



Rent in the South African CPI: concepts and trends

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1. Introduction

In the Medium Term Budget Policy Statement of 21 October 2008, the Minister of Finance, Mr Trevor Manuel, announced that as from 2009, the inflation target measure would be the complete CPI for (primary and secondary) urban areas. This measure will be known as Headline CPI and will also replace the old Headline measure of CPI for historical metropolitan urban areas.

This decision followed Stats SA's announcement on 1 July 2008 that it would be dropping interest rates on mortgage bonds as an indicator of owner-occupied housing costs. Instead, South Africa will adopt the international standard of Owners' Equivalent Rent.

The use of Owners' Equivalent Rent to measure owner-occupied housing costs in the headline and inflation target measures has generated considerable interest amongst analysts.

This document discusses the approach that Stats SA will employ in measuring owners' equivalent rent and actual rentals. The document also presents the results of Stats SA's rental survey up to the third quarter of 2008.

2. The difference between actual rentals and owners' equivalent rentals

There are essentially two types of arrangements that characterise the housing market: housing is either lived in by the owner of the property or rented out by a landlord (owner) to a tenant. Estimating the cost of housing should take these two arrangements into account.

Defining actual rentals is straightforward. These are the amounts actually paid by tenants to landlords for the provision of accommodation. Typically, a tenant and landlord enter into a rental agreement valid for a particular period of time, for example 12 months. The measurement of actual rentals is expected to track the average changes of all rental agreements.

Owners' Equivalent Rent (OER) measures the value of the services yielded by the use of an owner-occupied dwelling over a period of time by the corresponding market rental value for the same type of dwelling for the same period of time. This appraisal is based on the opportunity cost incurred by the owners by deciding to live in their own home, rather than renting them out. Otherwise put, owners who decide to live in their homes are paying a virtual rent to themselves.

It could be argued that a better measure of OER would be to ask homeowners what rent they would charge if they were to rent out their home. However, owner-occupiers do not generally have good knowledge of the rental market. This could lead to potential biases in the measure, where owners systematically over-value their dwellings in terms of their estimated rental values, and to potential unexplained

changes, as home owners may quickly change their valuations for no real reason. Consequently, the convention, popular in many countries, that Stats SA has opted for is to survey actual rentals of dwellings similar to those inhabited by owner-occupiers.

In some countries (the USA is one example), the rental data are adjusted for OER purposes to exclude the impact of price changes of utilities (water, electricity etc). From data at Stats SA's disposal, it is apparent that electricity is usually not included in the rental charged. In stand-alone properties such as houses (which represent the greatest proportion of OER properties), water is also not typically included in the rental. Rentals are affected by various factors such as the size of owners' bonds, interest rates, assessment rates and maintenance, not to mention the overall supply and demand for rental accommodation. These are all extremely difficult, if at all possible, to measure separately. The calculation of owners' equivalent rent for the South African CPI will therefore not employ any adjustments for utilities or municipal taxes.

3. Data source for actual rentals

Previously Stats SA had indicated that it would continue to use the outsourced rental survey that has been used to estimate actual rentals since 2004. Its reasons for adopting this approach were to provide continuity between the old and new CPI series. However, having two different data sources for actual and owners' equivalent rent respectively does pose a risk. It is quite possible that the two series could exhibit significant differences with no easy explanation for these (see paragraph 5).

Stats SA has considered the issue and has concluded that, it would be on firmer ground to use its own rental survey for both actual and owners' equivalent rent.

Going forward, the difference between the OER and actual rentals in the CPI, will be the respective weights of the different accommodation types found in the two markets. These differences are detailed below.

4. The data and the weights

Stats SA's quarterly rental survey tracks actual rental values for specific dwellings, be they houses, flats or townhouses. Actual rentals for a given dwelling are compared from one quarter to the next, enabling the calculation of quarterly price relatives for that dwelling. Within a given area, geometric means are calculated for the quarterly price relatives for each of the three dwelling types. The Consumer Price Index weights, reflecting the relative importance of houses, flats and townhouses, are then utilised to calculate average quarterly price changes for OER and actual rentals.

In some instances, collection of the data began in the fourth quarter of 2005. By the third quarter of 2006 all of the historical metropolitan areas were being surveyed. By the third quarter of 2007, all 'other urban areas' were included in the survey. So it is

only by the final quarter of 2007 that it is possible to calculate price relatives for all primary and secondary urban areas within all provinces. Where insufficient price data are available to calculate price relatives in urban regions, prices are assumed to have remained constant. This is obviously inadequate for analytical purposes. It is, therefore, best to consider only price changes from the fourth quarter of 2007 for inter-provincial and other similar comparisons.

Within the owners' equivalent rent aggregate in the CPI, houses account for more than nine-tenths of the weight, with flats and townhouses accounting for almost equal shares of the remaining weight (Table 1). In contrast, within the actual rent aggregate, houses account for just about 50 percent of the weight. Flats account for over one third of the weight – 10 times their weight within owners' equivalent rent. Townhouses account for the remaining 13 percent of the actual rent weight. These proportions are applied in all geographical aggregates, both provinces and sub-provincial regions.

Table 1: Weights for Different Housing Types

Housing Type	Owner Occupiers	Renters
Houses	93.4	50.4
Flats	3.2	36.3
Townhouses	3.4	13.3
Total	100.0	100.0
Percent of CPI weights	12.2	3.5

Notes: "Houses" refers to house or brick structure on a separate stand or yard.

The weight distribution for owners' equivalent and actual rentals, by province and urban area, is presented in Table 2 and 3 below. Provincial indices are calculated from a number of urban indices. In most instances, a primary and a secondary urban area are weighted to calculate the provincial index. Depending on the nature of the province, however, there can be up to two additional primary urban indices. The figure in the top row of each cell in the tables refers to the weight of a specific urban area within the total country index. For example, the primary urban area of the Western Cape has a weight of 28 percent within the total country index of owners' equivalent rent. The figure in the bottom row of each cell refers to the weight of a specific urban area within the provincial index. For example, the primary urban area of the Western Cape – the City of Cape Town – has a weight of 79.7 percent within the Western Cape index of owners' equivalent rent.

The bulk of the weight within the national owners' equivalent rent index derives from three provinces: Gauteng (39.5 percent of the weight), the Western Cape (27.9 percent) and KwaZulu-Natal (12.1 percent). Together, these provinces account for just under four-fifths of the national weight, while of the remaining provinces only the Eastern Cape has a weight exceeding five percent of the total. The Northern Cape and Limpopo, at 0.9 percent and 1.4 percent respectively, contribute the least to the national weight.

Table 2: 2008 Weights of Owners' Equivalent Rent for Urban Areas by Province

	Urban Primary 1	Urban Primary 2	Urban Primary 3	Urban Secondary	Total
Western Cape	22.3 <i>79.7</i>			5.7 <i>20.3</i>	28.0 <i>100.0</i>
Eastern Cape	3.5 <i>45.5</i>	2.7 <i>34.3</i>		1.6 <i>20.2</i>	7.8 <i>100.0</i>
Northern Cape	0.3 <i>38.0</i>			0.6 <i>62.0</i>	0.9 <i>100.0</i>
Free State	2.6 <i>60.8</i>			1.7 <i>39.2</i>	4.3 <i>100.0</i>
KwaZulu-Natal	7.4 <i>61.2</i>	1.7 <i>14.1</i>		3.0 <i>24.8</i>	12.1 <i>100.0</i>
North West	1.2 <i>42.2</i>			1.7 <i>57.8</i>	2.9 <i>100.0</i>
Gauteng	7.7 <i>19.5</i>	19.2 <i>48.7</i>	9.3 <i>23.5</i>	3.3 <i>8.3</i>	39.5 <i>100.0</i>
Mpumalanga	1.2 <i>37.3</i>			1.9 <i>62.7</i>	3.1 <i>100.0</i>
Limpopo	0.4 <i>29.4</i>			1.0 <i>70.6</i>	1.4 <i>100.0</i>
Total Country	79.6			20.4	100.0

Note: Figures in italics reflect proportions within provinces.

Table 3: 2008 Weights of Actual Rental for Urban Areas by Province

	Urban Primary 1	Urban Primary 2	Urban Primary 3	Urban Secondary	Total
Western Cape	17.1 <i>79.8</i>			4.3 <i>20.2</i>	21.4 <i>100.0</i>
Eastern Cape	3.0 <i>39.9</i>	1.6 <i>22.2</i>		2.8 <i>37.9</i>	7.4 <i>100.0</i>
Northern Cape	0.2 <i>24.1</i>			0.8 <i>75.9</i>	1.0 <i>100.0</i>
Free State	2.6 <i>64.5</i>			1.4 <i>35.5</i>	4.0 <i>100.0</i>
KwaZulu-Natal	8.1 <i>60.0</i>	1.5 <i>11.4</i>		3.9 <i>28.6</i>	13.5 <i>100.0</i>
North West	6.2 <i>75.5</i>			2.0 <i>24.5</i>	8.2 <i>100.0</i>
Gauteng	10.1 <i>27.2</i>	18.5 <i>49.7</i>	5.9 <i>15.8</i>	2.7 <i>7.3</i>	37.2 <i>100.0</i>
Mpumalanga	1.2 <i>34.3</i>			2.4 <i>65.7</i>	3.6 <i>100.0</i>
Limpopo	0.9 <i>23.7</i>			2.7 <i>76.3</i>	3.6 <i>100.0</i>
Total Country	77.0			23.0	100.0

Note: Figures in italics reflect proportions within provinces.

A similar, although slightly different, pattern is evident in the distribution of the weights within actual rent. The same three provinces account for the bulk of the weight: Gauteng (37.2 percent), the Western Cape (21.4 percent), and KwaZulu-Natal (13.5 percent). However, the Eastern Cape (7.4 percent) is surpassed by the North West Province (8.2 percent). There are also instances of shifts in the intra-provincial weights among urban areas, for example the considerably greater importance of the secondary urban areas (Queenstown, Grahamstown and Umtata) within the Eastern Cape actual rental weights, and of the North West primary urban area (Rustenburg and Klerksdorp) within that province's actual rental weights. Overall, there is less concentration of the weight of actual rentals in the three main provinces than is the case with owners' occupied rent.

Table 4 shows the proportions of population, total expenditure and OER by province for comparison purposes. Gauteng is the province with the highest population, largest share of expenditure and of OER. While KwaZulu-Natal has the second largest provincial population, it has the third largest share of total expenditure and OER. The Western Cape has the fourth largest population but the second highest expenditure and OER proportion.

Table 4: Comparison of Population, total expenditure and OER proportions

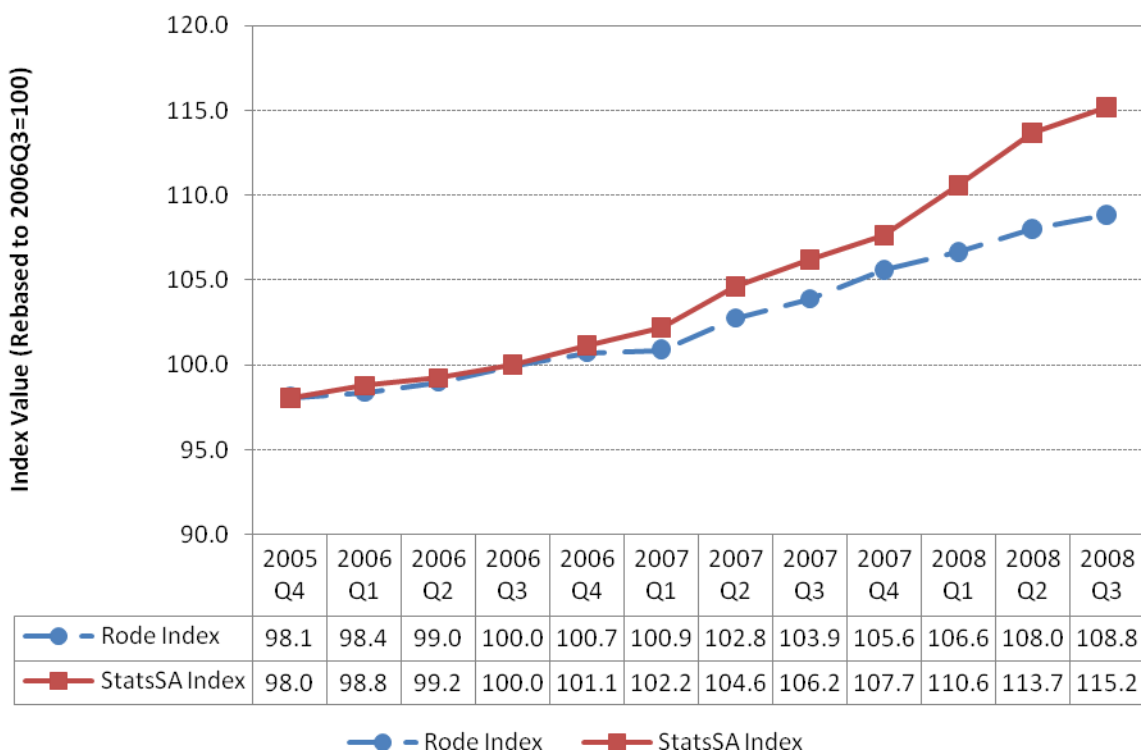
	Proportion of population	Proportion of total expenditure	Proportion of total OER
Western Cape	10.9	18.3	28.0
Eastern Cape	13.5	9.9	7.8
Northern Cape	2.2	1.6	0.9
Free State	5.7	6.5	4.3
KwaZulu-Natal	21.2	14.1	12.1
North West	6.7	5.8	2.9
Gauteng	21.5	32.8	39.5
Mpumalanga	7.5	5.5	3.1
Limpopo	10.8	5.5	1.4
Total Country	100	100	100

Note: Population figures from Community Survey 2007; Expenditure and OER figures from CPI weights

5. Comparison of rental data¹

Figure 1 presents a comparison of the national trends in rentals as measured by the Rode data² (currently incorporated in the official Consumer Price Index as house, flat and townhouse rent) and Statistics South Africa's rental survey, which will be used for both owners' equivalent rent and actual rent in the new CPI. Both indices have been rebased so that the third quarter of 2006 equals 100, since this is the first period in which all provinces have data for their primary urban areas in Statistics South Africa's rental survey.

Figure 1: Comparison of National Trends in Rode and Stats SA Rental Data (Primary areas)³



Over the period, the index based on Statistics South Africa's rental survey (referred to here as the Stats SA Index) rose more rapidly than that based on the Rode data (the Rode Index). In total, rentals as measured by the Stats SA index rose by 15.2 percent between the third quarter of 2006 and the third quarter of 2008, compared to 8.8 percent for the Rode index. Within the overall Stats SA index, house, flat and townhouse rent have also seen very similar rates of increase over the period, with slightly faster growth for flats (see fig 3).

¹ Currently, Stats SA uses data from a rental survey commissioned from Rode and Associates to measure the cost of actual rentals in the CPI. This rental price index is referred to here as the Rode index, while Stats SA's own rental survey is referred to as the Stats SA index.

² The Rode Index uses the current geography and current actual rental weights for historical metropolitan urban areas. The Stats SA Index uses the new geography and the new OER weights for primary urban areas.

³ Indices have been rebased to 2006Q3 = 100.

Differences between the two indices are caused by differences in survey methodology, the weights, geographical definitions and editing procedures that were applied to the Rode data. Because of the high degree of volatility on a micro level within the raw Rode data set, editing procedures were employed to eliminate outliers. The net result of applying these procedures during a time of generally rising rentals was to depress the Rode index over the period in question.

Because the Rode survey has better coverage of the primary urban areas, Figure 1 uses data from the primary areas for both the Rode and Stats SA surveys. Figure 2 shows that the OER values (from Stats SA's survey) in the primary areas are slightly higher during 2008 than those from the primary and secondary areas combined.

Figure 2: OER Indices for Primary and Primary and Secondary Urban Areas, 2006-2008

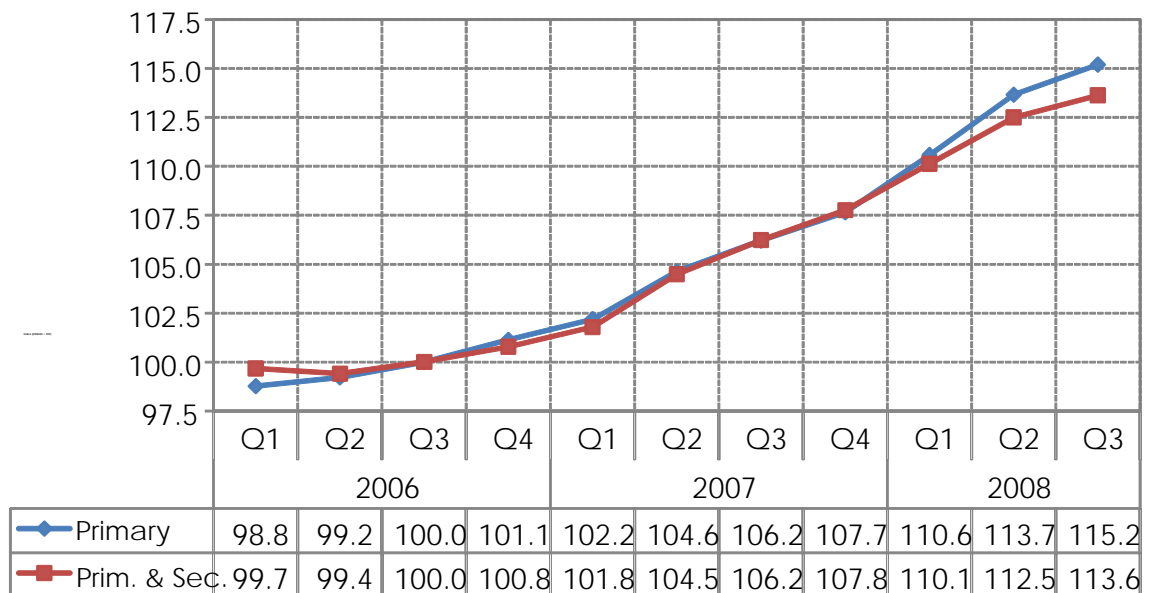
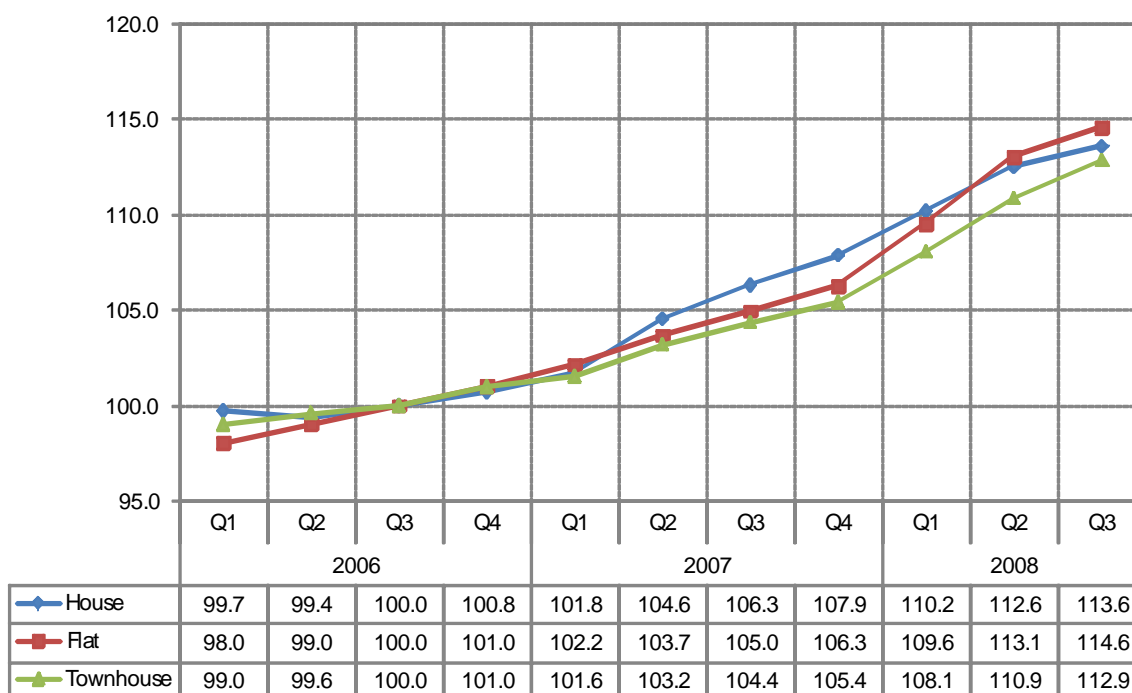


Figure 3: House, Flat and Townhouse OER Indices for Primary and Secondary Urban Areas, 2006-2008



Nationally, house, flat and townhouse rentals followed broadly similar trends over the period. From the third quarter of 2006 until the third quarter of 2008, rentals increased by between 12.9 percent (townhouses) and 14.6 percent (flats). Until the first quarter of 2008, the house rental index exceeded the indices for flats and townhouses, having experienced an acceleration in rental price increases in early 2007. However, between the fourth quarter of 2007 and the second quarter of 2008, flat rentals grew more rapidly than both house and townhouse rentals, despite growth in the latter having also accelerated over the same period.

6. Impact on CPI of including owners' equivalent rent

How might the CPI have moved had owners' equivalent rent been used to measure the cost of owner occupied housing, instead of mortgage costs? To answer this question, we recalculate the CPI with mortgage costs (the interest rate) removed and price trends from the rental survey included with the current mortgage bond weight (10.32 percent).

Figures 4 and 5 present the indices and monthly year-on-year inflation rates of the official CPI and CPIX as published by Statistics South Africa. The inflation rate derived from the recalculated CPI that includes owners' equivalent rent instead of interest on mortgage bonds and another which also includes Stats SA's rental survey for actual rentals are shown. Substituting owners' equivalent rent into the official CPI lowers the rate of inflation by between 0.4 and 1.0 percentage points because OER has lower inflation rates than the all items CPI. This calculation has a small effect on the level of year-on-year inflation. In fact, the CPI with owners' equivalent rent is, for

the most part, almost identical to the pattern of CPIX inflation over the period. The difference when inserting Stats SA's rental indices for the Rode indices is negligible.

Figure 4: Recalculating the CPI with Owners' Equivalent Rent – Index values

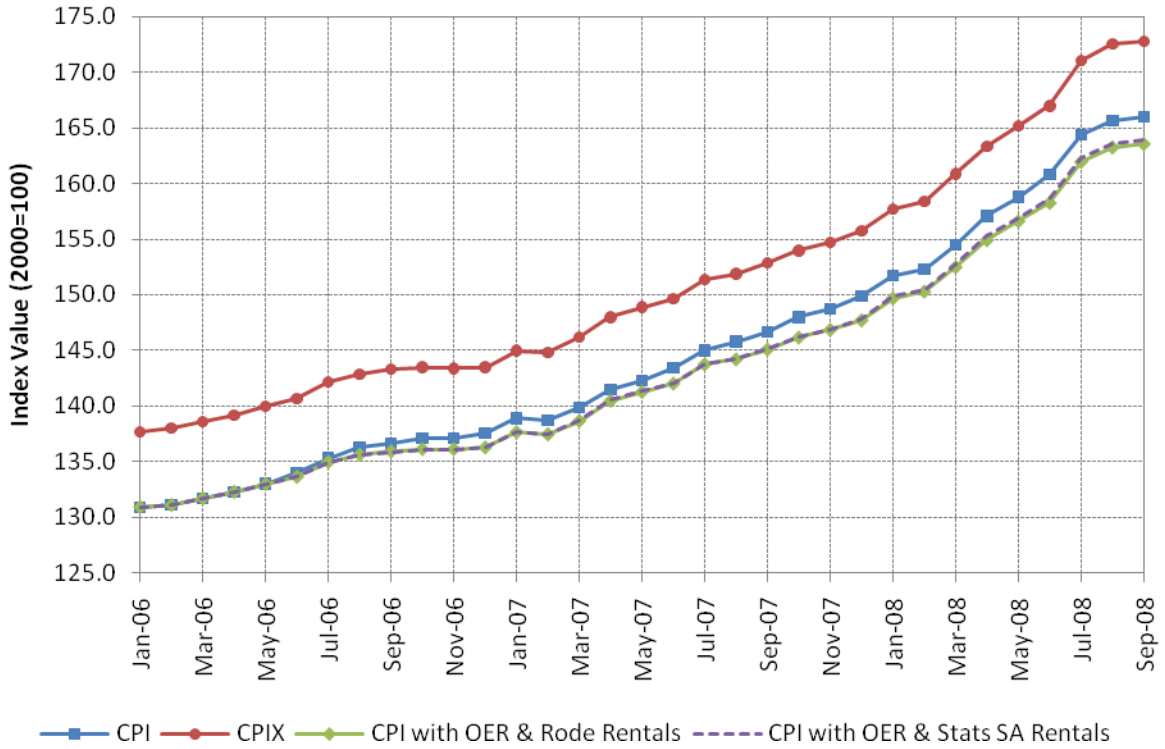
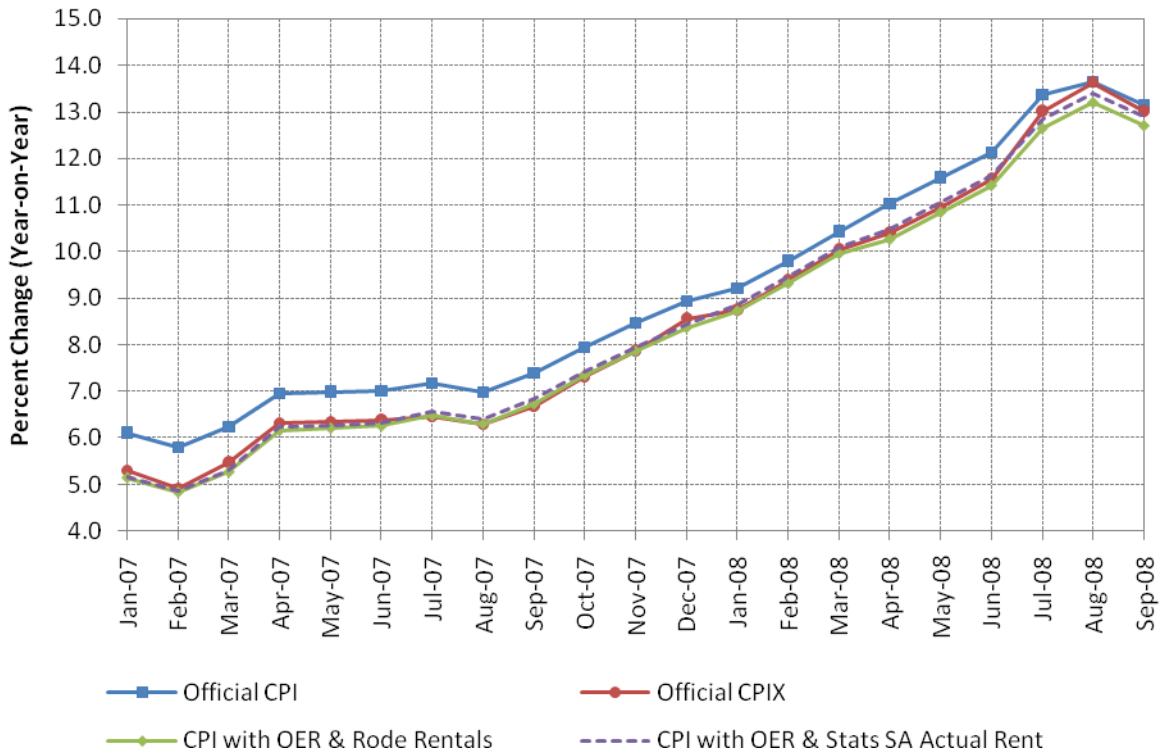


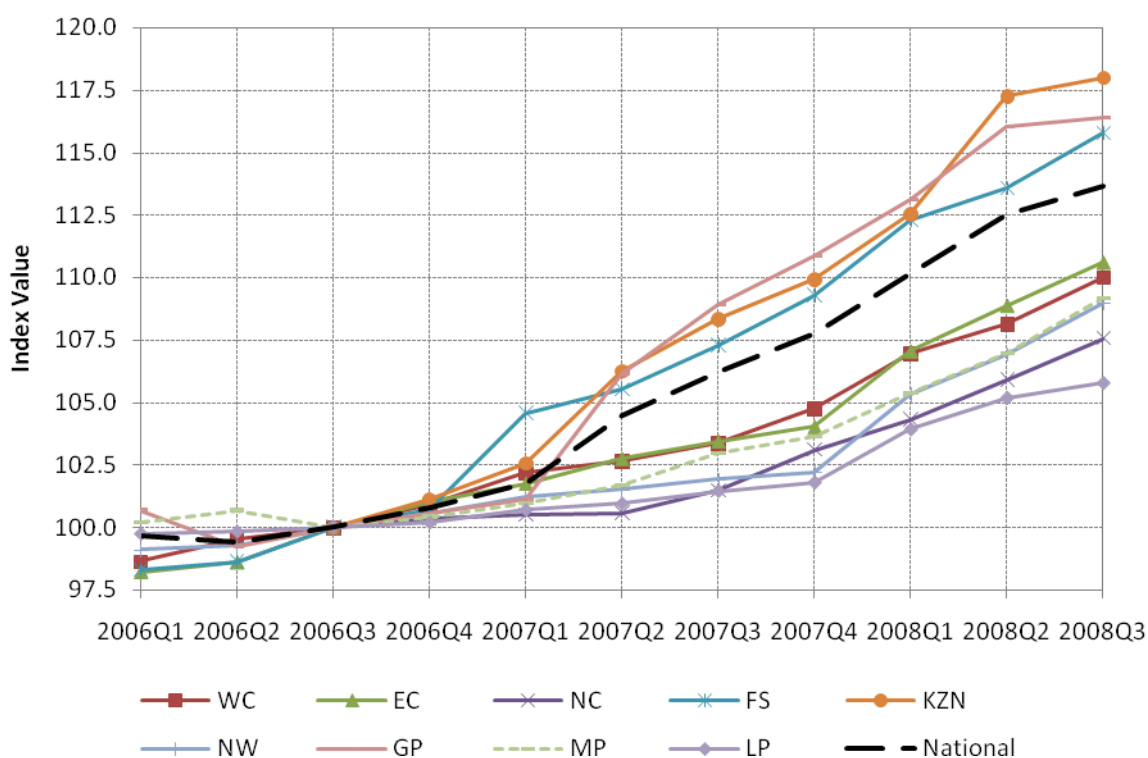
Figure 5: Recalculating the CPI with Owners' Equivalent Rent – Percent changes



7. Provincial trends

The rise in the cost of owner-occupied housing by province from the first quarter of 2006 until the third quarter of 2008 is presented in Figure 6 below. As was the case above with the national indices, the provincial indices are based equal to 100 in the third quarter of 2006 – the first period where all provinces have data. The figure shows that, in all provinces, owners' equivalent rents have increased consistently over the period. OER price trends over the period distinguish between two groups of provinces, based on relative rate of change. Three provinces – KwaZulu-Natal, the Free State and Gauteng – saw relatively rapid increases in OER prices of between 15 percent and 18 percent over the period (between 7.5 percent and nine percent per annum). The remaining six provinces saw OER prices increase at a more sedate pace, ending the period between five percent and 11 percent higher than in 2006Q3.

Figure 6: Owners' equivalent rent Indices by Province, 2006-2008

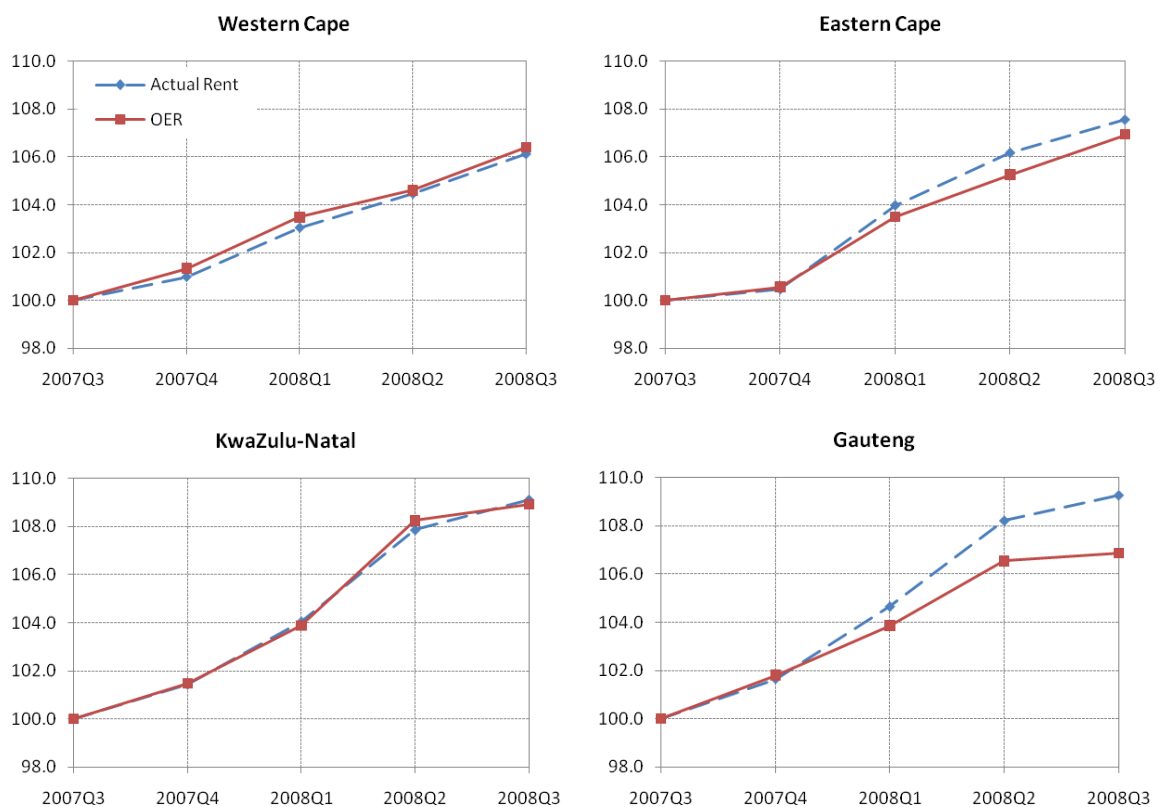


As noted earlier, two provinces account for the bulk of the weight in the national index: Gauteng accounts for 39.5 percent and the Western Cape for 27.9 percent. Together with KwaZulu-Natal, which accounts for 12.1 percent of the national weight, and the Eastern Cape (7.8 percent of the weight), these provinces contribute 77.3 percent to the weight of owner-occupied housing. This section investigates the OER price movements within each of these three provinces, for houses, flats and townhouses. Only the data from the third quarter of 2007 to the third quarter of 2008 are included, since this is the longest period over which all urban areas have sufficient price data.

In section three it was pointed out that the difference in trends between the OER series and the actual rental series would be entirely accounted for by the differences in weights. The price data underlying the two indices are identical. Section four discussed the weights in some detail. Figure 7 presents the owners' equivalent rent and actual rental indices for the four provinces mentioned earlier. This provides an illustration of the impact that the different weights can have.

For the Western Cape and KwaZulu-Natal, the two indices have remained close to each other in value, using the third quarter of 2007 as the base period. This is also true to a certain extent of the Eastern Cape. However, the Gauteng indices are different: during the course of 2008, a gap is opened between actual rent and owners' equivalent rent, with the former ending the period more than two points higher than the latter. This is because flats increased at higher rate than houses in certain areas of Gauteng and flats have a higher weight in the actual rentals index compared to houses which have a higher weight in the OER index

Figure 7: Provincial OER and Actual Rental Indices



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