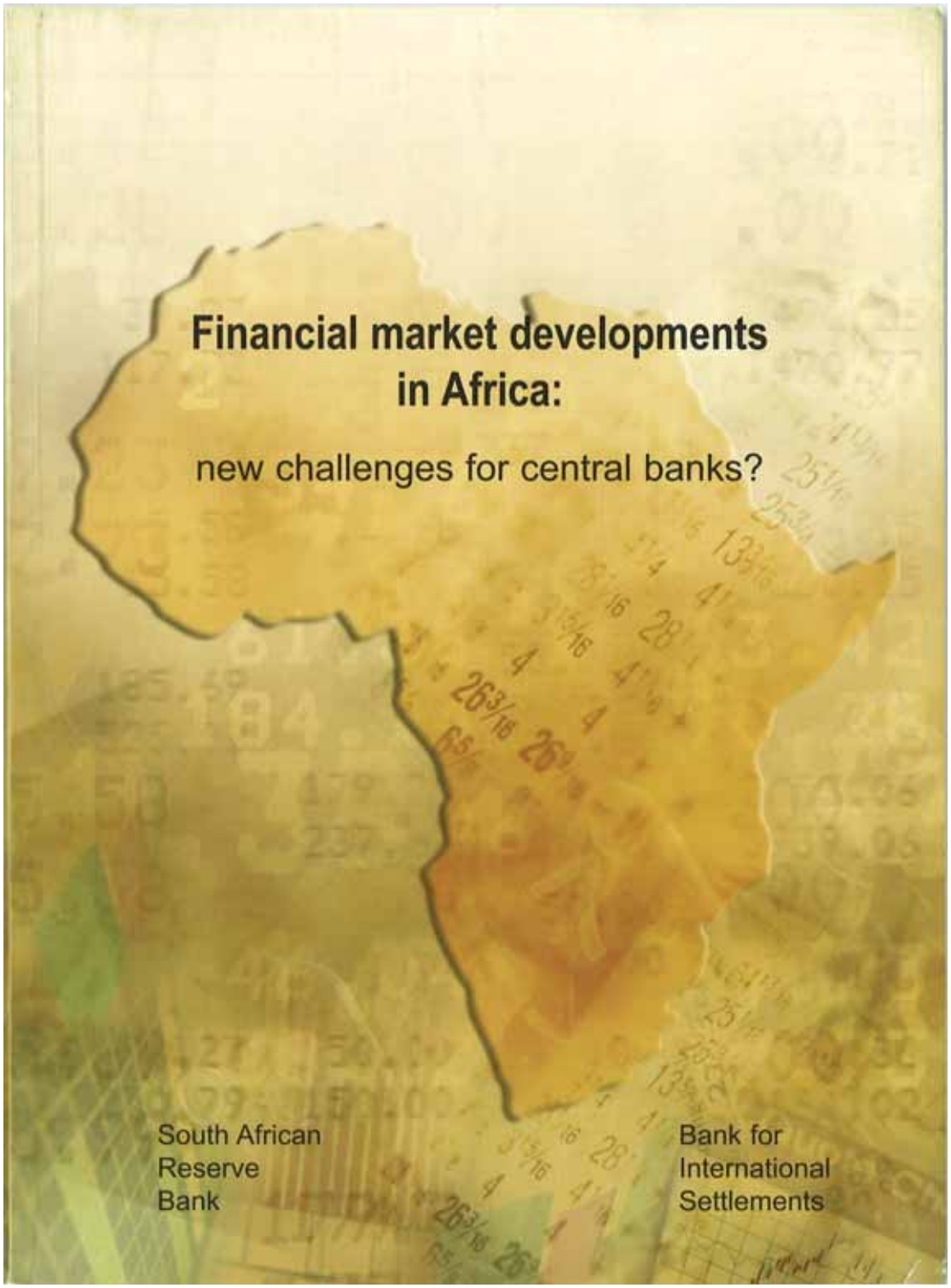
Financial market developments
in Africa:
new challenges for central banks?
South African
Reserve
Bank
Bank for
International
Settlements

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Cape Town
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Foreword

On 20 November 2007 the South African Reserve Bank, in collaboration with the Bank for International Settlements, hosted a number of Governors at a roundtable discussion at the Westin Grand Cape Town Arabella Quays Hotel in South Africa. The discussions focused on the theme "Financial market developments in Africa: new challenges for central banks?"

Most countries on the African continent have experienced favourable macroeconomic developments in recent years. This has been clearly evident in the vastly improved economic growth and inflation trends in many countries. There is little doubt that the implementation of prudent macroeconomic policies has played an important role in these developments.

The financial sector plays a key role in the economic development of an economy. Failure to develop the financial sector can place severe constraints on growth prospects. The broadening and deepening of the financial system is needed to support high economic growth rates at sustainable levels. Currently, this issue is of particular relevance to policy making in many African countries. This was borne out by the active participation at the roundtable discussions.

My sincere thanks go to the participants at the meeting who so willingly shared their countries' experiences. In addition, my appreciation is also extended to Governor Mohammed Laksaci, Governor Tom Alweendo and Governor Njuguna Ndung'u for the effective chairmanship of three of the sessions.

Tito Mboweni
Governor (South African Reserve Bank)

Financial market developments in Africa: new challenges for central banks?

Malcolm D Knight (General Manager, Bank for International Settlements)

This was a most enlightening meeting, which gave all of us the occasion to discuss economic and financial developments and issues on the continent of Africa. This was the first time the BIS was involved in organising a meeting of governors in Africa. We are all very appreciative of Governor Tito Mboweni's whole-hearted support of this joint SARB-BIS initiative. The SARB and BIS staffs worked closely together in preparing the papers for this meeting. I would like in particular to thank Logan Rangasamy, who coordinated the work of SARB economists engaged in the preparation of this volume.

The first session focused on current economic developments. The encouraging macroeconomic news from Africa at the March 2006 meeting of governors – stronger growth, better control of domestic inflation pressures and, in several cases, stronger policy frameworks – continued through 2007.

A new challenge, however, is the sharp increase in food prices over the past year. This occurred in conjunction with further rises in world oil prices. The weight of food in household spending patterns (and thus the CPI) is high in Africa. This means that the rise in international food prices can have a major impact on real incomes; likewise, inflation expectations can be affected in ways that complicate the task of the central bank.

What central banks should do to encourage the development of financial markets – the topic of the second session – is an issue that I have grappled with on and off throughout my professional life. Of course, the structure of a financial system that is best suited to a particular country depends on its stage of development and on its historical legacy. There was much emphasis at this meeting on developing the sorts of financial institutions (e.g. credit unions) that are often better suited than large commercial banks to mobilising savings in low income countries. Nevertheless, the discussions during this session also demonstrated that new financial markets are developing in Africa. For many, the need to nurture open money and capital markets that are not dominated by a few large (and perhaps colluding) banks remains an important objective of policy.

The third session focused on policy responses to capital inflows. Forex reserves continue to rise strongly in Africa – partly because of high commodity prices, but also partly because of increased foreign investor interest. The dilemma that this creates for central banks was a central topic at the meeting devoted to Africa that was held at the BIS in March 2006. There is little question that sterilisation can pose major challenges in thin financial markets.

The final topic of our meeting was the operation of management and policy committees of central banks – from the governance rather than the macroeconomic perspective. During the past few years, the BIS has deepened its work on central bank governance. We are grateful to Tito Mboweni for his keen interest in this, and indeed for his guidance as a member of the Governance Group of the Central Bank Governance Forum. Central banks are increasingly recognising the value of collective mechanisms in reaching decisions. The pooling of expertise/knowledge helps them to make better decisions; boards can also help resist unwarranted political pressures. The discussion on this topic was unusually frank. Indeed, it was the open nature of the debate on this wide range of issues that made this such a useful meeting.

Strengthening banking supervision

Luncheon remarks by Nout Wellink (President, De Nederlandsche Bank and Chairman, Basel Committee on Banking Supervision)

Since its creation more than 25 years ago, one of the Basel Committee's main objectives has been to improve the quality of banking supervision worldwide – a simple yet quite ambitious goal. Setting minimum supervisory standards in areas where they are considered desirable has been one of the ways to achieve this goal.

The recent market turmoil has bolstered our position that Basel II is a step in the right direction for risk management as well as supervision. The financial market turbulence has also underscored the importance of the Committee's work on liquidity and on valuation. Improving banking supervision is of course an endless task, as supervisory practices have to keep pace with financial innovation. The Basel Committee continues to assess the supervisory and risk management issues arising from recent financial market developments and, where appropriate, will consider supervisory responses that are pragmatic and proportionate.

Fortunately, we supervisors are well equipped to keep pace with the markets as we ourselves are highly leveraged institutions. We leverage off each other's experience and expertise, and the Basel Committee – and the BIS more generally – is the instrument of this leverage. In my remarks today, I will discuss with you how strengthening banking supervision is indeed a collective effort. It is also a rewarding one – and I will give a few examples of how last year's improvements to the Basel Core Principles for Effective Banking Supervision help supervisors rise to today's challenges.

Strengthening banking supervision is a collective enterprise but this effort is not limited to the 13 countries represented on the Basel Committee: there are representatives from more than 20 other countries that participate directly in a variety of Committee subgroups. The number of jurisdictions involved in the Committee's work is even higher when taking into account those participating in their capacity of representatives of a larger group. A few examples I can point to include the Banking Commission of the West African Monetary Union, EMEAP in Asia, and the Association of Supervisors of Banks of the Americas – ASBA. These groups are represented on some of the Committee's working groups. This approach is meant to be a two-way street: it is an efficient way for the Committee to get input from these regions as well as to disseminate information to the members. Even if all supervisors cannot participate directly in the work of the Committee, all are given the opportunity to comment before our products are final.

The Committee and its Secretariat also maintain effective lines of communication with the other regional groups of banking supervisors. Our participation in many of these groups' annual meetings, our organisation of the international conference of banking supervisors – the ICBS, which takes place every two years – as well as other less formal efforts, ensure that we maintain solid contact with the global supervisory community. Our current work on risk-based supervision and on microfinance is for instance the direct result of suggestions made last year at the ICBS held in Merida, Mexico.

I firmly believe that the involvement of the wider supervisory community in the definition of common standards is the first way to ensure their effective implementation. Commitment at the highest level is not enough though, and practical tools are also needed. Training is one such practical tool. Since 1999, following a joint initiative of the Basel Committee and the BIS, we have at our disposal the Financial Stability Institute. Since that time the FSI has expanded its reach considerably. When it was first established, it organised a few conferences and seminars. These days, that number is more than 50. It also offers FSI Connect – an online information and learning resource for financial sector supervisors. With the recent addition of Chinese, these on-line tutorials are now available in four languages. This Internet-based tool is a fantastic resource that is available to all members of our agencies.

Another important supervisory tool I would like to mention is the Basel Core Principles for Effective Banking Supervision. The Core Principles were developed to assist banking supervisors in identifying their strengths as well as areas that need to be improved. Assessments are a diagnostic tool enabling each of us to define our own roadmap to a more effective supervisory framework. The various grades in the assessments, as well as the distinction between essential and additional criteria, are a way to prioritise the efforts that still need to be made. They allow supervisors to distinguish minor concerns from more severe shortcomings and put the basics before the refinements. The expected outcome of an assessment is an action plan focused on the deficiencies that have the greater potential impact.

To make sure that the resulting action plans remain relevant, in 2006 we updated the Core Principles and their assessment Methodology. The improvements in our standards reflect the changes in the environment. Let me give a few examples.

The recent market turmoil has demonstrated the necessity of an appropriate liquidity management strategy. As a result of the 2006 revision, a standalone Basel Core Principle has been devoted to liquidity risks. The Core Principles now more fully reflect the guidance issued by the Committee in the year 2000 on sound liquidity risk management. The Core Principles assessment criteria have also been expanded. These changes have proven to be particularly timely in light of the recent financial market turmoil. For example, there is now a requirement to take into account undrawn commitments and other off-balance sheet liabilities. Another is the requirement to consider how other risks, such as credit and market

risks, may impact the bank's overall liquidity strategy. Additional work has been undertaken in this area by the Basel Committee since the beginning of 2007.

More generally, the revised Basel Core Principles give more weight to corporate governance and the overall risk management processes. For example, the guidance states that a bank's board must, collectively, have a sound knowledge of the activities undertaken by the firm. Any change in the strategy of an institution or any involvement in new products requires the attention of the supervisor to make sure that the bank's risk management processes are adapted in the light of the changing risk profile. More so now than in the original version, the revised Core Principles insist on the quality of risk management information received by senior management and the Board. This includes the ability to understand the implications and limitations of such information. The ability to correctly identify and evaluate risks is paramount. It is a prerequisite to the bank's appropriate monitoring, control and mitigation of risk. In this regard, the assessment criteria concerning credit risks were revised to make clear that they include counterparty risks associated with various financial instruments.

It is very important that I point out that there is no Core Principle requiring a country to comply with the capital adequacy regimes of Basel I or Basel II. I should quickly add, however, that at least for internationally active banks, the local capital requirements should not be any less stringent than the Basel capital requirement currently in place in that particular jurisdiction. Nevertheless, a number of sound practices present in the new Basel II framework have been incorporated in the Core Principles, as they are important for all countries. For instance, the notion of capital planning has been added to the essential criteria. The additional criteria even invite countries with advanced banks to adopt a forward looking approach to capital management. These additional criteria also encourage banks to set capital levels in anticipation of possible events or changes in market conditions that could have an adverse effect.

The criteria relating to bank's disclosures have also been strengthened. The scope of information that should be made publicly available has been widened to include more qualitative aspects. Disclosure is an essential element of market discipline, one of the three pillars of the Basel II framework. However, more fundamentally, recent events have also reminded banks that adequate and reliable information is a prerequisite for prices to form and markets to exist.

Let me mention one last example and that relates to ownership concentration. Supervisors should be particularly alert to the toolbox they have at their disposal to address changes in ownership. Timeliness is essential and the new Methodology highlights the need to define the appropriate thresholds that will trigger immediate notification or supervisory approval. The increased involvement of investment funds and the use of more complex instruments to gain the control of companies justify the necessity, included in the revised Core Principles, to consider beneficial ownership and controlling interests, not just direct voting

rights. The effectiveness of the cooperation with the other domestic financial regulators and with foreign supervisors is also particularly important. This need arises due to the growing interrelation of markets and banking regulations, and the increased cross-border nature of banking activities. The revised Core Principles reflect this. They also include clearer guidance concerning the reciprocal flows of information between home and host regulators.

I hope that these few examples gave you a flavour of the Basel Committee's efforts to take account of the broader supervisory world. Likewise, I trust my comments on the revised Core Principles gave you a taste of how the Committee is strengthening global supervision. And finally, I also hope I have whetted your appetite for continuing the important dialogue and cooperation that is essential for effective cross-border supervision. On that culinary note, I thank you for your attention and wish you bon appétit.

The global economy and Africa: an overview

Kerri Brick, Logan Rangasamy and Erik Visser
(South African Reserve Bank, Pretoria, South Africa)

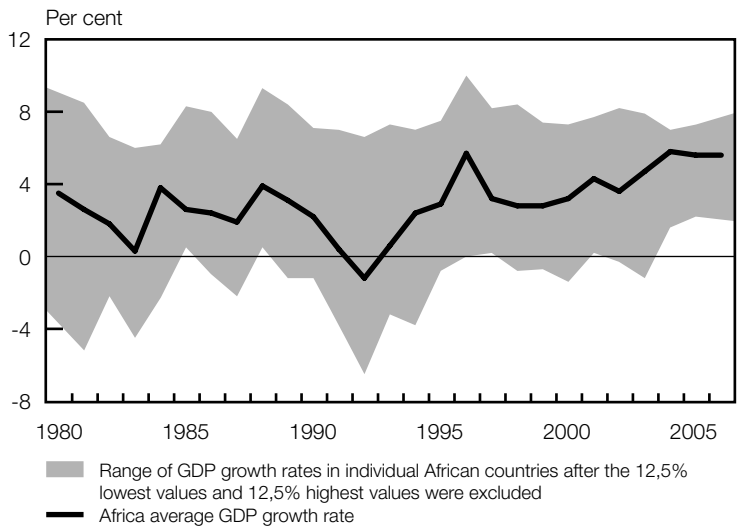
Introduction

The global economy continues to perform strongly, underpinned by robust growth in emerging market and developing countries, especially in China and India. Real GDP growth in Africa was 5,6% in 2006 (Annexure A), the third consecutive year that growth exceeded 5%. However, the recent global financial market turmoil following the crisis in the subprime mortgage market in the United States has increased the downside risks and the IMF's global growth projection for 2008 has been revised down by almost ½ a percentage point (IMF, 2007a: 8). Adverse developments in the world economy can have important economic implications for Africa, for example, through reduced demand for African commodities.

Economic growth in Africa

Growth rates in Africa have not only improved over the longer run, but have also converged across the continent (Graph 1). The recent improvement in Africa's growth performance is a result of inter alia, strong global demand for commodities (fuel and non-fuel commodities), favourable commodity prices, sound macroeconomic policies in several African countries,

Graph 1 Real GDP growth in Africa



Source: IMF *World Economic Outlook Database* (October 2007) and own calculations

debt relief, increased capital inflows and increased agricultural production in many countries as a result of favourable weather conditions. Real GDP growth in oil-exporting African countries has been close to 6% and above over the last two years, while growth in oil-importing countries was marginally lower at around 5% during the same period (IMF, 2007a: 96).

Although the economic growth outlook[1] in Africa remains uncertain due to the considerable disruption in global financial markets, it is still expected to increase moderately to 5,7% in 2007 before accelerating further to 6,5% in 2008 (Table 1). The projected acceleration is underpinned by oil-exporting countries with new oil production facilities coming on-stream in countries such as Angola and Nigeria. Several other African countries are also expected to perform well in 2008. However, despite Africa's strong growth momentum in recent years, progress[2] towards achieving the Millennium Development Goals in the Sub-Saharan African region remains very slow (UN, 2007a: 1).

Table 1 Macroeconomic indicators in selected African countries

	Real GDP growth[1]			CPI inflation[2/3]			Current-account balance[4]		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
Africa	5,6	5,7	6,5	6,3	6,6	6,0	3,1	0,0	0,6
North Africa									
Algeria	3,6	4,8	5,2	2,5	4,5	4,3	25,6	19,4	18,4
Morocco	8,0	2,5	5,9	3,3	2,5	2,0	3,4	0,7	0,2
West Africa									
Ghana	6,2	6,3	6,9	10,9	9,4	8,8	-9,7	-9,7	-7,7
Nigeria	5,6	4,3	8,0	8,3	5,3	7,4	12,2	1,8	6,0
Central Africa									
Cameroon	3,8	3,8	5,3	5,1	2,0	2,7	-0,7	-1,5	-3,1
Congo. Dem. Rep. of	5,1	6,5	8,4	13,2	17,5	8,8	-7,5	-8,1	-10,9
East Africa									
Kenya	6,1	6,4	6,5	14,5	6,9	7,2	-2,4	-3,7	-5,1
Uganda	5,4	6,2	6,5	6,6	7,5	5,1	-4,1	-2,4	-6,3
Southern Africa									
Botswana	2,6	5,0	5,2	11,6	7,0	7,0	19,3	20,6	10,0
South Africa	5,0	4,7	4,2	4,7	6,6	6,2	-6,5	-6,7	-6,4

1 Annual percentage change
2 Per cent
3 Excluding Zimbabwe
4 As percentage of GDP

Source: IMF *World Economic Outlook* (October 2007)

Most African countries have benefited since 2002 from rising commodity prices. The IMF's total commodity price index (including both fuel and non-fuel commodities) has increased by 213% between January 2002 and September 2007 (Table 2). Energy prices increased

by 280% during this period and were the main drivers behind the sharp increase in the total commodity price index. Angola, Chad, Equatorial Guinea and Mauritania were able to take advantage of the soaring global oil demand. Non-fuel commodity prices (including food, beverages, agricultural raw materials and metals) increased by approximately 121% between January 2002 and September 2007. Prices of beverages, food and agricultural raw materials increased during this period by 84%, 73% and 39%, respectively. Metal prices increased noticeably by 250% during the same period, benefiting Mozambique, Namibia, South Africa and Zambia. The IMF's non-fuel commodity index increased by 19% in the first nine months of 2007 compared with the same period in the previous year (Table 2). This sharp increase was driven mainly by metal prices, while some food prices also increased significantly. The price of maize increased by 46% during this period and the prices of soybeans and soybean oil both increased by almost 40%.

Table 2 World primary commodity prices, 2000 – 2007
(Percentage change over previous year)

Commodity group	2001	2002	2003	2004	2005	2006	2007[1]	2002 – 2007[2]
Non-fuel commodities (52,2)	-4,9	1,7	6,9	18,5	10,3	28,4	18,5	120,5
Food (21,7)	0,2	3,4	5,2	14,2	-0,3	9,9	12,2	72,7
Wheat (5,4)	11,2	17,1	-1,6	7,3	-2,8	25,8	21,4	160,6
Maize (3,0)	1,6	10,9	5,9	6,3	-12,0	23,6	45,5	74,0
Soybeans (2,8)	-7,8	11,9	23,5	18,6	-19,4	-2,5	38,5	148,3
Soybean oil (2,1)	-1,4	18,1	22,1	18,0	-16,0	11,2	39,5	117,1
Beverages (3,1)	-16,1	16,5	4,9	3,0	21,0	6,3	9,5	83,6
Coffee (2,7)	-27,2	-2,5	6,1	25,0	42,8	-0,3	7,4	123,3
Agricultural raw materials (11,3)	-4,9	1,8	3,7	5,5	1,6	10,1	6,6	39,1
Metals (16,1)	-9,8	-2,8	12,2	36,1	26,4	56,5	27,3	250,0
Energy (47,8)	-11,5	-0,6	16,8	31,1	38,7	19,3	-1,0	280,4
Total commodity prices (100,0)	**-9,1**	**0,3**	**13,0**	**26,6**	**29,2**	**21,9**	**5,3**	**213,2**

Weights in parenthesis
1 Percentage change in the first nine months of 2007 compared with the same period in the previous year
2 Percentage change from January 2002 to September 2007

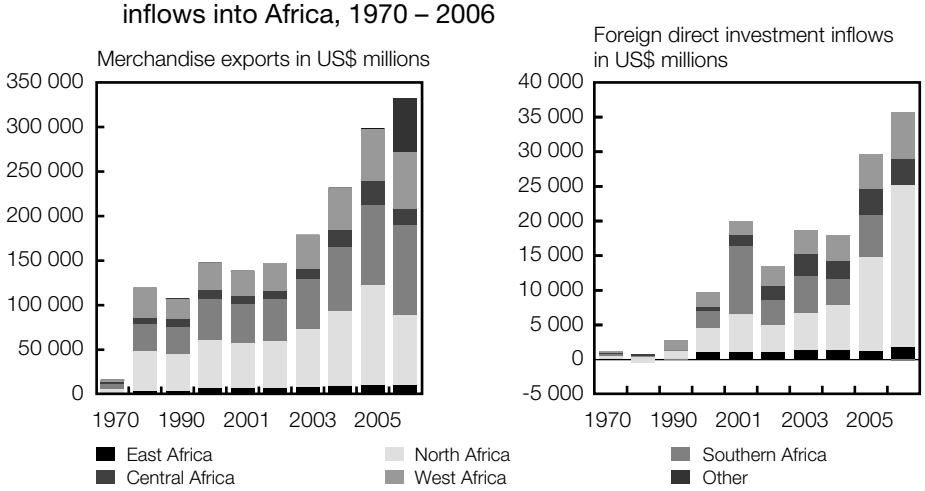
Source: IMF *Primary Commodity Prices (2007)*

Many countries in Africa, especially those exporting oil and minerals, have experienced increases in their terms of trade since the commodity price boom. In Africa, the terms of trade improved particularly in the oil-rich sub-regions (North Africa, West Africa and Central Africa), while countries in East and Southern Africa showed mixed results (UNCTAD, 2007: 12). The positive movements in the terms of trade have contributed to improved fiscal and external balances in many African countries. Central government fiscal balances in Africa turned positive on average in 2005 and increased to 3,8% of GDP in 2006 for the continent as a whole, but is projected to decline to an estimated 0,7% in 2007 (IMF, 2007b: 13).

Twelve Sub-Saharan African countries registered an overall central government surplus (excluding grants) in 2006, compared with only ten countries in the previous year. The current-account balance improved in 25 African economies in 2006, with seven countries registering current-account surpluses above 5%. Major oil-producing countries in Africa such as Algeria, Angola and Gabon registered current-account surpluses of 25,6%, 23,3% and 19,7%, respectively, in 2006.

The decline in Africa's share in global exports from 5,9% in 1980 to 2,0% in 1998 was halted by the rise in commodity exports and has subsequently increased to 2,8% in 2006. In the case of Sub-Saharan Africa, this long-term declining share of global trade is attributed to trade barriers, macroeconomic instability, uncompetitive costs structures, small domestic markets and high indirect costs such as port charges, customs clearing and internal freight rates (IMF, 2007c: 38). Export patterns in African countries largely reflect resource prevalence. In addition, exports are highly concentrated in a few countries; for example, in North Africa, Algeria, Libya and Egypt accounted for approximately 77% of exports in 2005, while in Southern Africa, South Africa and Angola were responsible for approximately 84% of the region's exports in 2005 and 83% in 2006. Finally, in West Africa, Nigeria accounted for 73% of the region's exports in 2006 (Graph 2).

Graph 2 Merchandise exports and foreign direct investment inflows into Africa, 1970 – 2006



Source: UNCTAD *Handbook of Statistics* and FDI Online Database

African exports are also highly concentrated as far as export destinations are concerned. Developed economies (especially, the European Union, the United States and Japan) represent the primary export destination for many African countries. However, exports to developing economies have increased over the last decade and a half. For example, the share of Sub-Saharan Africa's exports to the developing world has more than doubled

since 1990. As a result of Asia's growing appetite for natural resources, approximately 25% of Sub-Saharan Africa's exports are destined for Asia. Trade relations with China in particular have increased significantly since 1990. For example, Sub-Saharan African exports to China have increased from approximately US$5 billion in 2000 to US$19 billion in 2005. However, intraregional trade accounts for approximately 10% of Sub-Saharan Africa's exports; this share has remained relatively stagnant in recent years (IMF, 2007c: 39).

Capital inflows into Africa

During the past three to four years, several African countries have experienced strong private capital inflows, while reserves accumulation has been running at around US$40-50 billion a year. Prolonged intervention to resist upward pressure on the exchange rate has presented several central banks with some difficult dilemmas:

- One issue is how far central banks should allow exchange rates to appreciate in the face of capital inflows (and in some cases current-account surpluses generated by high commodity prices). Real exchange rates have appreciated in several African countries (Annexure B).
- A second issue is how far to sterilise the domestic monetary counterpart of foreign-exchange intervention.
- A third set of issues concerns the choice of instruments to sterilise: markets (e.g. Treasury bill sales) versus non-market instruments (e.g. increased reserves requirements); the maturity of debt instruments used to sterilise; and the choice between government and central bank securities[3].

Foreign direct investment

Total foreign direct investment (FDI) inflows into Africa have more than doubled from US$13,6 billion in 2002 to a record-high level of US$35,5 billion in 2006 (Graph 2). Africa's share[4] in global FDI inflows, however, declined from 4,6% during the 1970s to 1,6% in the 1990s, before increasing somewhat in recent years reaching 2,7% in 2006. Prudent macroeconomic management, rising corporate profits and high commodity prices have underpinned the elevated FDI inflows in Africa over recent years.

FDI flows into the continent are also highly concentrated; for example, Egypt, Morocco, Nigeria, Sudan and Tunisia accounted for more than 70% of the total FDI inflows in 2006, while the three countries with the largest FDI inflows (Egypt, Nigeria and Sudan) accounted for more than half of the total FDI inflows (Annexure C). FDI inflows, however, remained below US$200 million in 31 African countries which mostly included those on the United Nations' list of *Least Developed Countries* (Table 3). Southern Africa experienced negative FDI inflows in 2006 caused by the sale of a foreign equity stake in a South African gold-mining company to a local firm and the takeover of major oil-related projects from foreign companies in Angola (UN, 2007c: 38). More recent estimates (IMF, 2007a: 238) indicate that net FDI flows into Africa increased from US$20,4 billion in 2006 to US$27,1 billion in 2007.

Table 3 Distribution of FDI flows by country, 2006

Range	Inflows	Outflows
Over US$3,0 billion	Egypt, Nigeria, Sudan and Tunisia	South Africa
US$2,0 to 2,9 billion	Morocco	
US$1,0 to 1,9 billion	Algeria, Libyan Arab Jamahiriya and Equatorial Guinea	
US$0,5 to 0,9 billion	Chad	
US$0,2 to 0,4 billion	Ghana, United Republic of Tanzania, Ethiopia, Zambia, Congo, Namibia, Cameroon, Uganda, Burundi, Botswana, Gabon, Côte d' Ivoire and Madagascar	Morocco, Liberia and Nigeria
Less than US$0,2 billion	Mali, Democratic Republic of the Congo, Mozambique, Seychelles, Cape Verde, Djibouti, Guinea, Mauritius, Somalia, Gambia, Benin, Senegal, Lesotho, Togo, Kenya, Sierra Leone, Guinea-Bissau, Zimbabwe, Swaziland, Malawi, Burkina Faso, Central African Republic, Niger, Rwanda, Eritrea, Comoros, São Tomé and Principe, Mauritania, Liberia, South Africa and Angola	Egypt, Libyan Arab Jamahiriya, Angola, Algeria Tunisia, Kenya, Botswana, Mauritius, Sudan, Seychelles, Senegal, Congo, Sierra Leone, Swaziland, Niger, Malawi, Mali, Mozambique, Cape Verde, Zimbabwe, United Republic of Tanzania, Benin, Burkina Faso, Guinea-Bissau, Côte d' Ivoire, Namibia, Togo and Gabon

Source: UNCTAD, *World Investment Report,* 2007

The robust demand for commodities amid favourable commodity prices has attracted large inflows into the primary sector (especially oil and gas), although FDI in the services sector (mainly banking) has also increased. Cross-border mergers and acquisitions (M&As) have become increasingly important in recent years with the total value of M&As in Africa increasing rapidly from US$10,5 billion in 2005 to US$17,6 billion in 2006 (UN, 2007c: 39). The majority of M&As in the region are concentrated in the services sector – particularly in finance, transport, storage and communications. Transnational corporations from developing Asia are becoming increasingly important in Africa and accounted for US$8,9 billion of the total M&As in the region (UN, 2007c: 35). Singapore, India and Malaysia are the top Asian sources of FDI to Africa, followed by China (increasing rapidly in recent years), the Republic of Korea and Taiwan Province of China.

Net portfolio investment

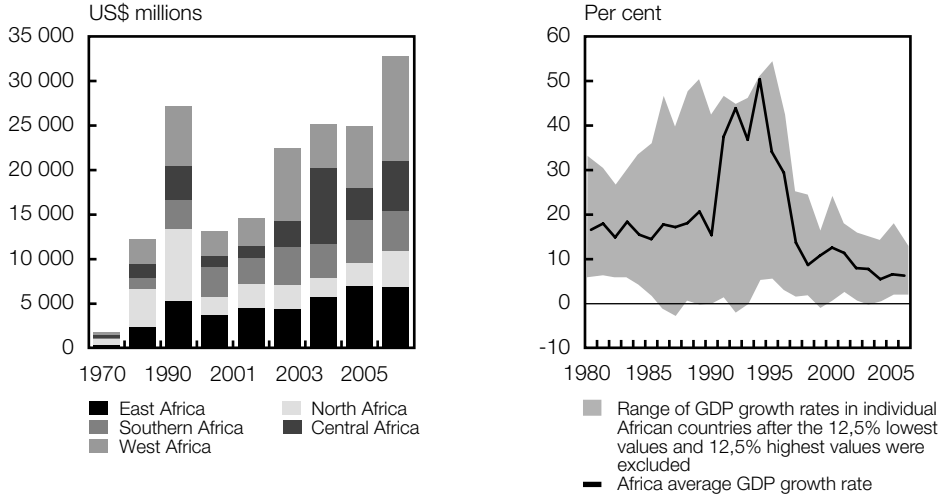
Net portfolio investment in Africa has surged from a net outflow of almost US$8 billion in 2001 to a net inflow of US$17,9 billion in 2006, before declining to an estimated US$11,7 billion in 2007 (IMF, 2007a: 238). The sharp increase since the beginning of the decade was the result of macroeconomic reforms in many countries and the surplus liquidity in global markets. Improvements in sovereign balance sheets, strong commodity prices and more prudent macroeconomic management have certainly contributed to the increase in portfolio investment flows into Sub-Saharan Africa. In addition, improved access to regional local markets through the Euroclear system has encouraged foreign investors through reduced transaction costs[5]. Portfolio investment within the Sub-Saharan region has been concentrated in commodity exporting countries as well as economies with more open capital markets and an optimistic growth outlook. According to the IMF (2007d: 24), portfolio investment inflows into Nigeria in the first half of 2006 amounted to approximately US$1 billion – more than five times the amount of foreign capital inflows in 2005. Zambia received about US$250 million in 2006, while countries such as Côte d'Ivoire, Ghana, Kenya, Tanzania and Uganda also benefited from improved portfolio flows, although to a lesser extent. However, liquidity remains low within African financial markets and institutional investors are still largely investing in the stock exchanges of Egypt, Morocco and South Africa.

Foreign aid flows

Although Africa has benefited from increased capital flows in 2006, positive economic reforms and debt reduction under the HIPC initiative, external debt obligations are yet to be significantly reduced. Africa's total external debt level decreased from US$295,4 billion in 2005 to US$245,6 billion in 2006, but is expected to decline moderately to US$243,5 billion in 2007 according to IMF estimates (IMF *World Economic Outlook Database*, October 2007). This translates into a decline in total external debt as a ratio of GDP from 36,1% in 2005 to 26,7% in 2006 and 23,4% in 2007. Despite these declines, Africa's total debt service obligations increased from US$36,2 billion (4,4% of GDP) in 2005 to US$54,1 billion (5,9% of GDP) in 2006 amid higher interest rates. The debt burden thus continues to constrain public investment spending. However, the total debt service obligations are expected to decline to US$36,6 billion (3,5% of GDP) in 2007 (IMF *World Economic Outlook Database*, October 2007).

Net official development assistance (ODA), excluding debt relief, to Africa increased from US$14,5 billion in 2000 to US$35,1 billion in 2005 (Graph 3). However, despite the increases in net ODA flows into Africa, aid per capita in US dollar terms in the various African regions are below 1990 levels. In addition, aid per capita has remained relatively stagnant in both North and Southern Africa (World Bank, *World Development Indicators*).

Graph 3 Net official development assistance and inflation in Africa



Source: UNCTAD *Handbook of Statistics Online,* IMF *World Economic Outlook Database* (October 2007) and own calculations

Consumer price developments

After reaching approximately 50% in 1994, average consumer price inflation in Africa declined significantly towards the end of the 1990s, before becoming relatively more stable and more synchronised (Graph 3), except for a small number of outliers in recent years. The number of African countries with inflation rates exceeding 20% has declined significantly from 29 countries in 1994 to only three countries in 2006, while the number of African countries recording inflation rates below 5% increased substantially from only five countries in 1994 to 20 countries in 2006 (Table 4), suggesting prudent macroeconomic management in many countries. The average consumer price inflation in Africa (excluding Zimbabwe) declined moderately from 6,6% in 2005 to 6,3% in 2006, but is expected to increase again to 6,6% in 2007 (Table 1). However, recently food price inflation has been acute in a number of African countries, particularly Lesotho, Madagascar, Mauritius, Namibia, Nigeria, South Africa, Swaziland, Uganda, Zambia and Zimbabwe. Given the current trend in world food inflation and the large weight of

Box 1: Developments in food price inflation in African countries

Food price inflation has been increasing in a number of African countries, particularly Lesotho, Madagascar, Mauritius, Namibia, Nigeria, South Africa, Swaziland, Uganda, Zambia and Zimbabwe. Given the current trend in world food inflation and the large weight of food prices in the consumer price basket (accounting for more than 40% in seven of the selected African countries), inflationary pressures are likely to remain on the high side in most African countries in the immediate future. Annual inflation in Kenya slowed considerably from 15,7% in October 2006 to 5,7% in April 2007 as food and non-alcoholic drink inflation decelerated from 23,0% to 5,5% over the same period. Food and non-alcoholic drink inflation subsequently increased to 18,9% in July due to both base effects and the increased price of some staple foods such as bread. Since June 2007, the food and non-alcoholic drinks category has been the only inflation component at double-digit levels.

Rising inflationary pressures in Lesotho have been underpinned by increases in the food and non-alcoholic beverages component of the Consumer Price Index. In particular, food inflation (for eight towns) registered 15,0% in August 2007. Surging food prices are underpinned by food shortages as Lesotho experiences the worst drought in several decades and rising production costs. Specifically, the price of bread and cereals accelerated by 19,4% in August, while the price of fruits and vegetables accelerated 14,3% during the same period. Annual inflation in Malawi has, however, been on the decline since March 2006. Inflation moderated further in August to 7,2% due to a deceleration in food inflation. Food inflation in particular has decelerated from 9,7% in January 2007 to 6,6% in August amid a second consecutive year of bumper maize harvests, partly due to the reintroduction of input subsidies. Headline inflation in Namibia has been on the rise since the first quarter of 2006 – inflation accelerated from 3,6% in January 2006 to 7,2% in July 2007. Headline inflation has been fuelled by rising food prices, with the prices of food and non-alcoholic beverages increasing from 9,2% in January 2007 to 13,7% in August. Food price inflation has been driven by increased biofuels demand, increased demand from emerging markets and unfavourable weather conditions[1]. Annual inflation in Tanzania moderated from 7% in January 2007 to 5% in May as food inflation decelerated from 6,7% to 2,8% over the same period. Food inflation slowed amid good food harvests and increased food supply throughout the country. However, annual inflation increased to 9% in July amid an increase in food inflation to 10,3% during the same period.

Countries[2] (weight)*	2006	7-Jan	7-Feb	7-Mar	7-Apr	7-May	7-Jun	7-Jul	7-Aug	Ave Jan – Aug
Botswana: Headline	11,6	7,4	7,3	6,5	6,2	6,3	6,5	7,6	7,3	6,9
Food (21,8)	12,5	8,3	8,4	8,3	7,9	8,8	11,5	12,9	12,7	9,9
Egypt: Headline	7,6	12,4	12,6	12,8	11,7	10,0	8,5	8,0	8,5	10,6
Food (38,9)	10,1	15,4	15,7	16,7	16,4	12,6	9,6	10,1	12,4	13,6
Kenya: Headline	14,5	9,7	6,8	5,9	5,7	6,3	11,1	13,6	12,4	8,9
Food (55,7)	21,0	11,8	7,2	5,7	5,5	6,7	15,0	18,9	17,2	11,0
Lesotho: Headline(1)	6,1	6,0	5,6	5,9	8,1	7,6	8,0	8,6	8,7	7,3
Food (38,4)	9,5	10,9	10,2	11,1	15,5	13,6	14,1	15,1	15,0	13,2
Madagascar: Headline	10,8	10,8	13,5	14,5	13,9	11,7	10,0	8,8	8,5	11,5
Food (50,1)	4,3	9,3	14,8	17,2	17,0	15,5	13,8	13,9	13,9	14,4
Malawi: Headline	14,0	9,6	9,2	8,6	8,4	7,9	7,7	7,4	7,2	8,3
Food (58,1)	15,6	9,7	9,1	8,3	7,9	7,2	6,8	6,7	6,6	7,8
Mauritius: Headline	8,9	8,8	9,2	9,6	10,9	11,1	10,0	8,2	7,9	n.a.
Food (29.9)	10,0	12,5	13,6	15,4	17,9	19,2	19,9	n.a.	n.a.	n.a.
Mozambique: Headline	13,3	8,2	5,4	4,9	6,0	8,3	8,4	9,1	9,9	n.a.
Food (63,0)	n.a.	16,9	16,5	12,6	11,9	10,9	10,1	n.a.	n.a.	n.a.
Namibia: Headline	5,1	6,0	6,0	6,3	6,9	7,1	7,0	7,2	6,8	6,7
Food (29,0)	6,5	9,2	9,7	10,2	11,8	12,2	12,0	13,4	13,7	11,5
Nigeria: Headline	8,4	8,0	7,1	5,2	4,2	4,6	6,4	4,8	4,2	5,6
Food (63,8)	5,9	-0,1	3,3	1,7	2,1	2,4	3,2	1,1	-1,2	1,6
South Africa: Headline	4,7	6,0	5,7	6,1	7,0	6,9	7,0	7,0	6,7	6,6
Food (26,0)	7,2	8,6	8,0	7,7	8,4	8,7	9,5	10,2	11,1	9,0
Swaziland: Headline	5,3	4,9	6,0	6,0	8,4	8,0	8,3	8,9	8,6	7,4
Food (24,5)	14,6	12,8	13,5	13,7	20,4	17,1	18,7	17,2	18,9	16,5
Tanzania: Headline	6,2	7,0	7,3	7,2	6,1	5,0	5,9	9,0	7,8	6,9
Food (55,9)	8,0	6,7	6,2	6,1	4,8	2,8	4,6	10,3	9,2	6,3
Uganda: Headline	7,5	9,2	8,3	5,6	6,1	4,8	6,1	5,3	4,3	6,2
Food (27,2)	0,2	9,6	7,3	7,0	14,4	13,9	10,5	3,6	-0,3	8,3
Zambia: Headline	9,1	9,8	12,6	12,7	12,4	11,8	11,1	11,2	10,7	11,5
Food (57,1)	5,1	1,0	4,2	4,9	5,5	5,7	4,8	6,7	7,9	5,1
Zimbabwe: Headline	1034	1594	1730	2200	3714	4530	7251	7635	6593	4406
Food (33,0)	1042	1456	1825	2334	3909	5512	8795	8624	7908	5045

* *Weight in consumer basket*

Notes [1] Bank of Namibia *Monetary Policy Statement,* October 2007
[2] National statistical offices and central banks

food prices in the consumption basket of many African countries, inflationary pressures are likely to remain on the high side in most African countries in the immediate future.

Table 4 Distribution of inflation rates in individual African countries in selected years between 1994 and 2006

Ranges of inflation rates	Number of countries			
	1994	2000	2005	2006
Below 5%	5	22	21	20
Between 5 and 10% (including 10%)	8	17	14	18
Between 10 and 20% (including 20%)	7	4	11	9
Higher than 20%	29	7	4	3

Source: IMF *World Economic Outlook Database* (October 2007) and own calculations

Conclusion

Global economic growth is expected to slow somewhat in the short-term, but remains uncertain due to the recent turmoil in financial markets. The risks to the growth outlook are on the downside and are mainly due to uncertainties regarding global financial markets. A slowdown in world growth could have adverse implications for exports from Africa. However, a more immediate challenge to monetary policy in many African countries relate to the containment of inflationary pressures. Rising food and energy prices have worsened the inflation outlook in many countries.

Endnotes

1 *IMF World Economic Outlook (October 2007).*

2 *Only nine Sub-Saharan African countries registered growth rates above 7% in 2006 – the rate required to meet the Millennium Development Goals' target on halving poverty by 2015.*

3 *These issues were examined at the previous BIS meeting of African governors: see BIS Central banks and the challenge of development, pp 33–41. Available at http://www.bis.org/events/cbcd06.htm*

4 *Calculations are based on data from the UNCTAD FDI Online Database.*

5 *Euroclear is the world's largest settlement system for securities transactions. Seven additional regional currencies were added to Euroclear in 2006 (IMF Global Financial Stability, 2007) The African Development Bank (AfDB) has issued a number of local currency bonds with Euroclear status in a bid to promote local financial market development. In January 2007, the AfDB launched a Nigerian naira-denominated bond issue worth US$100 million which clears through Euroclear (Business in Africa Online, 2007).*

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Annexure A Actual and expected developments in output growth, consumer prices and current-account balances

	Real GDP growth[1]			CPI inflation[2/3]			Current-account balance[4]		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
World	5,4	5,2	4,8	3,6	3,9	3,6			
Advanced economies	2,9	2,5	2,2	2,3	2,1	2,0	-1,4	-1,3	-1,4
United States	2,9	1,9	1,9	3,2	2,7	2,3	-6,2	-5,7	-5,5
Japan	2,2	2,0	1,7	0,3	0,0	0,5	3,9	4,5	4,3
Euro area	2,8	2,5	2,1	2,2	2,0	2,0	0,0	-0,2	-0,4
France	2,0	1,9	2,0	1,9	1,6	1,8	-1,2	-1,6	-1,8
Germany	2,9	2,4	2,0	1,8	2,1	1,8	5,0	5,4	5,1
Italy	1,9	1,7	1,3	2,2	1,9	1,9	-2,4	-2,3	-2,2
Emerging market and developing countries	8,1	8,1	7,4	5,1	5,9	5,3	4,8	4,0	3,7
Developing Asia	9,8	9,8	8,8	4,0	5,3	4,4	5,9	6,9	7,0
China	11,1	11,5	10,0	1,5	4,5	3,9	9,4	11,7	12,2
India	9,7	8,9	8,4	6,1	6,2	4,4	-1,1	-2,1	-2,6
Latin America	5,5	5,0	4,3	5,4	5,3	5,8	1,5	0,6	0,0
Central and eastern Europe	6,3	5,8	5,2	5,0	5,1	4,1	-6,6	-7,3	-7,5
Africa	5,6	5,7	6,5	6,3	6,6	6,0	3,1	0,0	0,6
North Africa									
Algeria	3,6	4,8	5,2	2,5	4,5	4,3	25,6	19,4	18,4
Morocco	8,0	2,5	5,9	3,3	2,5	2,0	3,4	0,7	0,2
Sudan	11,8	11,2	10,7	7,2	8,0	6,5	-14,7	-10,7	-8,5
West Africa									
Côte d' Ivoire	0,9	1,7	3,8	2,5	2,5	3,0	3,0	2,6	1,3
Ghana	6,2	6,3	6,9	10,9	9,4	8,8	-9,7	-9,7	-7,7
Nigeria	5,6	4,3	8,0	8,3	5,3	7,4	12,2	1,8	6,0
Central Africa									
Cameroon	3,8	3,8	5,3	5,1	2,0	2,7	-0,7	-1,5	-3,1
Congo, Dem. Rep. of	5,1	6,5	8,4	13,2	17,5	8,8	-7,5	-8,1	-10,9
East Africa									
Ethiopia	9,0	10,5	9,6	12,3	17,8	15,9	-10,4	-5,9	-3,0
Kenya	6,1	6,4	6,5	14,5	6,9	7,2	-2,4	-3,7	-5,1
Mauritius	3,5	4,7	4,7	5,5	10,7	7,5	-5,3	-8,8	-7,6
Tanzania	6,2	7,1	7,5	7,3	5,6	5,0	-8,6	-10,6	-10,8
Uganda	5,4	6,2	6,5	6,6	7,5	5,1	-4,1	-2,4	-6,3
Southern Africa									
Botswana	2,6	5,0	5,2	11,6	7,0	7,0	19,3	20,6	10,0
Lesotho	7,2	4,9	5,2	6,1	6,6	6,4	4,4	1,6	0,7
Namibia	4,6	4,8	4,6	5,1	6,3	5,9	15,0	18,5	12,8
South Africa	5,0	4,7	4,2	4,7	6,6	6,2	-6,5	-6,7	-6,4
Swaziland	2,1	1,0	1,0	5,3	6,8	6,3	1,6	0,2	-1,1
Zambia	5,9	6,0	6,2	9,1	11,3	5,7	0,5	-0,5	-2,0
Oil importers	*5,3*	*4,9*	*5,3*	*6,5*	*6,9*	*6,0*	*-3,9*	*-4,5*	*-4,1*
Oil exporters	*6,3*	*7,5*	*9,1*	*5,9*	*6,1*	*6,0*	*14,7*	*7,2*	*8,9*

1 Annual percentage change
2 Per cent
3 Excluding Zimbabwe
4 As percentage of GDP

Source: IMF *World Economic Outlook (October 2007)*

Annexure B Real exchange rates[1]

	2000	2001	2002	2003	2004	2005	2006	2007
Africa								
Algeria	100	103,04	95,18	86,13	86,69	83,30	83,36	81,59
Botswana	...	...	...	...	...	...	...	...
Egypt	100	91,05	81,79	65,78	66,23	71,28	73,49	75,13
Ghana	100	100,62	99,80	100,46	99,38	109,48	115,92	115,74
Kenya	...	...	...	...	...	...	...	...
Mauritius	...	...	...	...	...	...	...	...
Morocco	100	95,88	95,57	94,59	93,55	91,83	92,91	92,75
Nigeria	100	111,12	110,97	102,76	108,39	124,13	133,07	130,48
South Africa	100	87,97	75,42	99,40	108,35	109,91	105,48	98,66
Tanzania	...	...	...	...	...	...	...	...
Uganda	100	97,47	93,49	81,86	84,19	88,60	87,77	91,13
Zambia	100	112,01	110,92	101,66	107,76	134,70	176,58	147,65
BEAC	...	...	...	...	...	...	...	...
BECEAO	...	...	...	...	...	...	...	...
Lesotho	100	86,23	77,92	105,13	143,89	132,81	129,41	124,85
Namibia	...	...	...	...	...	...	...	...
Swaziland	...	...	...	...	...	...	...	...
Asia								
China	100	104,76	102,16	95,23	92,41	91,38	92,83	96,33
Hong Kong SAR	100	101,65	96,98	87,98	82,11	79,91	78,93	75,64
India	100	102,43	98,78	98,19	99,77	103,75	102,13	108,45
Indonesia	100	94,82	114,67	122,52	116,66	114,77	133,99	135,59
Korea	100	93,96	98,75	99,56	100,71	112,55	120,59	120,51
Malaysia	100	105,58	105,91	99,89	95,26	95,29	98,81	101,82
Philippines	100	95,42	95,94	87,80	84,59	90,05	100,31	107,59
Singapore	100	100,58	98,11	94,42	93,32	92,06	93,94	94,28
Taiwan China	100	95,83	92,59	86,57	85,30	87,82	84,79	80,19
Thailand	100	95,40	98,07	96,00	95,47	97,01	105,27	111,86
Latin America								
Argentina	100	104,74	44,60	47,71	45,95	45,87	45,23	45,08
Brazil	100	84,76	78,46	76,04	79,40	98,38	110,34	117,52
Chile	100	90,57	88,09	82,61	88,06	93,14	96,97	94,36
Colombia	100	96,88	95,26	84,88	92,77	105,30	103,64	115,16
Mexico	100	106,99	107,26	95,11	90,81	94,19	94,24	93,40
Peru	100	104,00	103,88	99,94	99,58	99,49	99,19	98,72
Venezuela	100	106,47	83,56	72,16	70,44	69,00	73,38	79,62
Memo:								
Euro area	100	101,42	105,63	117,99	122,20	119,61	119,03	121,25
Sweden	100	91,90	94,60	100,70	101,08	96,54	95,79	96,97
Switzerland	100	102,51	106,28	106,80	105,79	103,53	100,62	96,57
United Kingdom	100	97,76	98,35	94,42	98,06	96,05	96,38	99,30
United States	100	105,78	105,72	99,14	94,69	93,30	92,60	89,88

1 In effective terms; period averages, 2000 = 100; an increase indicates an appreciation

Sources: BIS; IMF; JPMorgan Chase

Annexure C African countries: FDI inflows (US Dollars at current prices in millions)

	2000	2001	2002	2003	2004	2005	2006
Africa	**9685**	**19979**	**13571**	**18677**	**18018**	**29648**	**35544**
North Africa	**3456**	**5528**	**3925**	**5376**	**6616**	**13528**	**23324**
Algeria	438	1196	1065	634	882	1081	1795
Egypt	1235	510	647	237	2157	5376	10043
Libyan Arab Jamahiriya	141	-113	145	143	357	1038	1734
Morocco	471	2875	534	2429	1070	2946	2898
Sudan	392	574	713	1349	1511	2305	3541
Tunisia	779	486	821	584	639	782	3312
West Africa	**2172**	**2079**	**2884**	**3377**	**3743**	**4997**	**6841**
Benin	60	44	14	45	64	53	63
Burkina Faso	23	6	15	29	14	34	26
Cape Verde	33	17	10	16	20	76	122
Côte d' Ivoire	235	273	213	165	283	312	253
Gambia	44	35	43	15	49	45	70
Ghana	166	89	59	137	139	145	435
Guinea	10	2	30	83	98	102	108
Guinea-Bissau	1	0	4	4	2	9	42
Liberia	21	8	3	372	237	-479	-82
Mali	82	122	244	132	101	224	185
Mauritania	40	77	67	102	392	864	-3
Niger	8	23	2	11	20	30	20
Nigeria	1310	1277	2040	2171	2127	3403	5445
Senegal	63	32	78	52	77	45	58
Sierra Leone	39	10	10	9	61	59	43
Togo	41	64	53	34	59	77	57
Central Africa	**552**	**1551**	**2146**	**3307**	**2712**	**3716**	**3786**
Burundi	12	0	0	0	0	1	290
Cameroon	159	73	602	383	319	225	309
Central African Republic	1	5	4	19	25	29	24
Chad	115	460	924	713	495	613	700
Congo	162	71	131	321	-13	724	344
Congo, Dem. Rep. of	23	82	117	158	10	-79	180
Equatorial Guinea	111	941	323	1444	1651	1873	1656
Gabon	-43	-89	39	263	219	321	268
Rwanda	8	4	3	5	8	11	15
East Africa	**1047**	**1042**	**1020**	**1310**	**1318**	**1205**	**1789**
Djibouti	3	3	4	14	39	22	108
Eritrea	28	12	20	22	-8	-3	4
Ethiopia	135	349	255	465	545	221	364
Kenya	111	5	28	82	46	21	51
Madagascar	83	93	61	95	95	86	230
Mauritius	266	-28	32	63	14	42	105
Seychelles	24	65	48	58	38	86	146
Somalia	0	0	0	-1	-5	24	96
Uganda	181	151	185	202	222	257	307
United Rep. of Tanzania	216	389	388	308	331	448	377

Annexure C (continued)

	2000	2001	2002	2003	2004	2005	2006
Southern Africa	2458	9779	3595	5307	3629	6202	-195
Angola	879	2146	1672	3505	1449	-1303	-1140
Botswana	57	31	405	419	392	281	274
Lesotho	32	28	27	42	53	57	57
Malawi	40	60	6	7	22	27	30
Mozambique.....	139	255	347	337	245	108	154
Namibia	188	365	182	149	226	348	327
South Africa.....	888	6789	757	734	799	6251	-323
Swaziland	91	29	92	-61	71	-50	36
Zambia	122	72	82	172	364	380	350
Zimbabwe.....	23	4	26	4	9	103	40

Source: UNCTAD FDI/TNC Database

Developing financial markets: challenges for central banks

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Introduction

The interbank and money markets are key sources of liquidity as they allow banks and bondholders to actively manage liquidity risks, e.g. through derivative positions or reallocation of portfolios. A well functioning money market is also important for the development of the debt market because it prices liquidity through an interbank short-term yield curve. Long-term debt markets in turn have advantages of their own: they provide local investors (such as pension funds and insurance companies) with assets that match long-term liabilities; they prevent a concentration of credit and maturity risk in the banking sector; they provide a non-inflationary source of funds for the public sector (which limits the vulnerabilities associated with monetary financing); and they reduce the flow of capital into short-term paper (which might undermine monetary control and the stability of the local financial system). Long-term debt markets would be particularly helpful in the case of Africa, where financing for infrastructure development requires the kind of long-term commitment that local banks cannot provide.

This note outlines the main features of financial markets across Africa, with particular emphasis on how such markets might be developed. Banking systems provide only limited coverage in many countries and are often dominated by a few banks. Underdeveloped foreign exchange markets pose problems for intervention policies. While money markets do exist in some countries in Africa, they are still not deep and liquid. Lastly, the note addresses issues important for developing long-term debt markets.

Banks and the financial system

Banks often play a crucial role in the development of debt markets. First, by extending credit, banks familiarise borrowers with the information requirements and financial discipline needed to maintain creditworthiness. This is a prerequisite for borrowers to be able to raise funds in debt markets. Second, banks are often a major source of demand for debt instruments. Third, banks often promote the issuance of new financial instruments by providing underwriting services or improving investment or hedging opportunities. As they develop, debt markets may start competing with the traditional intermediation function of banks. But this could be a healthy development: as discussed below, the provision of banking services is likely to be more effective in a more competitive environment. Thus, one might expect a country with a more developed and competitive banking sector to provide a more favourable environment for the development of debt markets and vice versa.

African countries are at a relative disadvantage from this point of view because of the limited depth and high concentration of the banking sector[1].

Limited depth. With some exceptions, the ratios of the assets of deposit money banks to GDP are much smaller in Africa than in the emerging markets in Asia, Latin America and central Europe (Table 1). Credit to the private sector is low, particularly compared with Asia. This reflects both a lower level of formal financial intermediation and a small private sector in many African countries. Nevertheless, most measures show a significant increase in recent years in bank intermediation in Africa, relative to GDP.

Table 1 Indicators of financial depth
As a percentage of GDP

	Bank assets[1]		Bank credit				Central bank assets[2]	
			To public sector		To private sector			
	90–99[3]	00–06[3]	90–99[3]	00–06[3]	90–99[3]	00–06[3]	90–99[3]	00–06[3]
North Africa[4, 5]	64	83	30	27	27	39	45	52
Nigeria	17	26	3	6	11	15	27	31
South Africa	67	83	5	7	60	69	7	10
Other Africa[4, 6]	24	34	5	9	15	20	37	34
BEAC[7]	16	13	5	2	10	7	10	12
BCEAO[8]	25	24	3	3	18	17	27	25
Emerging Asia[4, 9]	*88*	*116*	*6*	*14*	*71*	*86*	*30*	*37*
Latin America[4, 10]	*59*	*58*	*13*	*22*	*37*	*24*	*22*	*20*
Central Europe[4, 11]	*36*	*39*	*10*	*8*	*20*	*24*	*26*	*22*

1 Total domestic assets of deposit money banks
2 Total assets of central bank
3 Average of the period
4 Regional averages are weighted averages based on 2000 GDP and PPP exchange rates
5 Algeria, Egypt and Morocco
6 Ghana, Kenya, Lesotho, Mauritius, Namibia, Swaziland, Tanzania, Uganda and Zambia
7 Bank of Central African States; member states: Cameroon, the Central African Republic, Chad, the Republic of Congo, Gabon and Equatorial Guinea
8 Central Bank of West African States; member states: Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo
9 China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, the Philippines, Singapore and Thailand
10 Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela
11 The Czech Republic, Hungary, Poland and Russia

Source: IMF

A related issue is the functioning of the interbank market. One indicator is the extent to which banks extend credit to each other to meet their day-to-day liquidity needs. Although not all African countries systematically collect interbank data, the evidence from the CFA franc zone suggests low levels of activity. A small share of interbank claims might mean that banks find it too risky to extend credit to each other. This could be due to lack of information on the counterparty, lack of adequate collateral, deficiencies in payment systems, or other inadequate institutional arrangements. In this setting, banks tend to maintain high (and costly)

reserves to avoid potential liquidity shortfalls. High reserve or liquid asset requirements could further discourage interbank market activity by limiting the availability of excess reserves. Indeed, with the exception of South Africa, where reserve requirements are comparable to the 0–3% range in developed countries, reserve requirements on demand deposits are generally high in Africa (Table 2).

Table 2 Reserve requirements[1]

	Reserve ratios				Remuneration
	Demand deposits	Time/savings deposits	Foreign-currency deposits	Other	
Nigeria	9,50	9,50	9,50	9,50[2]	4,00[3]
South Africa	2,50	2,50	2,50	2,50[4]	0,00
Other Africa[5]	6,47	4,38	3,40	3,65	0,10

1 *End-2004, in per cent. The uniform reserve requirement applies to total deposits*
2 *Government deposits*
3 *The first 8 percentage points of the reserve requirement are not remunerated*
4 *The uniform reserve requirement applies to total liabilities*
5 *Weighted averages based on the 2000 GDP and PPP exchange rates of Benin, Botswana, Burkina Faso, Cameroon, the Central African Republic, Chad, the Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Ghana, Guinea-Bissau, Kenya, Lesotho, Mali, Mauritius, Namibia, Niger, Senegal, Swaziland, Tanzania, Togo, Uganda and Zambia*

Source: Magnus Saxegaard, "Excess liquidity and effectiveness of monetary policy: evidence from sub-Saharan Africa", *IMF Working Paper* no WP/06/115, 2006

Another indicator of the underdevelopment of the interbank market is the volatility of short-term interbank rates. Such rates tend to be more stable in more liquid markets. In Africa, volatility of short-term interest rates is quite high compared with other EMEs (Table 3).

Table 3 Level and volatility of short-term interest rates[1]

	Mean			Standard deviation		
	2001	2005	2006	2001	2005	2006
South Africa	9,90	7,10	7,70	0,60	0,23	0,73
Nigeria	29,40	12,40	12,60	2,85	4,14	1,51
Tanzania	2,10	5,20	7,90	0,76	1,09	4,06
China	*2,30*	*2,30*	*2,30*	*0,00*	*0,00*	*0,13*
India	*7,70*	*5,10*	*6,40*	*1,16*	*0,47*	*1,12*
Mexico	*11,00*	*9,30*	*7,20*	*3,93*	*0,42*	*0,37*
United States	*3,90*	*3,20*	*5,00*	*1,32*	*0,58*	*0,33*

1 *Based on daily interbank or call money rates*

Sources: Bloomberg; Datastream; national data

High concentration. Banking systems in Africa are highly concentrated (Graph A1). The average share of assets held by the largest financial institutions is higher than those in other emerging markets, although recently it has been falling[2]. A major factor contributing to concentration is the small market size, generating a need for financial institutions to achieve economies of scale and scope. Concentrated banking sectors tend to be imperfectly competitive, and this tends to weaken the impetus for financial innovation. Lack of competition also leads to inefficiencies, thus inflating overhead costs and increasing net interest margins. Even though the median net interest margins have come down in most African countries, they remain higher than those in other emerging markets (Graph A2). And despite high overhead costs, banks are profitable in Africa because of the non-competitive market structure.

Banks in concentrated systems may also stifle the development of debt markets. They are more likely to collude in auctions of government securities. In addition, they may tend to hold bonds to maturity, so that secondary markets remain illiquid.

Foreign exchange market

The foreign exchange market makes it possible for residents to raise funds in foreign debt markets. It also provides hedging instruments that can enhance the availability of financing to domestic debt markets at various maturities. Liquidity in the foreign exchange markets is usually provided by foreign currency flows associated with external trade and cross-border capital flows. Even where these flows are sufficient, market functioning can still be impaired by inadequacies in market structure, lack of hedging instruments or episodes of financial stress.

Table 4 Foreign exchange turnover

	Total reported transactions in all currencies[1]				Change in official reserves/ foreign exchange turnover[2]			
	1998	2001	2004	2007	1998	2001	2004	2007
Argentine peso.....	2,131	…	0,684	1,107	0,75	…	2,3	5,46
Brazilian real.....	3,418	5,239	4,344	11,112	2,11	0,49	0,78	2,23
Indian rupee.....	1,337	2,840	6,066	21,130	1,01	0,64	2,42	0,78
Korean won	2,288	9,757	21,151	34,047	0,92	0,35	0,71	0,27
Mexican peso	6,961	10,086	20,312	39,218	0,45	0,24	0,09	0,01
Thai baht.....	2,123	1,859	3,492	6,378	1,35	0,02	0,48	0,82
South African rand...	6,087	11,327	13,656	28,528	0,20	0,01	0,07	0,03

... = not available.

1 *Transactions in each national currency against all other currencies, adjusted for local and cross-border double-counting. Daily averages during April, in millions of US dollars*

2 *Twelve months up to April of the respective year; average, as a percentage*

Source: BIS, *Triennial central bank survey of foreign exchange and derivatives market activity,* 2007

Turnover data provide some perspective on the level of foreign exchange market development (Table 4). In April 2007, the average daily turnover on the South African foreign exchange market was US$29 billion, somewhat below that of Korea, and considerably larger than that of some other emerging market economies, such as Argentina, Brazil and India[3].

Outside South Africa, however, currency and foreign exchange derivatives markets tend to be underdeveloped in Africa. A number of structural impediments to deeper foreign exchange markets have been cited:

- Market concentration, with only a few financial institutions controlling the bulk of transactions.
- Restrictions in the foreign exchange market that limit depth and efficiency, such as: foreign exchange surrender requirements; interbank requirements that dealers trade only with customers, not among themselves; and tight prudential limits on net open foreign exchange positions.
- High red tape and processing costs in the formal foreign exchange market; foreign exchange auctions that often lack transparency and are infrequent; and lack of clarity on the objectives of central bank foreign exchange intervention (such as liquidity management, smoothing of short-run excess volatility, or exchange rate targeting).

Lack of deep and efficient foreign exchange markets poses problems for intervention policies[4]. While many countries in Africa have moved to flexible exchange rate regimes, substantial central bank intervention still remains the norm in most countries. An important constraint on the free-floating exchange rate regimes in low-income countries may be the absence of financial markets that would allow domestic firms to hedge the risks associated with temporary exchange rate movements[5]. Nonetheless, forex and the associated derivative markets are more likely to develop when the currency market is relatively free.

Developing money markets

As noted above, a well functioning money market reduces liquidity risks for bondholders by providing access to the cash market. It also facilitates the emergence of a sovereign yield curve, as money market benchmarks can provide foundations for the extension of yield curves further out along the maturity spectrum. When the money market is not well developed and the overnight rate is volatile, investors face heightened liquidity risks that limit their ability to undertake maturity transformation. A well functioning money market also provides incentives for banks to actively manage the risk of running short of excess reserve money.

The central bank can encourage more active liquidity risk management by: shortening the reserve compliance period; excluding interbank transactions from reserve requirements; making borrowing from the central bank more expensive; and maintaining the daily level of excess reserves very close to that desired by banks.

Excluding interbank transactions from the calculation of required reserves ensures that money market transactions can be an efficient way for banks to acquire the reserve money they need[6]. A shorter compliance period for required reserves forces banks to respond more actively to daily excesses and shortages of reserves, because there are fewer days available for offsetting movements to take place. The central bank can design its liquidity facilities to encourage the development of a money market. If the spread between the rates on the central bank's deposit and credit facilities is too narrow, then commercial banks will continue to look to the central bank, and not to other banks, in their management of liquidity over time.

In Africa, money markets differ in degrees of development as indicated by:

- *Liquidity*. According to the CGFS report (2007), South Africa's government bond market is one of the most liquid markets in the world[7]. However, secondary markets for debt securities do not exist in most of Africa.

- *Types of instrument*. Most countries tend to issue treasury bills, but Angola and Botswana offer only central bank bills.

- *Maturities available*. To develop reliable yield curves, pricing benchmarks and other financial products to hedge risk, one needs to have bonds with longer-term maturities. As indicated in Table 5, most of the debt in Africa is short-term. The available maturities of government or central bank bills also vary. For example, maturities up to a year are available in Botswana, Madagascar, Tanzania and Zambia, among others. In Angola, debt instruments are available in maturities of only up to 182 days.

- *Interest rate flexibility.* Many African countries retain formal or informal limits on interest rates. Even when rates on debt are determined by auction, interest limits on alternative investments – for example, maximum lending rates – will affect auction outcomes and may distort investor risk-return calculations. In this setting, one can observe completely market-determined interest rates (South Africa) or rates set administratively by the central bank (Angola). In certain cases, treasury bill rates are not fully market-determined because the central banks have clear cutoff rates in mind and are willing to intervene if necessary.

- *Participants in the market.* Commercial banks tend to be the main holders of domestic debt, given the shortage of other lending opportunities. Banks also tend to hold debt to maturity, which inhibits the development of secondary markets. Foreign participation in African debt markets is limited due to capital account and administrative restrictions[8]. For example, while foreigners can invest in Tanzania's local stock market, they cannot buy local treasury bills and bonds. In Malawi, in order to participate in primary issuances in the local debt market, foreign investors must be approved by the central bank.

> Limited issuance activity means that most African debt is not rated, and institutional investors typically cannot buy unrated issues. The absence of large institutional investors complicates monetary policy implementation because auctions are often undersubscribed, and central banks end up buying the unsold bills[9].

When financial markets are thin, central banks encounter substantial difficulties in sterilising any excess liquidity created during foreign exchange intervention. The experience of Mozambique, Tanzania and Uganda during the 1999–2000 period of intensive sterilisation illustrates this challenge in the African context[10]. The absence of a well developed bond market led the monetary authorities to rely heavily on short-term instruments (largely 91-day treasury bills). Because these markets were thin, interest rates rose sharply, raising debt service payments in the economy.

While treasury bill markets in Africa are fairly commonplace, they are still not deep and liquid, as suggested by the high interest rate volatility in interbank rates (Table 3). Indeed, the issuance of local currency debt in some countries is erratic and in small volumes, leading to problems in developing fungible and liquid instruments and benchmarks.

Long-term debt markets

Total government debt tends to be large relative to GDP in African countries, compared with other EMEs, particularly in North Africa and Other Africa (Table 5). Moreover, the proportion of government borrowing that is denominated in foreign currency tends to be larger in Africa than in most other EMEs. This is largely due to reliance on concessional multilateral and bilateral funding and rudimentary domestic markets. The large foreign currency share of the debt also reflects somewhat less success in Africa in shifting borrowing from foreign currency to domestic currency.

To overcome these problems, some countries have tried to develop domestic bond markets and to extend yield curves. For example, Nigeria has lengthened its yield curve since 2005 from two to seven years. It introduced a system of primary dealers in government securities in mid-2006 to create a liquid secondary market. The authorities also created domestic end users for the secondary market through reforms to establish pension and insurance funds. At the same time, they partially deregulated the capital account. In particular, they allowed foreign investors to buy government bonds with a maturity of one year and beyond, subject to a minimum holding period of one year. Ghana issued its first five-year government bond in December 2006 and allowed foreign investors to buy this security. In October 2007, Ghana issued a US$750 million 10-year dollar bond, which was US$3 billion oversubscribed.

These positive experiences raise the question of what central banks (or governments) could or should do to help develop a deep and liquid government bond market. There is no easy

answer to this challenge. One view is that the authorities need do nothing: as issuance increases, liquidity will follow, provided that trading by financial institutions is not impeded by financial sector restrictions. The other view is that the authorities need to take the "necessary first steps" to get the market started – and perhaps to do so over several years.

Table 5 Government debt[1]

	Local currency			Foreign currency	Total
	Short-term	Long term	Total		
North Africa[2]	9,4	27,1	36,6	18,7	55,2
Nigeria	8,4	6,4	14,8	2,8	17,6
South Africa	6,7	20,7	27,3	3,2	30,5
Other Africa[3]	7,1	11,5	18,7	25,2	43,9
Asia[4]	*12,3*	*19,7*	*32,0*	*0,8*	*32,8*
China	*17,4*	*12,3*	*29,7*	*0,2*	*29,9*
India	*2,5*	*32,4*	*34,9*	*0,0*	*34,9*
Latin America[5]	*18,5*	*16,9*	*35,4*	*9,6*	*45,0*
Mexico	*8,4*	*11,7*	*20,1*	*5,3*	*25,5*
Other emerging[6]	*4,1*	*18,8*	*23,0*	*6,1*	*29,1*

1 *Figures refer to 2006, as a percentage of GDP. Regional figures are weighted averages based on 2000 GDP and PPP exchange rates of the countries*
2 *Algeria, Egypt and Morocco*
3 *Botswana, Ghana, Kenya, Lesotho, Mauritius, Namibia, Swaziland, Tanzania, Uganda and Zambia*
4 *China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan (China) and Thailand*
5 *Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela*
6 *The Czech Republic, Hungary, Poland, Russia and Turkey*

Sources: IMF; OECD; Moody's; BIS

Role of the government. Since well developed treasury bill and bond markets improve the longer-term availability of financing for government deficits, governments would seem well advised to aid the development of such markets. This implies phasing out borrowing from the central bank and commercial banks at below market interest rates and committing to deficit financing via debt markets at market-determined interest rates. The development of the debt market can also be strengthened if the government provides timely and relevant information on its finances, debt portfolio, borrowing strategy and primary and secondary market activity[11]. A case in point is South Africa, where the National Treasury regularly informs market participants about its borrowing requirements, auction dates, maturity structure and new instruments.

The government can play a particularly important role by issuing securities that can be used as benchmarks for the pricing of private securities. This involves concentrating bond

issuance on a relatively limited number of standardised debt instruments (to reduce fragmentation) and issuing debt across the maturity spectrum. This allows the establishment of yield curves, which can be useful for the purposes of hedging. The availability of instruments with longer maturities can also alleviate rollover risk. Another helpful measure is deciding on the size and frequency for benchmark issues. For example, the government of South Africa consolidated several smaller issuances in 1989 to create benchmarks at the five-, 10-, 15- and 20-year maturities. The average maturity of South African government bonds has risen, from 93 months in December 2003 to 100 months in June 2007.

The government can further facilitate the introduction of new instruments by helping improve the financial literacy of the population. Limited financial literacy makes it hard to sell anything but the simplest instruments. For example, Ghana introduced three-year inflation-indexed bonds in 2001, but they were phased out in 2005 due to lack of market interest. Investors were evidently uncomfortable with pricing practices and the credibility of the official CPI.

Role of the central bank. One key task is to develop the distribution channel for government securities, namely auctions. This raises a number of issues.

The first issue is who should be allowed to participate in the auction and what role should central banks play? One view is that limiting participation in the auction to only a few dealers would restrict competition. The counterview is that allowing too many participants would increase costs and undermine the market-making role of primary dealers.

A second issue is whether the central bank should participate in auctions directly. The dominant view is that any central bank participation that affects the auction result should be avoided. However, indirect participation may be inevitable as the central bank replaces securities which are maturing in its portfolio. Ideally, of course, the central bank should acquire such securities passively, as a non-competitive residual buyer.

Lastly, is the setting-up of primary dealers important for improving liquidity? Bond markets in Chile developed, for instance, without primary dealers. Similarly, in the early 1990s the primary bond market in South Africa was developed through regular auctions conducted by the SARB on behalf of the government[12]. In many other countries, by contrast, primary dealers are seen as playing a critical role in sustaining liquid markets. Primary dealers often aid central bank understanding of the market. In addition, the two-way quotes provided by primary dealers play a significant role in developing a transparent secondary market. For instance, in 2006 the Debt Management Office in Nigeria established primary dealers or market-makers to play an active role in the issuance, sale and marketing of all bonds (Box 1).

Box 1: Developing Nigeria's debt market

Before 2000, Nigeria's domestic sovereign debt was managed by several organisations, with the debt instruments structured into treasury bills with maturities of only 91 days and below, creating inconsistencies and irregularities affecting the federal government's borrowing costs. In 2000, the Debt Management Office (DMO) was created to coordinate the management of Nigeria's debt. In October 2003, the DMO introduced the sale of Federal Government of Nigeria Bonds, which affected the markets and investors in three ways: it restructured Nigeria's deficit funding from shorter- to longer-term borrowing; it improved and lengthened the yield curve in the domestic money markets; and it encouraged long-term savings. Nigerian government bonds were sold to the investing public through licensed banks and discount houses in the country. However, most of the investors held their bonds to maturity, and few secondary trades were carried out.

In August 2006, the DMO sought to stimulate a secondary market by establishing a primary dealership/market-maker network which authorised primary dealers and market-makers (PDMMs) to deal directly with the DMO in bond auctions. The PDMMs are expected to play an active role in the issuance, sale and marketing of all bonds, making two-way prices on bonds in all market conditions. This structure has resulted in the creation of a successful secondary market for trading in government bonds issued by the DMO. The DMO has hitherto issued about NGN 770 billion (US$6 billion) of bonds and expects to issue about NGN 480 billion in 2007.

Access Bank, as a licensed PDMM, has been playing a leading role in disseminating data about the government bond market. It launched a sovereign bond index in December 2006, giving price information about local currency denominated fixed rate Federal Government of Nigeria Bonds. In order to qualify for the index, a bond has to be issued by the DMO and traded under PDDM guidelines. Pricing data are obtained from the 15 licensed PDMMs to ensure transparency of the index. Access Bank averages the middle 11 quotes for bonds with at least one year to maturity (considering the top two and bottom two as outliers) and produces a daily price for government bonds. The bank publishes the quote for each bond in a newspaper, and it is accepted throughout the market as definitive. The index serves as an important indicator of the market's assessment of the government's handling of the economy and of economic performance. This index can also be used as an objective benchmark for assessing the performance of pension fund managers and administrators.

Conclusion

The financial systems in African countries are at very different stages of development. Many are underdeveloped, with rather non-competitive banks dominating and little activity in capital markets. But there are clear signs in several countries that significant developments are under way. What central banks should do to deepen capital markets is likely to be an important issue in the years ahead.

Endnotes

1 *The development implications of limited access to financial services in Africa were discussed at an earlier BIS meeting of African Governors: see BIS, Cenral banks and the challenges of development, 2006, pp 65 – 77, available at www.bis.org/events/cbcd06.htm*

2 *However, a high degree of market concentration is not always associated with lack of competition or efficiency.*

3 *In South Africa, foreign exchange transactions are conducted through 23 "authorised dealers", mainly large commercial and investment banks. Rand futures and options are traded on the Johannesburg-based South African Futures Exchange (SAFEX). Since May 1997, they have also been offered on the Chicago Mercantile Exchange (CME), which lists monthly rand futures and options. The dollar/rand forward foreign exchange market is liquid for a period of up to one year.*

4 *The average size of interventions is small in South Africa compared with other emerging market economies (Table 4, last four columns).*

5 *IMF, Sub-Saharan Africa: financial sector challenges, 2006.*

6 *For example, in India in 1995 banks tried to reduce their reserve requirements every other Friday by eliminating interbank borrowing, which reduced the interbank borrowing rate to zero on alternate Fridays. The collapse of money market liquidity and the overnight rate every second Friday inhibited the development of a liquid money market yield curve beyond 13 days.*

7 *According to the same report, South Africa was also the largest issuer with $2.1 billion of local currency bonds being issued internationally. This reflects the perceived stability of both the rand and South Africa.*

8 *However, foreign interest has been pronounced in the local currency debt markets of Botswana, Ghana, Nigeria and Zambia. In Nigeria foreign subscription took up 18% of total marketable debt and in Zambia 16% at the end of 2005 (IMF, Regional economic outlook: sub-Saharan Africa, 2007).*

9 *IMF (2006), op cit.*

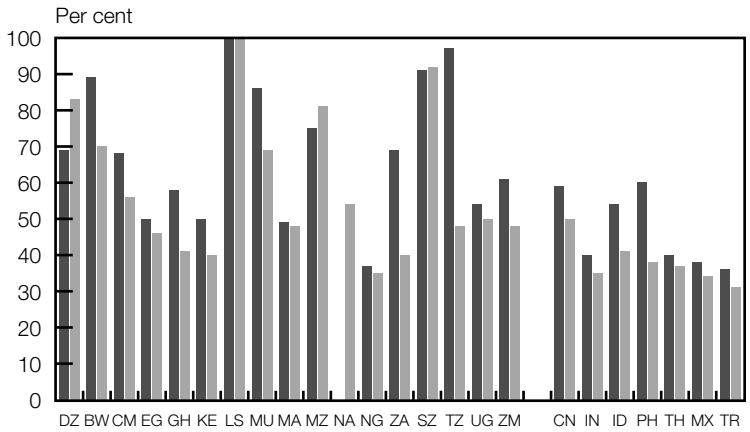
10 *These issues were examined at the previous BIS meeting of African Governors; see pp 27 – 43 of BIS (2006), op cit.*

11 *One of the factors that catalysed the Mexican financial crisis in 1994–95 was the failure to disclose adequate information about the issuance of US dollar-denominated government securities (tesobonos).*

12 *The technical infrastructure for auctions is very developed in South Africa. The SARB invites tenders for t-bills on its wire services pages (including Reuters, I-net, Bloomberg and the Bank's internet web page).*

Annexure Graph A1 and A2

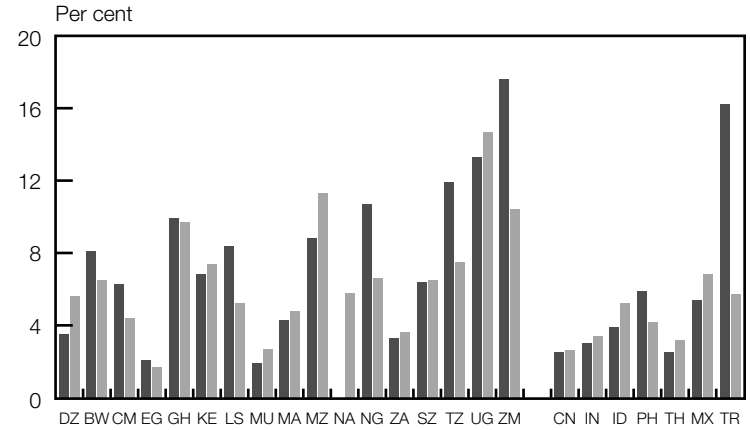
Graph A1 Bank concentration (top three banks)



Note: Banks selected are the ones with total asset data available in 2005 or 2006, to better capture the current situation. There are many cases where the data availability in 2000 or 2001 for these banks is poor.

Africa:	MA = Morocco	ZA = South Africa	Latin America:
BW = Botswana	MU = Mauritius	ZM = Zambia	MX = Mexico
CM = Cameroon	MZ = Mozambique	Emerging Asia:	Other emerging
DZ = Algeria	NA = Namibia	CN = China	markets:
EG = Egypt	NG = Nigeria	ID = Indonesia	TR = Turkey
GH = Ghana	SZ = Swaziland	IN = India	
KE = Kenya	TZ = Tanzania	PH = Philippines	
LS = Lesotho	UG = Uganda	TH = Thailand	

Graph A2 Median net interest margin



Note: All banks are included regardless of whether the data over the two periods are complete or not.

Source: Bankscope

Policy responses to increased external inflows

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Introduction

Between 2005 and 2006, private capital inflows into Africa increased by 37% and reserves by a record US$55 billion[1]. However, many countries are still very dependent on aid, with official development assistance (excluding debt relief) accounting for more than 10% of GDP for about one-quarter of Sub-Saharan African countries[2].

Policy-makers in Africa, however, continue to be confronted with a number of challenges related to increased external inflows and their associated volatility. Monetary, fiscal and exchange rate policy have a strong bearing or influence on such flows and it is the interaction between these policies in particular that determines the overall impact of external inflows. Against this backdrop, this note outlines the main features of monetary policy, foreign exchange intervention and the monetary-fiscal policy mix as well as the main policy dilemmas confronting policymakers on the continent.

Monetary policy, forex intervention and the fiscal-monetary policy mix

An overview of monetary policy regimes in Africa

An increasing number of central banks in Sub-Saharan Africa have adopted price stability as the overriding monetary objective in order to achieve stable and sustainable economic growth. Many African countries achieved lower inflation during the past decade in part due to greater co-ordination of fiscal and monetary policies, central bank independence and well defined monetary frameworks.

A dynamic interaction exists between the exchange rate regime and the monetary and fiscal policies of a country. Africa harbours the full spectrum of exchange rate regimes ranging from currency boards to independently floating regimes (see Annexure A). As a result, the policy challenges associated with external inflows are not uniform across countries. Although monetary regimes have evolved differently in Africa, the majority of countries have changed from a rule-based system to open-market regimes due mainly to political orientation, economic doctrine, fiscal pressures or the effects of globalisation (Honohan and O'Connell, 1997).

Neither the fixed nor the flexible exchange rate regime is superior to the other in terms of its implications for macroeconomic performance. Moreover, there is no single ideal exchange rate regime for all countries or for any country all the time. The choice depends

on the nature of shocks to as well as the structural characteristics of the economy. In response to surging capital inflows and the risk of overheating, a more flexible regime may, however, be a desirable stabiliser (Aziz and Caramazza, 1998 and ECB, 2003).

Exchange arrangements with *no separate legal tender* (as in the case of the CFA franc zone) consist of members of the West African Economic and Monetary Union (WAEMU) and members of the Central African Economic and Monetary Union (CEMAC). The CEMAC countries, mostly composed of oil producing countries, have experienced rapid increases in total reserves since 1990 and some countries started to deregulate the oil industry, with the intention of regularising reserve flows to the government. Oil related reserve inflows positively affected fiscal and external balance revenues, but it also exerted upward pressures on broad money growth as oil-related liquidity was only partly absorbed through government deposits at the central bank (IMF, 2007b). Under a fixed exchange rate system, a central bank is usually committed to acquiring foreign exchange reserves when capital flows into a country, in order to maintain an appropriate level of stability in the nominal exchange rate. This, however, might still lead to an increase in domestic money supply and higher inflation, which could lead to an appreciating exchange rate[3]. Athukorala and Rajapatirana (2003) suggest sterilised intervention or another monetary action to contain this effect.

Fourteen African countries' currencies are *pegged to another currency or a basket of currencies* of major trading or financial partners. Under a *crawling peg system* (Botswana), capital inflows might cause a temporary surge in inflation which can be controlled by bond sterilisation, but at the cost of rapidly increasing interest rates (Buffie et. al., 2004). The majority of IMF member countries in Africa are assigned to *a managed floating arrangement with no pre-determined path for the exchange rate*. A heavily managed floating exchange rate system with limited or no sterilisation is preferred when African countries are committed to price stability in order to manage large and persistent aid inflows (Buffie et. al., 2004).

Of the countries classified under an *independently floating* exchange rate regime, South Africa adopted a fully-fledged inflation-targeting framework in February 2000, while the Bank of Ghana formally adopted an inflation-targeting framework in May 2007. Uganda's monetary policy operating framework consists of broad money supply as the intermediate target. The country made significant progress in liberalising foreign exchange markets and applying money market operations, but it has been confronted with liquidity implications and real exchange rate appreciation as aid inflows increased. The central bank of Uganda gained credibility through its commitment to price stability and autonomy from fiscal dominance. Inflation in Uganda declined from double-digit rates to rates below 10% since 1994 and was accompanied by rapid increases in total reserves. In fact, total reserves[4] also exhibited a negative correlation with inflation in Tanzania, Mozambique, Zambia and South Africa since 1990.

Kenya and Mozambique are characterised as *IMF-supported or other monetary program countries* where monetary and exchange rate policies are implemented "within the confines

of a framework that establishes floors for international reserves and ceilings for net domestic assets of the central bank" (IMF, 2006a). Kenya's liberalisation process attracted capital flows of a short-term and speculative nature, which responded to interest rate differentials. The authorities were challenged by volatile exchange rate movements and measures to sterilise inflows proved inadequate. *Other arrangements* include countries with no explicitly stated nominal anchor, but those who rather monitor various economic indicators in conducting monetary policy.

Capital controls, liberalisation and financial market development

Liberalised foreign exchange markets and policy reforms have attracted sizeable capital inflows to a number of African countries since the 1990s, necessitating central banks to effectively manage official and private capital flows. While capital inflows positively impact on economic growth and on the accumulation of international reserves, they are also associated with inflationary pressures and other macroeconomic dilemmas through their effect on interest rates and exchange rates. Some have argued that external capital inflows to developing countries result in a real exchange rate appreciation with negative consequences on a country's long-term growth prospects[5]. However, Ouattara and Strobl (2004) for example argue that there is no evidence of Dutch disease in CFA countries as a result of capital inflows. On the contrary, fundamentals including government consumption, the terms of trade and increases in domestic credit account for most of the exchange rate appreciation and deteriorating competitiveness[6].

By introducing capital account convertibility, countries expose themselves to capital inflows and outflows resulting in currency speculation and exchange rate volatility (Oliver, 2007). According to A-tker *et. al.* (2000), most countries implement capital controls to respond to the macroeconomic implications of increasing size and volatility of capital flows. The controls are mostly applied to short-term capital transactions to counter speculative flows which undermine the stability of the exchange rate and run down foreign exchange reserves. Capital controls encompass a wide-range of diversified and country-specific measures, but have taken two broad forms. These include direct or administrative controls and indirect or market-based controls. An important issue is how best to ensure that mechanisms are in place to limit risk when controls are lifted.

The way in which a country can effectively respond to external inflows depends to a large extent on the quality, depth and diversification of the domestic financial market. In its latest *Global Financial Stability Report*, the IMF argues that the volume of capital inflows to emerging countries can be increased by a more developed domestic financial market (IMF, 2007a: 77). Moreover, the volatility of such flows can be reduced, highlighting the importance of the degree of development, and the quality of, domestic financial markets and the contribution it can make in aiding policy-makers in dealing with the effects of external inflows. In the absence of well developed domestic capital markets, concerns about asset price inflation in combina-

tion with credit growth concentration in certain institutions or sectors can create very difficult policy challenges *(op. cit.: 87).* Differences in the African continent with respect to the depth and diversification of domestic financial markets imply that the set of policy options available to deal with external inflows will be very different[7]. By making use of a survey of financial sector characteristics, Gelbard and Leite (1999) show that although Sub-Saharan African countries made good progress in improving and modernising their financial systems since the mid-1980s, much remains to be done as most countries have a very limited array of financial products in particular.

The sequencing, timing, speed, consistency and credibility of reforms are therefore important as early liberalisation may impact negatively on the financial sector and on the tax base. Liberalisation should not be implemented prematurely in countries with weak domestic financial systems. Since 1993, most countries have liberalised their capital accounts, but the timing and sequencing have differed significantly. Zambia and Uganda had complete liberalisation by 1997, while Tanzania, South Africa and Zimbabwe followed a gradual approach. Country experiences suggest that to be effective, capital controls must be comprehensive, strongly enforced and accompanied by necessary reforms and policy adjustments (Leape, 1999).

Forex intervention

Over the past ten years, Africa has experienced the highest growth in the ratio of foreign exchange reserves to imports compared to other developing country regions in the world. Africa's foreign exchange reserves had grown three fold, second only to Asia's, which boasts the highest stockpiles of foreign exchange reserves. The number of countries in Sub-Saharan Africa where reserves provided cover for at least three months of imports increased from around 67% in 2005 to about 80% in 2006 (World Bank, 2007). However, about 80% of the annual accumulation in non-gold foreign reserves in Africa in 2005 (in millions of SDRs) occurred in just three countries, namely Algeria, Nigeria and South Africa.

Significant increases in foreign inflows place upward pressures on the exchange rate. Overvalued exchange rates are associated with a loss in competitiveness and a threat in terms of increased real economic costs in the future. These challenges could necessitate central bank intervention in the exchange market. There are, however, many dimensions to foreign exchange intervention such as the definition, motive and the degree of discretion involved.

Foreign exchange intervention could result in a rise in domestic liquidity which may have implications for domestic demand and inflation. To offset the potential negative impacts, foreign inflows are sterilised. However, information about central banks' intervention in the foreign exchange market is rarely provided (Neely, 2000). The effectiveness of sterilised intervention remains a contentious issue as sterilisation is considered to induce high domestic interest rates, which is conducive to further increases in capital inflows (Calvo,

Leiderman and Reinhart, 1994). Frankel (1994), however, argues that the decision to sterilise inflows depends on the nature of capital inflows ("push" and "pull" factors). "Pull" factors include political and economic/structural reforms boosting confidence, debt restructuring, liberalisation of foreign exchange markets and the current or capital account of the balance of payments and liberalisation of restriction on private sector foreign borrowing. On the other hand "push" factors may occur as a result of a decline in international interest rates, cyclical downturn in developed countries, diversification of assets and changes in regulations in developed countries.

In order to exercise the most appropriate policy response, countries should be able to identify the composition, scale, permanence and nature of capital inflows. According to Moharty and Turner (2006), the desirable near-term policy responses may depend on whether the shocks are temporary or permanent, the country's initial position in terms of the levels of reserves and inflation, and the severity of the costs of disruptions based on the level of the equilibrium exchange rate. The authors argue that intervention may be desirable when the shocks are temporary rather than when they are permanent and that there may be a need to restock when the level of foreign exchange reserves are low.

Canales-Kriljenko (2003) argues, on the basis of results obtained from the IMF's 2001 Survey on Foreign Exchange Market Organisation, that official foreign exchange intervention in some developing and transition countries may be more effective than in developed countries because most developing countries issue foreign exchange as well as monetary regulations such as capital controls, surrender requirements to commercial banks, prohibitions on foreign exchange trading as well as prohibitions on taking net foreign exchange positions. These countries also conduct interventions in amounts that increase the size of foreign exchange intervention to foreign exchange market turnover, the money base and the stock of domestic bonds outstanding. In addition, these countries have an information advantage by choosing the degree of transparency in foreign exchange market intervention operations. Some central banks also use moral suasion to support their foreign exchange intervention which enforces the authorities' seriousness about foreign exchange objectives.

To intervene in the foreign exchange market effectively, key issues to be addressed relate to the amount and timing, the rules as opposed to discretion, the markets and counterparts, as well as the degree of transparency of the interventions[8]. Intervention in the foreign exchange market also raises other questions such as:

- What is the optimal quantity of foreign reserves?
- How should these reserves be managed?
- What is the cost associated with maintaining the reserves?

Reserves have traditionally been held in government bonds, but central banks are recently investing their reserves in a much more diversified array of instruments and markets, raising questions such as whether more diversification require more emphasis on risk control.

Kasekende *et. al.* (1996) argue that the most appropriate and recommended policy measures for large capital inflows include sterilised intervention, application of selective reserve requirements, fiscal tightening, limiting of foreign purchases of treasury bills and domestic bonds, removal of incentives for capital inflows and gradual opening of the capital account. Policy instruments which have been used to manage liquidity include "market" and "non-market" operations. Market operations for example are related to open market operations and transfers of government deposits, while non-market measures include transfers of public sector deposits and changes in reserve requirements. Persistent intervention in foreign exchange markets, however, can give rise to a number of concerns, including rapid growth in money and credit aggregates, possible distortions in domestic bond markets and the way foreign exchange markets function, and costs (fiscal and other) of holding foreign reserves.

What was the intensity of intervention in African countries in recent years? Annexure B sheds some light on the extent to which foreign exchange reserves have been accumulated relative to the size of the monetary system. The extent of intervention in Africa was significantly higher than that for the emerging Asian and Latin American regions. Moreover, there was significant intervention across different exchange rate regimes. Independent floaters like Tanzania and Uganda for example also reflect large reserves relative to their monetary systems.

The fiscal-monetary mix

Against the background of increased external inflows, Table 1 lists recent developments in selected economic indicators for Sub-Saharan Africa. These indicators highlight some potential challenges associated with external inflows and the policies adopted by the authorities. The values indicate the difference in the respective rates of changes, ratios and indices between different years. On average, inflation decelerated again in 2006 in Sub-Saharan Africa despite a further sharp acceleration in broad money growth.

Table 1 Selected economic indicators for Sub-Saharan Africa

	Change over		
	2003/04	2004/05	2005/06
Consumer price inflation (%)	-3,6	2,0	-0,8
Fiscal balance, excluding grants (% GDP)	2,1	1,9	1,1
Broad money growth (%)	-1,1	4,0	8,8
Exports (% GDP)	1,4	2,8	2,1
Current account, excluding grants (% GDP)	0,9	1,5	0,9
Real effective exchange rate (index)	4,1	3,9	1,8
Reserves (months of imports)	0,8	0,5	0,9

Source: IMF (2007c); own calculations

Fiscal balances continued to improve in the previous two years together with ongoing reserve accumulation. Despite real exchange rate appreciation in the past few years, the ratio of exports to GDP as well as the current account position on average continued to improve.

Does the exchange rate regime matter for macroeconomic performance? The theoretical relationships are ambiguous and this is supported by the mixed picture sketched by a comparison of Sub-Saharan African country experiences across different exchange rate regimes. In this sample, countries classified under a conventional fixed peg arrangement (Namibia, Lesotho and Swaziland), crawling peg (Botswana) and independent floaters (South Africa, Tanzania and Uganda) experienced real exchange rate depreciation in 2006, while countries classified under a managed floating regime (Ghana, Kenya, Mauritius, Nigeria and Zambia) mainly experienced real exchange rate appreciation. The exports to GDP ratio increased in most countries, while only half of the countries recorded an improvement in their current account positions. In contrast to countries with a conventional fixed peg arrangement like Lesotho and Namibia as well as a crawling peg (Botswana), management floating countries like Ghana, Nigeria and Zambia managed to lower inflation in 2006 despite double-digit percentage-point increases in broad money growth. Fiscal balances generally improved in conventional fixed peg and independently floating countries, while countries under a crawling peg and a managed floating exchange rate regime had mainly seen deteriorations in their fiscal balances. Reserve accumulation was uniform with the exception of countries with independently floating exchange rate regimes.

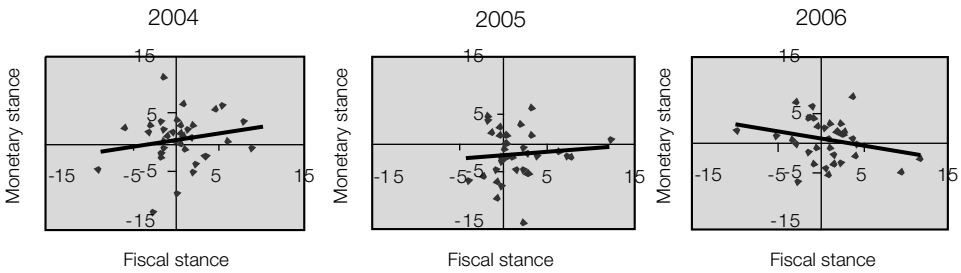
With respect to the direction of economic policy, it is difficult to accurately describe the monetary and fiscal policy stance in the African context due to data limitations, disagreements about which measures are the most accurate and methodological differences with respect to the calculation of such indicators. In particular, government balances are generally not adjusted for cyclical variations which make it impossible to differentiate between discretionary and non-discretionary elements of conventional fiscal balances.

Graph 1 illustrates the monetary and fiscal policy mix of 35 Sub-Saharan African countries over the period 2004 to 2006[9]. The fiscal stance is proxied by changes in the central government balance (excluding grants) as a ratio of GDP, while the monetary stance is proxied by changes in measures of real short-term interest rates[10]. Over the past few years, the policy mix changed from a mainly co-ordinated policy stance (particularly monetary and fiscal policy tightening) in 2004 to a mainly unco-ordinated policy stance (particularly monetary loosening and fiscal tightening) in 2005 and 2006. As a whole, the fiscal balance as a ratio of GDP continued to improve in Sub-Saharan Arica in 2006, although the improvement was smaller compared to the two previous years. However, on an individual country basis the picture is mixed. Of the 35 countries included in the graph, the improvement was large (at least 2,5 percentage points of GDP) in eight countries, while the fiscal balance deteriorat-

ed by at least 2,5 percentage points of GDP in six countries. Fiscal tightening in 2006 (at least 2,5 percentage points of GDP) was accompanied by monetary tightening in Equatorial Guinea, Guinea-Bissau, Niger and Swaziland. On the other hand, fiscal loosening in 2006 (at least 2,5 percentage points of GDP) was accompanied by monetary loosening in Mozambique and Senegal. When compared to cyclical conditions as measured by the change in real GDP growth, these actions appeared to have been mainly procyclical.

Graph 1 Monetary fiscal policy mix in selected Sub-Saharan African countries

Percentage points



Sources: IMF (2007); IMF *International Financial Statistics* (September 2007); own calculations

What information does the fiscal-monetary policy stance in Africa convey about the management of increased external inflows? Should fiscal policy or, more generally, the fiscal-monetary policy mix, rather be used. In reality, policy decisions are complex and depend on individual country objectives, the monetary policy regime, institutional constraints, the current state of the economy and the nature of external inflows.

In dealing with external inflows, medium-to-long-term policy strategies as well as the management of short-term fluctuations are important. Careful monitoring of developments and timely policy action are required. It is relatively easier to manage the effects of increased external inflows in countries where overall macroeconomic policies are well balanced (Ul Haque, Mathieson and Sharma, 1997). A co-ordinated fiscal-monetary policy mix directed at keeping inflation under control, avoiding real exchange rate appreciation and pursuing fiscal restraint and sustainable public finances might be an appropriate policy objective when confronted with increased external flows (Saidi, 1997). Fiscal policy management in the event of volatile and/or unpredictable aid flows could involve a flexible framework which adjusts to aid receipts; or by aid smoothing practices making use of international reserves or domestic non-monetary financing[11]. With respect to increased capital inflows, fiscal pol-

icy interventions might be necessary when monetary action (monetary tightening) is ineffective and the costs of sterilisation, for example, starts to mount (see Koenig, 1996). Improvements in tax administration and/or expenditure control may be necessary under these conditions. Barriers to capital flows might provide a solution only in the short run (see Saidi, 1997). When there is room for short-term fiscal adjustment, fiscal tightening in the form of a postponement of fiscal expenditures in particular are an attractive policy response to capital inflows as interest rates will be unaffected (see Ize, 1996).

The effects of large variations in external inflows can also be managed by the creation of special funds, including fiscal rules designed to invest and manage the realised fiscal surpluses. One example that is particularly relevant in the African context is stabilisation funds for commodity prices. Experience, however, shows that stabilisation funds don't work well in countries which are dependent on a single export commodity and where the control of the fund is not independent of the government (United Nations, 2005: 44). Moreover, the rules vs. discretion debate in the management of stabilisation funds as well as challenges to minimise cost, pose complex policy challenges. The administration and operation of these funds also become complex when there are multiple objectives. The unpredictability of future prices and the possibility of maladministration and mismanagement can easily create a situation where stabilisation funds can experience financial difficulties. Market-based hedging instruments can offer protection against adverse price movements and hedging tools can further complement the functioning of such a fund, but underdeveloped financial markets in many African countries limits the usefulness of such initiatives.

Equipped with the right policies, countries can manage the risks while reaping the potential benefits associated with increased external inflows. The challenge that policy-makers in Africa therefore face is to find the right mix between monetary, fiscal and other macroeconomic policies. The unpredictability, magnitude, durability and volatility of external inflows together with the sequencing, timing and implementation of policy actions pose difficult policy challenges. Frequently, limited or incomplete information means that decisions need to be made under conditions of great uncertainties.

Endnotes

1 *Source: IMF (2007d).*
2 *Source: World Bank (2007).*
3 *Calvo and Reinhart (1998), however, point out that the increase in total expenditure and subsequent rise in the demand for money as a result of an increase in capital inflows under a fixed exchange rate regime is not inflationary and that sterilisation would be counterproductive.*
4 *Total reserves including gold sourced from the IMF's International Financial Statistics Database.*
5 *See for instance Elbadawi (1999) and White and Wignaraja (1992).*
6 *See also Abdih and Tsangarides (2006).*

7 *Bearing in mind the limitations of using monetary aggregates to measure the degree of financial market development, the ratio of broad money to GDP for Sub-Saharan African countries for example ranged between a minimum of 7% and a maximum of 121% in 2006. Of the forty four countries in Sub-Saharan Africa, six have a ratio larger than 75%, two a ratio between 50% and 75%, fifteen a ratio between 25% and 50%, and twenty one a ratio below 25%.*

8 *For more detail on the operational aspects of official intervention in the foreign exchange market see Canales-Kriljenko, Guimaraes and Karacadag, 2003.*

9 *Of the 44 countries in Sub-Saharan Africa, 9 were excluded on the grounds of a lack of data or the fact that they were outliers.*

10 *Discount rate for Benin, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Republic of the Congo, Equatorial Guinea, Gabon, Gambia, Mali, Mozambique, Swaziland and Zambia. End of period discount rate for Côte d'Ivoire, Ghana, Guinea-Bissau, Lesotho, Malawi, Niger, Nigeria, Senegal, Seychelles, South Africa and Togo. Lending rate for Botswana and Burundi. Rate of time deposits for Mauritius. Deposit rate for Ethiopia and Madagascar. Overdraft rate for Namibia. Bank rate for Zambia.*

11 *See Bulir and Lane (2002).*

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Annexure A *De facto* exchange rate arrangements and anchors of monetary policy in Africa as of 31 July 2006

Exchange rate regime (Number of countries)	Monetary policy framework				
	Exchange rate anchor	Monetary aggregate target	Inflation-targeting framework	IMF-supported or other monetary program	Other[1]
Exchange arrangements with no separate legal tender (14)	CFA franc zone (14) WAEMU: Benin*, Burkina Faso*, Côte d'Ivoire, Guinea Bissau, Mali*, Niger*, Senegal, Togo CAEMC: Cameroon*, Central African Rep., Chad*, Congo, Rep. of*, Equatorial Guinea, Gabon				
Currency board arrangements (1)	Djibouti				
Other conventional fixed peg arrangements (14)	Against a single currency (13) Cape Verde, Comoros[4], Egypt[2], Eritrea, Ethiopia[2], Lesotho, Mauritania[2], Namibia, Rwanda*, Seychelles[2], Sierra Leone*, Swaziland, Zimbabwe[3] Against a composite (1) Morocco	Sierra Leone[2]			
Crawling pegs (1)	Botswana[3]				
Managed floating with no pre-determined path for the exchange rate (17)		The Gambia[2], Ghana*[2], Madagascar*[2], Malawi*[2], Mauritius, Sudan, Tunisia, Zambia*		Kenya*, Mozambique*[2]	Algeria, Angola, Burundi*, Guinea[2], Liberia[2], Nigeria[2], São Tomé and Principe
Independently floating (5)		Congo, Dem. Rep. of, Uganda	South Africa	Tanzania*[2]	Somalia[3,5]

(Notes to Annexure A on the following page)

Notes to Annexure A

* *Indicates that the country has an IMF-supported or other monetary program*
1 Includes countries that have no explicitly stated nominal anchor, but rather monitor various indicators
2 The regime operating de facto in the country is different from its de jure regime
3 The exchange arrangement shown is that maintained in the major foreign exchange market
4 Comoros has the same arrangement with the French Treasury as the CFA franc zone countries
5 Insufficient information on the country, and so the classification of the last official consultation is used

Source: IMF, 2006a

Annexure B Reserves to broad money[1]

	Reserves/M2[2]	ΔReserves/ΔM2[3]
Africa[4]	53,90	71,28
Algeria	120,67	180,74
Botswana	194,62	111,82
Egypt	23,09	35,56
Ghana	48,17	60,66
Kenya	25,76	31,81
Mauritius	20,42	2,18
Morocco	30,73	33,43
Nigeria	151,63	229,42
South Africa	13,94	18,91
Tanzania	60,85	45,83
Uganda	85,35	87,15
Zambia	37,49	21,90
BEAC	106,47	176,37
BCEAO	52,32	35,55
Lesotho	129,69	99,78
Namibia	13,91	7,06
Swaziland	66,11	39,07
Asia[4]	26,94	35,60
China	24,06	35,50
Hong Kong SAR	25,02	14,54
India	26,00	31,31
Indonesia	26,73	18,48
Korea	37,45	59,07
Malaysia	40,64	69,82
Philippines	28,56	26,58
Singapore	79,38	80,64
Thailand	28,78	32,51
Latin America[4]	28,78	28,23
Argentina	46,08	50,42
Brazil	13,18	10,58
Chile	25,24	10,67
Colombia	37,45	18,79
Mexico	31,60	35,32
Peru	63,35	91,02
Venezuela	54,22	52,66
Other emerging[4]	51,65	53,58
Czech Republic	28,25	14,62
Hungary	32,46	38,09
Poland	28,13	22,67
Russia	76,63	85,05
Turkey	28,44	26,34
Euro area	2,08	-0,87
Sweden	10,88	9,20
Switzerland	6,27	-0,46
United Kingdom	0,53	0,24
United States	0,58	0,57

1 Foreign exchange reserves
2 End-2006; as a percentage of broad money
3 Change between end-2002 and end-2006; as a percentage of the change in broad money
4 Weighted averages based on 2000 GDP and PPP exchange rates

Source: IMF

Central bank boards[1]

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Introduction

Consistent with the range of situations in which central banks find themselves, practices with respect to board structures vary widely around the globe. Some central banks have separate boards for oversight, policymaking and day-to-day management, while others use multitask boards. In part, this variety reflects the legacy of history. And, in part, it also reflects the heterogeneity of central banks in terms of the range of functions discharged or the extent of powers and responsibilities delegated to them.

There has been a move over recent decades from individual to committee-based decision-making, particularly with respect to policymaking functions. In large measure, this trend reflects a shift to greater autonomy, which has been accompanied by a desire for checks and balances that support the desired degree of independence. Enhanced accountability and transparency have been part of this system of checks and balances.

Board decision-making buttresses and legitimises in a number of ways the delegation of the state's policy authority to the central bank. Blinder (2004) identified four advantages of committee decision-making: pooling of the disparate knowledge of individual members; *diversity* of approaches; an *"averaging"* that makes decisions less extreme and volatile; and improved checks and balances[2]. In addition, groups are often better at resisting political and interest group pressure.

On the other hand, group decision-making may weaken the sense of personal accountability, especially where individual contributions are relatively invisible. And – especially relevant for smaller countries – it requires a larger pool of qualified people. In practice, however, the distinction between group and individual decision-making is not so clear-cut because most committees have chairmen whose influence typically exceeds that of ordinary members.

Principles of good governance

One underlying principle of good governance is to align the interests of managers and stakeholders. Ensuring such an alignment poses unique challenges to central banks. First, the stakeholders are broad and diffuse, consisting of all those who engage in monetary transactions. Second, the relationship between central banks and their ultimate owners (the public) is intermediated through agents (politicians) who may have their own interests. Third, central banks are not subject to competition or threat of takeover, factors that punish weak management in the private sector. Finally, central banks often pursue a disparate range of policy functions, which complicates the evaluation of their performance.

Types of board

Central banks can have one or more boards. About two thirds of central bank laws provide for one board, a quarter provide for two boards and the remainder provide for three or more[3]. A host of historical factors account for the difference in board structures, including: whether the central bank was established as a private company or a public sector agency; legal tradition and statutes specifying the role of the board(s); how recently the legislation was updated; differences in the number and nature of objectives assigned to the central bank; various means by which objectives can be attained; and the time required for advances in the understanding of governance issues to trickle down to practical arrangements.

Table 1 Overview of board and management structures for selected countries

	Oversight of the bank	Policy	Executive/Management
Algeria	Censorat	Conseil de la monnaie et du crédit	Conseil d'administration
Australia	Reserve Bank Board		Governor
		Payments System Board	
Canada	Board of Directors	Governing Council	
ECB		Governing Council	Executive Board
Japan		Policy Board	
New Zealand	Board of Directors	Governor	
Nigeria	Board of Directors	MPC	Governor
South Africa	Board of Directors	MPC	Governor
Sweden	General Council	Executive Board	
United Kingdom	Court/Nedco	MPC	Governor and Executive Directors
United States: Districts	Board of Governors Boards of Directors of District Federal Reserve Banks		Presidents of District Federal Reserve Banks
United States: System		FOMC	Board of Governors

Note: Shaded boxes refer to boards or committees constituted by law. In the case of the ECB and the Federal Reserve System, the executive boards are also formally responsible for the implementation of monetary policy – hence the overlap into the policy board column.

Conceptually, central bank boards can be classified into five basic types:

1. *Oversight or supervisory boards*, which oversee matters regarding: (a) achievement of objectives, tasks and functions; (b) financial condition; (c) effectiveness of internal controls; and, sometimes, (d) efficient use of resources. In some cases, the oversight of policy functions is regarded as *ultra vires*, on the grounds of potential conflict with policy independence. In others, an important part of the task is to observe the performance of policymaking relative to objectives. Oversight boards often approve the annual budget and financial statements[4]. They may be responsible for the nomination of senior officers, including the governor, and for the determination of remuneration. They may also be called upon to review cases of gross misconduct or negligence by board members or senior officers, including initiating dismissal procedures.

2. *Policymaking or policy implementation boards,* which are responsible for decisions concerning monetary policy, the stability of the financial system, the efficiency and functioning of the payment and settlement infrastructure, and other policy-related functions. More than half of central banks have a policy board, although some of those boards share other functions as well.

3. *Executive or management boards*, which are responsible for the daily operations of the central bank. The use for formal boards for executive and management functions is somewhat less frequent, with management being delegated to such boards in less than a quarter of central banks. In the majority, one person (usually the governor) is responsible.

4. A*dvisory boards*, which provide advice to policymaking or management boards but do not have any executive or voting power (Bank of Israel, Netherlands Bank and Reserve Bank of New Zealand). Such boards can comprise experts or members chosen to represent the interests of certain economic sectors or regions.

5. *Specialised boards*, which are charged with performing specific functions. The Reserve Bank of Australia, for example, has a separate Payment Systems Board, while the Bank of France has an individual Banking Commission.

The functions of central bank boards can be grouped in various ways, and practices can therefore vary greatly from one country to another. About two thirds of central banks have a single board that performs more than one of the functions just discussed. For example, Chile, Mexico, Sweden and Switzerland have boards that are officially responsible for implementing monetary policy and running the central bank. Some also have boards that focus officially on monetary policy but are responsible in practice for other activities (Poland). By contrast, a number of central banks separate policy and management functions into spe-

cialised boards (Brazil and Turkey). Single boards can ensure a better coordination of objectives and tasks but also raise a number of governance issues. Significant ones are the potential for internal conflicts of interest and inadequate accountability. That is why in central banks with a single board, that board will typically not have responsibility for supervising the conduct of its own policies.

Other central banks (e.g. Algeria and Nigeria) operate under a three-tier structure in which there is a separate supervisory board, overseeing the management board and, sometimes, the policy board. Supervisory boards are also fairly common in situations where the management function is discharged by the governor rather than a formal management board (e.g. Canada and New Zealand). However, many central banks have no separate supervisory board (e.g. ECB, France, Germany, Japan, Mexico and the United States), relying instead on alternative mechanisms for oversight (disclosure of accounts and submissions to parliamentary committees).

Size and composition

There is wide variation in the *size* of boards, which reflects a number of considerations, including their functions. For example, the Governing Board of the Swiss National Bank comprises three members while the Governing Council of the ECB has 21. In principle, the number of board members should strike a balance between the need to ensure a range of competencies and views, and the necessity to ensure effectiveness and individual responsibility. Larger boards can help to reach better informed decisions, an idea that is supported by some experimental research[5]. In addition, they may command greater public support, if seen as more representative. However, large boards can also be more cumbersome and can dilute personal accountability. Boards that are large by virtue of seeking to represent all sectors of society, or all regions, can also experience conflict or strong pressure from interest groups.

While policy boards often have between seven and nine members, supervisory and advisory boards tend to have a broader representation. Management boards are usually smaller, thus allowing for more rapid decisions and greater accountability. Some empirical analyses find that the size of a policy board is positively related to the size of a country[6]. Interpretation of these findings is, however, not straightforward. Larger policy boards in bigger countries might reflect greater availability of suitable candidates and the weight of federal systems (e.g. the Federal Reserve System and the Eurosystem), which may require larger boards to accommodate all regions.

The *composition* of boards often depends on their specific functions:

1. *Oversight or supervisory boards* tend to be composed primarily of external members but can also include executive members on the grounds that those being supervised

ought to be heard. A properly designed oversight board can help monitor insiders and thus enhance the central bank's credibility (particularly if the board is populated by respected external members). Such a board can also help preserve autonomy by resisting political pressure.

2. *Policy boards* are usually chaired by the governor and tend to be staffed by internal members with executive responsibilities (ECB and Swiss National Bank). However, a board consisting entirely of internal members could run the risk of being too closely aligned with the views of the governor, who will often be influential in decisions about board members' careers. This may explain in part why the use of external members has increased in recent years. Such members, who can be employed part-time (some members at the Bank of England) or full-time (Bank of Japan and Board of Governors of the Federal Reserve System), do not usually have executive responsibilities (the Riksbank is moving in this direction as well). See the Box for a more extensive discussion of monetary policy committees.

3. *Executive or management boards* are also generally chaired by the governor and are made up of full-time central bankers. Other members are typically heads of functions or heads of departments.

4. *Advisory boards* vary substantially in composition from one central bank to another. They can be composed of well known academics, government representatives or members of the business community.

5. *Specialised boards* tend to be staffed by experts in a given field.

Monetary policy committees

Monetary policy committees (MPCs) are charged with determining the stance of monetary policy and can be grouped into two main types, namely the "collegial" and "individualistic" variants. Collegial committees strive for consensus and reach decisions that stem from the collective wisdom of their members. There is internal debate, which may or may not involve voting, but once a policy decision is taken all members speak with one voice in order to strengthen the authority of the group. Collegial committees can be further divided into those that are "genuinely collegial", meaning that the chairman seeks the committee's consensus (as implied by the mandate of the ECB's Governing Council) or "autocratically collegial", meaning that the chairman more or less imposes the "consensus" on the other members (as some analysts have characterised the FOMC under previous chairmen).

In individualistic committees, by contrast, members develop their own positions and vote accordingly when policy decisions are taken (Bank of England and Riksbank). A voting record is published and minutes with dissenting opinions are released, often with attribution to members. Committee members are allowed to explain the reasons for their votes in public. Supposed advantages are that this encourages members to take their responsibilities seriously and fosters a better public under-

standing of the complexity of policymaking. Making public the full range of views of a committee may also make it easier for the public to detect forthcoming policy changes. Indeed, there is evidence that the voting record of the MPC of the Bank of England is useful in forecasting policy changes. However, few central banks allow for such freedom of expression, out of concern that the open expression of dissent weakens the "signal-to-noise ratio", particularly if there are strong disagreements within the committee. Still, some central banks take diversity of views as a sign of the robustness of the policymaking process. In some cases this has led the governor to be in the minority (as recently occurred at the Bank of England).

The status of MPCs may be defined in law but in some cases it is not. For example, at the Bank of Canada the governor has the statutory authority to set interest rates but has delegated part of that authority to the Bank's Governing Council. Alternatively, an MPC may have been granted the legal power to set monetary policy but it may in practice only play an advisory role. This may be particularly so if board members are drawn from outside the central bank, as is the case at the Reserve Bank of Australia, where the board sets policy on the advice of the governor. In New Zealand, the MPC is a non-statutory advisory body.

How a committee works is a function not only of structure but also of procedure. Speaking and voting arrangements can vary widely. So too does the process by which committees are supported by staff. In some cases, certain committee members, the governor and other senior officials in particular, will have greater access to staff resources than will other committee members (especially external ones) by virtue of their functional responsibility for economic analysis. In other cases, measures are taken to equalise access to information and advice.

Chairmanship

In the corporate sectors of many countries, the separation of the post of chief executive officer from the position of chairman of the supervisory board is used as a way of reducing potential conflicts of interest. Here, the underlying principle is that individuals or groups should not be involved in reviewing their own work. In a large majority of central banks (about 80%) the governor chairs the policymaking and management board(s) but, in contrast to the corporate world, he or she often also chairs the supervisory board (75%) so that other means need to be found to mitigate potential conflicts of interest[7]. The governor's position as chairman of key committees creates a measure of personal accountability within a committee structure. Nevertheless, there is a question of whether such arrangements produce a satisfactory degree of accountability. The answer depends in some measure on the other arrangements that are in place to ensure adequate checks and balances.

With respect to policy boards, there is a clear rationale for the governor to be in the chair. The governor is the chief policymaker and bears the greatest responsibility for the outcome of policies adopted under his stewardship. This may be especially true in countries where the central bank is in the process of building its authority or is adopting a new monetary framework. There are also good practical reasons for the governor to chair the management board. Chairing such a board is a natural outcome of the responsibility the governor carries for running the organisation. A similar logic can be applied to the chairmanship of a board

combining policymaking and administrative functions. Again, such arrangements can function adequately provided that there are mechanisms to ensure checks and balances.

Another issue concerns the influence of the chairman on the various boards. The dynamics of boards will be shaped, inter alia, by their size, membership (internal/external), legal status, the frequency and length of meetings, and the procedures for selecting and compensating members. However, the chairman can also exert significant influence by determining the timing, venue and agenda of meetings, as well as – crucially – information flows. He can engage in consultations with committee members before meetings. He can also establish the seating arrangement and determine the speaking order and elements of voting procedures. By signalling his views early in the process, say by electing to speak and vote first, the chairman can also frame the discussions of the committee. On the other hand, board decision making at some central banks has a long tradition of collegiality (Deutsche Bundesbank) whereby the governor tries to arrive at a consensus rather than imposing his own views.

Subcommittees

A number of central banks have created subcommittees of the board that deal with specific issues, such as audit, compensation, finance, human resources, pension and risk. Such subcommittees can be particularly useful for central banks that have a single board.

Subcommittees may improve the efficiency of the governance structure by delegating tasks to individuals that have specialised insights or knowledge. They can also ensure that certain oversight functions are delegated to individuals that are not biased or constrained by conflicts of interest. This is the case, for example, with audit committees. Such committees, which tend to be composed of non-executive members, perform fiduciary duties on behalf of the main or oversight board and in accordance with internal regulations. Compensation committees also play a crucial role in ensuring that board or senior staff members are not in a position to determine their own remuneration.

There are, however, two possible disadvantages. The first is that a poor specification of subcommittee mandates may lead to excessive interference in the operations of the central bank. This runs the risk of weakening the accountability of the central bank's management. Second, a proliferation of subcommittees could dilute the role of the main board.

Dealing with conflicts of interest

The failure of a central bank to manage conflicts of interest effectively could lead to actions that curtail its operational autonomy. Although questions of conflicts of interest do arise on occasion in the central banking community, serious cases appear rare. Still, central banks are paying closer attention to this matter and are revising their guidelines and refining their monitoring procedures. The vast majority of central bank laws now contain qualification cri-

teria for the eligibility to serve as board members and restrictions on the type of outside activities that such members can engage in while working at the central bank (and after they leave it). In addition, codes of conduct contain detailed prescriptions on the acceptance of gifts and hospitality, and on personal investments.

Table 2 Examples of board subcommittees

Bank of Canada	Executive Committee Corporate Governance and Nominating Committee Human Resources and Compensation Committee Audit Committee Planning and Budget Committee Pension Committee
Netherlands Bank	Remunerations and Appointments Committee Finance Committee
South African Reserve Bank	Audit Committee Remuneration Committee
Swiss National Bank	Auditing Committee Risk Committee Remuneration Committee Appointment Committee
Bank of England	Non-executive Directors Committee (NedCo) Remuneration Committee Audit Committee Risk Policy Committee
Federal Reserve Bank of New York	Audit Committee Management and Budget Committee Nominating and Corporate Governance Committee

Endnotes

1 *The terms board, committee and council are used interchangeably in this note, where necessary with qualification to distinguish between bodies formally established in law and those constituted by the central bank itself.*
2 *See Alan Blinder, "The quiet revolution: central banking goes modern", Yale University Press, 2004.*
3 *Unless otherwise specified, the data quoted in this note were taken from Tonny Lybek and JoAnne Morris, "Central bank governance: a survey of boards and management", IMF Working Paper No 226, 2004.*
4 *This was the case in two thirds of central banks surveyed by the BIS in 2005.*
5 *Empirical evidence suggests that groups outperform individuals by a modest margin (Blinder and Morgan (2005)).*
6 *See Helge Berger, Volker Nitsch and Tonny Lybek, "Central bank boards around the world: why does membership size differ?", IMF Working Paper No 281, 2006.*
7 *Although in some countries, such as New Zealand and Switzerland, the post of governor and chairman of the supervisory board has been split (in 2003 and 2004 respectively).*

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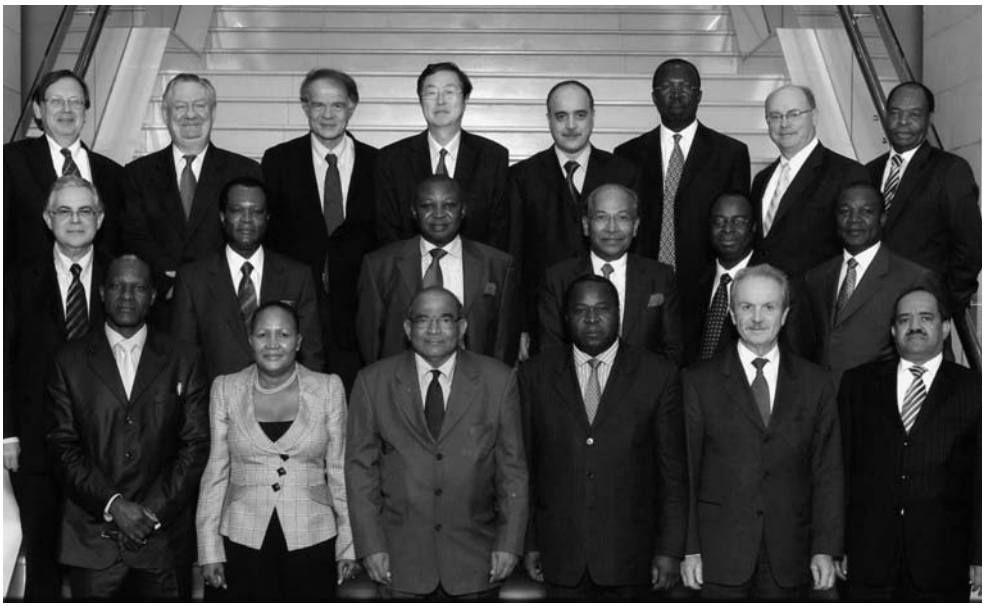

Front row
From left to right:
Tom Alweendo, Linah Mohohlo, Yaga Venugopal Reddy,
Tito Mboweni, Jean-Pierre Roth, Mohammed Laksaci

Middle row
From left to right:
Lucas Papademos, Philibert Andzembe, Caleb Fundanga,
Rundheersing Bheenink, Benno Ndulu, Njuguna Ndung'u

Back row
From left to right:
Nout Wellink, Vicomte Verplaetse, Jean-Pierre Landau, Zhou Xiaochuan
Lyès Loudini, David Opiokello, Malcolm Knight, Martin Dlamini