

Have monetary transmission mechanisms in Africa changed?

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1. Introduction

African countries generally performed very well economically from the early 2000s to 2008 – a prolonged period of record high growth of real GDP, a decline in the inflation rate to single digits in most countries, and increases in external reserves (Graph 1). The good performance was due partly to a prolonged upswing abroad, which also fuelled commodity prices (Graph 2), and partly to debt relief. But improved domestic policies also played an important role. The ability of African countries to weather exogenous shocks was demonstrated during the recent global financial crisis. While African countries typically have lagged cyclical upswings abroad, this time they have rebounded with other developing countries. To be sure, greater integration with rapidly growing economies in Asia played a role, but the rebound has also been due to the pursuit of countercyclical fiscal and monetary policies in many African countries.

This note discusses how monetary policy was conducted in Africa during the global financial crisis and whether there were any indications that the transmission mechanisms of monetary policy had changed – a development seen in emerging markets in other regions. It also examines the lessons from the crisis and asks how African central banks should manage monetary policy in response to exogenous shocks – from both trade and capital flows – as the continent attains greater integration in the global economy.²

The paper is structured as follows. Section 2 discusses some general economic conditions required for the conduct of effective monetary policy and notes four specific features of African economies that constrain policy effectiveness: low financial depth; widespread dollarisation; fiscal dominance; and the so-called excess liquidity of the banking systems. Section 3 reviews the main monetary policy frameworks currently in place in Africa. Section 4 discusses the conduct of monetary policy in Africa during the global financial crisis and in particular the performance of the different transmission channels of monetary policy during the crisis. Section 5 summarises the main findings of the paper.

2. Conditions for effective monetary policy

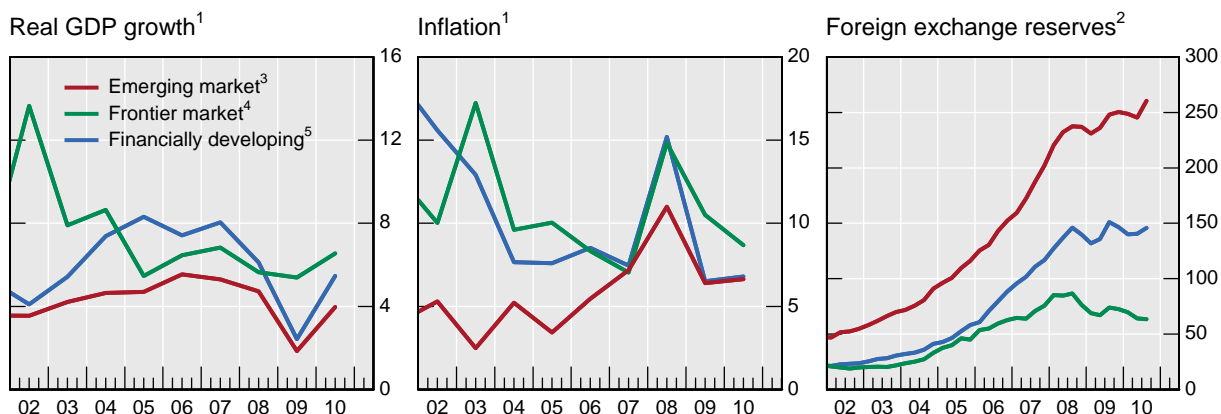
The effective transmission of monetary policy requires several conditions: The independence and credibility of the central bank must influence not only the formulation of monetary policy but also public expectations as to the effectiveness of such policy. Transmission mechanisms based on interest rates are better than direct controls on bank credit; a system based on large reserve requirements can be seen as part of the transition away from direct controls to reliance on interest rates. Well functioning secondary markets help the central

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² For a discussion of the financial stability issues, see the paper by Jeanneau in this volume.

bank influence the value of financial market variables such as the interbank market interest rate and the money stock (Mishra et al (2010)). Competition in the banking sector is necessary if changes in the policy rates are to have an impact on market rates; banks in a non-competitive market might not pass-on changes in policy rates to the lending or deposits rates of customers. The existence of long-term bonds is a prerequisite for the establishment of a market-based term structure; it also helps to hedge uncertainty about future short-term rates. Finally, a substantial degree of international financial integration is required to influence the arbitrage between domestic and foreign financial assets.

Graph 1
Macroeconomic indicators for Africa, by level of financial depth



¹ In per cent. ² In billions of US dollars. ³ Economies with relatively well developed financial markets that resemble those of emerging market economies (EMEs) in the rest of the world, consisting of five countries: Algeria, Egypt, South Africa, Morocco and Tunisia. ⁴ Economies whose financial markets are advancing but do not yet have the same access to global capital markets as EMEs, consisting of 12 countries: Botswana, Cape Verde, Ghana, Kenya, Mauritius, Mozambique, Namibia, Nigeria, Seychelles, Tanzania, Uganda, and Zambia. The peak in GDP growth in 2002 was due to 21% growth in Nigeria. ⁵ Economies with the least well developed financial markets, consisting of 36 countries.

Source: IMF, International Financial Statistics.

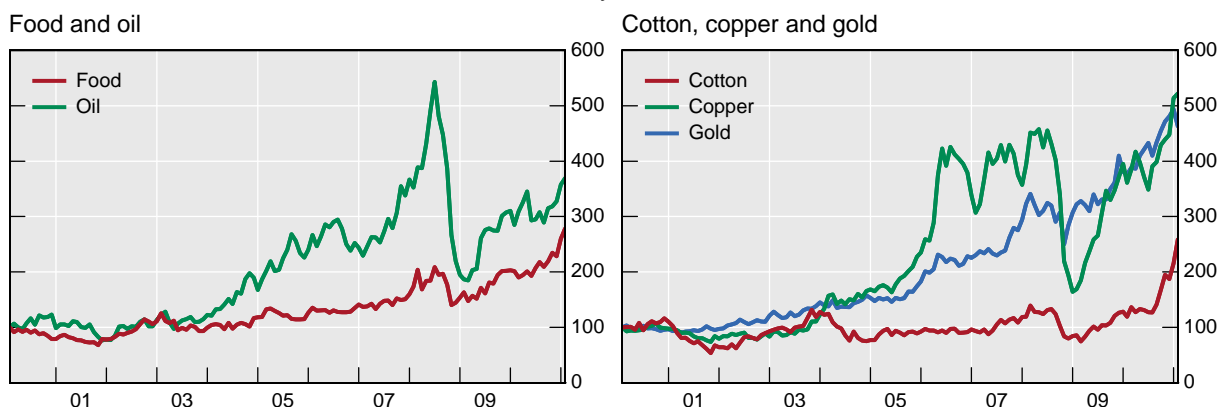
It is useful to examine first how monetary regimes have developed in emerging market economies (EMEs) in other regions of the world. In EMEs outside Africa, three broad trends can be discerned: first, a trend towards independent monetary policy regimes with greater emphasis on inflation control and inflation targeting; second, development of financial markets with less government intervention and reduced fiscal dominance; and third, greater economic (especially trade) and financial market integration with the global economy (BIS (2008)).

Reflecting these developments, EMEs have built up significant gross foreign asset and liability positions, and correlations between asset prices in emerging markets and developed countries have strengthened. Together with the rapid development of EMEs, their greater integration into the global economy has strengthened the transmission mechanisms of monetary policy, including the interest rate channel. However, it has also made control more difficult in some cases, eg by making interest rates, capital flows, and exchange rates highly sensitive to external developments.

In low-income countries, by contrast, one would expect the lack of developed financial markets to weaken the interest rate channel, and the lack of a secondary market for equities and real estate to weaken the asset channel. The exchange rate channel would depend on the actual flexibility of the exchange rate.

In Africa, the monetary policy environment is gradually changing. The remainder of this section examines some specific features of African economies that have constrained the effectiveness of monetary policy in the past – the level of financial depth, dollarisation, fiscal dominance and excess liquidity – and recent changes in those features.

Graph 2
Commodity prices¹
 1 January 2000 = 100



¹ Month-end data.

Source: Bloomberg.

Financial depth

Africa has trailed the rest of the world in terms of financial development. Apart from a few countries, most notably South Africa, the continent has been characterised by less developed financial markets, limited competition in the banking sector and few non-bank financial institutions. Long-term financing, which is critical for infrastructure investment, has been virtually non-existent.

Africa comprises a diverse group of 53 countries, and this paper considers them in three groups (see Table A1):³

- **Emerging market economies**, which have relatively well developed financial markets that resemble those of EMEs in the rest of the world. This group comprises five countries: Algeria, Egypt, Morocco, South Africa and Tunisia.
- **Frontier market economies**, whose financial markets are advancing but are yet to have the same access to global capital markets as EMEs. This group comprises 12 countries – five middle-income countries: Botswana, Cape Verde, Mauritius, Namibia and Seychelles; and seven low-income countries: Ghana, Kenya, Mozambique, Nigeria, Tanzania, Uganda and Zambia.
- **Financially developing economies**, which have the least well developed financial markets. This group comprises the remaining 36 countries, all of them low income.

During the past decade, financial depth in Africa has increased, although not uniformly. Measured in terms of the ratio of banks' liquid liabilities to GDP, it has increased in all three groups but particularly in the emerging and frontier market economies (Table 1). The measurement of financial depth should ideally also include liquid liabilities of bank-like institutions and non-bank financial institutions (eg microfinance institutions), but the data for this category are incomplete. Banks have also become more efficient in transformation of deposits to private sector credit except in the financially developing countries.

³ The groups are defined according to the ratio of bank assets to GDP and degree of capital market development (see IMF (2009a)).

Table 1

Indicators of financial depth

Ratio, in per cent, weighted by country GDP

	Liquid liabilities to GDP ¹		Private sector bank credit to deposits ²	
	1998–2000	2008–10	1998–2000	2008–10
Africa				
Emerging market	48	63	93	96
Frontier market	18	34	73	88
Financially developing	20	23	71	61
Selected emerging market economies ³	39	50	87	92

¹ Liquid liabilities are currency plus demand deposits and interest bearing liabilities of banks. ² Bank credit to the private sector is taken from line 22d of the IFS data. ³ Brazil, Chile, the Czech Republic, Egypt, Hungary, Indonesia, Malaysia, Mexico, the Philippines, Poland, Russia, South Africa, Thailand and Turkey.

Source: IMF, International Financial Statistics.

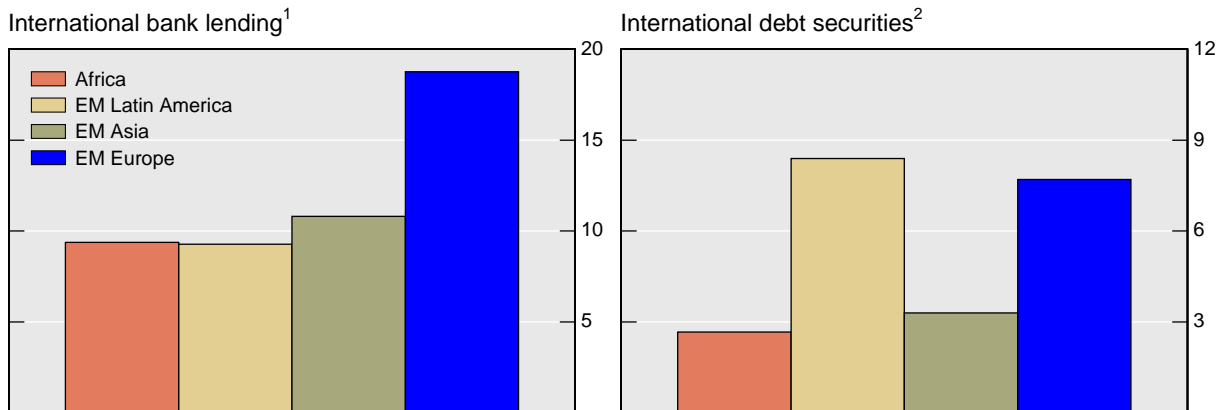
Financial depth indicators suggest that emerging and frontier market economies in Africa are approaching the average levels of comparator groups in other EME regions of the world. However, financially developing economies in Africa continue to lag in financial depth according to most commonly used measurements. In fact, they appear to have regressed during the global crisis, which might be due to high credit expansion before the crisis that turned out to be very risky in a recession setting. As a result, in many African countries, banks stepped on the brakes, and credit even declined in a few cases (see Section 4 below).

Regarding integration with international capital markets, Africa compares relatively well with other developing country regions in terms of cross-border bank transactions (Graph 3, left-hand panel). However, it lags behind in terms of issuance of international debt securities (Graph 3, right-hand panel).

Graph 3

International bank lending and issuance of international debt securities

Amounts outstanding, as a percentage of GDP, September 2010



¹ External loans of BIS reporting banks vis-à-vis all sectors in individual countries. ² International debt securities, all issuers.

Source: BIS locational banking statistics and international debt securities statistics.

Table 2
Commercial banks' assets and liabilities in foreign currency

Share of total liabilities or assets, in per cent

		2005	2010
Botswana	Liabilities	15.5	12.1
	Assets	15.8	10.9
Ghana	Liabilities	27.4	28.5
	Assets	24.5	23.0
Kenya	Liabilities	21.2 ¹	14.3
	Assets	23.3 ¹	15.9
Lesotho ²	Liabilities	2.7	1.4
	Assets	31.7	47.2
Madagascar	Liabilities	24.5	20.5
	Assets	20.9	19.0
Mauritius	Liabilities	52.0	60.0
	Assets	57.0	62.0
Morocco	Liabilities	2.8	3.6
	Assets	6.5	6.6
Mozambique	Liabilities	33.5	31.2
	Assets	34.6	33.4
South Africa	Liabilities	8.7	5.7
	Assets	3.7	4.1
Seychelles	Liabilities	41.0	41.0
	Assets	11.0	10.0
Swaziland ²	Liabilities	0.0	0.2
	Assets	3.1	5.9
Tanzania	Liabilities	33.2	26.6
	Assets	30.9	27.9
Tunisia	Liabilities	11.3	14.0
	Assets	9.5	11.6
Uganda	Liabilities	26.9	25.2
	Assets	27.4	24.7
Zambia	Liabilities	2.1	5.6
	Assets	20.7	14.9

¹ Refers to 2008, earliest figure available. ² Part of the rand area.

Source: Central bank responses to BIS questionnaire.

Dollarisation

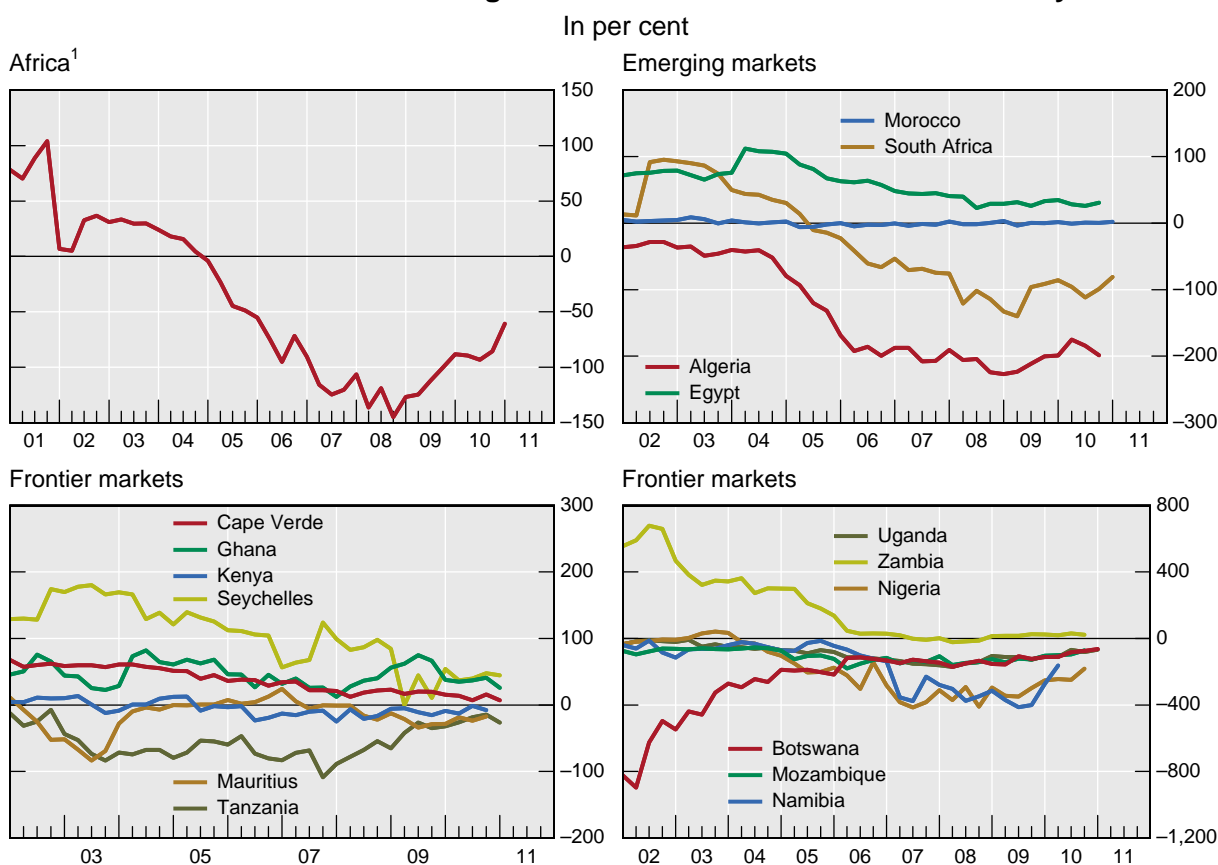
Monetary policy can affect financial claims and liabilities in local currencies but not in foreign currencies. The greater the dollarisation of an economy, the less scope there is for an independent monetary policy. Dollarisation or the use of foreign currencies might indicate that confidence in the stability of the local currency is lacking. A number of countries still have banking systems in which foreign currencies account for one fifth to one third of total

assets and liabilities (Table 2).⁴ In most cases, the share of instruments denominated in foreign currency is similar on the asset and liability side, suggesting that there might not be a foreign exchange mismatch on the books of the banks (depending on the currency of denomination). However, lending in foreign currency for domestic purposes implies indirect currency mismatches because the customers of banks might face currency mismatches.

Fiscal dominance

Monetary policy in many African countries has suffered from fiscal dominance. Fiscal dominance implies that expectations about inflation are intrinsically linked to fiscal performance. Under fiscal dominance, for example, a monetary policy tightening might have a perverse effect on the economy. Instead of leading to an increase in real interest rates, appreciation of the currency, and reduction in aggregate demand and inflation, such tightening might fuel expectations of default on government debt and thereby lead to a depreciation of the currency and increase in inflation. Under fiscal dominance, inflation expectations react to fiscal events and reflect lack of a credible anchor. Fiscal dominance can also compromise central bank independence if the government openly resists moves by the central bank to raise interest rates. More importantly, fiscal dominance generally crowds out private sector credit.

Graph 4
Net claims on central governments as a share of reserve money



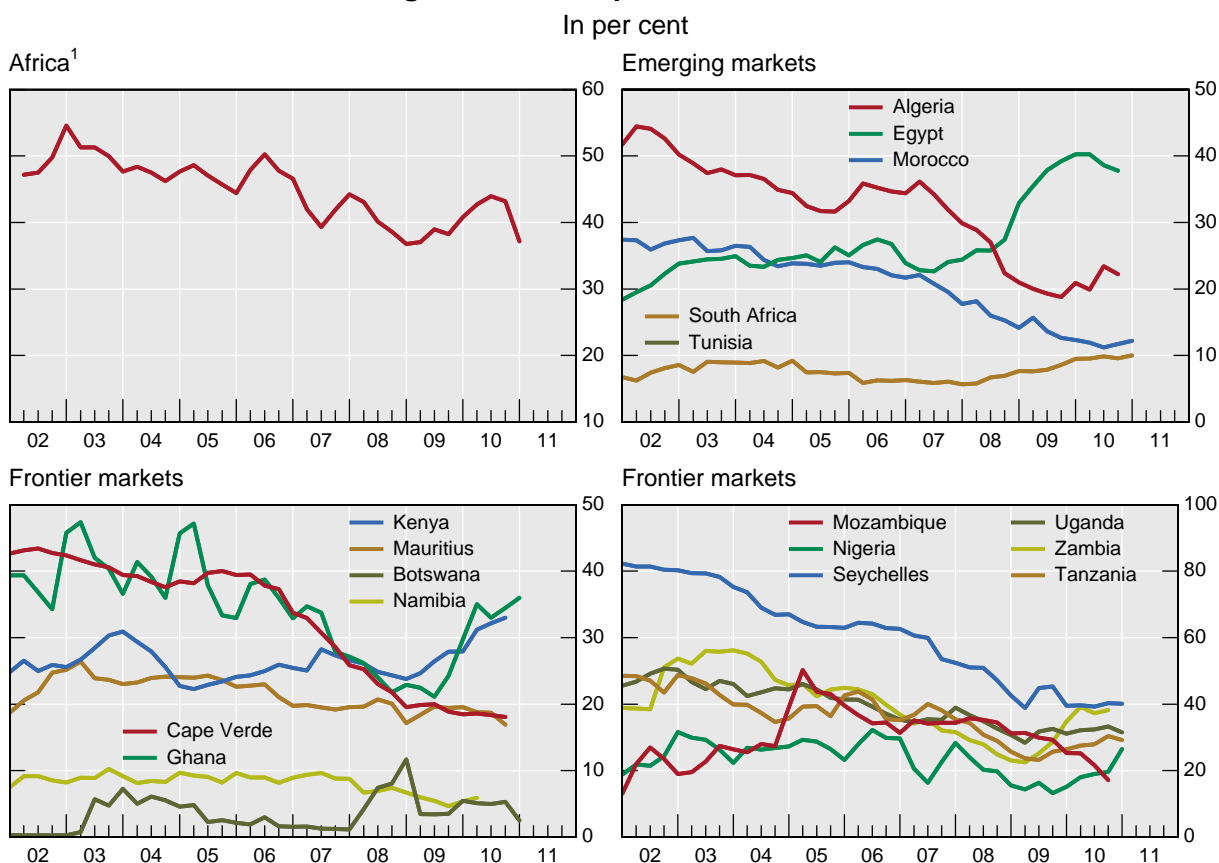
¹ Weighted by GDP.

Source: IMF, International Financial Statistics.

⁴ The high shares of foreign currency assets and liabilities in Mauritius reflect its status as an offshore financial centre.

Before the global financial crisis, fiscal dominance had been reduced in many countries, as illustrated by indicators of central bank credit to the government and banks' claims on the government sector (mostly treasury bills) (Graphs 4 and 5). But it is also evident that some of this progress was reversed during the crisis, as some governments increased spending to cushion the effects of economic downturn. As economic growth picks up, governments might need to regain fiscal space through the pursuit of medium-term fiscal discipline. Otherwise, the effectiveness of monetary policies could become circumscribed in the future.

Graph 5
Claims on central government in per cent of claims on other sectors



¹ Weighted by GDP.

Source: IMF, International Financial Statistics.

Excess liquidity

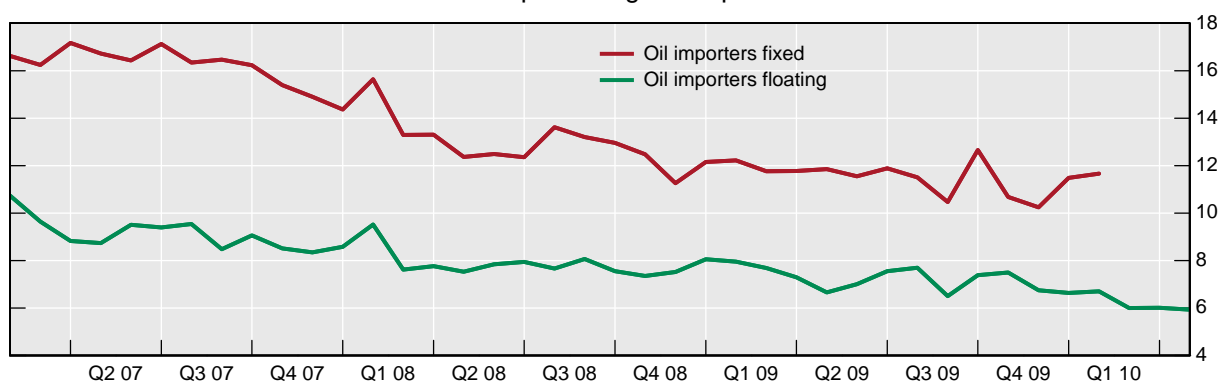
The effectiveness of monetary policy in Africa has often been hampered in the past by large pools of banking system liquidity in excess of required reserves (or required liquidity). The larger the liquid reserves on commercial bank balance sheets, the less sensitive the banks are to interest rate or reserve ratio increases and the stronger any central bank tightening measure must be to have the desired effect.

Why have banks in Africa held such excess reserves, which are largely unremunerated, instead of making alternative placements? One reason is the lack of money market instruments in which banks can invest. A higher level of precautionary reserves might also reflect the fact that there is no effective interbank market in which banks can borrow if their reserve positions fall below the minimum. But the practice is also explained by the perceived lack of low-risk lending opportunities. In many African countries, weaknesses in property rights, poor enforceability of contracts, and lack of credit rating agencies have held banks

back from lending to the private sector.⁵ It is also linked to controls on capital outflows. However, some changes have started to appear among these causes of excess liquidity.

Since 2007, free reserves of the banking system have decreased markedly, thereby potentially making monetary policy more effective (Graph 6). In some countries this was brought about by an increase in the level of required reserves. This has improved the prospects that changes in policy rates of the central banks and changes in reserve money get passed through to private sector saving and lending, thereby possibly influencing real activity in the economy. However, this decline has not been uniform. In some countries, for instance in Madagascar, excess liquidity still hampers the transmission of monetary policy, as changes in policy rates are not passed on to interest rates in the banking system (Banque Centrale de Madagascar (2008)).

Graph 6
Banking sector reserves in Sub-Saharan Africa¹
 As a percentage of deposits



¹ Total less required reserve deposits of the banking sector.

Source: IMF, International Financial Statistics.

In summary, the effectiveness of monetary policy in Africa has been enhanced over the past decade in countries where fiscal dominance and excess liquidity in the banking system have been reduced or eliminated and where financial depth has increased. In most African countries, and in particular the financially developing low-income countries, financial markets remain seriously underdeveloped, with limited bond markets and little or no supply of longer-term securities. As discussed in Section 4, these structural weaknesses continue to undermine the transmission mechanisms of monetary policy. To provide a background for that discussion, the next section briefly reviews the main monetary policy frameworks currently used in Africa.

3. Monetary policy frameworks

During the past decade, many countries have moved away from an exchange rate anchor towards greater exchange rate flexibility as a way of supporting external competitiveness (Table A1). In addition, the need to get inflation under control has led central banks to adopt intermediate targets such as monetary aggregates. But de facto, many African countries still pay attention to the exchange rate and try to limit its flexibility. Exchange rate anchors are

⁵ See the paper by Hawkins in this volume.

still used in the countries of the CFA zone and the rand zone (Common Monetary Area) and in a few other countries.⁶

In contrast to the trend in other emerging market economies, only three countries in Africa have adopted an inflation targeting (IT) framework so far: Mauritius, in a modified form, in 1996; South Africa in 2002; and Ghana in 2007.

Only South Africa has developed a fully fledged IT framework. Ghana's framework is referred to as "IT lite", which indicates that inflation targeting is the primary objective while exchange rate targeting is a secondary objective. Ghana was the first low-income country in the world to adopt the IT framework. The rationale for this approach is that the scope for monetary policy to be independent of external factors is limited in a small and highly open economy such as Ghana. Policy interest rates are set to place significant weight on the interest rate differential to the US federal funds rate, while reacting to domestic inflation when it is above the tolerance level. At the same time, foreign exchange intervention is limited to smoothing operations (IMF (2010b)). Similarly, Mauritius introduced a new framework for the conduct of monetary policy in 2004, in which the primary objective of the central bank is to maintain price stability and to promote orderly and balanced economic development (Bank of Mauritius (2006)).

Among the four emerging economies in North Africa, Algeria, Egypt, and Tunisia use a range of monetary indicators to guide monetary policy within flexible or managed exchange rate systems, while Morocco has a pegged exchange rate. In Egypt and Morocco, the authorities have a medium-term goal of greater exchange rate flexibility within an inflation targeting framework.

A number of countries with flexible exchange rate regimes have used reserve money targeting to guide monetary policy and provide a clear signal on the stance of monetary policy to the public. The basic rationale for this approach is that reserve money is within the control of the central bank. Indeed, reserve money targeting is still a hallmark of monetary policy in Africa, even though other developing countries have moved away from this operational target (IMF (2008)). Broad money is also often used as an intermediate target (Kasekende and Brownbridge (2010)). Reserve money targeting was appropriate when inflation was at high levels: studies show a strong relationship between inflation and changes in monetary aggregates when inflation is high (Thornton (2008) and Banque Centrale de Madagascar (2009)) and a weaker relationship at low levels of inflation. As inflation has been reduced in the majority of African economies, central banks – particularly in Africa's frontier markets – are in the process of adapting their monetary policy framework so as to facilitate the achievement of objectives for output, prices and the exchange rate. This might call for a number of different intermediate targets.

Most countries with fixed exchange rates have different challenges. The CFA franc zone – the largest fixed exchange rate zone in Africa – comprises 14 countries in two monetary unions: the Central African Economic and Monetary Community (CEMAC) and the West African Economic and Monetary Union (WAEMU). Although the two monetary unions have separate currencies, each is pegged to the euro at the same rate of exchange, which has not moved since 1994 (Gulde and Tsangarides (2008)). The monetary unions have been widely credited for the very low rate of inflation and macroeconomic stability in the region. But they have also faced challenges because the two regions are exposed to different exogenous shocks: all of CEMAC's members are oil exporters except one, while all of WAEMU's members are oil importers. In the absence of the exchange rate as an instrument, the adjustment in the real exchange rate is left to fiscal and structural policies, notably

⁶ Cape Verde, Comoros, Eritrea, Libya, Morocco, and Sao Tome & Principe have pegged exchange rates; Botswana has a crawling peg.

adjustments in wages and prices. In addition, both regions face challenges in terms of regional conflicts, most recently in Ivory Coast (the largest economy in the WAEMU), which have impeded financial integration. Although the exchange rates in the two unions are fixed to the euro, the two central banks, BEAC and BCEAO, have some scope for pursuing monetary targets, given limited capital mobility and incomplete regional financial integration.

Monetary policy instruments

While African countries have made some progress in moving away from distortive regulatory instruments (eg credit ceilings, directed lending and interest rate controls), they still rely on a limited number of mainly direct instruments (Table 3). Market-based instruments include sales of foreign exchange and primary auctions of treasury bills, while interest rates play a secondary role in monetary targeting regimes.

Table 3

Primary instruments of monetary policy

	Credit ceilings	Reserve/ liquid asset requirements	Discount/ policy rate	Open market operations	Foreign exchange market operations	Moral suasion	Others
Botswana		✓	✓	✓		✓	
Ghana		✓	✓	✓			
Kenya		✓	✓	✓	✓	✓	
Lesotho		✓		✓			
Madagascar		✓	✓	✓	✓	✓	
Mauritius		✓	✓	✓	✓	✓	
Morocco		✓		✓	✓		
Mozambique				✓			
South Africa				✓	✓		
Seychelles		✓					
Swaziland			✓				
Tanzania		✓	✓	✓	✓	✓	
Tunisia		✓		✓	✓		
Uganda				✓			
Zambia		✓		✓	✓	✓	

Source: Central bank responses to BIS questionnaire.

Effective reserve ratios for banks are relatively high in African countries. Reserve requirements might serve different purposes: as a monetary policy instrument; to reduce the cost of government deficit financing; and as a prudential tool. Changes in reserve ratios have in part been used to regulate liquidity in the banking system because of the lack of a functioning interbank money market. Even the market for treasury bills is often illiquid. This has limited the scope for open market operations of central banks. In some countries, reserve requirements are supplemented by a liquid asset requirement that is used as a monetary and prudential tool and is sometimes also motivated by the need to reduce the cost of deficit financing. Studies have generally found such tools ineffective and distortive for monetary policy purposes, although they might be effective for other purposes (Gulde (1995)). Since many central banks only partially remunerate required reserves, the reserves constitute a tax on banks and partly explain the large margin between deposit and lending rates in the banking system.

4. Monetary policy during the global financial crisis

For most of Africa, the global financial crisis did not involve insolvent banks or malign financial engineering but rather the impact of the global recession on export demand and commodity prices, tourism receipts, remittances and foreign direct investment. But for middle-income countries with stronger financial linkages to international capital markets – predictably – the effects of the crisis were also related to portfolio flows, and these countries were hit particularly hard.

For instance, South Africa's current account deficit ranked high among emerging market economies because of a low saving rate relative to its investment rate – the so-called “chink in the armour” (Reuters (2008)) – and tended to be financed by large portfolio inflows, which are more volatile than foreign direct investment flows. Indirectly, the impact on the South African banking system was also felt in other countries, as South African banks cut their lending to branches in other countries (World Bank (2010)). The South African banking sector was also affected by the sharp decline in equity prices during the crisis. The fall in equity prices had a further negative impact on private consumption via the wealth effect.

Nigeria's banking system was also affected by the crisis since the banks had expanded lending significantly in the years before the crisis and relied heavily on foreign financing. They were also engaged in margin lending for equity investments. With the sharp decline in equity prices, banks' assets declined in tandem. Some banks also had sizeable off-balance sheet instruments that concealed nonperforming loans. In fact, it was a home-made problem accentuated by the global financial crisis. In the end, the Central Bank of Nigeria intervened in five banks in August 2009. Liquidity support amounted to about \$2.8 billion (2½% of non-oil GDP) (IMF (2009b)). Other countries where declines in local equities affected the banking sector were Kenya and Uganda.

In Ghana, the crisis revealed weaknesses in selected banks (eg, loan concentration in the petroleum sector). Those weaknesses, as well as a slowdown in economic growth, weaknesses in banks' risk management and losses by some state-owned energy enterprises, led to a sharp increase in nonperforming loans (IMF (2010b)).

In the CFA franc zone, Benin and Togo experienced financial sector distress, which partly originated in the domestic economy but was accentuated by the global recession.

While African banks are partly owned by foreign banks, these parent banks did not in most cases withdraw funds to a large extent. However, local banks nevertheless got into difficulties. In South Africa, some foreign-owned banks reduced their lending in order to avoid maturity mismatches on their balance sheets (South African Reserve Bank (2010)).

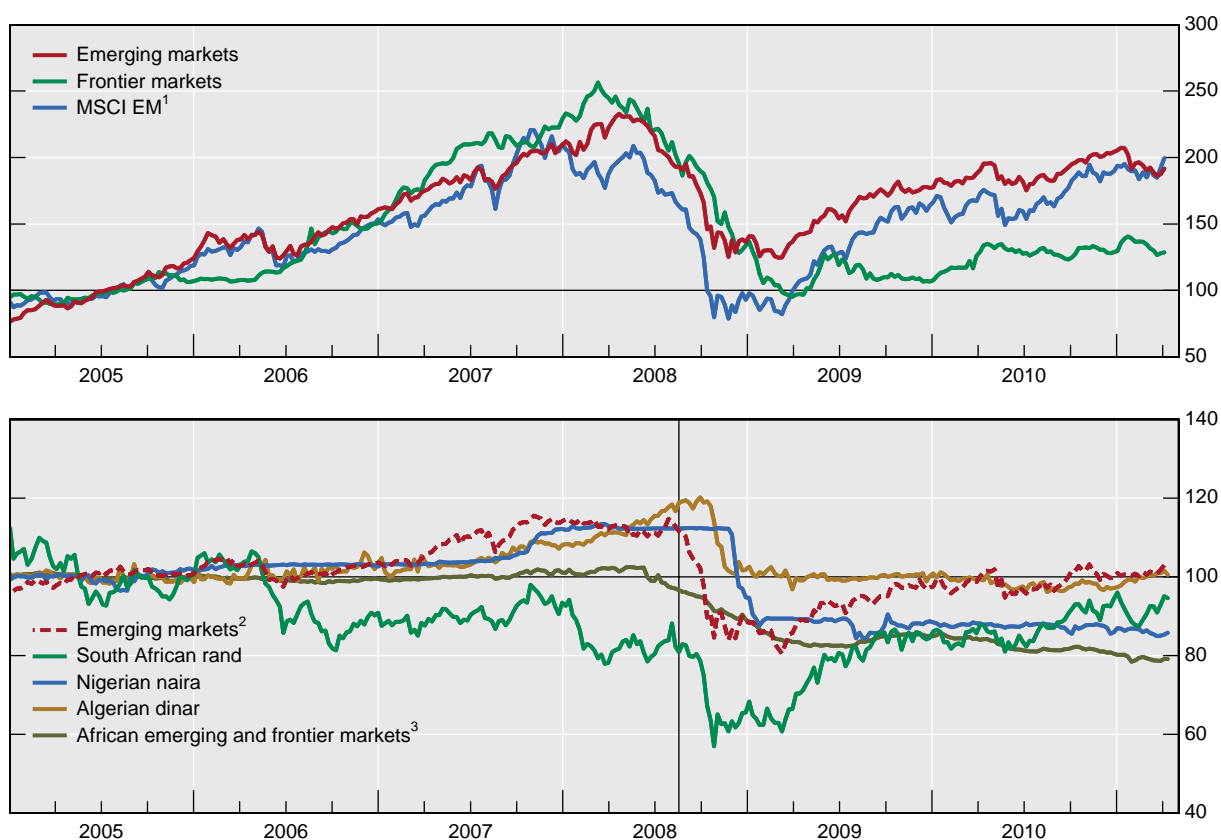
African countries were generally spared from currency mismatches on the balance sheets of the government, banks and the private sector. As a result, currency valuation losses in the face of significant local currency depreciations were in general limited. Governments had benefitted from debt relief, which had reduced their foreign currency obligations. Moreover, only a few countries had begun to tap international capital markets (eg Gabon and Ghana). One should note in particular that several countries were on the verge of issuing international bonds when the crisis hit (eg Kenya, Nigeria, Tanzania and Zambia).

Africa nevertheless suffered from the indirect effects of the crisis on the balance sheets of the banks. These effects included a drop in export demand and commodity prices and thereby also a decline in the quality of bank loan portfolios. In addition, interest rate spreads increased and the availability of foreign credit declined. Equity markets declined across the board in line with equity markets globally. Likewise, African currencies depreciated in line with developments in other emerging regions (Graph 7). And capital flowed out of the countries where foreign investors had been attracted by the high local currency yields (eg Ghana, Uganda and Zambia).

During the recent crisis, African countries were generally in a stronger economic position in terms of fiscal and debt positions and inflation performance than during previous exogenous

shocks. This allowed the countries with flexible exchange rate regimes to pursue countercyclical fiscal and monetary policies. However, food comprises a large share of the consumer price index. A rise in food prices could have therefore easily affected inflation expectations. On this occasion, central banks generally made the right call in judging that the pick-up in inflation was largely due to commodity price shocks and was therefore likely to be temporary provided there were no second-round effects on the rate of inflation. The central banks therefore shifted to easing monetary policy in line with the policies pursued in advanced economies. To dampen the impact on exchange rates, many central banks used their foreign exchange reserve cushions. If the circumstances had been different, eg if the commodity price increases had not been followed by the global recession, which took the wind out of inflation expectations, the policy response might well have been different.

Graph 7
**Stock market indices and exchange rates
 for emerging and frontier market economies**
 2005 = 100



Note: Vertical line marks 15 September 2008, when Lehman Brothers filed for bankruptcy.

¹ Morgan Stanley Emerging Market Composite price index. ² 2005 PPP weighted average of exchange rates for Brazil, India, South Korea, Mexico and Turkey. ³ 2005 PPP weighted average of exchange rates against US dollars for Egypt, Tunisia, Kenya, Mauritius, Mozambique, Ghana, Seychelles, Uganda and Zambia. An increase indicates appreciation of the local currency.

Source: Bloomberg.

Against this background, the main issue was whether central banks shifted gears too late after the food price shock and eased liquidity and interest rates too late (or not by enough) to soften the impact of recession abroad on domestic growth. In fact, because inflation came down quickly in many countries, real interest rates might have increased (IMF (2010c)). Moreover, the build-up of liquidity in the banking system also reflected growing risk aversion, which might have called for monetary accommodation (eg in Zambia) (Baldini et al

(forthcoming)). One important consideration for policymakers was therefore how long the exogenous shocks would last. This was more difficult to evaluate during the global financial crisis because, in addition to the multitude of channels by which external shocks affect policy, the risk premium on domestic assets increased as banks and investors became more risk averse during the global slowdown.

The next section discusses in more detail how different monetary policy transmission channels have operated during the crisis.

Transmission channels of monetary policy during the crisis

Interest rate channel

Policy rates were initially increased in many countries during 2008 in response to the inflationary threat from food price increases. However, as export demand, tourism, remittances and foreign direct investment weakened, central banks lowered policy rates. In responses to a BIS questionnaire, most central banks indicated that they attach high importance to this transmission channel (Table 4). Movements in policy rates are only effective to the extent they influence the deposit and lending rates of banks and thereby possibly economic activity.

Table 4

Monetary policy transmission mechanism

5 (most important) to 0 (least important)

	Interest rate channel	Asset price channel	Exchange rate channel	Credit/bank lending channel	Expectations channel
Botswana	✓	0	0	✓	✓
Ghana	5	1	4	3	2
Kenya	5	3	4	5	3
Lesotho	✓	0	✓	0	0
Madagascar	✓	0	0	✓	0
Mauritius	4	1	5	3	2
Morocco	0	0	5	5	0
Mozambique	5	0	0	0	0
South Africa	5	3	3	5	2
Seychelles	✓	0	✓	✓	0
Swaziland	5	0	3	2	0
Tanzania	3	0	1	2	0
Tunisia	1	0	3	3	0
Uganda	✓				
Zambia	3	3	0	3	2

Note: A tick indicates that only those channels are used, with no ranking given.

Source: Central bank responses to BIS questionnaire.

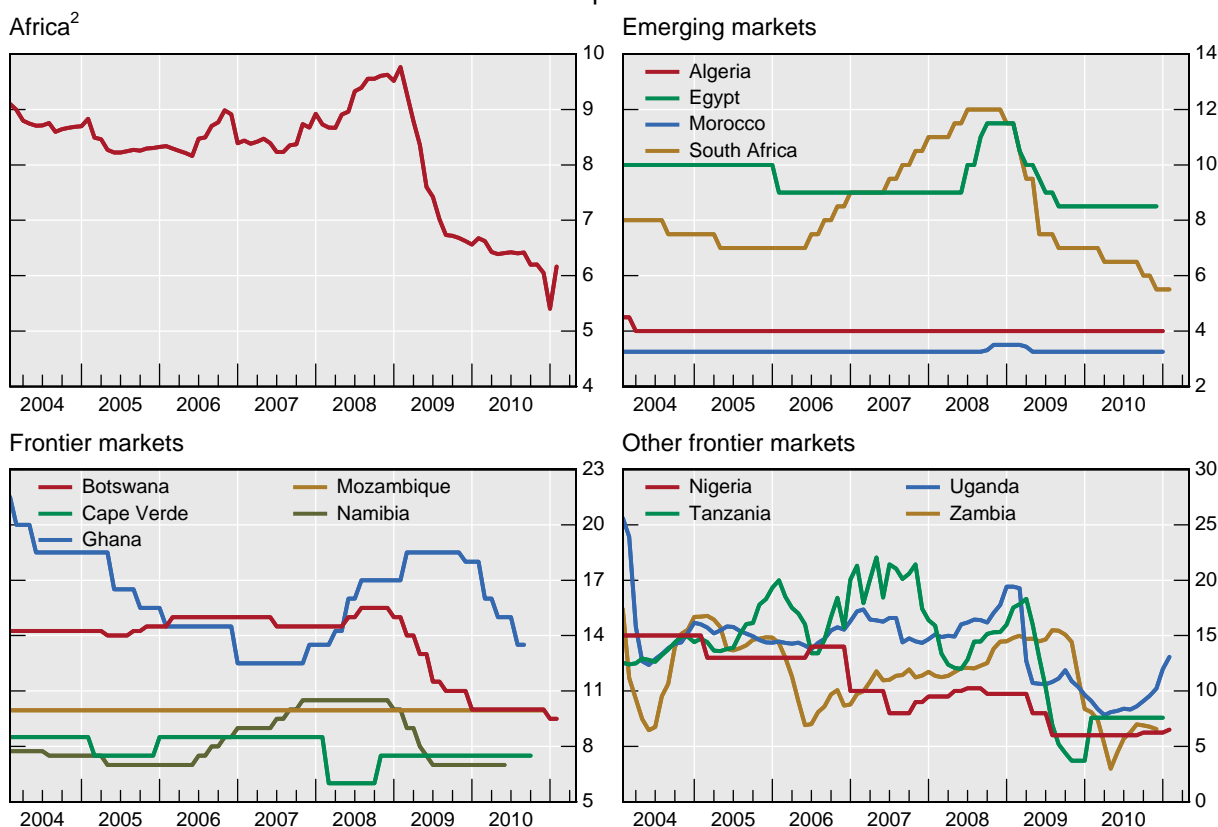
Although many central banks lowered their policy rates to reduce domestic interest rates and stimulate domestic activity (Graph 8), domestic rates often drifted upwards in response to rising global risk premiums. This happened in particular in countries with open capital accounts and a floating exchange rate system, thus negating the intended relaxation of monetary policy (IMF (2010a)).

An additional complication in assessing the interest rate channel is the importance of informal credit markets in Africa. For instance, tighter monetary policies may divert demand to the large informal credit sector and so lead to a sharp rise in the cost of credit (informal market rates may rise faster than formal market rates). Because demand effects may come with a considerable lag, tighter monetary policies may be associated with a short-run rise in cost-push inflation, with implications for the effectiveness of monetary policy to stabilise the economy.

The transmission of interest rates varied among countries. In some cases, an oligopolistic market structure limits competition and allows banks to change profit margins rather than pass on the policy rate changes to borrowers. In the more developed emerging market economies, such as South Africa, there is typically a close link between the policy rates and lending rates. But while the link was still present, the spread between the policy rate and the lending rates increased due to general risk aversion strategies practiced by the banks. In Egypt, the response in lending rates to a reduction in the policy rate was also modest. In several frontier market economies, lending rates also lagged the decline in the policy rate. For instance, at several banks in Zambia, the lower policy rate did not pass through to lending rates (Fundanga (2009)). The link was weakest when policy rates were reduced, thereby also lowering the effectiveness of the interest rate channel in providing countercyclical support to economic activity.

Graph 8
Policy rates¹

In per cent



¹ Policy rates are from line 60 in the IMF's IFS. ² Weighted by GDP.

Source: IMF, International Financial Statistics.

Fixed exchange rate countries (members of the CFA franc zone and the rand Common Monetary Area) had only a limited opportunity for pursuing an independent monetary policy. The BCEAO and the BEAC central banks reduced their policy rates to only a very limited

extent, although there might have been more room for cuts when the European Central Bank started to reduce its policy rate. In mid-2009, for example, the ECB reduced its lending rate by 200 basis points, while the BEAC responded with a 50 basis point reduction (Wakeman-Linn et al (2009)).

Credit channel

Bank lending to the private sector had been expanding rapidly in many African countries before the crisis. The annual growth rate reached some 20–55% in half the cases, although it was more modest in the fixed rate CFA franc zone (for example about 7% in Cameroon and 14% in Senegal) (Table 5). The growth was fuelled in part by large capital inflows and by a monetary policy that in some cases was too accommodative to stem rising inflation (apart from that induced by rising food and oil prices).

Table 5

Growth of bank credit to the private sector in selected African countries

Year-on-year growth rates, in per cent, period averages¹

	January 2005– September 2008	September 2008– April 2009	April 2009–latest ²
<i>Emerging market</i>			
Algeria	20.7	16.2	15.5
Egypt	9.1	9.3	3.0
Morocco	18.3	18.2	10.0
South Africa	20.8	9.2	2.9
Tunisia	8.9	14.6	13.4
<i>Frontier market</i>			
Botswana	19.2	22.7	11.3
Cape Verde	22.0	23.7	11.2
Ghana	46.4	46.3	
Kenya	15.5	24.4	15.8
Mauritius	13.9	20.0	5.6
Mozambique	28.5	56.9	48.8
Namibia	14.7	9.4	9.3
Nigeria	54.4	37.9	18.6
Seychelles	15.0	32.5	9.5
Tanzania	32.9	26.9	16.1
Uganda	26.0	43.5	21.2
Zambia	40.3	42.3	–0.4
<i>Selected financially developing</i>			
Angola	72.7	60.2	53.2
Cameroon	7.1	16.2	9.1
Congo, Dem Rep of	13.3	66.0	31.9
Ethiopia	31.9	37.5	
Lesotho	30.8	19.4	21.4
Madagascar	24.1	17.6	9.4
Senegal	14.4	13.6	4.8
Swaziland	25.0	3.7	6.8
Malawi	38.7	106.0	56.3

¹ Calculated from end-of-quarter claims on the private sector. ² Q3 2010 if available.

Source: IMF, International Financial Statistics; BIS calculations.

In the case of Nigeria, bank lending before the crisis grew at the expense of loan quality – annual growth rates of credit exceeded 50% during first quarter of 2005 and the third quarter of 2008 (World Bank (2010)). The crisis put a brake on bank lending in several countries, particularly those in the rand area. The emerging market economies in North Africa continued the modest rates of expansion, with some slowdown in Egypt and Morocco in the most recent period.

Buoyant credit growth to the private sector has raised prudential concerns, since many countries do not confer legal rights whereby credit reference bureaus can pool information on borrowers and creditors can foreclose on defaulters (Kasekende and Brownbridge (2010)).

Asset price channel

Underdeveloped financial markets have an important impact on the effectiveness of monetary instruments. In particular, changes in policy interest rates might not affect the economy at large if interbank markets are weak or bond and treasury bill markets shallow. For example, the development of markets for securities enhances the flexibility of lending rates (Cottarelli and Kourelis (1994)). In the low-income countries, bond markets are still in the early stages of development and are dominated by short-term government bonds. Corporate debt markets are largely non-existent except in the emerging market economies. Interbank markets are also weak. While the financial sector in Africa, in particular in the low-income countries, has been among the least developed in the world, important changes have taken place to deepen the markets during the past decade.

In the years before the global financial crisis, international investors showed increasing interest in local currency bond markets in Kenya, Nigeria, Uganda and Zambia. They sought diversification of risks and high yields when the exchange rates of the local currencies in Africa were relatively stable. Some of these factors have changed.

Fuelled by easing monetary conditions, the local currency bond yields are no longer as attractive, especially considering the required risk premium. In addition, the higher variability in exchange rates has increased the risk of investment in African securities. Moreover, the markets remain shallow and secondary markets almost non-existent because the base of institutional investors (eg pension funds and insurance companies) in African countries is still weak. This entails costs in terms of exiting the market. The degree to which the global financial crisis damaged the nascent financial markets in Africa remains to be seen. There are signs that foreign investors are coming back to African markets, although it is still too early to tell whether the inflows will be at the same level as before.

Some of the frontier market economies with relatively developed financial markets have taken several measures to deepen the local markets. In Kenya, the government during 2010 executed four large bond issues to finance infrastructure at maturities of up to 25 years, which is highly unusual in Sub-Saharan Africa. In early 2011, the Central Bank of Kenya auctioned a 30-year development bond, the longest maturity ever issued in Kenya. In addition, the East African Community (Burundi, Kenya, Tanzania, Uganda and Rwanda) has started to harmonise capital market regulations to ease the movement of capital among the EAC member countries. The work includes creation of a single stock exchange for the region and common regulatory and accounting frameworks (*Business Daily* (2011)). In the short term, the best prospect for African countries might be to develop their local currency markets through a broadening in the domestic investor base.

The exchange rate channel

The exchange rate channel is particularly important in small open economies with a flexible exchange rate. A monetary expansion would tend to reduce the real interest rate and lead to a depreciation of the currency, which would increase exports, reduce imports and thereby boost aggregate demand. A depreciation is also likely to raise domestic inflation in the short term by raising import prices. This impact is often accentuated through expectations about inflation, as the exchange rate is a visible real-time indicator of financial conditions. This is

particularly the case in countries with few timely statistics and information available to the general public about the health of the economy. In such countries, the exchange rate is often an early indicator of the monetary conditions and inflationary pressures in the economy.

The exchange rate is also an additional instrument for central banks. In the words of Stanley Fischer, “I see the instrument of intervention in the foreign exchange market as in effect giving the central bank an extra instrument (or at least an extra half instrument) of policy, which enables it not only to target inflation but also to have some influence on the behaviour of the exchange rate” (Fischer (2011)).

Responses to a BIS questionnaire suggest that, for Mauritius, the exchange rate channel is the most important channel for transmission of monetary policy (Table 4). It is considered the second most important transmission channel in Kenya and among the most important ones in South Africa (as important as the asset price channel).

Table 6
Volatility of African countries' exchange rates¹

	January 2005– September 2008	September 2008– April 2009	April 2009– February 2011
Against the US dollar			
<i>Emerging market</i>			
Algeria	0.65	0.75	0.30
Egypt	0.08	0.17	0.13
Morocco	0.38	0.89	0.53
South Africa	1.07	3.28	1.17
Tunisia	0.35	0.84	0.53
<i>Frontier market</i>			
Botswana	0.48	0.64	0.36
Cape Verde	0.50	1.23	0.60
Kenya	0.38	0.65	0.34
Mauritius	0.32	1.24	0.92
Mozambique	0.99	0.83	1.06
Namibia	1.07	3.28	1.17
Ghana	0.33	0.45	0.39
Nigeria	0.18	0.55	0.33
Seychelles	0.69	3.86	1.80
Tanzania	0.58	1.07	0.54
Uganda	0.37	0.86	0.59
Zambia	0.78	1.54	0.75
<i>Selected financially developing</i>			
Angola	0.08	0.12	0.16
Congo, Dem Rep of	0.56	1.55	0.77
Ethiopia	0.10	0.22	0.30
Lesotho	1.07	3.28	1.17
Madagascar	0.27	0.00	0.21
Malawi	0.27	0.00	0.21
Swaziland	1.07	3.28	1.17
Against the euro			
Algeria	0.70	1.04	0.56
Egypt	0.42	0.98	0.59
Morocco	0.13	0.38	0.18
South Africa	0.95	2.69	1.02
Tunisia	0.21	0.54	0.30

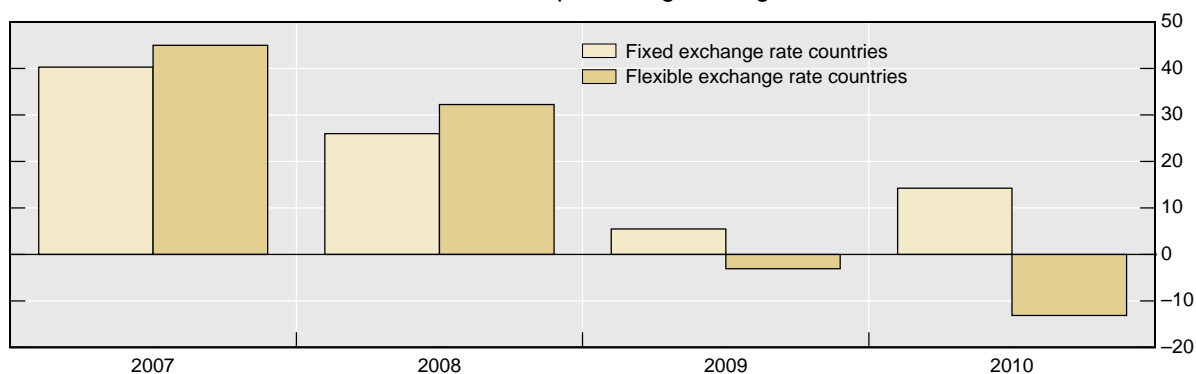
¹ Unweighted average of five-day moving standard deviation of exchange rates.

Source: Bloomberg; BIS calculations.

How has the exchange rate regime helped countries manage the effects of the global financial crisis? Most central banks allowed greater variability in the exchange rate during the crisis (September 2008–April 2009) than in the preceding period (Table 6). A few countries (eg Nigeria) tried initially to resist the downward pressure on the currency, in part because depreciation made it more difficult to achieve the inflation objective. Eventually, however, in the cases where the balance of payments pressure mounted, central banks let the exchange rate go. This helped protect the level of reserves, and there were no major losses (Graph 9). Interestingly, the countries with flexible exchange rate regimes seem to have had larger movements in their reserves than the fixed exchange rate countries. This might be explained by the fact that several so-called flexible exchange rate countries have in practice tried to stabilise the exchange rate, which has led to a decline in reserves. The exchange rate fluctuated quite dramatically in some countries. For example, in Zambia, the kwacha depreciated by 38% against the US dollar between mid-2008 and mid-2009.

In general, the deceleration in growth was smaller for the floating exchange rate countries. The fixed exchange rates helped contain the inflationary pressures, as could be expected, but they also made the deterioration of the external current account balance worse than for the floating exchange rate countries. The crisis was weathered best by countries that allowed currency depreciation.

Graph 9
Growth of foreign exchange reserves¹
 Annual percentage change



¹ Weighted by GDP.

Source: IMF, International Financial Statistics.

The expectations channel

Expectations of changes in interest rates, prices and the exchange rate have an important bearing on the effectiveness of monetary policy because they can influence transmission through any of the other channels of monetary policy. This is particularly the case when the central bank has gained credibility and its actions become predictable, ie, when the central bank actively communicates its policy to the public.

While this is a more recent development of monetary policy, there are indications that it is also gaining significance in Africa. In responses to a BIS questionnaire, the central banks in the more developed financial centres indicated that the expectations channel was important. In South Africa it was considered one of the transmission mechanisms. In Kenya, there are indications that the expectations channel is also becoming more significant after the introduction of the Monetary Policy Committee (MPC) market surveys on key economic indicators in September 2009. These surveys have improved the signalling of monetary policy through enhanced communication with the market. In Mauritius, the expectations channel is also believed to have gained in importance, as the decisions of its MPC have

been communicated and explained to the public. The MPC's assessment of inflation and economic growth receives extensive discussion in the media, which could affect wage and price setting behaviour in the economy.

5. Conclusion

African countries span a highly diverse set of financial and monetary policy circumstances ranging from very rudimentary financial systems with limited transmission mechanisms to relatively well developed systems and mechanisms. But irrespective of country and monetary regime, all central banks in Africa share the objectives of price stability, economic growth and financial stability.

Across the continent, the reductions in fiscal dominance and excess liquidity have tended to make monetary policy more effective. What is still missing in many countries is the development of financial markets, including efficient interbank markets, securities of longer maturities to establish yield curves and deeper equity markets. In that regard, financially developing economies in Africa lag behind low-income countries in other regions, including Asia. Unfortunately, the global financial crisis was a setback for many frontier market economies that had begun to build up local currency debt markets. But this was the risk of relying mainly on a foreign investor base. On the positive side, the setback might also have been a wake-up call for policymakers to examine whether all the prudential conditions for development of such markets were in place. And policymakers in Africa have to prepare for greater reliance on private capital flows.

During the global financial crisis, policymakers used monetary policy actively to counter the recessionary impact of the collapse in demand from abroad. The crisis also demonstrated the importance of the initial economic conditions. Countries that had policy space in terms of both fiscal and monetary conditions, were in a better position than others to pursue countercyclical policies. For countries that had large fiscal and external imbalances, however, the initial weaknesses were intensified, and the banking systems suffered additional losses in terms of nonperforming loans. In some cases, it was a challenge to shift quickly from a tight monetary policy following the food price shock to the easing of monetary policy during the global recession. It showed the importance of a forward-looking monetary policy.

While the global financial crisis is ebbing, other exogenous shocks are again hitting Africa, as well as the rest of the world.⁷ Prices for food and oil are again rising as of the beginning of 2011, which poses dilemmas for monetary policy. To the extent that these shocks reflect temporary declines in the terms of trade for food and oil importers, monetary policy might accommodate the initial impact of the shocks. The challenge is to not accommodate any secondary impact on prices from these price adjustments so that inflation will again come down. This is particularly difficult for countries with a recent history of high rates of inflation because price increases in those cases can quickly fuel inflationary expectations.

The oil price increases of 2008 might be a poor predictor of the required policy response for the current oil price increase – the oil price came down quickly in 2009 because of the global recession and therefore had a transitory effect on inflation. If oil prices remain high in a different cyclical setting, the appropriate stance of monetary policy might have to be somewhat tighter than in 2009.

As to whether monetary policy is inherently different in Africa, its essential features, goals and needs are similar to those in other regions of the world: the objectives of supporting low inflation and economic growth and financial stability; the need for central bank independence

⁷ The latest IMF forecasts for Africa are summarised in Appendix Table A2.

from the government to pursue monetary policy free of political interference; the importance of sound public finances for the effectiveness of monetary policy; the key transmission mechanisms of monetary policy; and, importantly, the need for credibility of the central bank in pursuit of monetary policy, both domestically and internationally. And like other developing regions, it faces structural changes, which render the demand for money unstable and make monetary policy implementation difficult. What is different about Africa is the state of its information and statistics, which impedes timely and accurate economic analysis; the poor enforceability of contracts; the shallow financial markets that undermine the effectiveness of monetary policy; and the high exposure of the African economies to exogenous shocks

Finally, and importantly, central banks always need to be aware that the short track record most of them have had in achieving low inflation will continue to test their credibility and limit the space for monetary policy (Plenderleith (2003)).

Appendix

Table A1
African countries, by level of financial depth

	Fixed exchange rate	Flexible/managed exchange rates	Oil exporters
<i>Emerging market economies (5)</i>			
Algeria		X	X
Egypt		X	
Morocco	X		
South Africa		X	
Tunisia		X	
<i>Frontier market economies (12)¹</i>			
Botswana	X (currency basket) ²		
Cape Verde	X (euro)		
Ghana		X	
Kenya		X	
Mauritius		X	
Mozambique		X	
Namibia	X (CMA)		
Nigeria		X	X
Seychelles		X	
Tanzania		X	
Uganda		X	
Zambia		X	
<i>Financially developing economies (36)</i>			
Angola		X	X
Benin	X (CFA franc)		
Burkina Faso	X (CFA franc)		
Burundi		X	
Central African Republic	X (CFA franc)		
Cameroon	X (CFA franc)		X
Chad	X (CFA franc)		X
Comoros	X (euro)		
Congo, Democratic Republic of		X	
Congo, Republic of	X (CFA franc)		X
Djibouti	X (US dollar)		
Eritrea	X (US dollar)		
Equatorial Guinea	X (CFA franc)		X
Ethiopia		X	
Gabon	X (CFA franc)		X
The Gambia		X	
Guinea		X	
Guinea-Bissau	X (CFA franc)		
Ivory Coast	X (CFA franc)		
Lesotho	X (CMA)		
Liberia		X	

Table A1 (cont)

African countries, by level of financial depth

	Fixed exchange rate	Flexible/managed exchange rates	Oil exporters
Libya	X (SDR)		X
Madagascar		X	
Malawi		X	
Mali	X (CFA franc)		
Mauritania		X	
Niger	X (CFA franc)		
Rwanda		X	
São Tome & Príncipe	X (euro)		
Senegal	X (CFA franc)		
Sierra Leone		X	
Somalia		X	
Sudan		X	X
Swaziland	X (CMA)		
Togo	X (CFA franc)		
Zimbabwe	No separate legal tender – US dollar is the principal currency		

¹ Countries that have either tapped international capital markets or have attracted foreign investors into local currency markets. The selection criteria include bank assets to GDP and the degree of capital market development (see IMF (2009)). ² Botswana has a crawling peg to a basket comprising the currencies of the SDR and the South African rand, which is adjusted to the prospective rate of inflation in the countries of the basket.

Table A2
The outlook for Africa in 2011

	Real GDP		Inflation ¹		Current account ²	
	2010	2011	2010	2011	2010	2011
North Africa	3.8	2.5	5.4	5.9	-0.4	0.4
Algeria	3.3	3.6	4.3	5.0	9.4	17.8
Egypt	5.1	1.0	11.7	11.5	-2.0	-2.7
Morocco	3.2	3.9	1.0	2.9	-4.2	-5.7
Tunisia	3.7	1.3	4.4	4.0	-4.8	-7.8
Sub-Saharan Africa	5.0	5.5	7.5	7.8	-2.4	0.4
Angola	1.6	7.8	14.5	14.6	-1.8	6.2
Botswana	8.6	6.0	7.0	7.8	-2.5	-2.4
Congo, Dem Rep of	7.2	6.5	23.5	12.0	-6.8	-2.8
Ethiopia	8.0	8.5	2.8	12.9	-4.3	-8.1
Ghana	5.7	13.7	10.7	8.7	-7.2	-6.8
Ivory Coast	2.6	-7.5	1.4	5.0	3.9	...
Kenya	5.0	5.7	3.9	7.2	-7.9	-9.3
Lesotho	2.4	3.1	3.8	5.4	-16.2	-23.4
Madagascar	-2.0	0.6	9.0	8.9	-13.4	-7.1
Malawi	6.6	6.1	6.9	6.6	-1.3	-3.8
Mauritius	4.0	4.1	2.9	7.4	-9.5	-11.6
Mozambique	7.0	7.5	12.7	9.5	-12.7	-12.0
Namibia	4.4	4.8	4.5	5.9	-1.1	-0.9
Nigeria	8.4	6.9	13.7	11.1	6.4	14.6
Senegal	4.2	4.5	1.2	3.9	-8.3	-11.5
Seychelles	6.2	4.0	-2.4	3.1	-50.7	-32.7
South Africa	2.8	3.5	4.3	4.9	-2.8	-4.4
Swaziland	2.0	0.5	4.5	7.9	-20.6	-16.0
Tanzania	6.5	6.4	10.5	6.3	-8.6	-9.5
Uganda	5.2	6.0	9.4	6.1	-9.9	-10.6
Zambia	7.6	6.8	8.5	9.0	3.8	5.9

Source: IMF, *World Economic Outlook*, April 2010.

¹ Changes in annual averages. ² As a percentage of GDP.

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