

## Land Cost (Price) is More Volatile than Real Estate Price

Stephen Chung  
Executive Director  
Zeppelin Real Estate Analysis Limited  
June 2001

**Real estate price is generally NOT determined by the land cost**, though the latter is a major item in any typical real estate development or investment estimate, i.e. the fact that land cost is featured as an important (expense) item in a real estate financial calculation does NOT automatically mean there is a "cause and effect" relation between it and what the (completed / built) real estate can be sold for.

Notwithstanding the above, very often people would have the perception that changes in the land cost would imply similar changes for the real estate price. While the two may adjust up or down simultaneously, their respective volatilities are likely to be quite different = **usually land price would exhibit more volatility**. Here's a simple illustration:

- a) Assume a real estate developer requires **at least 25% of the sales revenues to be the 'profit' portion** e.g. for every \$100 sales revenue received, \$25 belongs to 'profit'. The rest 75% goes to development expenses.
- b) Assume development expenses to consist of, for simplicity's sake, **only 2 major items = land cost and building (construction) cost**. Other typical expenses such as professional fees, taxes, transaction fees, or even interest cost etc are deemed to have been included in these 2 items.
- c) We shall use a simple real estate development financial formula = (expected / estimated) **real estate price = land cost + building cost + required profit**, i.e. what the real estate can be sold for has to be large enough at least to cover the sum of the land cost, building cost and the required profit, else the real estate opportunity / project in question may not be pursued.
- d) Conversely, what the real estate developer is willing to pay for the land = **land cost** (or land price offered to the seller) = (expected / estimated) **real estate price – building cost – required profit**.
- e) **Inserting figures** into the above assumptions, and say real estate price on a per square foot of gross floor area basis = \$4,000 / ft<sup>2</sup>, building cost = \$1,500 / ft<sup>2</sup>, required profit = \$1,000 / ft<sup>2</sup> [i.e. 25% of \$4,000], then the residual budget the real estate developer can offer for the land = \$4,000 - \$1,500 - \$1,000 = \$1,500 / ft<sup>2</sup>.
- f) **Now say the real estate market goes down** and the real estate price on a per square foot of gross floor area basis = \$3,000 / ft<sup>2</sup> [i.e. the real estate has gone down by 25%], building cost remains at \$1,500 / ft<sup>2</sup>, required profit is amended to \$750 [25% of \$3,000], then the residual budget the real estate developer can offer for the land = \$3,000 - \$1,500 - \$750 = \$750 / ft<sup>2</sup> [i.e. the land cost has gone down by 50%!].
- g) **Now say the real estate market goes up** instead and the real estate price on a per square foot of gross floor area basis = \$5,000 / ft<sup>2</sup> [i.e. the real estate has gone up by 25%], building cost remains at \$1,500 / ft<sup>2</sup>, required profit is now amended to \$1,250

[25% of \$5,000], then the residual budget the real estate developer can offer for the land = \$5,000 - \$1,500 - \$1,250 = \$2,250 / ft<sup>2</sup> [i.e. the land cost has gone up this time by 50%!.].

Some readers will by now be questioning **why building cost is assumed to remain constant** in all 3 scenarios. The reasons are simple: a) to keep the illustration [and life] simple, and b) building construction usually would involve signing some form of **contracts** which in turn render changes including building cost / price changes a bit more procedural and less responsive to market / economic changes. Unlike real estate prices especially residential ones which by and large are dependent on / responsive to local economic conditions, there are certain components, e.g. **imported building materials and equipment**, which are almost immune to local conditions within the building cost item.

In addition, while real estate prices have generally gone down by more than 50% since their peaks in 1997 (e.g. based on published Centaline's indexes), the building cost tender price indexes have by and large gone down by only 23% (based on either the Levett & Bailey's index or the Government's Architectural Services Department's index).

We hope this would help to explain in part why the land cost per square foot of gross floor area (i.e. the land price paid for a site divided by the gross floor area that can be built on the site) had fallen from being in the 'thousands of dollars' range to the current 'one thousand something' (or sometimes even 'a few hundred dollars') range. The land cost portion is usually the more sensitive and easier to adjust item.

**Notes:** The article and/or content contained herein are for general reference only and are not meant to substitute for proper professional advice and/or due diligence. The author(s) and Zeppelin, including its staff, associates, consultants, executives and the like do not accept any responsibility or liability for losses, damages, claims and the like arising out of the use or reference to the content contained herein.

Click here to return: [Real-Estate-Tech.com](http://Real-Estate-Tech.com)