Anchors for monetary policy
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Table 1

Rates of inflation, selected African regions

Average annual percentage changes

	1997–2001	2002	2003	2004	2005 projected
Oil-producing countries	20.1	18.7	17.0	12.7	11.8
Non-oil-producing countries	13.2	10.3	12.4	8.4	9.4
Sub-Saharan Africa	14.6	12.1	13.4	9.4	9.9
Excluding Nigeria and South Africa	23.0	14.2	19.6	14.5	13.2
CFA franc zone	2.8	3.8	1.4	0.2	2.8
WAEMU	2.6	2.7	0.9	0.3	2.8
CEMAC	3.1	5.2	2.0	0.2	2.9
Fixed exchange rate regime	9.8	16.3	22.1	18.2	14.5
Floating exchange rate regime	15.9	11.1	11.4	7.4	8.8

Source: IMF (2005a).

Introduction

African countries have generally seen a decline in rates of inflation since the beginning of the current decade, despite recent strong increases in the price of oil and other energy products. The favourable inflation performance has occurred among oil importers and oil exporters alike (Table 1). Interestingly, flexible exchange rate countries – led by South Africa, the continent's largest economy – have shown a better inflation performance in recent years, declining from a higher level, while fixed exchange rate countries have seen a pickup in inflation since the beginning of the decade. Nevertheless, inflation rates in most African countries – with the exception of members of the two CFA franc zones – remain higher than those in the OECD countries.

Lower inflation has been the result of a benign international environment combined with greater emphasis in a number of countries on containing fiscal deficits and limiting the recourse to central banks to finance those deficits. For instance, central bank independence has been boosted in several countries, and the CFA franc zones have prohibited direct monetary financing of fiscal deficits.

The issue discussed in this note is the choice of policy regime to provide a longer-term anchor for monetary policy and the implications of the choice of anchor for short-term economic outcomes. A companion paper ("The global economy and Africa: the challenge of increased financial inflows") considers monetary policy responses to aid, commodity price, and capital flow shocks. Individual circumstances, such as the degree of openness of the economy, the extent of fiscal

discipline, and the level of financial development, are important for the choice of anchor, making it unlikely that a single regime will dominate the others for all countries.

Domestic versus external targets for monetary policy

An important choice relates to the operating target for monetary policy, and it is useful to distinguish between **domestic** and **external** targets. A **nominal exchange rate peg** (either to a single currency or to a basket) constitutes the principal external target. The exchange rate then limits the scope for using monetary policy to pursue any other objective.

An exchange rate target has the advantage that it provides a visible and easily monitored anchor for price expectations. Over the longer run, if it is fully supported by monetary policy, an unchanged peg will tend to produce the same rate of inflation as in the country of the currency peg. Thus, the rate of inflation in the CFA franc zones approximates that in the euro zone. An exchange rate peg may be particularly appropriate for a country that does much of its trade with another country or currency area, since a fixed exchange rate will tend to reduce temporary misalignments that can lead to misallocation of resources and improve the stability of relative prices. A common currency will, in addition, minimise transaction costs. The smaller countries in the Common Monetary Arrangement (Lesotho, Namibia and Swaziland) peg their currencies one-to-one to South Africa's rand, and the rand is also accepted as a means of payment in those countries.[2]

An exchange rate peg that is not fully supported by monetary policy and accompanied by fiscal discipline may, however, present a number of drawbacks. Excessive monetary expansion or fiscal laxity will increase inflation pressures. Non-tradables prices will rise relative to tradables prices, held down by foreign competition. Eventually, the deterioration in international competitiveness leads to external current account imbalances. Such a peg becomes less and less credible. Individuals and firms will also try to shift out of the domestic currency into foreign currencies, leading to capital outflows and/or a parallel exchange rate that is more depreciated than the official rate. Given limited official foreign exchange reserves, the authorities may resort to rationing of foreign exchange, opening the door to favouritism in its

allocation and corruption, and inefficiencies as imports of necessary intermediate inputs are curtailed. In Africa, these inefficiencies became widely apparent in the 1980s and 1990s and led to abandonment of currency pegs in a number of countries in the context of structural adjustment programmes.

Domestic targets as anchors for monetary policy in Africa have usually consisted of a **monetary aggregate** target, but **inflation targeting** has become popular among a number of middle- and high-income countries around the world and is the principal alternative to monetary targeting. A target for central bank money is typically a feature of IMF-supported programmes. The rationale for using a monetary aggregate as intermediate target is that there exists a stable demand for the monetary aggregate that depends on economic activity and the price level. Unfortunately, money demand has proved unstable in many countries, limiting its usefulness as an indicator of the appropriate stance of monetary policy.[3] For instance, money/income ratios have grown over time as a result of financial development and successful macroeconomic stabilisation (Table 2): such changes are hard to predict since they tend to occur discontinuously. Demand for the domestic currency can vary because lack of confidence in economic policies leads residents to acquire foreign currencies. As a result, monetary growth can be erratic and deviations from target may not provide a useful guide for setting monetary policy.

Inflation targeting, as it has been practised in a number of industrial and emerging market economies (including the United Kingdom, Canada, New Zealand, Brazil, Mexico and South Africa), provides a transparent framework for formulating and communicating short-term adjustments of policy instruments in terms of a longer-term objective that is central to a central bank's mission – maintaining the purchasing power of the currency. There is some evidence that inflation targeting, accompanied by exchange rate flexibility, has helped reduce the incidence of financial crises in emerging market economies.

[2] But it is not legal tender in Swaziland.

[3] See BIS (1996).

Table 2

Money/income ratios,[1] selected African countries and regions

As a percentage of GDP

	1997–2001	2002	2003	2004	2005 projected
Oil-producing countries	18.0	22.4	20.2	19.4	17.3
Non-oil-producing countries	44.4	44.7	50.2	52.4	53.9
Sub-Saharan Africa	38.0	38.6	42.0	43.1	42.9
Excluding Nigeria and South Africa	24.7	28.5	28.5	26.9	26.6
CFA franc zone	18.3	21.8	21.3	21.0	20.7
WAEMU	22.2	26.5	26.0	26.4	26.7
CEMAC	13.2	16.0	15.5	14.9	14.4
Fixed exchange rate regime	23.3	28.5	28.2	25.3	25.9
Floating exchange rate regime	42.0	42.7	46.1	47.9	47.5

[1] Ratio of broad money to nominal GDP.

Source: IMF (2005a).

Table 3

Botswana: selected economic indicators

	1997–2001	2002	2003	2004	2005 projected
Average annual percentage changes					
Real GDP	6.2	5.0	6.6	4.9	3.8
Consumer prices	7.7	8.1	9.6	6.6	6.8
Broad money	25.4	−1.1	15.5	16.0	13.7
Ratios to GDP					
Overall fiscal balance[1]	1.5	−4.0	−2.8	−1.4	−0.7
Government revenue[2]	42.7	40.1	39.2	38.9	40.1
Government expenditure	41.7	44.3	42.1	40.7	41.3
Trade balance	13.1	11.4	12.3	7.0	7.5
Current account	10.4	2.2	6.5	9.5	9.3
Indices, 2000 = 100					
Real effective exchange rate[3]	101.2	111.4	111.3	101.4	…
Nominal effective exchange rate[3]	101.3	107.9	111.9	106.8	…

[1] Including grants.
[2] Excluding grants.
[3] An increase indicates appreciation.

Source: IMF (2005a).

There are several key practical questions related to inflation targeting:

– How should the target rate be calculated (the consumer price index, or inflation excluding particularly variable items like energy and foodstuffs)?

– What should be the numerical target?

– Should there be an explicit target band, and, if so, should it be narrow or wide?

– What should be the horizon for hitting the target?

It needs to be recognised that no monetary regime is likely to be successful without supporting policies, in particular, fiscal discipline. Large fiscal deficits will lead to overheating of the economy, put pressure on monetary policy to provide financing, and detract from the credibility of a currency peg. Conversely, various monetary regimes have been successful in achieving low inflation and sustained growth when supported by fiscal discipline. A few examples taken from recent experience in Africa illustrating both of these principles follow.

Use of the exchange rate as an anchor for monetary policy in Botswana[4]

In the mid-1970s, Botswana chose to issue its own currency, the pula, and to abandon the fixed parity with respect to the rand that characterises the exchange rate regimes of other neighbours of South Africa – Lesotho, Namibia and Swaziland. The pula is pegged to a basket of currencies; the objectives of exchange rate policy are to maintain exchange rate stability and achieve low inflation. There have been a number of changes of parity, both devaluations and revaluations, and they have allowed the country to achieve relatively low inflation while at the same time safeguarding external competitiveness (Table 3). Botswana has been willing to adjust the currency peg up or down as circumstances merit, most recently by devaluing in May 2005.

Botswana has been very successful in achieving growth (it was the fastest growing country in the world in the two decades after independence), with moderate inflation. In this regard, it has benefited

[4] The descriptions of the monetary policy regimes of Botswana, Nigeria and South Africa are taken from Masson and Pattillo (2005).

Table 4

Nigeria: selected economic indicators

	1997–2001	2002	2003	2004	2005 projected
Average annual percentage changes					
Real GDP	2.7	1.5	10.7	6.0	3.9
Consumer prices	10.0	13.7	14.0	15.0	15.9
Broad money	28.1	27.2	21.6	24.1	14.0
Ratios to GDP					
Overall fiscal balance[1]	−2.8	−4.2	−1.3	7.7	10.0
Government revenue and grants	…	36.4	37.1	43.1	43.5
Of which: oil and gas	…	26.2	28.0	35.0	36.7
Government expenditure and net lending	…	40.7	38.4	35.4	33.6
Trade balance	15.8	8.6	17.5	26.9	27.1
Current account[1]	0.8	−11.5	−2.7	4.9	11.0
Indices, 2000 = 100					
Real effective exchange rate[2]	135.3	110.6	103.9	106.3	121.9[3]
Nominal effective exchange rate[2]	143.7	85.8	72.3	65.5	64.9[3]
In per cent					
Real Treasury bill rate	4.62	5.81	0.86	−0.69	−7.77[4]

[1] Including grants.
[2] An increase indicates appreciation.
[3] Average, January to October.
[4] Average, January to August.

Sources: IMF (2005a,b); IMF, International Financial Statistics.

enormously from the revenues from diamond mining, which have generated government surpluses, and from a government which has been responsive to the population's interests while not undertaking excessive spending. As a result, there has not been pressure on the central bank to provide government financing, allowing it to operate effectively to achieve the goals mentioned above.

Persistent government surpluses have meant that there has been no need for a government debt market. This has meant that the instruments for currency speculation have not existed, and, until now, portfolio capital flows have not led to strong pressures up or down on the exchange rate – unlike the case of other emerging market economies. However, increasing financial development may lead to the need for more flexibility in the exchange rate. In particular, allowing non-residents to participate in markets for Bank of Botswana certificates or other short-term paper could lead at times to strong speculative pressures, which might be difficult to resist without increased flexibility of the pula's exchange rate.

A managed floating regime: Nigeria

Nigeria is officially classified as having a managed float of the naira, but in the past has had pegged exchange rates accompanied by various systems for the allocation of foreign exchange. Rationing has led to inefficiency in the economy. The parallel market rate has in practice been considerably weaker than the official rate, and the parity has had to be changed frequently. Inflation has been persistently in double digits, and real interest rates have been low (and sometimes negative – see Table 4).

The past decade has seen a variety of policy initiatives and reversals. Starting from a regime that included interest rate ceilings and no free market in foreign exchange, in 1995 foreign exchange controls were liberalised, foreign exchange bureaus authorised, and a dual exchange rate regime installed with a pegged official rate and a flexible auction rate. In the next few years, inflation declined from a peak of 77% in 1994 to 10% in 1997, and real economic growth picked up. The dual rate gave way to a multiple exchange rate system and then to the abolition of the official rate. Large fiscal deficits starting in 1999 led to

Table 5

South Africa: selected economic indicators

	1997–2001	2002	2003	2004	2005 projected
	Average annual percentage changes				
Real GDP	2.5	3.6	2.8	3.7	4.3
Consumer prices	6.4	9.2	5.8	1.4	3.9
Broad money	13.0	18.1	12.9	13.1	13.5
	Ratios to GDP				
Overall fiscal balance[1]	−2.4	−1.2	−2.0	−1.7	−1.9
Government revenue[2]	23.5	23.4	23.4	24.4	24.9
Government expenditure	25.9	24.6	25.4	26.1	26.8
Trade balance	2.8	4.3	2.0	…	−0.7
Current account[1]	−0.8	0.7	−1.5	−3.2	−3.7
	Indices, 2000 = 100				
Real effective exchange rate[3]	103.4	75.5	97.4	106.3	107.3[4]
Nominal effective exchange rate[3]	108.4	67.5	83.8	91.8	91.4[4]

[1] Including grants.
[2] Excluding grants.
[3] An increase indicates appreciation.
[4] Average, January to October.

Source: IMF (2005a).

monetary financing and a pickup of inflation. The system at this point consisted in a predetermined fixed rate and a parallel market rate that was substantially more depreciated. Rapidly falling reserves by 2002 led to a series of devaluations of the predetermined rate. The depreciation of the naira helped stabilise the market and reduce the parallel premium. The rapid rise in the world oil price since 2002 greatly reduced fiscal pressures during 2004–05. Nonetheless, high inflation persisted, and though the naira has depreciated further in nominal terms, the real effective exchange rate has appreciated and is currently more than 20% above its 2000 level.

Inflation targeting in South Africa

South Africa has moved from a pegged exchange rate to inflation targeting, after a transition period with both money and inflation targets during which there was also extensive foreign exchange market intervention. Since 2000, the South African Reserve Bank (SARB) has been using the rate of inflation as the main operating guide to setting monetary policy, and the rand has been floating freely. The target for the rate of inflation, 3–6%, is somewhat higher and the band wider than for the industrial countries that announce inflation targets. The inflation target differs from headline inflation (which is also the case for most other inflation targeting countries) as it excludes mortgage interest. There are escape clauses that excuse the SARB from hitting its target should there be a sharp rise in the world oil price or international financial contagion.

After a period of sharp rand depreciation, since 2002 the rand has strengthened and inflation has come down to levels within the target range, or even below it (Table 5). While an appreciated real exchange rate has put pressures on some traded goods sectors (especially mining), the economy is now growing strongly. The SARB has shown that it is serious about meeting its inflation target, and in doing so is willing to allow variation up or down in the exchange rate. This flexibility of the exchange rate has minimised the unfavourable effects of financial crises elsewhere (eg Russia in 1998 and Brazil in 1999), which otherwise might have induced a full-blown currency crisis in South Africa.

In operating its policy of inflation targeting and flexible exchange rates, South Africa has benefited from a respected central bank with a history of independence, disciplined fiscal policies, and a diversified economy with well developed financial markets. South Africa uses short-term interest rates as its primary monetary policy instruments, and a competitive commercial banking system and extensive financial markets ensure the transmission of monetary policy to the real economy.

Can inflation targeting be adapted to a wider set of countries in Africa?

Inflation targeting works best if central banks have instrument independence (de facto as well as de jure); there is public support for low inflation; prices are flexible and are not subject to administrative regulation; and the existence of financial markets allows the use of indirect monetary instruments (ie interest rates). Experience in Africa and elsewhere has shown that statutory independence can be undermined by large fiscal deficits. Countries with no other sources of government financing are likely to see inexorable pressures on the central bank for monetary expansion. Conversely, the public's desire to see low inflation is a key factor bolstering central bank independence.

Flexibility in product and labour markets contributes to the effectiveness of the central bank in achieving its inflation targets. If, instead, prices are set by administrative fiat, inflationary pressures due to monetary expansion will be repressed, even if not completely eliminated. Targeting of an inflation rate by the central bank would then have little significance. Another problem may be the large weight of agricultural commodities in the index, since their prices may be very sensitive to growing conditions. Assuming a degree of price/wage flexibility, the central bank needs, in addition, to have a quantitative framework for predicting the effects of its instruments on the rate of inflation, taking into account the lags that are present.

If the supporting features are not present, making a full-blown inflation targeting regime difficult to put in place, elements of inflation targeting may be combined with other policy regimes. For instance, some countries have at times put in place hybrid systems combining fixed exchange rates or monetary targeting and inflation targeting.[5] Such

regimes have often been viewed as transitional arrangements leading to full inflation targeting. While having several targets reduces the risk of going astray as the bugs are being worked out of the system and experience is being gained in gauging the effects of monetary policy instruments on inflation, it also detracts from transparency, since the central bank may have the discretion to shift from one target to the other when the two give conflicting signals. In any case, the exchange rate cannot be ignored even in a pure inflation targeting framework[6] because of its effect on import prices, but, in addition, exchange rate volatility may be too great in countries that do not have a well developed and competitive market for foreign exchange. Thus, the revealed preference of many developing countries not to permit full flexibility – "fear of floating" – also argues for a hybrid regime at least until financial markets develop more fully.

Effects of structural changes on the choice of monetary instruments and on the transmission mechanism

Central banks may use the amount of commercial bank reserves or the interest rate as short-run operating instruments. Use of the interest rate instrument requires markets for government treasury bills, commercial paper, or interbank claims. These markets may not exist, or, if they do, may not be very liquid. This complicates the task of monetary policy and may force the central bank to use quantitative restrictions on the amount of lending that commercial banks can do or ceilings on the amount of refinancing that is available from the central bank as policy instruments. In these circumstances, effects of monetary policy on inflation may not be very predictable, because they will depend in part on the existence of alternative sources of lending to the non-financial sector.

As discussed above, inflation targeting, because of the lags in the effects of instruments on inflation, needs a quantitative framework for predicting the effects of instruments on inflation with a one- to two-year (or longer) horizon. The transmission mechanism between the instruments of monetary policy and its ultimate targets – whether inflation or economic activity – is generally considered to operate through four channels:[7]

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[5] For instance, Chile and Israel have in the past had both exchange rate and inflation targets. From 1998 to 2000, South Africa combined money growth and inflation targets, as does the ECB at present.

[6] And monetary aggregates may provide useful information concerning future inflation.

[7] See Kamin, Turner and Van 't dack (1998).

(i) direct interest rate effects, which influence investment decisions and the choice between consuming now and consuming later;

(ii) indirect effects via other asset prices, such as prices of bonds, equities and real estate, which will influence spending through balance sheet and cash flow effects;

(iii) exchange rate effects, which will change relative prices of domestic and foreign goods, influencing net imports, and also the value of foreign currency denominated assets, with resulting balance sheet effects; and

(iv) credit availability effects, which may include credit rationing if there are binding ceilings on interest rates.

The predictability of the effects of monetary policy through these four channels may be modified in a number of ways by structural changes in the economy. Those changes can affect the way instruments under the central bank's control – eg short-term interest rates or reserve requirements – impact financial conditions in the non-financial sector; and how those financial conditions affect the spending decisions of households and firms. Important factors influencing the transmission mechanism include the following:

– Official intervention can set interest rate ceilings or other limits on financial market prices, impose direct limits on bank lending, or provide government-financed credit to selected areas. Financial liberalisation generally reduces the role of official intervention, giving a greater potential role for the first three transmission channels, and a reduced role for the fourth, credit availability effects.

– Greater competition in the banking sector will tend to enhance the flexibility of deposit and loan rates, and their responsiveness to monetary policy.

– The presence and depth of domestic securities markets should accelerate the transmission of monetary policy changes, in particular through the second channel above.

– Alternative sources of financing – such as informal or "curb" markets for credit or microfinance – if they are highly segmented, will tend to diminish the impact of monetary policy through the interest rate and credit availability channels.

– The exchange rate transmission channel is most powerful when the exchange rate is flexible, there are few restrictions on capital flows, and domestic and foreign assets are good substitutes.

– Initial financial conditions – the extent of external financing (versus self-financing through accumulated saving) by firms and households, the degree of leverage, the maturity and market sensitivity of holdings, their currency composition, and the soundness and capital structure of banks – will affect all four of the transmission channels.

– The strength of the transmission channels will be affected by the structure of the real economy. Liberalisation of product and labour markets – eg abandoning administrative restrictions or enhancing competition among firms – will tend to make monetary policy instruments more effective in controlling inflation. Sectoral composition of the economy will also be important: an economy with a large informal sector or a large foreign-owned resource sector mainly financed from abroad may be little affected by what the central bank does. In contrast, a diversified economy may respond through a variety of channels to monetary policy, and bringing down inflation may be smoother and less disruptive.

In sum, structural changes, which are especially prevalent for countries experiencing rapid development, may make the effects of monetary policy more uncertain. This may constrain the scope for operating monetary policies that rely on forecasting the future effects of policy, like inflation targeting. However, they also make it very desirable to have a credible and transparent anchor for the central bank's policies.

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