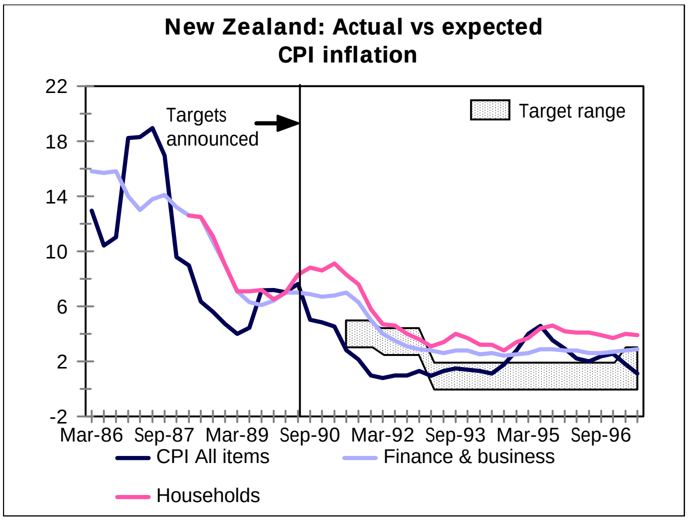
Conducting inflation expectation surveys in South Africa

THE PURPOSE OF INFLATION EXPECTATION SURVEYS

Changes in demand (e.g. an independent rise in household consumption expenditure causing capacity constraints) and supply conditions (such as a sharp increase in commodity prices e.g. the oil price) are usually the initial cyclical causes of a rise in inflation. This higher level of inflation, then, is mostly sustained by amongst other, inflation expectations, i.e. expected future values of inflation. Consumers, trade unions, producers etc. build these higher inflation expectations into wage demands, asset prices and selling price.

Nearly all central banks that have adopted inflation targeting monetary policy frameworks consult inflation expectation surveys. Even central banks that have not formally adopted inflation targeting, such as the US Federal Reserve, take the results of inflation expectation surveys into account in their monetary policy decisions.



Central banks use the results of inflation expectation surveys to (1) forecast inflation and (2) evaluate the credibility of their inflation fighting-policies. <u>Inflation expectations tend to be higher than the officially measured inflation rate until the central bank convinced the general public and financial markets of lower inflation in the future. In New Zealand, the UK, Sweden and Canada, the gap between inflation expectations and actual inflation only narrowed some time after inflation targeting had been adopted</u> (see graph). However, if a rise in the inflation-fighting credibility of the central bank leads to a reduction in inflation expectations and consequently actual inflation, the central bank would have been able to reduce inflation without having to resort to restrictive monetary policies, which could potentially lower output and employment.

Although the achievement of the target becomes the overriding objective of monetary policy in an inflation-targeting framework, the adoption of the new framework does not mean that the central bank must apply rigid rules and is left without any discretion. The SA Reserve Bank takes a wide variety of indicators into account when setting monetary policy. A rise in inflation expectations in itself will therefore not necessarily result in higher interest rates.

MEASURING INFLATION EXPECTATIONS IN SOUTH AFRICA

Based on international best practices, the BER applies the following method to measure inflation expectations in South Africa:

- direct quantitative surveys (i.e. respondents have to indicate what they expect CPI inflation to be during 2000 and not whether they expect price increases to be up, the same or down compared to the same time a year ago);
- the surveys are conducted quarterly;
- four societal groups are quizzed, namely households, business people, people in the financial sector (including economists) and representatives of trade unions and employer organisations; and
- the questionnaire of the Reserve Bank of New Zealand survey served as a guideline.

The design of the survey in the business, financial and labour sector and that of households will be discussed separately, as their methods differ widely.

MEASURING INFLATION EXPECTATIONS IN THE BUSINESS, FINANCIAL AND LABOUR SECTORS

Panels are ideally suited to measure inflation expectations over time. In the case of a panel, one poses the questions to the same group of people every time. If a new group of people is put together every time, one cannot always say with certainty whether the change in results can be attributed to a change in expectations or change in the sample. With a panel, changes in the survey results can therefore be attributed with more certainty to changes in expectations compared to when using a new sample every time.

The panel must be a fair representation of the population (universe) to make the results of panel-based research credible. During April and July 2000, we sent out invitations and recruited 1 061 business people, 40 financial sector participants and 25 participants representing labour. As far as the business sector is concerned, the panel covers all economic sectors, with manufacturing, internal trade and services as focal points, and is representative of the formal sector (see Table 1). The panel is also representative of participants in the financial sector and representatives of labour.

Table 1 Composition of panel per economic sector

	Number	%
Agriculture & forestry	66	6,2
Mining	11	1,0
Construction	22	2,1
Manufacturing	405	38,2
Transport & public corporations	18	1,7
Wholesale trade	76	7,2
Retail trade	241	22,7
Motor trade	12	1,1
Services	210	19,8
Total business sector	1061	100,0
Banks	11	27,5
Financial brokers & advisors	26	65,0
Insurance companies	3	7,5
Total financial sector	40	100,0
Total labour sector	25	100,0

Questionnaires are mailed to participants three weeks before the due date. Respondents have the choice to respond by either returning the questionnaire by post or by fax or via the internet.

We have based our choice and of questions on the questionnaire of the inflation expectation survey conducted on behalf of the Reserve Bank of New Zealand and the main drivers of inflation in South Africa. Respondents are required to provide their views on CPI inflation and CPIX inflation for the current and following two years. They also have to indicate their views on economic growth, the prime overdraft rate, the rand / US dollar exchange rate and salary and wage increases for the current and following year. In addition, financial sector participants have to provide their views on the yield on the R153 government bond, M3 money supply growth and the percentage utilisation of production capacity in the manufacturing sector.

Like the Livingstone Survey[1] conducted by the Federal Reserve Bank of Philadelphia, we provide historical information in the wording of the question. For instance, in the case of CPI inflation, we indicate that inflation averaged 7,3% between 1995 and 1999 and was 5,2% in 1999. In contrast to the Livingstone Survey that only lists the most recent official figure, we include the most recent year and the five-year average. The benefit of providing historical information is that all respondents have the same information available when completing the questionnaire. To limit any possible influence of the results, we not only include the information for the most recent year, but also the five-year average. Compared to the figure for the most recent year, the five-year average will change marginally from year to year. If we only provide the most recent data point, then large variations in this figure from one year to the next may influence the responses. The historic information provides respondents with a benchmark. Although nothing prevents respondents from taking a view that deviates totally from the historical experience, some may provide figures around this benchmark. A comparison of the results of the second quarter survey (when no historical information was provided in the wording) and the third quarter survey (when historical information was provided) indicates that the level of CPI inflation expectations declined, but that of CPIX inflation remained about the same.

We take the average (mean) of the individual responses as an indicator of inflation expectations. "Don't know" responses are discarded.

There is no objective benchmark for the level of inflation expectations. Are current inflation expectations in South Africa 5% or 10%? The officially measured inflation rate is only to some extent a guideline for the level of inflation expectations, as inflation expectations can be higher compared to actual inflation, especially when the central bank has not yet gained credibility shortly after the introduction of inflation targeting. Inflation expectations can also be derived from long-term bond yields, but expectations derived in this manner reflect the views of only financial market participants and at times say more about the inflation fighting credibility of the central bank than inflation expectations themselves. However, an independent survey confirmed the first set of final inflation expectation results (see Table 3). In March 2000, we requested participants to the BER's regular business surveys to provide their forecasts for CPI inflation. These results agree with those based on the dedicated inflation survey panel, if al-

[1] Livingstone, a columnist for the *Philadelphia Inquirer*, began asking business economists at first and later on also academic economists their forecasts for important economic variables since 1946. The Philadelphia Fed took over the survey when Livingstone died in 1990. The Livingstone survey is well known, as it was the only comprehensive set of data on inflation expectations available in the 1970s to test new theories on the formation of expectations.

lowance is made for difference in timing and wording of the question. The survey results also satisfy basic statistical requirements.

MEASURING HOUSEHOLDS' INFLATION EXPECTATIONS

Postal surveys cannot be effectively used in South Africa to quiz households due to the high illiteracy rate. The unequal distribution of telephones also makes this method of survey undesirable in South Africa. Personal at-home interviews provide the best results. AC Nielsen MRA, a Johannesburg based company specialising in market research, does the personal interviews for us. For every survey, AC Nielsen MRA compiles an area-stratified probability sample of 2 500 households. The samples cover blacks and whites in metropolitan areas, cities, towns and villages throughout South Africa. Coloured and Indian coverage include the major metropolitan areas.

One cannot directly ask households about their expectations regarding inflation, as few would understand the meaning. In other countries, households' expectations on price increases are therefore quizzed. Modelled on the wording of the question the Survey Research Centre at the University of Michigan at Ann Arbor applies to measure households' inflation expectations, we pose the following question to households: "Over the past five years prices increased by on average 7% per year. Last year prices increased by 5%. By about how much do you expect prices in general to increase in 2000?"

In contrast to the inflation expectation survey in the business, labour and financial sector, households' expectations only the current year is required for. Unfortunately the high cost of personal interviews makes it impossible to survey their expectations for subsequent years.

Similar to the inflation expectation survey in the business, labour and financial sector, we supply historic information in the wording of the question to households. The historical data has lowered the level of inflation expectations, in particular those of low-income earners and with less formal education. In South Africa, the inflation expectations of low-income earners, young people and people with fewer years of formal education are lower than those at the opposite end of the spectrum (see Table 2). These results are in line with the international experience. Research revealed that US households' average forecasts of inflation are superior to those of professional economists and amongst consumers, the lower educated and poorer consumers' inflation forecasts are superior to those of the higher educated and higher income earners.

Table 2 Results for different stratifications of households – 4th quarter 2000

	Average *		Average *
Race		Monthly Household Income	
Blacks	6,5	R8000+	8,1
Coloureds	9,0	R4000-R7999	8,3
Indians	9,1	R800-R3999	7,0
Whites	8,5	R1-R799	6,6
Age		Education	
16-24	6,7	Up to primary school	7,2
25-34	7,0	Some high school	7,2
35-49	7,8	High school completed	7,7
50+	8,3	Post matric / university	7,5

* Excluding all "don't know" responses and responses exceeding 25%.

Furthermore, we take the average (mean) of the individual responses as the indicator of inflation expectations. All "don't know" responses and responses exceeding 25% are disregarded. These amounted to 17,2% and 2,5% of total responses respectively. Based on these requirements, households' inflation expectations amounted to 7,4% during the 4th quarter survey.

MEASURING OVERALL INFLATION EXPECTATIONS

The survey results obtained as set out above, allow us to calculate two measures of overall inflation expectations. Firstly, overall inflation expectations can be calculated as the unweighted average of the respective average expectations for CPI and CPIX inflation for the current and subsequent two years of business, labour and finance. Secondly, overall inflation expectations can also be calculated as the unweighted average of the respective average expectations for CPI inflation for the current year of households, business, labour and finance. In this case, the price expectations of households are taken to agree with the CPI inflation forecasts of business, labour and finance.

Table 3 Inflation expectations – 4th quarter 2000

	Headline CPI inflation			CPIX inflation		
	2000	2001	2002	2000	2001	2002
Finance	5,5	6,6	5,4	7,5	6,6	5,7
Business	6,8	7,0	7,2	7,6	7,7	7,8
Labour	6,3	6,3	5,8	7,1	7,0	6,7
Average above	6,2	6,6	6,1	7,4	7,1	6,7
Households	7,5	-	-	-	-	-
Grand average	6,5	-	-	-	-	-

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