Zeppelin's Real Estate Tech

4Q 2007: A Real Estate Newsletter by Zeppelin Real Estate Analysis Limited

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The Hong Kong stock market index rises to new highs and so does the Shanghai one too, apparently oblivious at least for now to the sub-prime mortgage debacle happening in North America and Europe. Essentially, ever since the turn of the century, money has been swamping the globe and asset prices, real estate ones included, have risen / been rising in varying degrees all the way from the Americas via Europe to Asia, and even parts of the Middle East and Africa. Will this end? Certainly. When? Don't know. How? Drastically and probably dramatically too. Meanwhile...

In this Issue:

- Diminished Expectations by our invited guest writer Mr. Gary Carmell, President, CWS Capital Partners LLC
- China Real Estate Return: Gauging by Price per Floor Area Yuan / m2
- USA Home Price Has Only Doubled in Real Terms since 1890

We would also like to hear from prospective readers / writers who wish to share their real estate experience with us.

This quarterly (generally published in January, April, July and October) newsletter is circulated freely via email to over thousands of 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 China Daily, Hong Kong Economic Journal (a Chinese daily), 21st Century Business Herald (China), The Standard (a Hong Kong English Daily), MITCRE Alumni Newsletter, the Surveying Newsletter of the Hong Kong Institute of Surveyors, Centanet.com, Netvigator.com, Hongkong.com, E-finet.com, Red-dots.com, Realtradex.com, FrogPondGroup.com, Icfox.com, PacificProperties.net, Soufun.com and House18.com. We had also been quoted in the Asian Wall Street Journal and interviewed by Radio Hong Kong. We also publish monthly articles and analyses in the months in between. This newsletter is now into its <u>12th year</u> and <u>45th</u> issue.

We also operate a website <u>www.real-estate-tech.com</u> 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 is regularly visited by thousands from all over the world and should be of interest to people interested in China real estate markets.

Zeppelin Real Estate Analysis Limited is involved in real estate development, investment, and management with a focus on <u>independent real estate analysis</u>. Together with Zeppelin Property Development Consultants Limited, we offer services related to <u>real estate asset management</u> [analysis, investment strategy, and portfolio assessment], <u>project management</u> [architectural design, cost control, and contract administration], <u>facility management</u> [facility utility assessment, facility strategy, and building maintenance], and <u>marketing management</u> [campaign coordination, leasing, and sales]. We are part of the Zeppelin Group headquartered in Hong Kong with office operations in Beijing, Shanghai, and Shenzhen and we have access to networks covering China / Asia, North America, and Europe.

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Diminished Expectations Real Estate Tech, 4Q 2007 By Invited Guest Writer Mr. Gary Carmell, President, CWS Capital Partners LLC Zeppelin Real Estate Analysis Limited - Phone (852) 24016610 / Fax (852) 2401 3084 stephenchung@zeppelin.com.hk

I am fascinated by economic history because similar patterns tend to repeat themselves over and over. As long as people have incentives to take risk, capital is accessible, taxation does not stifle capital formation, and there is minimal government interference in global trade and domestic commerce, then the economic path of a nation and the world will be one of increasing prosperity and higher standards of living. Since the actors are fallible human beings, however, then those powerful human emotions of fear and greed will periodically enter into people's decision making processes and occasionally create staggering disequilibria. To get back into balance, it is often required that the system be cleansed of excessive optimism or pessimism.

The 1920s represent a fascinating time when very few investors thought anything could go wrong and people made investment and career decisions accordingly. There are many similarities to our current investment climate. Money is flowing to all asset classes, wealth is being created at an unprecedented rate, and liquidity seems to be endless, just to name a few similarities. To be fair, there are notable differences as well as there are in every era as well. For now, however, I want to focus on the similarities by sharing a couple of anecdotes from this decade that I believe have some applicability for today's real estate investors. It's only fitting that the first one involves an individual born in Texas, the state in which we have our largest holdings.

Clarence Dillon was born in San Antonio in 1882. Given his Texas upbringing he wasn't your a typical Harvard student. While there he succeeded, was well liked, and he proved himself a genius at poker. He took a somewhat unusual route to Wall Street. After graduating, he settled in Milwaukee with one of his classmates to work in industrial businesses. While there, he was a weekend guest at the summer home of a wealthy and prominent family. On a Monday morning he was waiting for the train to take him back to Milwaukee when a huge Newfoundland dog walked out on the track and was struck by an express train. The animal's body was hurled in the air and smashed into Dillon with such velocity that he was knocked to the ground unconscious. For three weeks he was extremely ill, close to death, and was finally nursed back to good health by the daughter of the house. Like a fairy tale, they were married a year later.

Not long after their marriage, a relative of Dillon's wife who once resided on the east coast passed away died who lived on the east coast. Dillon went back east to help look after the settlement of her affairs. The estate attorney was so impressed by Dillon that he recommended him to a close friend, William A. Read, president of William A. Read & Company, a Wall Street bank, who was always looking for talent. Dillon was eventually persuaded to join the firm. When he was nearly 34 he was named a partner in William A. Read & Company. On the very same day, April 1, 1916, Read was stricken with a fatal illness and died three weeks later. Within three years Dillon was named president. In 1920 he restructured Goodyear Tire & Rubber, which had over \$100 million in debt and was on the verge of bankruptcy. This made Dillon a major player on Wall Street.

In 1925 Dillon organized a syndicate to purchase the automobile business of Dodge Brothers, representing the largest cash transaction in industrial history at that point. The purchase price was \$146 million and he managed to beat out a joint venture between General Motors and J.P. Morgan & Company to win the company. Three years later, Dillon sold Dodge Brothers, Inc. to the Chrysler Corporation for a profit in excess of \$40 million. Dillon was 43. The name of the firm was changed to Dillon, Read & Company.

Let's flash forward 79 years to 2007. After nine years of ownership, DaimlerChrysler announced that it was reducing its stake in Chrysler to 19.9% and forming a joint venture with Cereberus, one of the premier private equity companies. The value of Daimler's ownership is valued at \$1.6 billion. It paid \$36 billion to purchase the company in 1998. This was one of the worst investments in history.

In 1997 Dillon Read was acquired by Swiss Bank Corporation for \$600 million and merged into S.G. Warburg & Co. to become SBC Warburg Dillon Read. In 1998 United Bank of Switzerland (UBS) purchased SBC Warburg Dillon Read. On May 3, 2007 UBS announced that it was shutting down its Dillon Read Capital Management hedge fund unit. UBS lost \$300 million in disbanding the unit after the fund incurred very large losses due to bad bets on sub-prime mortgages.

Two venerable businesses with long histories succumbed to the realities of the marketplace and some boneheaded decisions by their owners. Before trying to tie all this together, let me introduce one more anecdote.

When Babe Ruth was in Cuba sometime in the 1920s he was forced to cancel his passage home because he owed \$65,000 to bookies. "But," according to The New Yorker magazine, "out of the orgy of spending and earning, his wife, unknown to him, had...swept up the dust of a greater sum of money than he had ever known before; and without a word she sat down, wrote a check for \$65,000, resisting even tears." In addition, "on her own, unknown even to the Babe, out of the wreckage of his earnings, she saved enough to buy a few apartment houses in Boston."

So what's the point of these trips back to the 1920s? Bad things happen. From stupid investments to flying dogs, there are identifiable risks and others that come totally out of the blue. Without recognizing that bad things can happen, whether self-induced or exogenous, then individuals and businesses will not be prepared when they inevitably manifest themselves. Helen Ruth, The Babe's wife, understood this completely. She knew the risks her husband's impulsive tendencies introduced to the financial stability of their marriage. She took the appropriate precautions to help cushion the blow. Daimler and UBS apparently didn't. After six years of tremendous returns in real estate, it is time for real estate investors to focus much more on downside protection and preservation of capital, rather than upside maximization.

We are at one of those points in the world of leveraged investing, of which real estate is one of its subsets, that a focus on having a margin of safety is becoming very important. Warren Buffett defines risk as a permanent loss of capital. This is the time to focus more on risk than reward. With interest rates rising, lender underwriting standards tightening, the cost of money has risen while the quantity of it has decreased. As an example, we refinanced a property in March 2007 which generated loan proceeds of \$32.5 million. If we were to put new financing on that property today, the rate would be nearly 1% higher and the loan proceeds only \$29.0 million. This is a dramatic change and should lead to some property owners with a high degree of leverage and loans coming due, potentially having difficulty in refinancing their debt. Since one man gathers what another man spills, this could lead to some interesting investment opportunities for those who become aware of these distressed situations and have the capital to take advantage of them.

As a sign of the more challenging debt markets, Archstone-Smith, one of the largest and best apartment real estate investment trusts (REITs), is being taken private by Lehman Brothers and Tishman Speyer in a transaction valued in excess of \$20 billion. Prior to this fairly significant increase in interest rates and tightening of lending standards, this deal would have been a slam dunk for it to have been consummated. If the market price of Archstone is any indication, then investors are not so sure and have factored this uncertainty into the price.

How does one divine this? It's pretty simple logic. If one is certain that a transaction will take place on a specific date and price, then the buyers of the stock should get a very similar return to a risk-free Treasury security with the same maturity as the time frame for the buyout to be completed. In Archstone's case, the transaction is scheduled to close some time in the third quarter at \$60.75 per share. Assuming that it closes on the last day of the quarter, then an equivalent Treasury yield would be approximately 4.70% annualized (as of this writing). Archstone's price, however, would generate an annualized return of approximately 10.8%, a significant premium over the risk-free rate. Obviously the market has concerns about whether the deal will get done on time and/or at the negotiated price.

Archstone is not alone. Other companies being taken private offer similar annualized rates of return. With over \$300 billion of leveraged buyouts in the pipeline needing financing on fairly aggressive terms, it appears that the pendulum has finally swung to lenders. Hunger has finally been sated and indigestion is beginning to take over. As a point of reference, the largest buyout in history will be KKR's purchase of Texas Utilities, a transaction in excess of \$45 billion. Clarence Dillon would be very proud.

One of the realities of this situation is that <u>cash flow on new acquisitions will be very small</u>. There is no way to purchase a property at an unleveraged yield of 4.5% and finance the acquisition with debt costing 6.25% and produce meaningful cash flow. If the financing terms require the loan to amortize on a 30-year schedule, then debt of 61% of the total cost will consume all of the cash flow. As a frame of reference, we typically like to finance our properties with 75% to 80% loans. This will pose challenges for us, particularly with regard to our 1031 exchanges. One way we have been navigating around this is to focus on good real estate with the ability to assume a loan that is in place that can offer us more leverage and a below market interest rate. We are currently doing this with a prospective acquisition in San Antonio in which the interest rate is below 5% and the loan to purchase price is approximately 75%.

We are going to remain very selective in what we are buying given the more challenging capital markets. Despite this, we are still bullish on apartment fundamentals. To reiterate the story, jobs continue to grow, interest rates are rising and credit is tightening up for home purchases. The sub-prime loan market has imploded, which should keep more people renting. Construction costs have risen quite significantly without a corresponding increase in rents so the risk-reward relationship for developing is not as favorable as it was a year or two ago. Although home builders still have a lot of inventory to work through and will probably continue to discount them very aggressively, which could draw people out of the renting market, building permits have plummeted so the supply of new single-family homes will grow far more slowly than it has over the last five years. In addition, the weaker dollar is making U.S. real estate much more attractive to foreign investors.

Although the financing market is more challenging than it has been in a long time, apartments still represent a compelling asset class in our opinion. We do believe that occupancy and rent growth prospects remain strong for the reasons listed above, it represents a hedge against inflation, it has proven to be a good place to store wealth over long periods of time, and should still offer attractive appreciation potential. Unfortunately, the continued strong demand for the asset class and positive outlook for rent growth and occupancies have led investors around the world to want U.S. apartment assets despite the higher cost of debt. As a result, cash flow is being sacrificed in the short run. Like Helen Ruth and Clarence Dillon, however, we will keep our wits about us and be very opportunistic to make sure we are adding value.

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China real estate markets are reportedly hot in recent times and despite various cooling measures, prices appear to keep on going up notwithstanding certain detections of slowing down in some of the markets and sectors. With such a vibrant sentiment, it is quite <u>easy to forget that just 7 years ago China real estate</u> was almost a no-no e.g. with the then oversupplied Shanghai office market being reported and predicted to have enough floor space for the next 10 or 20 years (well, so much for market research and analysis!).

Indeed whatever real estate news and reports that come out of China these days are likely to be the opposite of those 7 years ago, i.e. the news record mega real estate investment deals by both local and foreign entities and the researches are mostly optimistic anticipations. Not that there are no disconcerting commentaries, they just appear to be less attended to these days.

In any event, we often hear of the handsome returns made by real estate investors, in particular some of the local real estate developers who have all the networks and capabilities, yet few reports indicate how handsome, assuming true, these profit margins are.

We have some clues as to what profits some of our clients-investors are making from China real estate and collectively over the last 10+ years, some investors have done well while others less so. However, these clients-investors of ours form only a very minute sample and <u>there are not many macro figures going around</u>. Despite this, we do have access to reasonably applicable sold prices per floor area from 2002 to 2006 inclusive and we can use these to produce a very rough gauge on the likely returns and profitability ranges:

- A) **Sources** = mainly China Real Estate Index System (CREIS) of the Soufun Group [www.soufun.com] plus other web and published resources
- B) On a gross return basis (from 2002 to 2006) = these are calculated by dividing the difference in the prices per floor area between the year 2006 and 2002 by the 2002 figure. No allowances have been made for transaction costs and the like and these figures are mostly related to newly developed projects:

2002-2006 Gross Returns %	Residential	Office	Retail
Beijing	65%	3%	90%
Shanghai	77%	45%	26%
Guangzhou	54%	65%	43%
Shenzhen	70%	87%	26%
Tianjin	92%	68%	43%
Chongqing	62%	38%	25%
Wuhan	85%	113%	309%
Hangzhou	87%	57%	52%
Chengdu	94%	38%	49%

First, the residential sector appears to have less variance in terms of profit margins while the office and indeed the retail sectors contain much wider ranges, i.e. residential developers in the above markets can reasonably look forward to making some profit and differences in localities are smaller e.g. while Chengdu has the highest gross return of 94%, the lowest Guangzhou still offers 54%. Second, this cannot be said of the office and retail sectors e.g. a Beijing office developer faces a tough time than his contemporaries in the other 8 cities. Do note however that extremely high return may be a one-time statistical occurrence or may even reflect possible market transaction skews.

C) On an Internal Rate of Return (IRR) basis (2002 to 2006) = in a way similar to the above, the investor is assumed to have invested at the 2002 figure and sold at the 2006 figure and a simple IRR is done:

2002-2006 IRR % Residential	Office	Retail
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Beijing	13.36%	0.85%	17.34%
Shanghai	15.26%	9.64%	5.91%
Guangzhou	11.39%	13.28%	9.40%
Shenzhen	14.25%	16.93%	6.01%
Tianjin	17.66%	13.89%	9.36%
Chongqing	12.81%	8.45%	5.66%
Wuhan	16.66%	20.81%	42.24%
Hangzhou	16.90%	11.99%	11.11%
Chengdu	17.96%	8.37%	10.41%

The observations are more or less in line as those in (B) above. Nonetheless, if one takes away Wuhan Office and Wuhan Retail, the IRR prospects for the office and retail sectors are not any much better(actually worse*) on the whole than the residential.

On a separate note and based on a separate study we have done a while ago, the Big 4 (Beijing, Shanghai, Guangzhou, and Shenzhen) have seen their residential sector reduced from occupying over 90+% (production-wise) of the private real estate market to generally occupying lower than 90%. The residential sector still occupies 90% or higher in the other cities listed.

D) On a total annual return basis (2002 to 2006) = here we add a guesstimated rental yield (before taxes) to the IRR to see what levels of total annual returns are likely [arbitrarily a 7%# is applied across the cities and sectors]:

2002-2006 IRR %	Residential	Office	Retail
Beijing	20.36%	7.85%	24.34%
Shanghai	22.26%	16.64%	12.91%
Guangzhou	18.39%	20.28%	16.40%
Shenzhen	21.25%	23.93%	13.01%
Tianjin	24.66%	20.89%	16.36%
Chongqing	19.81%	15.45%	12.66%
Wuhan	23.66%	27.81%	49.24%
Hangzhou	23.90%	18.99%	18.11%
Chengdu	24.96%	15.37%	17.41%

At a glance, most of the combined returns appear competitive though again no allowances have been made for transaction expenses, taxes, and the like, or for that matter, the effort and resources required to repatriate the profit (and invested capital) for the foreign investors. Nonetheless, based on the nominal returns shown in the foregoing, <u>no wonder many investors are still seeking to acquire China real estate assets</u>. Of course, there is always the additional reason of an undervalued Yuan.

The above guesstimated returns aside, your humble author thinks China real estate investors may in general wish to:

- 1) Look beyond the current market cycle into the next one [and come up with fall back tactics at the same time]
- 2) <u>Become more selective</u> of cities and / or sectors [as not all will bring rewards]
- 3) <u>Match one's investment timeframe with the proper level and category of risk</u> to be concerned with [and long term investors have less in general]

4) <u>Realize the best part of the China story is yet to come</u> [the more business-like term is confidence and the more intuitive term is faith]

As to why, perhaps this calls for another analysis on another day (or perhaps a call to our office for the eager to know).

*Worse: discounting Wuhan, when one throws a random dart on the residential board, one gets at least an IRR of 11.39% Guangzhou-Residential. Doing the same for the office and retail boards, one may get an IRR 0.85% Beijing-Office and an IRR of 5.66% Chongqing-Retail.

#7%: this figure is bound to be inapplicable to individual cases and properties or for that matter to all the cities and sectors listed herein. Nonetheless, as we are NOT seeking to present an actual or accurate table but a rough order of magnitude one at best, we feel the figure appears to be reasonable as of the date of writing this article.

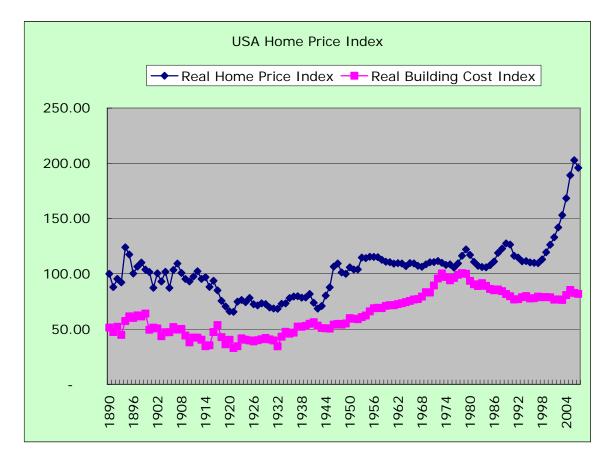
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USA Home Price Has Only Doubled in Real Terms since 1890

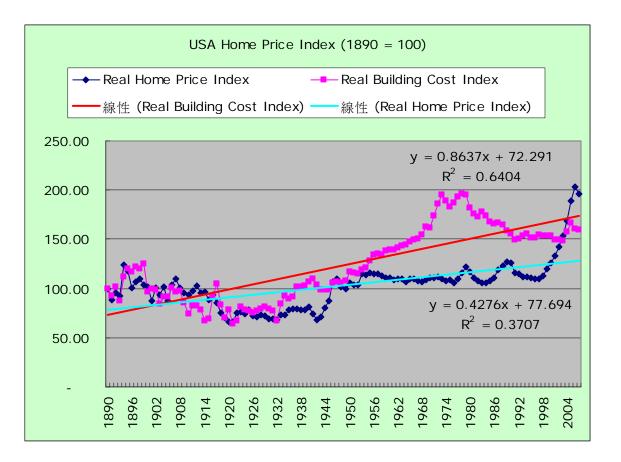
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No, dear reader, you have not read incorrectly. It is indeed counting from 1890 (not 1980 for which someone might have wished). So small an increase, no way! However, note that this is in 'real' terms i.e. when costs of other stuff and inflation etc have been taken into consideration at least according to this web resource http://www.irrationalexuberance.com/Fig2.1Shiller.xls. Here's a chart for starters:

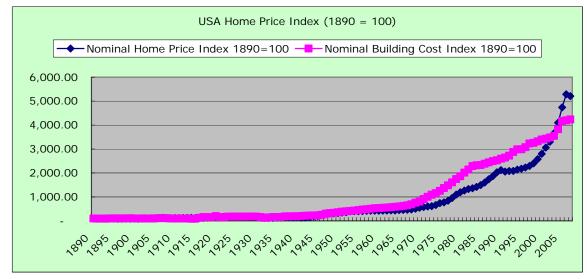


Note 2 things: a) the bulk of the real home price gain occurs since around the turn of the 20th / 21st centuries, and b) real building cost had risen tremendously in the 1960s to 1980s. Perhaps this following chart will compare the index trends of both the real home price and real building cost more clearly by benchmarking the 1890 building cost index to 100:

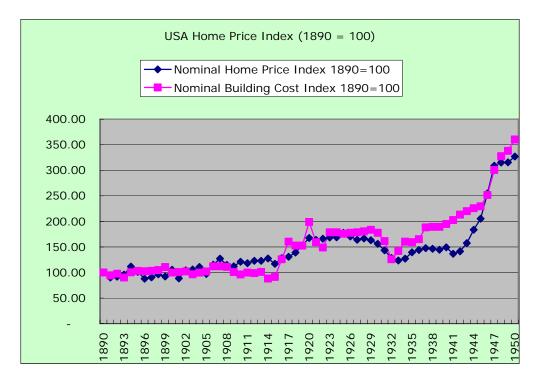


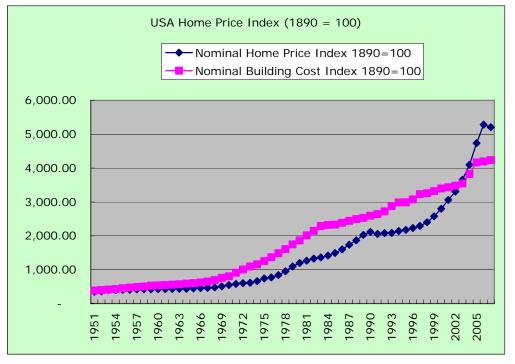
Note also a) home price correlates less with time, and b) building cost appears to rise more in synch with time, and c) building cost has actually been either in synchronized pattern with home price OR above home price until recent times, when it appears home price rises more than building cost.

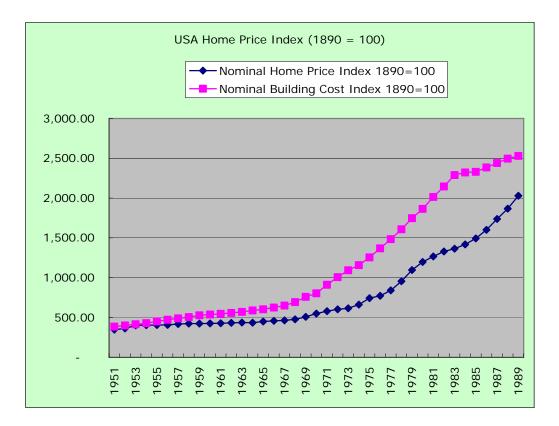
We have also looked at the nominal home price index and the related nominal building cost and this chart gives a better description than wordy sentences:

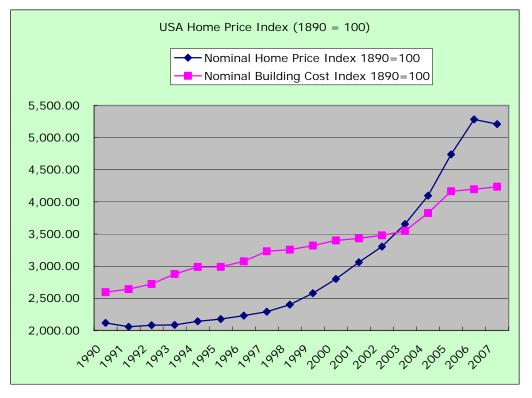


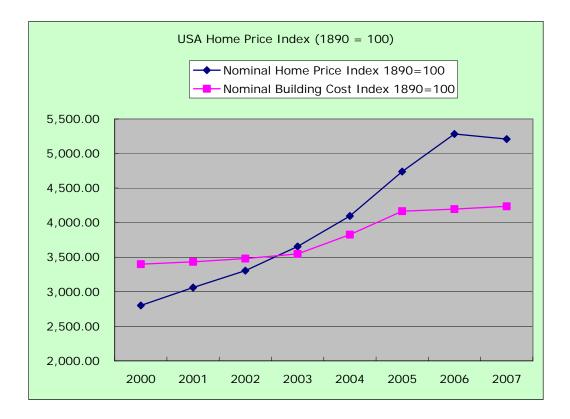
In a way, it resembles the real index charts in that the nominal building cost index is usually similar to or higher than the nominal home price index except the very recent years. Naturally, the nominal values of recent times are dozens of times larger than they were in the 1890s. The following charts are the time-divided segments of the foregoing:



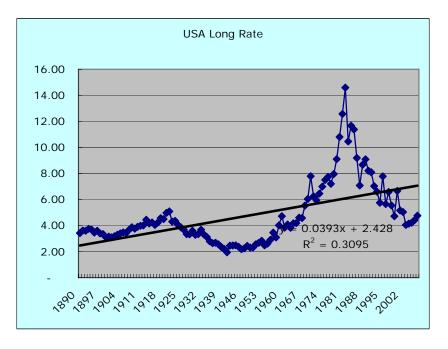




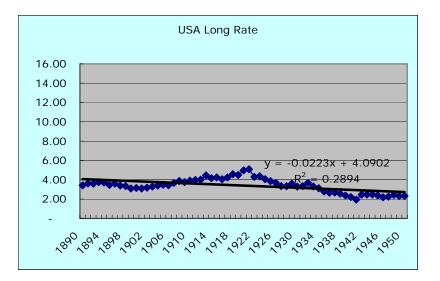


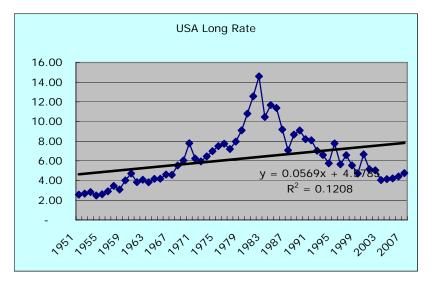


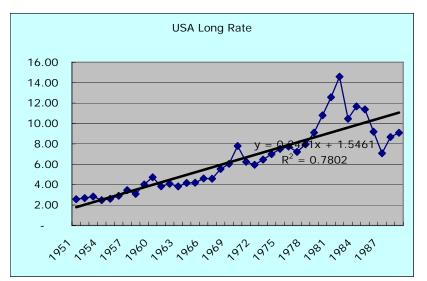
Note the nominal home price index has overtaken the nominal building cost index sometime during 2002 / 2003. Now we shall also take a shot at the long rate trends which charts are arranged similarly in corresponding time-segments as in the foregoing:

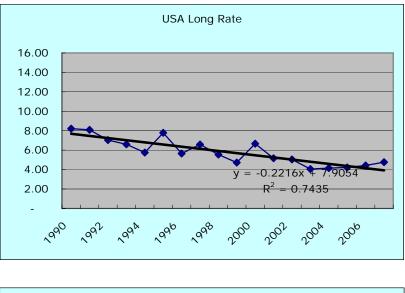


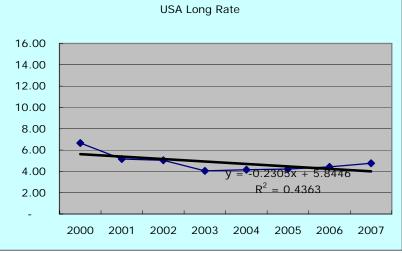
Note the overall trend is upward but when the timeframe is subdivided into smaller segments, **interesting observations are made**:





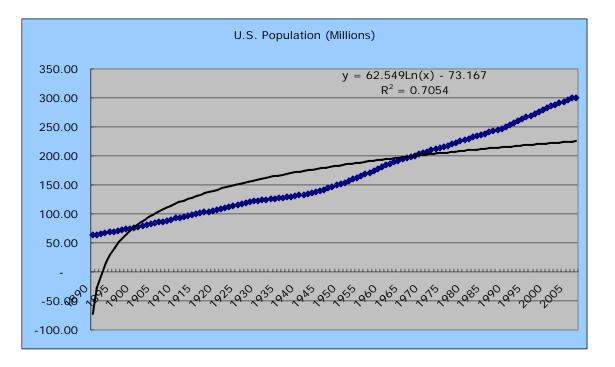






One obvious phenomenon is that while the overall long rate trend from 1890 to 2007 is tilting up, this becomes different when the timeframe is subdivided into different periods. Very roughly, the long rate tilts down from 1890 to 1950 and tilts up from 1951 to 2007. However, there is more to this. When the 1951 to 2007 trend is further subdivided, it tilts up tremendously more from 1951 to 1989 yet goes downward from 1990 onwards, with the latter downward trend even true for the more recent 2000 to 2007 period i.e. from the 21st century.

We have also done a chart on the **population growth and trend**:



As such, we have done rough correlations between various elements and these are tabulated as follows:

			-										
R = Real		1890-	1890-	1890-	1890-	1951-	1951-	1951-	1951-	1990-	1990-	2000-	2000-
N = Nominal.		2007.4	2007.4	1950.,	1950.	2007.4	2007.4	1989.,	1989.	2007.4	2007.4	2007.1	2007.4
Correlations	а	Ra	R2.1	Ra	R2.1	R.a	R2.1	Ra	R2.1	Ra	R2.1	Ra	R2.1
between:													
R Home \$	R Bldg \$.	0,65.	0.43.	0,58.	0,34.	0.03.	0,00.1	0.09.	0.01.	0.68.	0.47.	0,82.	0.67.5
R Home \$4	Population.	0.67.	0.45.	(0.48).	0,23.	0.61.	0,37.	0.25.	0.06.	0.81.	0.66.	0.98.	0.97.5
R Bldg \$	Population.	0.81.	0.66.	(0.10).	0.01.	0.36.	0,13.	0.81.	0.66.	0.47.	0.22.1	0.73.	0.54.
R Home \$2	Long Rate.	0.28.	0,08.	(0.12).	0.01.	(0.19)	0.04.	0.08.	0.01.	(0.66)	0,43.	(0.63).	0.40.
R Bldg \$	Long Rate.	0.68.	0.46.	(0.61).	0,37.	0.68.	0.47.	0.73.	0.53.	(0.39)	0.15.	(0.32).	0.10.
N Home \$	N Bidg \$ -	0.96.	0.92.	0.94.	0,88.1	0.94.	0.89.1	0.98.	0.95.	0.95.	0.91.	0.98.	0.97.
 N Home \$ 	Population.	0.84.	0.70.	0.77.5	0.59.1	0.91.	0.82.	0.87.5	0.77.5	0.89.	0,80.	0.99.	0.97.
N Bidg \$	Population.	0.91.	0.83.	0.86.	0.73.	0.98.	0.96.	0.93.	0.86.	0.97.4	0.94.	0.96.	0.91.
 N Home \$ 	Long Rate.	0.39.	0.15.	(0.40)	0.16.	0.05.	0.00.1	0.795	0.63.	(0.73)	0.54.	(0.60).	0.36.
– N Bldg \$⊸	Long Rate.	0.57.4	0.32.	(0.55).	0.31.	0.28.	0.08.1	0.88.	0.77.1	(0.83)	0.68.	(0.53).	0.28.

A few quick observations can be done: a) the nominal values produce generally higher correlations for the same correlation than the real values especially among home price, building cost, and population [less so with long rate]; b) the building cost used to rise and jive with the long rate yet went the other way starting 1990; c) the home price index, whether real or nominal, exhibit a strong correlation (R2) to the long rate since 1951; d) what is more is that this strong correlation between home price index and long rate exists both ways i.e. when the two have the same trend direction and when the two are moving in opposite direction. In short, home prices, real or nominal, appear to react and rise to lowering rates in the last decade or two.

Naturally, the above contain and reflect only part of the overall economic and real estate

conditions during the period from 1890 to 2007 and thus are not exhaustive on their own. <u>Extra-ordinary events</u> such as the Great Depression in the 1930s and World War Two in the 1940s, not to mention others such as Korean War, Vietnam Conflict, Desert Storm, the current Iraq War etc, are likely to exert certain traits and influences, economic, financial, or otherwise. These may (or may not) help explain why home prices react in one way at certain times and in another way, even the exact opposite, during other times.

Questions to ponder: will home price continue to react favorably to low rates? Or will it stop reacting favorably and become indifferent like it had in other eras? Are you sure low rates will indeed raise home prices every time rates are lowered? Or is this phenomenon just a statistical occurrence by chance?

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