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ANGOLA

Selected Issues and Statistical Appendix

Prepared by Calvin McDonald (head, AFR), Arto Kovanen, Alexander Kyei (both AFR)

Approved by African Department

August 6, 2007

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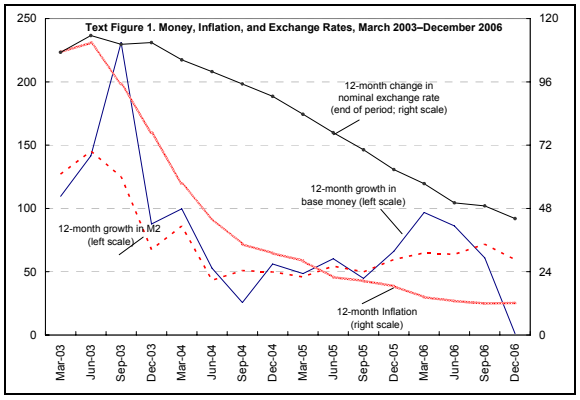
I. Options to Strengthen the Monetary Framework in Angola[1]

A. Introduction

1. **Since September 2003, Angola has adopted an anti-inflation policy that has led to a sharp decline in inflation.** Inflation dropped from about 100 percent in mid-2003 to about 12 percent at year-end 2006 (Text Figure 1). The exchange rate has also been stable since a step appreciation in late 2005. Still, despite attempts to tighten monetary policy, the inflation targets were missed in 2005–06 (Text Table 1).



Text Table 1. Monetary Policy Implementation, 2005-06

	2005 [1]		2006	
	Target	Results	Target	Results
Annual Rate of Inflation (%)	15.0	18.5	10.0	12.3
Real GDP growth rate (%)	15.9	17.0	14.6	15.3
Increase in NIR (US$ billion)	0.7	1.8	5.2	4.3
Overall government balance (% of GDP)	-6.9	2.7	2.3	9.4
Annual growth in Base money (%)	14.0	66.4	42.9	1.1

Source: Angolan authorities.

[1] In April 2005 the BNA revised its working assumptions on account of higher oil revenues. Targets for NIR, and overall government balance were revised. Inflation was revised upwards to a 6 percentage point around 15 percent and base money projection to 43.75 percent.

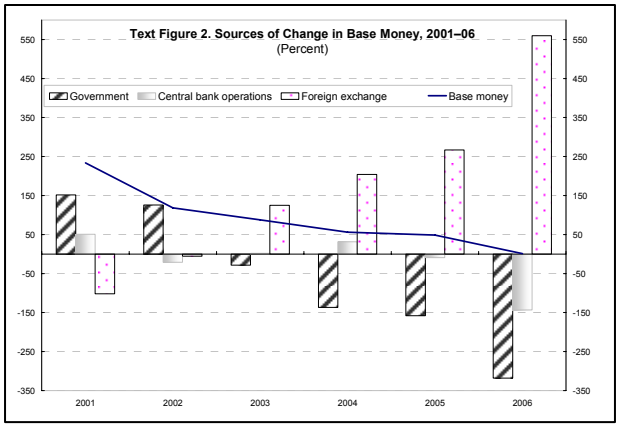
2. **This paper examines Angola's recent experience in lowering inflation and its options going forward in choosing the appropriate nominal anchor, given its highly dollarized economy, and continued remonetization.** It finds that

- The use of a monetary aggregate anchor has helped Angola rein in inflation, despite unpredictable demand for monetary balances as inflation rates have fallen and the structure of the economy and the financial system has changed.
- To further reduce inflation, monetary policy could target the narrow measure of money, which in Angola appears more correlated with inflation.
- Once the monetary aggregates are corrected to include foreign currency notes in circulation, the relationship between inflation and money is better explained.
- Monetary aggregate targeting should be supplemented by other indicators, and policymakers should target ranges instead of absolute levels of monetary aggregates.
- Addressing infrastructure limitations in the markets and institutional shortcomings would enhance monetary policy.

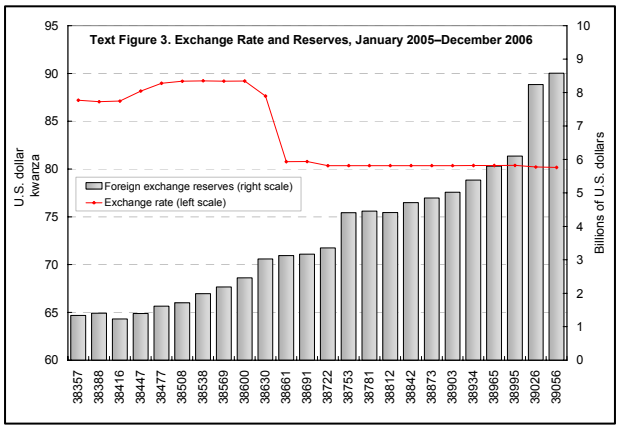
[1] Prepared by Alexander Kyei.

B. Recent Developments

3. **The 12-month inflation rate fell to 31 percent in December 2004 from around 100 percent in 2003, after the government began financing its fiscal deficit with oil-backed loans** (Text Figure 2). These loans also supplied the *Banco Nacional de Angola* (BNA) with foreign exchange to stabilize the exchange rate.[2] Nonetheless, even though the inflation rate declined rapidly, it overshot the authorities' targets in 2004, 2005, and 2006 and inflation remains above the average for other oil exporters in sub-Saharan Africa.



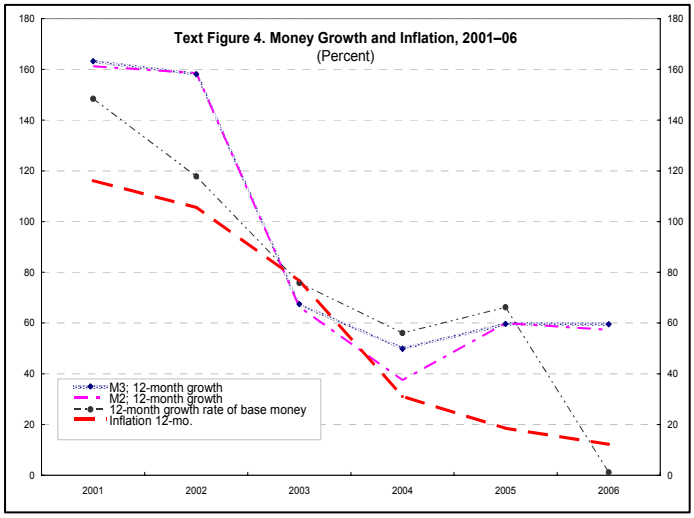
4. **Increased oil revenues have helped stabilize the nominal exchange rate** (Text Figure 3). After depreciating modestly in 2004, the kwanza appreciated in nominal terms in both 2005 and 2006; it then stabilized at about the level it reached when the "hard-kwanza policy" began in 2003.[3] The real effective exchange rate index rose by a cumulative 50 percent between 2003 and 2006.



[2] Gasha (2003 and 2005) found a strong relationship between the exchange rate and inflation, but this correlation decreased from one period to another.

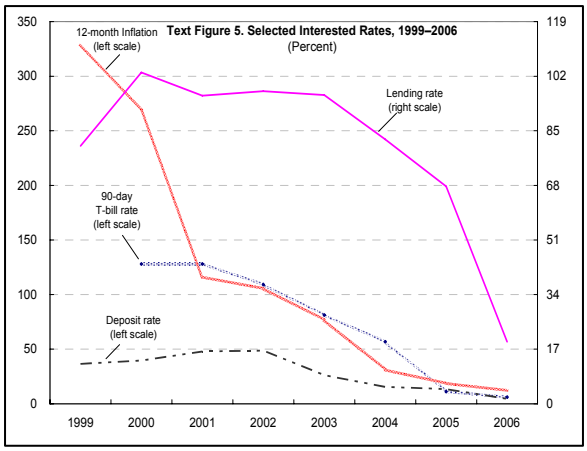
[3] In September 2003 the Angolan government adopted an anti-inflationary initiative which was known as the "hard-kwanza" policy.

5. **After slowing sharply in 2003–04, monetary aggregate growth rose in 2005 then slowed again in 2006** (Text Figure 4). This pattern reflected policy actions by the BNA. The bank took a less active stance in mopping up the increase in liquidity resulting from a draw-down of government deposits and matured treasury bills and BNA securities. The BNA did not issue sufficient bills because of balance sheet pressures and the government was reluctant to issue treasury bills in the absence of a financing need. In 2006, however, the BNA moved to sterilize liquidity by selling foreign exchange and BNA securities, causing base money growth to slow to just 1 percent.



6. **There have been considerable variations across the different monetary aggregates in recent years.** The growth of broad money (M2 and M3) was about 60 percent in 2006 after following the same path as base money through 2005. This reflected a shift in the components: deposits (both domestic and foreign currency) rose sharply, causing the money multiplier (M3/base money) to also spike between 2003 and 2006. Narrow money has consistently grown more slowly than broad money—M1 grew about 10 percentage points less than, and currency by about half as much as, broad money. Velocity fell in the same period as remonetization continued, while inflation fell.[4]

7. **Interest rates have dropped dramatically.** Yields on three-month treasury bills fell along with inflation, from about 80 percent in 2003 to just above 6 percent at end-2006, (Text Figure 5). Commercial bank interest rates, however, declined less steeply than rates on government securities. Lending rates in domestic currency, meanwhile, plunged, to just over 19 percent in 2006 (from about 100 percent in December 2003), and stayed positive in real terms through the period. Yields on kwanza term deposits, by contrast, lagged inflation.



[4] Velocity is measured by non-oil GDP as a multiple of end-of-period broad money.

Text Table 2. Correlations, Dec. 2000–March 2007 (12-month rates of Change)

	Dec. 00–Mar.07	Dec. 00–Dec. 03	Dec. 03–Dec. 06	Mar. 04–Mar. 07
Inf, Dep	0.925	0.782	0.813	0.643
Inf, BM	0.628	0.409	0.006	0.010
Inf, M3	0.877	0.858	0.004	0.030
Inf, M2	0.860	0.858	0.084	0.186
Inf, M1	0.794	0.836	0.283	0.415
Inf, Cu	0.924	0.816	0.554	0.367
BM, Dep	0.519	0.207	0.004	0.029
M3, Dep	0.893	0.849	0.014	0.058
M2, Dep	0.882	0.861	0.149	0.325
M1, Dep	0.776	0.827	0.108	0.099
Cu, Dep	0.868	0.644	0.333	0.120

8. **The relationship between inflation and the monetary aggregates has weakened as dollarization has increased and remonetization has continued.** As shown in Text Table 2, the correlation between inflation, the exchange rate, and monetary aggregates decreased from one period to the next. In addition to inflation and the exchange rate, inflation, M1, and currency in circulation appear strongly linked.[5] Granger causality tests confirm that the exchange rate depreciation and the growth in the monetary aggregates each appear to Granger-cause inflation (Text Table 3) and that exchange rate depreciation affects monetary growth, though the link between exchange rate depreciation and monetary growth appears weaker.

Text Table 3. Causality: Money, Exchange Rate and Inflation

Causality Test—Granger: 12-month rates of Changes		
Hypothesis (No Causality)	Dec. 00–Mar. 07 F-Statistic	Probability
Inf, Dep	8.6265	0.0005
Dep, Inf	16.8589	0.0000
Inf, BM	4.6677	0.0117
BM, Inf	9.9070	0.0002
Inf, M3	6.3069	0.0031
M3, Inf	9.0848	0.0003
Inf, M2	5.0998	0.0086
M2, Inf	10.0546	0.0002
Inf, M1	4.2967	0.1743
M1, Inf	4.5150	0.1436
Inf, Cu	8.6271	0.0005
Cu, Inf	4.7705	0.1147
BM, Dep	0.0143	0.9858
Dep, BM	3.1448	0.4931
Dep, M3	15.5065	0.0000
M3, Dep	1.4157	0.2497
Dep, M2	14.0718	0.0000
M2, Dep	1.1236	0.3304
Dep, M1	4.6720	0.0125
M1, Dep	8.8151	0.4468
Dep, Cu	3.3987	0.0391
Cu, Dep	1.6545	0.1987

9. **There remain risks to the current moderate inflation environment.** Until 2003, the Angolan economy was characterized by persistent inflation induced by large fiscal and quasi-fiscal

[5] These findings are in line with Gasha (2005).

deficits.[6] The recent moderate inflation has been helped by buoyant oil prices and a reversal of these fortunes could jeopardize macroeconomic stability if the authorities do not maintain sound fiscal and monetary policies.

C. BNA's Monetary Policy Framework

10. **Angola's monetary policy is conducted under a monetary aggregate framework; its declared objective is to maintain price stability.** However, the exchange rate has also recently become an objective.[7] Base money (currency plus bank reserves) is used as the operating target. The monetary program sets the percentage variation target for base money and specifies the sterilization instrument to be used. The extent of monetary operations is based on government's cash flow. (The formulation and execution of monetary policy and the instruments used to manage liquidity are discussed below). Sterilization has mainly occurred through foreign exchange sales, though BNA bills have also been issued recently to slow appreciation in the exchange rate, making the exchange rate level a monetary policy objective.[8]

Process for the formulation and execution of monetary policy

11. **Three bodies deal with monetary policy formulation and implementation: the Board of Directors of the BNA, the Liquidity Committee, and the Market Committee of the BNA.** The members of the board of directors appointed by the council of ministers are part of the BNA's administration. The Liquidity Committee is made up of staff from the BNA and the Ministry of Finance (MOF). BNA representatives comprise the board members responsible for managing the bank's technical departments that formulate and execute monetary policy, the directors of the departments of studies and statistics (DEE), foreign reserves management, payment systems, security markets, and accounting. The MOF's members comprise the vice minister of finance, the director of the treasury, and the national director of taxes. The committee coordinates the design of monetary policy and its execution by the BNA and the MOF. The Market Committee comprises the governor of the BNA, other BNA board members, the directors of the technical departments responsible for formulating and implementing monetary policy,[9] the director of the Department of Banking Supervision (DBS), and the director of the Audit Department. The MOF does not participate. Following discussions between the board members and BNA officers, a decision on monetary policy intervention is made.

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[6] See Gasha and Pastor (2004) for more on inflation and stabilization in Angola.

[7] The Authorities have argued that the relative stability in the exchange rate has been a consequence rather than a target of their policies.

[8] After a sudden step appreciation in late-2005, the exchange rate was stable in 2006. Buoyant oil revenues have kept the kwanza under pressure, but the currency appreciated in nominal terms by only 0.6 percent in 2006.

[9] These are the same directors that participate in the Liquidity Committee.

12. **The Department of Studies and Statistics of the BNA, with input from the BNA's technical areas, drafts a monetary program based on the government's two-year plan.** The monetary program is drafted and revised in the first quarter of the year and is then approved by the BNA board of directors.

13. **The minister of finance and the governor coordinate the approved monetary program.** After the final document is submitted to the government's economic team for approval, it is sent back to the BNA so it can be implemented.[10] Monetary policy implementation is reviewed daily, weekly, monthly, and quarterly at different levels of the BNA. The government follows up by having the MOF participate in one of the weekly meetings of the BNA's policy-execution bodies.

Instruments for liquidity management

14. **The monetary program sets the percentage variation target for base money without specifying which instruments should be used to achieve it.** Liquidity projections are prepared every week, and the sterilization instrument to be used and to what degree is decided in light of the cash-flow program and management of the government.

15. **The main instrument used is intervention in the foreign exchange market through sales of foreign exchange to authorized dealers.** These operations are based on decisions about the required amount of domestic currency sterilization made weekly by the Liquidity Committee and the Market Committee. The Department of Foreign Exchange Management conducts daily auctions by evenly distributing the foreign exchange to be sold for the week over five days.

16. **The BNA, for monetary policy purposes, started issuing BNA bills with 28-day maturities in late 1999; the Ministry of Finance launched its first issue of domestic securities—treasury bonds and bills—in July 2003.** To broaden the range of money market instruments available and to reduce their potential costs, the BNA in mid-2003 started issuing securities in 30-, 90-, and 180-day maturities. The treasury bonds were issued primarily to clear arrears with domestic suppliers; treasury bills, denominated in domestic currency and issued in 91- and 182-day maturities were short-term financing instruments. Treasury bills were meant to gradually replace short-term central bank bills, reinforce monetary policy management, provide the government with a less inflationary financing instrument than central bank credit, and deepen domestic securities markets.

[10] Besides the government's economic team, the Institutional Committee for the Follow-up of the Economic and Social Plan of the government meets to oversee and follow up on government policies and programs, including those of the BNA.

17. **The BNA in March 2004 established procedures for purchasing/repurchasing securities between banks.** Transactions must be at least one day, and the BNA may set a maximum period. The value of repurchases cannot be higher than five times the selling bank's own funds. Transactions are recorded at the BNA Central Securities Depository and are settled at the banks' reserve accounts at the BNA.

18. **The BNA also intervenes in the Interbank Money Market (MMI) using securities to manage liquidity.** The BNA regulates the MMI, authorizes the institutions that may participate, and authorizes all bank transaction at the MMI. Transactions must be more than Kz 100,000 and be for a specified period of up to one year. Settlement may take place up to two working days after the transaction.

19. **Deposits in kwanza and in foreign currency are subject to a 15 percent reserve requirement, which** can be constituted in cash and with up to 50 percent of it in central bank or treasury bills. Since 2005 the reserve requirement ratio has not changed. Central government deposits at the *Banco de Poupanca e Credito* (BPC) must meet a 100 percent reserve requirement; deposits at the BPC's branches in Angola's provinces must meet a 50 percent reserve requirement. Reserves required for dollar-denominated deposits must be held in kwanza.

20. **The BNA rediscount rate was reduced to 18 percent from 95 percent in December 2005.** The rediscount facility is rarely used in Angola and is thus more of a signal than an instrument in managing liquidity.

D. Selecting a Nominal Anchor and Options for Angola

21. **To institute a monetary policy framework, a nominal anchor or constraint on the value of domestic currency must be established and intermediate and operating targets to guide short-term liquidity adjustments must be set.** Central banks can achieve anti-inflation credibility by committing to fix the domestic currency to a nominal magnitude, such as the exchange rate, the money supply, or the inflation rate. This section discusses the main features and requirements of different monetary policy frameworks.

Fixed exchange rate

22. Under a fixed exchange rate regime, the exchange rate of the currency is fixed to another currency or unit that behaves in a desired way. The quantity of money is then determined by, or adjusted according to, the public's demand for it at the value that has been fixed by the exchange rate. This regime has obvious advantages—it is easy to administer and does not require knowledge of velocity, which is particularly difficult to estimate when the economy is undergoing a transition, as in Angola. It is also the quickest way to establish faith

in the stability of the currency's value.[11] As a nominal target, the exchange rate is more transparent than money and can be readily monitored. A number of countries have successfully used exchange rate targeting to reduce inflation—for example, Argentina under a currency board arrangement in 1991 and Estonia, Latvia, and Lithuania under exchange rate pegs. Inflation in the franc zone countries of Africa, whose currencies were pegged to the French franc and now to the euro, has consistently been lower than in neighboring countries.

23. **Fixing the exchange rate, however, has its costs.** A fixed exchange rate can only be maintained if it is backed by sound fiscal policy**.** Government borrowing should be limited to the level that can be raised from the public. In the tradable and nontradable goods market, the exchange rate can anchor only a subset of prices. Under an exchange rate peg, scaled-up foreign inflows would temporarily result in higher inflation as higher spending pushes up the prices of nontradable goods, to which the central bank's foreign exchange reserves and the money supply can respond endogenously (IMF 2007). A fixed exchange rate also undercuts monetary policy independence, because the country can no longer respond to shocks independent of those hitting the anchor country. For instance, swings in oil prices, if not handled through a stable spending pattern, could compromise the macroeconomic stabilization required under a fixed exchange rate regime. Fluctuations in the value of the particular currency to which the home currency is pegged can also produce needless volatility in the country's international competitiveness. When large foreign exchange interventions are undertaken to maintain an exchange rate peg, net foreign assets may be volatile and difficult to predict, making it difficult to manage liquidity.

24. **A fixed exchange rate leaves countries open to speculative attacks on their currencies as buyers can count on one-way bets.** It also lowers the perceived risk for foreign investors, thus encouraging greater capital flows. If bank supervision is inadequate, loan losses are likely, causing bank balance sheets to deteriorate. Exchange rate targets can also mask expansionary policies, as in Thailand before the 1998 currency crises. Finally, fixing the exchange rate may not be enough to change expectations—a peg that is not supported by credible policies would collapse.

Monetary aggregate framework

25. **In a monetary aggregate framework, the relationship between money demand, nominal income, and interest rates is assumed to be sufficiently stable.** The quantitative monetary aggregate with the strongest relationship to the ultimate target, such as inflation, may thus be a suitable intermediate target. An example is the money supply. In economies

[11] A currency board is the simplest monetary system with an externally fixed value—it is simple to administer and has the highest credibility. Therefore, under this arrangement monetary operations are relatively passive—domestic interest rates adjust in line with those of the reserve currency country.

with underdeveloped money markets and without instruments for interest rate targeting, the instrument could be the monetary base. Interest rates work better as operating targets when the link between the monetary aggregate, inflation, and short-term interest rates are easily determined. Both industrialized and developing countries have adopted monetary aggregate targeting successfully. In the mid-1970s the Bundesbank began using monetary-targeting to maintain low inflation. The United States used a number of monetary aggregates as intermediate targets in the 1960s and 1970s.

26. **If there is a strong and reliable relationship between inflation and the monetary aggregate (such as M3 or M2), the central bank can accurately project the value of the money multiplier.** The money multiplier is a function of the ratio of currency to deposits and the ratio of bank reserves to deposits. An increase in the ratio of currency to deposits reduces the reserve component of a given base money and thus reduces the money multiplier. An increase in the ratio of bank reserves to deposits similarly reduces the multiplier. The currency-to-deposits ratio reflects the public's preferences for one form of payment over another (a choice that is influenced by the relative convenience and opportunity costs of holding money). To set monetary policy instruments appropriately, the central bank should be able to estimate the likely behavior of this ratio.

27. **Monetary targeting allows the central bank to adjust its monetary policy to cope with domestic shocks.** A flexible exchange rate arrangement under this framework can help the economy adjust to terms of trade changes, thus helping to maintain macroeconomic stability. This is particularly important in Angola because the price of oil fluctuates, and the current account will have to adjust in the medium term once oil production begins to fall. A flexible exchange rate regime facilitates a relative price adjustment while allowing monetary policy to be geared toward controlling domestic inflation. In Angola, where goods consumed have a high import content, the appreciation of the kwanza could help stabilize or lower inflation. Flexible exchange rate regimes also appear to be associated with less inflation and output variability than exchange rate pegs (IMF 2006).

28. **A monetary targeting policy can be easily communicated to the general public as long as figures for monetary aggregates are announced.** The public can then determine if the central bank is achieving its target, and the market has an immediate signal of the monetary policy stance.

29. **An obvious drawback to a regime that fixes money growth is that fluctuations in money demand or in the behavior of the banking system** weaken the relationship between the monetary aggregate and inflation. Thus, if velocity is not stable, the monetary aggregate might not reflect the desired outcome for the ultimate goal (e.g., inflation).

Inflation targeting

30. **An inflation-targeting framework explicitly targets inflation.** The target is a publicly announced, numeric range. Inflation targeting in practice involves adjusting monetary policy instruments as new information becomes available so as to meet the stated target. Monetary policy, which is guided by inflation forecasts, is conducted in a market-based, flexible, and transparent manner. This framework has been used successfully by several industrialized countries, such as Canada, the United Kingdom, and New Zealand, and is being adopted by many emerging market countries in which the relationship between inflation and monetary aggregates has weakened.

31. **Inflation targeting enables monetary policy to focus on domestic factors and to respond to shocks to the domestic economy**. Unstable velocity is not an issue because the relationship between money and inflation does not have to be stable. Inflation targeting, which is easy to understand, is also very transparent. The more open and precise is the central bank's inflation objective, the more confident the public will be that the bank will meet the target. A precise, well-publicized target also fosters accountability because it is easier for the public to determine whether the inflation objective is consistently being met.

32. **The following conditions help ensure that an inflation targeting framework can be successfully implemented:** (1) The central bank must have the mandate to pursue an inflation target and must inform the public about the monetary policy framework; (2) monetary policy should not be dominated by fiscal priorities; (3) the external position should be strong and sustainable; (4) initial inflation should be low enough to ensure a reasonable degree of monetary control; (5) the financial sector should be stable and the financial markets well developed; and (6) the central bank should have the tools to implement monetary policy. Overall, successful inflation targeting works best if a country has strong operational capacity at the central bank; monetary policy credibility, backed by adequate political support; a fairly developed financial sector; strong public sector financial management; and consistent fiscal policy. Low dollarization of financial liabilities and limited vulnerability to sharp changes in capital flows and international investor confidence are also important.[12]

Options for Angola

33. **Angola, however, does not yet have a deep enough financial sector, adequate instruments, or sufficient credibility to adopt a fixed exchange rate.** Angola's economy is not adequately resilient and its financial system is not strong enough to withstand speculative attacks. By contrast, a flexible exchange rate would allow the economy to adjust better to domestic and external shocks. A number of countries have dealt successfully with a surge in flows under a flexible exchange rate arrangement, with little impact on the exchange rate; others have allowed the exchange rate to appreciate.

[12] See IMF (2006) for more on inflation targeting.

34. **Angola does not have enough reliable data to forecast inflation, therefore making inflation targeting difficult.** The lagged relationship between monetary policy and inflation also suggests that information about the monetary policy stance would not reach the public in a timely way. In terms of transmission, because the financial sector is underdeveloped, the interest rate and credit are channels weak. Interest rates, while market determined, do not respond well to monetary policy signals, and government-owned bank dominates the credit channel. The high level of dollarization worsens these limitations.

35. **Monetary targeting in Angola should be adapted to incorporate some aspects of the other frameworks.** Monetary aggregate targeting has been used effectively to reduce inflation in Angola. Monetary targeting has in most cases been relegated to the background once the relationship between monetary aggregates and inflation or nominal income breaks down. If the financial environment in Angola is not expected to change much in the medium term, one must ask, "*If it ain't broke, why fix it?"* Countries that have given up on monetary targeting have sometimes switched among different monetary aggregates, such as M1, M2, and base money. Similarly, the choice of the intermediate target in Angola should be monitored continuously to ensure that it is still relevant, including switching from one aggregate to another. Given the instability of velocity, the authorities should not rigidly uphold their target range but allow it to be under shot and over shot at times. The inflation goal should be allowed to vary over time as long as it converges to a long-run goal. The objectives of monetary policy, including a numeric inflation goal, should be clearly stated. And to make monetary policy more transparent and the central bank more accountable, monetary policy should be communicated to the public.

E. Improving the Monetary Framework in Angola

Absence of reliable data

36. **To be effective, a monetary aggregate framework requires adequate data**. We specify the following functional relationship for the demand for money:

$$(M/P) = f(Y, OC),$$

where[13]

M = demand for nominal money balances (M3 or M2); and

P = the price level (CPI);

Y = scale variable (income, wealth, or expenditure, in real terms—national income); and

OC = expected rates of return (interest rate).

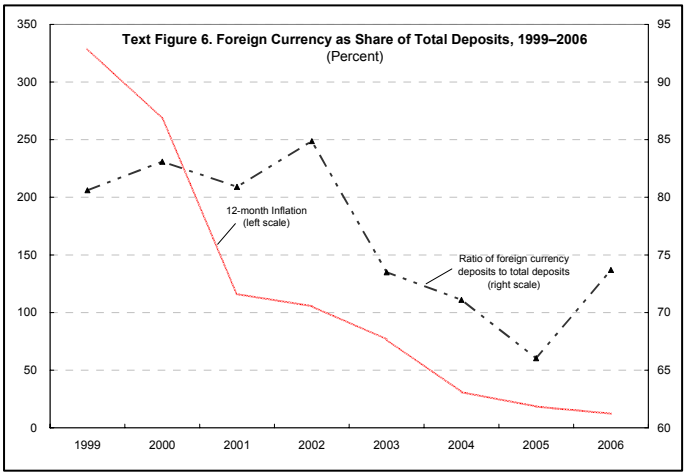
[13] The measures used for Angola are in parenthesis.

Angola lacks reliable statistics on several aspects of economic activity, including the determinants of demand for the monetary aggregates, such as nominal GDP and prices. The problems are on both sides of the equation. Broad money (M2 or M3) does not capture all money, as discussed in the next section. Before May 1999, administrative decisions distorted key prices, such as exchange rates. The absence of reliable time series data has prevented the authorities from analyzing in-depth the main characteristics of the macroeconomy and the financial system.

37. **The Consumer Price Index (CPI) covers only Luanda, Angola's capital city; the non-oil sector data in the national accounts are unreliable; and the shallow financial sector constrains interest rates.**[14] To better explain the relationship between inflation and the money supply, the authorities should consider extending the CPI at least to regional centers, using the 2000/01 Household Expenditure Survey. Efforts should also be made to obtain more reliable data on the non-oil sector, in particular on construction, manufacturing, and commerce and trade.

Design of a monetary aggregate framework in the presence of dollarization

38. **The Angolan economy is highly dollarized—the U.S. dollar, along with the kwanza, is accepted as means of payment, in most business.** Private sector bank deposits in foreign currency were 74 percent of total deposits at year-end 2006, up from 66 percent at year-end 2005 (Text Figure 6). This measure, however, relates foreign currency deposits within the domestic banking system (including domestic deposits and foreign currency) to a monetary aggregate, predominantly M2, without accounting for the stock of foreign cash in circulation; it thus underestimates the actual degree of dollarization (see discussion below). With the dollar as legal tender, there is more scope for substituting assets, which reduces the effectiveness of monetary policy to affect aggregate demand through the interest rates and exchange rate channel.



[14] A March 2005 technical assistance report indicates that data sources for the national accounts continue to have serious shortcomings in the basic statistical sources, whether derived from surveys (very low response rates) or those derived from administrative sources (low standards and/or insufficient level of detail). The World Bank is providing assistance in this area.

39. **The strategy of Angola's monetary aggregate framework is to calculate the base money level that would be consistent with the money supply target, derived using** the following formulation:

$$M = m\,(B) \qquad (1)$$

$$m = (c+1)/(c+r), \qquad (2)$$

where

M = money supply;

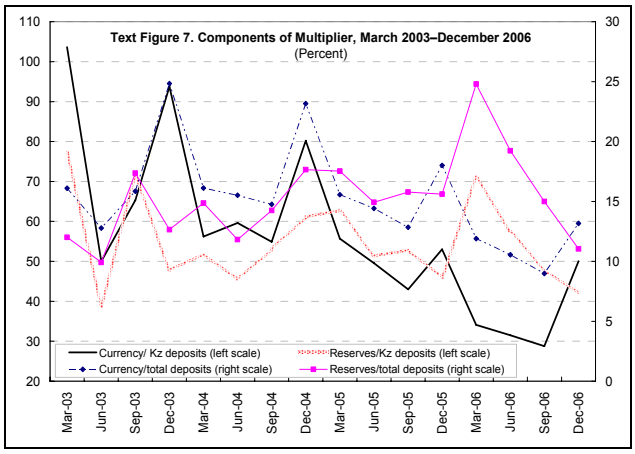
B = base money;

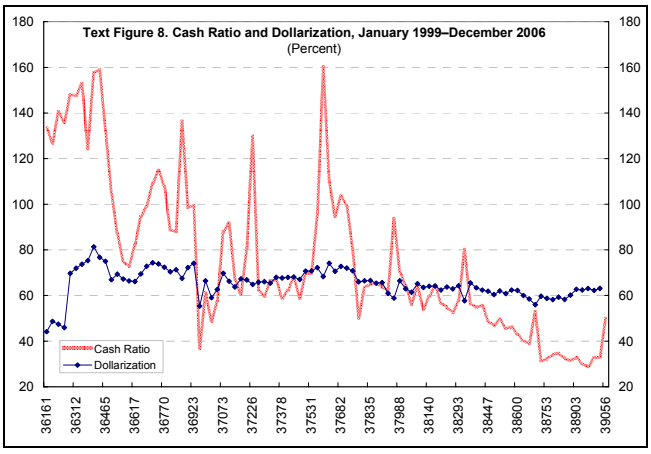
m = money multiplier;

r = the ratio of bank reserves to deposits; and

c = the ratio of currency outside banks to deposits held at banks by the public.

40. **The currency-to-deposits ratio reflects the public's preferences, as influenced by convenience, return, and value, for one form of payment medium over another, and is thus not easily controlled by the central bank.** The central bank does, however, have considerable influence over the bank reserves-to-deposits ratio. As shown in Text Figure 7, both the currency ratio and the reserve ratio have trended downward, although the currency ratio did recover somewhat in the last quarter of 2006. A decrease in the ratios implies a higher multiplier. The recent decline in the cash ratio, which may reflect shifts from domestic to foreign currency holdings, also distorts projections of the multiplier (Text Figure 8).





41. **Evidence from other countries, particularly in Latin America, reveals that dollarization has continued even after the macroeconomy stabilized.** The BNA's monetary aggregate framework should therefore focus not only on total money supply, but also on its composition—both foreign and domestic-denominated components. The use of broader aggregates would better inform inflation projections and expected exchange rate development than the current arrangement.[15] Adding foreign currency in use outside the banking system would also better steer monetary policy implementation, as it would stabilize the currency-to-deposits ratio and would allow the BNA to more accurately project the multiplier. Indeed, Oomes and Ohnosorge (2005), who estimate U.S. currency holdings in Russia, find that including foreign currency holdings in the definition of money improves the stability of the money demand function. With some caveats, they conclude that in highly dollarized economies estimates of foreign cash holdings can better explain the relationship between money growth and inflation.[16]

42. **There are three possible sources of information on foreign cash holdings of the Angolan public:** data on bank shipments of U.S. currency to Angola are available from domestic banks in Angola or the U.S. Treasury; the net sales of foreign currency by authorized banks less net withdrawals from foreign currency deposits; and Currency and Monetary Instrument Reports (CMIRs) collected from travelers by the U.S. Customs Services. The U.S. Treasury, which typically estimates U.S. dollars in circulation based on currency shipments, CMIRs, and trips to selected countries, estimates that about 60 percent of the US$770 billion currency in circulation is held abroad. The U.S. Treasury estimates that Russia, Argentina, and South Africa, respectively, hold US$80 billion, US$50 billion, and US$2 billion in U.S. currency notes. [17]

43. **We estimate U.S. currency in circulation in Angola for December 1999–December 2006** using data from domestic banks on monthly imports of U.S. dollar notes in 2000–06. The bank data show note imports of just over US$7 billion during that period. Angola receives a significant share of dollar notes shipped to sub-Saharan Africa and notes shipped there have trended upward—in 2002–06 shipments almost tripled.[18]

44. **Our estimates suggest that U.S. notes in circulation exceed both the current M1 (domestic currency in circulation plus all types of demand deposits) and total foreign**

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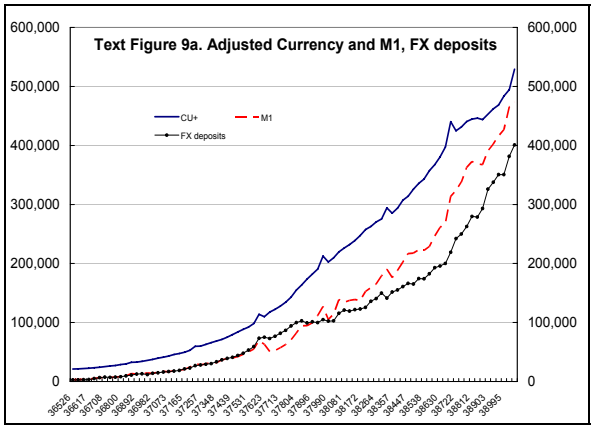
[15] Berg and Borensztein (2000) find that broad monetary aggregates that include foreign currency deposits are more informative than those that do not. However, unlike Kamin and Ericsson (2003) they fail to find that adding a measure of dollar currency in circulation helps predict price levels.

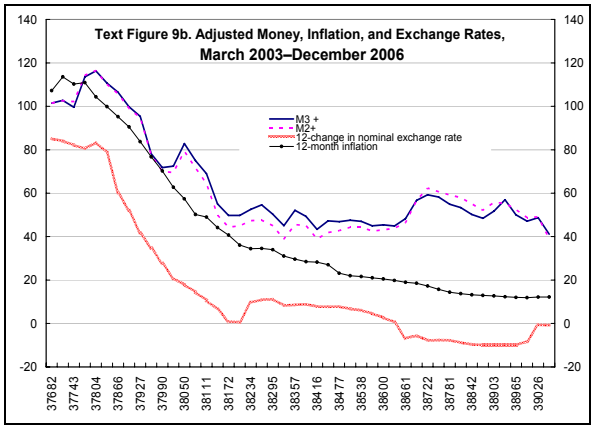
[16] This is based on estimates of the Central Bank of Russia and Moscow's Bureau of Economic Analysis. They also conclude that an acceleration in domestic currency growth should not necessarily be inflationary to the extent that it reflects de-dollarization; neither should a slowdown in domestic money growth imply lower inflation if it reflects a slowing of de-dollarization or renewed dollarization.

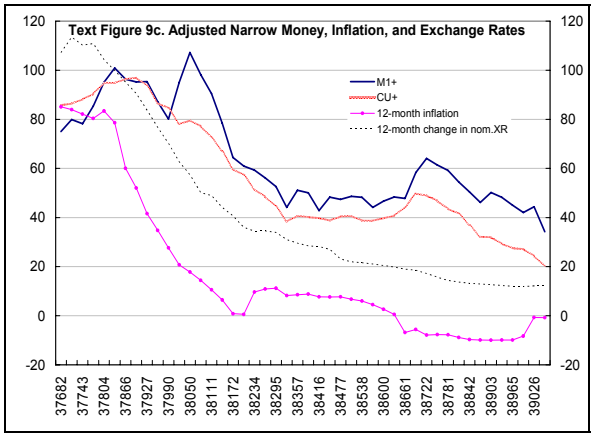
[17] See U.S. Treasury (2006).

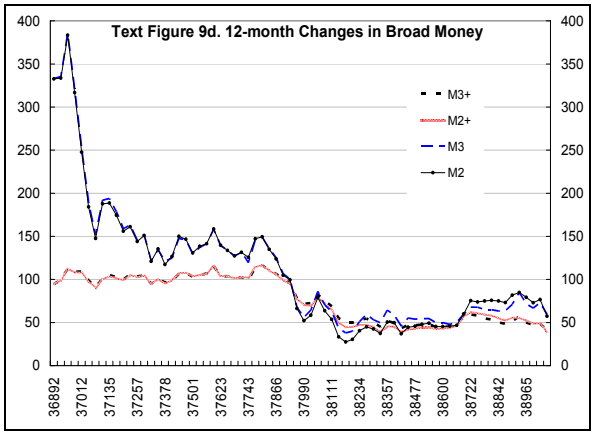
[18] Foreign currency deposits grew more than tenfold in 2002–06.

currency deposits (Text Figures 9a–d). [19] This finding is not surprising for several reasons: (1) consumers and businesses hold dollars during periods of political and economic uncertainty to hedge against inflation and calamity; (2) the illicit diamond trade both before and after the war was conducted in dollars; (3) cross-border trade since the start of the war has been conducted in dollars; and (4) the increase in foreign currency deposits, mainly from expatriates, would naturally have a counterpart in currency notes.







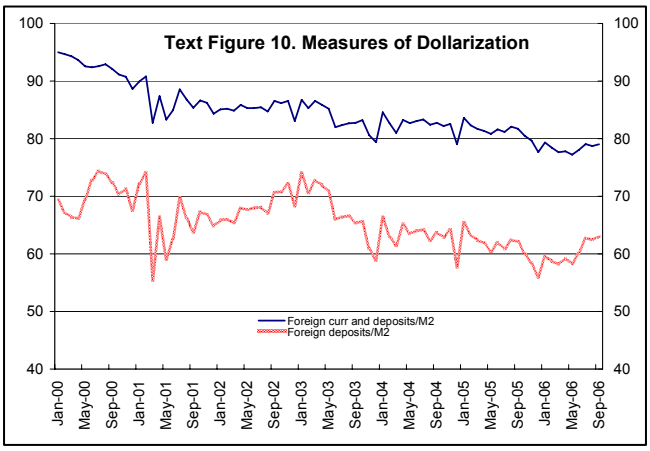


[19] The revised monetary aggregates are denoted as M3+, M2+, M1+, and Cu+.

45. **Our estimates are supported by Kamin and Erricsson (2003), who** estimate Argentine holdings of U.S. currency based on an assumption about the stock at year-end 1987 and annual inflows since then based on CMIR data. U.S. currency holdings in Argentina, by their estimates, were more than double the holdings of dollar deposits in domestic banks; dollar currency holdings were also almost as large as all dollar deposits and domestic currency holdings combined.

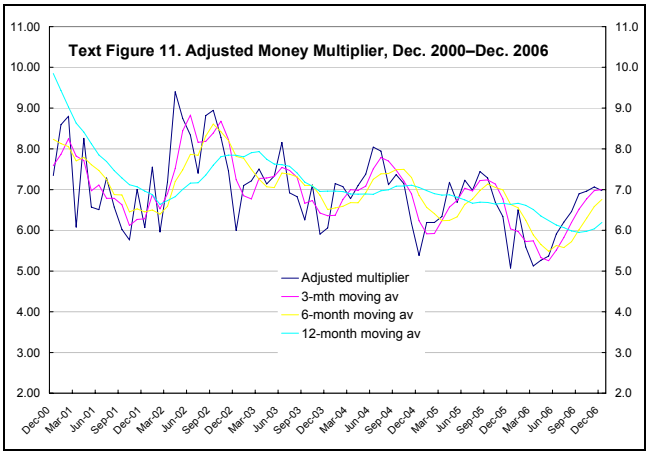
46. **In comparing our measure of dollarization with the standard measure, we find a steadier drop in dollarization since mid-2005** (Text Figure 10). While our measure shows more dollarization, it too trends downward, and the gap from the standard measure narrows from about 25 percent in 2000 to about 15 percent in 2006. The steadier drop in dollarization after mid-2005 found by our measure is more in line with inflation.

47. **The integration of monthly imports of foreign currency notes into liquidity forecasts would greatly facilitate monetary operations.** Our estimates suggest that the path for velocity and the money multiplier was somewhat smoother than the standard measures imply (Text Table 4 and Text Figure 11). According to simple correlations of inflation, the exchange rate, and the monetary aggregates, adjusted for foreign currency notes in circulation, the addition of foreign currency notes tends to strengthen the correlation between inflation and money (Text Table 5). The correlation between inflation and narrow money is especially strong. Thus, the Angolan authorities could enhance monetary policy by continuing to monitor the various monetary aggregates and adjusting accordingly the balance of local and foreign currencies—both deposits and currency notes in circulation.



Text Table 4. Velocity and Multiplier

Year	Velocity	Adj. velocity	Multiplier	Adj. Multiplier
2000	3.70	1.05	2.57	7.34
2001	3.36	1.39	2.70	6.07
2002	2.95	1.49	3.21	6.00
2003	3.35	1.72	3.03	6.06
2004	3.55	1.77	2.67	5.39
2005	3.29	1.60	2.57	5.07
2006	2.85	1.55	4.00	6.98

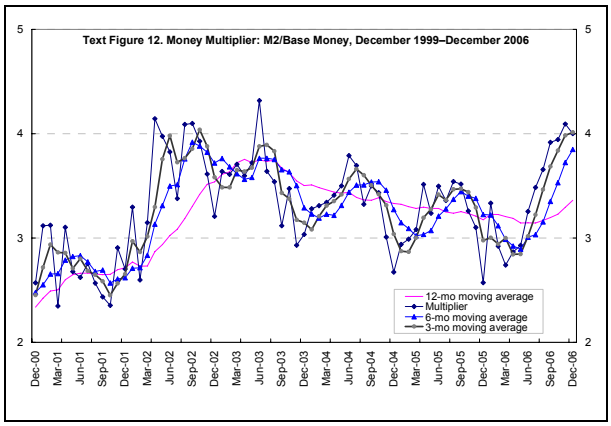


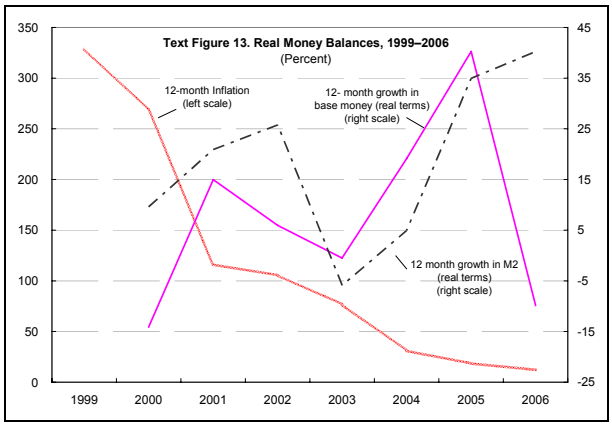
Text Table 5. Correlations, Dec. 2003–March 2007 (12-month rates of Change)

	Dec. 03–Dec. 06		Mar. 04–Mar. 07	
	W/out FX notes	With FX notes	W/out FX notes	With FX notes
Inf, M3	0.004	0.577	0.030	0.407
Inf, M2	0.084	0.320	0.186	0.126
Inf, M1	0.283	0.671	0.415	0.650
Inf, Cu	0.554	0.857	0.367	0.784
M3, Dep	0.014	0.318	0.058	0.080
M2, Dep	0.149	0.115	0.325	0.001
M1, Dep	0.108	0.350	0.099	0.175
Cu, Dep	0.333	0.533	0.120	0.268

Adjusting for remonetization in money demand

48. **The monetary aggregate framework hinges on a stable relationship between money and national income (that is, a stable velocity).** This relationship (between money and national income), however, appears to change with remonetization as consumer confidence improves after a period of high inflation. This may be why monetary aggregates in Angola have continued to rise since 2003. In 2006 the 12-month real growth rate of base money decreased almost 10 percent, while M3 and M2 grew about 60 percent, reflecting a sharp shift in the money multiplier (Text Figures 12 and 13).[20] In any case, money velocity in Angola has not been stable, partly because remonetization is ongoing and data on non-oil GDP are unreliable, making it difficult to project velocity.[21]





[20] The composition of broad money also changes with an increase in the share of domestic bank deposits compared with cash and foreign currency deposits.

[21] In the early part of Ghana's stabilization program of the 1980s, IMF programs targeted a declining velocity as inflation was brought under control. Staff projections for Angola have targeted increases in real money balances (M3, M2); however, the recent drop in base money necessitates a review of these projections.

49. **According to De Broeck and others (1997), velocity has a tendency to increase early in the implementation of stabilization programs.**[22] After stabilization, velocity starts to gradually decrease and real money balances typically exhibit a U-shaped pattern over the entire stabilization program. After declining because of high inflation before a program begins, real money balances rise as progress is made in stabilizing the program. This pattern is observed in Angola (Text Figure 14) and in Ghana, Tanzania, and Uganda (Text Table 6).

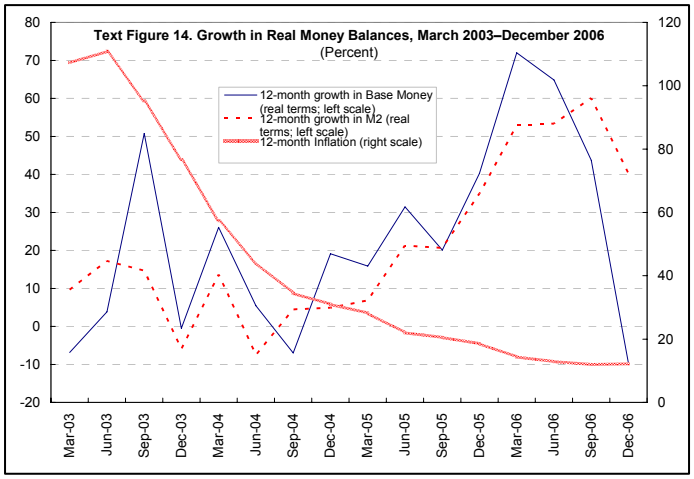


Table 6. Inflation and Velocity, 2000–06
(Percent)

	Angola		Ghana		Nigeria		Tanzania		Uganda	
	Inflation	Velocity	Inflation	Velocity	Inflation	Velocity	Inflation	Velocity	Inflation	Velocity
2000	268.0	3.7	25.2	3.8	6.9	2.5	5.9	5.9	8.5	8.6
2001	153.0	3.4	32.9	3.7	18.0	2.2	5.2	5.5	0.1	8.4
2002	109.0	3.0	14.8	3.2	13.7	2.1	4.6	5.1	-2.0	6.9
2003	98.0	3.4	26.7	3.1	14.0	2.0	4.4	4.8	5.7	6.7
2004	44.0	3.6	12.6	3.0	15.0	2.1	4.1	4.7	5.0	6.9
2005	23.0	3.3	15.1	3.2	17.8	2.4	4.4	4.2	8.0	7.0
2006	13.3	2.9	10.9	3.9	8.3	2.0	5.8	3.7	6.6	6.7

Sources: *Regional Economic Outlook* and IMF country reports.

50. **Analyzing velocity up to and throughout the stabilization effort does not help predict its outcome (De Broek and others 1997).** Velocity is expected to decrease as inflation declines and income increases as real money balances are rebuilt. Other factors, however, affect velocity, including reforms in the financial sector (e.g., improvements in market efficiency and the payments system), which tend to accelerate monetization and prompt velocity to fall, as would real exchange rate appreciation. Adjustments are thus required to reflect changes in real money balances. The money supply in Angola could be projected on the basis of changes in real money balances (thus, allowing for remonetization) with due regard to the implied velocity.[23] Base money could then be estimated using its links with the components of the broader monetary aggregates, after adjusting it for foreign cash holdings of the public, as discussed above.

[22] This is based on data from the Baltics, Russia, and other countries of the former Soviet Union.

[23] While we have estimated U.S. dollar currency in circulation in the previous section, lack of reliable time series data on the non-oil sector does not make it possible to estimate money demand at this time.

51. **Given these complications, as well as the uncertainty of growth in the non-oil sector, the authorities would need to target a range for money growth.**[24] Adjustments made should include which monetary aggregate to target, in line with shifts in the demand for money, reflecting substitution between local and foreign currency, cash and deposits, and more accurate measures of national income, supplemented by other indicators and informed judgments of the BNA.

F. Market Infrastructure and Institutional Shortcomings

52. **The most effective transmission channels for monetary policy are availability of credit and interest rates.** An efficient financial system is therefore vital. The interest rate channel typically operates through the money market instruments and longer-term bonds as they respond to a contraction or expansion of the economy. However, given Angola's shallow financial markets and limited competition, it cannot support this kind of policy channel.[25]

53. **The BNA's monetary policy actions would be enhanced by an efficient interbank market.** Although the BNA intervenes in the interbank market using securities, there is a limited secondary market for these securities because banks are reluctant to deal with other banks, partly owing to excess liquidity. This further inhibits the development of an interbank market. By adopting measures to facilitate the development of efficient money markets, the authorities could eventually move to a system where interest rates are an operating target. To develop a securities market, the BNA would need to issue longer-term securities and should develop its capacity to sell foreign exchange directly in the interbank market. Payments system improvements could reduce the cost of holding kwanza cash and deposits and help de-dollarize the economy.

54. **The policy response to a surge in foreign exchange inflows can also affect interest rates, private sector activity, and the fiscal repercussions of liquidity management.** The issuance of treasury or central bank bills reduces the money supply but can lead to rising interest rates. This action is also costly and difficult to execute in a thin financial market. The sheer magnitude of BNA bills (the equivalent of US$1 billion were sold in 2006 alone) are cause for concern. The government since mid-2006 has ceased to issue securities because it does not need financing. Open-market operations must therefore be carried out using central bank bills, a requirement that has increased the BNA's operational costs and negatively impacted its interventions on the money market, though negative real interest rates have offset that somewhat.[26] Attractive rates for these securities also tend to steer banks away from providing credit to the private sector.

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[24] Historical evolution of the target may provide a basis for setting the target range width.

[25] The financial sector comprises 12 commercial banks, four insurance companies, two pension funds, and eight foreign exchange bureaus. During the 2000–04 period, commercial bank assets represented about 25 percent of GDP. With strong real growth in GDP, this figure fell to 19 percent in 2005. The two state-owned commercial banks and the two largest private commercial banks held 74 percent of deposits.

[26] The government should bear the cost of implementing monetary policy, as price stability is a public good that benefits the whole economy.

55. **Liquidity management should be improved.** Foreign exchange sales should account for the bulk of the sterilization of liquidity; short-dated BNA bills can be used to fine-tune liquidity and longer-dated bills to allow base money to be approximately met while the financial sector develops. Fine-tuning reserve requirements would reduce liquidity and smooth its daily fluctuations. Such measures would include reconstituting reserves on foreign currency deposits, eliminating government securities as eligible assets to constitute reserves, no longer deducting vault cash, and allowing reserve holdings to be averaged over the maintenance period. To change the reserve requirements on foreign currency deposits to be held in domestic currency, one-off sale of foreign exchange could be followed by increases in foreign currency deposits to dampen the effect on the exchange rate. Repurchase agreements between banks would also obviate the need for the central bank to intervene frequently. These measures would tend to have a positive impact on BNA's balance sheet.

56. **The lack of autonomy of the central bank impedes the credibility of monetary policy and its implementation.** The central bank law calls for it to collaborate closely with the Ministry of Finance on the annual financial programming exercise. The Ministry of Finance is generally more concerned about how an exchange rate appreciation would affect its revenues. The BNA, by contrast, favors a flexible exchange rate but faces cost constraint in issuing bills and the dilemma that an appreciating exchange rate leads to exchange losses. The challenge is thus for the BNA to focus on its key activities while keep its other costs down. The government, meanwhile, must support the costs of monetary policy implementation by promptly recapitalizing the BNA.

G. Conclusions

57. **Persistent dollarization, remonetization, and an undeveloped financial market create instability in Angola's monetary aggregates and hamper monetary policy.** The current monetary framework, which is anchored to base money targeting and has helped to rein in inflation, should stand; but it should be adjusted to incorporate all measures of dollarization and be supplemented by other indicators. The exchange rate should be more flexible to allow for it to appreciate nominally in the event that inflationary pressures arise. Additional work to fine-tune the measures of currency in circulation, conduct more sophisticated tests to assess the relationship between inflation and the monetary aggregates, and determine how to incorporate the currency measure in monetary operations is needed. Developing more reliable and timely data would also help policymakers better test the stability of money demand in Angola.

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II. Fundamental Determinants of the Real Exchange Rate in Angola[1]

A. Introduction

1. **This paper aims to identify fundamental determinants of the real exchange rate in Angola**. Exchange rate assessment should ideally be based on the notion of equilibrium, that is, consistency with external and internal balance over the medium to long run. However, in practice most empirical studies relate the real exchange rate to their observed determinants on the basis of reduced-form relationships. This reduced-form equilibrium real exchange rate (ERER) approach estimates an equilibrium real exchange rate as a function of medium-term fundamentals, which are expected to play key roles over the medium term. The exchange rate adjustment needed to restore equilibrium over the medium term is, then, simply calculated as the difference between the estimated ERER and its current value. This is the approach taken in this study. Other approaches have been developed, including by Fund staff, to assess to what degree real exchange rates are misaligned.[2] While these approaches complement ERER, they do not yield a direct measurement of misalignment similar to the ERER approach. They comprise: a "macroeconomic balance" approach, which assesses the exchange rate adjustment needed to bring the external current account balance to its equilibrium level over the medium term; and an "external sustainability" approach, which assesses the exchange rate adjustment needed to achieve external current account balance consistent with a stable net foreign asset position.

2. **Key findings of the paper may be summarized as follows:**

- The purchasing power parity (PPP) hypothesis does not receive empirical support in the sample; hence, we search for alternative explanations for movements in the real exchange rate. We show that the fit of the PPP improves significantly if a variable measuring the productivity differential in Angola compared to the United States is included in the PPP estimation.

- In the estimation of a vector error correction model (VECM), two variables—openness (measuring trade impact) and the productivity differential with the United States—appear fundamental in explaining the variations in Angola's real equilibrium exchange rate.

- Based on the estimates, the current real exchange rate against the U.S. dollar is not significantly out of line with the equilibrium real exchange rate.

- The real exchange rate in the short run exhibits strong mean-reversion toward the equilibrium real exchange rate, which has a large adjustment factor. This result is consistent with the observed high volatility of the real exchange rate.

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[1] Prepared by Arto Kovanen.

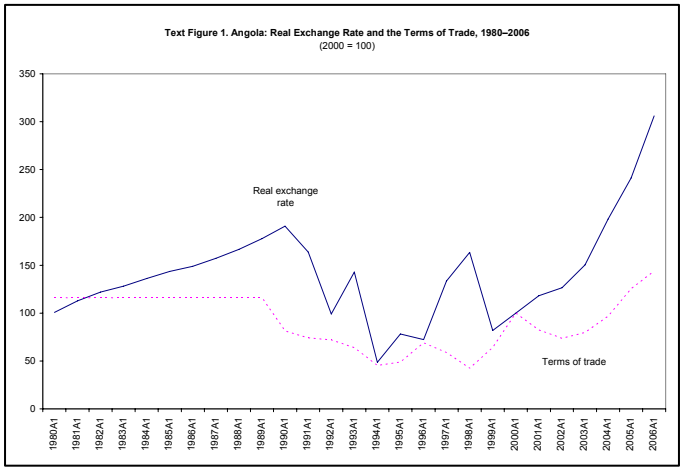
[2] See "Methodology for CGER Exchange Rate Assessment," International Monetary Fund, 2006.

- We find no evidence of a stable equilibrium relation between public spending and the real exchange rate in Angola during the sample period.

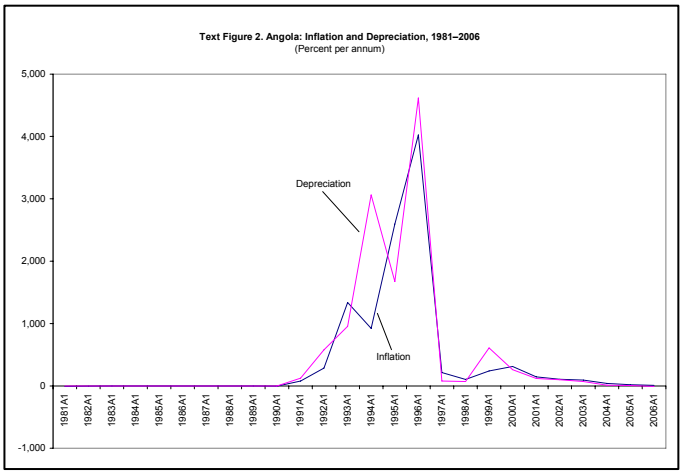
- Changes in Angola's net trade have a statistically significant and positive short-term impact on the real exchange rate.

B. Some Stylized Facts

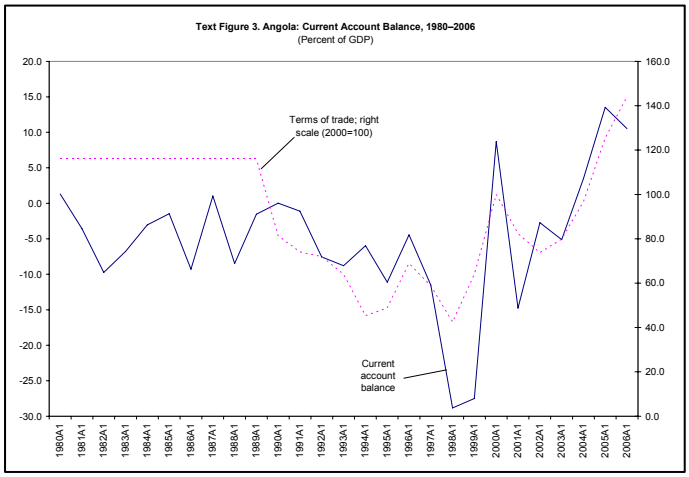
3. **Angola's real exchange rate has fluctuated considerably in the past 26 years** (Text Figure 1). After appreciating strongly in the beginning of the sample period, the real exchange rate depreciated rapidly during most of the 1990s, which coincided with a period of economic and political instability in Angola. Since then, it has appreciated rapidly, in part because of improvements in Angola's terms of trade. The real exchange rate for this study is as the kwanza exchange rate against the U.S. dollar. This reflects data limitations because the real effective exchange rate as calculated by the Fund is available only for a shorter period. However, since the economy is highly dollarized and its main export products, oil and diamonds, are priced in U.S. dollars, movements in the U.S. dollar dominate changes in the real effective exchange rate as well as in the external accounts. The U.S. dollar is also a key policy variable in Angola and important to the public's decisions.



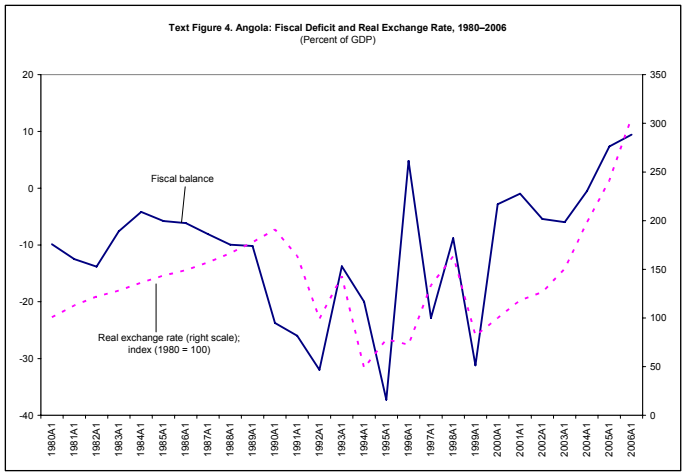
4. **The exchange rate against the U.S. dollar has generally accommodated inflation pressures** (Text Figure 2). In particular, during the 1990s, the nominal exchange rate (against the U.S. dollar) depreciated sharply as inflation accelerated, which prompted real exchange rates to depreciate. More recently, the nominal exchange rate against the U.S. dollar has remained stable as a result of central bank policy. This has helped disinflation, but had led to the appreciation of the exchange rate adjusted for inflation differential between Angola and its trading partners.



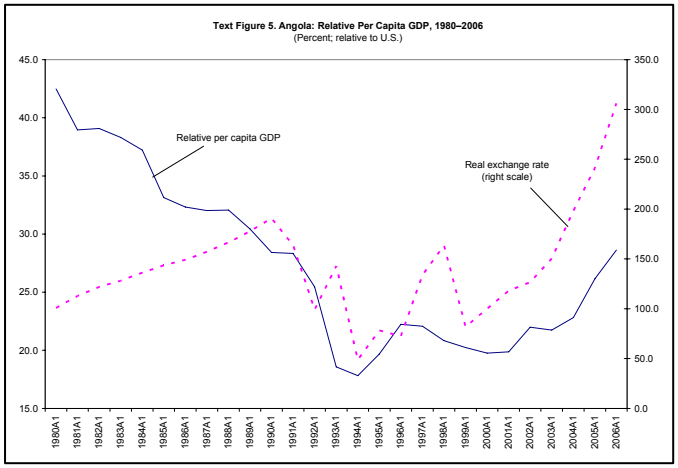
5. **Angola's external current account balance is largely determined by changes in the country's terms of trade and more recently shifts in oil exports** (Text Figure 3). The external current account is dominated by oil exports, which accounted for about 96 percent of exports in 2006. As a result, the price of oil has a significant impact on the variability in the terms of trade. Oil and diamonds (which represent a relative small share of total export earnings) are both priced in U.S. dollars (China and the United States purchased about three quarters of Angola's exports in 2006). Angola's imports comprise mainly consumer (about 60 percent in 2006) and capital goods (about 30 percent in 2006), mostly from Europe and China.



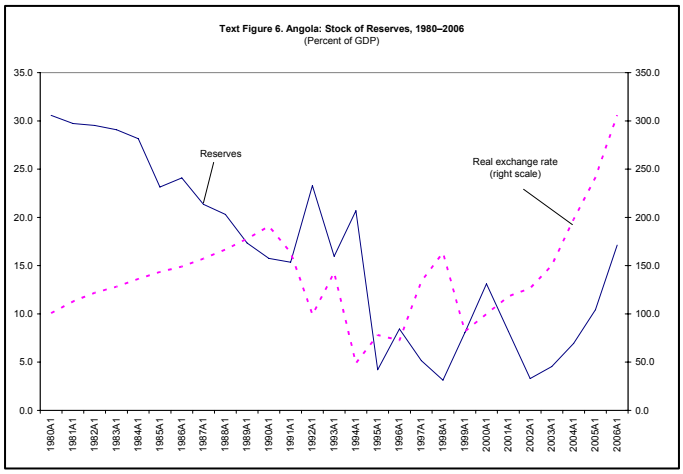
6. **There appears to be a strong relationship between fiscal deficits and the real exchange rate** (Text Figure 4). This is because fiscal revenues are dominated by receipts from oil exports, and rising oil exports have improved the fiscal balances in recent years.



7. **Angola's real exchange rate has also adjusted to changes in relative per capita incomes** (Text Figure 5). This Balassa-Samuelson effect suggests that relative productivity differences (proxied by the relative per capita incomes between Angola and the United States) should be reflected in changes in the real exchange rate. Angola's per capita GDP is presently still only 50 percent its level at the beginning of the 1980s, due to the destruction caused by the long civil conflict; but Angola's performance has improved significantly in the past few years. The pick-up in oil production, as well as in manufacturing, mining, and construction have contributed to the rise in per capita income in the country.



8. **Angola's external position has strengthened at the time when the real exchange rate has appreciated** (Text Figure 6). There is no reliable data on Angola's net foreign asset position over a longer period of time, which complicates the assessment. Therefore, we proxy the changes in Angola's external financial position using international reserve stock as a percent of GDP. This, however, has its limitations and could merely indicate the direction of change. In recent years, rising oil and diamond exports have led to a significant improvement in the country's external current account, increased official foreign currency receipts, and probably a better net foreign asset position. Angola has also negotiated foreign credit lines, such as with China and Brazil, to finance capital goods imports.



C. Related Literature

9. The literature assessing real exchange rates is extensive, but no consensus on the appropriate framework and the choice of fundamentals has emerged. According to the purchasing power parity (PPP) hypothesis, the real exchange rate should remain constant in the long run, because arbitrage among the prices of tradable goods across countries should lead relative prices to converge. Empirical research lends some support for the PPP hypothesis in the long run (for instance, Froot and Rogoff, 1995, and Rogoff, 1996), but in the short term, deviations from the parity could be large and convergence slow. Furthermore, it has been difficult to establish arbitrage beyond individual commodities that are traded internationally. Gelbard and Nagayasu (2004), using monthly data for the period 1992M1–2002M1, concluded that the PPP hypothesis is not applicable to Angola.[3] They found that variations in the real exchange rate (based on the parallel market exchange rate) can be explained by the price of oil and foreign interest rate.

10. **More recent research has focused on examining the fundamental determinants of equilibrium real exchange rates (ERER).** In line with this literature, empirical work has estimated equilibrium relationships to explain co-movements between the real exchange rate and its fundamental determinants. The literature on the determinants of real exchange rates is very extensive (see, for example, Edwards, 1989, Hinkle and Montiel, 1999, and Edwards and Savastano, 2000). Variables are considered fundamental if a permanent change in the level of the variable causes a change in the real exchange rate that is considered permanent. The main variables commonly used in the related literature are

[3] Because of high frequency data used in the estimation, the study excludes other potential determinants of the equilibrium real exchange rate, such as output developments.

- **Productivity differentials.** This is the so-called Balassa-Samuelson effect (Balassa, 1964, and Samuelson, 1964). An increase in productivity in the tradable goods sector leads to rising wages in that sector. Wage equalization across sectors would lead to rising wages in the nontradable sector, which would lead to higher nontradable prices. In equilibrium, then, the real exchange rate would appreciate.

- **Terms of trade.** Improvements in the country's terms of trade would usually lead to real exchange rate appreciation. First, higher export prices would induce higher wages in both the tradable and nontradable sectors and therefore lead to higher prices for nontradables. In addition, higher export prices represent a positive wealth effect, which would raise the demand for, and the prices of nontradables. The real exchange rate would appreciate in response to a positive terms of trade shock, which would stimulate imports and curtail exports and bring the strengthened current account back to equilibrium.

- **Trade liberalization.** Trade liberalization would depreciate the real exchange rate in equilibrium, as import competition would put downward pressure on the prices of tradable goods and encourage import substitution. However, when trade restrictions are meant to keep the domestic prices of primary products artificially low, trade openness could raise domestic prices as the subsidy is reduced, and therefore could lead to real exchange rate appreciation.

- **Government consumption.** Higher public consumption would cause the real exchange rate to appreciate if it results in upward pressure on the prices of nontradable goods. Therefore, higher fiscal spending would lead to a more appreciated real exchange rate in equilibrium.

- **Net foreign asset position.** Changes in the net foreign asset position could affect the real exchange rate through two channels: higher net foreign assets imply a positive wealth effect, which would raise domestic demand. If the supply of nontradables is inelastic, the real exchange rate would appreciate, as the prices of nontradables rise. Higher incomes from foreign assets would also improve the external current account balance. In the equilibrium, this needs to be offset by a lower trade balance, which would require the real exchange rate to appreciate.

D. Empirical Analysis

11. **In this section, we analyze the determinants of Angola's real exchange rate using econometric techniques.** The study utilizes annual data for 1980–2006. Summary statistics are provided in Table II. 1 (the data are described in Annex 1). The data, in general, behave reasonably well as expected. The real exchange rate is negatively correlated with LnOPEN and Ln(GCON/Y) and positively correlated with LnPROD and LnTOT. There is virtually no

contemporaneous correlation between LnRER and RES/Y. Some variables also display high cross-correlation (LnTOT, LnOPEN, LnPROD, and RES/Y).[4]

Table II.1. Angola: Summary Statistics, 1980–2006

	LnRER	LnRES/Y	LnTOT	LnPROD	LnOPEN	LnNER	LnGCON/Y	DEF/Y	CA/Y
Mean	4.88	2.58	4.47	3.28	4.31	-8.34	3.77	-11.03	-4.99
Median	4.91	2.77	4.57	3.26	4.42	-12.24	3.76	-8.80	-4.45
Maximum	5.72	3.42	4.97	3.75	4.86	4.47	4.28	9.44	13.50
Minimum	3.88	1.14	3.75	2.88	3.62	-17.33	3.45	-37.25	-28.83
Std. Dev.	0.38	0.72	0.34	0.26	0.39	9.37	0.19	11.81	9.45
Skewness	-0.36	-0.64	-0.59	0.21	-0.16	0.27	0.51	-0.49	-0.59
Kurtosis	3.62	2.15	2.25	1.74	1.49	1.29	3.23	2.71	4.07
Jarque-Bera	1.02	2.65	2.18	1.98	2.70	3.63	1.25	1.20	2.84
Probability	0.60	0.27	0.34	0.37	0.26	0.16	0.54	0.55	0.24
Sum	131.79	69.54	120.66	88.50	116.48	-225.30	101.81	-297.72	-134.85
Sum Sq. Dev.	3.82	13.53	3.02	1.80	4.02	2284.45	0.97	3628.10	2322.19
Observations	27	27	27	27	27	27	27	27	27

Sources: Angolan authorities and IMFstaff estimates.

12. **Most time series are not stationary in the level form** (Table II. 2). This is not unusual for economic time series. Most time series display unit roots and therefore are stationary after differentiation. We tested the unit roots using the Augmented Dickey-Fuller (ADF) test (values of the Student-statistic are reported in the table below).

Table II.2. Angola: Augmented Dickey - Fuller Tests, 1980–2006

Null Hypothesis: Unit root (individual unit root process) [1]

Variable	No Trend	Number of Lags	Trend	Number of Lags	Variable	No Trend	Number of Lags	Trend	Number of Lags
LnRER	0.278	0	0.56	0	D(LnRER)	0.000	0 **	0.000	0 **
LnRES	0.251	0	0.29	0	D(LnRES)	0.000	0 **	0.000	0 **
LnTOT	0.628	3	1.00	2	D(LnTOT)	0.000	1 **	0.399	2
LnPROD	0.434	1	0.99	2	D(LnPROD)	0.014	1 *	0.043	0 *
LnP_US	0.088	4	0.82	4	D(LnP_US)	0.017	1 *	0.000	0 **
LnP_AGO	0.698	1	0.25	1	D(LnP_AGO)	0.838	0	0.454	0
LnOPEN	0.606	0	0.81	0	D(LnOPEN)	0.001	0 **	0.000	0 **
LnNon-oilOPEN	0.405	0	0.83	0	D(LnNon-oilOPEN)	0.000	0 **	0.000	0 **
LnNER	0.755	1	0.39	1	D(LnNER)	0.720	0	0.332	0
LnGCON	0.247	1	0.57	1	D(LnGCON)	0.000	0 **	0.000	0 **
CA/Y	0.022	0 *	0.09	0	D(CA/Y)	0.000	0 **	0.000	0 **
DEF/Y	0.613	1	0.82	1	D(DEF/Y)	0.000	0 **	0.000	0 **

Source: IMF staff estimates.

[1] In the estimation a constant has been included.

Significance levels; * Significant at 5 percent level.
** Significant at 1 percent level.

[4] See Appendix Tables 1 and 2 for additional statistical information.

13. **Another important issue to examine is the weak exogeneity of the time series.** This is done by conducting pairwise Granger-causality tests, some of which are reported in Table II.3. A variable would be weakly exogenous to another variable if it is not dependent on it (that is, does not "Granger cause" changes in the variable). The results in the table suggest that causality between the real exchange rate and the other variables is not uniform. In particular, the terms-of-trade and productivity variables appear to Granger-cause changes in the real exchange rate in Table II.3.

Table II.3. Angola: Selected Pairwise Granger Causality Tests, 1980–2006 [1]

Null Hypothesis:	F-Statistic	Probability
LnTOT does not Granger Cause LnRER	3.95	0.03 *
LnRER does not Granger Cause LnTOT	0.94	0.44
LnPROD does not Granger Cause LnRER	7.54	0.00 **
LnRER does not Granger Cause LnPROD	4.02	0.02 *
LnOPEN does not Granger Cause LnRER	0.75	0.54
LnRER does not Granger Cause LnOPEN	0.75	0.54
LnGCON/Y does not Granger Cause LnRER	1.54	0.24
LnRER does not Granger Cause LnGCON/Y	9.55	0.00 **
DEF/Y does not Granger Cause LnRER	3.19	0.05
LnRER does not Granger Cause DEF/Y	4.81	0.01 **
CA/Y does not Granger Cause LnRER	2.95	0.06
LnRER does not Granger Cause CA/Y	1.40	0.28

Source: IMF staff estimates.

[1] Three lags of each variable were included in the estimations.

E. Testing the PPP hypothesis

14. **The PPP hypothesis is not validated in the data.** This reaffirms the earlier result of Gelbard and Nagayasu (2004). A simple way of examining the validity of the PPP hypothesis in the data is by running a linear regression of the U.S. dollar exchange rate against domestic and U.S. prices. This can be formalized as follows:

$$e(t) = p(t) - p^{US}(t) + u(t), \qquad (1)$$

where e(t) is the nominal exchange rate of the kwanza against the U.S. dollar, p(t) is the local price level, $p^{US}(t)$ is the U.S. price level, and u(t) represents short-run deviations from PPP (all variables are defined in logarithmic units). Testing the validity of the PPP amounts to confirming that the error term in equation (1) is stationary. The tests of U.S. exchange rate and local and U.S. price levels in Table II. 2 show that one cannot reject the hypothesis of I(1).

Table II.4. Angola: The U.S. Dollar Exchange Rate, 1980–2006

(Dependent variable is kwanza/U.S. dollar exchange rate)

	Estimate	Std. error [1]		Estimate	Std. error [1]		Estimate	Std. error [1]	
Constant	-4.83	2.45	*	2.05	0.13	**	11.38	3.69	**
LnP(AGO)	1.01	0.02	**				1.02	0.02	**
LnP(USA)	0.48	0.55					-1.68	0.72	**
Ln(Relative P)				-1.05	0.01	**			**
LnPROD							-2.04	0.5	**
Sigma	0.39			0.42			0.26		
R^2	1.00			1.00			1		
F-test	0.00		**	0.00		**	0		
DW	0.80			0.67			2.58		
CRDW	0.67			0.60			1.14		
Estimated ρ	0.67	0.19	**	0.70	0.17	**	0.43	0.22	
AR - 1 (F-test)	0.00		**	0.00		**	0.07		
Normality	0.14			0.04		*	0.17		
Heteroscedasticity	0.03		*	0.10			0.07		
RESET test	0.00		**	0.00		**	0.17		

Source: IMF staff estimates.

[1] The estimated errors are heteroscedastic consistent.

15. **The results in Table II. 4 show that the U.S. dollar exchange rate reflects changes in the Angolan price level one-to-one and that the estimated parameter is statistically very significant.** On the other hand, the parameter estimate of the U.S. price level is statistically insignificant. Furthermore, the estimated residual is clearly nonstationary, which is further evidence against the PPP hypothesis. This is apparent in the estimated Durbin-Watson (DW) statistic, which receives a low value (0.8), as well as the highly significant estimate for the first-order serial correlation in the residual.[5]

16. **We also calculated the so-called cointegration regression Durbin-Watson statistic (CRDW).** As shown in Sargan and Bhargava (1983a and 1983b), the CRDW statistic is approximated by 2(1-ρ), where ρ refers to the estimated first-order serial correlation coefficient. When the residual displays a unit root, then ρ = 1 and CRDW = 0. In this case, the null hypothesis that the residual is a I(1) process is accepted because CRDW = 0.67. Therefore, the exchange rate and the local and U.S. price levels appear not to be cointegrated and the PPP does not hold for the study period. The outcome is similar when the exchange rate is regressed against the relative price. The results are consistent with Gelbard and Nagayasu (2004), who used the parallel market exchange rate.[6]

[5] The non-stationarity of the estimated error terms is also confirmed by the Dickey-Fuller tests.

[6] Chang, Chang, Chu, and Su (2006), for example, provide empirical evidence against thevalidity of PPP for African countries.

17. **Since RER is nonstationary, while ΔRER is stationary, the PPP hypothesis does not appear to hold in the sample period** (Table II. 2). This is a by-product of the ADF test. Furthermore, regressing ΔLnRER against LnRER, lagged by one period, and a constant show that changes in the real exchange rate depend on the past values of the real exchange rate in a statistically significant way (Appendix Table 3). For the PPP to hold, deviations from the long-run parity should not persist.

18. **A faster economic growth in Angola compared to the United States explains a large portion of movements in the real exchange rate.** Reflecting the realization that a rapid economic growth is accompanied by real exchange rate appreciation, the simple PPP test has been augmented to take into account the Balassa-Samuelson effect (for example, Alexius, 2005, and Drine and Rault, 2005). The inclusion of LnPROD in equation (1) will permit a non-linear trend in the PPP, which is statistically highly significant (Table II. 4). In the absence of other changes, higher economic growth in Angola leads to nominal appreciation of the kwanza exchange rate. The parameter estimates for Angolan and U.S. price levels are also correctly signed and are statistically highly significant, and support the presence of PPP. Furthermore, in the augmented PPP, the estimated residual is stationary. The results suggest that productivity differences are a key to deviations from the purchasing power parity.

F. Cointegration Analysis

19. **We then investigate the fundamental determinants of Angola's real exchange rate using cointegration analysis,** following the approach adopted in much of the recent literature to specify the ERER. We examine if various time series are cointegrated (i.e., move closely together in the long run). Even though the series themselves may be trended and nonstationary in the level forms, a linear relationship of them that is stationary can be found. The time series thus define a long-run equilibrium relationship, and because the difference between them is stationary, the first (mean) and second (variance) moments of the error tem of the regression will have well-defined properties.

20. **This requires that the time series are stationary of the same order** (that is, after each has been differenced by an identical number of times), and, second, there exists a linear combination of the time series that is stationary at a lower order of integration. For example, let all components of vector X(t) be I(1), that is, stationary after a differentiation, then Z(t), which is a linear combination of X(t), that is $Z(t) = a' X(t)$, is I(0) (that is, stationary in the level form). An important implication of the presence of cointegration is that it results in a valid error-correction presentation of the data. Having stationary variables in the regression also means that regular ordinary least square estimates remain valid.

21. **We establish a unique cointegrating vector for the real exchange rate and some fundamental variables** (Table II. 5). As discussed in Section C, previous research in this area identified a number of fundamental determinants of real equilibrium exchange rates that one should apply, among them relative productivity, the terms of trade, government consumption, trade liberalization, and the net external asset position. Movements in the real exchange rate can be explained by the difference between Angola's and the United States' per capita growth rates

(LnPROD), which receives a positive and statistically significant parameter estimate, and trade openness (LnOPEN), which has a negative and statistically significant parameter estimate. Both estimates are consistent with the theoretical priors.[7]

Table II.5. Angola: Equilibrium Real Exchange Rate Estimates [1]

Variable	Estimate
LnPROD	0.90
(Standard error)	0.11 **
LnOPEN	-0.93
(Standard error)	0.06 **
Trend	-0.07
Constant	-5.02

Source: IMF staff estimates.

[1] The value of the log likelihood function is 88.86. Three lags of each variable was included in the estimation.

On the basis of the trace and maximum eigenvalue tests for unrestricted cointegration vector, the statistical evidence points to a single significant cointegration vector (Table II. 6).

Table II. 6. Angola: Rank Tests

Unrestricted Cointegration Rank Test (Trace)

Hypothesized Number of cointegration equations	Eigenvalue	Trace Statistic	Critical Value (5 percent)	Probability [1]
None *	0.82	52.70	35.01	0.00
At most 1	0.45	13.87	18.40	0.19
At most 2	0.01	0.21	3.84	0.65

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized Number of cointegration equations	Eigenvalue	Max-Eigen Statistic	Critical Value (5 percent)	Probability
None *	0.82	38.83	24.25	0.00
At most 1	0.45	13.66	17.15	0.15
At most 2	0.01	0.21	3.84	0.65

Source: IMF staff estimates.

The alpha, or adjustment, matrix associated with the equilibrium exchange rate equation is reported in Table II. 7. The significantly negative adjustment coefficient in the exchange rate equation indicates that the exchange rate moves to close the gap of disequilibrium rapidly (in about four months).

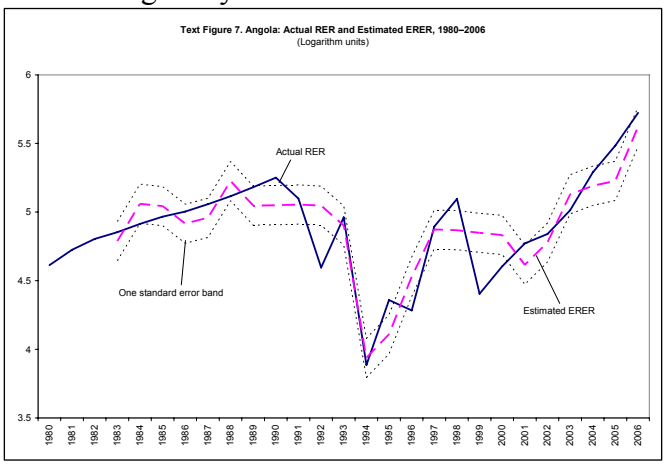
[7] The estimation results are sensitive to model specification and the choice of lag length.

Table II. 7. Angola: Adjustment Coefficients

D(LnRER)	-2.78 **
(Standard error)	0.66
D(LnPROD)	-0.28
(Standard error)	0.32
D(LnOPEN)	0.26
(Standard error)	0.85

Source: IMF staff estimates.

22. **On the basis of above estimates, the current real exchange rate in Angola does not appear to be significantly misaligned.**[8] Text Figure 7 plots the actual and estimated values of the real exchange rate for the U.S. dollar (including one standard error bands) and show that deviations from the equilibrium real exchange rate are not particularly large. Other common determinants of the equilibrium real exchange rate, such as government consumption and the terms of trade, increased parameter instability in the sample and did not produce significant or correctly signed parameter estimates. The weak exogeneity of LnPROD and LnOPEN in the equilibrium real exchange rate equation is rejected. The estimated residuals do not signal specification problems. Notwithstanding, given the small sample size (only 27 observations) and the limited degrees of freedom in the estimation of VECM, the parameter estimates may be sensitive to changes in the estimation period and specification of the model, and therefore the estimation results need to be interpreted with caution.



Chudik and Mongardini (2007) provide estimates of the equilibrium real exchange rate for Angola.[9] Their results (comprising several model specifications) suggest that the real effective exchange rate (REER) in 2006 could be undervalued. However, the real exchange rate against the U.S. dollar has appreciated more rapidly in recent years than the effective real exchange rate, in part because of the weakening of the U.S. dollar against other international currencies (particularly the euro). The appreciation in the real exchange rate against the U.S. dollar in

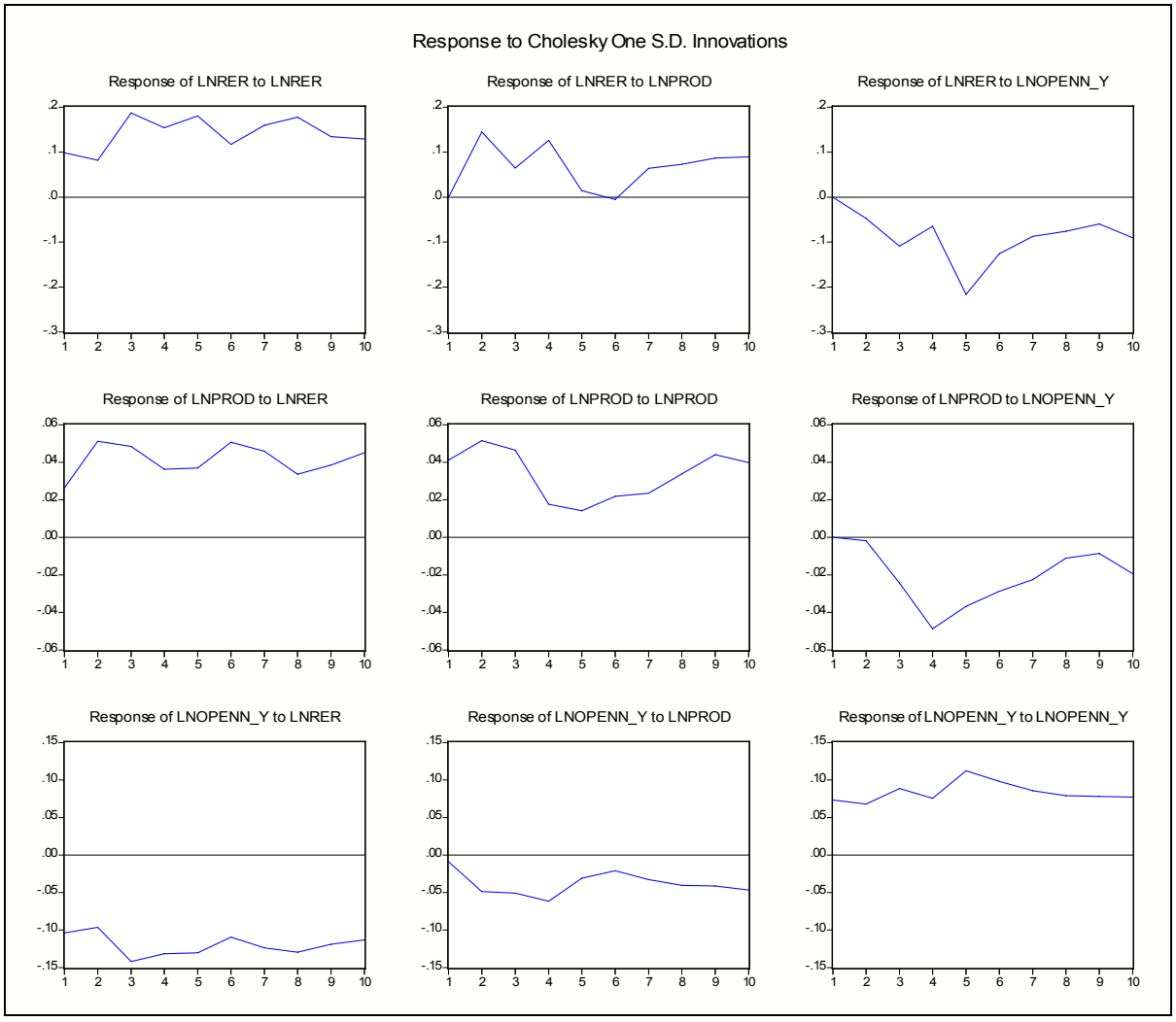
[8] For a discussion of the methodology, see, for instance, Johannes and Juselius (1988). Appendix Tables 4–6 provide additional analytical information. We experimented with several combinations of variables in the VAR specification, in an effort to find a specification that would reflect the data and fit the theoretical priors. Alternative specifications in the end were discarded because they gave rise to identification problems, incorrectly signed estimates, parameter instability, and weak residual statistics.

[9] The results for Angola were not reported in their working paper. Furthermore, they used the real effective exchange rate (REER) compared to the real exchange rate (RER) against the U.S. dollar in this study.

2007, reflecting appreciation of the kwanza and continued high inflation, has helped further reduced any potential gap vis-à-vis the equilibrium real exchange rate.

23. **The dynamic properties of the equilibrium real exchange rate can be illustrated by impulse response functions** (Text Figure 8). These are estimated based on a one-standard-deviation shock to the time series included in the cointegrating equation. For instance, an innovation in real per capita output would lead to real exchange rate appreciation and lower international trade. This may be caused, for instance, by scaling up public expenditure, which increases income growth. By contrast, a positive shock to the trade balance (reflecting increased trade openness) would lead to more a depreciated real exchange rate, and to lower relative per capita income growth as imports rise.

Text Figure 8. Angola: Impulse Responses



24. **In the short run, changes in the real exchange rate do not persist throughout the sample** (Table II. 8). However, short-term deviations from the equilibrium real exchange rate have a significant impact on the real exchange rate. Based on the results from the difference equation for the real exchange rate, the error-correction term has a coefficient of about -0.8, which suggest that adjustment back to equilibrium is relatively rapid.[10] Changes in relative per capita productivity and openness explain most of the variations of the changes in the real exchange rate. Hence, the determinants of the short-run dynamics are the same as the long-run determinants. However, productivity differences have a more pronounced effect in the short-run while changes in Angola's net trade on the short-run real exchange rate appear weaker. The nominal exchange rate has a statistically insignificant impact on the short-run real exchange rate, implying that currency devaluations have not had a lasting impact on the real exchange rate. The constant and trend terms were not significant in the short-run estimations. Furthermore, adding variables that were insignificant for determining the long-run equilibrium real exchange rate could explain short-run real exchange rate dynamics; but their inclusion cause the error correction term to become statistically insignificant.

Table II. 8. Angola: Short-Run Error- Correction Model, 1981–2006

(Dependent variable is ΔLnRER)

Variable	Parameter estimates T-values below	
Error correction term	-0.80	-0.75
(from long-run estimation)	-2.10	-2.65
ΔLnPROD(t-1)		1.91
		3.08
ΔLnOPEN(t)		-0.76
		-2.05
Sigma	0.35	0.23
RSS	2.44	0.97
Adjusted R2	0.17	0.63
AR (lags 1-4) test	0.24	0.23
ARCH (lags 1-4) test	0.99	0.90
Heterogeneity test	0.69	0.33

Source: IMF staff estimates.

[10] This adjustment coefficient is smaller than in Table II.7, which was estimated jointly with the equilibrium real exchange rate equation.

G. Conclusions

25. **By and large, developments in the real exchange rate (as per the U.S. dollar) reflect movements in relative per capita incomes and international trade.** Based on the estimation results, further appreciation of the real exchange rate would appear consistent with the fundamental determinants of the real exchange rate, in particular given Angola's high growth rate of per capita incomes. We reconfirmed that the PPP hypothesis does not receive statistical support in the sample period, unless the PPP is augmented to take into account the Balassa-Samuelson effect.

26. **While the statistical properties of the estimates are sound, the results must be interpreted with caution.** In particular, one needs to be mindful of the limitations imposed by the availability of macroeconomic data in Angola (Chudik and Mongardini, 2007, discuss the limitations in estimating single-country real equilibrium exchange rates for developing countries). Furthermore, the results are sensitive to the choice of the sample period, to some extent reflecting the observed volatility in the time series, and the small sample size.

ANNEX 1—DESCRIPTION OF KEY VARIABLES

Variable	Definition
Real exchange rate (RER)	Period-average exchange rate for kwanza against the U.S. dollar deflated by the relative consumer price indexes
Nominal exchange rate (NER)	Period-average exchange rate for kwanza against the U.S. dollar
Productivity (PROD)	The ratio of Angola's real per capita GDP to that of the United States
Openness (OPEN)	The value of goods and services trade to GDP
Central government consumption (GCON/Y)	Noninterest expenditure to GDP
Term-of-trade (TOT)	Indexed (2000=100); Includes goods and services
Central government deficit (DEF/Y)	Overall deficit to GDP
Current account balance (CA/Y)	Current account balance to GDP
Reserves (RES/Y)	Official reserves at year-end to GDP

Source: World Economic Outlook.

APPENDIX TABLES

Appendix Table 1. Angola: Correlation Matrix, 1980–2006

	LnRER	LnRES/Y	LnTOT	LnPROD	LnOPEN	LnNER	LnGCON/Y	DEF/Y	CA/Y
LnRER	1.00	0.01	0.54	0.30	-0.33	0.06	-0.48	0.45	0.39
LnRES/Y	0.01	1.00	0.62	0.72	-0.70	-0.77	-0.06	0.04	0.32
LnTOT	0.54	0.62	1.00	0.76	-0.61	-0.30	-0.36	0.56	0.61
LnPROD	0.30	0.72	0.76	1.00	-0.86	-0.70	-0.26	0.17	0.28
LnOPEN	-0.33	-0.70	-0.61	-0.86	1.00	0.86	0.24	-0.02	-0.17
LnNER	0.06	-0.77	-0.30	-0.70	0.86	1.00	-0.02	0.32	0.02
LnGCON/Y	-0.48	-0.06	-0.36	-0.26	0.24	-0.02	1.00	-0.71	-0.42
DEF/Y	0.45	0.04	0.56	0.17	-0.02	0.32	-0.71	1.00	0.49
CA/Y	0.39	0.32	0.61	0.28	-0.17	0.02	-0.42	0.49	1.00

Sources: Angolan authorities and IMF staff estimates.

Appendix Table 2. Angola: Covariance Matrix, 1980–2006

	LnRER	LnRES/Y	LnTOT	LnPROD	LnOPEN	LnNER	LnGCON/Y	DEF/Y	CA/Y
LnRER	0.14	0.00	0.07	0.03	-0.05	0.22	-0.03	1.96	1.37
LnRES/Y	0.00	0.50	0.15	0.13	-0.19	-5.02	-0.01	0.35	2.13
LnTOT	0.07	0.15	0.11	0.07	-0.08	-0.92	-0.02	2.16	1.90
LnPROD	0.03	0.13	0.07	0.07	-0.09	-1.67	-0.01	0.50	0.66
LnOPEN	-0.05	-0.19	-0.08	-0.09	0.15	3.05	0.02	-0.10	-0.61
LnNER	0.22	-5.02	-0.92	-1.67	3.05	84.61	-0.03	34.45	1.42
LnGCON/Y	-0.03	-0.01	-0.02	-0.01	0.02	-0.03	0.04	-1.56	-0.73
DEF/Y	1.96	0.35	2.16	0.50	-0.10	34.45	-1.56	134.37	52.26
CA/Y	1.37	2.13	1.90	0.66	-0.61	1.42	-0.73	52.26	86.01

Sources: Angolan authorities, and IMF staff estimates.

Appendix Table 3. Angola: Estimated Persistency of RER, 1981–2006

(Dependent variable is LnRER)

Variable	Estimate	T-Stat	Prob.
Constant	1.85	2.06	0.05
LnRER(t-1)	-0.37	-2.02	0.06
R-squared	0.14		
Adjusted R-squared	0.11		
S.E. of regression	0.32		
Sum squared resid	2.53		
Log likelihood	-6.62		
Durbin-Watson stat	2.15		
Akaike info criterion	0.66		
Schwarz criterion	0.76		
F-statistic	4.07	Prob(F-statistic)	0.06

Source: IMF staff estimates.

Appendix Table 4. Residual Normality Tests

(Orthogonalization: Cholesky (Lutkepohl))

Component	Skewness	Chi-sq	Df	Prob.
1	0.05	0.01	1.00	0.93
2	-0.19	0.13	1.00	0.72
3	-0.31	0.36	1.00	0.55
Joint		0.50	3.00	0.92

Component	Kurtosis	Chi-sq	Df	Prob.
1	0.74	4.90	1.00	0.03
2	0.75	4.84	1.00	0.03
3	1.01	3.79	1.00	0.05
Joint		13.53	3.00	0.00

Component	Jarque-Bera	Df	Prob.
1	4.91	2.00	0.09
2	4.97	2.00	0.08
3	4.15	2.00	0.13
Joint	14.03	6.00	0.03

Source: IMF staff estimates.

Appendix Table 5. Residual Covariance Matrix

	LnRER	LnPROD	LnOPENN/Y
LnRER	0.02	0.01	-0.02
LnPROD	0.01	0.00	-0.01
LnOPENN/Y	-0.02	-0.01	0.03

Source: IMF staff estimates.

Appendix Table 6. Residual Correlation Matrix

	LnRER	LnPROD	LnOPENN/Y
LnRER	1.00	0.54	-0.81
LnPROD	0.54	1.00	-0.50
LnOPENN/Y	-0.81	-0.50	1.00

Source: IMF Staff estimates.

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Statistical Appendix

Table 1a. Angola: Basic Data, 2002–06

Macroeconomic Indicators	2002	2003	2004	2005	2006
	(Annual percentage change, unless otherwise indicated)				
National income and prices					
Nominal GDP (billions of kwanzas)	497.6	1,041.2	1,652.0	2,669.9	3,629.7
Real GDP growth	14.5	3.3	11.2	20.6	18.6
GDP deflator	109.2	102.5	42.7	34.0	14.7
Consumer price index (annual average)	108.9	98.3	43.6	23.0	13.3
Consumer price index (end of period)	105.6	76.7	31.0	18.5	12.2
Government budget					
Total revenue	111.3	106.9	54.4	78.1	55.2
Total expenditure	145.2	96.2	37.7	40.0	28.9
	(Percent of GDP)				
Total revenue	38.3	37.9	36.9	40.7	46.4
Of which: oil	29.4	27.9	28.4	32.3	37.2
Total expenditure	47.3	44.3	38.5	33.3	31.6
Overall balance (commitment basis)	-9.3	-6.4	-1.6	7.3	14.8
Overall balance (cash basis)	-1.5	-5.6	-3.7	6.5	6.6
Primary balance (commitment basis)	-6.0	-4.6	0.7	9.2	16.3
	(Annual percentage change, unless otherwise indicated)				
Money and credit [1]					
Net domestic assets	48.4	11.6	-97.1	-8.9	-47.9
Broad money	158.1	67.5	49.8	59.7	59.6
Velocity (non-oil GDP/average M2)	2.9	3.4	3.5	3.2	3.0
Interest rate (three-month time deposits; percent, end of period)	41.0	26.7	14.4	5.1	4.2
External sector					
Exports, f.o.b.	25.5	14.2	41.7	78.9	32.2
Crude oil	30.3	13.6	45.3	81.1	33.4
Other	-7.6	20.5	3.8	46.7	9.9
Imports, f.o.b.	18.3	45.7	6.4	43.2	14.8
Terms of trade	1.4	6.8	20.7	106.1	41.4
Official exchange rate (dollar terms, end of period)	58.7	0.0	0.0	80.8	80.4
Nominal effective exchange rate	-47.2	-47.1	-13.6	-5.6	10.5
Real effective exchange rate [2]	1.8	18.3	19.8	24.6	6.4
	(Millions of U.S. dollars, unless otherwise indicated)				
Overall balance of payments	-551	101	658	1,445	6,975
External payment arrears (end of period) [3]	4,153	4,293	2,994	2,665	924
Gross international reserves (end of period) [4]	399	800	2,034	4,147	8,609
In months of imports of non-oil goods and services	0.9	1.9	3.1	5.6	7.1
	(Percent of GDP, unless otherwise indicated)				
Current account balance	-1.3	-5.2	3.5	16.8	23.3
External debt (including arrears and late interest)	82.4	73.1	54.5	39.9	20.3
Debt service ratio [5]	25.4	23.7	16.5	10.9	8.7
Use of Fund resources					
Fund arrangement	None	None	None	None	None
Quota (millions of SDRs)	286.3	286.3	286.3	286.3	286.3

Sources: Angolan authorities and IMF staff estimates.

[1] As a percentage of broad money at the beginning of the period.

[2] Increase = appreciation.

[3] Excludes late interest.

[4] Includes government deposits in overseas accounts.

[5] Scheduled debt service as percent of exports of goods and services.

Table 1b. Angola: Basic Data

Social and Demographic Indicators	Angola	Year	Sub-Saharan Africa	Year
Population (millions)	15.9	2005	743	2005
United Nations Human Development Index	0.44	2004	0.49	2004
Labor force growth (annual percentage change)	3.0	2000–05	2.4	2000–05
Population growth (annual percentage change)	2.91	2005	2.3	2005
Fertility rate (births per woman)	6.56	2005	5.3	2005
Access to sanitation (percent of total population) [1]	53	2004	65	2001
Internally displaced people (thousands)	62.0	2005	...	...
Child malnutrition (percent of children under 5)	31	2001	...	...
DPT immunization (percent of age group)	47	2005	65	2005
Arable land (percent of total land area)	2.65	2003	7.5	2003
Access to an improved water source (percent of total population)	53	2004	56	2004
Urban population (percent of total population)	53	2005	35	2005
Measles immunization (percent of age group)	45	2005	64	2005
Life expectancy at birth (years)	41	2005	47	2005
Illiteracy rate (percent of population aged above 15)	33	2004	…	…
Labor force participation rate (percent of total)	84	2005	65	1996
Infant mortality (per 1,000 live births)	154	2005	103	2002
School enrolment, primary (percent gross)	54	2000	80	2000
GNI per capita (PPP, U.S. dollars)	2,040	2005	1,770	2003
Area (thousands of square kilometers)	1,247	2005	23,603	2000
Daily calorie supply per capita	1,903	1997	2,237	1997

Sources: Angolan authorities, *Poverty Reduction Strategy,* 2004; World Bank, *World Development Indicators, 2006;* and United Nations Development Program, *Human Development Report* , 2006.

[1] Human development report, 2006. Percent of population with sustainable access to an improved water source.

Table 2. Angola: Gross Domestic Product by Sector of Activity, 2002–06

	2002	2003	2004	2005	2006 Est.
	(Billions of kwanzas)				
Agriculture, forestry, and fishing	38.1	86.7	142.5	206.8	322.9
Mining	273.5	623.1	988.8	1923.7	2241.3
Oil and LPG [1]	251.0	563.9	903.0	1800.1	2120.7
Diamonds	22.5	59.2	85.8	123.6	120.6
Manufacturing	17.6	40.4	66.1	102.3	154.4
Electricity and water	0.2	0.4	0.6	0.9	1.2
Construction	16.4	37.9	62.1	90.1	131.7
Trade and commerce	67.1	165.5	263.1	353.9	566.1
Nontradable services	50.3	86.7	128.0	180.8	210.4
Import duties	8.5	0.5	0.9	1.2	1.6
GDP at market prices	471.6	1041.2	1656.9	2669.6	3629.7
	(Real growth rates, percent)				
Agriculture, forestry, and fishing	13.3	12.1	14.1	17.0	9.8
Mining	18.2	-0.3	11.9	25.2	14.1
Oil and LPG [1]	20.6	-2.2	13.1	26.0	13.1
Diamonds	*-2.1*	*20.1*	*0.6*	*16.2*	*30.9*
Manufacturing	10.2	12.0	13.5	24.9	44.7
Electricity and water	10.0	10.0	11.5	17.4	13.2
Construction	10.0	12.5	14.0	16.9	30.0
Trade and commerce	11.6	9.9	10.4	8.5	38.1
Nontradable services	2.5	2.0	2.5	13.9	13.0
Import duties	5.0	10.0	10.5	16.0	16.0
GDP	14.4	3.3	11.2	20.6	18.6
Non-oil GDP	7.9	10.3	9.0	14.1	27.5

Sources: Angolan authorities and IMF staff estimates.

[1] Liquefied petroleum gas.

Table 3. Angola: Oil Production by Oil Field, 2002–06

	2002	2003	2004	2005	2006
	(Thousands of barrels per day)				
Total production	894	875	989	1,247	1,411
Cabinda	431	405	393	371	371
Block 1	1	0	0	0	0
Block 2	50	45	39	30	22
Block 3	139	125	119	114	106
Block 4	1	0	0	0	0
Block 14	66	61	61	57	89
Block 15	0	0	0	414	535
Block 17	193	216	229	244	273
Congo	13	13	14	14	13
Kwanza	0	0	0	0	0
	(Millions of barrels)				
Total production to date [1]	5,003	5,322	5,683	6,138	6,653
Cabinda	3,182	3,330	3,473	3,609	3,744
Block 1	32	32	32	32	33
Block 2	405	421	436	447	455
Block 3	849	894	938	979	1,018
Block 4	36	36	36	36	36
Block 14	68	90	113	133	166
Block 15		3	52	204	400
Block 17	72	151	234	323	423
Congo	265	270	275	280	285
Kwanza	93	93	93	93	93

Source: Ministry of Petroleum and IMF staff estimates.

[1] At year's end.

Table 4. Angola: Oil Balance, 2002–06

	2002	2003	2004	2005	2006
		(Millions of barrels)			
Crude oil					
Production	326	319	361	455	515
Domestic refinery	16	16	16	16	16
Exports [1]	311	302	344	439	499
Net change in stocks [2]	-2	0	0	0	0
		(Thousands of metric tons)			
Derivatives					
Supply	2,689	3,019	3,403	…	…
Domestic production	2,230	2,345	2,586	…	…
Imports	459	675	817	…	…
Uses	2,230	2,345	2,586	…	…
Domestic sales	...	...	...	...	...
Diesel (gas oil)	...	...	...	...	...
Gasoline	...	...	...	...	...
Fuel oil	...	...	...	...	...
Jet fuels	...	...	...	...	...
Kerosene	...	...	...	...	...
Gas (liquefied petroleum gas)	...	...	...	...	...
Other	...	...	...	...	...
Exports [3]	782	757	788	…	…
Net change in stocks	...	...	…	…	…

Sources: Angolan authorities and IMF staff estimates.

[1] As reported in balance of payments. Other sources differ slightly.

[2] Includes pipeline losses and field consumption, as well as any discrepancies.

[3] As reported in balance of payments; excludes natural gas liquids.

Table 5. Angola: Mining Production, 2002–06

	2002	2003	2004	2005	2006
Crude oil					
Millions of barrels	326	319	361	455	515
Thousands of barrels per day	894	875	989	1,247	1,411
Liquefied petroleum gas					
Thousands of barrels	636	636	1,035	733	6,427
Diamonds (production)					
Thousands of carats	5,022	6,063	6,132	7,097	9,157
		(Annual percentage change)			
Crude oil	30.2	-2.2	13.1	26.1	13.2
Liquefied petroleum gas	-40.4	-0.1	62.9	-29.2	776.7
Diamonds (recorded exports)	-2.6	20.7	1.1	15.7	29.0

Sources: Ministry of Petroleum, Endiama, and IMF staff estimates.

Table 6. Angola: Prices of Petroleum Products, 2002–06

(End-of-period data)

	2002	2003	2004	2005	2006
	(Kwanzas per liter, unless otherwise indicated)				
Gasoline	12.0	12.0	34.0	40.0	40.0
Kerosene	7.8	7.8	22.0	26.0	26.0
Diesel (gas oil)	8.0	8.0	24.0	29.0	29.0
Fuel oil (light) [1]	6.4	6.4	18.0	25.0	25.0
Fuel oil (heavy) [1]	6.6	6.6	14.5	17.0	17.0
LPG [2]	10.2	10.2	31.5	37.0	37.0
	(U.S. dollars per gallon, unless otherwise indicated)				
Gasoline	0.77	0.57	1.50	1.87	1.88
Kerosene	0.50	0.37	0.58	1.22	1.23
Diesel (gas oil)	0.52	0.38	1.06	1.36	1.37
Fuel oil (light) [1]	0.41	0.31	0.47	1.17	1.18
Fuel oil (heavy) [1]	0.43	0.32	0.34	0.80	0.80
LPG [2]	0.66	0.49	0.75	1.73	1.74
	(Annual percentage change in kwanza terms)				
Gasoline	46	0	183	18	0
Kerosene	56	0	182	18	0
Diesel (gas oil)	43	0	200	21	0
Fuel oil (light) [1]	58	0	181	39	0
Fuel oil (heavy) [1]	121	0	120	17	0
LPG [2]	46	0	209	17	0

Sources: Ministry of Finance and IMF staff estimates.

[1] Kwanzas per kilogram.

[2] Liquefied petroleum gas.

Table 7. Angola: Consumer Price Index in Luanda, December 2002–December 2006

(CPI level expressed in millions)

	Weights 2002[1] (percent)	2002	2003	2004	2005	2006
Food and nonalcoholic beverages	46.1	218.8	407.8	541.8	633.7	725.2
Food, beverages, and tobacco	4.0	193.0	353.6	423.8	461.4	479.9
Clothing and footwear	6.0	241.8	392.1	532.4	621.8	799.0
Housing, water, energy, and utilities	12.3	175.7	325.0	419.3	435.0	466.7
Furniture and appliances	6.5	217.3	385.0	468.6	483.4	501.9
Health	3.4	172.3	263.2	284.3	266.2	278.9
Transport	6.5	156.8	205.7	366.3	616.3	678.6
Communications	1.1	264.8	405.7	399.7	435.6	435.6
Leasure, recreation, and culture	2.5	205.3	330.5	381.5	483.9	639.4
Education	2.1	156.0	276.3	294.8	363.1	353.1
Hotel, cafes, and restaurants	4.4	188.1	311.9	388.1	413.0	441.9
Other goods and services	5.1	217.9	366.4	439.7	420.5	426.7
Total	100.0	205.6	363.0	475.6	563.7	632.6
		(Percent change over previous year)				
Food and nonalcoholic beverages		118.8	86.4	32.9	20.9	14.4
Food, beverages, and tobacco		93.0	83.2	19.9	8.7	4.0
Clothing and footwear		141.8	62.1	35.8	20.7	28.5
Housing, water, energy, and utilities		75.7	85.0	29.0	14.8	7.3
Furniture and appliances		117.3	77.1	21.7	12.1	3.8
Health		72.3	52.8	8.0	5.9	4.8
Transport		56.8	31.2	78.1	15.4	10.1
Communications		164.8	53.2	-1.5	0.2	0.0
Leasure, recreation, and culture		105.3	61.0	15.4	23.1	32.1
Education		56.0	77.1	6.7	24.2	0.0
Hotel, cafes, and restaurants		88.1	65.8	24.4	7.2	7.0
Other goods and services		117.9	68.1	20.0	4.9	1.5
Total		105.6	76.57	31.01	18.53	12.20

Sources: National Institute of Statistics and IMF staff estimates.

[1] Starting in January 2002 the method of calculating the CPI was updated on the basis of a consumer and expenditure survey carried out between February 2000 and February 2001. The weighting scheme was updated, the number of items included in the basket was increased from 159 to 224, and the index is now divided into 12 major categories instead of 8.

Table 8. Angola: Average Exchange Rates, December 2002–December 2006

(Kwanzas per U.S. dollar, unless otherwise indicated)

	Reference Rate [1]	Monthly Change (Percent)	Parallel Market Rate	Monthly Change (Percent)	Informal Market Premium (Percent)
2002					
December	57.09	7.4	62.37	15.3	9.2
2003					
December	78.48	0.1	83.23	2.2	6.0
2004					
January	79.66	1.5	81.95	1.6	2.9
February	80.01	0.4	81.09	-1.1	1.4
March	80.23	0.3	81.91	1.0	2.1
April	81.42	1.5	83.10	1.5	2.1
May	82.20	1.0	83.63	0.6	1.7
June	83.39	1.4	83.75	0.1	0.4
July	83.94	0.7	85.51	2.1	1.9
August	84.73	0.9	85.99	0.6	1.5
September	85.80	1.3	86.79	0.9	1.2
October	87.03	1.4	88.13	1.5	1.3
November	86.87	-0.2	89.00	1.0	2.5
December	85.99	-1.0	89.44	0.5	4.0
2005					
January	86.67	0.8	88.44	1.1	2.0
February	87.12	0.5	87.68	-0.9	0.6
March	87.09	0.0	88.51	0.9	1.6
April	87.36	0.3	88.46	-0.1	1.3
May	88.84	1.7	88.86	0.5	0.0
June	89.13	0.3	89.44	0.6	0.3
July	89.19	0.1	90.45	1.1	1.4
August	89.19	0.0	90.78	0.4	1.8
September	89.20	0.0	90.94	0.2	2.0
October	88.98	-0.3	91.00	0.1	2.3
November	82.36	-7.4	86.77	-4.6	5.4
December	80.79	-1.9	84.44	-2.7	4.5
2006					
January	80.54	0.8	83.58	-1.0	3.8
February	80.36	0.7	82.11	-1.8	2.2
March	80.36	0.8	82.20	0.1	2.3
April	80.37	0.9	82.58	0.5	2.8
May	80.37	0.8	81.91	-0.8	1.9
June	80.37	0.8	81.59	-0.4	1.5
July	80.37	0.9	81.58	0.0	1.5
August	80.37	0.8	81.58	0.0	1.5
September	80.37	0.8	81.58	0.0	1.5
October	80.37	0.9	81.58	0.0	1.5
November	80.36	1.4	81.58	0.0	1.5
December	80.09	2.0	81.58	0.0	1.9

Sources: National Bank of Angola and IMF staff estimates.

[1] Monthly averages of buying and selling daily average exchange rates in the interbank foreign exchange market.

Table 9. Angola: Balance of Payments, 2002–06

	2002	2003	2004	2005	2006 Est.
	(Millions of U.S. dollars)				
Current account	**-150**	**-719**	**686**	**5,138**	**10,538**
Trade balance	4,568	4,028	7,643	15,756	22,277
Exports, f.o.b.	8,328	9,508	13,475	24,109	31,862
Crude oil	7,539	8,530	12,442	22,583	29,929
Refined oil products and gas	105	154	178	271	554
Diamonds	638	788	790	1,092	1,155
Other	45	35	65	163	225
Imports, f.o.b.	-3,760	-5,480	-5,832	-8,353	-9,586
Oil sector	-1,393	-2,022	-2,184	-2,554	-3,484
Non-oil sector	-2,367	-3,458	-3,647	-5,799	-6,102
Services (net)	-3,115	-3,120	-4,480	-6,614	-6,087
Receipts	207	201	323	177	1,458
Payments	-3,322	-3,321	-4,803	-6,791	-7,545
Income (net)	-1,635	-1,726	-2,484	-4,031	-5,504
Receipts	18	12	33	26	126
Payments	-1,652	-1,739	-2,517	-4,057	-5,630
Of which: oil sector	-1,100	-1,378	-2,105	-3,391	-4,696
Of which: interest due	-354	-243	-399	-555	-548
Current transfers (net)	32	99	7	27	-148
Financial and capital account	**-628**	**820**	**-28**	**-3,692**	**-3,563**
Capital transfers (net)	0	22	11	8	0
Direct investment (net)	1,643	3,481	1,414	-1,523	-966
Medium- and long-term loans	-679	-171	1,474	1,558	-1,154
Disbursements	1,134	1,887	3,350	3,641	1,206
Amortization	-1,813	-2,059	-1,876	-2,083	-2,360
Other capital (net, incl. errors and omissions)	-1,592	-2,511	-2,927	-3,735	-1,443
Of which: errors and omissions	151	-388	277	-378	…
Overall balance	**-778**	**101**	**658**	**1,445**	**6,975**
Net international reserves (– = increase)	356	-263	-780	-1,817	-5,402
Exceptional financing	422	162	122	372	-1,573
Debt rescheduling and debt forgiveness	42	297	1,253	255	35
Arrears, net (+ = increase) [1]	380	-135	-1,132	117	-1,608
Memorandum items:		(Percent of GDP)			
Current account	**-1.3**	**-5.2**	**3.5**	**16.8**	**23.3**
Trade account	40.1	28.9	38.6	51.4	49.3
Exports of goods and services	75.0	69.6	69.7	79.3	73.8
Imports of goods and services	62.2	63.1	53.7	49.4	37.9
External debt (billions of dollars)	9.4	10.2	10.8	12.2	9.2
External debt	82.4	73.1	54.5	39.9	20.3
NPV of external debt to net exports (percent)		…	…	…	37.1
Debt-service ratio (percent of exports of goods & services)	25.4	23.7	16.5	10.9	8.7
Gross international reserves (millions of US$; end of period)	399	800	2,034	4,147	8,609
Months of imports of goods and services [2]	0.5	0.9	1.6	2.9	4.3
Months of imports of non-oil goods and services [2]	1.0	1.9	3.1	5.6	7.1
Months of debt service [3]	2.1	4.2	9.3	17.1	58.3
		(Percent change)			
Export of goods	27.4	14.2	41.7	78.9	32.2
Import of goods	18.3	45.7	6.4	43.2	14.8
Export volumes	23.6	-2.9	14.2	31.7	9.0
Import volumes	18.3	32.3	3.6	36.6	13.7
Terms of trade	7.9	6.8	20.7	29.6	20.1

Sources: National Bank of Angola, and IMF staff estimates and projections.

[1] Includes late interest from 1999 through 2004. Assumes that the remaining arrears are repaid at the end of 2007.
[2] In months of next year's imports.
[3] In months of medium- and long-term debt service.

Table 10. Angola: Foreign Exchange Reserves, 2002–06

(Millions of U.S. dollars, unless otherwise specified; end of period)

	2002	2003	2004	2005	2006
Net foreign assets (banking system)	1,594	1,965	3,270	5,741	11,504
Net international reserves [1]	324	790	2,023	4,140	8,587
Gross reserves	375	800	2,034	4,147	11,565
BNA	375	634	1,371	3,197	8,598
Gold	0	0	0	0	0
Sight deposits	74	92	97	555	1,228
Time deposits	301	542	1,274	2,642	7,370
Government deposits abroad [2]	0	166	663	950	2,966
Foreign liabilities (short term)	-52	-11	-12	-7	-11
Other net foreign assets (BNA)	-56	-18	-17	-18	-17
Other foreign assets (medium and long term)	0	2	3	5	4
Other foreign liabilities (medium and long term) (–)	-56	-20	-19	-24	-22
Commercial banks (net)	1,327	1,194	1,264	1,619	2,984
Foreign assets	1,454	1,284	1,374	1,758	3,176
Foreign liabilities (–)	-127	-90	-110	-139	-192
Memorandum items:					
National Bank of Angola					
Change in net international reserves	-207	300	736	1,830	5,402
Change in gross reserves	-356	259	737	1,826	5,402
Import coverage (of gross reserves) [3]	0.5	0.9	1.6	2.9	4.3

Sources: National Bank of Angola and IMF staff estimates.

[1] Excludes medium- and long-term assets and liabilities.

[2] Estimates.

[3] Months of following year's imports.

Table 11. Angola: Direction of Merchandise Exports, 2002–06 [1]

	2002	2003	2004	2005	2006
	(Millions of U.S. dollars)				
Total [1]	7,274	8,506	11,541	20,194	27,944
Africa	32	10	270	308	380
Of which: South Africa	11	2	261	296	366
European Union	1,929	1,153	1,107	2,966	2,484
Of which: Portugal	56	3	2	30	63
USA	2,978	4,097	4,361	8,042	11,068
China	988	2,005	4,121	5,982	9,937
Other	1,347	1,242	1,683	2,895	4,076
	(Shares in percent of total)				
Africa	0.4	0.1	2.3	1.5	1.4
Of which: South Africa	0.2	0.0	2.3	1.5	1.3
European Union	26.5	13.6	9.6	14.7	8.9
Of which: Portugal	0.8	0.0	0.0	0.1	0.2
USA	40.9	48.2	37.8	39.8	39.6
China	13.6	23.6	35.7	29.6	35.6
Other	18.5	14.6	14.6	14.3	14.6
	(Percent change from previous year)				
Total [1]	16.9	16.9	35.7	75.0	38.4
Africa	196.4	-70.4	2,714.6	13.9	23.3
Of which: South Africa	767.5	-82.0	12,651.7	13.7	23.6
European Union	17.4	-40.2	-4.0	168.0	-16.3
Of which: Portugal	-47.1	-95.5	-17.7	1,326.5	111.4
USA	-0.1	37.6	6.4	84.4	37.6
China	50.6	102.8	105.6	45.2	66.1
Other	44.8	-7.8	35.5	72.1	40.8
Memorandum item:					
Total as percent of staff estimate of total exports, f.o.b	89.1	89.4	85.7	86.3	87.5

Source: IMF, *Direction of Trade Statistics*.

[1] Data provided by partner countries.

Table 12. Angola: Commodity Composition of Exports, 2002–06

(Millions of U.S. dollars, unless otherwise indicated)

	2002	2003	2004	2005	2006 Est.
Total exports	8,166	9,515	13,474	24,109	31,817
Crude oil	7,386	8,533	12,441	22,583	29,961
Volume (millions of barrels)	311.5	302.4	344.5	452.0	535.0
Price (US$ per barrel)	23.7	28.2	36.1	50.0	56.0
Refined petroleum products	95	139	148	241.8	294.6
Volume (thousands of metric tons)	673.5	717.5	749.6	739.0	770.3
Price (US$ per metric ton)	141.7	193.1	196.9	327.1	382.5
Liquefied natural gas	10	16	30	29.5	259.8
Volume (thousands of barrels)	636.4	635.6	1,035.2	733.1	6,426.0
Price (US$ per barrel)	15.7	24.6	29.4	40.2	40.4
Diamonds	638	788	790	1,092.0	1,140.8
Volume (thousands of carats)	5022.3	6063.1	6131.5	7,097.0	9,362.5
Price (US$ per carat)	127.1	130.0	128.8	153.9	121.8
Coffee	0.4	0.8	0.3	0.3	0.2
Volume (thousand metric tons)	611.7	918.5	340.2	279.9	268.5
Price (US$ per metric ton)	593.5	836.5	752.5	967.6	784.7
Other	36	39	65	162.7	160.6
Memorandum items:					
Total exports (percent change)	22.9	16.5	41.6	78.9	32.0
Total exports (percent of GDP)	71.7	68.2	68.1	73.5	79.4
Petroleum (percent of total exports)	91.7	91.3	93.7	94.8	95.9
Diamonds (percent of total exports)	7.8	8.3	5.9	4.5	3.6
Other (percent of total exports)	0.4	0.4	0.5	0.7	0.5

Source: National Bank of Angola.

Table 13. Angola: Origin of Merchandise Imports, 2002–06 [1]

	2002	2003	2004	2005	2006
	(Millions of U.S. dollars)				
Total, c.i.f. [1]	3,062	4,465	7,034	8,136	11,716
Africa	468	573	638	710	876
Of which: South Africa	353	489	525	600	747
European Union	1,456	2,370	2,225	2,748	4,187
Of which: Portugal	595	810	920	1,093	1,677
USA	410	541	654	1,021	1,705
Other	729	981	3,518	3,658	4,947
	(Shares as percent of total)				
Africa	15.3	12.8	9.1	8.7	7.5
Of which: South Africa	11.5	11.0	7.5	7.4	6.4
European Union	47.5	53.1	31.6	33.8	35.7
Of which: Portugal	19.4	18.1	13.1	13.4	14.3
USA	13.4	12.1	9.3	12.5	14.6
Other	23.8	22.0	50.0	45.0	42.2
	(Percent change from previous year)				
Total [1]	-10.9	45.8	57.5	15.7	44.0
Africa	1.6	22.5	11.3	11.3	23.5
Of which: South Africa	5.2	38.5	7.3	14.3	24.5
European Union	7.7	62.8	-6.1	23.5	52.4
Of which: Portugal	20.6	36.2	13.6	18.8	53.4
USA	34.9	32.1	20.8	56.2	67.1
Other	-44.8	34.5	258.8	4.0	35.2
Memorandum item:					
Total as percent of staff estimate of total imports, f.o.b.	81.4	81.5	120.6	93.4	86.1

Source: IMF, *Direction of Trade Statistics*.

[1] Data provided by partner countries.

Table 14. Angola: Composition of Imports, 2002–06

	2002	2003	2004	2005	2006 Est.
			(Millions of U.S. dollars)		
Total imports, f.o.b.	3,760	5,480	5,832	8,353	10,776
Consumer goods	2,193	2,928	3,305	5,101	6,497
Intermediate goods	437	671	856	867	1,180
Capital goods	1,131	1,881	1,670	2,386	3,099
			(Percent change)		
Total imports, f.o.b.	18	46	6	43	29
Consumer goods	1	34	13	54	27
Intermediate goods	44	54	28	1	36
Capital goods	61	66	-11	43	30
			(Percent of GDP)		
Total imports, f.o.b.	33	39	29	25	27
Consumer goods	19	21	17	16	16
Intermediate goods	4	5	4	3	3
Capital goods	10	13	8	7	8
			(Shares as percent of total)		
Consumer goods	58	53	57	61	60
Intermediate goods	12	12	15	10	11
Capital goods	30	34	29	29	29

Source: National Bank of Angola.

Table 15. Angola: Services, 2002–06

	2002	2003	2004	2005	2006
			Prel.	Est.	
			(Millions of U.S. dollars)		
Services (net)	-3,115	-3,120	-4,480	-6,614	-9,316
Transport	-283	-463	-531	-1,302	-1,789
Insurance	-59	-99	-109	-103	-203
Government	-125	-61	0	-135	-186
Oil sector	-2,065	-2,064	-3,262	-3,149	-4,409
Other	-575	-424	-578	-1,924	-2,729
Total receipts	207	201	323	177	189
Transport	17	16	18	18	20
Insurance	0	0	0	0	0
Government	0	0	0	0	0
Oil sector	8	9	0	0	0
Other	190	185	305	159	169
Total payments	3,322	3,321	4,803	6,791	9,504
Transport	300	479	549	1,320	1,809
Insurance	59	99	109	103	203
Government	125	61	0	135	186
Oil sector	2,073	2,073	3,262	3,149	4,409
Other	765	609	883	2,083	2,898
			(Percent change)		
Total receipts	2.1	-2.6	60.3	-45.2	6.6
Total payments	-5.6	0.0	44.6	41.4	40.0
Of which : oil sector	. . .	0.0	57.4	-3.4	40.0
			(Percent of GDP)		
Services (net)	-27.4	-22.4	-22.6	-20.2	-23.2
Total receipts	1.8	1.4	1.6	0.5	0.5
Total payments	29.2	23.8	24.3	20.7	23.7
Of which : oil sector	18.2	14.9	16.5	9.6	11.0

Source: National Bank of Angola.

Table 16. Angola: Monetary Survey, December 2002–December 2006

	2002	2003	2004	2005	2006			
	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.
				(Billions of kwanzas)				
Net foreign assets (banking system)	93.5	142.3	224	387	518	585	691	923
National Bank of Angola (BNA)	15.7	47.9	116	256	358	390	466	689
Of which: gross reserves	22.0	50.3	118	258	360	392	468	690
Of which: short-term foreign liabilities	-3.0	-0.8	-2	-2	-2	-2	-2	-2
Commercial banks	77.8	94.4	108	131	160	196	225	236
Of which: foreign assets	85.3	101.5	117	142	171	207	238	251
Of which: short-term foreign liabilities	-6.2	-6.4	-9	-11	-11	-13	-13	-16
Net domestic assets	14.1	38.0	45	44	-43	-67	-92	-235
Net domestic credit	26.8	65.0	74	61	-34	-49	-71	-207
Credit to government (net)	2.1	7.0	-23	-89	-208	-252	-332	-496
Claims on government	28.4	42.5	71	119	87	70	76	85
Government deposits	-26.4	-35.4	-95	-208	-295	-322	-408	-581
Credit to the economy	24.7	58.0	97	149	173	203	260	289
State companies	1.4	4.9	8	12	7	9	29	17
Other items (net)	-12.7	-27.0	-28	-16	-9	-18	-21	-28
Broad money (M3)	107.6	180.3	269	431	474	519	599	688
Money and quasi-money (M2)	107.0	177.9	244	391	451	486	556	616
Money	69.4	127.0	189	314	364	366	416	474
Currency outside banks	20.9	35.4	46	60	48	46	46	72
Demand deposits	48.6	91.6	143	254	315	320	370	403
Of which: foreign currency deposits	37.4	57.7	91	159	194	194	233	278
Quasi money	37.5	50.9	54	78	88	120	140	141
Of which: foreign currency deposits	28.1	39.3	36	47	58	89	107	116
Central bank bonds	0.6	2.4	26	40	23	33	44	73
				(Cumulative percentage change from beginning of year)				
Net foreign assets	96	52	80	67	131	68	106	232
Net domestic assets	-332	170	-132	291	102	32	76	223
Net domestic credit	-2,294	143	15	-19	-95	-15	-22	-136
Net credit to the government	-122	235	-387	342	-119	-45	-79	-164
Credit to the economy	200	135	64	57	24	30	57	29
Broad money (M3)	158	67	50	60	43	44	81	89
Currency outside banks	154	70	30	30	-11	-2	-1	26
Foreign currency deposits	172	43	35	55	61	4	51	32
Memorandum Items:								
Official exchange rate (selling; kwanzas per US$)	58.7	79.1	85.57	80.78	80.56	80.57	80.57	80.39
Accumulated inflation (year to date; percent)	112	83	31	18.53	2.35	4.86	7.55	12.20
Velocity (GDP/M2)	4.4	5.8	7	7.31	7.15	6.64	5.80	5.24
Gross international reserves (US$)	375	636	1,379	3,197	4,482	4,877	5,828	8,551
Net international reserves (US$)	324	625	1,372	3,189	4,471	4,868	5,817	8,540
Commercial banks' net foreign assets (US$)	1,327	1,194	1,260	1,619	1,989	2,434	2,803	2,984

Sources: National Bank of Angola and IMF staff estimates.

Table 17. Angola: Interest Rates, December 2002–December 2006

(Percent per year)

	2002	2003	2004	2005	2006			
	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.
Demand deposits	10.0	10.0	9.99	9.95	4.52	2.68	2.71	2.76
Time deposits (days' maturities)								
0–90	41.0	26.7	14.48	8.11	2.74	3.56	4.02	2.73
91–180	59.7	28.0	28.19	13.64	8.03	9.32	7.89	2.82
181–364	-	-	41.56	24.10	8.73	2.58	4.21	3.24
365 +	-	27.1	-	-	4.85	9	9	9.00
Lending rates (days' maturities)								
0–180	99.7	93.4	70.42	45.39	28.45	22.95	19.81	16.00
181–364	104.6	68.8	74.77	69.39	24.71	24.81	31.82	21.61
365 +	102.8	75.7	73.38	70.00	10.94	11.91	26.29	13.90
Discount rate	150.0	150.0	95.00	95.00	18.00	18.00	18.00	14.00
Central bank bills								
14-day	...	...	...	...	...	...	...	...
28-day	102.7	45.8	46.44	4.29	...	0.75	2.64	...
63-day	107.9	56.1	50.37	7.51	...	2.55	2.7	...
91-day			56.7	11.17	...	3.23	5.62	6.33
182-day			60.48	11.06	9.00	...	6.36	7.36
364-day	...	...	...	...	...	...	...	9.53

Source: National Bank of Angola.

Table 18. Angola: Summary of Government Operations, 2002–06

(Billions of kwanzas)

	2002	2003	2004	2005	2006 Est.
Total revenue	190.8	394.9	609.7	1085.8	1,684.9
Oil	146.4	290.4	469.3	862.1	1350.6
Non-oil	42.4	91.6	127.3	188.2	227.3
Income taxes	12.5	27.7	42.4	63.2	86.8
Taxes on goods and services	14.6	30.1	36.5	54.9	56.0
Taxes on foreign trade	10.6	23.0	33.2	47.0	49.3
Other	4.8	10.8	15.2	23.1	35.2
Grants	0.0	8.0	7.5	6.4	0.0
Total expenditure	235.2	461.5	635.7	889.8	1,146.7
Current expenditure	174.1	378.1	505.6	720.1	823.8
Personnel	53.2	129.0	170.4	246.7	310.2
Goods and services	92.9	163.8	156.2	245.1	274.5
Interest payments due	15.5	18.1	31.1	34.8	823.8
Transfers	12.5	66.3	141.2	179.7	185.4
Capital expenditure	49.4	74.6	120.9	149.7	322.9
Quasi-fiscal expenditures	1.0	0.0	0.0	0.0	0.0
Central Bank operational deficit	10.7	8.8	9.2	20.0	0.0
Discrepancy (unexplained)	15.7	-8.6	33.3	15.0	0.0
Overall balance (accrual basis)	-44.4	-66.6	-26.0	196.1	538.2
Change in payment arrears (net)	36.8	8.0	-35.0	-23.5	-298.6
Domestic	32.0	5.5	-36.0	-37.0	-298.6
External interest	4.8	2.5	1.0	13.5	0.0
Overall balance (cash basis)	-7.6	-58.6	-61.0	172.6	239.6
Financing	7.6	58.6	61.0	-172.5	-239.6
One time oil field concession bonuses	13.6	0.0	17.4	0.0	80.3
External financing (net)	-24.2	36.2	89.6	-91.1	-33.4
Disbursements	40.8	117.7	190.2	40.2	262.3
Amortization	-61.5	-101.2	-208.3	-147.5	-295.7
Short-term borrowing, net	-3.5	0.0	0.0	0.0	0.0
Domestic financing (net)	18.1	22.4	-46.0	-81.4	-287.2
Memorandum items:					
Primary balance (commitment basis)	-6.01	-4.57	0.71	9.16	16.30

Sources: Angolan authorities and IMF staff estimates.

Table 19. Angola: Summary of Government Operations, 2002–06

(Percent of GDP, unless otherwise indicated)

	2002	2003	2004	2005	2006 Est.
Total revenue	38.3	37.9	36.9	40.7	46.4
Oil	29.4	27.9	28.4	32.3	37.2
Non-oil	9.0	8.8	7.7	7.1	6.3
Income taxes	2.6	2.7	2.6	2.4	2.4
Taxes on goods and services	3.1	2.9	2.2	2.1	1.5
Taxes on foreign trade	2.2	2.2	2.0	1.8	1.4
Other	1.0	1.0	0.9	0.9	1.0
Grants	0.0	0.8	0.5	0.2	0.0
Total expenditure	49.9	44.3	38.4	33.3	31.6
Current expenditure	36.9	36.3	30.5	27.0	22.7
Personnel	11.3	12.4	10.3	9.2	8.5
Goods and services	19.7	15.7	9.4	9.2	7.6
Interest payments due	3.3	1.7	1.9	1.3	22.7
Transfers	2.7	6.4	8.5	6.7	5.1
Capital expenditure	10.5	7.2	7.3	5.6	8.9
Quasi-fiscal expenditures	0.2	0.0	0.0	0.0	0.0
Central Bank operational deficit	2.3	0.8	0.6	0.7	0.0
Discrepancy (unexplained)	3.3	-0.8	2.0	0.6	0.0
Overall balance (accrual basis)	-1.0	-0.7	-0.2	0.8	1.6
Change in payment arrears (net)	7.8	0.8	-2.1	-0.9	-8.2
Domestic	6.8	0.5	-2.2	-1.4	-8.2
External interest	1.0	0.2	0.1	0.5	0.0
Overall balance (cash basis)	-1.6	-5.6	-3.7	6.5	6.6
Financing	1.6	5.6	3.7	-6.5	-6.6
One-time oil field concession bonuses	2.9	0.0	1.0	0.0	2.2
Grants	0.0	0.0	0.0	0.0	0.0
External financing (net)	-5.1	3.5	5.4	-3.4	-0.9
Disbursements	8.7	11.3	11.5	1.5	7.2
Amortization	-13.0	-9.7	-12.6	-5.5	-8.1
Short-term borrowing, net	-0.7	0.0	0.0	0.0	0.0
Domestic financing (net)	3.8	2.2	-2.8	-3.0	-7.9
Memorandum items:					
Primary balance	-1.3	-0.4	0.0	0.3	0.4

Sources: Angolan authorities and IMF staff estimates.

Table 20. Angola: Summary of Government Operations, 2002–06

(Millions of U.S. dollars, unless otherwise indicated)

	2002	2003	2004	2005	2006 Est.
Total revenue	4,367	5,293	7,307	12,458	20,966
Oil	3,349	3,892	5,624	9,891	16,807
Non-oil	971	1,228	1,526	2,160	2,828
Income taxes	286	372	508	725	1,080
Taxes on goods and services	334	404	438	630	697
Taxes on foreign trade	242	308	398	539	613
Other	109	144	183	265	438
Grants	0	107	90	73	0
Total expenditure	5,382	6,186	7,619	10,209	14,269
Current expenditure	3,984	5,068	6,059	8,261	10,251
Personnel	1,217	1,729	2,042	2,830	3,860
Goods and services	2,126	2,195	1,872	2,812	3,416
Budgeted	355	255	453	557	0
Extrabudgetary (recorded ex post)	0	12	81	159	0
Interest payments due	355	243	372	399	10,251
Transfers	286	889	1,692	2,062	2,307
Capital expenditure	1,130	1,000	1,449	1,718	4,018
Quasi-fiscal expenditures	22	0	0	0	0
Central Bank operational deficit	246	117	110	229	0
Discrepancy (unexplained)	360	-116	399	172	0
Overall balance (accrual basis)	-1,015	-892	-312	2,249	6,697
Change in payment arrears (net)	842	107	-420	-270	-3,715
Domestic	731	73	-431	-425	-3,715
External interest	111	34	12	155	0
Overall balance (cash basis)	-173	-785	-731	1,980	2,982
Financing	173	785	731	-1,980	-2,982
One time oil field concession bonuses	312	0	208	0	999
Grants	-1	0	0	0	9
External financing (net)	-553	485	1,073	-1,046	-415
Disbursements	934	1,578	2,279	461	3,264
Amortization	-1,408	-1,356	-2,496	-1,692	-3,680
Short-term borrowing, net	-79	0	0	0	0
Domestic financing (net)	415	300	-551	-934	-3,574
Memorandum items:					
Exchange rate (average)	43.7	74.6	83.4	87.2	80.4
Price of Angola's oil (US$ per barrel)	23.7	28.2	36.1	50.0	61.4
Oil production (millions of barrels)	326	319	361	455	515
Oil production (millions of US$)	7,739	9,007	13,030	22,733	31,602
Oil revenues/oil production (percent)	43.3	43.2	43.2	43.5	53.2

Sources: Angolan authorities and IMF staff estimates.

Table 21. Angola: Functional Distribution of Government Expenditure, 2002–06

	2002	2003	2004 Est.	2005 Prel.	2006 Prel.
			(Billions of kwanzas)		
General public services and other economic affairs	78.1	67.7	62.3	222.6	218.5
Defense and internal security	35.4	29.5	28.6	208.9	277.6
Education	14.0	31.1	37.4	55.6	85.5
Health	9.3	24.2	29.6	38.2	69.5
Social security, welfare, and housing	13.4	45.3	53.0	153.5	258.0
Energy, agriculture, mining, and transportation	12.1	103.8	112.4	62.1	207.3
Interest payments (committed)	4.9	18.7	35.8	143.7	314.0
Unclassified	68.0	141.2	276.6		
Total	235.2	461.5	635.7	884.6	1,430.4
			(Percent of GDP)		
General public services and other economic affairs	16.5	6.5	3.8	8.3	6.0
Defense and internal security	7.5	2.8	1.7	7.8	7.6
Education	3.0	3.0	2.3	2.1	2.4
Health	2.0	2.3	1.8	1.4	1.9
Social security, welfare, and housing	2.8	4.4	3.2	5.7	7.1
Energy, agriculture, mining, and transportation	2.6	10.0	6.8	2.3	5.7
Interest payments (committed)	1.0	1.8	2.2	5.4	8.7
Unclassified	14.4	13.6	16.7	0.0	0.0
Total	49.9	44.3	38.4	33.1	39.4
			(Millions of U.S. dollars)		
General public services and other economic affairs	1,786.0	906.9	747.2	2,554.5	2,719.5
Defense and internal security	809.3	395.3	342.8	2,396.3	3,453.8
Education	321.0	416.9	448.3	637.5	1,064.2
Health	213.2	324.2	354.9	438.7	865.0
Social security, welfare, and housing	307.2	607.3	635.1	1,760.8	3,209.9
Energy, agriculture, mining, and transportation	277.4	1,391.7	1,346.8	712.6	2,580.2
Interest payments (committed)	112.3	250.7	428.8	1,648.3	3,907.4
Unclassified	1,555.1	1,892.6	3,314.8	0.0	0.0
Total	5,381.6	6,185.6	7,618.6	10,148.7	17,800.2
Memorandum items:					
GDP at market prices (billions of kwanzas)	472	1,041	1,657	2,670	3,630
Exchange rate (average)	44	75	83	87	80

Sources: Angolan authorities and IMF staff estimates.

Table 22. Angola: Population Statistics, 2001–05 [1]

	2001	2002	2003	2004	2005
			(Thousands)		
Population	13,731	14,133	14,557	14,973	15,412
Urban	5,957	6,141	6,339	6,528	6,731
Rural	7,774	7,991	8,218	8,445	8,682
			(Percent change)		
Population	2.9	2.9	3.0	2.9	2.9
Urban	3.1	3.1	3.2	3.1	3.1
Rural	2.8	2.8	2.8	2.8	2.8

Sources: National Institute of Statistics and IMF staff estimates.

[1] Population figures are projected from the 1970 census. In mid-1996, a nationwide survey yielded a population estimate of 15.3 million.

Table 23. Angola: Public Medium- and Long-term External Debt 2002–06

(Thousands of U.S. dollars)

	2002	2003	2004	2005	2006
Total public debt service (excluding late interest)	7,673	8,468	8,997	10,337	7,596
Principal	3,520	4,175	6,002	7,672	6,672
Arrears (excluding late interest)	4,153	4,293	2,994	2,665	924
Multilateral creditors	304	338	372	364	379
Principal	303	335	370	364	379
Arrears	2	3	2	0	0
Of which: World Bank (IDA)	266	291	318	316	327
Principal	266	289	318	316	327
Arrears	0	2	0	0	0
Of which: African Development Bank	5	5	4	2	2
Principal	5	5	4	2	2
Arrears	0	0	0	0	0
Of which : African Development Fund	26	29	32	28	30
Bilateral creditors	4,545	4,668	4,341	4,379	3,320
Principal	1,427	1,592	1,980	2,175	2,889
Arrears	3,118	3,076	2,361	2,204	431
Paris Club creditors	2,361	2,532	2,610	2,430	617
Principal	551	420	354	298	277
Arrears	1,810	2,112	2,257	2,131	340
Non-Paris Club creditors	2,184	2,136	1,731	1,949	2,702
Principal	876	1,173	1,626	1,876	2,611
Arrears	1,308	964	105	73	91
Of which: Portugal	815	788	698	698	746
Principal	95	7	698	698	746
Arrears	721	781	0	0	0
Commercial banks	1,868	2,420	3,488	4,867	3,248
Principal	1,478	1,905	3,424	4,863	3,230
Oil-guaranteed	1,147	1,780	3,399	4,772	2,890
Government	948	1,385	2,672	1,403	0
Sonangol	199	395	728	3,369	2,890
Not oil-guaranteed	331	125	24	91	340
Arrears	390	514	64	4	18
Of which: Portugal´s banks	532	518	60	0	0
Principal	175	7	0	0	0
Arrears	357	510	60	0	0
Suppliers	955	1,042	796	727	650
Principal	312	342	228	270	175
Arrears	643	700	567	457	475
Of which: Portugal	446	495	344	245	203
Principal	18	21	20	13	10
Arrears	429	474	324	232	193
Of which: Sonangol	226	106	0	0	0

Source: National Bank of Angola.

Angola: Summary of Tax System—May 2007

(*All amounts in kwanzas*)

Tax	Nature of Tax	Exemptions and Deductions	Rates
I. **Central government**			
1. Taxes on net income and profits			
1.1 Individual			
1.1.1 Earned income tax *(Imposto sobre o Rendimento do Trabalho)* Law 10/99 of Oct. 29, 1999	Tax on labor income in money or in kind, whether contractual or not, fixed or variable, periodic or occasional, regardless of source, place, currency, or form of calculation and payment.	*Not defined as taxable income*: maternity, death, occupational accident and disease, unemployment, and funeral allowances; old age, disability, and survivors' pensions; retirement bonus; cash shortage allowance; per diem, vacation, and thirteenth-month allowances; representation, travel, relocation, family, and housing rental allowances; severance pay; social security contributions; and remuneration of casual agricultural and domestic employees. *Exemptions*: diplomatic personnel (if bilateral reciprocity applies); staff of international organizations, as established in agreements ratified by the competent Angolan authority; staff of NGOs pursuant to agreements with prior approval from the Ministry of Finance; handicapped individuals and maimed war veterans with at least 50 percent incapacity; individuals more than 60 years old, and military personnel. Monthly remuneration up to Kz 8,500.	(a) and (b) Monthly income (In kz): — Tax due Up to 8,500 — Exempt 8,501–11,000 — 2 percent of excess over 8,500 11,001–16,000 — Kz50 + 4 percent of excess over 11,000 16,001–21,000 — Kz250 + 6 percent of excess over 16,000 21,001–26,000 — Kz550 + 8 percent of excess over 21,000 26,001–36,000 — Kz950 + 10 percent of excess over 26,000 36,001–56,000 — Kz1,950 + 12.5 percent of excess over 36,000 56,001–76,000 — Kz4,450 + 14 percent of excess over 56,000 Over 76,001 — 7,250 + 15 percent of excess over 76,000 Updated by Exec. Dec. 62/03 of Nov. 7, 2003 (b) Self-employment income — 20 percent (Article 1(3)(b) of the Code)

Angola: Summary of Tax System—May 2007

(*All amounts in kwanzas*)

	Tax	Nature of Tax	Exemptions and Deductions	Rates
1.1.1.1	Employees	Tax on all remuneration received by employees, including allowances and bonuses. Income of partners in firms, members of boards of directors or other corporate managing bodies, fiscal boards, general shareholder meeting bureaus, and other corporate bodies.		
1.1.1.2	Self-employed	Tax on income earned during the base year from self-employment in a predominantly scientific, artistic, or technical profession, or from services not subject to another tax.		
1.1.2	Capital income tax *(Imposto sobre a Aplicação de Capitais)* Legislative Instrument 36/72 of May 1, 1972, amended by Law 14 /92 of Jul. 3, 1992	Annual tax on income from financial investments indicated in Sections A and B. *Section A* covers interest on loans, credit contract fees, and late payment fines and charges. *Section B* covers (at the regular rate) interest paid by firms to their partners; compensation paid to firms for suspension of activities and other miscellaneous capital income; and (at the reduced rate) profits distributed by partnerships and corporations; capital income of cooperative	*Exempt*: *For Section A*, income of financial institutions and cooperatives; interest on installment sales (including late interest); and interest on loans made by life insurance companies to the insured. *For Section B*, profits distributed by holding companies; profits already taxed in other firms where they were generated; interest on demand deposits; interest on certain government debt; and interest on time deposits within the banking system.	15 percent regular rate 10 percent reduced rate on some Section B income

Tax	Nature of Tax	Exemptions and Deductions	Rates
	members; interest on debentures; profits from limited partnerships and from shares issued with preferential subscription rights; returns of any kind from the assignment of copyrights on literary, artistic, or scientific works, including films, patents, equipment, and know-how in the industrial, commercial, or scientific sector; and any other income arising from the mere investment of capital and not included in Section A.	*Tax incentive*: exemption, for three to five years, for profits distributed to partners in firms entitled to the exemption set forth in Art. 14 of the Industrial Tax Code (C.I.I.) for a like period.	
1.2 Corporate			
1.2.1 Industrial tax *(Imposto Industrial)* Legislative Instrument 35/72 of Apr. 29, 1972, amended by Law 18/92 of Jul. 3, 1992; Law 7/96 of Apr. 19, 1996; Executive Decree 84/99 of Jun. 11, 1999; Law 5/99 of Aug. 6, 1999	Tax on profits, whether incidental or recurrent, imputable to any commercial or industrial activity not subject to earned income tax; to agricultural, forestry, and cattle-raising activities; to mediation or representation in the execution of contracts of any kind; and to agents of industrial or commercial enterprises doing business in Angola or abroad and having domicile, main offices, or effective management power or a fixed establishment in Angola. *Group A:* Actual profits of state enterprises; companies; corporations; commercial firms with capital exceeding 35 UCFs (Unidade de Correção Fiscal; an adjustment unit that	*Exempt*: workers' production cooperatives; building cooperatives engaged in construction directly or in the lending of money to members for that purpose; consumer, agricultural, and cattle-raising cooperatives dealing exclusively with their members; instructional, cultural, leisure, physical education, or sports associations; firms that administer only their own properties; foreign maritime and air transport companies, if reciprocal privileges are given to Angolan companies in their countries; commercial and industrial income subject to the special tax regime; and the National Bank of Angola. *Tax incentives*: Allowed for those engaging in new agricultural,	35 percent regular rate 20 percent on income exclusively from agricultural, forestry, and cattle-raising activities The Ministry of Finance may authorize a 50 percent reduction of the rates for companies that locate in economically disadvantaged areas and set up industries using local resources, for up to 10 years.

Tax	Nature of Tax	Exemptions and Deductions	Rates
	is used to keep the tax basis and tax penalties constant in real terms in high inflation environment); credit institutions; insurance institutions; individuals or companies with domicile, main offices, or effective management power in Angola or abroad and with a fixed establishment in Angola; taxpayers with average sales above 1,538 UCFs in the last three years; and Group B taxpayers electing to be included in Group A. *Group B:* Presumptive profits of taxpayers not included in Groups A or C and who engage in occasional industrial or commercial activities. *Group C:* Estimated potential profits of individual taxpayers meeting all the following conditions: (a) self-employed in a commercial or industrial activity included in the schedule; (b) work alone or with no more than three family members or other persons; (c) do not keep reliable books; (d) own no more than two motor vehicles; and (e) whose current sales do not exceed 269 UCFs.	forestry, or cattle-raising activities for up to 10 years, and also to agricultural, forestry, cattle-raising, and fishing activities with annual sales below 269 UCFs. Income from the establishment of new industries in Angola is also eligible for the exemption, as well as income from commercial activities in areas designated as key to economic development, for 3-5 years. All or part of the profit from activities carried out to implement social assistance, welfare, and other social projects.	
1.2.1.1 **Art. 32 – New wording** – Law 7/96 of Apr. 19, 1996	No. 2 now reads as follows: "For capital assets fully depreciated in the period preceding the entry into force		

Tax	Nature of Tax	Exemptions and Deductions	Rates
	of said decree, the maximum amounts shall be taken into account only if compliance is demonstrated with the procedures established in Article 4(2) as well as the provisions of Article 5(3)(b) of said legislative instrument."		
1.2.1.2 Prepayment of the industrial tax – Law 5/99 of Aug. 6, 1999	The provisional payment referred to in Article 78 of the C.I.I. regarding taxpayers in groups A and B is now monthly for the amount representing 10 percent of total sales volume, services rendered, etc. Income received in the preceding month.		35 percent
1.2.1.3 Taxation of contract work (approval pending) Law 7/97 of Oct. 10, 1997	A special tax regime covering contract and subcontract work and services rendered applies to individuals or companies, whether or not they have headquarters, actual control, effective management power, or a fixed establishment in Angola, operating occasionally or permanently, if they are not subject to the earned income tax. **Taxable base** The taxable base includes (a) in the case of construction, improvement, repair, or maintenance of fixed assets: 10 percent of the value of the contract, regardless of its form; (b) in all other cases, 15 percent of that amount.		35 percent

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(*All amounts in kwanzas*)

	Tax	Nature of Tax	Exemptions and Deductions	Rates
1.2.1.2	Revaluation of assets Decree 6/96 of Jan. 26, 1996; Order 6/99 of Jan. 22, 1999, repealing orders 53/96 of Jun. 3, 1996 and 1/99 of Jan. 8, 1999 Order 7/99 of Jan. 22, 1999; Order 37/00 of Feb. 3, 2000 Order 38/01 of Feb. 9, 2001	Allows for the revaluation of tangible fixed assets that are and are expected to remain in service, duly recorded in the following accounts: buildings, construction for specific purposes, facilities, manufacturing and other equipment, means of transportation, furniture, fixtures, and other fixed assets. Revaluation will be made by applying indexation coefficients established by the Minister of Finance. Base and maximum values, procedure, reserves, tax system, rendering useless or destruction and sale of assets, and revaluation, depreciation, and inventory tables are covered.		Exchange Rate Year Kz/US$ Index Coefficient 1995 5 920.0000 11.1778 6.0931 1996 209.099.0000 35.3208 1.3050 1997 272.871.0000 1.3050 1.0000 Exchange Rate Year Kz/US$ Index Coefficient 1997 272 871,0000 1,3050 2,3491 1998 641 000,0000 2,3491 1,0000 Exchange Rate Year Kz/US$ Index Coefficient 1998 0,64100 2,34910 8,78838 1999 5,63335 8,78838 1,00000 Exchange Rate Year Kz/US$ Index Coefficient 1999 5,63335 8,78838 3,01506 2000 16,98487 3,01506 1,00000 Exchange Rate Year Kz/US$ Index oefficient 2003 79.19599 1.34376 1.08409 2004 85.85584 1.08409 0.94095 2005 80.78593 0.94095 1.0000
1.2.2	Tax regime for the mining industry Law 1/92 of Jan. 17, 1992; Decree Law 4-B/96 of May 31, 1996 (*D.R.* 22/96–Supplement)	The mining industry is subject to (a) income tax on its earnings; (b) royalties on the value of its mineral resources; and (c) surface taxes. Income tax is the industrial tax.		(a) 40 percent (b) Precious stones and metals 5 percent Semiprecious stones 4 percent Metallic minerals 3 percent Other mineral resources 2 percent (c) First and second years 1 US$/sq. km. Third year 3 US$/sq. km. Fourth and fifth years 4 US$/sq. km.

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(*All amounts in kwanzas*)

	Tax	Nature of Tax	Exemptions and Deductions	Rates
1.2.3	Special tax regime for the oil industry			
1.2.3.1	Oil production tax (*Imposto de produção de petróleo*) Law 13/04 of Dec. 24, 2004, Title III, Chapter I	Tax on the value of the oil, paid by oil companies operating in joint venture with SONANGOL.	Enterprises operating under risk contracts (PSAs—Production-Sharing Agreements) may deduct from the tax assessment base, as investment cost, up to 50 percent of the oil produced.	(a) Cabinda province: 20 percent. (b) Other provinces: 16.6 percent (c) At certain underwater depths and in areas on land that are difficult to access, the rate may be reduced up to 10 percent.
1.2.3.2	Oil income tax *(Imposto de rendimento de petróleo)* Law 13/04 of Dec. 24, 2004, Title III, Chapter II	Tax on the profits of oil companies.	Under partnership contracts, production tax (1.2.3.1) and transactions tax (1.2.3.3) paid are deductible from the tax base. *Tax incentives*: the tax base is reduced by a production incentive (in practice, adjusted to production costs) and an investment incentive (a fraction of the historic investment costs).	Partnerships: 65.75 percent PSAs: 50 percent
1.2.3.3	Oil transactions tax *(Imposto de transações sobre o petróleo)* Law 13/04 of Dec. 24, 2004, Title III, Chapter III	Tax on profits from production in the province of Cabinda under joint exploration arrangements with SONANGOL.		70 percent
1.2.3.4	Surface tax Law 13/04 of Dec. 24, 2004, Title III,	Rate charged on the concession area or the development area, as provided in the contract.		US$300,000 per km2

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(*All amounts in kwanzas*)

Tax	Nature of Tax	Exemptions and Deductions	Rates
Chapter IV			
1.2.3.5 National Dealer Regime Law 13/04 of Dec. 24, 2004, Title III, Chapter I	Revenue from the National Dealer, including the bonus and the price ceiling under the contract.		90 percent
2. **Social security contributions** Law 18/90 of Oct. 27, 1990; Decree 27/91 of Jul. 5, 1991; Decree 7/99 of May 28, 1999	Contributions to social security intended to guarantee the physical subsistence of citizens unable or with diminished capacity to work, and of their surviving family members upon their death.		Employer share: 8 percent of wages Employee share: 3 percent of wages
3. **Taxes on goods and services**			
3.1 Sales tax	There is no sales tax.		
3.2 Excise tax *(Imposto de consumo)* Decree 41/99 of Dec. 10, 1999 Decree 29/02 of May 21, 2002	Levied on the following: (a) the production and importation of goods, regardless of their origin; (b) auctions or sales carried out by customs and other public services; (c) the use of goods or raw materials other than in the production process and which benefited from a tax exemption; (d) consumption of water and energy; (e) telecommunications services; (f) hotel services and related or similar activities.	*Exemptions:* (a) Goods exported by the producer or by legally recognized entities established for this purpose; (b) goods imported by diplomatic and consular offices, subject to reciprocal treatment; (b) goods manufactured as a result of activities performed through artisanal processes; (d) raw materials and subsidiary materials incorporated into the manufacturing process, capital goods and major replacement parts if duly certified by the relevant ministries, with the accompanying declaration of	From 5 to 30 percent General rate: 10 percent Schedule I: Subsidized rate: 2 percent Schedule II: Penalty rates: 20-30 percent Schedule II: Hotel, tourism and similar services: 10 percent Telecom. Services: 5 percent Water consumption: 5 percent Energy consumption: 5 percent
3.2.1 Excise tax – Law 9/99 of Oct. 1, 1999 (expansion of the tax base to include telecommunications, hotel, and similar services, and water and electricity consumption)			

Tax	Nature of Tax	Exemptions and Deductions	Rates
		exclusive use.	
	Definition: for purposes of this tax, goods produced in Angola are defined as those produced or manufactured in the country or those whose production process was completed in the national territory.	*Not subject to the tax*: (a) Unprocessed agricultural and livestock products; (b) forestry primary products; (c) unprocessed fishing products; and (d) unprocessed mineral products.	
4. **Taxes on international transactions**			
4.1 Import duties Import and export schedule approved by Decree Law 2/05 of Feb. 28, 2005	*Levied on:* Imports of goods or their c.i.f. (cost, insurance, freight) value The customs value of the imported goods is their transaction value.	*Exempt*: Purchases by government; institutions reporting to government; public or private institutes; public, mixed, and private enterprises or others stated in the law, e.g. cooperatives, are exempt from the payment of the customs duties stated in the schedule unless otherwise provided by law (including the exemptions provided in legal instruments establishing special customs regimes applicable to sectors such as oil, mining, and private investment.	Ad valorem duties ranging from 2 to 30 percent, depending on the position on the tariff schedule for a particular product. .
4.2 Export duties Decree Law 2/05 of Feb. 28, 2005	Various specific and ad valorem taxes on exported goods.	Chapter 98 of the schedule gives the table of goods eligible for import duty exemptions or reductions. *Exempt:* National or nationalized goods leaving the customs territory are exempt from duties, except products of animal origin,	

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(*All amounts in kwanzas*)

Tax	Nature of Tax	Exemptions and Deductions	Rates
		e.g., skins without removal of the hair and articles made thereof, horns, etc.	
5. **Other taxes**			
5.1 Urban real estate tax *(Imposto Predial Urbano)* Legislative Instrument 4044 of Oct. 13, 1970	Tax on urban real estate. The assessment base is the actual or potential rental value, and the person liable for the tax is the person entitled to the rent.	*Exempt*: Buildings (a) occupied by a taxpayer subject to the industrial tax (see 2.2) and paying no rent, within a specified limit; (c) made available free of charge to public services, charitable institutions, schools, museums, and the like; (d) used solely as places of worship; (e) belonging to embassies and consulates, on a reciprocity basis; and (f) belonging to nonprofit professional and economic organizations. *Tax incentive*: New housing construction may qualify for exemption for 5 to 15 years, depending on housing policy priorities.	30 percent of the annual actual or potential rental value.
5.1.1 Art. 17 and 28 (Amended by Law 6/96 of Apr. 19, 1996)	Art. 17 1. When a building or part thereof is rented for a lesser amount than the last annual rental contract, or for less than its rental value if it has not been rented previously, it is deemed not to be rented for tax collection purposes. 4. If the previous rent was outdated, the new rent should be compared with the rent of a building, or part thereof, under a rental agreement which best		

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(*All amounts in kwanzas*)

Tax	Nature of Tax	Exemptions and Deductions	Rates
	serves as a comparator. Art. 28 3. The rent…may never be less than the amount established for government buildings under the current legislation.		
5.2 Gift and inheritance tax *(Imposto sobre as sucessões e doações)* Legislative Instrument 230 of Jul. 18, 1931, amended by Law 15/92 of Jul. 3, 1992	A progressive tax on unrequited transfers and on inheritance of money, government securities, stocks, corporate and bank credit instruments, and any movable or immovable property, as well as housing or water rights, perpetual easements, and unrequited waiver of annuities.	*Exempt*: acquisitions by the government, municipal services, charitable institutions, museums, libraries, and schools. Also exempt are acquisitions of literary and artistic property and pensions, as well as gifts not exceeding Kz 20,000 to descendants, ascendants, or spouses.	Schedule of tax rates (percent): Between spouses; to descendants or ascendants: Up to 11 UCFs 10; Above 11 UCFs 15 Between any other persons: Up to 11 UCFs 20; Above 11 UCFs 30 *Calculation:* These rates are applied as average rates up to the ceiling of the lower bracket and as marginal rates above the ceiling.
5.3 Real estate transfer tax *(Sisa sobre a transmissão de imobiliários por título oneroso)* Legislative Instrument 230 of Jul. 18, 1931, Law 15/92 of Jul. 3, 1992	A tax on transfers of real property through sale, barter, lapse of rights, etc. (gifts are subject to the gift and inheritance tax; see 5.2), and of assets, inheritance rights, long-term leases (20 years or more), water rights, exploration rights, or perpetual easements.	*Exempt*: Acquisitions by the government, municipal services, and charitable institutions, certain court-ordered transfers, eminent domain expropriation, and housing sold by the Government Employees Provident Fund *(Cofre da Previdência dos Funcionários Públicos).*	10 percent of the amount of the transfer.
5.4 Stamp tax *(Imposto do selo)* Decree-Law 1647/45 of May 29, 1945; Decree 7/89 of Apr. 15, 1989;	A tax on documents and operations listed in the stamp tax general schedule.	*Exempt*: Oral contracts.	Sample rates: Capital increases 0.5 percent Housing leases 0.7 percent of rent Commercial leases 0.7 percent of rent Sales contracts 0.5 percent Acknowledgment

Angola: Summary of Tax System—May 2007

(*All amounts in kwanzas*)

Tax	Nature of Tax	Exemptions and Deductions	Rates
Decree 18/92 of May 15, 1992; Executive Decree 34/95 of Jul. 21, 1995; Executive Decree 85/99 of Jun. 11, 1999; Executive Decree 71/04 of Jul. 9, 2004. Executive Decree 24/05 of Feb. 16, 2005			of debt 3.0 percent; 100/page Liquidation of Companies 0.5 percent Bank draft 0.5 percent Gifts 0.4 percent Loan guarantees 0.3 percent Dividends 1.0 percent Postal money orders Up to Kz 80 0.5 percent Above Kz 80 0.4 percent
5.4.1 Art. 114-A Stamp tax schedule (Amended by Law 4/96 of Apr. 12, 1996) (Amended by Decree 31/99 of Oct. 15, 1999 Revised—D.R. 49/99 of Dec. 3, 1999—Executive Decree 24/05 of Feb. 16, 2005	*Banking operations:* I. Foreign drafts, gold certificates *(guias ouro)* issued and public funds or negotiable securities sold; II. Foreign banknotes and coins, traveler's checks and checks in foreign currency payable to individuals; III. Interest charged by banking institutions, specifically by discounting treasury bills and notes for loans, for credit accounts being liquidated, and all late payment interest, premiums, and interest on acceptances, bills receivable on behalf of others, domestic drafts issued, or any other transfers.	*Exempt:* Banking operations between banking institutions, between exchange houses, or between the latter and the former; however, when bills of exchange are used for payment abroad, they will be exempted only when they pertain exclusively to transactions carried out by banking institutions. Sales of foreign banknotes and coins by exchange dealers to banks and banking houses, as well as sales of gold bars carried out through the same banks and banking houses, will be subject to the stamp tax; they are considered analogous to the operations in numerals I and II.	I. 1.5 per mil of the amount involved. II. 0 percent of the amount involved. III. 1 percent of the amount involved.
5.4.2 Art. 133 of the schedule (Amended by Law 4/96 of Apr. 12, 1996)	Receipts or quitclaims		1 percent
5.4.3 Motor vehicle circulation tax	Levied on all motor vehicles in the country or which may be	*Exempt:* Vehicles belonging to government departments,	Motorcycles Up to 125 cc engine capacity Kz1,140 Over 125 cc engine capacity: Kz 1,260

Angola: Summary of Tax System—May 2007

(*All amounts in kwanzas*)

	Tax	Nature of Tax	Exemptions and Deductions	Rates
	(*Taxa de Circulação*) D.L. 3837 of Jul. 30, 1968 Decree 72/05 of Sep. 28, 2005 Executive Decree 43/06 of Apr. 7, 2006	put on the road in the country in future.	administrative bodies, and economic coordination agencies; vehicles belonging to foundations and associations in the public interest or exempted from the payment of any taxes by special legislation; vehicles with canceled registration.	Light automobiles Up to 1,500 cc engine capacity: Kz 2,640 Over 1,500 cc up to 1,800cc: Kz 3,970 Over 1,800 cc engine capacity: Kz 5,300 Heavy automobiles Up to 10,000 kg tare weight: Kz 6,600 Over 10,000 kg tare weight: Kz 9,040
II.	Provincial governments	There are no provincial taxes.		
III.	Municipalities	There are no municipal taxes.		
	Executive Decree 66/95 of Dec. 15, 1995 Executive Decree 8/98 of Feb. 6, 1998 Executive Decree 80/99 of May 22, 1999	Establishes the amounts and modalities for allocating the receipts of direct and indirect taxes charged and collected to local and state government budgets. Expands the number of rates and taxes allocated to local and state government budgets.		