

Survey results of inflation expectations and inflation credibility in South Africa: Are the results comparable?

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Abstract

Inflation expectation surveys among South African individuals have been undertaken on a quarterly basis since 2000. Domestic inflation credibility surveys among a similar sample have commenced in 2006 and have since been undertaken on a bi-ennial basis, with the last survey undertaken in the fourth quarter of 2010. By comparing the results of domestic inflation expectations surveys and inflation credibility surveys undertaken since 2006, this paper tests for possible feed-through between inflation credibility and inflation expectations. It supplements earlier research that focused only on the 2006 and 2008 survey results.

With the completion of the third bi-ennial inflation credibility survey, more data sets are available for purposes of comparison. The questions on inflation credibility were also expanded in the third survey. Although this provides for a broader basis of analysis between inflation credibility surveys and inflation expectations surveys, further periodic inflation credibility survey data will be required before final conclusions on the possibility of feed-through effects can be drawn. A related problem is the persistent a large percentage of respondents indicating that they “don’t know” whether the historic rate of inflation is an accurate indication of price increases, despite the use of more questions. It is necessary to analyse the structures of the inflation credibility surveys and the inflation expectations surveys in more detail to ascertain why a similar incidence of “don’t know” responses is not recorded by the inflation expectation surveys.

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A number of earlier papers compared the results of South African inflation expectation and inflation credibility surveys (see Rossouw *et al.*, 2009; Rossouw *et al.*, 2010; Rossouw *et al.*, 2011). This research accounts for a very specific subset of a larger body of research on South African inflation dating back to at least 1949 (see Du Plessis, 2011 for an analysis of research on South African inflation since 1949).

Inflation expectation surveys among a representative sample of South African individuals have been undertaken on a quarterly basis since 2000 (Kershoff, 2000). Domestic inflation credibility surveys among a similar sample have commenced in 2006 (see Rossouw, 2008) and has since been undertaken on a bi-ennial basis, with the last survey undertaken in the fourth quarter of 2010. By comparing the results of the inflation expectations surveys and inflation credibility surveys undertaken since 2006, this paper tests a hypothesis of possible feed-through between inflation credibility and inflation expectations.

Although the survey results are called “household” sample data, it transpires on closer inspection that the samples cover individual views. As interviews are conducted with individual members of sampled households, the responses to the questions cannot in any way be taken as representative of a view of more (or other) members in the household where the sample had been drawn from. This is true not only in South Africa, but in all countries conducting these types of surveys. These surveys and sample results are therefore described as inflation expectations and inflation credibility among individual respondents, rather than as *household* inflation expectation and *household* inflation credibility surveys; the normal way in which they are reported.

In the analysis a distinction is drawn between inflation expectations and inflation credibility. *Inflation expectations* report expected future changes in price levels and therefore, in inflation (i.e., the rate of change in the price level over time). To the contrary, *inflation credibility* is used to describe backward-looking views on past price-level movements and historic inflation.⁴

⁴ *Inflation credibility* is sometimes used in literature to describe the credibility of monetary policy actions of central banks (see for instance Mishkin, 2004), but it is not used in this context in this paper.

This paper is organised as follows: Section 2 summarises literature on inflation expectations and inflation credibility among individuals in inflation-targeting countries. Section 3 considers the results of similar South African surveys. The survey results are analysed in Section 4. The conclusions follow in Section 5.

2 Summary of literature on inflation expectations and inflation credibility⁵

Owing to the overall length of this paper, this section summarises available literature on the sampling of inflation expectations and inflation credibility among individual respondents in inflation-targeting countries. For a more complete literature survey, Kershof, 2000; Rossouw, 2008; Rossouw *et al.*, 2009; Rossouw *et al.*, 2010; and Rossouw *et al.*, 2011 can be consulted.

The literature shows that central banks pay considerable attention to inflation expectations (see for instance Berk, 1999; Banco Central de Chile, 2008; Forsells and Kenny, 2002; Mankiw, *et al.*, 2003; Powers, 2005; SA Reserve Bank, 2008; Samuels 1967; or Sveriges Riksbank, 2008). However, the measurement of such expectations differ considerably and different combinations of methodology are employed in inflation-targeting countries (see Rossouw *et al.*, 2009 for a complete analysis).

The main purpose of inflation expectation surveys is to ascertain whether the level of expected inflation remains anchored in the current (historical) rate of inflation. Inflation expectations are reported in considerable detail in the monetary policy (inflation) reports of central banks in countries targeting inflation (see for instance Bank of Iceland, 2003; Bank of International Settlements, 2008; Blinder and Wyplosz, 2005; Blinder *et al.*, 2008; Ehrmann and Fratzscher, 2005; Fracasso *et al.*, 2003; or Leeper, 2003) and receives considerable attention in their policy deliberations. Inflation-targeting countries assess expected inflation by using one or more of (see Rossouw *et al.*, 2009):

- surveys of inflation expectations from groups of respondents (e.g., business people, trade unionists and individual respondents);
- interest rate differentials different classes of traded financial assets (e.g., conventional and inflation-linked bonds); and

⁵ This section draws, *inter alia* on Rossouw (2008), and Rossouw *et al.* (2011).

- inflation forecasts of financial market analysis.

To the contrary, the credibility of inflation figures receives little attention in inflation-targeting countries. Periodic inflation credibility surveys are undertaken by or on behalf of central banks only in New Zealand and Sweden (Brachinger, 2005; Jonung, 1981; Palmqvist and Stromberg, 2004; and Reserve Bank of New Zealand, [S.a.]). South Africa is the only other inflation-targeting country where representative inflation credibility surveys have been undertaken. In the latter instance (as is explained in the next section) such independent bi-ennial surveys have been undertaken on three occasions: 2006, 2008 and 2010. The South African surveys confirmed the international experience of differences in the credibility of inflation figures between male and female respondents.

3 Inflation expectation and inflation credibility surveys among individual respondents in South Africa⁶

Quarterly inflation expectation surveys are conducted by the Bureau for Economic Research (BER) on behalf of the SA Reserve Bank (the Bank) (Kershoff, 2000). These survey results are published by the BER, but are not reported in the Bank's bi-annual *Monetary Policy Review* (see for instance SA Reserve Bank, 2011). Owing to cost considerations the BER uses AC Nielsen market researchers to survey the inflation expectations of individuals. By means of face-to-face interviews AC Nielsen samples 2 500 individual respondents. Their interviews cover Black and White respondents in metropolitan areas, cities, towns and villages, and Asian and Coloured respondents in metropolitan areas⁷.

Bi-ennial inflation credibility surveys among individuals in South African have been undertaken three times since 2006. Owing to cost considerations and to ensure a representative sample of individual responses. Ipsos-Markinor (known as Markinor at the time of the research undertaken in 2006) is used for the for the bi-ennial surveys. Their surveys on average cover 3 500 respondents, which is a larger sample than AC Nielson's, and results can be disaggregated in terms of gender, income, employment status, etc. The

⁶ This section draws on Rossouw *et al.*, 2011.

⁷ This paper uses the same terminology, classifications and descriptions for population groups as Statistics South Africa (Statistics SA, 2005).

surveys are subject to a 20-per-cent back-check to validate the results. After the back-check the actual number of respondents in the first survey was reduced to 3 493 (Markinor, 2006) and to 3 481 in the second survey (Ipsos-Markinor, 2008). The third survey actually covered more than 3 500 respondents (Ipsos-Markinor 2010), in as much as 3 558 responses were included in the survey results.

It was not possible to ascertain from the survey results of the first two surveys whether respondents answering “no” to the question whether they regarded the historic rate of inflation as accurate perceived higher or lower historic inflation. A large number of respondents also answered that they “don’t know” whether it was accurate. The design of questions used in the third survey in 2010 therefore differed considerably from the design of the first two surveys in an attempt to overcome these difficulties.

In this instance the sampled population was divided into two groups and different questions were put to the respondents. This was possible because a survey sample of 3 500 respondents is sufficiently large to ensure that only half the sampling population (1 750 respondents) will provide sufficiently representative responses. One half of the sample (1 785 respondents) was asked to respond to the question “South Africa’s official rate of inflation was 3,5 per cent in August 2010. Do you think this is a true reflection of average price increases?”. As a follow-up, those respondents who answered “no”, were asked to “If no, by how much do you think prices have changed in per cent?”. The other half of the sample (1 773 respondents) was asked to respond to the question “South Africa’s prices increased by 3,5 per cent over the past year between August 2009 and August 2010. By how much do you personally think prices have changed in per cent?” (Ipsos-Markinor 2010).

In the inflation expectations survey respondents are asked to respond to “over the past five years prices increased on average by x% per year. Last year prices increased by x%. By about how much do you expect prices in general to increase in 20xx (the next year)?” In the presentation of the average survey results the views of respondents who stated that they “don’t know” what the rate of inflation will be, and the views of respondents expecting inflation to be above 25 per cent per annum are excluded. The survey results of the overall and sub-samples for the fourth quarters of 2006, 2008 and 2010, which

correspond with the periods of the bi-ennial inflation credibility surveys, are highlighted in Tables 1, and 2).

Table 1: Summary of historic inflation credibility question

2006	2008	2010
South Africa's official rate of inflation, called the CPI, was 5,4% (five point four percent) in August 2006. Do you think this is a true reflection of average price increases?	South Africa's official rate of inflation, called the CPI/Consumer price index, was 13,7 per cent in August 2008. Do you think this is a true reflection of average price increases?	South Africa's official rate of inflation was 3,5 per cent in August 2010. Do you think this is a true reflection of average price increases?
Yes No Don't know	Yes No Do not know	Yes No Don't know
		If no, by how much do you think prices have changed in per cent?
		South Africa's prices increased by 3,5 per cent over the past year between August 2009 and August 2010. By how much do you personally think prices have changed in per cent?

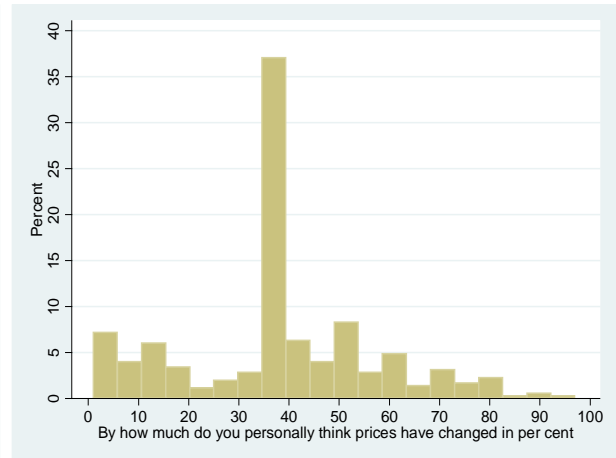
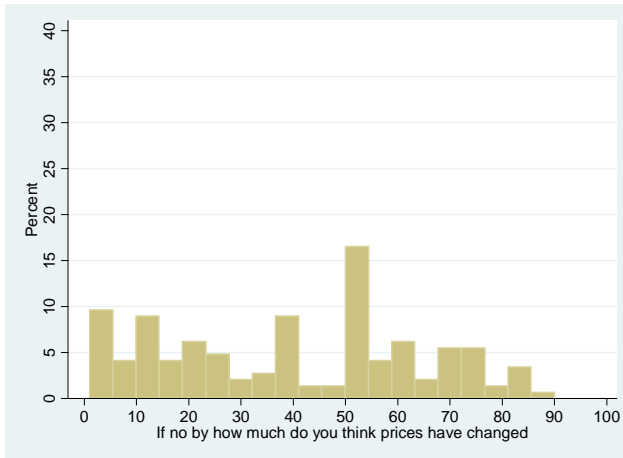
Figure 1: Summary of inflation credibility outcome and the inflation rate



The results of the survey showed that during 2006, around 18,5 per cent accepted the inflation rate as accurate, while in 2008 and 2010, these percentages were 15,2 and 25,3 per cent, respectively. It is also worth noting that high acceptance rates prevailed during periods when the reference year-on-year inflation rate was within the target range, while a smaller percentage accepted the inflation rate as accurate during a period when the reference inflation rate registered at double-digit levels. This might suggest that respondents experience prices to be much higher in environments where actual inflation is high and therefore to not see the high inflation rate as accurate.

The aim of the two questions in the 2010 survey was *inter alia*, to test whether respondents respond differently when the terminology “inflation rate” and “price changes” were used. This focussed on the question whether respondents understood the term “price changes” better than “inflation rate”. The results, however, were very similar in terms of the number of “don’t knows”. When the term *inflation rate* was used, around 62,5 per cent of respondents said that they “don’t know” whether the inflation rate accurately reflects historic price increases. When asked what they believe prices changes to have been over the past year, around 75 per cent of respondents indicated that they “don’t know”. The higher rate of respondents who said “don’t know” in the second question, could however, to some extent be attributed to the difference in the formulation of the two questions, as the first question provided for categorical answers, followed by a percentage response, while the second question directly asked for a percentage response, and then provided for a “don’t know” option.

Figure 2: Distribution of responses for the follow-up and spontaneous question in 2010 credibility



Distribution of responses for follow-up questions if the inflation rate is not believed to be accurate. Only response smaller than 100 per cent was considered to adjust for very large outliers.

Distribution of responses for the spontaneous question.

More respondents reported a perception of a lower inflation rate in the spontaneous question than those who were asked what they thought the inflation rate was if they did not believe it to be credible (see Figure 2). Around 70 per cent of respondents in the spontaneous question believed the inflation rate to be less than 40 per cent, while only around 50 per cent of respondents in the follow-up question (when they responded that they did not accept the inflation rate as accurate) responded that they think the inflation rate was less than 40 per cent. In both instances, most respondents (after implementing a cut-off of 100 per cent) believed prices/inflation to have increased by between 35 per cent and 55 per cent.

4 Comparison and analysis of inflation expectation and inflation credibility surveys

4.1 Comparison of survey results

In 2006, a larger number and percentage of male respondents, compared to female respondents, accepted the credibility of historic inflation figures, although, male and female respondents recorded the same inflation expectations in 2006 (see Table 2 – 4). The inflation credibility survey conducted in 2008 also shows that male respondents attach higher credibility to historic inflation figures than female respondents. In this instance the

higher credibility feeds into lower inflation expectations as is evidenced by the survey results. Females expected inflation at a level of 9,2 per cent, while male respondents expected inflation at a level of 8,9 per cent. During the 2010 the percentage of male and female respondents who accepted the historic inflation figures as accurate were more or less the same (see Tables 5 – 9). Similarly, there were no difference in the expectations of both these groups.

Consistently over all three surveys, the share of respondents accepting as accurate the historic rate of inflation was higher for higher income earners. Similarly, the largest share of those in the two lowest income groups responded that they “don’t know” whether the inflation rate accurately reflects historic price increases.

There is no specific trend noted in inflation expectations according to monthly income. In 2006 respondents in the Western Cape, the Free State and Gauteng had the highest inflation expectations, while in 2008, respondents in the North West/Northern Cape, Mpumalanga/Limpopo and the Free State had the highest inflation expectations. During the 2010 round of inflation expectations, respondents in the Western Cape, Free State and Mpumalanga/Limpopo had the highest inflation expectations.

When considering respondents’ education levels, of those with no schooling and some schooling, between 60 and 80 per cent of respondents reported that they “don’t know”, while of those who had higher educational attainment, around 30 per cent reported that they “don’t know” in 2006, 40 per cent in 2008 and 45 per cent in 2010. Overall, more respondents with a higher education level reported that they accept historic inflation as accurate. It should be noted that domestic inflation was higher in 2008 than in 2006 and 2010. In terms of a comparison of the responses from these three surveys, it transpires that the acceptance of historic inflation figures as accurate is lower in a high-inflation environment than in a low-inflation environment.

4.2 Determinants of inflation expectations and inflation credibility

Logistic regression results for inflation expectations and inflation credibility are reported in Table 10 and Table 11, respectively. The model for inflation expectations controls for population group, gender, provinces, income groups and age. The dependent variable was

coded 1 for inflation expectations between 26 per cent and 100 per cent, and 0 for inflation expectations lower or equal to 25 per cent. The categorical variables are Black males between the ages of 25 and 34 living in the Western Cape, and who earned an income higher than R8 000⁸ per month. Based on the z-statistics, the results can be interpreted as follows:

- Compared to Black respondents, Asians were more likely to expect an inflation rate of between 25 per cent and 100 per cent in 2006, while White respondents were less likely. In 2008, however, Asians were less likely, compared to Black respondents, to expect an inflation rate of between 25 per cent and 100 per cent. In 2010, whites, coloureds and Asians were all less likely to expect an inflation rate of between 25 per cent and 100 per cent, compared to Africans.
- In 2006, compared to the Western Cape, respondents in Gauteng were more likely to expect a rate of inflation between 25 per cent and 100 per cent. In 2008, respondents in Eastern Cape were less likely to expect a rate of inflation between 25 per cent and 100 per cent, while respondents in KwaZulu-Natal and the North West/Northern Cape were more likely to expect inflation between 25 and 100 per cent, compared to the Western Cape. In 2010, compared to the Western Cape, all provinces, except for Gauteng, were less likely to expect a rate of inflation between 25 per cent and 100 per cent.
- Those respondents who were in the lowest and second-lowest income categories were more likely to expect inflation between 25 and 100 per cent in 2006, 2008 and 2010.

The logistic regression model for inflation credibility included explanatory variables: population group, gender, province, income, age and education. The reference group is Black males between the ages of 25 and 34, with no schooling, living in the Western Cape, and who earned more than R8 000 per month. The results are interpreted as follows:

- In 2006, Whites were less likely to accept the inflation rate as accurate, compared to Black respondents, while Coloureds were more likely to accept the inflation rate as accurate, compared to Black respondents. In 2010, coloureds were less likely to accept the inflation rate as accurate, compared to Blacks.
- Females were less likely to accept inflation as accurate compared to males in both 2006 and 2008. In 2010, however, there was no statistical significant difference between male and female respondents.

⁸ During the 2010 survey, the income groups were adjusted, but it can still be conclusive in terms of higher income groups.

- In 2006, 2008 and 2010, respondents in the Eastern Cape were significantly less likely to accept inflation as accurate, compared to those in the Western Cape. In 2008, respondents in the Northern Cape, KwaZulu-Natal, Mpumalanga and Limpopo were also significantly less likely to accept the inflation rate as accurate. In 2010, respondents in all provinces, except for KwaZulu-Natal, were less likely, compared to those in the Western Cape to accept the inflation rate as accurate.
- In both 2006 and 2008, those with some schooling, matric, an artisan/technikon/technical qualification, as well as those with a university degree/professional, were more likely to accept the inflation rate as accurate compared to those with no schooling. In 2010, there were no significant difference between education levels and the acceptance of the historic inflation rate as accurate.
- In 2006 and 2010, respondents older than 50 years were less likely to accept the inflation rate as accurate. In 2008, however, those between 16 and 24 were more likely to accept the inflation rate as accurate.
- In all three surveys, those in the lowest income category were less likely to accept the inflation rate as accurate. In 2010, those in the second lowest income category were also less likely to accept the historic inflation rate as accurate, compared to the highest income category.

4.3 Multinomial analysis⁹

The different outcomes of surveys can be compared between 2006, 2008 and 2010. In respect of the inflation expectations surveys, the aim is to test whether there is a significant difference between the characteristics of those who expect inflation to be below or equal to 25 per cent, those who expect inflation to be above 25 per cent and those who responded that they “don’t know”, as surveyed by the BER. Similarly, for the inflation credibility survey, it is possible to determine whether there are differences in the underlying characteristics of those who believe that the current inflation rate is accurate, those who do not believe that the current inflation rate is accurate and those who responded that they “don’t know”, between the three surveys. Furthermore, it can also be tested whether the same characteristics which impact on inflation expectations, impact on

⁹ See Rossouw *et al.* (2009) for a description of the model.

inflation credibility. This might enable the identification of a possible feed-through effect from inflation credibility to inflation expectations.

A multinomial logit model was estimated for the inflation expectations and inflation credibility surveys for 2006, 2008 and 2010. The multinomial logit model builds on a binary-choice model (Lancaster, 2004). For the inflation expectations survey, the reference group was those who expect inflation to be below or equal to 25 per cent. For the inflation credibility survey, the reference group was those who believe that the current inflation rate is accurate.

The coefficients are estimated by maximum likelihood, and the relative risk ratio (RRR) is reported in Table 12 and Table 13. The same independent variables and benchmark categories were used for both the inflation expectations and inflation credibility surveys.

The explanatory variables aim to determine a set of characteristics that could determine how individuals see inflation. The results from the 2010 inflation expectations survey can be compared to the 2008 and 2006 results as calculated by Rossouw *et al.* (2009 and 2010). The variables included in the multinomial analysis were the following:

- Gender (reference = male)
- Population group (reference = Asians)
- Age, with respondents divided into age groups (16–24), (35–39) and (50+). The benchmark category is (25–34)¹⁰.
- Income groups¹¹ were divided into (R1-R799), (R800–R3 999), (R4 000–R7 999), and the reference category (R8 000+).
- In terms of spatial distribution, respondents from the North West and the Northern Cape provinces are grouped together, as well as those from Mpumalanga and Limpopo, as the original survey data was grouped in this way. Western Cape was set as the benchmark category. For the inflation credibility survey, the provinces were not grouped together, but coded 1 to 8 and the benchmark province (Western Cape) was coded 0.

¹⁰ The benchmark category is automatically selected by the software package.

¹¹ During the 2006 inflation expectations survey, the category was grouped R1-R899, which could have resulted in a higher proportion of respondents being grouped in the lowest income group, that actually belonged to the second-lowest income group. During the 2010 survey, the income categories were again adjusted, but it is still possible to make inference on higher income levels compared to lower income levels.

- Information regarding education was available for respondents in the inflation credibility survey, and was included in the credibility model. Education includes those with some schooling, matric, an artisan/technicon/technical qualification and those with a university degree/Professional (reference = no schooling).

Clarity about the inflation expectations of different groups and their perceptions about the credibility of historic inflation data can assist central banks in targeting more accurately their communication initiatives. The analysis in the paper can serve as an early warning about groups with overly high inflation expectations or incorrect perceptions of historic inflation rates that might lead to wage demands exceeding the rate of inflation (see for instance Forsells and Kenny, 2002, on such a link).

For both the inflation expectations and the inflation credibility surveys conducted in 2006, 2008 and 2010 the model show a goodness of fit that is significantly different from zero. For the inflation expectations model, the Pseudo R^2 in 2006 was 0,0467, in 2008 was 0,0593 and in 2010, 0,0773. The Pseudo R^2 for the inflation credibility model was 0,1035 in 2006, 0,097 in 2008 and 0,0971 in 2010. As in binomial logistic models, the Pseudo R^2 will more than likely fall between 0 and 0,333 (Pindyck and Rubinfeld, 1981).

4.4 Results

4.4.1 Expectations model

The relative risk ratios (RRR) for the inflation expectations model for 2006, 2008 and 2010, were analysed at the 90 per cent confidence interval and presented in Table 12 for the multinomial logit model for 2006, 2008 and 2010.

First, this analysis compares the results for the three surveys by establishing what percentage of which population group thinks that the expected inflation rate is higher than 25 per cent, as opposed to less than 25 per cent. The output presented in Table 12 suggests that the odds were less for Whites than for Blacks in both 2006 and 2010. In 2008, however, there was no significant difference between Whites and Blacks. In 2006 the odds were higher for Asians perceiving the inflation rate to be higher than 25 per cent, compared to Blacks. However, during the 2008 survey round, the odds were 78,2 [i.e.

100(1-0,365)] per cent less for Asians than for Blacks in this regard, and in 2010 the odds for coloureds were 63,5 per cent less compared to blacks.

In 2006, 2008 and 2010 there was no significant difference between the inflation expectations of males and females, although mean inflation expectations for females were higher than for males in 2008, and the same in 2006 and 2010.

Similar to gender, in 2006, 2008 and 2010 age did not significantly influence respondents' decisions in terms of expected inflation.

In terms of the income variable, in 2006 the odds of perceiving the inflation rate to be higher than 25 per cent increased by 197,8 and 258,9 respectively, for those who earned in the bottom two income brackets, compared to those who earned in the highest income bracket. A similar result was obtained during 2008, although the increase in the odds was slightly less for both survey periods.

The odds of expecting an inflation rate above 25 per cent for respondents in Gauteng increased by 126, compared to those in the Western Cape. In 2008, however, the odds were higher for KwaZulu-Natal and North West/Northern Cape to expect inflation above 25 per cent, compared to the Western Cape. In 2008, the odds of expecting inflation above 25 per cent decreased by 86 for those in the Eastern Cape. In 2010, the odds were lower for all provinces, apart from Gauteng, compared to those in the Western Cape.

Second, this analysis attempts to draw a comparison between 2006 and 2008 in terms of what percentage of which population group "did not know" what they expected the inflation rate to be, over those who expected an inflation rate lower than 25 per cent. The odds for Whites was 42,7 per cent less in this regard, compared to Blacks in 2006, and 30 per cent less in 2010. In 2008, there was no significant difference between Whites and Blacks. Furthermore, the odds in 2006 were 60,4 per cent higher for respondents in the age group 35–49 than for those in the age group 25–34. Moreover, the odds increased by 44,7 per cent for people older than 50 years, in comparison with those in the age group 25–34. In 2008, different age groups had no significant impact on inflation expectations. In 2010, however, the odds were slightly less for those older than 50 years to "not know" compared to those who expected an average inflation rate of below 25 per cent, and compared to

the benchmark category, 25–34. No significant difference between inflation expectations was found between male and female respondents in 2006 and 2008. However, during 2010, the odds were 24 per cent more for females in this regards than for males.

When considering the income variable, in 2006, 2008 and 2010 the odds were more by 71,6; 157 and 101 per cent respectively that the lowest income groups “did not know” what they expected the inflation rate to be, as opposed to those who thought that the expected inflation rate was lower than 25 per cent. Similarly, in all three surveys periods, the odds were significantly higher that respondents in the second lowest income group “did not know”, compared to those in the highest income group. In 2008 the odds were also significantly higher for respondents in the income group R4 000 to R7 999 to indicate that they “did not know” at which level to pitch inflation.

The odds were higher by 50,5 for respondents in the Free State to respond that they “did not know” what they expected the inflation rate to be, as opposed to those who thought that the expected inflation rate was lower than 25 per cent. The odds were around 37,4 less for respondents in Gauteng in 2008. In 2010, the odds were less for all provinces, compared to the Western Cape.

4.4.2 Credibility model

Table 13 shows the results of an inflation credibility multinomial logit regression model for 2006, 2008 and 2010. The RRR were calculated for the two outcomes of the inflation credibility surveys for 2006, 2008 and 2010 and evaluated at the 90 per cent confidence interval.

First, this analysis sets out to determine what percentage of which gender group did not accept the inflation rate as accurate, in comparison with those who did accept it as accurate. The odds in this respect in 2006 were 30,1 per cent higher for females than for males, while in 2010, these odds were even higher at 73 per cent. In 2008, however, there was no significant difference between male and female respondents. In 2006 and 2010 the coefficient for the age group 16–24 was not significant; however, in 2008 the odds were 31,3 per cent lower for this group. In 2006, the odds increased by 33,3 for Coloureds to not accept the inflation rate as accurate, compared to Blacks. In 2008, the

odds increased even more, by 113,2 per cent for Coloureds not to accept the inflation rate as accurate, compared to Blacks. These odds increased even more in 2010 to 145 per cent. In 2008, the odds were also 80,4 per cent higher for Asians to not accept the inflation rate as accurate, *ceteris paribus*, and compared to the benchmark category, Blacks. This odds ratio in 2010 increased to 436,9 per cent.

In 2006, the odds were significantly less for those with any type of education to not accept the inflation rate as accurate, compared to those with no education. In 2010, the odds for those with matric, or an artisan/technicon or technical qualification were higher to accept the inflation rate as accurate, compared to those with no education. In 2008, none of the education coefficients were found to be significant.

In 2008, the odds decreased by 50,1 per cent for respondents in the Free State to not accept the inflation rate as accurate, compared to those in the Western Cape. In the same period, the odds were higher for KwaZulu-Natal (58,7 per cent), Mpumalanga (275,7 per cent) and Limpopo (317,9 per cent) to not accept the inflation rate as accurate. In the 2010 survey round, the odds were higher in the Eastern Cape, KwaZulu-Natal, Gauteng and North West province to not accept the inflation rate as accurate, compared to those in the Western Cape.

During 2010, the odds were 154,9 per cent higher for the lowest income category to not accept the inflation rate as accurate, compared to those in the highest income category.

Second, this analysis attempts to determine the difference between the 2006, 2008 and 2010 survey results in terms of what percentage of which gender group “did not know” whether they accepted the inflation rate as accurate or not, compared to those who did accept it as accurate. The results show that in 2006 and 2008 the odds increased by 101,2 per cent and 35,3 per cent, respectively, for female participants, as compared to males in this regard, whereas in 2010 there were no significant difference in this regard. The output further shows that the odds decreased by 72,5 per cent for Whites to “not know”, as opposed to Blacks in 2006. In 2008 the odds decreased by 43,1 for this group, compared to the reference group, and in 2010 the odds decreased by 47 per cent. On the other hand the odds in 2006 were 43,3 per cent more for Asians, than for Blacks to “not know”. In 2008, the coefficient for Asians was not significant. In 2006 and 2010, the odds

for Coloured respondents to “not know” was also lower with 44,4 per cent and 64 per cent, respectively, compared to Blacks. This coefficient was, however, not significant in 2008.

This analysis also show that the odds to “not know” in 2006 and 2010 increased by 32,4 per cent and 44 per cent, respectively, for participants older than 50 years, compared to those between 25–34 years. In 2008, there was no significant difference between those older than 50 years and those 25–34. In 2008, however, the odds decreased in this respect for those between 16–24 by 40,0 per cent, compared to the benchmark category 25–34, while in 2010 the odds were higher by 82 per cent for the same group.

In both 2006 and 2008, the odds were significantly less for those with any type of education to respond that they “did not know”, as opposed to accepting the inflation rate as accurate, compared to those with no education. In 2010, there was no significant difference between education levels.

In 2006, the odds were higher that respondents in the Eastern Cape (145,4 per cent), KwaZulu-Natal (53,6 per cent), Limpopo (94,4 per cent) and the North West (78,5 per cent), would respond that they “did not know” if they accepted the current rate of inflation as accurate, compared to those in the Western Cape. In 2008, however, compared to the Western Cape, all provinces showed significant increases in the odds of “not knowing” if they accepted the inflation rate as accurate, except for the North West. Similarly, in 2010, the odds were higher for all provinces to “not know”, except for KwaZulu-Natal and the Free State, compared to those in the Western Cape.

Furthermore, the odds that respondents “did not know” decreased by 26,5 and 27,5 respectively, for those who earned between R800-R3 999 and R4 000-R7 999. In 2008, the odds in this regards were significantly lower for all income groups, *ceteris paribus*. However, in 2010, the odds were significantly higher for the lowest two income groups to “not know”, compared to the highest income group.

By including a third round of survey results, it is clear that some patterns are emerging in the results, which could be indicative of the underlying characteristics of inflation credibility and inflation expectations. This approach highlights differences in perceptions between sub-categories of respondents, as well as changes in perceptions between different

survey periods. The results show that in 2006 and 2010, when the average inflation rate was 5,4 per cent, more respondents seemed to believe that the inflation rate is accurate, whereas in 2008, when the average inflation rate was 13,7 per cent, a smaller percentage of respondents accepted the inflation rate as accurate.

5 Conclusions

The main conclusion in terms of inflation expectations is a finding that such expectations differ between different income groups. Although some results were not robust between 2006 and 2008, the difference between income groups was consistent over this period.

In terms of inflation credibility, credibility differed between male and female respondents, although this did not seem to feed through to higher inflation expectations. This could partly be explained by the high percentage of respondents who “did not know” what they expected the inflation rate to be.

Income significantly affected inflation credibility, and also had a feed through effect to higher inflation expectations. Education also has an impact on whether respondents perceive the inflation rate as credible, although due to data limitations, the feed through effect to inflation expectations could not be determined.

The statement and question used in the inflation credibility surveys were amended to ensure a better alignment with the statement and question used in inflation expectation surveys. The reformulation showed that respondents thought prices increased at a rate higher than the historic rate of inflation.

It is striking that the acceptance of historic inflation figures as accurate is low in a low-inflation environment. This seems to indicate that respondents confuse price levels and price increases (i.e. inflation). Greater clarity will only emerge after similar biennial surveys have been conducted over a number of high and low inflation cycles. This is an area for further research, as it might have implications for inflation targeting as a policy regime.

Table 2: Average of responses about inflation expectations according to age, gender, population group and the total, 4th quarter 2006 and 2008

	Average expected rate of inflation			% > 25% (% respondents)			% don't know (% respondents)		
	2006	2008	2010	2006	2008	2010	2006	2008	2010
Age									
16 – 24	4,7	9,1	7,9	5,7	4,7	7,0	17,8	20,7	18,3
25 - 34	4,7	8,7	7,7	5,7	5,2	4,5	16,9	18,2	22,7
35 - 49	5,0	9,1	7,9	4,9	4,6	5,3	23,0	16,4	19,3
50+	5,6	9,4	8,0	4,7	4,2	4,8	22,8	21,8	17,17
Gender									
Female	5,0	9,2	7,9	5,1	4,6	5,3	21,8	18,9	17,6
Male	5,0	8,9	7,9	5,4	4,8	5,3	18,9	19,3	21,3
Population group									
Asians	5,4	9,4	8,0	6,9	4,6	7,2	18,4	13,2	21,7
Blacks	4,8	8,8	7,7	6,3	5,2	4,3	22,8	20,7	23,3
Coloured	4,8	8,9	7,8	4,9	1,8	2,2	20,4	13,6	11,7
Whites	5,5	9,8	7,9	1,8	4,6	3,7	12,9	17,3	16,4
Income									
R1-R899	4,7	9,0	8,1	8,3	4,6	6,2	24,8	25,7	24,3
R900- R3999	4,9	9,2	7,9	7,1	5,5	7,4	20,6	19,2	26,0
R4000- R7999	5,2	9,1	8,1	3,9	4,1	5,3	18,4	15,5	18,0
R8000+	5,1	9,4	7,7	2,2	3,3	3,9	14,1	12,5	15,0
Province									
Western Cape	5,8	9,0	12,4	3,4	1,9	5,6	18,7	18,8	29,7
Eastern Cape	4,7	9,0	7,7	2,3	0,5	3,3	15,1	5,4	7,6
Kwazulu-Natal	4,9	9,1	8,2	2,6	5,4	2,9	21,2	17,0	11,7
Free State	5,2	9,4	8,9	6,1	1,2	0,6	12,8	34,3	37,1
North West/Northern Cape	4,3	10,2	7,3	0,0	10,0	1,7	26,0	19,4	27,5
Mpumalanga/Limpopo	4,9	9,7	8,8	6,3	5,0	1,5	23,8	28,8	12,4
Gauteng	5,0	9,1	7,7	7,3	5,3	9,2	15,8	14,8	18,4
Total	5,0	9,1	7,9	5,2	4,7	5,4	20,3	19,1	19,46

Sources: Bureau for Economic Research, 2006, 2008 and 2010

Table 3: Average of responses about inflation expectations according to gender, and Black and Whites, 4th quarter 2006, 2008 and 2010

	Black						White					
	2006		2008		2010		2006		2008		2010	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Male												
Female												
Black												
Coloured												
Asian												
White												
16-24	4,61	0,13	9,05	0,21	8,07	0,21	4,69	0,20	9,21	0,33	7,68	0,36
25-34	4,47	0,17	8,53	0,23	7,60	0,19	5,54	0,33	9,59	0,51	7,93	0,44
35-49	5,01	0,23	8,87	0,25	8,24	0,30	5,33	0,25	9,69	0,33	7,67	0,30
50+	5,19	0,25	8,85	0,31	8,26	0,33	5,87	0,19	10,23	0,25	8,11	0,21
Income R8000+	4,39	0,19	9,07	0,35	7,81	0,29	5,24	0,15	9,69	0,21	7,64	0,20
Income R4000-R7999	4,61	0,19	8,60	0,24	7,96	0,25	5,75	0,20	10,04	0,34	8,38	0,26
Income R800-R3999	4,92	0,13	8,71	0,23	8,05	0,19	5,95	0,42	10,28	0,50	8,24	0,37
Income R1-799	4,51	0,27	9,04	0,21	8,22	0,26	6,80	1,93	9,53	0,46	7,65	0,69
Western Cape	5,69	0,36	7,76	0,59	7,95	0,78	7,04	0,30	9,25	0,39	7,09	0,26
Eastern Cape	4,57	0,17	9,01	0,26	7,68	0,29	5,21	0,47	9,36	0,38	8,09	0,42
Kwazulu-Natal	4,31	0,14	8,25	0,20	8,27	0,22	5,34	0,31	9,97	0,42	8,73	0,38
Free State	4,82	0,41	7,87	0,44	8,88	0,38	5,75	0,34	11,18	0,55	8,93	0,31
North West/Northern Cape	4,13	0,22	10,32	0,53	6,69	0,33	4,53	0,23	10,36	0,66	8,58	0,46
Mpumalanga/Limpopo	4,90	0,35	9,55	0,30	8,65	0,39	4,83	0,26	10,35	0,63	9,08	0,65
Gauteng	4,90	0,30	8,82	0,22	7,94	0,23	5,03	0,19	9,73	0,28	7,37	0,27

Sources: Bureau for Economic Research, 2006, 2008 and 2010; own calculations

Table 4: Responses about inflation expectations according to gender groups, 4th quarter 2006, 2008 and 2010

	Male						Female					
	2006		2008		2010		2006		2008		2010	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Male												
Female												
Black	4,73	0,13	8,78	0,18	7,93	0,18	4,73	0,12	8,89	0,17	8,07	0,18
Coloured	4,87	0,32	8,48	0,24	7,72	0,27	4,88	0,23	9,19	0,28	7,70	0,33
Asian	5,51	0,43	9,06	0,38	7,70	0,36	5,31	0,40	9,73	0,32	7,91	0,29
White	5,44	0,17	9,83	0,23	7,96	0,21	5,48	0,16	9,85	0,23	7,81	0,20
16-24	4,65	0,15	9,01	0,20	7,85	0,21	4,94	0,19	8,97	0,25	8,05	0,27
25-34	4,93	0,22	8,72	0,28	7,58	0,24	4,53	0,18	9,03	0,27	7,72	0,21
35-49	4,76	0,19	8,81	0,26	7,94	0,25	5,38	0,21	9,45	0,20	7,99	0,24
50+	5,94	0,24	9,59	0,24	8,12	0,23	5,28	0,15	9,59	0,21	7,96	0,19
Income R8000+	5,21	0,18	9,02	0,21	7,78	0,19	4,94	0,17	9,71	0,22	7,53	0,19
Income R4000-R7999	5,04	0,19	9,03	0,23	8,09	0,21	5,28	0,18	9,23	0,23	8,17	0,22
Income R800-R3999	4,97	0,17	9,40	0,27	7,68	0,20	4,96	0,14	8,98	0,22	8,23	0,21
Income R1-799	4,32	0,34	8,85	0,27	8,12	0,34	5,07	0,44	9,10	0,23	8,09	0,33
Western Cape	5,77	0,28	8,72	0,27	7,26	0,23	4,76	0,19	9,19	0,28	7,72	0,26
Eastern Cape	4,68	0,28	8,89	0,27	7,56	0,31	4,94	0,21	9,04	0,25	7,83	0,32
Kwazulu-Natal	4,85	0,22	8,98	0,23	8,24	0,21	5,15	0,37	9,25	0,23	8,14	0,21
Free State	5,25	0,43	9,28	0,48	8,59	0,28	4,29	0,27	9,48	0,59	9,24	0,39
North West/Northern Cape	4,23	0,20	10,42	0,58	7,19	0,40	4,85	0,34	10,07	0,57	7,35	0,40
Mpumalanga/Limpopo	4,89	0,30	9,96	0,39	9,23	0,56	4,94	0,16	9,46	0,36	8,33	0,38
Gauteng	5,04	0,17	8,98	0,24	7,74	0,23	5,69	0,36	9,25	0,21	7,70	0,23

Table 5: Responses about inflation credibility according to age, gender, population group and the total, 4th quarter 2006

Age	Number and % accepting inflation as accurate		Number and % not accepting inflation as accurate		Number and % don't know	
	n	%	n	%	N	%
16 – 24	151	18,3	211	25,5	465	56,2
25 – 34	158	20,7	215	28,2	390	51,1
35 – 49	196	19,0	306	29,7	527	51,2
50+	140	16,0	267	30,5	467	53,4
Gender						
Female	254	14,6	457	26,2	1 034	59,3
Male	391	22,4	542	31,0	815	46,6
Population group						
Asians	31	19,6	65	41,1	62	32,9
Blacks	364	14,8	559	22,7	1 540	62,5
Coloured	70	24,6	93	32,6	122	42,8
Whites	180	30,7	282	48,0	125	21,3
Income						
R1-R799	81	13,0	141	22,7	400	64,3
R800- R3999	186	15,9	301	25,9	676	58,1
R4000- R7999	84	20,2	149	35,9	182	43,9
R8000+	171	27,3	222	35,5	233	37,2
Province						
Western Cape	103	24,6	174	41,6	141	33,4
Northern Cape	8	16,0	16	32,0	26	52,0
Free State	34	17,1	48	24,3	116	58,6
Eastern Cape	54	10,8	125	25,0	321	64,2
KwaZulu-Natal	113	16,2	191	27,3	394	56,5
Mpumalanga	26	15,9	66	40,2	72	43,9
Limpopo	30	10,8	35	12,5	214	76,7
Gauteng	254	25,4	285	28,4	463	46,2
North West	23	12,5	59	32,0	102	55,5
Education						
No Schooling	6	2,9	31	15,2	167	81,9
Some Schooling	298	14,9	479	24,0	1218	61,1
Matric	202	23,9	307	36,3	336	39,8
Artisan/Technicon/Technical	87	34,0	77	30,1	92	35,9
University degree/Professional	51	27,0	103	54,5	35	18,5
Total	645	18,5	999	28,6	1 849	52,9

Source: Ipsos-Markinor, 2006

Table 6: Responses about inflation credibility according to age, gender, population group and the total, 4th quarter 2008

	Number and % accepting inflation as accurate		Number and % not accepting inflation as accurate		Number and % don't know	
	N	%	N	%	N	%
Age						
16 – 24	155	18,1	203	23,7	499	58,2
25 – 34	101	12,6	207	25,8	493	61,6
35 – 49	155	15,6	292	29,6	541	54,8
50+	119	14,3	196	23,5	520	62,2
Gender						
Female	238	13,7	438	25,1	1 068	61,2
Male	292	16,8	460	26,5	56,7	985
Population group						
Asians	17	14,5	54	46,2	46	39,3
Blacks	370	14,2	530	20,3	1 711	65,5
Coloured	64	17,0	149	39,5	164	43,5
Whites	79	21,0	165	43,9	132	35,1
Income						
R1-R799	15	6,2	39	15,9	190	77,9
R800- R3999	191	13,0	309	21,0	974	66,0
R4000- R7999	78	19,8	116	29,4	201	50,8
R8000+	128	21,9	240	41,1	216	37,0
Province						
Western Cape	82	20,2	160	39,3	165	40,5
Northern Cape	5	8,3	7	11,7	48	80,0
Free State	29	15,5	23	12,3	135	72,2
Eastern Cape	42	8,9	77	16,2	355	74,9
KwaZulu-Natal	94	13,9	195	28,8	389	57,4
Mpumalanga	9	5,4	41	24,4	118	70,2
Limpopo	24	9,9	72	29,8	146	60,3
Gauteng	221	20,0	278	25,2	605	54,8
North West	24	14,9	45	28,0	92	57,1
Education						
No Schooling	8	4,3	17	9,1	161	86,6
Some Schooling	264	13,0	452	22,4	1304	64,6
Matric	168	18,6	276	30,6	458	50,8
Artisan/Technicon/Technical	47	22,4	76	36,2	87	41,4
University degree/Professional	40	26,5	72	47,7	39	25,8
Total	530	15,2	898	25,8	2 053	59,0

Source: Ipsos-Markinor, 2008

Table 7: Responses about inflation credibility according to age, gender, population group and the total, 4th quarter 2010

	Number and % accepting inflation as accurate		Number and % not accepting inflation as accurate		Number and % don't know	
	N	%	N	%	N	%
Age						
16 – 24	69	21.7	33	10.4	216	67.9
25 – 34	105	28.5	42	11.4	222	60.2
35 – 49	156	27.5	84	14.8	327	57.7
50+	122	23.0	59	11.1	350	65.9
Gender						
Female	138	24,9	50	9,0	366	66,1
Male	314	25,5	168	13,6	749	60,8
Population group						
Asians	17	25,0	27	39,7	24	35,3
Blacks	304	22,4	110	8,1	944	69,5
Coloured	66	38,6	26	15,2	79	46,2
Whites	65	34,6	55	29,3	68	36,2
Income						
R1-R799	18	17.0	12	11.3	76	71.7
R800- R3999	147	21.3	53	7.7	491	71.1
R4000- R7999	77	31.3	27	11.0	142	57.7
R8000+	87	35.7	55	22.5	102	41.8
Province						
Western Cape	82	38.0	31	14.4	103	47.7
Northern Cape	7	16.7	1	2.4	34	81.0
Free State	24	24.0	7	7.0	69	69.0
Eastern Cape	63	26.3	23	9.6	154	64.2
KwaZulu-Natal	92	26.7	48	13.9	205	59.4
Mpumalanga	19	21.3	10	11.2	60	67.4
Limpopo	18	14.0	4	3.1	107	82.9
Gauteng	133	24.8	84	15.7	319	59.5
North West	14	15.9	10	11.4	64	72.7
Education						
No Schooling	19	18.1	2	1.9	84	80.0
Some Schooling	223	22.8	79	8.1	675	69.1
Matric	137	27.9	87	17.7	267	54.4
Artisan/Technicon/Technical	50	34.0	32	21.8	65	44.2
University degree/Professional	23	37.1	17	27.4	22	35.5
Total	452	25,3	218	12,2	1115	62,5

Source: Ipsos-Markinor, 2008

Table 8: Responses about inflation credibility according to gender and Black and White population groups, 4th quarter 2006, 2008 and 2010

	Male									Female								
	2006			2008			2010			2006			2008			2010		
	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know
Black	17,70	24,84	57,46	15,63	20,79	63,58	21,4	6,1	72,5	11,91	20,60	67,50	12,68	19,80	67,52	22,8	9,1	68,1
Coloured	29,29	36,43	34,29	20,00	40,56	39,44	42,1	7,9	50,0	20,00	28,97	51,03	14,21	38,58	47,21	37,6	17,3	45,1
Asian	24,05	46,84	29,11	11,48	52,46	36,07	38,1	38,1	23,8	15,19	35,44	49,37	17,86	39,29	42,86	19,1	40,4	40,4
White	37,22	48,87	13,92	24,16	45,51	30,34	36,5	23,1	40,4	23,38	47,12	29,50	18,18	42,42	39,39	33,8	31,6	34,6
16-24	21,97	27,13	50,90	19,74	24,12	56,14	21,1	9,4	69,5	13,91	23,62	62,47	16,21	23,19	60,60	22,1	11,1	66,8
25-34	23,22	29,55	47,23	12,66	25,84	61,50	25,8	7,5	66,7	18,23	26,82	54,95	12,56	25,85	61,59	29,7	13,3	57,0
35-49	23,47	32,94	43,59	17,49	29,84	52,67	30,1	10,3	59,6	14,75	26,63	58,62	13,94	29,28	56,77	26,5	16,5	56,9
50+	20,67	34,13	45,19	16,67	25,74	57,60	22,0	8,7	69,3	11,79	27,29	60,92	11,94	21,31	66,74	23,4	12,1	64,6
Income R8000+	32,50	38,13	29,38	24,10	40,39	35,50	23,4	12,1	64,6	21,90	32,68	45,42	19,49	41,88	38,63	32,8	14,9	52,2
Income R4000-R7999	26,60	38,42	34,98	21,80	27,96	50,24	26,5	16,5	56,9	14,15	33,49	52,36	17,39	30,98	51,63	36,9	8,3	54,8
Income R800-R3999	17,69	27,72	54,59	14,54	22,58	62,88	29,7	13,3	57,0	14,26	24,00	61,74	11,44	19,41	69,15	18,3	5,7	76,0
Income R1-799	18,56	25,09	56,36	5,10	13,27	81,63	22,1	11,1	66,8	8,16	20,54	71,30	6,85	17,81	75,34	11,4	8,6	80,0
Western Cape	29,05	44,76	26,19	23,38	38,81	37,81	52,4	0,0	47,6	20,19	38,46	41,35	16,99	39,81	43,20	36,4	15,9	47,7
Northern Cape	24,00	32,00	44,00	6,67	10,00	83,33	25,0	4,2	70,8	8,00	32,00	60,00	10,00	13,33	76,67	5,6	0,0	94,4
Free State	20,20	25,25	54,55	17,20	12,90	69,89	25,7	8,6	65,7	14,14	23,23	62,63	13,83	11,70	74,47	23,1	6,2	70,8
Eastern Cape	12,80	28,40	58,80	9,28	16,46	74,26	23,1	5,6	71,3	8,80	21,60	69,60	8,44	16,03	75,53	28,8	12,9	58,3
KwaZulu-Natal	22,64	30,37	46,99	15,93	30,68	53,39	25,4	14,2	60,4	9,74	24,36	65,90	11,80	26,84	61,36	27,5	13,7	58,8
Mpumalanga	17,07	40,24	42,68	8,33	25,00	66,67	18,2	9,1	72,7	14,63	40,24	45,12	2,38	23,81	73,81	21,8	11,5	66,7
Limpopo	10,71	15,00	74,29	10,74	28,10	61,16	66,7	0,0	33,3	10,79	10,07	79,14	9,09	31,40	59,50	12,7	3,2	84,1
Gauteng	30,54	30,74	38,72	20,83	26,45	52,72	24,8	8,7	66,5	20,16	26,15	53,69	19,20	23,91	56,88	24,8	18,7	56,5
North West	11,96	32,61	55,43	20,00	28,75	51,25	15,8	10,5	73,7	13,04	31,52	55,43	9,88	27,16	62,96	16,1	12,9	71,0
No Schooling	2,33	13,95	83,72	6,52	7,61	85,87	12,1	6,1	81,8	3,39	16,10	80,51	2,13	10,64	87,23	20,8	0,0	79,2
Some Schooling	18,00	26,38	55,62	13,89	24,04	62,07	19,6	6,3	74,1	12,00	21,73	66,27	12,28	20,79	66,92	24,3	8,9	66,9
Matric	29,43	37,24	33,33	20,77	31,60	47,63	31,3	9,7	59,0	18,05	35,37	46,59	16,56	29,63	53,81	26,6	20,7	52,7
Artisan/Technicon/Technical	35,62	34,25	30,14	22,58	30,65	46,77	34,9	17,5	47,6	31,82	24,55	43,64	22,09	44,19	33,72	33,3	25,0	41,7
University degree/Professional	32,32	58,59	9,09	32,56	40,70	26,74	47,8	21,7	30,4	21,11	50,00	28,89	18,46	56,92	24,62	30,8	30,8	38,5

Sources: Ipsos-Markinor, 2006, 2008 and 2010; own calculations

Table 9: Responses about inflation credibility according to gender and Black and White population groups, 4th quarter 2006, 2008 and 2010

	Black									White								
	2006			2008			2010			2006			2008			2010		
	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know
Black																		
Coloured																		
Asian																		
White																		
16-24	15,42	22,75	61,83	17,70	21,49	60,81	18,8	7,7	73,4	35,37	41,46	23,17	26,19	30,95	42,86	50,0	16,7	33,3
25-34	17,97	25,82	56,21	12,67	22,06	65,28	25,3	9,7	64,9	36,00	41,33	22,67	18,37	46,94	34,69	44,0	28,0	28,0
35-49	13,91	22,90	63,19	15,13	22,77	62,10	25,8	9,2	65,0	34,72	46,11	19,17	18,85	46,72	34,43	32,8	32,8	34,3
50+	11,26	18,58	70,16	10,11	13,30	76,59	18,4	5,7	75,9	24,05	54,01	21,94	22,09	44,17	33,74	27,8	30,6	41,7
Income R8000+	16,89	21,78	61,33	24,00	27,56	48,44	31,2	12,8	56,0	31,34	47,89	20,77	25,12	45,02	29,86	43,9	27,3	28,8
Income R4000-R7999	16,73	30,55	52,73	20,14	25,00	54,86	29,1	9,5	61,3	35,59	52,54	11,86	12,50	54,17	33,33	29,4	11,8	58,8
Income R800-R3999	14,62	23,07	62,31	12,39	19,15	68,47	20,1	6,1	73,9	30,00	52,50	17,50	23,08	38,46	38,46	20,0	50,0	30,0
Income R1-799	12,76	19,70	67,54	6,19	15,04	78,76	17,0	9,0	74,0	22,45	53,06	24,49	0,00	0,00	0,00	0,00	0,00	0,00
Western Cape	9,57	46,81	43,62	20,37	16,67	62,96	38,6	10,0	51,4	32,65	51,02	16,33	20,00	44,00	36,00	33,3	25,0	41,7
Northern Cape	20,69	31,03	48,28	16,00	12,00	72,00	11,1	0,0	88,9	40,00	60,00	0,00	0,00	0,00	0,00	0	0	0
Free State	13,82	17,76	68,42	14,72	8,59	76,69	22,8	5,4	71,7	30,23	46,51	23,26	21,74	39,13	39,13	42,9	28,6	28,6
Eastern Cape	6,77	17,79	75,44	6,92	11,03	82,05	23,1	4,1	72,8	27,66	55,32	17,02	21,21	51,52	27,27	31,8	40,9	27,3
KwaZulu-Natal	13,48	23,44	63,09	14,08	23,22	62,71	27,0	7,8	65,2	29,63	48,15	22,22	6,67	70,00	23,33	20,0	36,0	44,0
Mpumalanga	15,15	31,82	53,03	2,82	15,49	81,69	18,5	9,9	71,6	20,00	80,00	0,00	23,81	76,19	0,00	50,0	25,0	25,0
Limpopo	10,83	12,64	76,53	10,00	29,58	60,42	14,1	3,1	82,8	0,00	0,00	100,00	0,00	50,00	50,00	0,0	0,0	100,00
Gauteng	23,58	22,59	53,84	19,65	22,21	58,14	22,6	11,8	65,6	31,15	43,03	25,82	23,44	39,06	37,50	35,0	27,5	37,5
North West	9,76	31,71	58,54	13,97	30,15	55,88	10,1	10,1	79,7	35,00	35,00	30,00	20,00	16,00	64,00	66,7	22,2	11,1
No Schooling	3,03	15,66	81,31	3,89	6,67	89,44	17,2	2,0	80,8	0,00	0,00	0,00	0,00	100,00	0,00	33,3	25,0	41,7
Some Schooling	13,22	21,37	65,41	12,18	19,21	68,61	19,1	6,5	74,3	27,78	44,44	27,78	17,33	40,00	42,67	44,4	11,1	44,4
Matric	19,15	28,02	52,82	18,78	24,38	56,84	25,9	12,2	61,8	30,74	50,00	19,26	20,00	41,88	38,13	34,1	30,6	35,3
Artisan/Technicon/Technical	30,58	23,97	45,45	26,13	25,23	48,65	43,8	9,0	47,2	39,45	35,78	24,77	20,34	45,76	33,90	15,8	44,7	39,5
University degree/Professional	28,00	38,00	34,00	28,57	42,86	28,57	24,0	20,0	56,0	25,00	60,19	14,81	28,95	47,37	23,68	48,3	27,6	24,1

Sources: Ipsos-Markinor, 2006, 2008 and 2010; own calculations

Table 10: Logistic regression of inflation expectations

Expectations			
	2006	2008	2010
	Coefficient	Coefficient	Coefficient
Observations	1 857	2 018	1875
Pseudo R2	0.0855	0.0763	0.0993
Constant	-3.678	-3.625	-2.507
	(-6.84)	(-6.65)	(-5.78)
White	-0.993***	0.106	-0.646**
	(-2.66)	(0.38)	(-2.26)
Coloured	0.196	-0.855	-0.954
	(0.49)	(-1.58)	(-2.49)***
Asian	0.966***	-1.500***	-0.842
	(2.68)	(-2.72)	(-1.66)*
Female	-0.167	-0.055	0.074
	(-0.85)	(-0.27)	(0.38)
Eastern Cape	0.013	-2.011*	-1.513
	(0.03)	(-1.86)	(-3.14)***
Kwazulu-Natal	-0.674	1.005**	-1.297
	(-1.30)	(2.16)	(-3.06)
Free State	0.513	-0.695	-2.773***
	(0.99)	(-0.84)	(-2.65)
Northwest/Northern Cape	0.000	1.404***	-1.919***
	0.000	(2.82)	(-2.47)
Mpumalanga/Limpopo	0.752	0.683	-2.209***
	(1.44)	(1.21)	(-2.86)
Gauteng	0.842**	0.692	0.044
	(2.06)	(1.57)	(0.14)
Income R4000-R7999	0.522	0.390	0.440*
	(1.54)	(1.30)	(1.66)
Income R800-R3999	1.096***	0.745**	0.909***
	(3.42)	(2.41)	(3.30)
Income R1-799	1.269***	0.637*	0.777
	(2.83)	(1.84)	(2.27)**
16-24	0.099	-0.132	0.417
	(0.38)	(-0.46)	(1.52)
35-49	-0.036	0.022	0.207
	(-0.13)	(0.08)	(0.73)
50+	0.015	-0.247	0.291
	(0.05)	(-0.79)	(0.97)

Sources: Bureau for Economic Research, 2006, 2008 and 2010; own calculations

Results in brackets denote z-statistics.

*Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level

Table 11: Logistic regression of inflation credibility

Credibility			
	2006	2008	2010
	Coefficient	Coefficient	Coefficient
Observations	2 824	2 689	1 284
Pseudo R2	0.0705	0.0608	0.0501
Constant	-2.569	-2.320	-0.068
	(-4.95)	(-4.45)	(-0.15)
White	0.525***	0.152	0.297
	(3.33)	(0.73)	(-1.13)
Coloured	0.562***	-0.218	0.542**
	(2.81)	(-0.96)	(-2.08)
Asian	0.229	-0.108	-0.360
	(0.87)	(-0.34)	(-0.91)
Female	-0.511***	-0.259**	0.002
	(-5.01)	(-2.33)	(-0.02)
Northern Cape	-0.398	-0.944**	-1.268***
	(-0.91)	(-1.72)	(-2.34)
Free State	-0.071	-0.508	-0.590*
	(-0.27)	(-1.62)	(-1.73)
Eastern Cape	-0.635***	-1.029***	-0.668**
	(-2.86)	(-3.93)	(-2.4)
Kwazulu-Natal	-0.205	-0.553**	-0.380
	(-1.01)	(-2.38)	(-1.47)
Mpumalanga	-0.186	-1.490***	-0.948**
	(-0.65)	(-3.40)	(-2.35)
Limpopo	-0.289	-1.405***	-0.929***
	(-1.07)	(-3.77)	(-2.55)
Gauteng	0.150	-0.133	-0.716***
	(0.86)	(-0.63)	(-2.92)
North West	-0.472	-0.466	-1.260***
	(-1.59)	(-1.43)	(-2.93)
Some Schooling	1.499***	1.022**	0.028
	(3.22)	(2.36)	(-0.09)
Matric	1.792***	1.249***	0.168
	(3.77)	(2.78)	(-0.49)
Artisan/Technicon/Technical	2.145***	1.531***	0.236
	(4.35)	(3.17)	(-0.59)
University degree/Professional	1.667***	1.587***	0.354
	(3.29)	(3.12)	(-0.68)
16-24	-0.093	0.459***	-0.590***
	(-0.63)	(2.86)	(-2.66)
35-49	-0.206	0.110	-0.217
	(-1.47)	(0.68)	(-1.2)
50+	-0.290*	0.105	-0.355**
	(-1.84)	(0.59)	(-1.75)
Income R4000-R7999	-0.191	0.103	-0.017
	(-1.16)	(0.55)	(-0.08)
Income R800-R3999	-0.282	-0.103	-0.460**
	(-1.51)	(-0.59)	(-2.13)
Income R1-799	-0.317*	-0.742**	-0.689**
	(-1.84)	(-2.35)	(-2.06)

Sources: Ipsos-Markinor, 2006, 2008 and 2010; own calculations

Results in brackets denote z-statistics.

*Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level

Table 12: Output from the multinomial regression model for inflation expectations 2006 and 2008

	Number of obs = 2423 LR chi2(14) = 150.81 Prob > chi2 = 0.0000 Pseudo R2 = 0.0467 Log likelihood = -1538.456	Number of obs = 2454 LR chi2(14) = 185.92 Prob > chi2 = 0.0000 Pseudo R2 = 0.0593 Log likelihood = -1473.4956	Number of obs = 2328 LR chi2(14) = 248.47 Prob > chi2 = 0.0000 Pseudo R2 = 0.0773 Log likelihood = -1482.2647	Number of obs = 2423 LR chi2(14) = 150.81 Prob > chi2 = 0.0000 Pseudo R2 = 0.0467 Log likelihood = -1538.456	Number of obs = 2454 LR chi2(14) = 185.92 Prob > chi2 = 0.0000 Pseudo R2 = 0.0593 Log likelihood = -1473.4956	Number of obs = 2328 LR chi2(14) = 248.47 Prob > chi2 = 0.0000 Pseudo R2 = 0.0773 Log likelihood = -1482.2647
	1 Average expected inflation rate above 25 per cent			2 don't know		
	2006	2008	2010	2006	2008	2010
	RRR	RRR	RRR	RRR	RRR	RRR
Female	-0.836 (-0.92)	-0.980 (-0.10)	1.047 (0.24)	1.184 (1.56)	1.082 (0.72)	1.235* (1.91)
Coloured	1.211 (0.48)	-0.436 (-1.53)	-0.365*** (-2.58)	-0.996 (-0.02)	-0.583** (-2.33)	0.618** (-2.20)
Asian	2.773*** (2.81)	-0.218*** (-2.76)	-0.447* (-1.58)	-0.826 (-1.89)	-0.752 (-1.21)	0.866 (-0.56)
White	-0.365*** (-2.71)	1.125 (0.42)	-0.506** (-2.36)	-0.573*** (-3.37)	1.081 (0.48)	0.699** (-2.18)
16-24	1.144 (0.52)	-0.877 (-0.46)	1.535 (1.57)	1.191 (1.09)	1.037 (0.23)	0.787 (-1.51)
35-49	-0.975 (-0.09)	1.027 (0.09)	1.215 (0.69)	1.594*** (2.86)	-0.842 (-1.00)	0.820 (-1.31)
50+	1.015 (0.05)	-0.780 (-0.81)	1.238 (0.72)	1.447** (2.21)	1.006 (0.04)	0.713** (-2.11)
Income R4000-R7999	1.664 (1.51)	1.483 (1.32)	1.503 (1.55)	1.205 (1.21)	1.436** (2.22)	1.149 (0.93)
Income R800-R3999	2.978*** (3.42)	2.121** (2.44)	2.552*** (3.41)	1.343* (1.88)	1.853*** (3.62)	1.915*** (4.02)
Income R1-R799	3.589*** (2.86)	1.839* (1.75)	2.181** (2.30)	1.716** (2.15)	2.569*** (5.12)	2.01*** (3.55)
Eastern Cape	-0.968 (-0.07)	-0.140* (-1.82)	0.195*** (-3.35)	-0.723 (-1.31)	-0.175*** (-5.16)	0.109*** (-7.17)
KwaZulu-Natal	-0.468 (-1.46)	2.892** (2.28)	0.245*** (-3.26)	1.178 (0.75)	-0.773 (-1.18)	0.210*** (-6.44)
Free State	1.585 (0.90)	-0.507 (-0.82)	0.050*** (-2.83)	-0.637 (-1.53)	1.505* (1.73)	0.827 (-0.81)
North West/ Northern Cape	0.000 (0.000)	4.082*** (2.82)	0.124*** (-2.68)	1.415 (1.35)	-0.827 (-0.71)	0.563** (-2.13)
Mpumalanga/ Limpopo	1.962 (1.30)	2.045 (1.27)	0.097*** (-3.00)	1.428 (1.37)	1.309 (1.08)	0.205*** (-5.07)
Gauteng	2.261** (2.02)	2.044 (1.63)	0.909 (-0.30)	-0.926 (-0.39)	-0.626** (-2.45)	0.427*** (-4.59)

Outcome 0 (think that the actual inflation rate is below 25 per cent) is the base outcome. The reference groups are Black, males, earning higher than R8 000, in the Western Cape and who are between the ages of 25-34. Results in brackets denote z-statistics. *Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level
Sources: BER; own calculations.

Table 13: Output from the multinomial regression model for inflation credibility for 2006 and 2008

	Number of obs = 2824 LR chi2(14) = 588.86 Prob > chi2 = 0.0000 Pseudo R2 = 0.1035 Log likelihood = -2550.982	Number of obs = 2689 LR chi2(14) = 495.66 Prob > chi2 = 0.0000 Pseudo R2 = 0.097 Log likelihood = -2306.0023	Number of obs = 1284 LR chi2(44) = 221.24 Prob > chi2 = 0.0000 Pseudo R2 = 0.0971 Log likelihood = -1028.5031	Number of obs = 2824 LR chi2(14) = 588.86 Prob > chi2 = 0.0000 Pseudo R2 = 0.1035 Log likelihood = -2550.982	Number of obs = 2689 LR chi2(14) = 495.66 Prob > chi2 = 0.0000 Pseudo R2 = 0.097 Log likelihood = -2306.0023	Number of obs = 1284 LR chi2(44) = 221.24 Prob > chi2 = 0.0000 Pseudo R2 = 0.0971 Log likelihood = -1028.5031
	1 Do not accept inflation as accurate			2 Don't know		
	2006	2008	2010	2006	2008	2010
	RRR	RRR	RRR	RRR	RRR	RRR
Female	1.301** (2.27)	1.204 (1.45)	1.732** (2.19)	2.012*** (6.36)	1.353*** (2.59)	-0.88 (-0.84)
Coloured	0.667** (2.27)	2.132*** (3.02)	2.450*** (2.49)	-0.556*** (-2.68)	-0.867 (-0.59)	-0.36*** (-3.52)
Asian	1.273 (0.84)	1.804* (1.72)	5.369*** (3.62)	-0.567** (-1.96)	-0.721 (-0.92)	-0.75 (-0.66)
White	1.132 (0.72)	1.434 (1.56)	1.925* (1.88)	-0.275*** (-6.94)	-0.569** (-2.42)	-0.53** (-2.22)
16-24	1.001 (0.00)	-0.687** (-2.01)	1.639 (1.42)	1.160 (0.94)	-0.600*** (-3.04)	1.82*** (2.63)
35-49	1.238 (1.34)	1.030 (0.16)	1.328 (0.98)	1.200 (1.20)	-0.817 (-1.19)	1.21 (1.02)
50+	1.303 (1.49)	-0.840 (-0.85)	1.348 (0.91)	1.324* (1.64)	-0.930 (-0.40)	1.44* (1.74)
Some Schooling	0.330** (-2.21)	-0.862 (-0.29)	2.911 (1.37)	-0.204*** (-3.39)	-0.316*** (-2.65)	-0.93 (-0.25)
Matric	-0.358** (-2.01)	-0.926 (-0.15)	4.063* (1.73)	-0.116*** (-4.48)	-0.218*** (-3.36)	-0.73 (-0.92)
Artisan/ Technicon/Technical	-0.205*** (-2.96)	-0.802 (-0.39)	5.685** (2.03)	-0.099*** (-4.58)	-0.140*** (-3.97)	-0.58 (-1.29)
University degree/ Professional	-0.485 (-1.34)	-0.896 (-0.19)	3.515 (1.29)	-0.080*** (-4.72)	-0.094*** (-4.35)	-0.59 (-0.94)
Income R4000-R7999	-0.792 (-1.18)	-0.725 (-0.90)	-0.871 (-0.43)	-0.735* (-1.66)	-0.404*** (-2.80)	1.12 (0.48)
Income R800-R3999	1.209 (0.92)	-0.641 (-1.27)	1.191 (0.56)	-0.725* (-1.66)	-0.383*** (-3.09)	1.74*** (2.45)
Income R1-799	1.023 (0.13)	-0.672 (-1.23)	2.549** (1.94)	-0.861 (-0.97)	-0.497*** (-2.44)	2.03** (2.05)
Northern Cape	1.294 (0.52)	-0.782 (-0.37)	-0.860 (-0.13)	1.725 (1.17)	4.636*** (2.76)	4.52*** (2.69)
Free State	-0.796 (-0.77)	-0.496* (-1.68)	1.631 (0.84)	1.471 (1.33)	2.696*** (3.02)	1.76 (1.58)
Eastern Cape	1.394 (1.35)	1.313 (0.92)	2.087* (1.70)	2.454*** (3.69)	4.156*** (5.18)	1.84** (2.08)
KwaZulu-Natal	-0.980 (-0.09)	1.587* (1.78)	2.093* (1.81)	1.536* (1.89)	2.033*** (2.82)	1.36 (1.11)
Mpumalanga	1.464 (1.24)	3.757*** (2.82)	2.202 (1.16)	1.061 (0.18)	5.379*** (3.71)	2.60** (2.30)
Limpopo	-0.609 (-1.51)	4.178*** (3.56)	-0.836 (-0.21)	1.944** (2.31)	4.598*** (3.95)	2.65*** (2.60)
Gauteng	-0.743 (-1.54)	-0.826 (-0.81)	2.630*** (2.61)	1.046 (0.22)	1.501* (1.76)	1.91** (2.45)
North West	1.557 (1.36)	1.686 (1.44)	6.308*** (3.00)	1.786* (1.80)	1.699 (1.53)	3.05*** (2.51)

Outcome 0 (Accept inflation as accurate) is the base outcome. The reference groups are Black, males, earning higher than R8 000, in the Western Cape, with no schooling, and who are between the ages of 25-34. Results in brackets denote z-statistics.*Significant at the 10% level, **Significant at the 5% level, ***Significant at the 1% level
Sources: Ipsos-Markinor; own calculations.

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