PROPERTY BAROMETER

Western Cape…strong, booming or bubbling?

Compared with the pre-2008 National Housing Bubble, the Western Cape of recent time is seen as "strong", but not "booming" or "Bubbly" in appearance.

29 August 2017

MARKET ANALYTICS AND SCENARIO FORECASTING UNIT

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How is the "health" of the Western Cape housing market in terms of being aligned to the region's economic fundamentals?

We compare the Western Cape housing market of the past few years with the pre-2008 national housing "bubble", and find the region to be "strong" by recent national standards but not characterized by any credit-driven "speculative or over-exuberant" spending spree.

Rather, the region's recent strength has been driven to a significant degree by housing demand from external sources, including foreigner buying in the region but more significantly "semi-grant" buying by South African repeat buyers from other provinces.

This is a healthy driver of market strength, caused by the province having managed to build a strong brand as a destination which has a strong economy, is well managed, and has a good lifestyle.

However, housing affordability for the locals in the region has deteriorated markedly, so despite its market appearing to be lacking in the large-scale "irrational" behavior of the pre-2008 era, it is not exempt from a possible real house price correction in what are currently weak economic times.

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1. SUMMARY

Housing "bubbles" and "over-exuberant" periods – always a subjective call

Periods of strong housing market price growth can often be a cause for concern.. Aspirant 1st time buyers fear that they may not be able to afford a home in future should prices continue to rise rapidly, which may also concern governments trying to drive housing for all their citizens. Mortgage lenders could be concerned that an unsustainable situation is mounting, which could later lead to a price "correction" (decline) and negative equity situations where home owners owe more on their homes than the home is worth (a potential problem for both lender and borrower alike when the home owner can't easily sell a home and settle his outstanding mortgage debt with the proceeds). Should there have been widespread financial over-commitment, as a result of a housing boom accompanied by easy credit, the levels of financial stress during the correction can be severe, and a negative equity situation then becomes troublesome for mortgage lenders and their clients alike.

Identifying housing market bubbles, or market "overshoots", is always a tough task. Not only have we not yet reached a stage where we can accurately match a specific house price level to the existing economic fundamentals at the time, but the economic fundamentals are constantly changing too.

Even the claim that the pre-2008 boom market underwent a major "overshoot", or otherwise put it had moved away from underlying fundamentals, is admittedly always a subjective one. We make such a claim about that period after comparing the national housing market with itself at different periods over time, and concluding that the 2000-2008 boom was extreme in nature by comparison to anything that had happened over the past few decades.

We did not merely take this view after examining house price inflation over the period. Indeed, house price inflation during that time was more extreme than at any stage in SA's recorded housing market history, measuring a cumulative 304% from the beginning of 2000 to early-2008. But we delved further and also observed:

- Major deterioration in a variety of home affordability measures not seen in recorded history. House Prices in real terms, i.e. when adjusting the FNB House Price Index for general inflation as measured by the CPI (Consumer Price Index), rose cumulatively by a massive 144.3% from the start of 2000 to early-2008. The Average House Price/Per Capita Income Ratio Index rose (deteriorated) by 95.2% over the same period;
- House price inflation far outstripped the Prime Rate percentage at the height of the boom, around 2004/5, creating what can only be termed a speculators' paradise at the time;
- A sharp surge in high frequency buying and re-selling of homes around that time followed, pointing to such elevated speculative and "over-exuberant" buying and selling behavior;
- There was also a surge in ownership of less essential secondary properties;
- High rates of buy-to-let buying took place around that time;
- Aggressive mortgage lending was a key theme until early-2008 despite key indicators pointing to sharply rising risk in the market, such as affordability deteriorations, sharply rising household indebtedness and a rising Debt-Service Ratio (the best predictor of a rise in mortgage arrears to come), which pointed to "over-exuberance" in the mortgage lending sector too.

The residential market behavior at that time proved unsustainable, because structurally SA's economy was not capable of keeping up the 5%+ annual economic growth which we saw briefly just prior to 2008.

That economic growth was to a great degree driven by the credit-driven housing and consumer booms, and was destined to slow markedly after the Household Sector had moved to becoming a highly-indebted one. The country has long since moved back to more realistic economic growth rates more in line with its apparent potential growth, recently far nearer to zero.

How "healthy" is the Western Cape housing market of late in terms of being aligned to fundamentals?

More recently, some questions have been asked as to the "heat levels" in the Western Cape housing market. Is it a bubble forming, or is it all driven by solid economic fundamentals? Normally, the answer is somewhere in between, with solid fundamentals often starting a good market period, but later on as a result of the fundamentals-driven strength one can find "over-exuberance" or "buyer panic" setting in as market players respond to the recent price growth trend. This can cause the market to "over-shoot".

The Western Cape housing market has experienced a relatively good period in recent years, and has seen its house price growth outstrip that of the other major regions in South Africa. Over the past 5 years, Western Cape cumulative house price inflation has measured 53.7%, significantly more than the next best major region KZN, with 30.2%, Eastern Cape's 26.6% or Gauteng's 24.7%.

However, while there has been significant property media coverage of the Western Cape's recent performance, we do not believe that the province's market has experienced an "over-exuberant" and "speculative" home buying spree as the whole country, including this region, did prior to 2008.

We make this claim through examining our various indicators of "market psychology" for the region. We find that, at a 10.8% high in the 1st quarter of 2016, Western Cape average house price inflation did not get more than marginally ahead of the Prime Rate percentage, thus never in the post-2008/9 period really creating a massive "speculator's paradise.

Unsurprisingly, therefore, we don't see signs of widespread speculative activity in the form of a massive surge in homes resold within a short period after their purchase. As at the 2nd quarter of 2017, we estimate that 4.6% of Western Cape homes resold had been bought within 12 months or less prior to the resale. This is far below the province's pre-2008 boom time peak of 16.8%, reached in the 2nd quarter of 2005.

We also don't find signs of mass "over-exuberance" when viewing growth in ownership of secondary properties by local Western Cape residents. The estimated number of secondary homes, expressed as a percentage of total homes, was 14.26% in July 2017, slightly lower than the 14.6% high reached late in 2010. Most recently, in July, growth in estimated secondary homes was at a lowly 0.11% in the region.

Taking secondary home buying further, the FNB Estate Agent Survey estimates the Western Cape's percentage of total home buyers that are buy-to-let buyers at 11.06% for the 1st 2 quarters of 2017. This is not extreme, mildly higher than the national average of 9.66% as it has been in recent years, but well-down on last decade's bubble period 20.5% high for the province around late-2008/early-2009.

Mortgage lending in the province doesn't appear aggressive either. In the 2nd quarter of 2017, we traced 5,293 bonded property registrations by individuals ("natural persons") in the Western Cape. This is significantly lower than the 8,134 un-bonded registrations traced in the same quarter, and only 38% of the number recorded in the final quarter of 2004.

And the perception of moderate lending appetite is further supported by one key indicator of lenders' credit risk appetite, i.e. the Average Loan-to-Purchase Price (LTP) Ratio. The Western Cape's ratio has actually declined from 0.90 at the end of 2013 to 0.84 in the 2nd quarter of 2016. Mortgage lenders as a group, therefore, have not tried hard to "keep up" with house price growth in the Western Cape, and this 0.84 LTP ratio is well down on the 0.933 at the start of 2008.

So what has driven the Western Cape's superior housing market performance of recent years? We believe that it has been strong demand from sources outside of the province, including foreigner buying, but more significantly affluent "migrants" from other regions of South Africa.

In the FNB Estate Agent Survey, 2016 saw estimated foreign buying in the Western Cape increase to 8.93% of total buying by the 2nd half of the year (from 6.18% for the 2015/16 summer quarters), widening the gap on the national average foreign buyer percentage which "peaked" at a lower 5.72% in the 2 winter quarters of last year.

But more impressive was the estimated rise in repeat home buyers migrating from other parts of South Africa to the Western Cape. In 2016, the "Net Inward Migration" ("Net" referring to those repeat home buyers migrating into the Western Cape minus those migrating outwards to other provinces) of repeat home buyers rose to an extreme 15.8% of total Western Cape Repeat Home Buyers. No other province's net migration rate comes anywhere close. The "migration" is believed to be the result of the Western Cape having built itself a reputation of being a well-governed region, having a big economic opportunity, while also having a good perceived lifestyle.

Therefore, the Western Cape's relatively strong housing market of recent years is very different to the pre-2008 housing bubble. Firstly, the market strength and resultant house price growth of that region has not been anywhere near to the peak growth in the pre-2008 boom period, and the region has to a large degree been made to appear strong by the weakness of other regions. The province's recent strength does not appear to have been a wildly speculative period, nor does it appear to have been strongly credit-driven. Solid external sources of housing demand appear to have been differentiating the Western Cape from the other provinces of South Africa.

Can the Western Cape's housing market strength continue? We doubt it

However, there appear to be limits to how far this can go. Key home affordability measures show Western Cape home affordability to have deteriorated more noticeably than other major South African regions.

From 4.35 in 2011, the province's Average House Price/Per Household Income Ratio has deteriorated (risen) to 5.56 by 2016, which is only mildly lower than the pre-2008 boom time peak of 5.97 in 2005.

This affordability deterioration of recent years was noticeably more than any other province, and the Western Cape's affordability deterioration appears strongly reflected in 1st time buyer and age group buyer estimates for residents of that province. The FNB Estate Agent Survey estimated a lowly 6.64% of total buyers to be 1st time buyers in the City of Cape Town in the 1st half of 2017. This is far below any other major metro region, and far below the national average estimate of 21%.

The next expected event would be for the recent affordability deterioration to begin to weaken demand from the 2 external sources highlighted, which may just be starting to happen, although it is a bit early to tell for certain.

Already, we have seen some slowing in average house price growth in the province. But, given the apparent absence of a massive credit buying surge in recent years, surges which can lead to financial over-commitment and over-indebtedness in the mortgage market, such a slowdown should be relatively "healthy", and we need not see a sharp surge in financial stress within the region's housing market.

To date, such an indication of low financial stress is what we have received from the FNB Estate Agent Survey. The estimated percentage of home sellers selling their homes in order to downscale due to financial pressure was a lowly 7.8% for the Western Cape for the 1st 2 quarters of 2017. This is the lowest percentage amongst the major metro regions, and well-below the national average of 13%.

2. THE WESTERN CAPE – BOOM OR "BUBBLE"?

A. IDENTIFYING BUBBLES - NOT EASY, ALWAYS SUBJECTIVE…BUT ITS WORTH A TRY

Housing market "bubbles" which are strongly credit-driven in nature can pose severe risks for mortgage lenders and borrowers alike, should negative equity situations develop in the aftermath.

Whenever a housing market goes through a period of strong price growth, there is bound to be some concern from certain quarters. Aspirant 1st time buyers will fear that they may not be able to afford a home in future should prices continue to rise at a strong pace, a matter that may also concern government's trying to drive housing for all their citizens. Mortgage lenders would also perhaps be concerned that an unsustainable situation could be mounting, which could later lead to a price "correction" (decline), and this would lead to negative equity situations where home owners owe more on their homes than the home is worth (a potential problem for both lender and borrower alike when the home owner can't easily sell a home and settle his outstanding mortgage debt with the proceeds). Should there have been widespread financial over-commitment, as a result of the housing boom accompanied by easy credit, the levels of financial stress during the correction can be severe, and a negative equity situation then becomes troublesome for mortgage lenders and their clients alike.

It is always tough to identify "over-heated" housing markets, but "educated judgement calls" can be useful

Identifying housing market bubbles, or market "overshoots", is always a tough task, and it is almost always going to be a subjective call as to whether a market's price levels have gone past the level where the underlying economic fundamentals dictate that they should be. Not only have we not yet reached a stage where we can accurately match a specific house price level to the existing economic fundamentals at the time, but the economic fundamentals are constantly changing too. So, while current real house price levels in South Africa, which are still relatively high by recorded historic standards, may have been appropriate should the economy have continued to grow at 5%+ per annum (as it did for a short while prior to the 2008/9 recession) to the present day, they may no longer be appropriate in the current almost zero growth environment.

Nevertheless, if you are a lending institution, for instance, it is important to examine all of the indicators, and make some educated judgement calls regarding the health of a housing market.

Recently, some questions have been asked regarding the Western Cape market's "heat levels"

In recent times, some questions have been asked as to the "heat levels" in the Western Cape housing market. Is it a bubble forming, or is it all driven by solid economic fundamentals? Normally, the answer is somewhere in between, with solid fundamentals often starting a good market period, but later on as a result of the fundamentals-driven strength one can find "over-exuberance" or "buyer panic" setting in as market players respond to the recent price growth trend, and this can cause the market to "over-shoot".

We don't see the Western Cape as a credit-driven home buying spree set to end in severe financial stress, but we still expect a real house price "correction" in line with our expectations for the rest of the country.

Our take on the Western Cape housing market is that it is not overly "bubbly". The strong demand that has driven it does not appear to have been due to a credit-driven home buying spree from within, but perhaps more due to relatively high levels of cash buying by sources from outside the region. This does not mean that the market cannot correct. To the contrary, we expect it to go into a period of real house price decline similar to what the rest of the country is already experiencing, due to a lack of support from the country's weak economy. However, important is that we don't expect high levels of financial stress as a part of this market slowdown, because there does not appear to have been an extreme level of "over-exuberant" home buying that is credit-driven in nature.

In order to provide a perspective of the Western Cape housing market's current health, we will use the National pre-2008 housing market boom as a benchmark, and compare it with certain key indicators for the Western Cape at the current time.

B. THE CHALLENGES OF REGIONAL PRICE AND AFFORDABILITY COMPARISONS

Are Western Cape house prices high? The immediate response is "relative to what"?

A key challenge from the outset, though, is that it is extremely difficult to conclude that a certain level of home prices represents a housing market "overshoot". Are Western Cape house prices high or not? The immediate response question is "relative to what"? By London standards this market is probably quite cheap, but by Eastern Cape standards quite expensive. And, of course, one can never be sure if other regions of the world have appropriately priced homes, or are they too "over-valued". Comparisons with other regions/countries' price levels are thus largely meaningless (although they can be interesting, and are thus often done), especially when one has to compare house prices between regions with different currencies, which raises the question as to whether each country's currency is appropriately valued in terms of purchasing power parity (PPP).

Rather, one needs to assess a region's housing market against that region's own specific economic fundamentals in order to assess the sustainability of its house prices. That, too, brings a host of practical challenges, but first lets examine the limitations with regard to regional comparisons.

The limitations in House Price and Affordability Comparisons between countries (from FNB Property Barometer report on 15 June 2017)

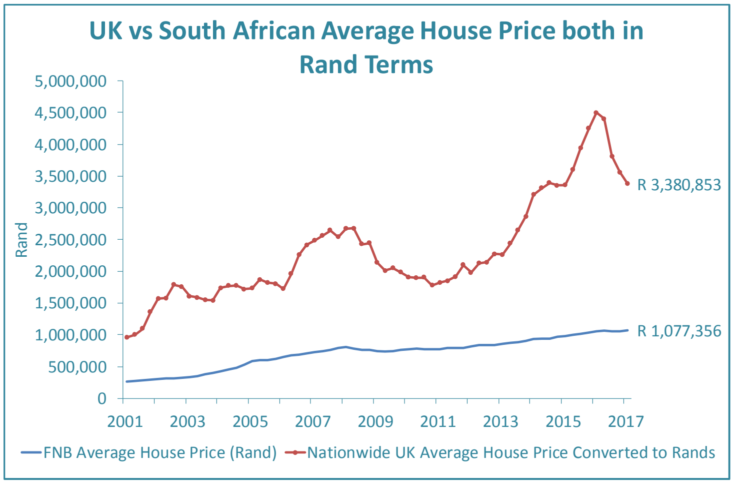
In the pre-2008 boom, some commentators would claim that South African house prices were not over-valued, but merely "normalizing", based on comparisons with (exorbitant) global house price levels.

Periodically, and especially during the South African pre-2008 "bubble" era, certain commentators sometimes liked to compare average South African house price levels with those of foreign countries, in an attempt to ascertain whether South African house price levels were "expensive" or "cheap". Some, after undertaking this exercise, concluded during that boom period, that SA price levels were indeed "cheap", and some went even further to suggest that SA prices were therefore not in "bubble" or "overvalued" territory, but rather that the rampant house price inflation at the time was merely SA price levels "normalizing" to global standards off a perhaps "abnormally" low base.

The 1st flaw in this approach was to implicitly assume that global house price levels were not in "overvalued" or "bubble" territory at the time themselves, and the Global Financial Crisis around 2007/8, when many housing markets crashed, would prove that this was probably an incorrect assumption. Perhaps the lower SA price level was in part a reflection of a market just a little less "out of touch" with reality (economic fundamentals) than many of those in the developed world, although the local market showed plenty of signs of "over-exuberance" and speculative behavior itself, and the consequences were ultimately painful.

Differences in economic structure and characteristics between countries, along with exchange rate challenges, make inter-country house price comparisons almost meaningless.

But putting aside the debate of which country is the correct "benchmark" for house price levels, differing income levels, interest rate levels, policies, laws and land scarcity, make price comparisons between countries or even regions, for the purpose of determining which market is the most "over-/undervalued", almost meaningless. Between many countries, we have the further issue of currencies which are not all priced at purchasing power parity.

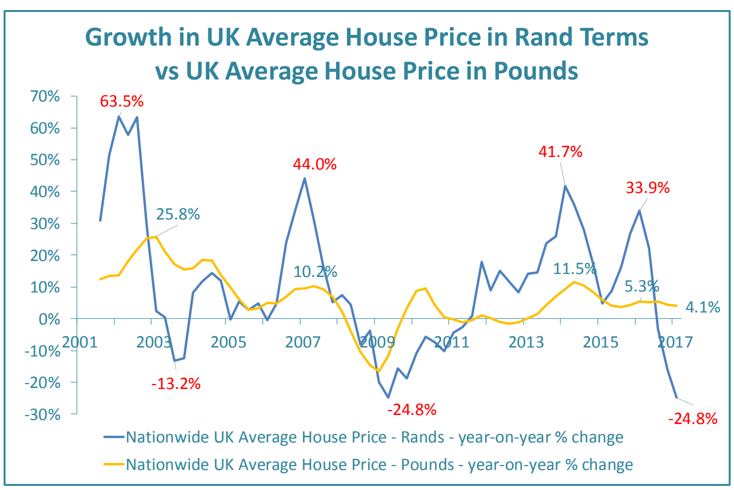


Just comparing the UK Average house price, as per the Nationwide UK Average House Price, converted into Rand terms, with the FNB South Africa House Price Index, we see a massive differential, the former averaging R3.381 million in the 1st quarter of 2017, while South Africa averaged a far lower R1.077 million, less than one-third of the UK average house price.

And since the FNB House Price Average started back early last decade, the UK average has always far outstripped the SA average.

And so it should. The UK has a far higher Per Capita Gross Domestic Product (GDP) and thus Household Income, along with a higher population density (implying greater land scarcity), so it should in all probability have significantly higher average house price levels over the long term, and indeed it generally does.

According to the IMF (International Monetary Fund data), the UK had a Per Capita GDP of $42,481, and South Africa $13,225, using Purchasing Power Parity currency conversion estimates. Given this huge differential in economic performance, which translates into far greater purchasing power for housing in the UK than in SA, along with greater land scarcity in the UK (SA has 43 inhabitants per square kilometer compared to the UK's 268 inhabitants per square kilometer) and far greater long term foreign home buying interest in the UK, it should be expected that UK house prices would far exceed those of South Africa on an ongoing basis. This would in no way imply that UK prices necessarily being more out of touch with the underlying "fundamentals" than those in South Africa.



The exchange rate increases the complexity of inter-country comparisons. Major movements in the Rand and UK Pound in recent years have meant that the UK Average House Price growth/decline rates are worlds apart depending on whether one denominates the index in Pound or in Rand terms. In UK Pound terms, the highest average house price growth that the UK population has experienced since 2004 has been 11.5% year-on-year as at the 2nd quarter of 2014. However, converted into Rand terms, that house price growth peak was a far higher 41.7% year-on-year in the 1st quarter of 2014. In the 1st quarter of 2016, the UK House Price growth rate measured 5.3% year-on-year in Pound terms, but the Nenegate Rand slump meant that this was a massive 33.9% growth in Rand terms. More recently, a Brexit-driven Pound weakening in 2016 meant a -24.8% year-on-year decline in UK Average House Prices in the 1st quarter of 2017 when converted to Rand terms, but a positive 4.1% year-on-year growth rate in Pound terms.

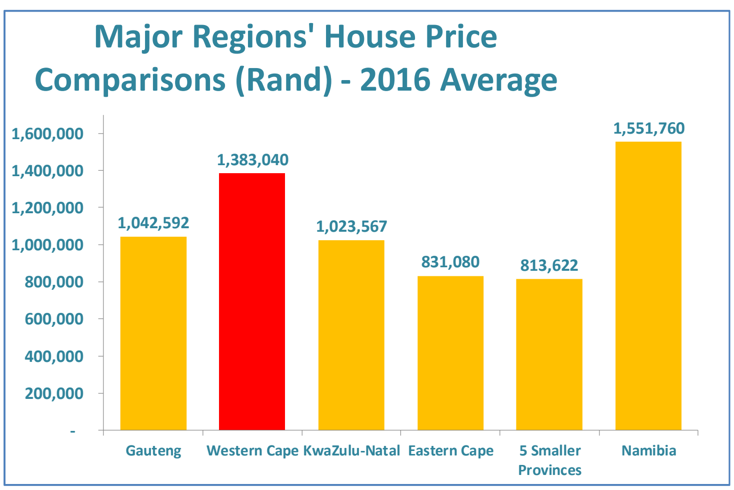
In short, currency fluctuations make house price level comparisons between countries, for the purpose of determining relative "overvaluation/undervaluation", almost a meaningless exercise, because they can cause relative house price levels between 2 countries, when denominated in the same currency (both in Rands in the above case), to undergo massive fluctuations which do not reflect the real life experience of house price/affordability changes for the citizens of the different countries. Using Purchasing Power Parity (PPP) estimates for exchange rates can partly reduce the magnitude of this problem, although estimating such PPP rates itself is not an "exact science".

So, if for instance South African house price levels are weak in foreign currency terms, due to the Rand being weak in purchasing power parity terms, this in no way suggests that South African house prices are "undervalued" or "cheap" given the levels of income/housing purchasing power in South Africa.

House price and affordability comparisons between regions with a common currency….easier without the exchange rate issue but still challenging

Even when comparing regions with the same currency, house price comparisons are difficult due to structural differences in regions' economies

However, even when trying to compare housing affordability between regions within a common currency area, it is hazardous to compare the various regions' affordability measures. To discuss this, we use South Africa's major provinces, along with Namibia.



For many years, the Western Cape has had the highest average house price of any of the 9 South African provinces.

In 2016, the Western Cape's average house price was estimated at R1.383 million. Interestingly, perhaps, is that the Western Cape was not the most expensive major region within the Rand Area. Namibia took 1st spot at the time. This could lead some to mistakenly conclude that the Western Cape is actually "reasonably priced" based on a comparison with Namibia. That would be a flawed conclusion, given that the Namibian market itself had arguably "overshot" the price mark, and at time of writing in 2017 was experiencing a correction in the form of average house price deflation.

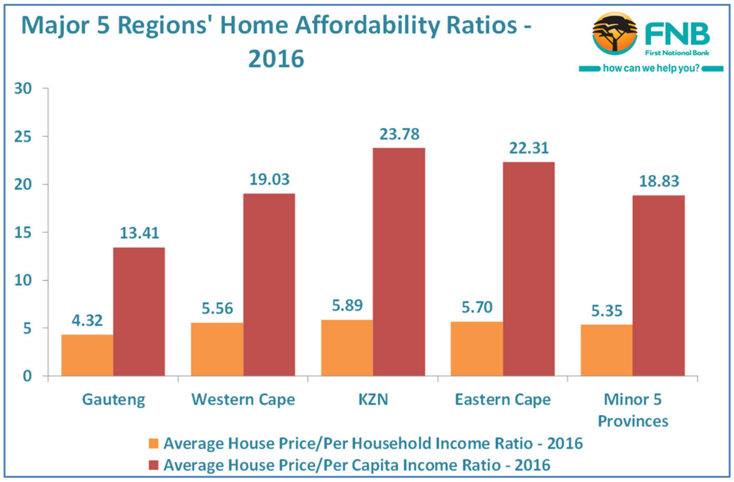
Within South Africa, though, the nearest region in terms of average house price in 2016 was Gauteng at a significantly lower R1.043 million.

Given a far greater land supply constraint around the City of Cape Town, compared to landlocked Gauteng Metros for instance, the Western Cape should be more expensive than Gauteng

But from a supply-side point of view, it is arguably justified that the Western Cape has been the most expensive housing region in South Africa for many years. We say this because its City of Cape Town Metro and surrounding areas has a far greater land scarcity than landlocked Gauteng for instance, given an ocean on 2 sides, higher value surrounding farmland, and the Cape Peninsula's vast conservation areas being off limits for housing developers.

Furthermore, Western Cape has a far higher Per Household Income than, for instance, KZN and the Eastern Cape.

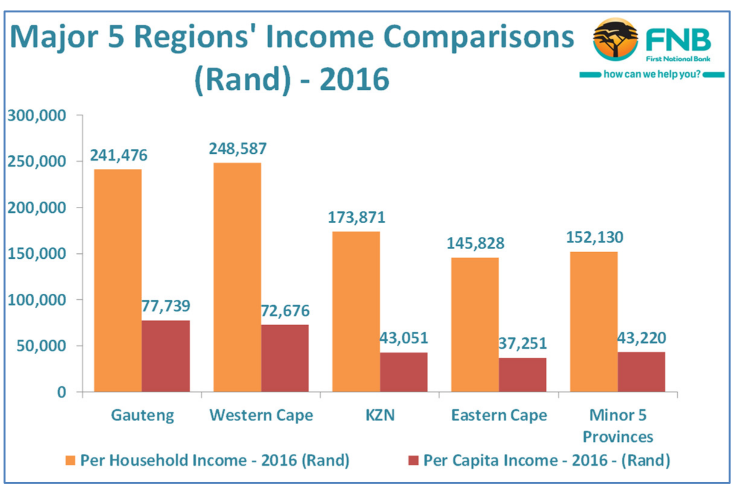
Furthermore, having the highest average house price of the major SA regions does not mean that the Western Cape is the least affordable housing region. It is important to view house prices relative to some measure of income levels in a region in order to assess affordability.



To the contrary, the Western Cape is theoretically one of the more affordable regions, if one uses certain standard "macro" affordability measures that compare house prices with income (Per Capita or Per Household Income) levels in order to evaluate home affordability (given that all regions experience the same interest rate levels), with the Western Cape having one of the highest Per Capita Income levels.

Using IHS Markit estimates for Annual Per Capita Income along with FNB Provincial House Prices, Gauteng was the most affordable Big 4 province, with an Average House Price/Per Capita Income Ratio of 13.41 as at 2016, with the Western Cape the 2nd most affordable with a ratio of 19.03.

By comparison, the 2 "cheaper" of the Big 4 Provinces, i.e. KZN (with average house price of R1.024 million in 2016) and the Eastern Cape (average house price of R831,080 in 2016) were less affordable, with significantly higher Average House Price/Per Capita Income Ratios of 23.78 and 22.31 respectively.



The reason for KZN and Eastern Cape having cheaper homes but being less affordable is far lower Per Capita Incomes (R43,051 and R37,251 in 2016 respectively), compared to Gauteng (R77,739) and the Western Cape (R72,676)

Per Capita Income, Per Household Income or Per Capita GDP…..the question of which measure to use in affordability calculations?

Complications with regard to the appropriate home affordability measure also exist. Theoretically, an Average House Price/Per Household Income Ratio may be more "correct" than an Average House Price/ Per Capita Income measure, because households can pool their income to purchase a home. However, the issue may be that house price levels actually promote or constrain the pace of new household formation. While the Western Cape has a lower Per Capita Income than Gauteng, it has a higher Per Household Income than Gauteng. Does its higher Per Household income in part explain that province's higher house prices, or is it caused at least in part by higher house prices causing new households (children leaving their parents' home to start their own household) to form at a slower pace.

We prefer to use Per Capita Income in our affordability estimates, due to this measure less likely to be influenced by house prices themselves than the Per Household Income measure.

However, the outcome is similar using the Per Household Income estimates, in that of the Big 4 Provinces the Western Cape's 5.56 Average House Price/Per Household Income Ratio is the 2nd lowest after Gauteng's 4.32 (as it is in the House Price/Per Capita Income case), with KZN the least affordable of the Big 4 provinces at 5.89 and Eastern Cape at 5.70.

But even the Regional Affordability Ratios can be misleading, because many inhabitants can be outside of the formal housing market over the long term.

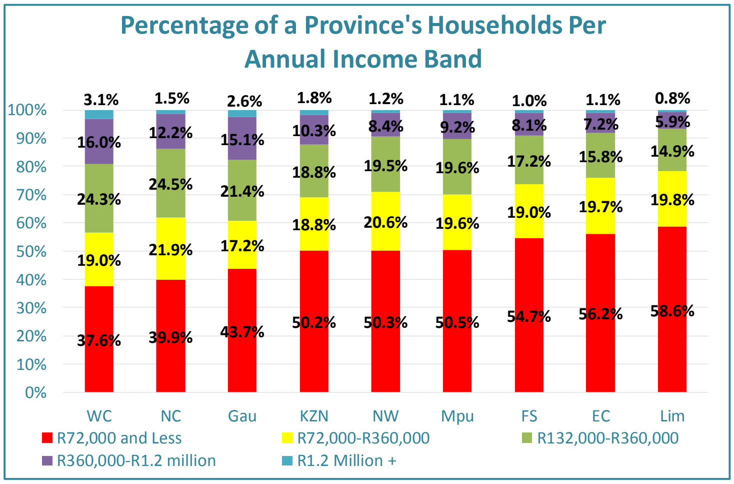
Lower (better) home affordability ratios in Gauteng and the Western Cap, compared with the lower income regions of KZN and Eastern Cape, may not point to more affordable homes for those households within the formally traded housing market, but rather that a greater portion of people in the 2 lower income regions live outside of the formally traded housing market.

But that's not the end of the story. The risk is that some may mistakenly conclude that such regional affordability ratios show which regions are most "overvalued"….or least "undervalued", and thus which ones are most or least at risk of a price correction.

We believe such interpretation to be flawed, however. Using such a line of reasoning would suggest that KZN and the Eastern Cape are significantly more overvalued, and in need of more "correction" perhaps, than the Western Cape and Gauteng.

Not necessarily. Rather, this is more likely reflective of the different income structure in KZN and the Eastern Cape compared to the Western Cape and Gauteng, with these far lower average income provinces merely having a significantly larger portion of their populations outside of the "mainstream" well-traded formal housing market.

If we take the 2016 breakdown of the number of households per income band by province, we see that the Western Cape is the province with the lowest percentage of households in the "R72,000 and Less" Income Bracket, i.e. only 37.6% of its total number of households. Gauteng is not far behind with 43.7%, but KZN with 50.2% and Eastern Cape with 56.2% are far higher in these low income household percentages. Many households in this low income bracket (R6,000/month maximum) would not be part of the formally traded housing market, but yet their incomes are included in the Per Capita Income number used to calculate "macro" housing affordability.

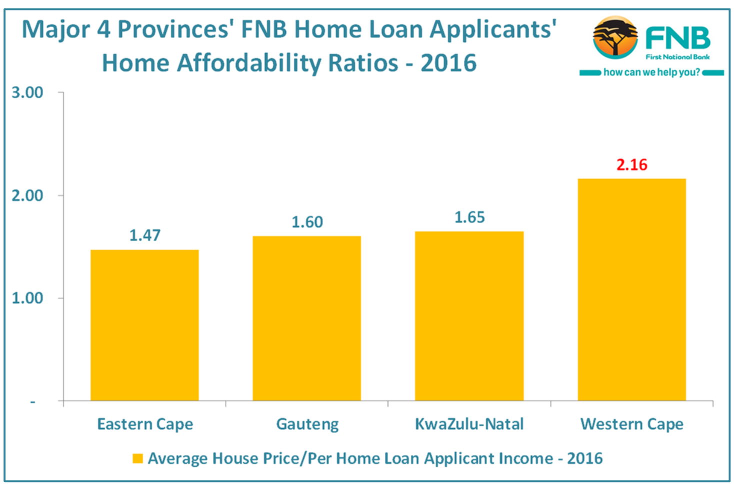


For the portions of the provincial household population that are part of the formal housing market, then, it may not necessarily be the case that KZN and the Eastern Cape are less affordable than the Western Cape. Rather, what the various provincial affordability ratio differentials are possibly saying is that the Western Cape and Gauteng probably have the income levels where a larger portion of their populations are included in the mainstream well-traded housing market.

And this can be a sustainable situation over the longer term, not necessarily leading to a price correction in the poorer provinces to make the market more affordable for those low income households excluded to be able to get in.

But the ratios are not necessarily saying that a young professional in KZN is less able to afford a home of a certain standard (size, quality and location etc) than the equivalent young professional in the Western Cape or Gauteng. It may actually be the other way around, but that cannot be determined by aggregated national or regional affordability calculations.

Zooming in on only the mortgage loan applicant population, and the Western Cape now starts to look less affordable than other major regions.



In order to improve our insights with regard to home affordability we therefore use the average household incomes for FNB Home Loans Division's applicants only (note: all applicants regardless of what gets approved or declined), thereby including only those households within the formally traded housing market. Here we begin to see a picture emerge of the Western Cape being the least affordable of the Big 4 provinces.

The Western Cape's Average House Price/Average Home Loan Applicant's Household Income was 2.16 in 2016. This was far above the KZN's 1.65, Gauteng's 1.60 and the Eastern Cape's 1.47.

But this, too, does not prove less sustainability. Given what we have said about Cape Town having a land scarcity, which is a built in structural feature for that region's housing market, residents of Cape Town may have made permanent adjustments to their spending behavior to allow for spending a larger portion of their income in housing than, say, Gauteng, on an ongoing basis.

So how do we approach our analysis? Rather than placing too much emphasis on "snapshot" comparisons between regions, evaluate trends, rates of change, and levels at different times, within a region itself.

So where too from here? Well, these ratios are not altogether a waste of time, in fact they are quite useful. But is advisable rather to focus more on trends, rates of change, and "levels" at different points in time within a region under examination, as opposed to snapshot comparisons of price and affordability levels between regions.

Structural differences between regions in terms of supply side constraints or income differences render snapshot comparisons of limited use. But rates of change, for instance in house prices, can be useful when looking for over-exuberant behavior or 1st time buyer panic, because many home buyers and investors "ride the house price growth trend", often mistakenly interpreting a strong price growth trend as the "time to buy", with the recent past trend in price growth driving their future expectations in what can probably be called "recency bias" or "momentum bias".

For the aspirant 1st time buyer, also formulating future price expectations based on recent past price growth, a recent strong house price growth can cause panic, with certain members of this group fearing that if they don't buy quickly they will never be able to afford it in future. And then of course there are the speculators, who may attempt take advantage of cheap credit to buy properties and re-sell in a short space of time to achieve a handsome capital gain and profit. These 3 groups, i.e. the over-exuberant (and perhaps un-seasoned) investor expecting price growth to continue at rapid rates, the aspirant 1st time buyers "panicking" about strong price growth, and speculators, can be key in driving the housing market's price levels beyond where the underlying market/economic fundamentals dictate that they should be, setting such a market up for a major (and sometimes painful) correction thereafter.

And then there are the mortgage lending institutions, who typically behave in a "pro-cyclical" manner, lending more easily when the housing market and price growth is strong, and tightening up on lending with a considerable lag when the market has weakened, often only when their own mortgage arrears have been rising considerably. Such behavior can further amplify the housing market cycle, contributing to boom-time peak "overshoots" and downturn "under-shoots".

On top of price and affordability indicators, we attempt to build a set of indicators more focused on getting us inside the "mind of the market" at various stages of the property cycle, searching for signs of "over-exuberant", speculative, or "panic" behavior as discussed above. We place great emphasis on these indicators in informing us of possibly mounting "irrational" behavior or not.

We will examine the market behavior during the pre-2008 South African housing boom, which exhibited significant degree of "over-exuberance", we believe. We will then use these behavioural insights to evaluate where the Western Cape currently stands.

C. INSIGHTS FROM THE PRE-2008 NATIONAL PROPERTY BOOM/BUBBLE

Early theories regarding last decade's housing market boom – "Bubble" or "positive structural change"

As last decade's housing boom gathered pace from around 2000, a vigorous debate ensued about whether the boom was due to "positive structural change" in the economy or whether it was a "bubble".

As last decade's national housing market boom gathered momentum from around 2000 onwards, various theories regarding the reason for the extreme market strength were advanced. Some commentators believed that there was a "speculative bubble" forming, while others believed that it was South Africa's positive economic structural change that was fueling massive housing demand growth, notably the emergence of a large so-called "Black Middle Class".

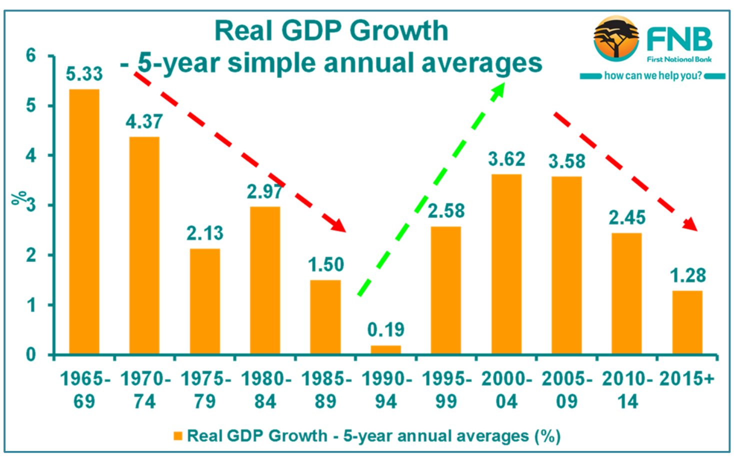
Structural changes are important, because they could indicate a sustainable move towards higher average home value. These changes can take on various forms, but normally have to do with a change in key economic policies designed to change the economic growth rate over the long term.

However, perhaps a bit too much gets made of the so-called Black Middle Class.

Important is the growth in the average purchasing power of the entire population. Should the Black Middle Class be growing, as indeed it has, but merely replacing what is now an ageing White Middle Class, the net effect on housing demand may not be as significant as what some may believe.

Important, therefore, is that the economy moves to a faster long term growth rate, and that this leads to sustainably higher employment numbers and a larger overall middle-to-upper-income class.

Indeed, some important economic changes, notably the end of boycotts and sanctions in the early-90s, were important in placing SA on a higher economic growth path.

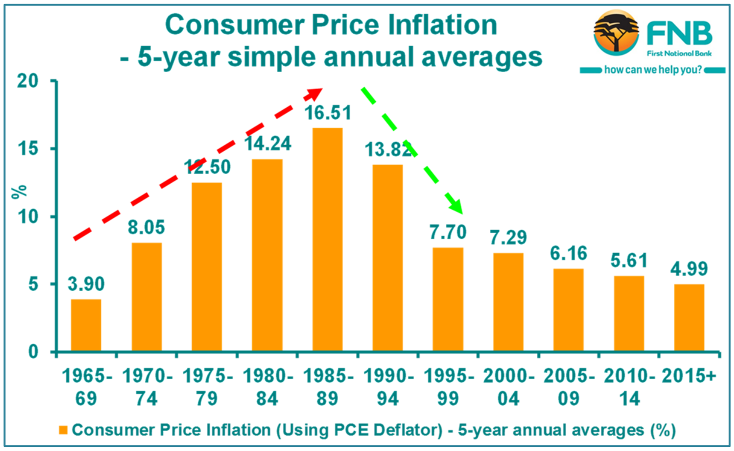


Indeed, there were some very important changes which boosted economic growth during the 1990s. The first of these was the achievement of a political settlement which paved the way for the election of a democratic government in 1994, and crucially led to the end of boycotts, sanctions and disinvestment campaigns against South Africa. Trade and business relations with the rest of the world could normalize, and the 5-year average GDP (Gross Domestic Product) growth rate jumped from an average of only 0.19% in the 1990-94 period to 2.58% for the 1995-99 period.

Improved employment numbers would follow in the early-2000s, and growth in the number of households that had the purchasing power for homes in the mainstream formal housing market.

But we believe that "structurally" lower inflation in the 90s paved the way for a "downward structural adjustment" in interest rates starting in the late-90s, and that this was the key catalyst for the housing boom.

However, the other very important structural change was a move to lower levels of structural consumer price inflation over the longer term.

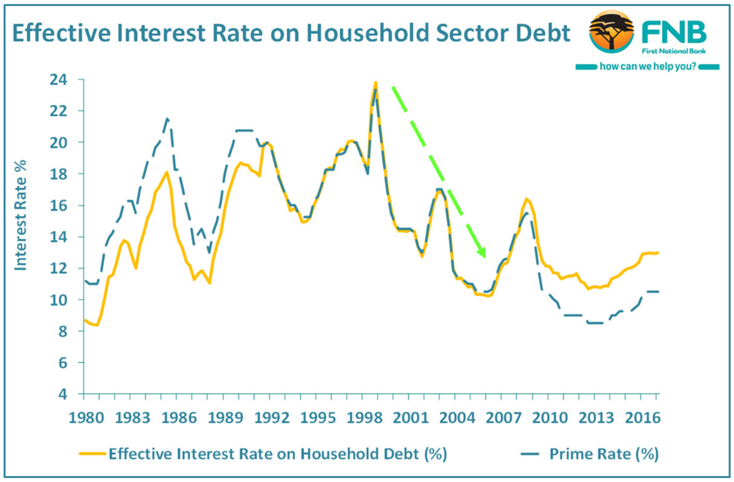


This was in part the result of tighter monetary policy from the late-1980s and into the 1990s, but also had much to do with a more competitive economic environment as South Africa opened up to foreign competition (with the end of economic isolation) in the 1990s.

From an annual (simple) average of 16.51% for the 1985-89 period, consumer price inflation (using a Private Consumption Expenditure Deflator) slowed to 7.7% by the 1995-99 period.

In the 1990s, the key focus was not consumer price inflation targeting. Rather, it was the "protection of the internal and external value of the Rand", and high interest rates were used to stem the tide of rand weakness periodically. Given bouts of Emerging Market weakness, and some significant rand depreciations, high real interest rates became the order of the day, Prime Lending Rate even reaching 25.5% briefly around mid-1998.

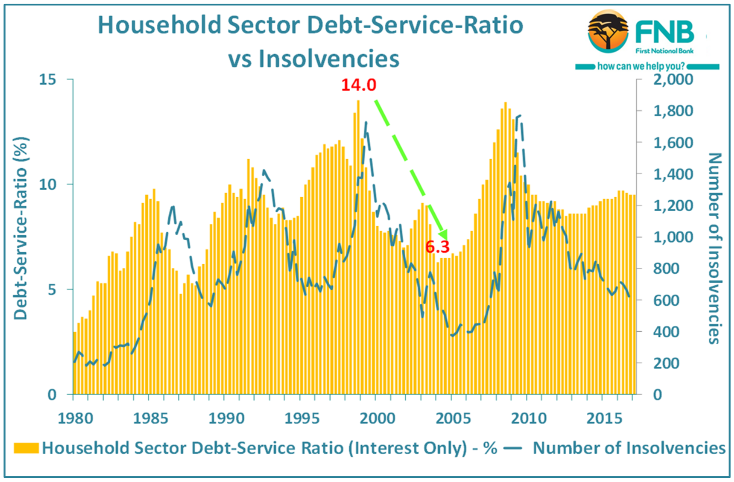
Thereafter, however, the thinking began to gravitate away from a rand focus towards official CPI inflation targeting, and although an official inflation target was announced in 2000, the sharp rate cutting from 1998 onward already began to signal a diminishing concern with rand movements. With inflation having moved to structural levels well-within single-digit territory by the late-1990s, there would be no further need for such high interest rates.



We believe that a sharp drop in interest rates to a "structurally" lower level was the main catalyst for the onset of a housing demand boom early last decade. From a quarterly average multi-decade high of 23.3% in the final quarter of 1998, Prime Rate dropped all the way to an average of 13% in the final quarter of 2001. A diminished focus on the rand would mean that a massive rand slide late in 2001 would only take Prime Rate up to 17%, where-after it fell to as low as 10.5% in 2005.

The results were nothing short of spectacular.

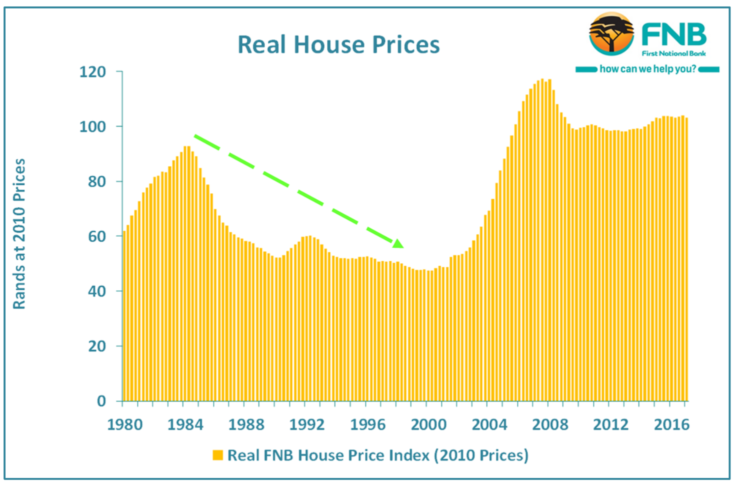
A late-90s/early-2000s sharp interest rate cutting cycle meant that the Household Sector could take on far more mortgage debt.



The rate cutting was responsible for the all-important Household Sector Debt-Service Ratio (The interest cost on Household Debt expressed as a percentage of Disposable Income) to fall from 14% in the final quarter of 1998 to 6.3% by the 1st quarter of 2004.

This enabled the credit hungry Household Sector to grow its debt levels rapidly for some years with relative ease, given this freeing up of a sizeable portion of disposable income that had previously been utilized to service debt.

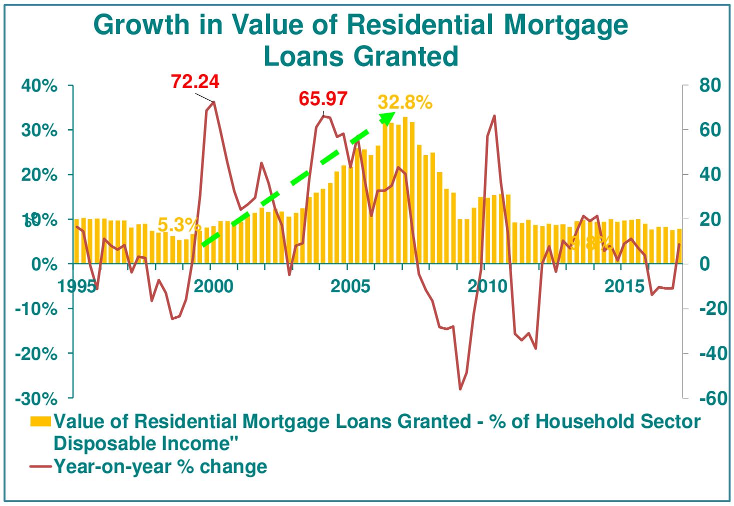
At the time when the late-90s rate cutting started, real house price levels were at multi-decade lows



What better time for households to pile into housing, given that real house prices had declined by -48% from early-1984 to late-1999, and were thus coming off a very low base.

The demand response to interest rate cutting was extreme, and evident in new mortgage lending data

The response to interest rate cutting quickly became visible in the SARB Residential Mortgage Credit Granted numbers.

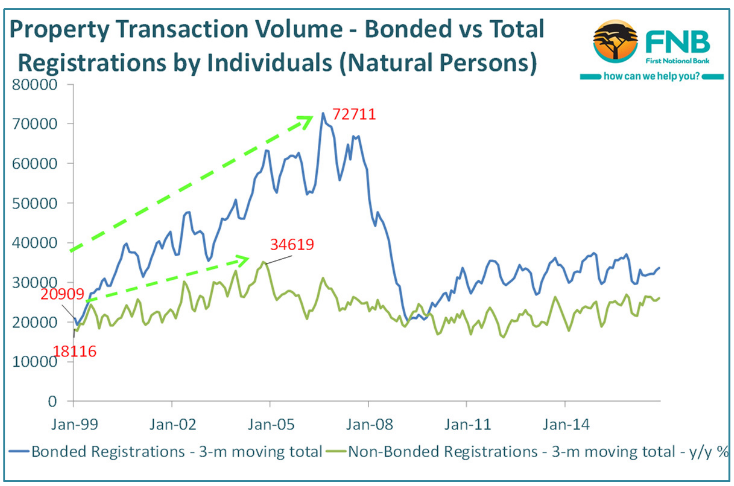


Using SARB data for the Value of New Residential Mortgage Loans Granted, we saw a sharp rise in year-on-year growth in this value from a negative -24.6% drop in the 3rd quarter of 1998 to +72.24% positive growth as at the 1st quarter of 2000.

This was only the beginning, though, and after the brief interest rate hiking cycle in 2002, which proved little more than a "speed bump" for the growth in residential demand, another growth surge to a high of 67.97% year-on-year in the 1st quarter of 2004 followed.

The value of new residential loans granted went all the way from 5.3% of Household Sector Disposable Income at the end of 1998 to a high of 32.8% by the 1st quarter of 2007.

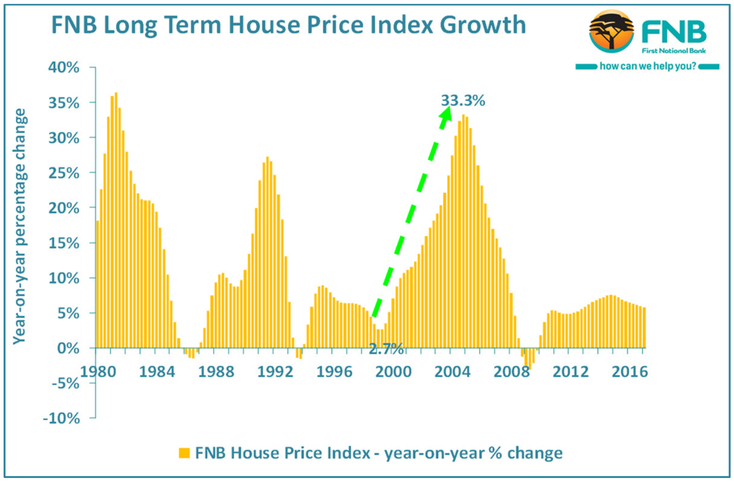
Deeds data showed bonded transactions growth far outstripping un-bonded property transactions by individuals during those years.



Viewing Deeds data for property registrations by individuals ("Natural Persons"), we saw an almost doubling (91.1% cumulative increase) of un-bonded registrations, from 17,916 for the 3 months to January 1998 (3-month moving average used for smoothing purposes) to a 34,619 high in the 3 months to November 2004.

The rise in bonded transaction volumes was even more impressive, rising by 247.7% from 20,909 in the 3 months to January 1999 to 72,711 in the 3 months to August 2006.

Rampant house price growth followed, as supply of stock failed to keep up, peaking at above 30% in 2004



Given this type of increase in transaction volumes, which represented a massive surge in residential demand, the supply of newly developed homes couldn't even remotely keep pace with demand growth, and the result was a sharp surge in average house price growth.

From a lowly 2.7% year-on-year rate as at the 1st quarter of 1999, our FNB House Price Index (the longer run deeds data-driven repeat sales version) growth rate rose to a 33.3% multi-decade high by the 3rd quarter of 2004.

As the headline housing market numbers became more and more extreme, the media and public's attention was aroused, and the "bubble vs boom" debate heated up with it.

This house price surge, needless to say, attracted widespread media and public attention. It didn't take long before speculation started as to whether this was a "speculative bubble" or merely a "healthy boom" driven by solid underlying economic fundamentals.

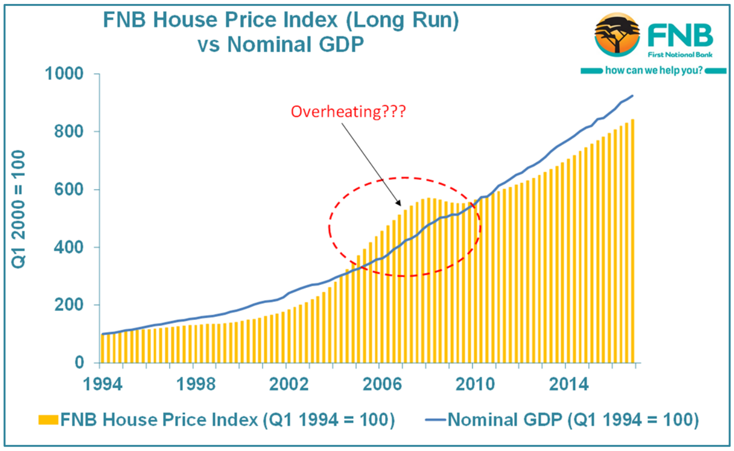
But indicators to get inside the "mind of the market" were few and far between at that stage.

Certain commentators argued that South African house prices were merely "normalizing" to levels more in line with global house price levels "where they should be" after a long period of being very cheap. These individuals used global house price comparisons to substantiate their arguments. We have already dismissed such global comparisons of house price levels as virtually meaningless, and see no need to consider this argument any further.

The Nominal GDP vs House Price argument demonstrated the problem of choosing a "starting point"

Certain of those who believed that a "bubble" had been forming used a comparison of nominal average house price and nominal GDP (Gross Domestic Product) indices. They would index both time series choosing a starting date where both indices would be made equal to 100. The popular starting date was the beginning of 1994, the year in which South Africa became a democracy.

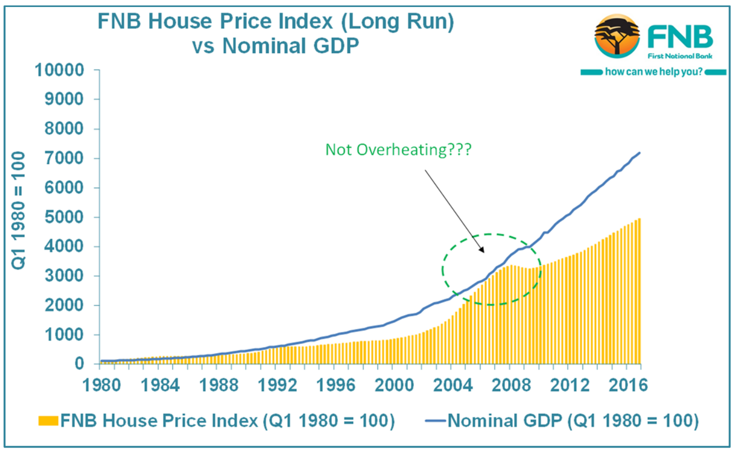
The argument then was that should the nominal house price index rise to a level above that of Nominal GDP, the housing market was "getting ahead" of the economic fundamentals, "overheating" and becoming "bubbly" or perhaps "over-exuberant".



This theory could have some merit, but unfortunately the choice of starting point is crucial here, and you can literally change the starting point at which the 2 indices equal 100 to fit whatever story you wish to tell.

Using 1994 as the base year, indeed the average house price index does rise to a level above that of Nominal GDP in late-2004 where it remained until 2010.

The conclusion of those who advanced this argument was that at that stage the housing market had become "overheated", and had moved beyond where economic fundamentals dictated that it should be priced.



But this was easy to counter. We change the base year to 1980, i.e. the year where both indices are equal to 100. Here we see that the Nominal GDP Index remains higher than the Average House Price Index throughout the period 1980 to 2016.

The opponents of the "bubble theorists" would use this to draw the conclusion that there is no bubble, and that the strong housing market merely reflects solid economic fundamentals and a market whose prices are "normalizing after years of underperformance".

And as for the innocent bystanders observing the debate, they would remain none the wiser. The formation of a housing market bubble (versus a "fundamentals-driven boom") would remain tough to identify and prove.

But we have to give it a try, so what is our own approach? It has been to develop a set of indicators that provide insight into the "micro" behavior and mindset of the market. We don't necessarily disagree with those advancing the Nominal GDP vs House Price argument and concluding an "overheated" market from around 2004. In actual fact we agree with it. But we go further in terms of developing a set of indicators more likely to provide insight into the mindset of the housing market and the actual behavior and motives of role players, as opposed to merely drawing conclusions based on price growth of level.

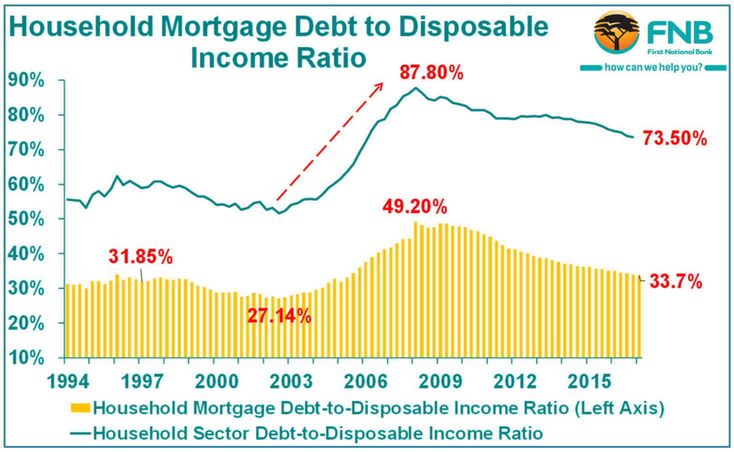
However, our conclusion on an "over-heated" market, like theirs, will remain admittedly subjective.

Our own approach to identifying possible "Over-Exuberant" behavior in the Housing Market

Calls on what is "high" and what is "low" are always subjective, but we look at levels within a region/country over time to draw such conclusions as opposed to comparing with other countries/regions

Our own approach admittedly also relies on certain subjective calls about what is "high/strong" and what is "low/weak". But our approach is aimed at getting inside the mind of the market, and motives for buying/selling, and not merely examining price growth trends.

Call it what it was….largely a mortgage credit-driven housing boom on the back of a major drop in the cost of credit.

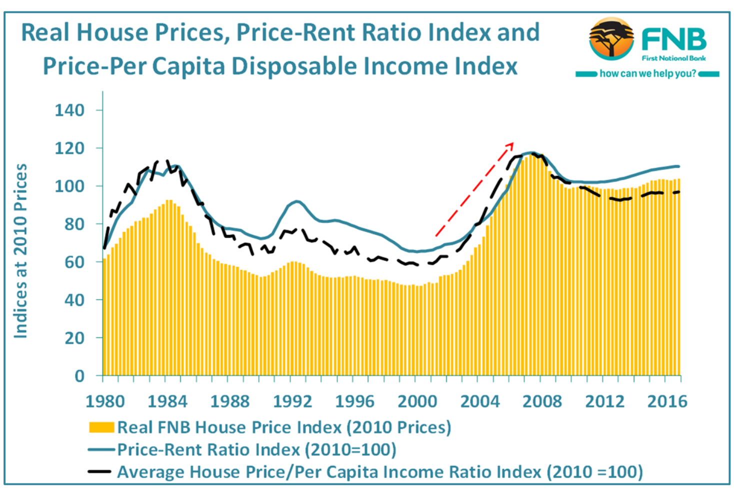


Firstly, we draw the conclusion that the pre-2008 housing market boom could not have been 100% due to economic growth and the "Emerging Black Middle Class" with huge buying power, as some postulated.

These beliefs weren't entirely wrong, but we also know that there was a massive surge in mortgage and overall Household Credit growth. This, along with a surge in consumer-related credit growth took the Household Sector Debt-to-Disposable Income Ratio to an all-time high of 88.8% by the 1st quarter of 2008, from a far lower 52.3% as at the 3rd quarter of 2002.

Over the same period, mortgage credit increased from 27.14% of Household Disposable Income to 49.2%.

The bottom line is that economic growth and Disposable Income growth did not even remotely keep pace with household credit growth, as it would should stronger economic growth and resultant strength in disposable income growth be the main driver of strong mortgage credit growth.

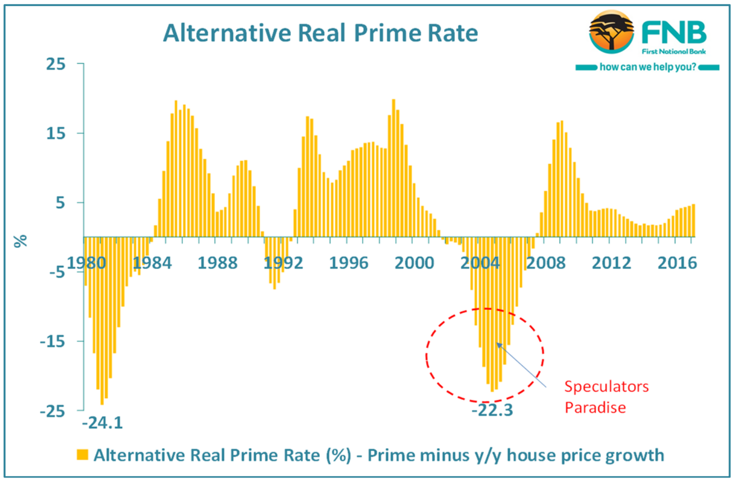


Economic and Income growth didn't keep pace with house price growth at the time either. Real house prices, the Price-Rent Ratio and the Average House Price/Per Capita Income Ratio all skyrocketed between 2000 and 2007.

The combination of rampant house price growth and cheap and easy credit then created conditions ripe for speculation and over-exuberance a few years in

We are of the opinion that strong house price growth and relatively cheap and easy credit can be key catalysts for a housing bubble. We believe that the "radical" pace and magnitude of interest rate cutting back from late-1998 to the early-2000s, lowering the Household Debt Service Ratio rapidly and dramatically, was key that rapid surge in house price growth to a high level relative to the mortgage lending rate percentage, creating a "paradise" for speculative activity.

The Alternative Real Prime Rate. Our indicator of a potential speculators' paradise.



Our rudimentary indicator that we use as a 1st sign of a potential environment for large-scale use of cheap credit to buy and sell homes within short periods, settle debt and profit substantially (i.e. speculate) is what we call our "Alternative Real Prime Rate". Here, instead of using CPI (Consumer Price Index) to convert Prime Rate to a Real Prime Rate, we use the FNB estimate of average house price growth.

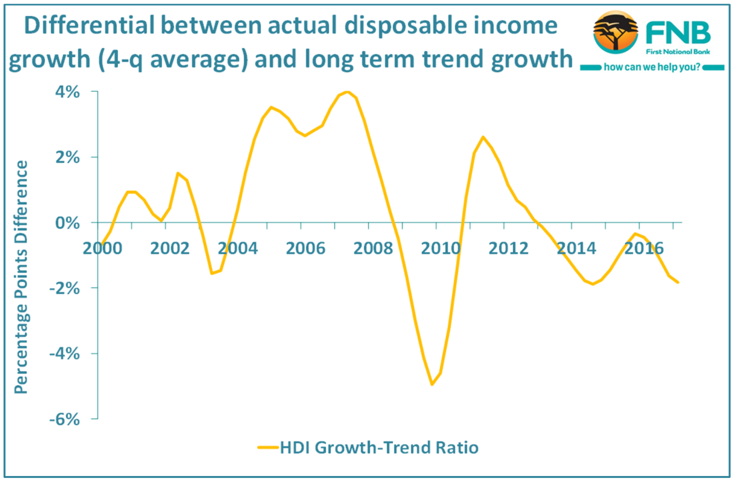
The theory is that, when the house price inflation percentage far exceeds the mortgage lending rate percentage, there exists fertile ground for profitable speculation to flourish.

It goes further, though. Less "seasoned" buy-to-let investors, who are often focused more on capital growth prospects than on rental yields, may also perceive huge opportunity to use cheap credit to profit handsomely from future strong capital growth.

As house price growth was skyrocketing towards 2004, such a "paradise" for speculators and capital growth-focused investors was being created. By the final quarter of 2004, the Alternative Real Prime Rate was at an extreme negative rate of -22.3%. The last time it had been that negative was back in 1981 at the end of the Gold Boom-driven property boom, a boom that also ended with a sharp "correction".

Speculative activity and 2nd property buying (buy-to-let or leisure home buying) can be a concern not only because they drive values past where underlying economic fundamentals dictate that they should perhaps be. They are also a concern because of their non-essential nature. It means that as soon as market conditions are no longer than favourable, these 2 sources of housing demand can disappear far more rapidly than the more essential primary residential demand, amplifying the downward house price correction that follows.

Our 2nd "Over-Exuberance Potential" indicator. When Disposable Income growth is "abnormally" strong



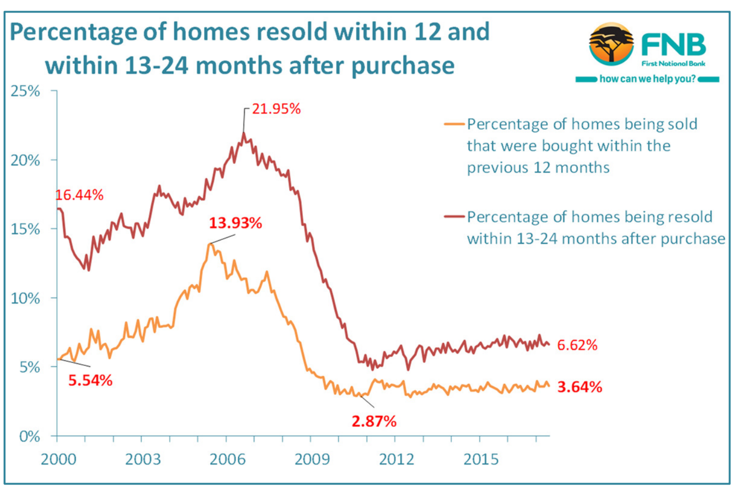
A 2nd "over-exuberance" risk indicator that we use is a measurement of Real Household Disposable Income Growth relative to the longer term average Real Disposable Income Growth. Our reasoning is that, when "abnormally high" disposable income growth is being experienced, that is the time when households may become over-confident regarding their future disposable income growth prospects, and this is danger time from a financial over-commitment point of view, one of those over-commitments possibly being over-investment in property.

Strong economic and Household Disposable Income growth from 2004 to 2007 meant that Real Disposable Income growth was well-above the long run average growth rate over the period 2004 to early-2008, and this we believe was an additional driver of exuberant home buying behavior over and above cheap credit and the existence of strong house price growth.

It is all very well to have indicators pointing to the potential for speculative or "over-exuberant" behavior. Next we need to develop indicators to see whether that is actually happening or not.

So, after we have establish the existence of an extreme negative Alternative Real Prime Rate and abnormally strong disposable income growth back at the height of the boom , the next logical step is to develop indicators to examine whether there are actually high levels of 2nd home buying and speculative activity.

The pace of home re-sales – an indicator of potential speculative activity and "over-exuberant" upgrading in play



To look for signs of whether "Over-Exuberant" behaviour and possible speculative activity are actually mounting, we start by looking at the speed at which homes get resold after being purchased. We use deeds data for individuals ("natural persons") only, which we believe should be residential dominated, and identify the number of home resales that occurred within 12 months or less following their purchase date. We express these as a percentage of total home sales in each particular month.

We believe that this indicator pointed to strong signs of a rise in speculative and "exuberant" behavior, with the percentage rising sharply from 5.54% of total resales being within 12 months of purchase at the start of 2000, to a 13.93% peak in June 2005. The steepest rise in this percentage was from around early-

2004 to mid-2005, which co-incides reasonably well with where house price growth was at its strongest and Alternative Real Prime was at is most extreme negative rates.

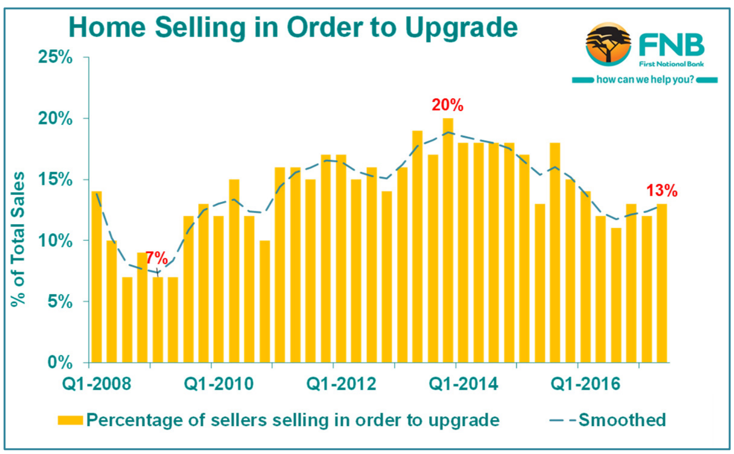
Initially, in 2000 and 2001, the pace of increase in this percentage was sluggish. We believe that it took an initial interest rate-driven surge in primary residential demand to kickstart house price growth, where-after the speculative activity began to take advantage of the strong price growth trend only later.

We then take the percentage of homes resold within 13-24 months of prior purchase. Here again we see a noticeable increase in the percentage of total resales, from 16.44% at the start of 2000 to 21.95% as at August 2006, a little lagged on the 0-12 months percentage.

Both of the abovementioned percentages crashed as recession approached towards 2008/9, and at a lowly 3.64% for the 0-12 month category and 6.62% for the 13-24 month category as at the middle of 2017 they have never again got anywhere near to those pre-2008 highs.

A more recent insight gained from the estimated percentage of sellers selling in order to upgrade. This percentage rises in stronger market and economic times and vice versa

Important is to understand that not all of this increase in the pace of home resales was due to speculative activity. Home selling in order to upgrade to a better one can also take place to a higher degree in times where households are confident about property, the economy and their own financial situations. That's where the "over-exuberance" of non-speculative buyers can come in.



We have gained this insight only more recently, having begun in 2008 to question estate agents surveyed in the FNB Estate Agent Survey regarding the reasons people sell homes. Here, they noted a significant increase in the percentage of total sellers selling in order to upgrade to a better property during the post-2008 "mini-recovery" in the housing market.

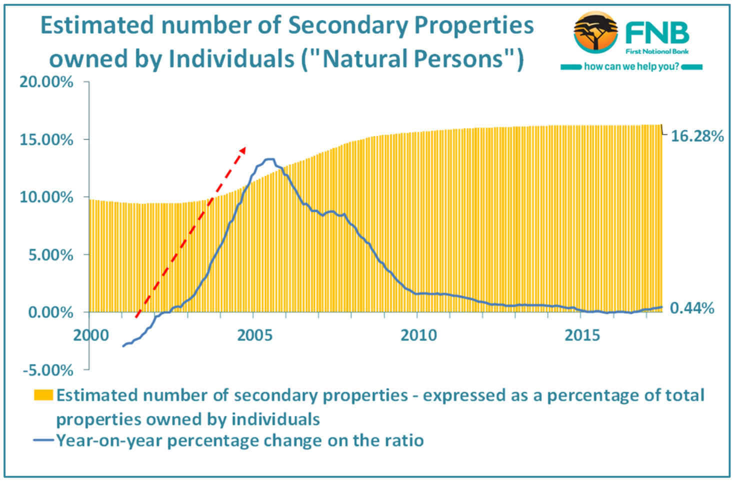
At the height of the recession in 2008/9, the estimated percentage of sellers selling in order to upgrade hit a low of 7%, and then as the economy and housing market recovered it rose to as high as 20% in late-2013, before receding to 13% as things stagnated once more.

Therefore, looking back to the extreme levels of high frequency re-selling of properties around 2004/5, part of this may have been speculative but a part may have been "exuberance" leading to more frequent re-selling to upgrade.

A rise in secondary home buying at the height of the boom was also a good indicator of heightened "exuberance"

We have also built indicators to examine the levels of secondary home ownership, be it holiday homes, buy-to-let homes, or even a 2nd home to be used by a family member for instance.

Growth in secondary property buying by individuals ("Natural Persons") peaked in 2005, shortly after the average house price growth peak.



Here again, the indications were that around 2004 the market reached the peak of "exuberance".

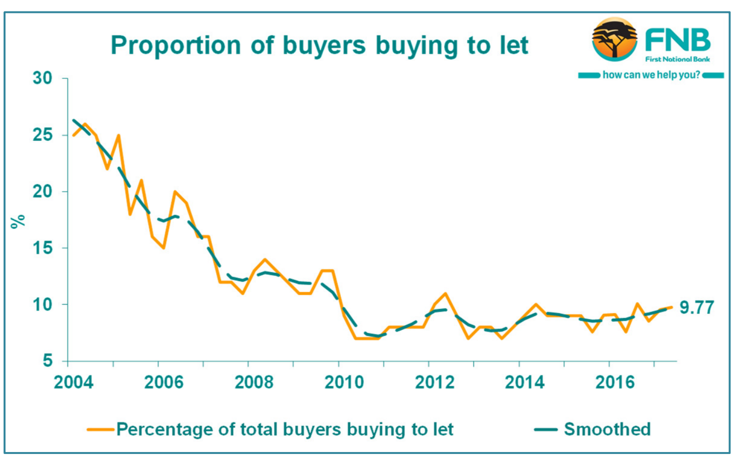
Using deeds data for individuals (natural persons), we attempt to identify all secondary properties owned, expressed as a percentage of total ownership. As at September 2001, this percentage was a lowly 9.2%. It then began to rise noticeably, and has reached 16.28% by mid-2017.

We calculate a year-on-year growth in this percentage, and find that the rate reached a peak of 13.3% by August 2005 (around the time of a strongly negative Alternative Real Prime Rate), having surged from a mere 1.1% at the beginning of 2003.

The trend in secondary home buying in that boom period, too, appears to reach its most intense rate of increase around the time that house price growth was hitting its most extreme levels and Alternative Real Prime Rate was strongly negative. We must bear in mind that there is a 2-way causality though, with strong house price growth encouraging many to invest, but that investment also in part driving house price growth further.

When the FNB Estate Agent Survey started in 2004, buy-to-let buying at the time was extremely strong.

From other FNB indicators we also get a picture of extreme levels of secondary home buying around 2004.

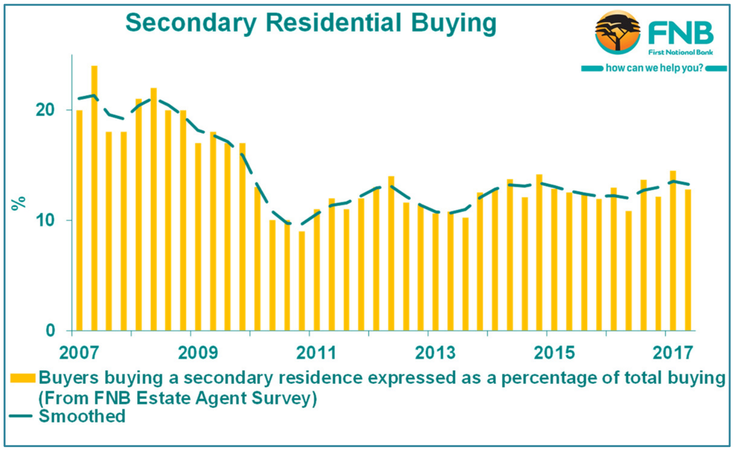


Unfortunately, the Estate Agent Survey only started around that time, so prior levels are not known. But at the start of 2004, it was estimated that 25% of total home buying was buy-to-let buying. That slowed all the way to a lowly 7% at a stage of 2010, and has remained largely in single digit percentage territory ever since.

25% would therefore appear to represent an extreme level of buy-to-let buying in the South African market, we believe.

Total Secondary Home Buying estimate was added to the FNB Estate Agent Survey only later, but still showed brisk secondary home buying as at 2007, the late stage of the housing boom.

Only later did we add a question regarding overall secondary home vs primary home buying (secondary including buy-to-let, holiday home and 2nd properties for use by a relative or acquaintance), so we don't know what the estimate would have been in 2004 and prior.



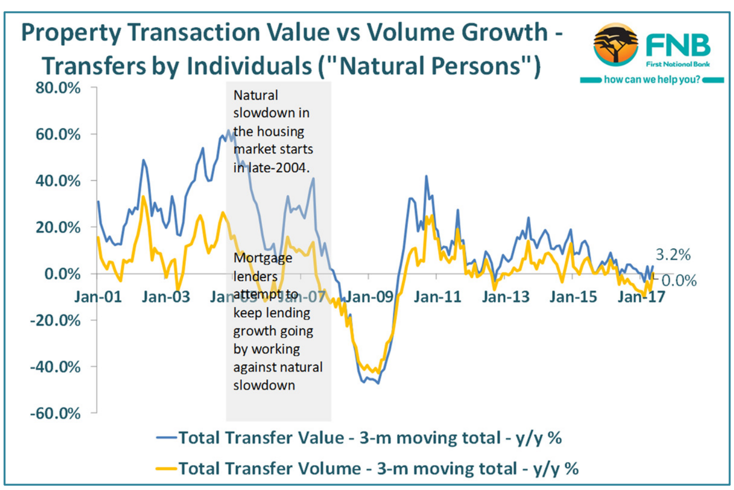
However, even in 2007, that year started with a survey estimate of secondary home buying amounting to 20% of total home buying, a percentage which fell to 9% by the end of 2010 and never again reached anything near to the starting percentage.

These survey answers, although having started too late to assess the entire boom period, point to far higher levels of secondary home buying prior to the 2008/9 recession, and we believe secondary home buying levels to be a good indicator of levels of "exuberance" in a housing market.

Monitoring the mortgage lending sector's behavior during boom periods for signs of mounting risk is also useful. Mortgage lenders are often "pro-cyclical" in their behavior, and can even attempt to sustain strong mortgage lending growth after the "natural market growth" begins to slow.

In the search for an overheated market, we go further to examine the behaviour of the mortgage lending sector during boom periods. This is important, given the highly credit-dependent nature of the housing market. The mortgage lending sector is known to be "pro-cyclical", and one often finds that new sales growth targets for property and mortgage industry players are influenced by recent sales growth history. It should thus not be surprising to see a mortgage lending sector taking measures to sustain its strong new home loans sales growth after the "natural growth" of the housing market has begun to slow.

Individuals' property transaction volume growth began to slow rapidly from late-2004

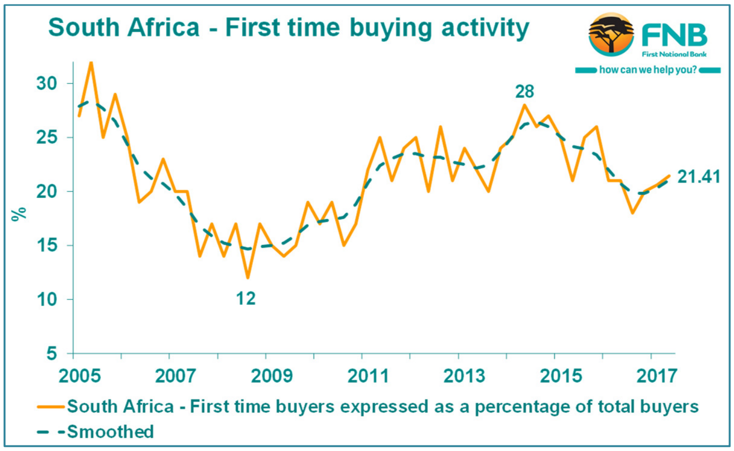


And indeed, this was what happened from around 2004 to 2007. The boom time peak in individuals' property transaction growth was around late-2004, the value of such transactions reaching a year-on-year growth peak of 61.7% for the 3 months to November 2004 (we use a 3-month moving average for smoothing purposes).

Volume growth had peaked a little earlier in the 3 months to September 2004 at 26.1% year-on-year.

Thereafter, the growth rate dropped sharply, curbed we believe by rapidly deteriorating affordability as rampant price growth far outpaced average income growth.

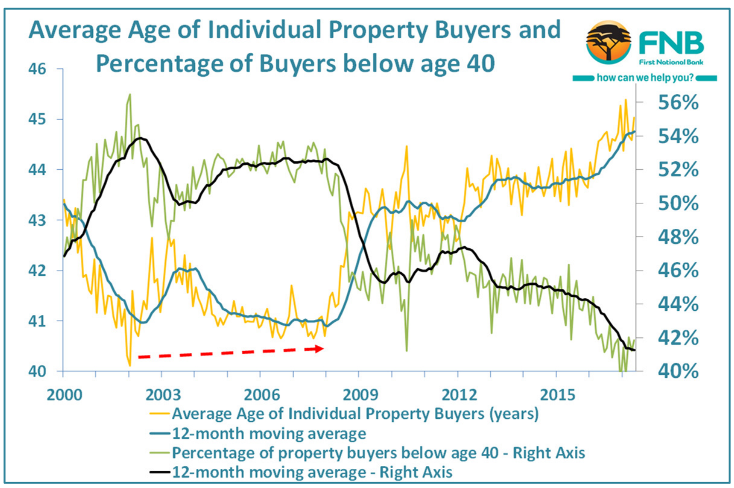
Housing affordability deterioration can be reflected in 1st time buying level estimates, which declined steadily from 2006 to 2008 on the back of high house prices and then rising interest rates from mid-2006



We believe that a useful indicator of affordability changes is to view the level of 1st time home buying in the housing market. This Estate Agent Survey question only started late in 2004, and was between 25 and 30% of total home buying at the time. Through 2006 to 2008 it dropped sharply to a low of 12% by late-2008. Aspirant 1st time buyers were not keeping pace with house price increases.

A lack of further progress in the decline in average age of home buyers after 2002 is also a reflection of mounting affordability challenges thereafter.

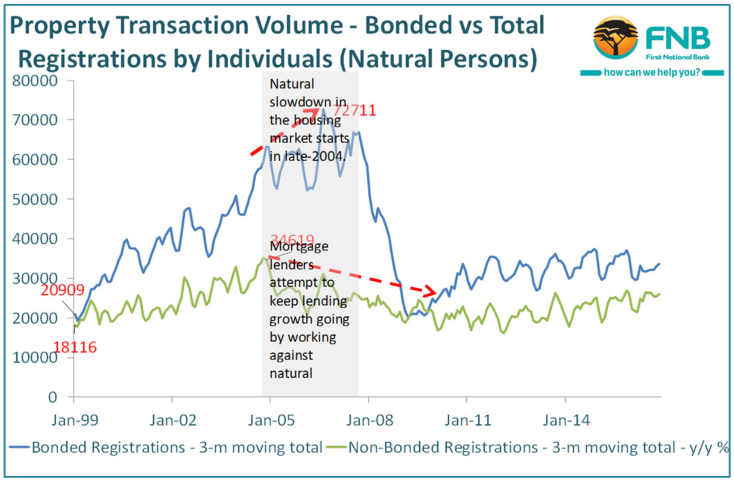
Examining trends in average buyer age (using deeds data for "natural persons") can also be a way of picking up a market running into mounting home affordability challenges.



Following the start of interest rate cutting late in the 1990s, we saw the average home buyer age decline noticeably from 43.4 years as at January 2000 to 40.1 years by January 2002. That early-2000 low point was the lowest average age reached in that boom period. Thereafter, the average age move temporarily upwards with 2002 interest rate hiking, and downward once more with the renewed rate cutting in 2003, but with house prices inflating rapidly, the average age never got back to that low of January 2000.

And this was even despite banks desperately attempting to be accommodating with lending right up until around 2007/09.

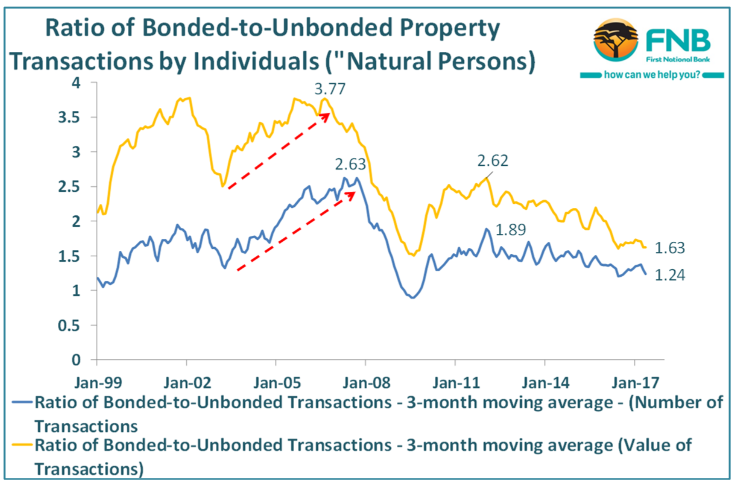
But banks sustained mortgage lending growth in the face of deteriorating affordability, and long after cash buying began to decline.



Around late-2004, the “natural growth” in the housing market began to slow. We believe that a good indicator of such “natural growth” to be the level of un-bonded transactions, i.e. cash buying. Such transactions are arguably more driven by economic factors and home affordability than by bank lending appetite.

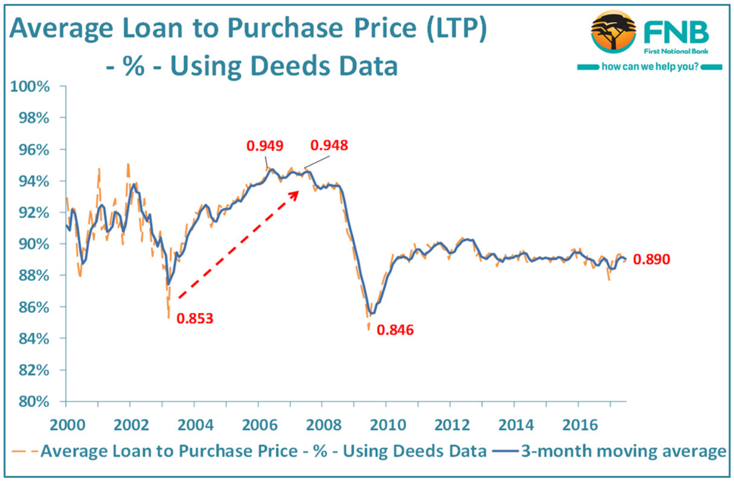
The volume of these un-bonded transactions slowed from around early-2005 after a massive house price surge in prior years up to that point.

Bonded transactions, however, went on with their broad rise up until late-2006, well-after the start of slowdown in cash transactions, and well after the onset of major housing affordability deteriorations.



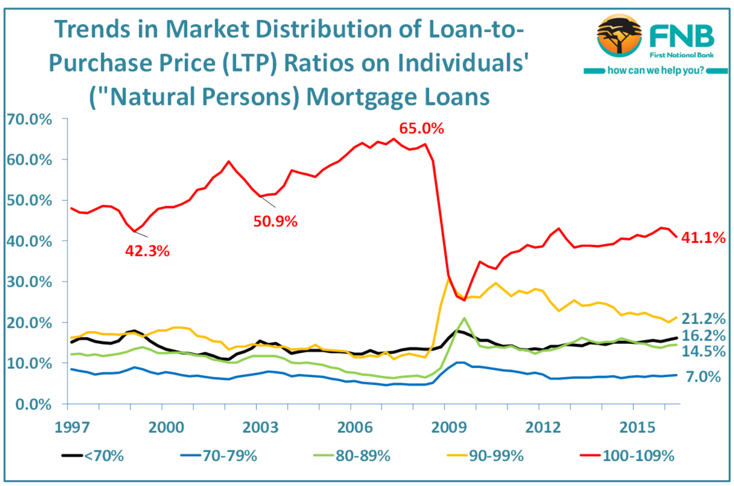
The mortgage lending sector continued to push transaction volume growth with highly competitive lending criteria. And the ratio of bonded to unbonded transactions for the market as a whole rose sharply from 2.50 for the 3 months to March 2003, to a high of 3.77 for the 3 months to August 2006.

The banks were increasingly accommodating, as seen by a major rise in the average Loan-to-Purchase Price (LTP Ratio) from 2003 to 2006.



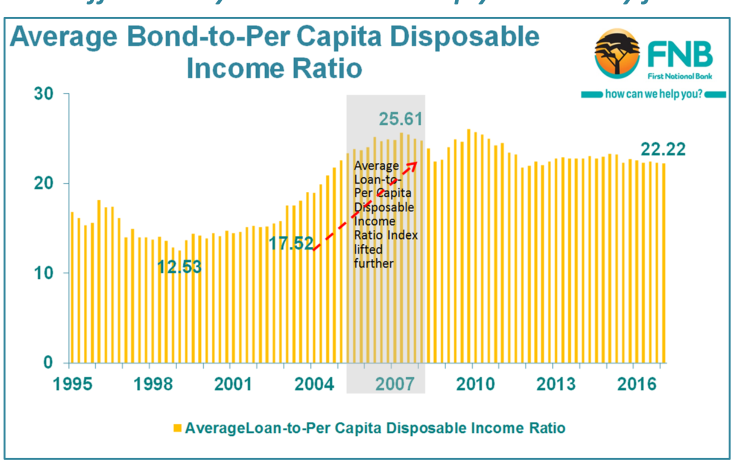
Their more competitive lending practices at the time were reflected in a steady rise in average Loan-to-Purchase-Price (LTP) Ratio from 0.853 in March 2003 to 0.949 by April 2006.

The percentage of 100% and above 100% loans rose until as late as 2007

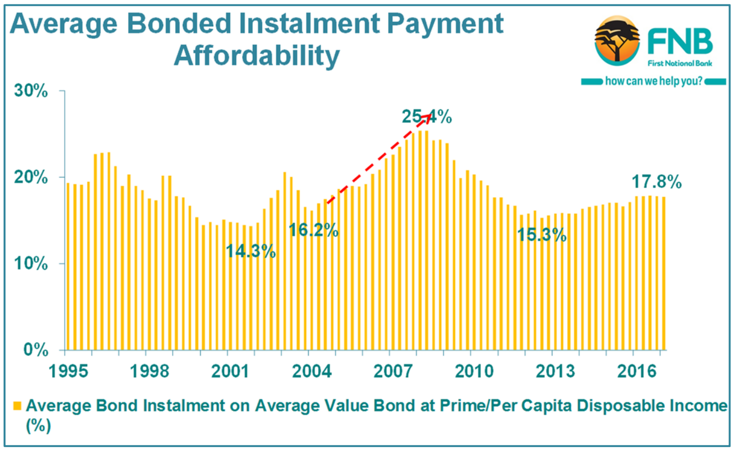


The percentage of loans registered at 100%-109% LTP ratios rose from 50.9% of total loans registered in the 1st quarter of 2003 to 65% by the 2nd quarter of 2007.

Bond affordability deteriorated sharply all the way from 2003 to 2007

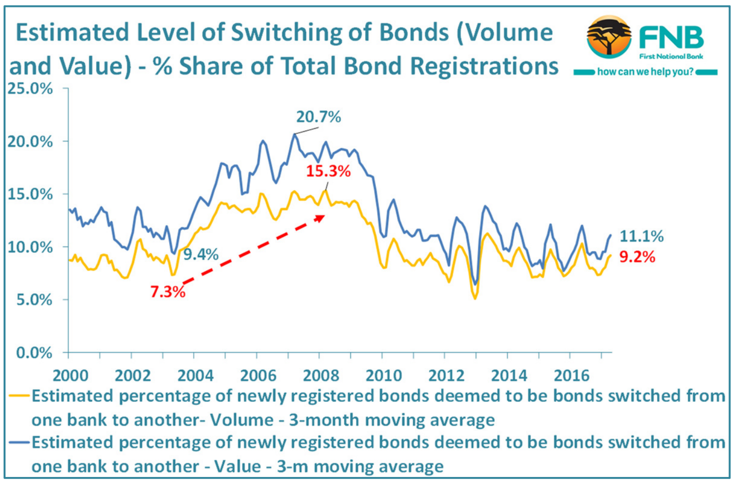


This more aggressive lending stance was contributing to a sharp deterioration in average bond affordability. The Average Bond-to-Per Capita Disposable Income Ratio had already risen from a lowly 12.53 at the start of 1999 to 17.5 at the start of 2003, and then rose further to 25.61 by the 2nd quarter of 2007. That peak was reached only almost a year after interest rates had begun to rise in mid-2006, reflecting just how high the level of confidence was amongst lending institutions at the time.



Even the onset of interest rate hiking from mid-2006 onward could not immediately dampen the confidence levels of lenders and borrowers alike, and the Average Instalment on the Average Value Bond at Prime Rate/Per Capital Disposable Income Ratio continued to rise until the 2nd quarter of 2008, reaching a high of 25.4%, up from 16.2% at the start of 2004.

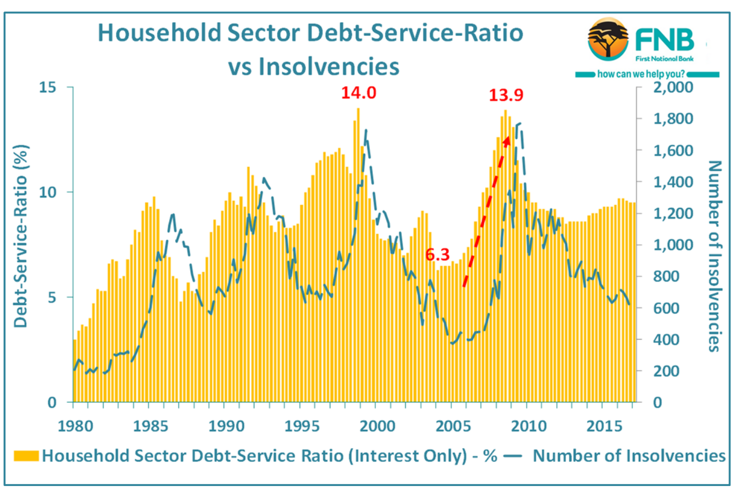
A further key sign of mortgage lender "over-exuberance" was the surge in the level of home loan "switching" (banks running campaigns to "switch" existing home loans away from competitor banks)



A further indicator of the lengths to which mortgage lenders went to sustain strong home loan sales growth is reflected in our estimates of the levels of home loan switching. We use deeds data for individuals ("natural persons" for this purpose, and find that the value of new loans believed to be switches rose from 9.4% of total new loans registered for the 3 months to May 2003 to 20.7% in the 1st 3 months of 2007.

Such switching campaigns tend to erode lenders' profitability, shortening the average time that homes loans remain on one lenders books after they have incurred huge costs to actually put them onto the books in the 1st place.

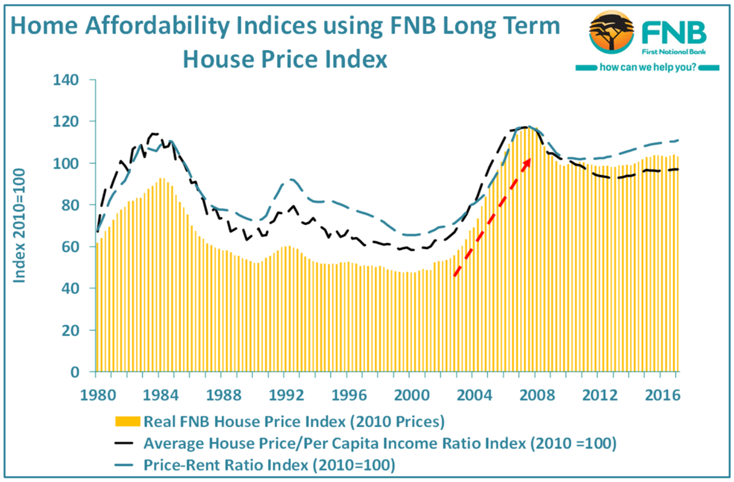
A rising Debt-Service Ratio, arguably the best macro-predictor of mortgage arrears, did not stop mortgage lenders from high risk lending strategies all the way to early-2008



The lending/borrowing "aggression" continued into 2007 despite the Household Debt-Service Ratio having started to rise from a far earlier stage in 2004 (and noticeably sharper increase from 2005).

The Debt-Service Ratio is a good predictor of home loan arrears, so it was only a question of time before arrears would follow. The exuberance levels were so high, however, that it was not until around 2008 that mortgage lenders eventually tightened credit dramatically.

The 3 key Macro Housing Affordability Ratios deteriorated sharply from 2003 to 2007. They are the Real FNB House Price Index, The FNB Price-Rent Ratio and the FNB House Price/Per Capita Income Ratio



Over this period, from around 2003 to 2007, housing affordability by all measures deteriorated dramatically, reaching highest (worst) levels on record. Such key affordability ratios include house prices in real terms (adjusted for consumer inflation), the Average House Price/Per Capita Income Ratio and the Price-Rent Ratio. The average real house price, using our FNB Long Term Average House Price Index, rose by 110% from the beginning of 2003 to the 3rd quarter of 2007.

This massive affordability deterioration had no apparent influence on mortgage market risk appetite during those years, which reflects the high level of "exuberance" in the mortgage lending sector at that stage.

In short, even the claim that the pre-2008 boom market underwent a major "overshoot", or otherwise put it had moved away from underlying fundamentals, is admittedly always a subjective one. We make such a claim after comparing the national housing market with itself at different periods over time, and concluding that the 2000-2008 boom was extreme in nature by comparison to anything that had happened over the past few decades.

We did not merely take this view after examining house price inflation over the period. Indeed, real house price inflation during that time was more extreme than at any stage in SA's recorded housing market history. But we delved further and also observed:

- **Major deterioration in a variety of home affordability measures not seen in recorded history, the earliest recorded history being Absa's house price data which started back in 1966;**
- **An extremely negative Alternative Real Prime Rate, which pointed to a speculators' paradise being created especially around 2004/5**
- **A sharp surge in high frequency buying and re-selling of homes around that time, which points to speculative and "over-exuberant" behavior having surged;**
- **Surge in ownership of less essential secondary properties;**
- **High rates of buy-to-let buying;**
- **Aggressive mortgage lending despite key indicators pointing to sharply rising risk in the market, such as affordability deteriorations, sharply rising household indebtedness and a rising Debt-Service Ratio (the best predictor of a rise in mortgage arrears to come), which pointed to "over-exuberance" in the mortgage lending sector too.**

This residential market behavior proved unsustainable, because structurally SA's economy was not capable of keeping up the 5%+ annual economic growth which we saw briefly just prior to 2008. That economic growth was largely driven by the credit-driven housing and consumer booms, and was destined to slow markedly after the Household Sector had moved to becoming a highly-indebted one, with the country moving back to more realistic economic growth rates, recently far nearer to zero.

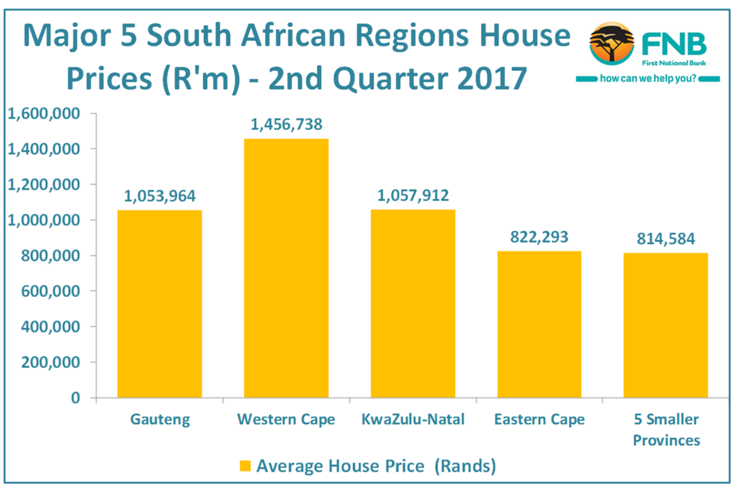
D. THE WESTERN CAPE –HOW DOES IT FARE OF LATE WHEN COMPARED WITH THE PRE-2008 NATIONAL HOUSING MARKET BUBBLE?

The pre-2008 national housing "bubble", which included the Western Cape, provides us with an indication as to what we should look for in the indicators when analyzing "market health" in the more recent post-2008/9 period of relative strength in the Western Cape.

The examination of the national housing market's behavior during the pre-2008 "bubble" gives us an idea of what to look for in terms of signs of "over-exuberant" or "irrational" behavior when viewing the more recent strength of the Western Cape Housing Market.

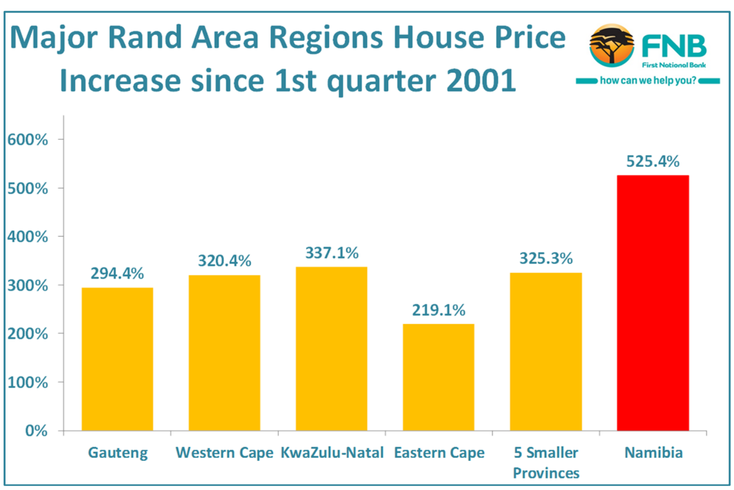
Some may be surprised to hear that we don't see the Western Cape market as being extremely "bubbly" in appearance, although the possibility of some "over-heating" and subsequent correction to come cannot be excluded. Few of the key indicators in the Western Cape have deteriorated to the level that they reached back in the pre-2008 bubble days, and the behavior of mortgage lenders both in the Western Cape and through the rest of the country is far more conservative today compared to pre-2008.

As at the 2nd quarter of 2017, the Western Cape had by far the highest average house price of R.457 million



As at the 2nd quarter of 2017, the average Western Cape house price, according to the FNB Provincial House Price Indices, was R1.457 million. This was almost R400,000 higher than KZN which just pipped Gauteng's R1.054 million in that quarter.

But with a far greater land scarcity in Cape Town Metro, it should be more expensive than others.

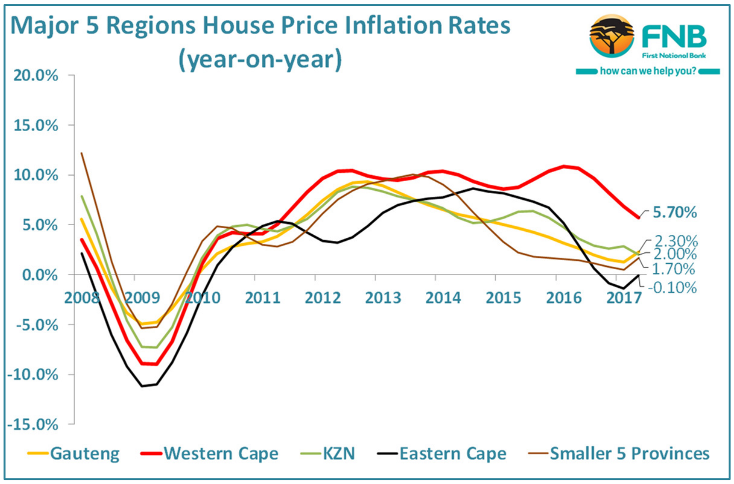


However, we have iterated previously that the Western Cape being the most expensive is to be expected, given its being a relatively high Per Capita Income province similar to Gauteng, but unlike Gauteng having a far greater land scarcity around the City of Cape Town Metro.

But taking a long term view back to before the national house price boom started, we see that the Western Cape's cumulative house price growth of 320.4% from the 1st quarter of 2001 to the 2nd quarter of 2017 is not meaningfully different from the other major provinces, Gauteng recording 294.4% over the period and KZN 337.1%.

Certainly the Western Cape's house price growth over this 16.5 year period is moderate compared to the 525.4% that we measured for Namibia.

The Western Cape has attracted attention of late, not because its house price growth is anywhere near as extreme as pre-2008, but more because other weak regions have made it look strong by comparison.

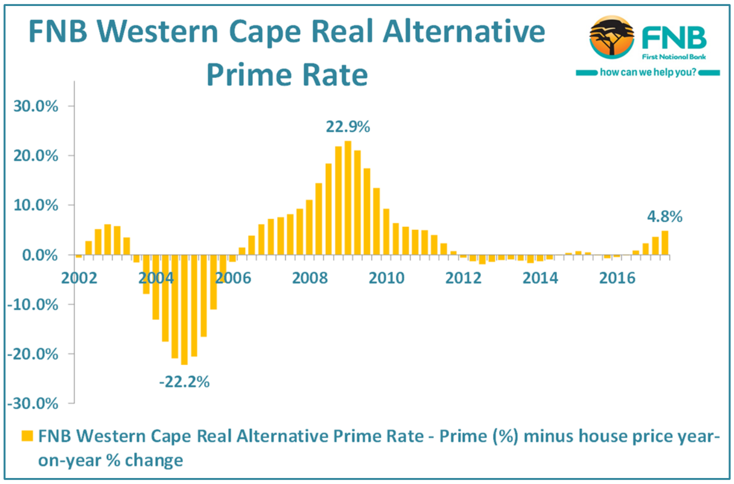


The Western Cape has attracted attention, however, because of its noticeably higher house price growth than the rest of the stagnating country, reaching a year-on-year growth peak of 10.8% in the 1st quarter of 2016 while the next best performer in that quarter was the Eastern Cape with a lower 5.2% price growth, KZN with 4.7% and Gauteng with 3.2%.

That 10.8% year-on-year high for the Western Cape was the highest average house price growth for the province since the 1st quarter of 2006, but pales into insignificance when compared to the pre-2008 "bubble" high of 33.2% in the final quarter of 2004.

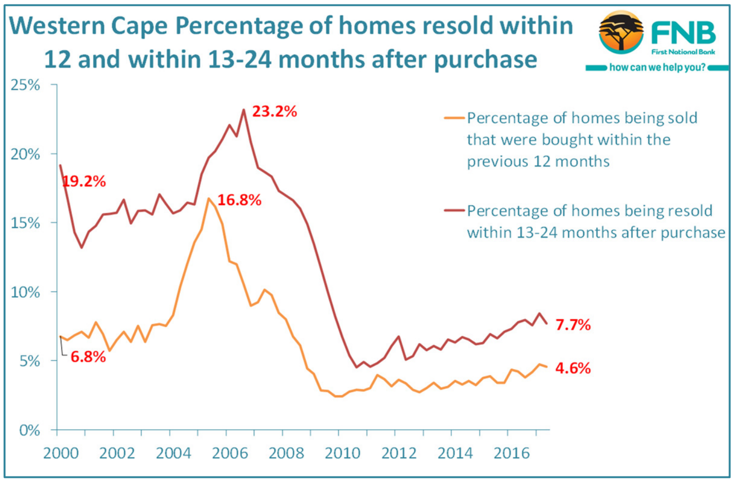
It seems that, rather than the Western Cape as a whole experiencing a housing market "bubble", or even "boom", it has been the mediocrity of the other regions' housing markets that has made the Western Cape look strong by comparison. But in reality, the province has not been a "Namibia" by any stretch of the imagination in the post-2008/9 recession period.

Taking a look at the Western Cape's Alternative Real Prime Rate, it was only ever marginally negative at any time in the post-2008/9 period.



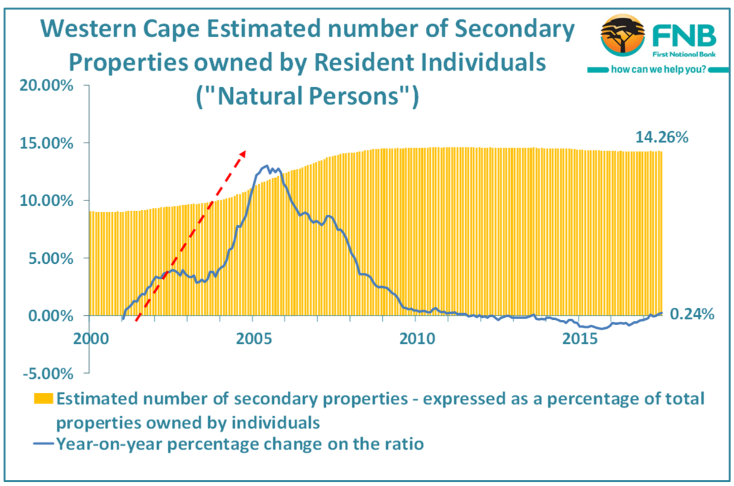
With Prime Rate having risen to 10.5% as at January 2016, that 10.8% year-on-year house price growth rate at the time translated into an Alternative Real Prime Rate of -0.5%. While slightly negative, this is hardly sufficient to create a speculator's paradise, given huge property transfer costs, and is insignificant relative to the -22.2% Western Cape Alternative Real Prime Rate reached in the final quarter of 2004.

The lack of speculative potential post-2008/9 appears backed up by an ongoing low level or home resales in under 1 year or under 2 years subsequent to purchase.



Unsurprisingly, therefore, we don't see signs of widespread speculative activity in the form of a massive surge in homes resold in a short period after their purchase. As at the 2nd quarter of 2017, we estimate that 4.6% of Western Cape homes resold had been bought within 12 months or less of the resale. This is mildly higher than the post-2008/9 recession lows, but remains far below the pre-2008 boom time peak of 16.8%, reached in the 2nd quarter of 2005.

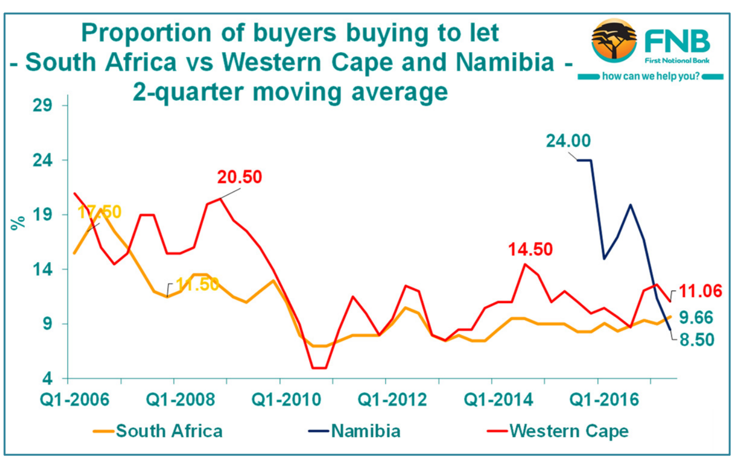
Secondary home buying by local Western Cape residents has also not surged post-2008/9



We don't find recent signs of "over-exuberance" when viewing the pace of growth in ownership of secondary properties by local Western Cape residents either (note: this does not include the 2nd properties owned by non-Western Cape residents).

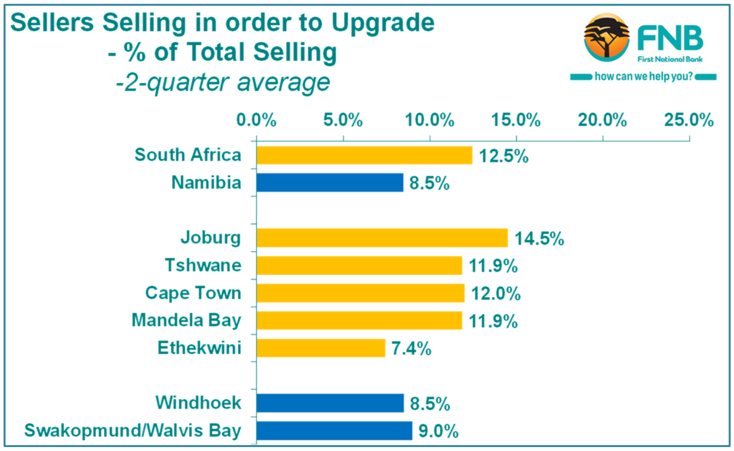
The estimated number of secondary homes, expressed as a percentage of total homes, was 14.26% as at July 2017, slightly lower than the 14.6% high reached late in 2010. Most recently, in July, growth in estimated secondary homes was at a lowly 0.11% in the Western Cape.

Buy-to-let has been seen as "mildly elevated" in the Western Cape, but still far below last decade's highs



Taking the view of secondary home buying further, the FNB Estate Agent Survey estimates the Western Cape's percentage of total home buyers that are buy-to-let buyers at 11.06% for the 1st 2 quarters of 2016. This is not at all extreme, mildly higher than the national average of 9.66%, as it has been for a number of years, but well-down on last decade's bubble period 20.5% high for the province around late-2008/early-09.

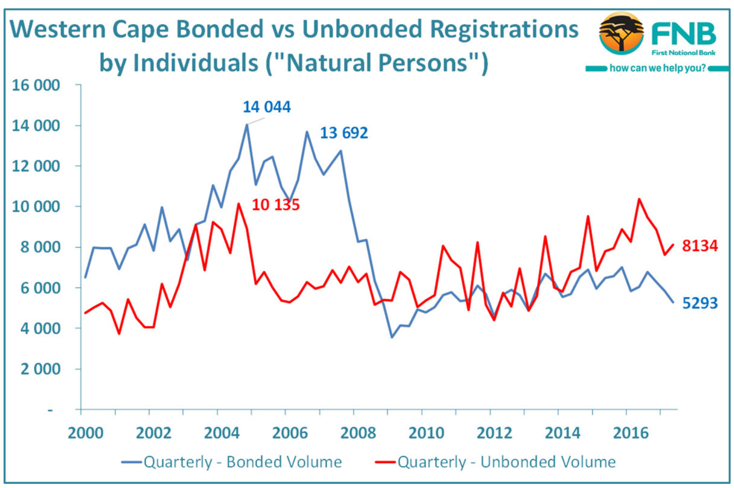
Selling in order to upgrade to a better home is also mediocre



The percentage of sellers in the province selling in order to upgrade was estimated at 12% in Cape Town, also not overly strong and more-or-less in line with the 12.5% national average

Bonded home buying in the Western Cape is not seen as having surged at any time post-2008/9.

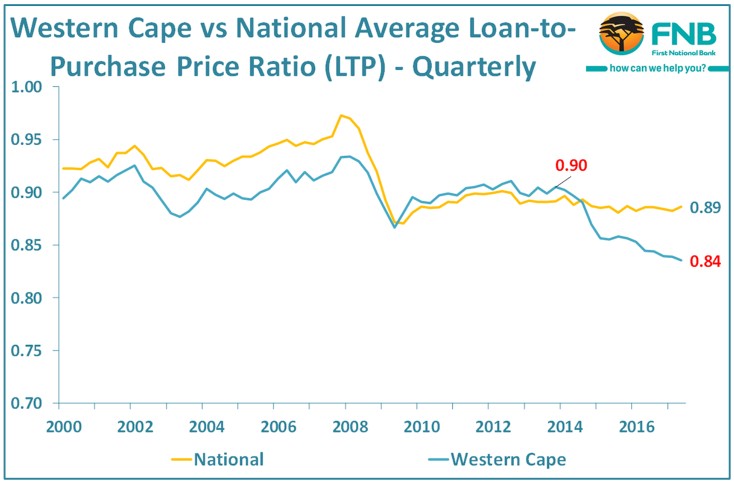
Mortgage lenders have largely nationally-focused lending strategies, so regional differentiation in credit appetite due to any difference in regional housing market performances is probably limited. The broader national market and economy-wide weakness is thus likely to keep mortgage lending risk appetite in the Western Cape at fairly moderate levels.



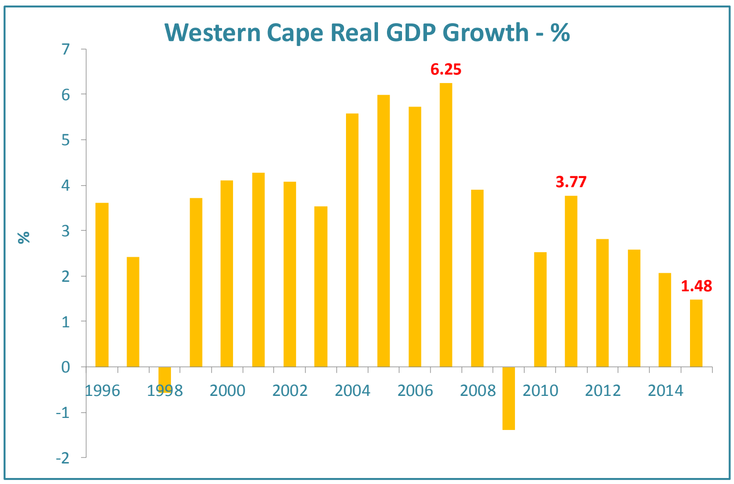
There is thus little in the Western Cape to point to any rampant credit-driven home buying spree. Unlike in the case of South Africa as a whole, in the Western Cape we estimate un-bonded (cash) buying of homes to be higher of late than Bonded home buying.

In the 2nd quarter of 2017, we traced 5,293 bonded property registrations by individuals (“natural persons”) in the Western Cape. This is significantly lower than the 8,134 un-bonded registrations traced in the same quarter, and only 38% of the number recorded in the final quarter of 2004.

It would be difficult for the Western Cape market to “live on credit”, as mortgage lenders normally have a more nationally-focused lending strategy, and all are relatively conservative compared to those crazy pre-2008 days, and are likely to remain so given a weak national economy and market.



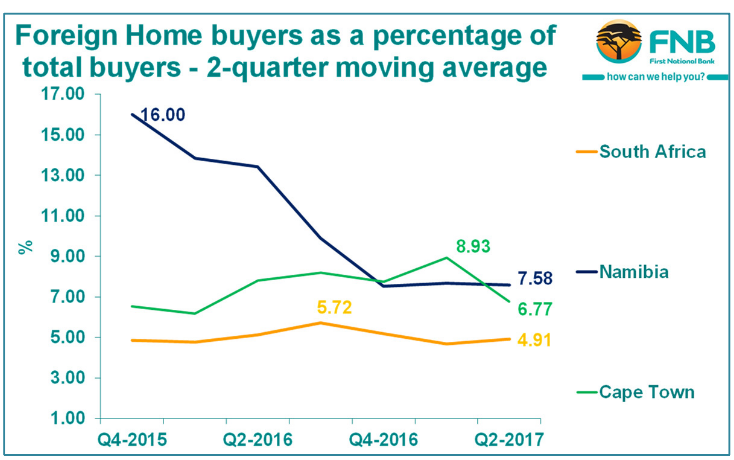
One indicator of lenders' credit risk appetite is the Average Loan-to-Purchase Price (LTP) Ratio. The Western Cape's ratio has actually declined from 0.90 at the end of 2013 to 0.84 in the 2nd quarter of 2016. Mortgage lenders as a group, therefore, have not tried hard to "keep up" with house price growth in the Western Cape, and as house price inflation has proceeded so the average LTP has declined. This 0.84 ratio is well down on the 0.933 at the start of 2008.



The Western Cape's housing market cannot even be said to have been driven by a strong economy. The Western Cape is up there with Gauteng as one of the country's 2 top economic growth regions over the long term. But, like Gauteng, it has more-or-less tracked the rest of the country's economic growth rate slower from 2012 onward, reaching a lowly 1.48% by 2015 (2016 StatsSA provincial growth rates not yet available)

So what has driven the Western Cape's superior housing market performance of recent years? We believe that it has been strong demand from sources outside of the province, including foreigner buying, but more significantly affluent "migrants" from other regions of South Africa.

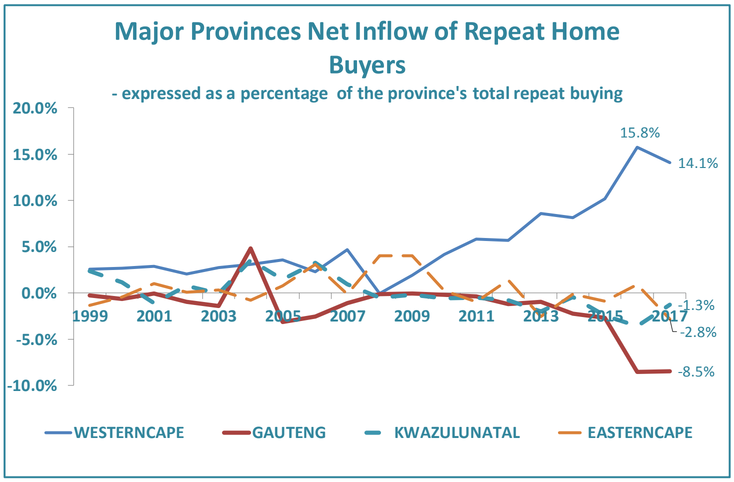
The statistic showing un-bonded transactions as being at a higher level than bonded transactions begins to hint at where the source of housing demand driving the market strength is coming from, i.e. affluent external sources.



The first well-documented source of demand, especially on the Cape Peninsula, is from foreign citizens buying domestic property.

In the FNB Estate Agent Survey, 2016 saw the estimated foreign buying percentage in the Western Cape increase to 8.93% by the 2nd half of 2016 (from 6.18% for the 2015/16 summer quarters), widening the gap on the national average foreign buyer percentage which "peaked" at a lower

5.72% in the 2 winter quarters. Therefore, foreign demand has differentiated the Western Cape from the rest of South Africa to an extent.



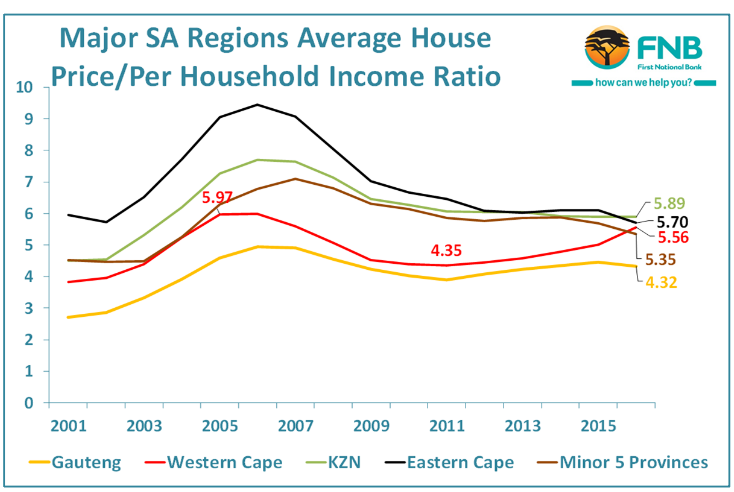
However, more impressive was the estimated rise in repeat home buyers migrating from other parts of South Africa to the Western Cape. We believe this source of demand to be far more of a Western Cape Market driver in recent years. In 2016, the "Net Inward Migration" ("Net" referring to those repeat home buyers migrating into the Western Cape minus those migrating outwards to other provinces) rose to an extreme 15.8% of total Western Cape Repeat Home Buyers. This was after a steady rise from near zero percent in 2008.

No other province's net migration rate comes anywhere close. The "migration" is believed to be the result of the Western Cape having built itself a reputation of being a well-governed region, having a big economic opportunity with its long term economic growth rate neck and neck with the Gauteng economic powerhouse, while also having a good perceived lifestyle. That combination of characteristics is what the more affluent segments of the population are increasingly looking for.

In short, therefore, the Western Cape's relatively strong housing market of recent years is very different to the pre-2008 housing bubble. Firstly, the market strength and resultant house price growth of that region has not been anywhere near to the peak growth in the pre-2008 boom period, and the region has to a large degree been made to appear strong by the weakness of other regions. The Western Cape's recent strength does not appear to have been a wildly speculative period, nor does it appear to have been strongly credit-driven, with un-bonded buying at a higher level than moderate bonded home buying, and the average LTP in decline.

Solid external sources of housing demand appear to have been differentiating the Western Cape from the other provinces of South Africa.

But there are limits to how far the Western Cape market's strength can go

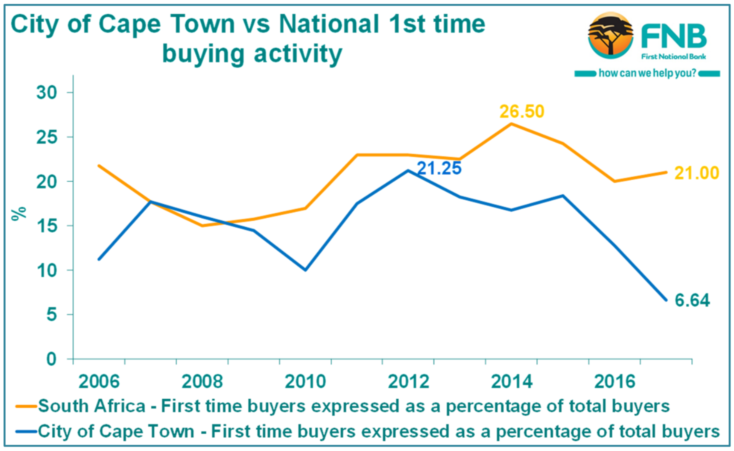


However, there appear to be limits to how far this can go. Key home affordability measures show Western Cape home affordability to have deteriorated more noticeably than other major South African regions.

From 4.35 in 2011, the Western Cape's Average House Price/Per Household Income Ratio has deteriorated (risen) to 5.56 by 2016, which is only mildly lower than the pre-2008 boom time peak of 5.97 as at 2005.

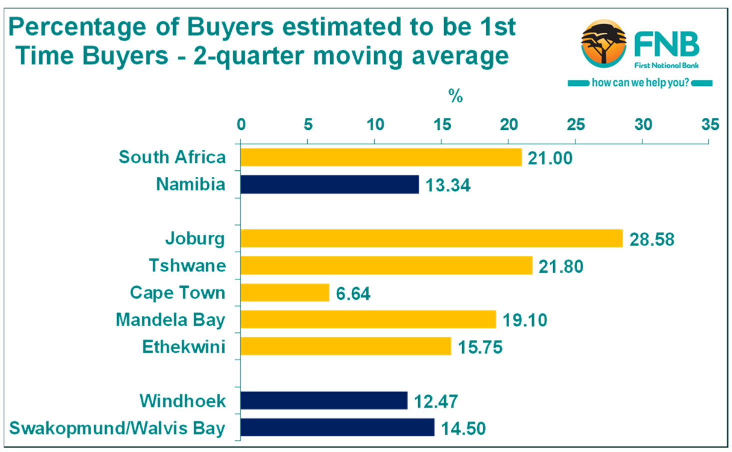
This deterioration of recent years was noticeably more than any other province.

Very weak Cape Town 1st time home buying is reflective of a major affordability challenge for local residents



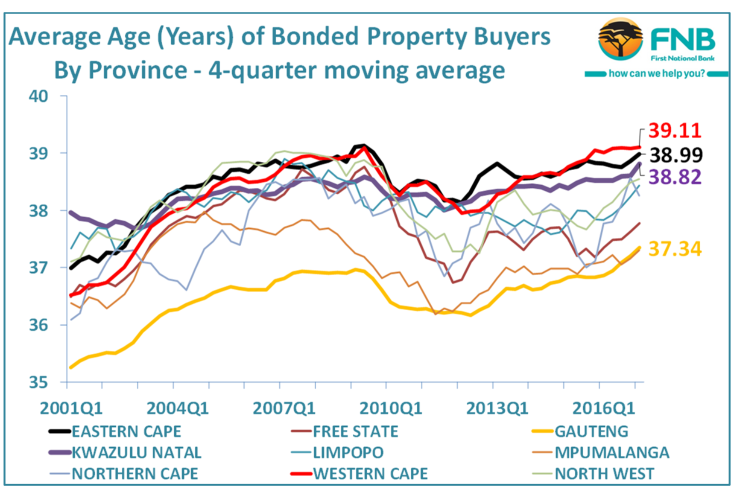
The Western Cape's affordability deterioration appears strongly reflected in 1st time buyer and age group buyer estimates for residents of that province. The FNB Estate Agent Survey 1st time buyer estimates estimated a lowly 6.64% of total buyers to be 1st time buyers in the City of Cape Town in the 1st half of 2017. This is far below any other major metro region, and far below the national average estimate of 21%.

The Western Cape's 1st time buyer percentage has been below the national average each year since 2009, and the gap between the 2 has been widening steadily.



Aspirant 1st time buyers are on average more financially constrained than repeat home buyers, and are thus arguably more sensitive to home affordability deteriorations. The affordability deterioration has been reflected in a Western Cape 1st time buyer deterioration in recent years.

Western Cape recently became the region with the oldest average age of home buyer too



In addition, the Western Cape's relative affordability challenge may be further reflected by our estimate that the province has become the one with the oldest bonded property buyer, at an average age of 39.11 for the 4 quarters up to the 1st quarter of 2017.

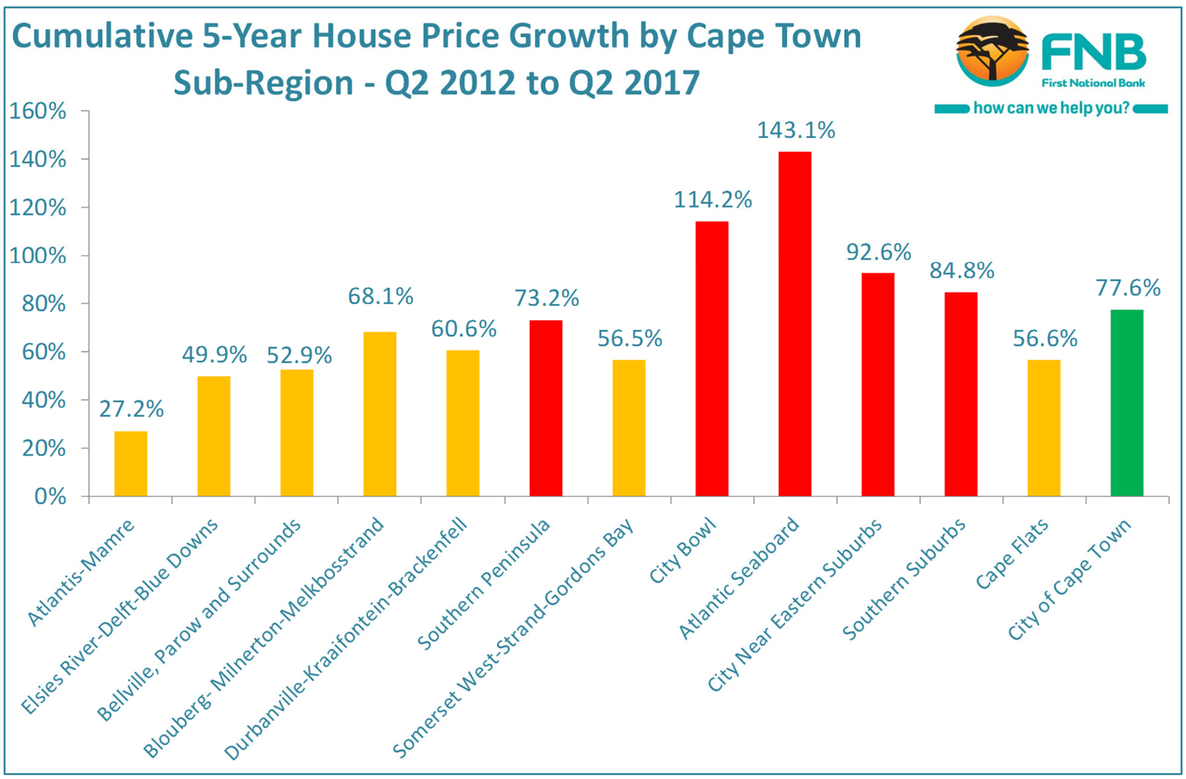
The province recently overtook the Eastern Cape to have the oldest average age, after having also overtaken KZN back in 2013.

Does the Western Cape's mounting affordability challenge begin to slow the pace of foreigner and "SA migrant" buying in the region?

Therefore, the home affordability challenge has been mounting for Western Cape locals. The question next is when does this affordability challenge begin to take its toll on that "external" demand in the form of foreigners and repeat buyer migrants from other provinces? The answer is that it may have already started to.

In the 2nd quarter FNB Estate Agent Survey we saw estimated foreigner buying for the Western Cape decline from 8.93% previous to 6.77%. Although 1 quarter is insufficient to draw conclusions on, it is possible that foreigner buying may be starting to taper, after rampant house price inflation and affordability deterioration in those popular foreigner buying spots such as the City Bowl and the Atlantic Seaboard.

In just 5 years, the Atlantic Seaboard has shown estimated cumulative house price inflation of 143.1%, while the City Bowl has been almost as extreme with 114.2%.



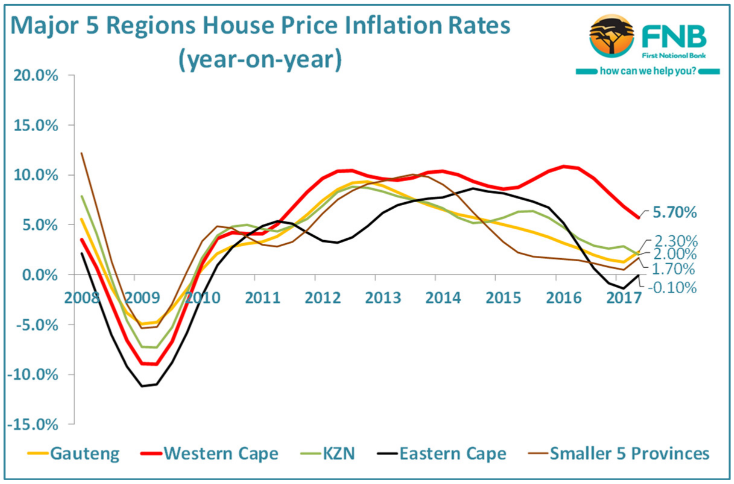
The affordability deterioration has not gone unnoticed by up-country residents either, and Gauteng has been abuzz over the expensive house prices in the Western Cape. At what stage do aspirant "migrants" from inland regions begin to look elsewhere along the coast for more affordable retirement opportunities or to set up their businesses and be employed?

We have been expecting some slowing in the net inward migration into the Western Cape to begin in 2017. In the year to date, there is nothing more than a vague hint of such a slowdown.

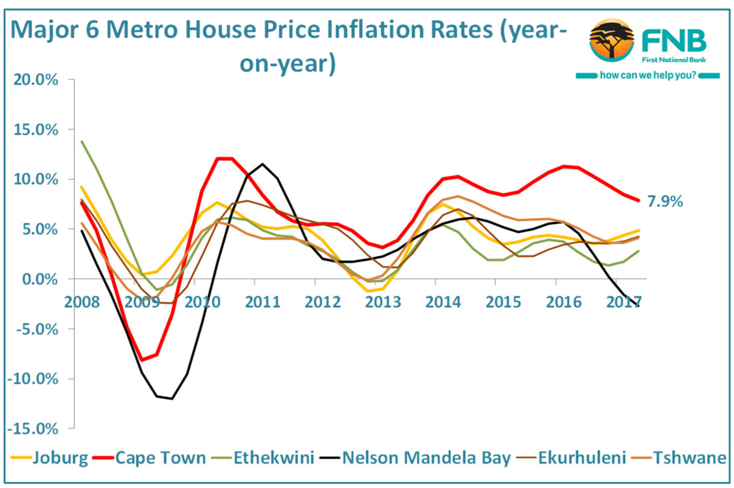
From 15.8% of total Western Cape repeat home buying in 2016, our estimate of that province's net inflow of repeat home buyers from other provinces has declined slightly to 14.1% in 2017 for the year to date.

It is too early to draw conclusions, but affordability pressures may have started to correct the Western Cape market, having already exerted severe pressure on young local residents, and now possibly starting to do the same on foreigners and SA "migrants".

Western Cape average house price growth has been slowing since an early-2016 high

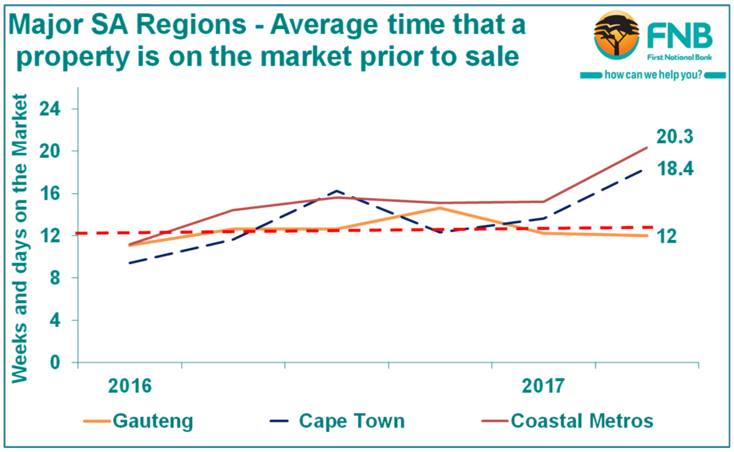


From 10.8% year-on-year in the 1st quarter of 2016, the average Western Cape House Price growth rate has slowed gradually to 5.7% by the 2nd quarter of 2017.



The City of Cape Town Metro average house price growth rate remains mildly stronger, but has also slowed to 7.9% year-on-year as at the 2nd quarter of 2017.

Cape Town has also seen its balance between demand and supply weaken, as reflected in a lengthening of the average time of homes on the market



The Western Cape's average time of homes on the market has also risen to 18 weeks and 4 days by the 2nd quarter of 2017, from around 12 weeks as at the final quarter of 2016, which differs significantly from Gauteng's 12 weeks as at the 2nd quarter of 2017.

3. CONCLUSION

In conclusion, we have attempted to assess the health of the Western Cape housing market, "health" not being defined merely as the strength of the market but rather as to what extent it may have become "irrational" "over-exuberant" or "bubbly", to coin a few popular terms used to describe markets that have moved away from where economic fundamentals dictate that they should be.

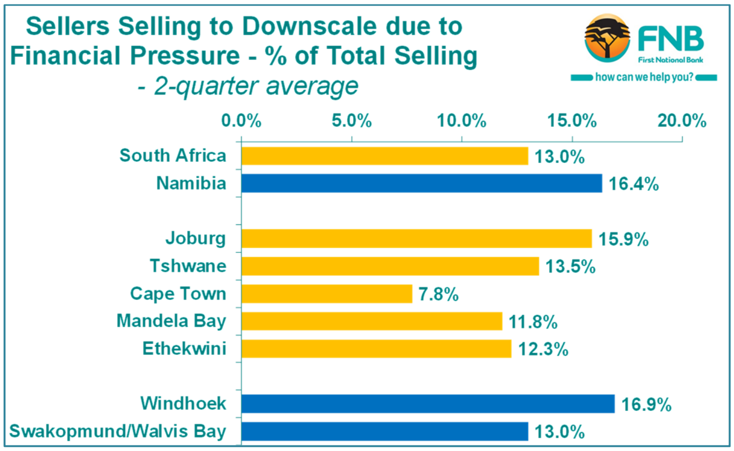
The Western Cape housing market has experienced a relatively good period in recent years, and has seen its house price growth outstrip that of the other major regions of South Africa. However, we do not believe that the province's market has not experienced an "over-exuberant" and "speculative" home buying spree as the whole country, including this region, did prior to 2008.

Rather, it appears to have been driven by the "external" forces of foreigner demand as well as (more significantly) repeat home buyer demand from the rest of South Africa, as opposed to any massive credit-driven buying spree.

But even though we have searched for signs and not found much in the way of "over-exuberant" behavior by either home buyers or mortgage lenders, we have observed significant affordability deterioration in the province. This affordability deterioration has become a significant challenge for locals in the province, as reflected in very low estimates of 1st time home buying.

The next expected event would be for the recent affordability deterioration to begin to weaken demand from the 2 external sources highlighted, which may just be starting to happen, although it is a bit early to tell for certain.

Already, we have seen some slowing in average house price growth in the province. But, given the apparent absence of a massive credit buying surge in recent years, surges which can lead to financial over-commitment and over-indebtedness in the mortgage market, such a slowdown should be relatively "healthy" in nature, meaning that we need not see a sharp surge in financial stress within the Western Cape's housing market.

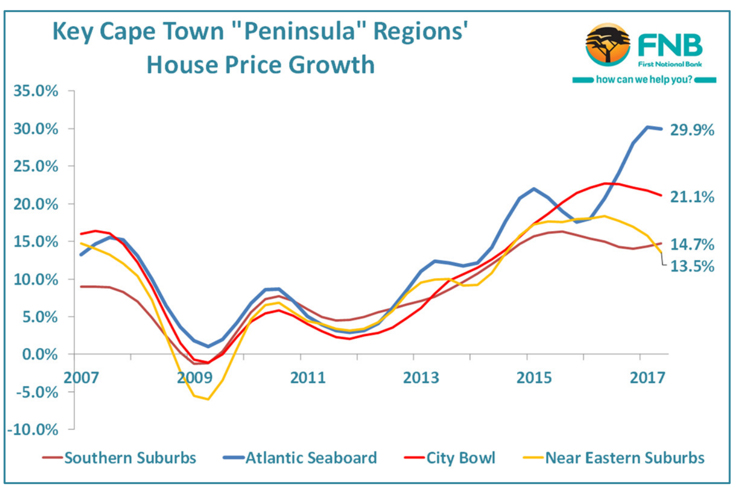


To date, such an indication of low financial stress is what we have received from the FNB Estate Agent Survey. The estimated percentage of home sellers selling their homes in order to downscale due to financial pressure was a lowly 7.8% for the Western Cape for the 1st 2 quarters of 2017. This is the lowest percentage of the major metro regions, and below the national average of 13%.

When we claim that we don't perceive the Western Cape market to be overly-"bubbly" or "over-exuberant" in the extreme, this does not mean that a downward correction in real house prices cannot happen. It can, and we believe it will. This is because we believe that the entire country's house prices are still at high real levels by historic standards, levels still more reflective of that 5%+ annual economic growth economy prior to 2008, and that they have not fully corrected to reflect a national economy whose growth capability these days appears to be near to zero, with the Western Cape and Gauteng perhaps only marginally better than the national average. This high level of real house prices is more an overhang from the pre-2008 boom though.

But we believe that such a real price correction need not be a highly stressed correction, as was 2008/9 nationally, and to date the financial stress-related indicators for the province still point to a very healthy situation. That could mean that the real house price correction both for the Western Cape and the entire country could be a gradual one over a good number of years, with nominal house price growth staying positive for most of the time, but underperforming consumer price and general inflation in the economy to translate into slow price decline in real terms. Such a gradual correction would not be a severely negative situation for mortgage lenders.

While the overall Western Cape market situation has not appeared overly extreme in recent years, quickly considering sub-regions we would raise some eyebrows at what has happened of late near to Table Mountain, notably in the City Bowl and Atlantic Seaboard. In these sub-regions, year-on-year house price inflation as measured by our indices as has been well in excess of 20%. Such rates may well have fueled "over-exuberant" investor buying by some who merely extrapolate such strong capital growth into the future in formulating their expectations.



Such price growth trends never last, but while they do they can cause a significant level of over-investment and thus a price overshoot.