 percent of units are excluded from the calculation.

While removing the Greater Vancouver data from the national data alters the picture of Canada-wide price increases—reducing it by 52 percent (from 8.9 to 4.3 percent as per CREA’s MLS sales data)—removing the most expensive sales (the top quintile) from the Lower Mainland data results in regional price changes that are well below the average for all sales. More specifically, removing these top sales prices reduces the 2010 ‘average’ sales prices by about 27 percent – from an average of \$810,398 for detached units to \$591,092, and from \$429,764 to \$311,069 for condo/apartments.

In closing, this brief analysis shows how a very different picture of changes in the national and local housing markets can be painted if broad-brushed averages are used. And now that we have unwrapped the sales data to show how prices have been changing for different segments of the housing market, we will next turn our attention to what is driving the price increases. Rather than being characterized by the ‘Law of Averages’ or wishful thinking, it seems that current discussions of what is driving housing prices in the Lower Mainland are characterized more by anecdotes than analysis. In light of this, our next *Averages & Anecdotes* paper will consider how, or perhaps more importantly if, foreign ownership has impacted the residential real estate market in the region.