

CHAPTER 1

INTRODUCTION

1.1 Background and context

Inflation as a topic of study has received broad attention in academic and policy literature over many years. This is also the case with the monitoring and measurement of inflation expectations as a component of an inflation-targeting monetary policy (see for instance Bryan and Ventaku, 2001a; De Wet, 2003; Kershoff and Smit, 2002; Mishkin, 2004; Saunders, 2003; or Sveriges Riksbank, [S.a.]). However, the measurement of the public's perceptions about inflation figures as an anchor for expectations has received little attention.

Central banks in inflation-targeting countries use inflation forecasting, explanation or escape clauses in the event of non-achievement of the target and the measurement of inflationary expectations as three support measures of monetary policy implementation. These support measures are called for because current policy changes will only fully influence the future rate of inflation after a time lag. The length of time for policy changes to affect inflation is determined by the speed at which changes in monetary policy is transmitted through the economy. The last one of these three measures (inflation expectations) is not within the direct sphere of control of the authorities. This is understandable, as inflation expectations are formed by and large through the historic policy decisions of central banks and their success in containing inflation, rather than through public announcements of the future intentions of the central bank. According to Mishkin “... an essential ingredient to a successful anti-inflation policy is the credibility of the policy in the eyes of the public ...” (2004: 658).

Inconsistent policy decisions increase the expectations of future inflation, resulting in dynamic time inconsistency (also referred to as time consistency) problems (see for instance Kydland and

Prescott, 1977). The time inconsistency problem¹ in the conduct of monetary policy provides an explanation of the ensuing conduct in terms of game theory between a central bank and private economic agents in their efforts to outmanoeuvre one another in predicting actual, rather than promised, economic outcomes. The central bank will choose to announce in period t an optimal low inflation rate for $t+1$ and, since that affects the expectations and the behaviour function of private economic agents in $t+1$, could find that a higher inflation rate is optimal, thereby resulting in the implementation of a more expansionary policy than previously announced. Central banks attempt to prevent any time inconsistency problems by favouring an explicit monetary policy anchor, rather than the use of policy discretion. This reduces uncertainty about the policy direction of authorities.

In literature “autonomy” and “independence” of central banks are often used as if the words have the same meaning (see for instance Arnone et al., 2007: 5). De Kock states that “[w]hile the central bank obviously has no right to claim independence of the Government ... it should be enabled to maintain a position of independence within government” (1956: 318). As the authority of central banks to conduct suitable policy is commensurate with “autonomy” rather than “independence”, the first description is preferred, but because the literature uses these two words as if they have the same meaning, both are used in this study.

Whereas many central banks have lost autonomy in operations during economic hardship, a renewed focus on such autonomy emerged in the 1980s and 1990s, when it was realised that monetary policy *cannot be all things for all people*. Maxwell’s explanation of this loss of independence is that “[o]ne of the common criticisms of central bank independence is that it may lead to economic policy that is less employment-promoting than the ideal policy of the median voter and/or that is not social-welfare optimising. This critique is related to the fact that central bankers are likely to be more conservative than the average voter and are not directly accountable to the electorate” (1997: 146). The autonomy of the central bank to take the necessary decisions about monetary policy and interest rates without government interference accordingly remains an important issue for debate. Padayachee observes that “[o]ne noticeable trend in developing

¹ The time inconsistency problem is explained in more detail in section 4.2.

countries has been the rather dramatic increase in the statutory independence of their central banks in the 1990s” (2000: 496). This is confirmed by Maxwell, who states that “[b]etween 1990 and 1995 at least thirty countries ... legislated increases in the statutory independence of their central banks” (1997: 3).

Sustained economic growth and development require a number of preconditions, one of which is sufficient savings to support future investment. Sustained (and increasing) inflation, however, encourages current expenditure at the expense of future expenditure (i.e. savings), as consumers attempt to avoid paying higher prices in future. Perceptions that actual inflation exceeds the officially measured inflation rate will result in consumers acting in accordance with such perceptions by consuming now, rather than saving for future consumption if the perceived inflation is high.

This study is of value from a development perspective in as much as governments of developing economies can employ the methodology developed for the comparison of actual prices with “projected” price levels to confirm the accuracy of their measurement of average price increases. This can be a useful tool for developing countries to enhance inflation credibility.

In a developing country the use of an inflation credibility barometer and changes in the barometer will serve the dual purpose of an early warning system for changes in inflation perceptions². Readings of the inflation credibility barometer over time will warn governments of developing countries to adjust policies timely in the event of deteriorating inflation perceptions that might feed through into inflation expectations, thereby supporting the accurate pricing through interest rates of the opportunity cost of postponing current consumption in favour of future consumption (i.e. savings).

² Inflation perceptions imply *perceptions about the accuracy of the measurement of price changes*.

1.2 Scope and hypotheses of this study

This study focuses chronologically on four issues. First, South Africa's experience with inflation and price increases from a central bank perspective is examined. Secondly, methodological issues in the measurement of inflation, with specific reference to South Africa, are considered. Thirdly, price changes of various goods and services in South Africa since 1921 are analysed and compared to the rate of inflation over the relevant periods. Fourthly, the credibility of the rate of inflation as an accurate indication of the general rate of price increases in the South African economy is measured by means of an inflation credibility barometer.

Although the main focus of the study is *South Africa's experience* with inflation, regional and international comparisons are highlighted where applicable. This study highlights the relevance of the research for developing countries, particularly for countries in the Southern African Development Community (SADC) in the period running up to monetary unification and the introduction of a single currency, envisaged for 2016.

This study covers information and data available from 1921 to the end of 2006, except in instances where it is specifically stated that earlier or later data or developments have been taken into consideration. A sub-hypothesis and a main hypothesis are tested.

Sub-hypothesis (Hypothesis 1):

The prices of various identifiable consumer goods and services, as well as salaries, increased on average in accordance with the official overall rate of inflation over time.

This hypothesis is tested by comparing the actual price increases of various identifiable consumer goods and services, as well as increases in salaries, with the South African consumer price index (CPI) over the period since identification. The purpose of the comparison is to distinguish between perception and reality by ascertaining whether the prices of goods and services and salaries generally increased at a slower or faster pace than the CPI.

Main hypothesis (Hypothesis 2):

The degree of acceptance of the published official inflation figures as an accurate indication of general price increases in the South African economy by the general public, can be measured by means of an inflation credibility barometer.

This hypothesis is tested by an analysis of questionnaires developed to measure the credibility of published inflation figures in terms of an inflation credibility barometer³ by various groups of respondents. Based on the results obtained from the respondents, inflation credibility barometers are constructed, measuring the degree of acceptance of inflation credibility⁴ out of 100. Related to this hypothesis are issues such as:

- the suitability of questionnaires used in various pilot studies for general use;
- differences in the inflation perceptions of various constituent groups; and
- the level of understanding of the meaning and measurement of inflation of different groups of respondents.

1.3 Brief comments on the methodology used in this study

It was necessary to develop the methodology used for testing the two hypotheses in this study, as research of this nature has not been undertaken before. The development of the methodology and difficulties that had to be overcome are explained in detail in the relevant chapters reporting the research on the two hypotheses.

By means of summary, however, a particular challenge for testing the sub-hypothesis was the identification of homogeneous goods and services for purposes of comparing their current and adjusted historic prices to validate the accuracy of changes in the CPI. The guiding principle was

³ The use of the terminology *inflation credibility barometer* in this study differs considerably from the reference to a *barometer of inflation credibility* by Scholtes (2002: 67), who uses it to describe the calculation of longer-term breakeven inflation based on bond values (Scholtes, 2002: 70).

⁴ Inflation credibility implies the *credibility of current inflation statistics*.

availability of information, which could be obtained from a number of sources containing detailed, unprocessed price data. It was also necessary to consider quality improvements and the introduction of decimalisation and metrification in South Africa during the period under review. The methodology developed to validate the accuracy of inflation data is explained in Chapter 6 and is readily applicable to other (and particularly developing) countries.

The historic comparison of salaries or cost-to-company remuneration levels in real and nominal terms also posed certain challenges, but a methodology could be developed to ensure a basis for comparison over time. During the period of comparison “*job-title*” inflation has occurred in many positions in the private sector: the managing director has, for instance, become the chief executive. As a result of such “*job-title*” inflation, suitable private-sector positions could not be identified for purposes of comparison in this study. To the contrary, job titles in the South African civil service have remained broadly the same over the past 20 years. The previous redesignation of civil service positions in South Africa was in 1981, when the titles of (permanent) secretaries were, for instance, changed to directors-general. Two positions in the civil service were identified for comparative purposes.

It was necessary to develop a methodology to ensure that the research results reflect the influence of factors other than inflation on remuneration. Such factors include changes in direct taxes and the affordability of “big-ticket” spending items such as housing and transport. This methodology can be used by other countries that suffered from sustained inflation over a prolonged period of time to compare real remuneration of comparable positions. It is also a useful tool to ascertain whether low credibility of inflation figures is based on perception or reality.

As is the case for the sub-hypothesis, no local or international methodology or benchmarks exist for testing the main hypothesis, i.e. measuring the public’s degree of acceptance of the inflation figures as an accurate indication of general price increases. A methodology and benchmarks for this study were developed by compiling questionnaires of varying length that were tested in five initial pilot studies and one extensive pilot study, as explained in detail in Chapter 7. These pilot

studies confirmed the suitability of the methodology to measure the credibility of inflation figures for the calculation of inflation credibility barometers.

As the research results obtained from the methodology developed and tested in five pilot studies and one broader study supported the main hypothesis, the same methodology was used for sampling inflation credibility for the first time among a representative sample of the South African population. To contain the cost of sampling, this research was undertaken by means of participation in a national omnibus research questionnaire. Omnibus sampling is an accepted research practice used by many different disciplines (see for instance Camponovo, 2006; or Lindenmann, 2001) as is explained in Chapter 7. The sampling results of the representative study confirmed the main hypothesis. The methodology can be used for the international measurement (and comparison between countries) of the credibility of inflation figures.

1.4 Outline of the study

Chapter 1 demarcates the scope of the study and sets out the two hypotheses to be tested. South Africa is the main focus of the study, but international comparisons are used when appropriate. Ways in which the methodology and research can be applied by developing countries (and SADC⁵ countries in particular) are examined in relevant chapters whenever appropriate, because South Africa shows elements of both developed and developing countries in its economic structure.

Chapter 2 contains a selected review of literature on macroeconomic theory with a focus on monetary issues and highlights the measurement of inflation perceptions internationally. The implications of developments in macroeconomic theory for developing countries are also reviewed in this chapter.

Chapter 3 considers the measurement of inflation. Initiatives aimed at improving the accuracy and measurement of inflation in the United States of America (United States), a number of

⁵ SADC is the Southern African Development Community region.

member countries of the Organisation for Economic Co-operation and Development (OECD) and in South Africa are also considered. The implications for developing countries of initiatives to improve the measurement of inflation are explained briefly in this chapter.

The theory of using explicit anchors for a monetary policy framework, with specific reference to inflation targeting as one such anchor owing to its current use in South Africa, is reviewed in Chapter 4.

The fifth chapter reviews monetary policy and South Africa's experience with inflation since 1921 from a central bank perspective. Reliable inflation data are published as far back as 1921, which co-incides with the establishment of the South African Reserve Bank (SA Reserve Bank)⁶, although the SA Reserve Bank has never had any responsibility for measuring inflation. The review from the perspective of the SA Reserve Bank shows variable degrees of success in containing inflation, implying that containing inflation might not always have been its primary objective⁷. The chapter also highlights initiatives of the SA Reserve Bank to improve communication with all stakeholders about monetary policy, inflation in general and the inflation target since its adoption in South Africa in 2000.

Chapter 6 examines whether changes in the CPI can be regarded as an accurate indication of general price increases for an average South African household, therefore testing the sub-hypothesis. This chapter compares the price increases of selected identifiable consumer goods and services, as well as increases in salaries, with the South African CPI over different periods

⁶ The SA Reserve Bank opened its doors for business for the first time on 30 June 1921.

⁷ In the promulgation of the Currency and Banking Act, No 31 of 1920, in terms of which the SA Reserve Bank was established, it was already envisaged that a central bank will contribute positively to the prevention of inflation (SA Reserve Bank, 1971: 11), although price stability was not specifically highlighted as a policy objective. The Canadian central bank, established in 1935, was the first to be entrusted with such explicit responsibility, *inter alia*, for mitigating fluctuations in the general level of prices (De Kock, 1956: 23). Although legislation entrusted the SA Reserve Bank with a similar explicit responsibility only in 1989 with the promulgation of the SA Reserve Bank Act, No 90 of 1989, De Kock (1954: 273) mentions that the SA Reserve Bank focused already during World War II (albeit in conjunction with the South African and British treasuries) on policies to diminish internal inflationary pressure. Before its abolition "... the gold standard had automatically imposed a large measure of discipline" (De Kock, 1974: 56), and after its abolition "... greater prominence was given, in both academic and banking circles, to the question of controlling bank credit and the money supply with the object of stabilising the general price level" (De Kock, 1974: 130).

since 1921. This comparison aims at distinguishing between perception and reality by ascertaining whether the prices of goods and services and salaries increased at a rate slower or faster than the CPI. An inflation accuracy indicator (IAI) is developed for the measurement of the accuracy of the rate of inflation, and the chapter also shows the usefulness of this instrument for developing countries.

When this study was initially planned, the goal was to identify and compare the price increases of a selection of consumer goods since 1921, the year corresponding with the oldest data for a comprehensive South African CPI, and goods and services since 1974, the first year that inflation in South Africa moved into double digits for a prolonged period of time, ending only in 1993. However, as insufficient information on comparable prices of goods and services for those exact years was available, identifiable historic prices and salaries available at various dates since 1921 are used for comparative purposes in Chapter 6. This approach allowed for (i) the inclusion of a broader variety of goods and services than would have been possible if data available for 1921 and 1974 only were used, and (ii) the monitoring of price movements over different time periods.

Chapter 7 highlights the findings of pilot studies and the findings of a representative sample undertaken for this study, aimed at measuring inflation credibility in South Africa, and particularly the acceptance of changes in the CPI as an accurate indication of the general level of price increases in the economy. These studies are used to construct inflation credibility barometers. These barometers are compared with the approaches used in a number of other countries and regions aimed at the measurement of the public's perceptions of the current rate of inflation, discussed in Chapter 2. The possible application of a barometer by developing countries or regions, with specific reference to SADC, is also discussed in this chapter.

The conclusions from the study are summarised in Chapter 8, and areas for further research are also highlighted. The study also comprises a list of references and a number of appendices.