Houses overvalued by 25%: A rejoinder

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It appears estate agents and house investors and other stakeholders in the housing market have experienced serious anguish and denial following the launch of *Rode's Report* (quarter 4 of 2011) on 26 January 2012. At the press conference I stated that houses were fundamentally overvalued by at least 25%; furthermore, that house prices will, as a consequence, decline in *real* terms over *many* years (unless one assumes a quick collapse like in the USA).

Estate agents' anxiety can be understood as stagnant prices tend to be associated with fewer transactions and, therefore, less commission. Naturally, the messenger is to be blamed.

Our findings have three crucial implications:

- Pertaining to mortgage lenders, prudent lending practice would dictate that 100% mortgage loans should be the exception. The claimed tendency for banks to once again start reverting to 100% mortgages is disquieting.

- In the absence of expected capital appreciation, the man in the street who is contemplating buying his first house or who is relocating, should consider renting rather than buying. This is so because renting is now (and has been for many years) much cheaper than owning, with the help of your friendly banker. It is a false argument to say, "I do not want to make a landlord rich", when one makes a bank "rich" by paying interest on a mortgage bond!

- Housing developers and building contractors face a prolonged period of modest activity.

By its very nature, a press conference has to be succinct and contain a minimum of technical clutter. In the process of converting technically robust analysis to popular text, some of the substance inevitably gets lost in translation. For this reason, and because of the uproar, I have decided to reproduce the article that appeared in *Rode's Report*, to expand it slightly and to end this article with a rebuttal of some of the criticism levelled at our method and conclusions.

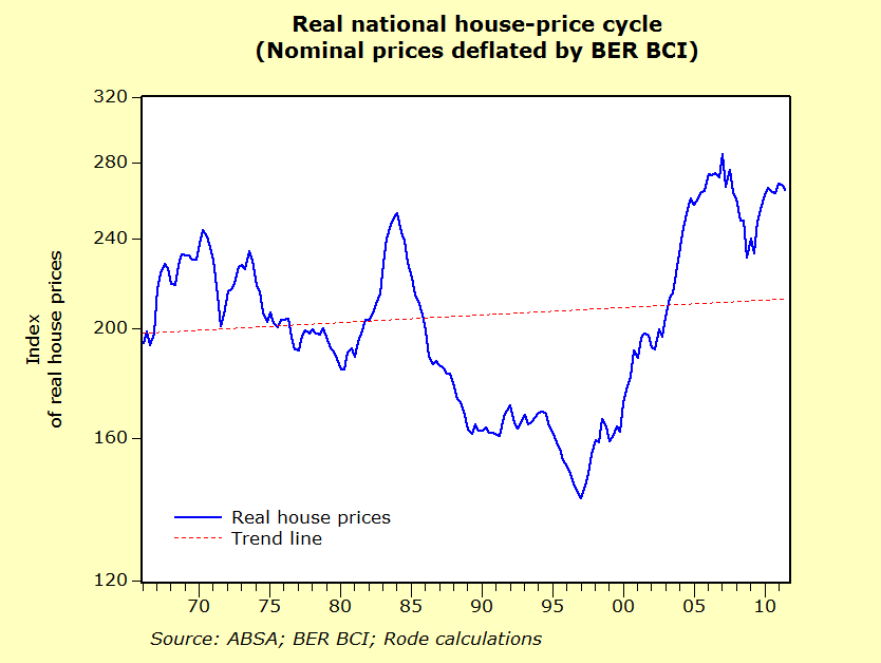
For the record, I suspect that many property practitioners and laymen who commented in the media did not understand that I was forecasting a medium-term contraction in *real* prices (i.e. after deducting inflation).

To add flesh to our forecast: should inflation (more specifically building-cost inflation) stay at, say, 6% per year for the next few years, and house prices rise at only 1% per year, then the annual *real* decline in values would be 5 percentage points (6-1=5). Thus, in this example, to correct the suggested 25% overvaluation would take five years (5 percentage points x 5 years (= 25%). Five years, then, of stagnation. This is quite feasible as South Africa and many other countries have had such a situation before, as the reader will see in the graph below. What is

more, if we were to add the world economic prognosis to this cocktail, the reader will see Rode *is* from this planet.

In South Africa, house prices are still far above their long-term replacement-cost trend line, which is another way of saying houses are still seriously overvalued. The theory behind this statement is that the long-run driver of prices (or rentals) is building costs, a proxy for replacement costs.[1] This can be explained through the substitution principle, which states that a buyer will pay no more for a property than the *cost* of an equally desirable alternative property (if prices are too expensive in Claremont, he/she might opt for Durbanville). For example, why would one buy a newish used house for, say, R120 when you could have it built for R100?

In the first graph, the price mechanism behind this theory is empirically illustrated with reference to the historical movement in house prices since 1966 (ex Absa), deflated using the BER Building Cost Index (a proxy for replacement costs).

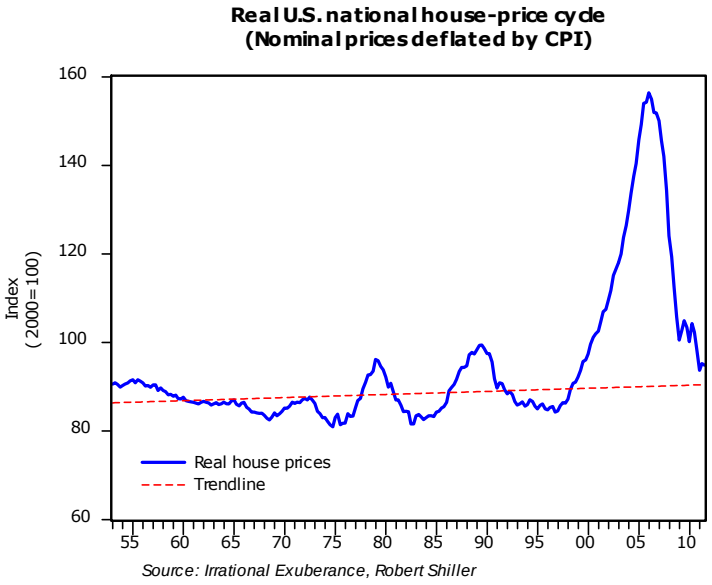


Here's how to interpret the data:

- In theory, the trend line should be more or less horizontal (0% *real* growth). In fact, it grew by 0,2% per annum compound from 1966 to 2011 (46 years).

  A first precondition underlying this theory of the long-term sideways movement of *real* prices is that the supply side must be elastic, that is, new supply can be added at will by developers. In places like the City of London, where excessive town planning conditions apply, this assumption may not hold, which explains the extraordinary growth in *real* prices here over a long period.

[1] Replacement costs = cost to build plus market value of erf



A second precondition is that the economy does not collapse, otherwise *real* prices would tumble to levels below the natural floor. South Africa was heading in this direction during the decade that ended in the mid-1990s (see the second graph).

Thus, in the long run one would expect *real* prices to move within a certain sideways band. This is also illustrated by the American experience since 1950 (see the second graph). We calculated the trend line of deflated American house prices from 1950 to 2000, and extrapolated the trend thereafter because the seven irrationally exuberant boom years before the 2007 crash would give the trend line a slightly upward bias. The graph shows real prices in the USA had been following the theory (sideways trend line in *real* prices) exactly, until the year 2000 when prices burst through the upper ceiling of the band. After the prick of the bubble, prices started collapsing (reverting to the long-term trend line), and they will probably pierce this line soon on the way down. If one were to calculate the trend line for the whole period (rather than up to 2000), then prices are already below the trend line. From this graph it is obvious that US analysts should have noticed by 2000 that US houses were then already overpriced. But of course everybody would have denied it (and the messenger would have been shot).

The third precondition for our model to be relevant is that we have to assume that the age profile of the stock of houses stayed more or less the same over the period of the analysis (1966-2011). The significance of the assumption is that houses age pricewise, and if the average house in the stock of suburban houses would become older over time (i.e. the addition of new houses is slacking off) this could eventually depress our line of best fit. A dramatic example of this happening was in Maputo after Mozambique's independence, when all building stopped and the existing stock wasn't maintained.

- Near the top of the cycle, developers usually flood the market because new developments are now highly profitable, while buyers exit the market because of the lower affordability of houses. More or less concurrently, mortgage lenders revise (or should earlier have revised) their lending criteria (the third graph in this newsletter shows an uncanny correlation between changes in house prices and changes in mortgage lending, with mortgage lending seemingly leading prices at times). These factors eventually lead to a correction in prices. In a "normal" economy it is as inevitable as day following

night.

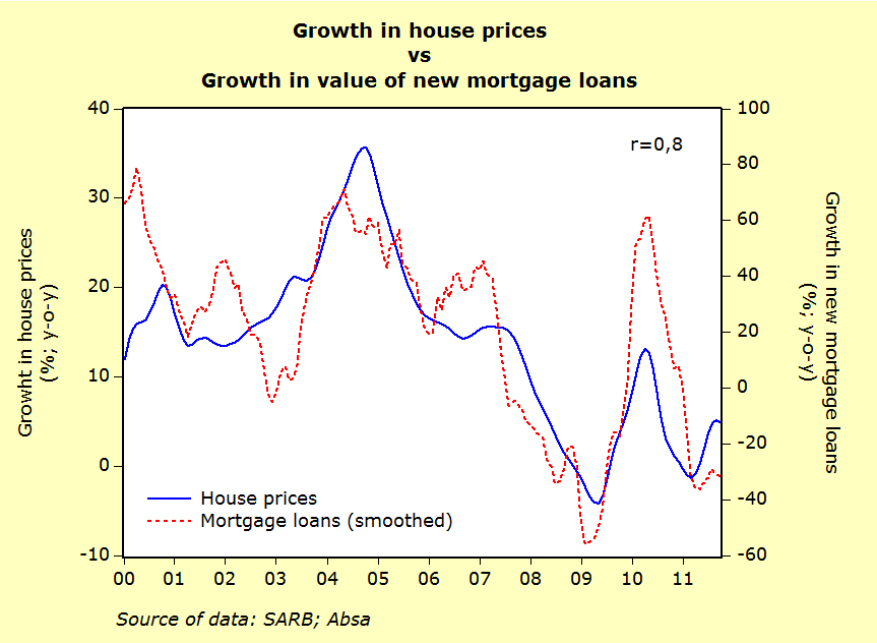
- At the bottom of the cycle, developers withdraw because it is now less profitable (and banks deny them development finance) whilst smart investor buyers start nibbling because of improved value and affordability. This again results in a correction of prices.

- When *real* prices pierce the floor (on the way down) the house market can be said to be in a serious depression territory.

- And, when *real* prices pierce the ceiling (on the way up) the market can be said to be in a serious bubble territory.

As can be seen in the first graph, *real* house prices in South Africa "pierced the ceiling", or moved past their historical peaks in 2003 and thereafter moved into serious bubble territory. The inevitable turning-point came in 2008 with the world economic crash. It is important to consider that one can never forecast the exact turning-point or when the bubble will be pricked; one can only say with a certain degree of confidence that houses are now over- or underpriced, whatever the case may be.

The slight recovery in South Africa that started in the middle of 2009 was never going to be sustainable because it wasn't supported by fundamentals (employment growth and confidence). It was helped along by a further interest-rate cut and a (temporary) decline in building costs (deflation of the deflator, i.e. for a while it actually cost less to build than a year earlier!). Nonetheless, houses are at the moment still, fundamentally speaking, 25% more expensive than what is suggested by the trend line. Thus, a resumption in the down trend is inevitable; it's only a question of speed and, therefore, the time the correction will take.



As for current growth rates, national nominal house prices (as measured by Absa) recorded growth of 4,2% in November 2011. For now (shorter term), vigorous growth in nominal prices can only be expected should the magnitudes of the key short-term drivers of demand change significantly. One such driver is, of course, interest rates.

Critique by John Loos

In an e-mail-based newsletter issued on 1 February 2012, John Loos, household- and property-sector strategist of FNB, expressed some 'reservations' regarding our methodology, and concluded that he cannot conclude on whether houses prices were over- or undervalued. I consider his points one by one:

1. He opines that the supply side in South Africa has become inelastic. If this were true then it would violate our first precondition (see above) for our model to work, as this would mean that developers cannot add new supply more or less at will to satisfy growing demand. As an example he quotes the land scarcity in a small part of Cape Town (around the mountain). On the land scarcity around the mountain of Cape Town, I fully agree; in fact I have used this as an example in many a talk. But the statistics I used are for South Africa as a whole, and I would argue that our metropolitan municipalities haven't become dysfunctional to the degree that the town planning processes or land scarcity are seriously affecting new supply (in some smaller municipalities this might be the case, but then in such municipalities demand has also presumably collapsed).

2. A further argument is that urban congestion is somehow invalidating our model. I am not aware of any study to this effect, and the easiest way to refute this argument is with reference to the evidence in the USA (see the graph depicting American house prices). On a national basis, our model clearly still does work there. Sure, as in the case of Cape Town's few mountain suburbs, there will be patches in many a world city (such as London) where agglomeration and urban congestion is pushing up prices beyond what building costs would suggest. But these are seemingly isolated cases and are minute in the greater scheme of things. South Africa, *as a whole*, is far removed from such a scenario. A Durbanville (with lots of developable land) can still be substituted for a Claremont if Claremont's prices were to become "unreasonable". On the whole, land is not that scarce yet, not even in the USA. And to predict that land will become scarcer in the far-off *future* does not invalidate our model *today*. (By the way, if land scarcity is going to become a serious issue in future, then we are heading for a severe problem with regard to the provision of affordable and give-away housing, which is dependent on cheap land.)

   It needs to be said that not even rising standards of living will in the end invalidate our model. This is so because of the substitution principle and because we assume an elastic supply, i.e. we assume developers are, within reason, willing and capable and allowed to add new supply (the prices of which are in the long term determined by building costs!), as well as our assumption that developable land and town planning regulations are not a serious constraint (they are not).

3. Mr Loos quite rightly makes the point that the researcher can "prove" any level of over- or undervaluation by judiciously choosing the starting date (compare, for instance, the way I calculated the long-term trend line for the USA by judiciously choosing the *end* year and then extrapolating that line). This problem of the sample period can largely be overcome by a combination of using a long enough period (46 years in our South Africa example) and judgement (as in our USA example). This explains why it is dangerous to use a short period

   like 20 years, for instance, and why we chose the longest possible period for which we have statistics, viz. 46 years. For instance, in the South African case, there was a long period (the 1986-1996 political transition years) when *real* prices were well below their 'nat-

ural' floor level *and* declining (see the first graph), and if one had calculated the trend line in 2000 (starting 1966), the period 1986-2000[2] would have depressed the slope of the trend line. However, subsequent to 1996 (post political transition), we had an extended boom until 2008, with prices reverting to their "normal" levels and better, thereby compensating for the depression years, which, in my judgement, render the calculated trend line valid (more or less representative) for the full period of 46 years. On top of that, quite by happenstance, 1966 was a good year as a start date because it was *halfway* through the roaring 1960s' boom period. Thus, 1966 was neither cheap nor expensive.

Further support for the supposition that our calculated trend line is close enough to the "truth" is that the growth rate of the line of best fit (trend line shot through the real data over the full 46 years) equals only 0,2% per annum (compared to the theoretical 0%). It all hangs together.

New housing is more expensive

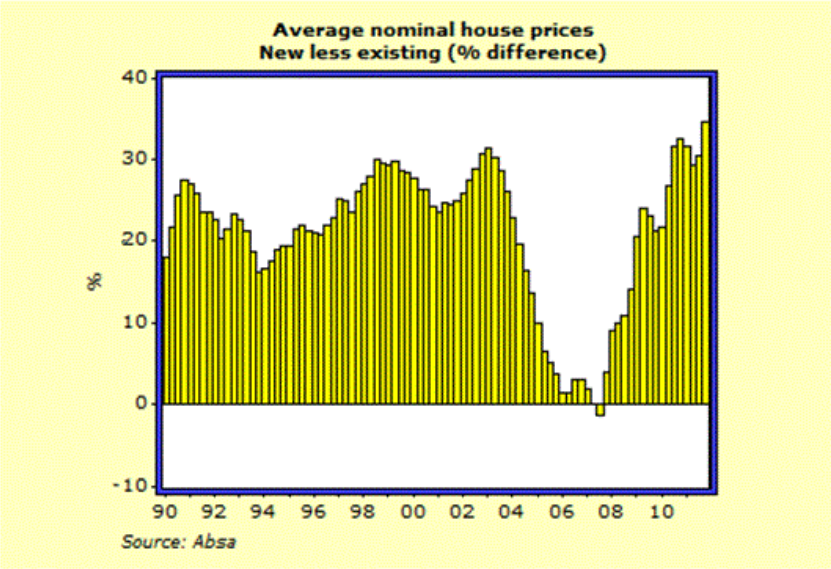
Useful statistics regularly updated by Absa show that generally new houses cost more than the existing housing stock. The premium paid for new housing varies over the cycle, and at the moment stands at 34,5% (see the last graph); hence the discount of old to new being 25,6%.

Using the premium commanded by new houses as evidence, it is sometimes claimed by commentators that existing houses have a lot of upside potential and are, therefore, not overvalued – in fact, if anything, they are undervalued. This is of course a fallacious argument since we are here comparing old with new. If old and new were exactly the same, then there are truly many unwise people out there who pay a premium for the new.

In the USA, a rule of thumb is that houses age relative to new at a rate of about 1 percentage point per year. Let us assume this ageing factor is linear, then after 20 years a house would stand at a discount of 20% to a similar, but new, house next door. This is in spite of proper maintenance, and it does not imply that in an inflationary environment houses actually decline in value. Rather it means that because of ageing, house prices in the long run grow slower than building costs.

As a matter of interest, researchers and valuers calculate the ageing factor using a multiple regression analysis, which enables the researcher to hold all other value-forming factors constant. I haven't seen similar research in South Africa, but it is a fair bet that we would have a similar experience here.

[2] Real prices only pierced this 'natural' floor (on their way up) in the year 2000; thus the years 1986-2000 represent a period of extraordinary price depression.



How old is South Africa's suburban housing stock (i.e. excluding houses in the townships)? In mulling over this question, we have to consider the robust house-building boom in the period 1963-1983. This was caused by a strong urbanization trend after the war, the simultaneous baby boom in the white population generally, as well as immigration after the 1950s. In light of this, it is a fair assumption most middle-class houses in the housing stock were built after the war. My guess is that the average house in the suburbs is about 30-35 years old. So, 30 years x 1 percentage point per year would yield a 30% discount to new. Voilà, we have explained the discount of the housing stock!

Houses in Perth are more expensive

An argument that was quite fashionable during the recent boom years was that houses were (and still are) much more expensive in London or Perth than in South Africa. Hence, the argument goes, South African houses had tremendous upside potential. The short explanation why this is an invalid argument is that houses are not tradeables like commodities. Grain prices on the Chicago commodities exchange are an indicator of how well South African grains are priced because grains are internationally traded. However, this is not possible with houses. If houses are too expensive in Perth, nobody would buy in Cape Town (where it is cheaper) and commute every morning to Perth.

No sir, property prices are in the long term determined by local factors, particularly replacement costs. The caveats to this statement we have dealt with above. □

8 February 2012