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ZAMBIA

Selected Issues and Statistical Appendix

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Approved by the African Department

December 23, 2005

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I. The Macroeconomic Impact of Scaling Up Donor Assistance: A Simulation Analysis[1]

1. **In preparing the forthcoming National Development Plan 2006–10 (NDP), the Zambian authorities have outlined a range of alternative policy scenarios to achieve greater pro-poor growth.** The thrust of these policies is to support higher growth in rural areas, where the incidence of poverty is particularly high, by investing more in infrastructure development, while also stepping up delivery of public services, notably in health and education. Implementing these alternative policies would require significantly more financial assistance from the donor community. This paper aims to shed some light on the macroeconomic impact of such a scaling up of donor assistance. It uses a financial programming model that focuses on a few key relationships with assumed values for the parameters.

2. **The paper is organized as follows.** Section A describes the scaling up exercise, which is broadly in line the pro-poor growth alternative policy scenario featured in the draft NDP. It also details the reasoning behind the choice of values selected for the parameters. Section B discusses the results from the application of this framework for the macroeconomic impact of the scaling up. Section C then presents a sensitivity analysis, which gives insight on the effects of varying some of the model's key parameters. The paper ends with some concluding remarks.

A. The Scaling Up Exercise

3. **The exercise focuses on the impact of a 50 percent scaling up of donor assistance by 2010, where half of the aid is directed to rural infrastructure and the rest split equally between health and education services.** That is, over the 5-year period 2006–10, annual flows of donor assistance are assumed to increase steadily by US$70 million a year (1 percent of GDP in 2005) above the aid levels projected in the baseline medium-term scenario. This additional amount of annual assistance (US$350 million in 2010) would then be maintained over the foreseeable future. All the assistance is assumed to be in the form of grants. In addition, the simulation includes projected savings from the Multilateral Debt Relief Initiative (MDRI), whereby credits disbursed by the Fund, the World Bank, and the African Development Bank (AfDB) by end-2004 are fully written off.[2]

4. **The degree to which a scaling up of aid affects real GDP growth, inflation, the fiscal deficit, the exchange rate, imports and exports, and other macroeconomic**

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[1] Prepared by David Dunn.

[2] It is assumed that obligations to the Fund and the AfDB are canceled effective January 1, 2006, while obligations to the World Bank are canceled effective July 1, 2006. It is further assumed that there is no change in planned disbursements of new credits.

variables depends upon a number of factors.[3] The immediate impact of the increase in public sector spending is largely determined by the availability (existing underemployment) of factors of production to meet this increased demand and whether the foreign exchange receipts from the aid are used to mop up the liquidity generated. A portion of the increased government demand would be met through imported goods and services, such as medicines, construction equipment, and foreign contractors. On the supply side, additional infrastructure and health and education services would have a positive impact on productivity; however, not without long time lags in some cases, particularly for spending on education and child health. To the extent that the expansion of the public sector creates an excess demand, relative prices would need to adjust to attract needed resources. The degree of adjustment would be determined by the demand and supply elasticities in the relevant markets (Table I.1).

5. **The amount of imports initially demanded by the expansion in public sector demand depends on the nature of the spending.** For spending on infrastructure investment (mainly road building), we assume that foreign contractors and importation of heavy equipment absorb 60 percent of the government's outlay. The remaining 40 percent represents domestic and foreign contractors' local expenses and domestic earnings on capital. For both health and education services, the main expense is typically salaries. It is assumed that a 30 percent portion of expenditures on health are used for imports, mainly drugs, while the figure for education is considerably lower (5 percent) for items such as text books. A larger import component for meeting government demand implies that the stimulus effect of public spending on the domestic economy is smaller. In this case, government's direct imports account for just under 40 percent of the total spending, mainly reflecting the large share of spending on infrastructure.

6. **While government spending on domestic goods and services provides an initial stimulus, the ability of the supply-side of the economy to respond can be constrained.** Most notably, there is short supply of trained doctors, nurses, and other core health workers in Zambia.[4] For the health sector, it is assumed that 75 percent of government domestic spending involves higher wages and the crowding out of factors of production (mainly labor) from other sectors. Given the relatively ample supply of new teachers graduating from public and private teaching training institutions, education spending is assumed to involve less crowding out (50 percent), although the hiring of teachers still means that scarce skilled workers are drawn from other sectors of the economy. Because low-skilled labor, which is in excess supply in Zambia, comprises a large part of the labor used in

[3] Gupta, Sanjeev, Robert Powell, and Yongzheng Yang, *The Macroeconomic Challenges of Scaling Up Aid to Africa* (WP/05/179), IMF, Washington, DC, 2005.

[4] The Ministry of Health, with help from donor-supported consultants, is in the process of developing a 5-year strategy for increasing the supply of core health workers, which aims mainly at retaining staff through improved wages and benefits.

construction, it is assumed that spending on infrastructure involves a relatively small amount of crowding out (10 percent).

7. **Assuming that government spending is used effectively, the positive impact on productivity and real GDP growth over the longer term from spending today can be substantial.**[5] To capture this effect, it is assumed that there are lags between when government expenditures take place and the projects come on stream and productivity gains are realized. For infrastructure investment, it is assumed that projects can come on stream in two years. The lags for health and education services are longer, because they are largely directed at children who would not enter the labor for many years to come. Lags between expenditures and productivity gains are assumed to be 5 years and 10 years, respectively, for health and education. The shorter lag time for health reflects programs directed toward adults (for example, anti-retroviral treatment for HIV/AIDS) and that parents can be more productive if time spent caring for sick children is reduced. With regard to the effectiveness of government spending, a real rate of return of 15 percent a year is assumed for all pro-poor programs. For simplicity, it is assumed that the additional contribution to GDP is provided in perpetuity following the end of the assumed time lag.[6]

8. **In addition to the direct effect from government imports, the impact on the external sector is largely determined through movements in the real exchange rate.** Donors' foreign exchange must be converted to kwacha for domestic expenditures. In the case of budget support, these foreign exchange resources materialize as government deposits in the Bank of Zambia (BoZ). In the first instance, government spending then results in a liquidity injection that must be mopped up to prevent increased inflation, either through sales of foreign exchange by the BoZ or through issuances of government securities. Partly reflecting Zambia's need to accumulate international reserves, from the low level of 1½ months of imports in 2005, it is assumed that 30 percent of the foreign exchange receipts from donor assistance, net of government's imports, are retained by the BoZ.[7] As a result, about 40 percent of the gross foreign exchange receipts from donor assistance would be used for mopping up liquidity.[8]

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[5] Strengthening public expenditure management systems is a major part of Zambia's structural reform agenda.

[6] For instance, in real terms, K 1 billion spent on education in 2006 would increase GDP by K 4 billion a year beginning in 2016.

[7] Or about 20 percent of the gross foreign exchange receipts from donor assistance. An equivalent amount of government securities would be issued for sterilization purposes, which would create upward pressure on their yields.

[8] In line with the authorities commitment to lower inflation, as emphasized in the draft NDP as a key factor for achieving high rates of sustainable growth, policies are assumed to maintain the objective from the baseline of lowering inflation to single digits by 2007.

9. **The absorption of these sales on the foreign exchange market requires an adjustment in the real exchange rate.** The degree of appreciation of the kwacha needed to clear the market by increasing imports while dampening exports depends on the elasticities of demand and supply. The elasticity of demand for foreign exchange, derived from the demand for imported goods and services not directly financed by foreign investors, is assumed to be -1. The supply of foreign exchange—mainly from nonmetal exports of goods and services, the component of metals export receipts and foreign direct investment used for domestic inputs, and donor assistance—is assumed to be more inelastic, with an elasticity of 0.5.

10. **In addition to the effect from a kwacha appreciation, the external current account deficit would be affected by the government's imports and, looking ahead, an expansion of exports associated with the increased productivity arising from government programs.** For this latter effect, it is assumed that 75 percent of the increased production from infrastructure investment would be geared to the export market, while 25 percent of the increased production from health and education services would go to exports, with the corresponding lag time discussed above.

B. Macroeconomic Impact of Scaling Up

11. **The simulation exercise suggests that a scaling up of donor assistance of the magnitude considered would have moderately positive effects on the economy (Table I.2).** The stimulus to the economy from the expansion in public sector demand would lift average real GDP growth from 6 percent in the baseline scenario to 6.4 percent a year over the next five years (2006–10).[9] The leveling off of aid, and decline in MDRI assistance thereafter, would then have a slightly negative effect, but this would be more than offset by the positive effects of increased productivity. Still, even with a fairly generous assumption about the rate of return on government spending, the net increase in long-term GDP growth relative to the baseline is modest at 0.3 percentage points a year.

12. **The scaling up of aid flows results in a modest (1.3 percent a year) appreciation of the kwacha in real terms during 2006–10 compared to the baseline scenario.** As a result, growth in imports increases during this period, while export growth is dampened slightly. Imports also expand from higher direct government imports as aid inflows increase and the external current account deficit, excluding grants, widens by just over 2 percentage points of GDP compared with the baseline. This pattern is slightly reversed during 2011–15, particularly as savings from the MDRI diminish, resulting in a narrower current account deficit. Importantly, export growth picks up after 2010, mainly reflecting the productivity effects of earlier government spending. The effect is strong enough to reduce the current account deficit after 2015 below the level projected in the baseline after.

[9] For a description of the baseline medium-term outlook, see the staff report for the 2005 Article IV consultation and Third Review Under the PRGF Arrangement with Zambia.

13. **The overall fiscal deficit, excluding grants, widens substantially as increased donor assistance funds additional expenditures.** Including grants, however, the widening of the deficit relative to the baseline is fairly modest, reflecting only the additional interest costs of government securities issued for mopping up liquidity (rising to 0.3 percentage points of GDP over time).

C. Sensitivity Analysis

14. **The sensitivity analysis presented in Tables I.3a–I.3e considers the impact of varying some key parameters on selected macroeconomic variables.** In particular, we look at the results for a range of values for the real rate of return (ROR), domestic supply constraints in meeting government demand, elasticities of demand and supply in the foreign exchange market, the degree of sterilization through foreign exchange sales, and the import content of government spending. In each case, the value of only one parameter is varied; all other parameters are set at their values for the scaling up scenario presented in the previous section.

15. **Varying the ROR between 10 percent and 20 percent indicates that to sustain the positive effects of a scaling up of donor assistance, government spending must be highly effective** (see Table I.3a)**.** While GDP growth benefits over the medium term from the stimulus of increased donor-financed government spending, even a fairly high ROR of 10 percent is barely sufficient to provide sustained improvements in growth, outweighing the negative effect on growth of declining assistance after 2010. In addition, capacity constraints play an important role in determining how much the economy benefits from the stimulus of rising donor assistance (see Table I.3b). In the case of no capacity constraints, the positive impact on real GDP growth during 2005–10 is a quite strong, even producing cyclical effects as aid diminishes.

16. **A higher import content of government spending lowers the stimulus to the economy from increased donor-financed government spending, but it also eases the negative effect on the export sector through the "sterilizing effect" of the direct spending on imports** (Table I.3c). In the case where all donor assistance is used for imports, the real exchange essentially does not deviate from the baseline projection, allowing for a stronger expansion of exports as the productivity effects are realized.

17. **For a given amount of donor assistance, the impact on the real exchange rate is determined by the elasticities of supply and demand in the foreign exchange market and the share of the foreign exchange proceeds from donor assistance sold on the market** (Tables I.3d and I.3e).[10] The greater the sum of the demand and supply elasticities for foreign exchange (mainly determined by the underlying elasticities of demand for

[10] Foreign exchange sales could be from central bank operations to mop up liquidity or from direct sales to the market from donor projects.

imports and supply of exports) the smaller the real appreciation of the kwacha needed to absorb a given injection of foreign exchange to the market. In the case of highly inelastic demand and supply, the real exchange rate becomes quite sensitive to the injection of foreign exchange from the scaling up of donor assistance, with a real appreciation of nearly 6 percent a year during 2006–10. Reducing the share of foreign exchange sales in the BoZ's operations to mop up liquidity eases pressure on the kwacha, but the interest payments on government securities can become costly.[11] At the same time, if the BoZ were to retain a larger share of foreign exchange proceeds from donor assistance, its efforts to build up reserves and reduce external vulnerabilities would be enhanced.

D. Concluding Remarks

18. As in many low-income countries, the lack of quality data in Zambia necessitates the use of assumed values for a number of parameters in macroeconomic modeling. Nevertheless, **it is possible to gain a number of useful insights from this exercise.** In particular, it is clear that a scaling up of donor assistance would have positive effects if the resources are used effectively. This supports the urgency of strengthening public expenditure management, as highlighted in the draft NDP.

19. **The exercise also highlights that capacity constraints in the economy limit the positive effects of the stimulus provided by donor-financed government spending.** This suggests that aid effectiveness could be enhanced by directing resources to ease the supply constraints rather than simply expanding demand. For example, in the case of severe shortages of health workers, an expansion of training facilities could be highly productive. Conversely, projects that do not rely on skilled labor could be quite productive from the start.

20. **The injection of foreign exchange into the Zambian market would inevitably tend to create an appreciation of the kwacha.** However, in the scaling up exercise envisaged in this paper, the injection would be relatively modest. In the event of highly inelastic demand and supply elasticities in the foreign exchange market, the impact on the real exchange rate could be substantial (even though the impact on export volumes would not be large). In seeking to build up international reserves, the authorities could moderate the impact on the exchange rate, but this could become costly and have only limited effects. Most importantly, to maintain an export-led growth strategy, the resources from donor assistance must be used effectively. In addition, in view of the exchange rate appreciation, the implementation of the structural reform agenda outlined in the draft NDP is critical in order to raise productivity and enhance Zambia's international competitiveness.

[11] Moreover, sterilization with issues of government securities could become ineffective for easing real appreciation if they serve to attract additional foreign capital.

21. Finally, while the simulation exercise provides a number of insights, it should be noted that the model focuses on the direct effects of the scaling up of aid and does not account for secondary effects, such as higher GDP growth on demand for imports. A general equilibrium analysis would be necessary to provide a fuller picture.

Table I.1. Assumed Values of Main Parameters

	Rural Infrastructure	Health	Education
	(In percent, unless otherwise specified)		
Pro-poor government spending			
Share of additional resource allocation by type of spending	50	25	25
Share of spending on imports by type of spending	60	30	5
Supply-side			
Share of additional government demand met by crowding out	10	75	50
Time between spending and productivity increase (in years)	2	5	10
Share of increased production for exports	75	25	25
Annual real rate of return on government spending	15		
Foreign exchange market			
Demand elasticity	-1		
Supply elasticity	0.5		
Additional reserve accumulation as a share of aid receipts 1/	30		

Source: Fund staff estimates.

1/ Receipts net of government spending on imports.

Table I.2. Alternative Macroeconomic Framework--50 Percent Scaling Up of Donor Assistance

	2005	2006-10	2011-15	2016-20
Baseline scenario (before MDRI)				
	(In annual percentage change)			
Real GDP growth	4.3	6.0	6.0	6.0
CPI (period average)	18.4	7.1	5.0	5.0
Real exchange rate (appreciation +)	12.2	2.0	0.0	0.0
Export 1/	16.3	4.6	7.0	8.0
Imports 1/	18.0	6.9	8.0	8.0
	(In percent of GDP)			
Donor support	8.0	6.6	6.5	6.5
Grants	5.9	5.2	5.2	5.2
Loans	2.1	1.4	1.3	1.3
MDRI assistance	…	…	…	…
Overall fiscal balance, including grants	-2.7	-1.8	-1.6	-1.5
Overall fiscal balance, excluding grants	-8.7	-7.0	-6.8	-6.7
Net issuance of government securities 2/	1.9	0.7	0.5	0.5
External current account balance, excluding grants	-11.9	-10.1	-10.2	-10.0
	(In millions of U.S. dollars; unless otherwise specified)			
Donor support	560	634	914	1,341
of which MDRI assistance	…	…	…	…
Gross international reserves (end of period)	312	882	1,325	1,947
(In months of imports)	1.4	2.9	3.0	3.0
Scaling up scenario				
	(In annual percentage change)			
Real GDP growth	4.3	6.4	6.3	6.3
CPI (period average)	18.4	7.1	5.0	5.0
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.4	8.2	8.5
Imports 1/	18.0	8.9	7.1	7.7
	(In percent of GDP)			
Donor support	8.0	9.6	9.5	8.1
Grants	5.9	7.2	7.5	6.6
Loans	2.1	1.4	1.3	1.2
MDRI assistance	…	1.0	0.8	0.3
Overall fiscal balance, including grants 3/	-2.7	-1.8	-1.8	-1.8
Overall fiscal balance, excluding grants	-8.7	-10.0	-10.1	-8.7
Net issuance of government securities 2/	1.9	1.4	1.3	1.2
External current account balance, excluding grants	-11.9	-12.3	-11.4	-9.3
	(In millions of U.S. dollars; unless otherwise specified)			
Donor support	560	944	1,369	1,751
of which MDRI assistance	…	100	105	60
Gross international reserves (end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5

Source: Fund staff projections.

1/ Percentage change of exports and imports of goods and services as measured in U.S. dollars.
2/ Reflects net domestic financing in the baseline scenario; includes additional issues for liquidity management in the scaling up scenario.
3/ Including MDRI assistance.

Table I.3a. Sensitivity Analysis--Rate of Return (ROR) on Additional Government Spending
(Annual percentage change, unless otherwise specified)

	2005	2006-10	2011-15	2016-20
ROR = 15 percent				
Real GDP growth	4.3	6.4	6.3	6.3
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.4	8.2	8.5
Imports 1/	18.0	8.9	7.1	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.3	-11.4	-9.3
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5
ROR = 10 percent				
Real GDP growth	4.3	6.4	6.1	6.1
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.3	7.8	8.3
Imports 1/	18.0	8.9	7.1	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.4	-11.9	-10.2
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5
ROR = 20 percent				
Real GDP growth	4.3	6.5	6.5	6.6
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.5	8.6	8.9
Imports 1/	18.0	8.9	7.1	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.3	-10.8	-8.2
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5

Source: Fund staff projections.

1/ Percentage change of exports and imports of goods and services as measured in U.S. dollars.

Table I.3b. Sensitivity Analysis--Easticity of Demand and Supply of Foreign Exchange
(Annual percentage change, unless otherwise specified)

	2005	2006-10	2011-15	2016-20
Elasticities: demand=-1; supply = 0.5				
Real GDP growth	4.3	6.4	6.3	6.3
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.4	8.2	8.5
Imports 1/	18.0	8.9	7.1	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.3	-11.4	-9.3
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5
Elasticities: demand=-0.5; supply = 0.5				
Real GDP growth	4.3	6.4	6.3	6.3
Real exchange rate (appreciation +)	12.2	2.3	0.0	0.0
Export 1/	16.3	4.8	8.0	8.5
Imports 1/	18.0	9.2	7.0	7.6
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.3	-11.4	-9.3
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.3	4.5
Elasticities: demand=-0.25; supply = 0.25				
Real GDP growth	4.3	6.4	6.3	6.3
Real exchange rate (appreciation +)	12.2	5.8	-0.5	0.0
Export 1/	16.3	4.1	8.3	8.6
Imports 1/	18.0	8.7	7.2	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.3	-11.4	-9.3
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.6	4.4	4.5

Source: Fund staff projections.

1/ Percentage change of exports and imports of goods and services as measured in U.S. dollars.

Table I.3c. Sensitivity Analysis--Crowding Out by Additional Government Spending
(Annual percentage change, unless otherwise specified)

	2005	2006-10	2011-15	2016-20
Share of demand met by crowding out:				
Infrastructure=10%, Health=75%, Education=50%				
Real GDP growth	4.3	6.4	6.3	6.3
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.4	8.2	8.5
Imports 1/	18.0	8.9	7.1	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.3	-11.4	-9.3
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5
Infrastructure=0%, Health=0%, Education=0%				
Real GDP growth	4.3	6.7	6.1	6.3
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.4	8.2	8.5
Imports 1/	18.0	8.9	7.1	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.2	-11.3	-9.3
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5
Infrastructure=25%, Health=90%, Education=75%				
Real GDP growth	4.3	6.3	6.3	6.3
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.4	8.2	8.5
Imports 1/	18.0	8.9	7.1	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.4	-11.4	-9.3
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5

Source: Fund staff projections.

1/ Percentage change of exports and imports of goods and services as measured in U.S. dollars.

Table I.3d. Sensitivity Analysis--Accumulation of International Reserves
(Annual percentage change, unless otherwise specified)

	2005	2006-10	2011-15	2016-20
Additional accumulation of reserves:				
Share of aid receipts net of imports = 30%				
Real GDP growth	4.3	6.4	6.3	6.3
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.4	8.2	8.5
Imports 1/	18.0	8.9	7.1	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.3	-11.4	-9.3
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5
Share of aid receipts net of imports = 0%				
Real GDP growth	4.3	6.4	6.3	6.3
Real exchange rate (appreciation +)	12.2	3.8	-0.3	0.0
Export 1/	16.3	4.2	8.3	8.6
Imports 1/	18.0	9.2	7.0	7.6
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.9	-12.0	-9.7
Gross international reserves (in millions of U.S. dollars; end of period)	312	882	1,325	1,947
(In months of imports)	1.4	2.6	2.8	2.9
Share of aid receipts net of imports = 50%				
Real GDP growth	4.3	6.4	6.3	6.3
Real exchange rate (appreciation +)	12.2	2.9	-0.1	0.0
Export 1/	16.3	4.5	8.1	8.5
Imports 1/	18.0	8.7	7.2	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.0	-11.0	-9.1
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,357	2,496	3,746
(In months of imports)	1.4	4.2	5.4	5.6

Source: Fund staff projections.

1/ Percentage change of exports and imports of goods and services as measured in U.S. dollars.

Table I.3e. Sensitivity Analysis--Import Content of Additional Government Spending
(Annual percentage change, unless otherwise specified)

	2005	2006-10	2011-15	2016-20
Import content: Infrastructure=60%, Health=30%, Education=5%				
Real GDP growth	4.3	6.4	6.3	6.3
Real exchange rate (appreciation +)	12.2	3.3	-0.2	0.0
Export 1/	16.3	4.4	8.2	8.5
Imports 1/	18.0	8.9	7.1	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.3	-11.4	-9.3
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,167	2,028	3,026
(In months of imports)	1.4	3.5	4.4	4.5
Import content: Infrastructure=30%, Health=15%, Education=0%				
Real GDP growth	4.3	6.6	6.2	6.3
Real exchange rate (appreciation +)	12.2	3.7	-0.2	0.0
Export 1/	16.3	4.2	8.3	8.6
Imports 1/	18.0	8.6	7.3	7.7
External current account balance, excluding grants (in percent of GDP)	-11.9	-12.1	-11.1	-9.2
Gross international reserves (in millions of U.S. dollars; end of period)	312	1,260	2,257	3,379
(In months of imports)	1.4	3.9	4.9	5.1
Import content: Infrastructure=100%, Health=100%, Education=100%				
Real GDP growth	4.3	6.1	6.4	6.4
Real exchange rate (appreciation +)	12.2	2.0	0.0	0.0
Export 1/	16.3	4.9	7.9	8.5
Imports 1/	18.0	9.8	6.8	7.5
External current account balance, excluding grants (in percent of GDP)	-11.9	-13.1	-12.1	-9.7
Gross international reserves (in millions of U.S. dollars; end of period)	312	882	1,325	1,947
(In months of imports)	1.4	2.6	2.8	2.8

Source: Fund staff projections.

1/ Percentage change of exports and imports of goods and services as measured in U.S. dollars.

II. Fiscal Dominance and Inflation in Zambia[1]

A. Introduction

1. **Governments running persistent fiscal deficits tend, over time, to resort to money creation to finance their deficits, thus causing inflation.**[2] During the last two to three decades, Zambia experienced persistently high inflation and large budget deficits. In this context, this paper analyses how fiscal policy affected monetary outcomes and inflation in Zambia during the period 1981-2004. It provides evidence on the relationship between money, inflation, and budget deficits and tests for "fiscal dominance" using Vector Autoregression Analysis (VAR).[3] These tests seek to identify the prevailing type of fiscal and monetary policy regimes.

2. **In a so called "fiscally dominant" regime, the fiscal authorities—because of inefficiencies in their taxation system or for other reasons—set the primary budget balance independently of public sector liabilities.** As a result, persistent budget deficits may, over time, force the monetary authorities to monetize the debt, creating inflation. Under such a regime, monetary policy works mainly through seigniorage and the government's budget constraint to determine inflation.

3. **Conversely, in a "monetary dominant" regime, monetary policy determines inflation through more 'orthodox' channels such as monetary targets or Taylor rules.** Under this regime, the fiscal authorities set or adjust the primary budget balance to ensure the sustainability of public sector liabilities[4].

4. **The evidence suggests that fiscal policy in Zambia has relied on seigniorage as an important source of government revenue, while monetary policy monetized the debt, creating inflation.** This type of 'fiscally dominant' regime, which is observed frequently in developing countries, appears to have prevailed in Zambia especially during periods of severe fiscal stress. The VAR analysis, however, can not discriminate clearly between fiscal and monetary dominant regimes. Indeed, there is some evidence that fiscal policy tried to increase the primary budget balance in the presence of a current or expected increase in government liabilities, suggesting that a "monetary dominant" regime also operated in Zambia.

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[1] Prepared by Alfredo Baldini.

[2] Sargent and Wallace (1981).

[3] The econometric tests are based on Canzoneri et al. (2001) who use VAR analysis to discriminate between monetary and fiscally dominant regimes. In turn, these tests are based on the fiscal theory of price determination developed by Sims, (1994), Woodford (1994) and Cochrane (1998).

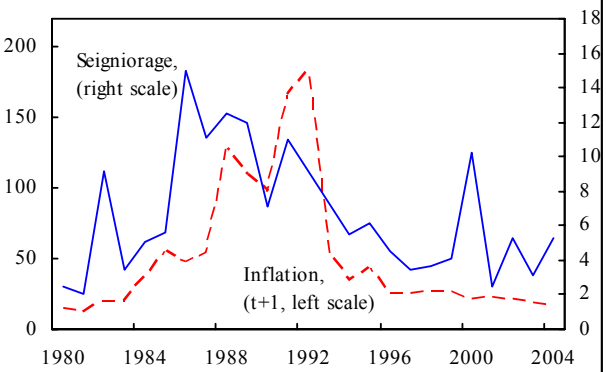
[4] Christiano and Fitzgerald, 2000.

5. **The plan of the paper is as follows:** section B provides an overview of budget deficits and inflation in Zambia and in a large group of sub-Saharan African countries; section C, summarizes how monetary theories have paid attention to underlying fiscal constraints; section D applies VAR analysis to test for fiscal dominance in Zambia, following the methodology suggested by Canzoneri et al. (2001). Section E concludes.

B. Trends in Budget Deficits and Inflation

6. **Fiscal outcomes in Zambia over the past three decades were not strong enough to support a program of disinflation.** Shortcomings in budget policy and execution resulted in extensive recourse to domestic financing. Persistent shortfalls in external budget support also contributed to higher domestic borrowing by the government. Moreover, monetary expansion typically exceeded targeted rates. As a result, during the period 1972-2004, annual CPI inflation averaged 41.5 percent, with a peak of 183 percent in 1993, while overall central government budget deficits averaged 9.3 percent of GDP.

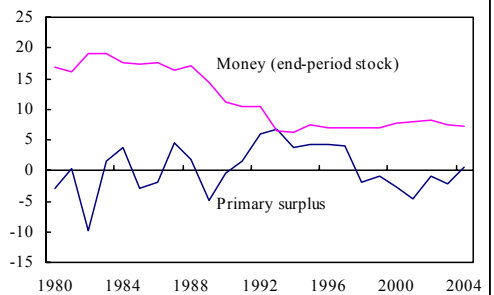
Figure II.1. Seigniorage and Inflation, 1980-2004



Sources: IFS, and staff calculations.

7. **Seigniorage served as an implicit form of taxation to finance the budget deficits.** As shown in Figure II.1, seigniorage—measured as the annual change in base money in percent of GDP—averaged, 5.8 percent of GDP during 1972-2004.[5,6] Moreover, the stock of base money was negatively correlated with primary budget balances, suggesting the monetization of debt. Figure II.2 shows the stock of base money and primary budget balances during the period 1980-2004 (both in percent of GDP). These two aggregates were negatively correlated throughout the period, with a coefficient of -0.3; however, during periods of severe fiscal stress, such as the 1980s and early 1990s, when the debt-to-GDP

Figure II.2. Money and Primary Surplus, 1980–2004
(In percent of GDP)



Sources: IFS, and staff calculations.

[5] In 2001-04 the average annual seigniorage was still high at 4 percent of GDP. Countries with thin capital markets, relatively inefficient tax systems, and unsustainable debt paths tend to rely most on seigniorage revenues. See Grilli, Masciandaro, and Tabellini, (1991).

[6] Seigniorage is closely related to (next-period) inflation with a correlation coefficient of 0.64.

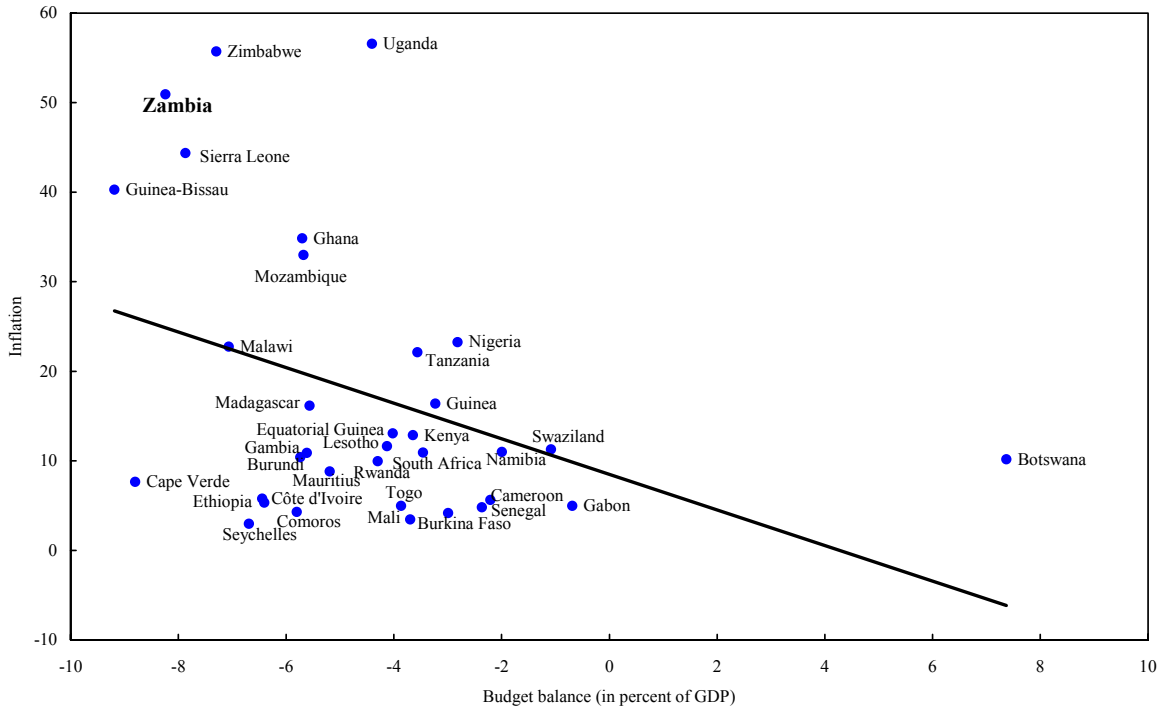
ratio and inflation were rising rapidly, the negative correlation was even higher (-0.5) and the stock of base money relative to GDP was double that in other periods, while primary surpluses were either negative or close to balance.

8. **Figure II.3** plots the average budget balance (revenue-expenditure) against inflation in the period 1980 and 2004 for a large group of Sub-Saharan countries in Africa, including Zambia. A regression of the annual average of inflation in the period 1980–2004 on the annual average of the central government budget balance (including grants) in percent of GDP for 34 SSA countries finds a significantly negative correlation between budget surpluses and inflation, with a one percentage point of GDP increase in the budget surplus decreasing inflation by almost 2 percentage points. Budget balances alone, however, explain only a relatively small proportion (14 percent of the cross-country variation in inflation.

*Inflation = 8.4 – 1.98*budget balance (T-G)*

R^2 *= 0.14; t-statistic on (T-G) = -2.04*

Figure II.3. Budget Balance and Inflation in Selected Sub-Saharan African Countries,1980–2004



C. Fiscal and Monetary Dominance: Theory and Evidence

9. **The evidence above on the persistently high inflation and the large extraction of seigniorage revenues, suggests that decisions about the supply of base money were 'dominated' by the fiscal authorities rather than by the central bank.** Moreover, the existence of a large and unsustainable nominal debt whose real value could be reduced by unanticipated inflation, provided an incentive to inflate away the debt, particularly in an environment of limited central bank independence.

10. **The literature on "time-inconsistency" illustrates that governments facing a trade-off between inflation and unemployment are tempted to choose higher-than-optimal inflation rates.** To reduce a government's 'inflationary bias', the suggested solution is to delegate monetary policy to an independent and conservative central bank.[7] That is, the key to guaranteeing a firm commitment to price stability is to have a central bank that is independent of the fiscal authorities and able to resist pressures to inflate away or monetize the debt.

11. **A more recent theoretical literature on how fiscal policy affects monetary policy, the so called "fiscal theory of the price level" (FTPL),[8] stresses the role of fiscal policy in price determination and also provides a theoretical rationale on whether a monetary policy set by an independent and conservative central bank is sufficient to guarantee price stability,** as standard monetarist theory would predict.[9] The FTPL argues that an inappropriate fiscal policy could jeopardize the objective of price stability, irrespective of how committed to low inflation the central bank may be.

12. **The difference between the standard view of a monetary dominant regime and the FTPL lies in their different interpretation of the government's intertemporal budget equation.** The former states that the value of government debt is equal to the present discounted value of future government tax revenues net of expenditures, where both debt and surpluses are denominated in units of goods. This equation may be expressed as

$$B/P = \text{present value of future surpluses,}$$

where B is the outstanding nominal debt of the government, and P is the price level. The standard view interprets this equation as a solvency constraint on the government's fiscal policy, and independent of the price level P. According to this view, when this equation is

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[7] Kydland and Prescott (1977), Barro and Gordon (1983) , and Rogoff (1985).

[8] Woodford (1994), Sims (1994), and Cochrane (1998).

[9] This summary of the FTPL is largely based on Christiano and Fitzgerald (2000).

disturbed, the government must take revenue and/or expenditure measures to restore equality and satisfy the solvency condition.

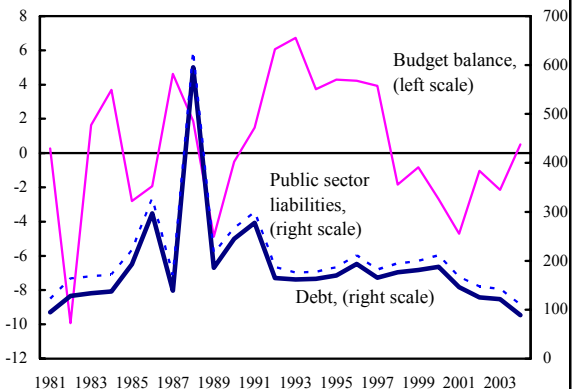
13. **However, advocates of the FTPL argue that the intertemporal budget equation should be viewed as an equilibrium condition:** whenever the solvency condition is disturbed, the market-clearing mechanism moves the price level, P, to restore equality. This implies that if the market anticipates a fall in future primary surpluses, the real value of government debt would fall, through an increase in the price level, and no adjustments to fiscal and monetary policy would be required to restore the fiscal solvency condition. A monetary dominant (MD) regime would emerge if primary surpluses adjust automatically to limit the growth of public liabilities and ensure fiscal solvency for any determined price level. As a result, monetary policy is conducted independently of government financing requirements and becomes the nominal anchor for macroeconomic stability. A fiscally dominant (FD) regime would instead prevail if primary surpluses tend to be uncorrelated with public liabilities and follow an arbitrary process, with prices adjusting to ensure fiscal solvency. As a result, in FD regimes fiscal policy becomes the nominal anchor.

14. **From a policy perspective, it is important, therefore, to know whether a country has either a fiscal or monetary dominant regime.** In a FD regime, to control the price level, monetary policy will work mostly through seigniorage and the government's budget constraint, while in a MD regime monetary policy will work through more standard channels (e.g. interest rates).[10]

D. Fiscal or Monetary Dominance? An Impulse Response Analysis

15. **To help determine which of these regimes prevailed in Zambia, the tests devised by Canzoneri, et. al (2001) to discriminate between a monetary dominant and a fiscally dominant regime were carried out.** These tests employ impulse response functions from an unstructured VAR model to determine how future primary budget surpluses and public sector liabilities, both normalized on GDP, respond to shocks to the primary budget surplus and to shocks to government

Figure II.4. Budget Balances and Public Sector Liabilities, 1980–2004
(In percent of GDP)



[10] Econometric testing of the FTPL was inaugurated by Cochrane (2001) and Canzoneri, et. al. (2001) who run tests for fiscal dominance using U.S. post-war data. More recently, Tanner and Ramos (2002), and Zoli (2005) have tested FTPL on, respectively Brazil, and a number of selected emerging market economies, Nachega (2005) tested FTPL for the Democratic Republic of Congo.

liabilities. The evolution of the primary budget surplus, central government debt, and central government liabilities, all as ratios to GDP, are shown in Figure 4.

16. **Consider first a shock to the primary surplus.** In a MD regime, an increase in the current primary budget surplus helps reduce future liabilities. Thus, under this regime, a *negative* relationship between *current* innovations to the primary budget surplus and *future* liabilities should be observed.[11] In a FD regime, the primary budget surplus is assumed to be exogenous, and therefore *future* liabilities should not respond to a *current* increase in the primary budget surplus.

17. **Consider next a shock to government liabilities.** In a MD regime, a *current* increase in government liabilities helps increase future primary budget surpluses. Under this regime, a positive relationship between *current* innovations to liabilities in the first period and *future* primary budget surpluses should be observed. A similar positive relationship would also be consistent with a FD regime, however, where nominal GDP (or the price level) has to fall to make the value of the existing debt equal to the expected present value of primary budget surpluses. A negative relationship or no relationship between current innovations to government liabilities and future primary surpluses are also consistent with a FD regime.

18. **The impulse response functions of the VAR computed for both orderings of the variables are shown in Figures 5 and 6**.[12] The lack of response of future budget primary surpluses to a *current* shock in liabilities for several periods after the shock (from period 1 to 4), suggests a fiscally dominant regime (Figure 5, top left panel). The positive lagged response (from period 5) is consistent with both a fiscally dominant regime and a monetary dominant regime, as the fiscal authorities would adjust the primary budget surplus to limit debt accumulation, and thus cannot discriminate between the two regimes.

19. **Government liabilities respond positively to a shock in the primary budget surplus, thereby excluding a fiscally dominant regime** (Figure 5, top right panel). However, a monetary dominant regime cannot be excluded, since government could run a larger primary budget surplus in anticipation of future higher obligations. The positive autocorrelations of the primary budget surplus process (see bottom panel in Figures 5 and 6)

[11] A positive relationship between current innovations to the primary surplus and future liabilities would also be consistent with a MD regime. This interpretation assumes that the government is generating a larger primary surplus in anticipation of higher future obligations (Tanner and Ramos, 2002).

[12] The Hodrick-Prescott filter was used to transform the variables into trend stationary series. The Akaike information criterion indicated two lags. Granger-causality tests rejected the null hypothesis of no causality for each variable.

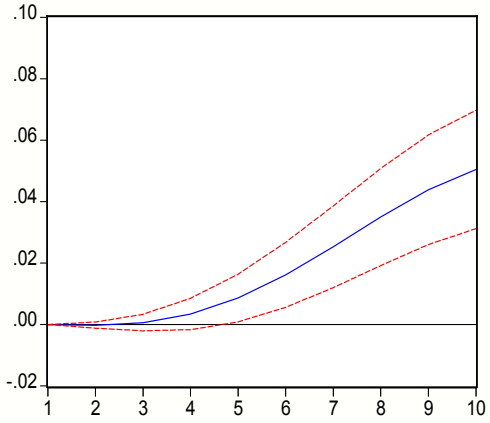
Figure 5
Impulse Response Analysis
(to Cholesky One S.D. Innovations ± 2 S.E.)

Ordering: Primary Budget Surplus/GDP, Liabilities/GDP

Response of (future) primary budget surplus/GDP to (currrent) Liabilities/GDP

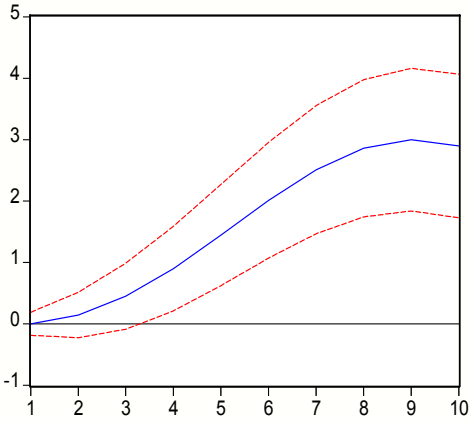
When positive:
1. MD (positive response of future primary budget surpluses to current liabilities) or
2. FD (Price level falls so the real value of liabilities increases, in anticipation of future higher primary budget surplus)

When zero: FD (liabilities do not respond to primary budget surpluses)

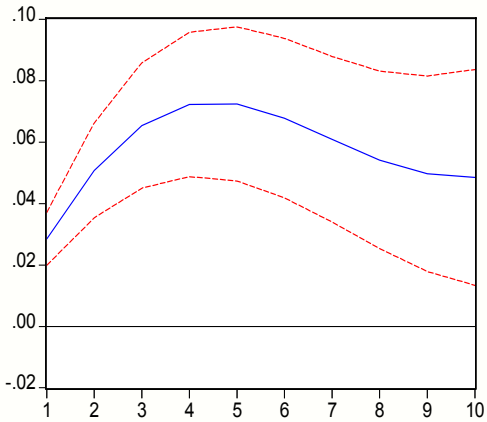


Response of future Liabilities/GDP to current primary budget surplus/GDP

MD (positive response of future liabilities to current primary budget surpluses) Intepretation = govt creates primary budget surpluses in anticipation of higher liabilities



Response of Surplus/GDP to Surplus/GDP



Response of Liabilities/GDP to Liabilities/GDP

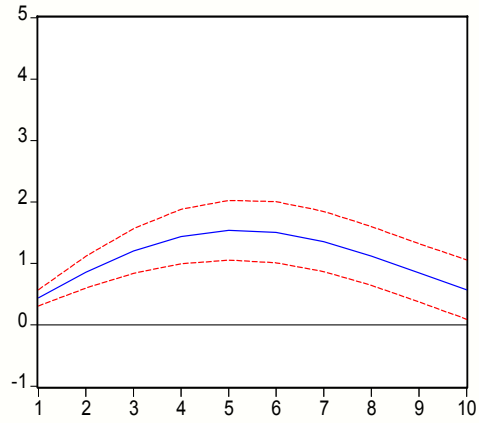
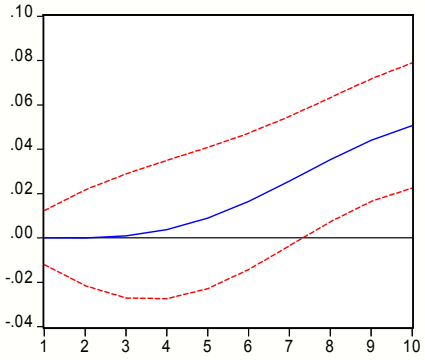


Figure 6
Impulse Response Analysis
(to Cholesky One S.D. Innovations ± 2 S.E.)
Ordering: Liabilities/GDP, Primary Budget Surplus/GDP

Response of (future) primary budget surplus/GDP to (currrent) Liabilities/GDP

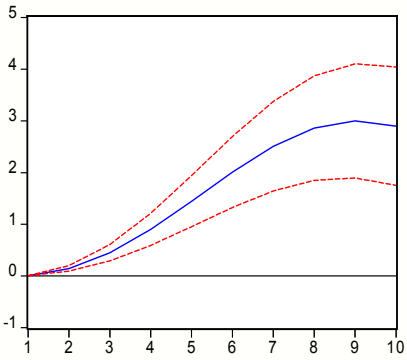
When positive:
1. MD (positive response of future primary budget surpluses to current liabilities) or
2. FD (Price level falls so the real value of liabilities increases, in anticipation of future higher primary budget surplus)

When zero: FD (liabilities do not respond to primary budget surpluses)

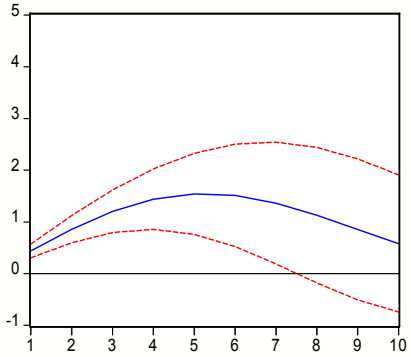


Response of future Liabilities/GDP to current primary budget surplus/GDP

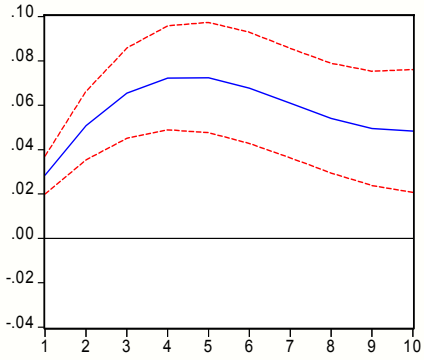
MD (positive response of future liabilities to current primary budget surpluses) Intepretation = govt creates primary budget surpluses in anticipation of future higher liabilities



Response of Surplus/GDP to Surplus/GDP



Response of Liabilities/GDP to Liabilities/GDP



suggest that the authorities may wish to run surpluses over a long period of time, perhaps to cope with external shocks which are likely to be persistent. When the ordering is inverted and liabilities are entered first in the VAR estimation, the results are similar (Figure 6).

E. Concluding Remarks

20. Fiscal considerations and commitment drive the choice of monetary policy regime. In this context, this paper analyzed the effects of fiscal outcomes on inflation in Zambia for the period 1980-2004. The empirical results suggest that inflation in Zambia was mainly driven by the government's need to maximize seigniorage to finance persistently large budget deficits. The characteristics of such a "fiscally dominant" regime were especially evident in times of severe fiscal stress, such as the period of fast debt accumulation and rapidly rising inflation during (1980-1993). The impulse response analysis, however, suggests that future liabilities tend to grow despite a positive shock in the current primary surplus. This could be consistent with a monetary dominant regime, if governments were willing to create surpluses (or reduce deficits) in anticipation of mounting future liabilities.

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III. Recent Experience in the Implementation of Monetary Policy[1]

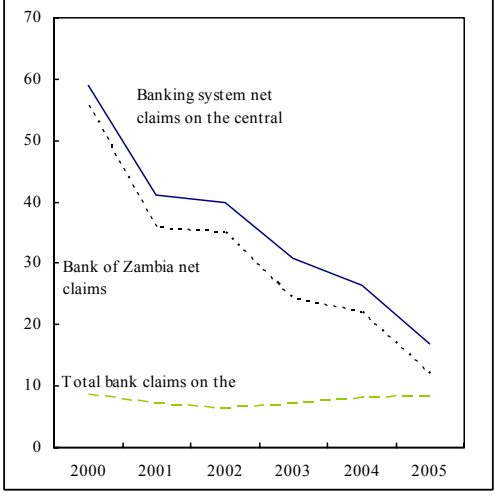
A. Introduction

1. **Until recently, the scope for an active monetary policy to contain inflationary pressures was severely limited by the large domestic borrowing requirement of the central government to finance its deficit.** This has contributed to high inflation and domestic interest rates, and the crowding out of the private sector. Following the marked improvement in the fiscal position of the government in 2004 and 2005, the Bank of Zambia (BoZ) has been able undertake a more active policy, and this has led to a significant slowdown in the growth of monetary aggregates in the course of 2005. The conduct of policy has, however, faced challenges, owing mainly to the tensions between the stated and unstated objectives of policy. In particular, efforts by the monetary authorities to respond especially to exchange rate developments, while at the same time pursuing the explicit targets for reserve money and international reserve accumulation under the monetary program, has led to unplanned sharp fluctuations in reserve money, creating uncertainty about the policy stance.

B. Fiscal Adjustment and the Monetary Policy Environment

2. **Prior to the recent improvement in the fiscal position of the government, the macroeconomic pressures from the budget rendered monetary policy largely passive.** In 2000, net banking sector claims on the government were equivalent to nearly 60 percent of GDP, most of which were essentially the monetization of the fiscal deficits of the government. Following considerable but highly uneven fiscal consolidation efforts, especially in the last few years, these pressures have been gradually brought under control. At the end of 2003, net bank claims on the government had declined by about a half to 30 percent of GDP. Further fiscal adjustment undertaken in 2004 sharply reduced the BoZ's net domestic claims on the central government by 10 percentage points to 12 percent of GDP.

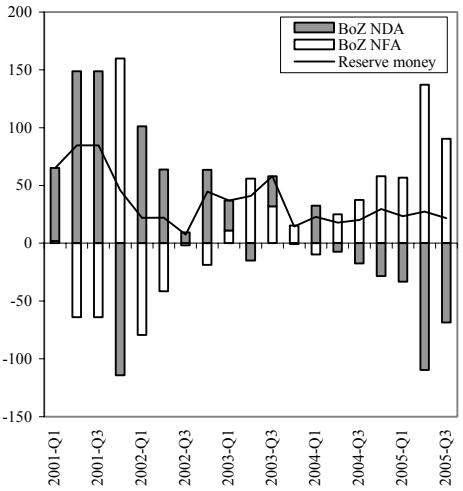
Figure III.1. Bank Claims on the Central Government



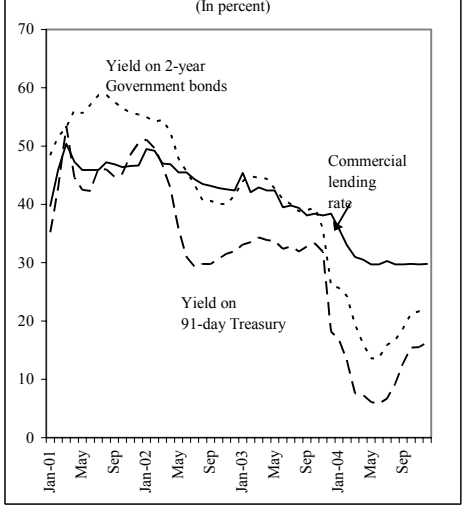
[1] Prepared by Patrick Akatu.

3. **The contraction in government borrowing from the Bank of Zambia (BoZ) has substantially eased pressure on the growth of reserve money and monetary conditions.** The contribution of the BoZ's net domestic assets to the growth in reserve money, largely reflecting the claims on government, fell from nearly 150 percent in 2001 to 26 percent in the first quarter of 2003 (Figure III.2). Over the same period, market interest rates and yields on government securities fell from a range of 35-60 percent to 21-38 percent (Figure III.3). Since 2004, reserve money growth has been driven almost entirely by the increase in foreign assets.

Figure III.2.Contribution to the growth of Reserve Money
(In percent)



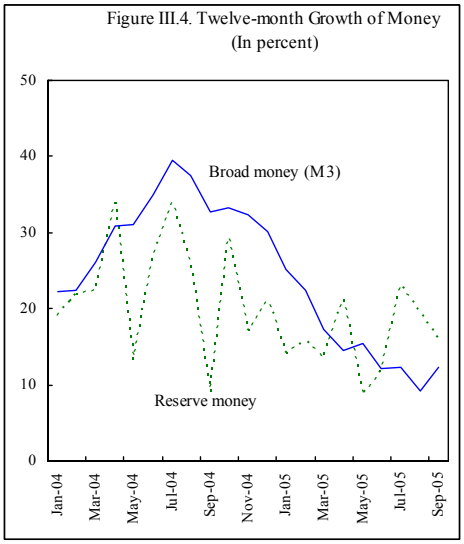
Fugure III.3. Zambia: Yield on Government Securities and Commercial lending rates
(In percent)



C. Conduct of Monetary Policy

4. **In the conduct of policy in 2005, especially in the first half of the year, the BoZ was generally successful in coordinating its foreign exchange transactions, the main source of growth in reserve money in the period, and its interventions through its two main instruments of policy.** These instruments are primary issues of government securities and open market operations (See Box 1). Reserve money was maintained on the desired path and within the indicative monthly levels most of the time. On a year-on-year basis, the growth of broad money has continued to decelerate in line with the goal of policy (Figure III.4). However, while the growth of reserve money trended downward, its

Figure III.4. Twelve-month Growth of Money
(In percent)



movement showed rather wide fluctuations. The broad measure of reserve money, which includes currency and all commercial bank deposits at the BoZ, has on the whole been more stable than the narrow measure, which is the Bank's operating target of policy. The narrow measure excludes commercial bank deposits held in interest-bearing term deposits at the BoZ (Figure III.6).[2]

Box 1. Institutional Framework of Monetary Policy

The institutional arrangements for the conduct of monetary policy in Zambia have a number of important structural features that are conducive to the effective conduct of policy. A policy coordinating committee chaired by the Governor meets monthly to review economic and policy developments and decide on future policy. The bank's policy, including underlying assumptions, are communicated formally in monetary policy statements issued twice each year.[1/] To enhance liquidity forecasting, a formal structure is in place for coordination between the central bank and the ministry of Finance and Development Planning (MoFNP). The bank also maintains regular and timely communication with participants in the money market regarding issues of government securities and open market operations.

The conduct of policy is handicapped, however, by limitations associated with the under-development of the financial markets. These include a small, mainly overnight interbank market where transactions are largely all collateralized, absence of secondary market activity, and a highly limited range of market instruments. Although under active consideration in the context of the ongoing constitutional reform, the independence of the BoZ remains an issue. There are, in addition, technical limitations associated with data deficiencies. To address these weaknesses, the authorities plan to implement a range of reforms set out in the Financial Sector Development Plan, which is being phased into the National Development Plan, 2006-2011.

The Bank of Zambia relies on indirect instruments of monetary policy, which comprise primary issues of government securities, Treasury Bills and bonds, and open market operations involving repos and placements of tenure deposits by commercial banks at the BoZ at commercial interest rates. The other instruments of policy are the discount rate, cash reserve requirements and liquidity ratio.[2/] The intermediate target of policy is broad money (M3) while reserve money serves as the operating target. Monetary policy is conducted within the framework of floating exchange rate regime, with no preannounced target.

[1/] The BoZ Act requires the Bank to submit these statements to the minister of finance who in turn presents them to Parliament. They are also required to be published in the Government's Gazette.
[2/] In practice, the BoZ has relied mainly on the first two, primary issues of securities and OMO.

[2] The maturities of these deposits are mainly 90 days and longer, and they do not qualify for satisfying reserve requirements. They would not therefore, not fit into the category of liabilities that support the expansion of broad money and credit.

Figure III. 5. Actual and Program Levels of Reserve Money
(In millions of Kwacha)

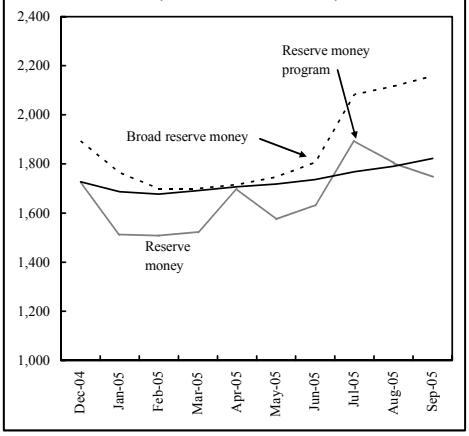
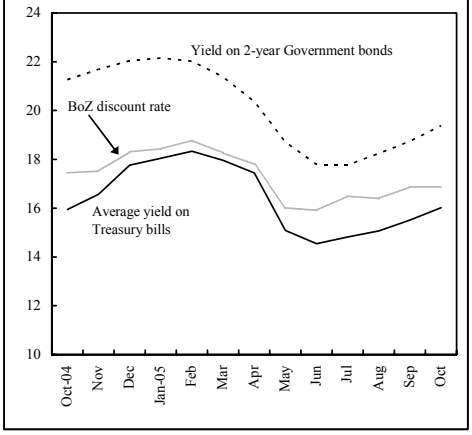


Figure III.6. Discount Rate and Yield on Government Securities
(In percent)



5. **At the beginning of 2005, the BoZ took firm action to address an overhang of liquidity associated with the bunching of donor assistance toward the end of the previous year.** Over the next three months, these interventions would have been sufficient to keep reserve money on the targeted path with little or no recourse to open market operations. The authorities, nevertheless undertook substantial open market operations that had the effect of maintaining reserve money well below the indicative target (Figure III.6). Domestic interest rates fell in this period, reflecting confidence in the monetary authorities' commitment to prudent monetary and fiscal policies. Toward the end of the second quarter, however, the broader measure of reserve money, which had so far been kept in line with policy, began to rise significantly above the target path and, in July, reserve money considerably exceeded the indicative level. Furthermore, against the backdrop of a continuing rise in the inflation rate outside the target, interest rates, which had been on a downward trend from the beginning of the year, edged steadily upward.[3]

6. **The setback to policy implementation stemmed partly from the difficulty in finding an appropriate balance between various objectives.** In addition to the explicit targets for reserve money and the accumulation of international reserve, the authorities were paying close attention to exchange rate developments. As the kwacha continued to strengthen in the foreign exchange market, commercial banks reduced their foreign

[3] Following a broad review of developments in the first half of the year and a reassessment of the inflation outlook, in light of rising oil prices and increases in food and electricity prices, the authorities moved to tighten policy in the second half of the year. In its *Monetary Policy Statement* for July-December 2005, the BoZ lowered the target for reserve and broad money growth to 9.8 percent and 9.9 percent, respectively, from 10.8 percent and 14.8 percent, respectively, with a view to ensuring that the inflation target of 15 percent for the year is achieved.

exchange positions in an effort to rebalance their portfolios and this provided an opportunity for the BoZ to accumulate international reserves. In July, purchases of foreign exchange by the bank, however, proved difficult to sterilize fully and led to a spike in reserve money to well above the program. Significant foreign exchange sales in the following month became necessary to bring reserve money back to the target level.

7. **The coordination of open market operations and issues of government securities also pointed to continuing inadequacies.** In September, for example, relatively large open market operations became necessary largely to offset the liquidity injection from the bank's transactions in government securities (See Table 1). While this lack of alignment in the bank's interventions reflects existing shortcomings in forecasting the financing needs of the government, on this occasion the problem appears to have been amplified by the emergence of the structural increase in liquidity, as indicated by the widening gap between the broad and narrow measures of reserve money.[4]

8. **Hence, while the broad goal of slowing down the growth of monetary aggregates is being achieved, experience in the conduct of policy suggest areas of improvement to avoid the unintended swings in reserve money growth that could work to the detriment of the objective of lowering inflationary expectations and the development of a clearly understood policy transmission mechanism.** With government borrowing from the BoZ ceasing to be a source of liquidity expansion, the task of the BoZ in controlling overall liquidity has largely become that of managing its response to the net inflows from the external sector. An important aspect of this role relates to interventions by the BoZ to smooth fluctuations in the interbank foreign exchange market, which would not normally present major liquidity problems. However, to the extent that exchange market developments create an opportunity for the BoZ to step up its reserve accumulation beyond the target level for the year, the change in objective would need to be accompanied by an adjustment in the program of primary issues of government securities and/or open market operations to address the structural liquidity increase that results. The point is not to suggest the need to always sterilize, but simply to say that, for a given monetary program scenario, inadequate coordination of foreign exchange and liquidity operations can undermine the objective of policy.

9. **The sharp swings in reserve money have to a significant extent been more the result of inadequate coordination in the use of policy instruments than of exogenous liquidity developments elsewhere in the financial system.** The widening divergence between the broad and narrow measures of reserve money, which reflects the increasing recourse to open market operations, has been necessary partly because of the liquidity

[4] The volume of Treasury bill issues is decided on a quarterly basis by the monetary policy committee taking into account the financing needs of government, maturing securities, and other influences on liquidity including expected inflows of foreign assistance. Forecasts of the latter are explicitly incorporated into the monthly monetary program.

injections from the operations in government securities. The intention of the authorities to keep reserve money growing at a steady pace and below the program level is evident in the first quarter and to a lesser extent in the second. From the beginning of the third quarter, however, adjusting to the increase in structural liquidity associated with the Bank's foreign exchange interventions and injections of liquidity from operations in government securities operations, contributed to swings in reserve money.

D. Conclusion

10. **The fiscal adjustment undertaken by the government over the last few years and especially since mid-2004 has allowed the Bank of Zambia to undertake an active monetary policy in 2005 that has helped to control excess liquidity in the system and achieve a marked slowdown in the growth of broad money.** At the same time, the conduct of policy contributed to unintended swings in reserve money capable of creating uncertainty about the stance of policy. Going forward, the appropriate setting of policy instruments, especially between foreign exchange transactions and primary issues of government securities needs to be consistent with the monetary policy targets, to avoid the build up of liquidity pressures that could work against the objective of maintaining a stable policy stance.

Table III.1. Analytical Accounts of the Bank of Zambia, December 2004- September 2005
(In billions of Kwacha)

	2004	2005								
	Dec-04	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Net foreign Assets (including IMF)	-3,376.4	-3,289.0	-3,359.3	-3,208.7	-4,053.9	-4,001.6	-3,839.4	-2,651.4	-2,604.4	-2,653.8
Assets	4,852.1	4,743.7	4,676.8	4,717.4	4,784.0	4,781.1	4,794.7	4,997.7	4,879.5	4,882.0
o/w IMF	3,393.4	3,391.3	3,388.7	3,372.3	3,412.1	3,407.9	3,456.3	3,452.4	3,443.2	3,446.8
Liabilities	-8,228.5	-8,032.6	-8,036.2	-7,926.1	-8,837.9	-8,782.6	-8,634.1	-7,649.1	-7,483.9	-7,535.8
o/w IMF	-7,960.0	-7,868.2	-7,866.3	-7,732.2	-8,667.6	-8,610.2	-8,466.2	-7,480.4	-7,315.0	-7,370.4
Net foreign Assets (excluding IMF)	1,190.2	1,188.0	1,118.3	1,151.1	1,201.6	1,200.7	1,170.5	1,376.6	1,267.5	1,269.8
Assets	1,458.7	1,352.4	1,288.2	1,345.1	1,371.9	1,373.1	1,338.4	1,545.3	1,436.3	1,435.2
Liabilities	-268.5	-164.4	-169.9	-193.9	-170.3	-172.4	-167.9	-168.8	-168.9	-165.4
Net Domestic Assets	5,270.4	5,052.7	5,058.2	4,909.0	5,769.2	5,748.6	5,645.4	4,734.2	4,720.4	4,812.1
Net domestic credit	1,610.2	1,434.7	1,450.4	1,386.4	1,354.6	1,371.1	1,371.1	1,396.5	1,496.1	1,566.2
Claims on central Government (net)	1,280.5	1,103.6	1,096.8	996.6	973.3	992.4	983.0	987.9	1,060.8	1,138.7
Claims	2,172.0	2,158.6	2,148.8	2,130.9	2,188.0	1,926.1	1,877.6	1,871.1	1,969.7	1,816.1
Deposits	-891.4	-1,054.9	-1,052.0	-1,134.3	-1,214.7	-933.7	-894.5	-883.2	-908.9	-677.4
Claims on nonfin public enterprises	85.5	71.4	99.6	127.8	103.3	104.0	103.3	103.6	109.9	112.8
Claims on private enterprises	10.8	11.9	12.7	13.9	15.6	17.0	18.4	19.0	19.8	15.9
Claims on households	29.5	29.4	29.2	28.6	31.3	31.4	31.4	31.5	31.9	35.2
Claims on banks	203.8	218.4	212.2	219.6	231.1	226.4	235.0	254.5	273.8	263.7
Other items (net)	3,660.2	3,617.9	3,607.7	3,522.6	4,414.6	4,377.5	4,274.2	3,337.7	3,224.3	3,245.9
Assets	4,372.2	4,287.7	4,287.2	4,171.6	5,071.7	5,018.0	4,888.0	3,915.8	3,771.0	3,810.3
Liabilities	-712.0	-669.7	-679.5	-649.0	-657.1	-640.5	-613.7	-578.2	-546.7	-564.3
Reserve Money (including banks' term deposits) 1/	1,894.0	1,763.7	1,698.9	1,700.3	1,715.3	1,747.1	1,805.9	2,082.8	2,116.0	2,158.4
Reserve money (excluding banks' term deposits) 2/	1,721.1	1,512.4	1,507.7	1,522.7	1,696.2	1,574.0	1,633.0	1,892.5	1,803.1	1,747.2
Currency in circulation (less teller's cash)	818.5	784.4	768.0	771.3	803.5	854.6	911.4	987.5	955.6	945.4
Liabilities to commercial banks	1,066.0	970.6	922.3	921.1	903.7	884.6	886.9	1,086.8	1,151.4	1,203.9
Liabilities to commercial banks (excluding term deposits)	912.3	738.3	750.6	762.6	903.7	729.0	731.3	914.2	856.2	810.4
Required reserves (kwacha deposits)	351.6	359.0	349.5	378.1	368.1	357.4	365.3	384.6	392.0	392.3
Required reserves (forex deposits in USD)	294.7	299.7	292.6	290.5	284.8	291.1	282.4	348.5	334.8	325.8
Current account deposits (positive) 3/	249.1	62.9	91.6	77.1	233.9	65.2	68.2	165.7	114.0	76.8
Term deposits of banks 4/	153.8	232.3	171.8	158.5	0.0	155.6	155.6	172.7	295.3	393.6
Other bank deposits	16.9	16.7	16.9	16.9	16.9	15.3	15.3	15.3	15.3	15.3
Liabilities to nonbanks	9.5	8.5	8.5	8.2	8.0	7.9	7.9	8.4	9.0	9.1
Memo items										
Reserve money program 5/	1,727.1	1,687.1	1,676.9	1,691.4	1,706.6	1,717.9	1,736.6	1,767.7	1,791.2	1,822.5
GRZ Govt. securities	2,592.3	2,687.0	2,758.1	2,888.0	2,947.5	2,985.5	2,979.0	3,112.9	3,132.8	3,087.6
Treasury bills	1,340.7	1,389.1	1,427.1	1,535.8	1,582.0	1,618.5	1,611.4	1,625.4	1,702.9	1,693.6
Bonds	1,251.5	1,297.8	1,331.0	1,352.2	1,365.5	1,367.0	1,367.6	1,487.5	1,430.0	1,394.0
Issues of securities	...	94.7	71.1	129.9	59.5	38.0	-6.5	133.9	19.9	-45.2
Total bank and nonbank credit to Govt.	3,305.4	3,363.7	3,454.9	3,473.1	3,449.0	3,559.1	3,624.7	3,609.1	3,749.6	3,818.8
Total bank and nonbank financing of Govt.	...	58.4	91.1	18.2	-24.2	110.2	65.6	-15.6	140.4	69.3
Liquidity injection (+)/withdrawal (-) 6/	...	-36.3	20.0	-111.6	-83.7	72.2	72.1	-149.5	120.5	114.5
Plus: BoZ OMO	...	-78.5	60.5	13.3	158.5	-155.6	0.0	-17.1	-122.6	-98.3
Total injection (+)/withdrawal (-)	...	-114.8	80.5	-98.4	74.8	-83.4	72.1	-166.6	-2.1	16.2

Source: Bank of Zambia; and staff estimates.
1/ The broad measure of reserve money.
2/ The narrow measure of reserve money.
3/ Banks' free reserves (excess, precautionary)
4/ These arise from open market operations.
5/ The indicative program under the PRGF arrangement for 2005.
5/ A withdrawal of liquidity occurs when primary issues in the period exceed the amount utilized to finance the government in the month.

IV. Export Performance and Competitiveness[1]

A. Introduction

1. **Prospects for sustained growth of the Zambian economy over the long run are closely tied to the diversification of exports.** The favorable performance of the Zambian economy in recent years has largely been driven by a rebound in copper sector output following the privatization of the main mining company in 2000, as well as the recent rise in world market prices for copper to historic highs. Nontraditional exports[2] have also grown strongly but their contribution to export earnings is dwarfed by that of metals. With mining output likely to slow over the next few years, following a period of rapid growth associated with the refurbishment of old mines and sustained investment in new ones, and the possibility that copper prices will retreat from current levels, Zambia's growth over the long run will need to be supported by the strengthening and diversification of nontraditional exports. Among the nontraditional export sectors that have been identified as ripe for expansion are floriculture, horticulture, agro-processing, textiles and garments, gemstones, and tourism.

2. **The expansion of nontraditional exports will hinge on productivity improvements and lower costs of doing business in Zambia.** Zambia cannot rely on a depreciating real exchange rate to strengthen the international competitiveness of nontraditional export sectors. As a result of improvements in the terms of trade and renewed confidence in the economy, arising from the marked improvement in fiscal performance and the commitment of extensive external debt relief, the real effective exchange rate of the kwacha has appreciated considerably over the last two years. While a weakening of the real exchange rate cannot be precluded if and when copper prices ease from their current highs, greater productivity and a lower cost of doing business are essential for securing the international competitiveness of the Zambian economy.

3. **This paper reviews some of the issues that impinge on the competitiveness of nontraditional export sectors in the Zambian economy.** The first section below reviews Zambia's export performance over the last decade, and highlights that nontraditional export sectors have done reasonably well in recent years, although less spectacularly than the copper sector. The next section considers movements in the real effective exchange rate of the Kwacha, both from a longer term perspective and in recent years. This also discusses the recent sharp appreciation of the Kwacha and its potential implications, if sustained, for

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[1] Prepared by Birgir Arnason.

[2] Nontraditional exports are all exports other than raw metals, mainly copper but also cobalt. Nontraditional exports include some processed copper wire. Tourism is sometimes counted as a nontraditional export sector. While there are clear indications that tourism has been growing in Zambia in recent years, data on trends in the sector is not available.

competitiveness. The paper then reviews factors that have been identified as obstacles to private sector investment in the Zambian economy. The penultimate section touches on trade policy measures that could support export diversification. A short section concludes.

B. Export Performance

4. **Zambia's exports, led by copper, have grown sharply in recent years.** Between 2001 and 2004, total goods exports more than doubled, from US$880 million to US$1,780 million (Figure IV.1); a further increase to US$2,090 million is projected for 2005. Metals exports, owing to a recovery in mining output and a sharp rise in copper prices on world markets, account for most of this increase; between 2001 and 2005, the volume of copper exports is estimated to have grown by 40 percent while copper prices have doubled. Nontraditional exports have also recorded healthy growth, rising from US$295 million in 2001 to US$457 million in 2004, an average annual increase of 16 percent; a further increase of 18 percent is projected for 2005. However, after rising during the late 1990s, the share of non-traditional goods exports in total goods exports has declined in recent years, from a peak of 38 percent in 1999 to 26 percent in 2004 (Figure IV.2). As a share of world exports, total exports have risen in recent years, following a long-standing downward trend (Figure IV.3); however, the share of non-traditional exports in world exports has been relatively flat.

5. **The improved export performance of recent years has led to a sharp strengthening of Zambia's external balances.** Thus, notwithstanding rising imports associated with the pick up in economic activity and renewed investment in the copper sector, the merchandise trade balance went from a deficit of 9½ percent of GDP in 2001 to a surplus of 1½ percent in 2004 (Figure IV.4). Over the same period, the current account deficit narrowed from 21 percent of GDP to 11 percent.

6. **Zambia's nontraditional exports consist of a variety of products and are destined for widely spread markets.** In 2004, primary agricultural products accounted for more than a third of nontraditional exports, while engineering products (mainly copper wire) and floricultural and horticultural products (for example, cut flowers) each accounted for between 13-14 percent (Table IV.1). In 2004, about 43 percent of Zambia's total exports were absorbed by industrial countries, of which European Union countries accounted for 25 percent but the United States only 1 percent (Table IV.2).[3] South Africa received more than a quarter of exports in 2004, and was the origin of almost one half of imports.

[3] The low share of exports to the U.S. suggests that market access provided under the African Growth and Opportunities Act have not been exploited.

Figure IV.1. Zambia. Goods Exports, 1995-2004
(In millions of US dollars)

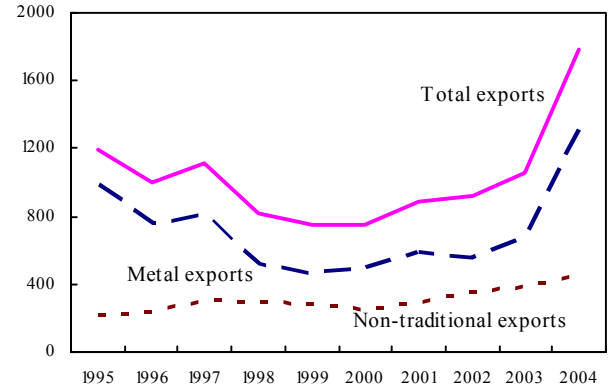


Figure IV.2. Zambia. Goods Exports, 1995-2004
(Percentage shares)

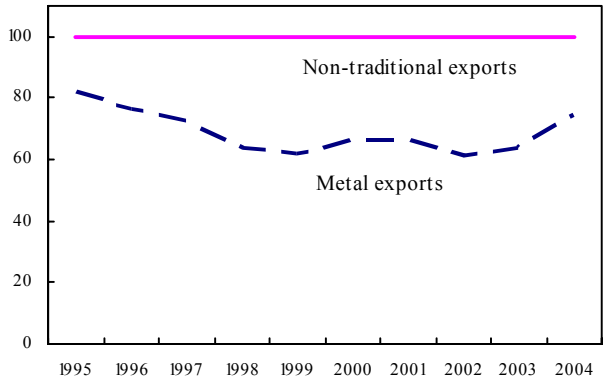


Figure IV.3. Zambia. Exports relative to World Exports, 1995-2004
(In percent)

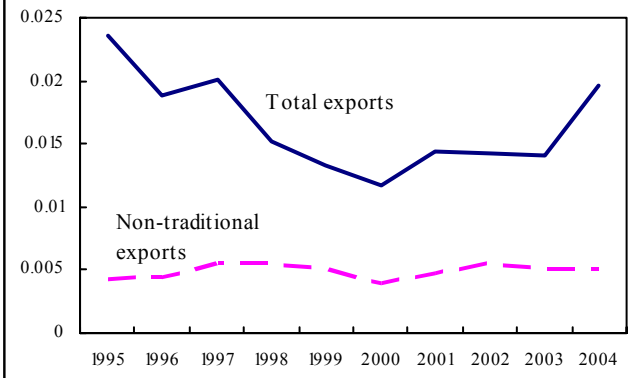


Figure IV.4. Zambia. Trade and Current Account Balances, 1995-2004
(percent of GDP)

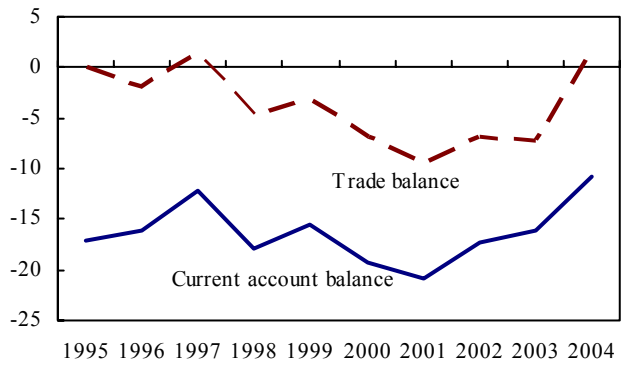


Table IV.1. Zambia: Structure of NonTraditional Exports, 2004
(in percent of total)

Primary agriculture	34.9
Engineering	13.8
Floriculture and horticulture	13.4
Food processing	10.6
Textiles	5.3
Other manufacturing	6.2
Other	15.8
Total	100.0

Source: Export Board of Zambia.

Table IV.2. Zambia. Direction of Trade, 2004
(percent of total)

	Exports	**Imports**
Industrial countries	43.0	27.5
of which: European Union	25.1	22.3
United States	1.2	1.7
South Africa	25.6	46.2
Other	31.4	26.2
Total	100.0	100.0

Source: IMF, Direction of Trade Statistics.

7. Recent export performance contrasts sharply with that of the 1980s and 1990s, when export earnings steadily eroded**,** as mining output contracted and copper prices were subdued, and export diversification failed to take off, despite extensive liberalization of the

economy during the first half of the 1990s.[1] On the mining side, the privatization of the Konkola Copper Mines was instrumental in reversing the trend of declining output. The favorable performance of nontraditional exports can, at least in part, be seen a delayed response to the liberalization of the 1990s, although a more favorable macroeconomic environment, including stable nominal and real exchange rates, have also been at work.[2]

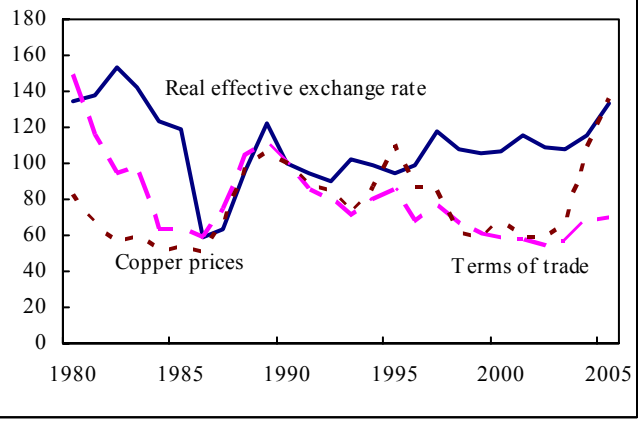
C. Exchange Rate Developments

8. **Movements in the real exchange rate of a currency are a gauge of changes in the international competitiveness of an economy.** In principle, the real effective exchange rate can me measured in a variety of ways, using different price and cost indices. For Zambia, the only available measure of the real effective exchange rate is based on relative consumer price developments in Zambia and in trading partners. While this measure is inferior to cost-based measures of the real effective exchange rate, not least because the CPI includes imported goods, the price of which is a function of the exchange rate, it nevertheless provides an indication of trends in international competitiveness.

Long-Term Perspective on the Real Effective Exchange Rate

9. **Long-term movements in the kwacha's real effective exchange rate reflect the vagaries of the Zambian economy, especially the swings in world prices of copper and the terms of trade more broadly** (Figure IV.5). During the first decade of independence, in 1964, Zambia enjoyed robust export earnings from copper. When copper prices collapsed in the mid-1970s, Zambia resorted to large scale foreign borrowing to finance its import needs and avoid an adjustment to the real

Figure IV.5. Zambia. Real Effective Exchange Rate and the Terms of Trade, 1980-2004
(1990=100)



[1] During the early 1990s, restrictions on bank lending and interest rate determination were removed, the exchange rate regime was liberalized, extensive trade reform was undertaken, privatization of parastatals was launched (although not fully carried out), and agricultural policy was reformed. Fiscal reforms, including cash budgeting, were also introduced but failed to rein in budget deficits.

[2] Specific factors have also played a role in recent years, including the arrival of displaced tobacco farmers from Zimbabwe.

exchange rate.[3] However, when access to foreign loans was cut off in the 1980s, a sharp depreciation of the real exchange rate was inevitable.

Recent Developments

10. **Over the past several years, the real effective exchange rate has been fairly stable, apart from the very recent period.**[4] During 2000-04, the gradual depreciation of the nominal effective exchange rate largely offset the higher inflation in Zambia than in trading partners (Figure IV.6). Developments in the kwacha's bilateral real exchange rates have been somewhat different (Figure IV.7). Thus, the kwacha appreciated sharply against the South African rand in real terms in 2001 before quickly depreciating again, reflecting movements in the rand. Against the U.S. dollar, the kwacha has appreciated steadily in real terms since early 2003.

Figure IV.6. Zambia. Nominal and Real Effective Exchange Rates, January 2000-September 2005 (2000=100)

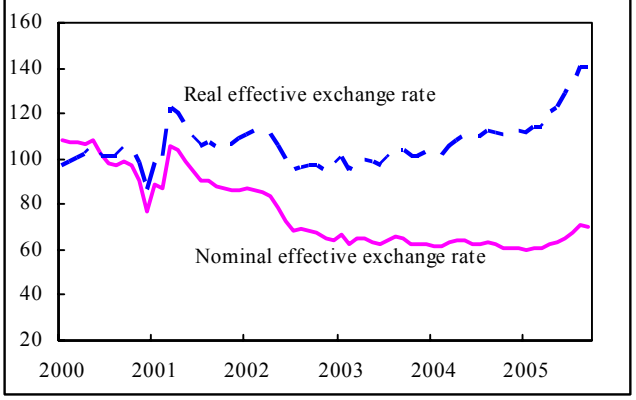
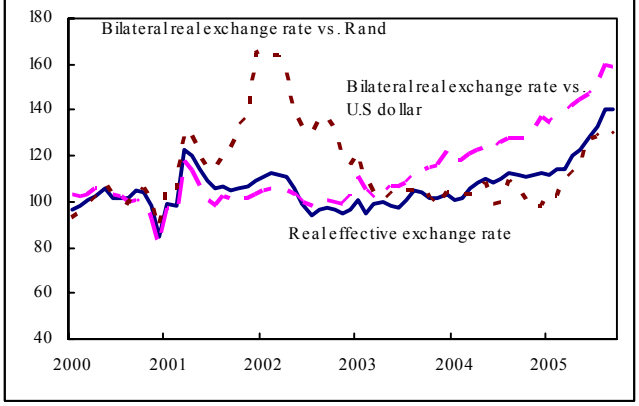


Figure IV.7. Zambia. Real Effective Exchange Rate and Bilateral Real Exchange Rates vs. the U.S. dollar and Rand, 2000-05 (2000=100)



[3] During this period, an appreciated real exchange rate was integral to the government's import-substitution industrialization strategy, as it kept the domestic cost of imported capital equipment and intermediate goods low.

[4] Zambia undertook extensive liberalization of the foreign exchange market during 1992-95. The introduction of *bureaux de change*, lifting of controls on current transactions, and permission to citizens and non-citizens to hold foreign currency accounts enabled market forces to play a larger role in the determination of the exchange rate. The Bank of Zambia was still able to exert influence over the exchange rate through the Bank's regular auctions. An interbank market in foreign exchange was established in 2003. Currently, the Bank of Zambia intervenes in the sometimes thin foreign exchange market to smooth excessive volatility and to meet its reserve targets.

11. **Over the last year, the real effective exchange rate of the kwacha has appreciated sharply.** From December 2004 to September 2005, the real effective exchange rate appreciated by 26 percent. Moreover, the real appreciation continued in October and November, as the kwacha strengthened sharply in nominal terms. The appreciation stems from an improvement in the terms of trade and renewed confidence in the economy, resulting from the marked improvement in fiscal performance and the international commitment of extensive debt relief, both under the HIPC Initiative but even more so under the Multilateral Debt Relief Initiative (MDRI).[5] Interest in government securities, both domestically and abroad, has also been strong owing to their high nominal yields.

12. **From a long-term perspective, the appreciation of the kwacha during the past year may be seen as an adjustment to the upward shift in the equilibrium real value of the exchange rate, as a result of the greatly improved prospects of the copper sector and cancellation of the bulk of Zambia's external debt.** This suggests that the kwacha may not be overvalued currently. Nevertheless, the higher external value of the currency may pose a challenge for non-traditional exports, which will have to rely on improvements in productivity to enhance international competitiveness.

D. Business and Investment Climate[6]

13. **An environment conducive to private sector investment and growth is crucial for greater productivity and strengthened competitiveness of nontraditional exports.** With the authorities exercising limited control over the exchange rate, real depreciation cannot be relied on to strengthen competitiveness. Instead, extensive structural reforms, coupled with macroeconomic stability, are required to create an environment conducive to private sector development. Surveys of Zambian firms, conducted by the World Bank in 2003, have highlighted a host of structural constraints to private sector investment: Chief among these are: (i) the limited access to and high cost of financing; (ii) high tax rates and poor tax administration, including of customs; (iii) bureaucratic barriers to business establishment and regulatory uncertainty; (iv) poor physical infrastructure and high cost of utilities; and (v) corruption.[7]

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[5] Zambia reached the completion point under the HIPC Initiative in April 2005, but had already been benefiting from interim relief since reaching the decision point in early 2000. The MDRI promises to lower Zambia's external debt further, from about US$3.7 billion in nominal terms at end-2004 to US$0.5 billion by end-2006.

[6] This section draws on *Zambia, Country Economic Memorandum*, World Bank, October 2004, and *Zambia. An Assessment of the Investment Climate*, World Bank, May 2004.

[7] Macroeconomic instability, including high inflation and a volatile exchange rate, was also identified as a key obstacle to private investment but is not discussed here.

Access to and Cost of Financing

14. **Bank lending to the private sector is low and real lending rates are high. Four-fifths of Zambian companies cited the high cost of financing as a major or severe constraint on their activities.** The main reason for the limited access to and high cost of capital has been crowding out by government borrowing, not only trough the exhaustion of available credit but also by providing financial institutions a low-risk alternative to investing in private businesses.

Taxes and Tax Administration

15. **High marginal tax rates and arbitrary tax administration are a major source of complaint.** The World Bank found some justification for the complaint over high marginal tax rates when comparing Zambian rates to those of some neighboring countries, although this does not apply to the mining sector, which enjoys tax concessions.[8] Widespread dissatisfaction with tax administration was also reported, notwithstanding sustained donor-supported efforts to improve it. Complaints concern frequent and arbitrary changes in tax policy, unclear eligibility criteria and delays in VAT refunds, and the wide discretionary powers of the Zambian Revenue Authority.

Bureaucracy and Regulations

16. **Regulatory uncertainty is a major concern of Zambian companies.** While Zambia compares favorably with other Sub-Saharan African countries in terms of the cost of bureaucracy and regulations,[9] regulatory uncertainty associated with shifts in policy is regarded as a significant risk in doing business in Zambia, one that the World Bank reports has been an obstacle to foreign direct investment in recent years. In addition to unforeseen policy changes, companies also complain about the inconsistent and unpredictable interpretation of regulations by government officials.

17. **Labor market laws and regulations are for the most part not a hindrance to hiring, except for the requirements regarding terminal benefits.** Zambian labor law calls for the payment of terminal benefits of 2-3 months basic salary for every year of service. These are far more generous terms than in some peer countries.[10]

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[8] The highest marginal corporate tax rate in Zambia was reported to be about 5 percentage points higher than in Kenya, Uganda, and Tanzania.

[9] Zambia's is ranked 67th among 155 countries in the World Bank's Cost of Doing Business ranking.

[10] The World Bank reports that severance pay after 20 years of employment amounts to 0-12 months of pay in Kenya, Uganda, and Tanzania.

Physical Infrastructure and Cost of Utilities

18. **Zambian firms are concerned about the generally poor quality and limited availability of infrastructure services.** The areas concerned are electricity, telecommunications, roads and water. Power outages are frequent, as are delays in getting access to electricity. There are also complaints about the poor quality of telephone services, not least about the provision of landlines and the capacity of the international gateway, controlled by ZAMTEL, the state-owned telephone company.[11] While the road system in some parts of Lusaka has improved, the rest of the country has seen no improvements. In many areas, including the Copperbelt, the quality of roads is such that it significantly affects the efficiency of transportation of raw materials and finished goods. Water supply is also reported to be inadequate in many areas, forcing many companies to incur large expenditures to drill wells to ensure its steady availability.

Corruption

19. **Corruption adds to the cost of doing business in Zambia, although perhaps not much more so than in other countries in the region.** The companies surveyed indicated that they spent an average of 1.7 percent of revenue on bribes to get things done, an outcome that does not compare unfavorably with other East African countries. In 2005, Zambia received a score of 2.6 on Transparency International's Perception of Corruption index and ranked 107th on a list of 155 countries.

20. **The Zambian authorities have formulated policies aimed at improving the climate for investment and business activity.** Wide-ranging policy measures have been laid out in the Financial Sector Development Plan (FSDP) and the Private Sector Development Initiative (PSDI). Many of these measures have also been prioritized in the Green Paper accompanying the Medium-Term Expenditure Framework (MTEF) for 2006-08 and the National Development Plan (NDP) for 2006-11. The question is whether these reforms will be pursued more vigorously than past reform efforts that floundered. Planned investments in electricity generation capacity should reduce the frequency and duration of power outages while the liberalization of the international gateway should improve telecommunications services. As a large, landlocked country, Zambia would also benefit from improvements in both the domestic and regional transportation infrastructure.

[11] The expansion of mobile telephone services by private companies, as well as ZAMTEL, has eased the situation somewhat.

E. Trade Policy Issues[12]

21. **Zambia's trade regime is one of the most open in Africa**. A recent Diagnostic Trade Integration Study (DTIS) for Zambia concluded that, to support export diversification, the key priority areas in trade policy were to: (i) make export incentives work for exporters; (ii) improve trade facilitation; and (iii) enhance the authorities' capacity to formulate, coordinate, and implement trade policy, and negotiate trade agreements. It also concluded that further liberalization of imports was a lesser priority, [13] although duties on imported capital goods should be removed to stimulate private sector investment. Moreover, it found that market access was not a limiting constraint on export growth, as most of Zambia's exports face zero or low tariffs and qualify for preferential access to the major developed country and regional markets.[14]

22. **Drawing in part on the recent DTIS, the authorities have incorporated a number of export promoting trade policy measures into the MTEF and NDP.** Key measures include: (i) streamlining of procedures for the duty drawback scheme and improved management of bonded warehouses and RIB (removal in bond), and the establishment of an accessible and affordable export financing facility; (ii) improving efficiency in customs administration; (iii) strengthening standards and certification services; (iv) enhancing export-oriented investment promotion and export promotion functions; and (iv) strengthening capacity to formulate and implement trade policy and negotiate trade agreements. As with the FSDB and the PSDI, the success of these measures will depend on the steadfastness of their implementation.

F. Conclusion

23. **Zambia needs to vigorously pursue reforms aimed at creating an environment conducive to private sector investment and export diversification and growth**. Such

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[12] This section draws on a draft of *Zambia, Diagnostic Trade Integration Study*, World Bank, October 2005.

[13] The ad valorem tariff on imports consists of four bands: 0, 5, 15, and 25 percent; with 15 percent the most common rate. The average nominal tariff on imports is estimated to be 11.5 percent. All quantitative restrictions and export taxes have been lifted. Import controls are maintained only for environmental, health, and security reasons. Export prohibitions apply to certain types of logs under international agreements and occasionally for grains (during drought years). There are no general export licensing requirements for exports, although certain goods, such as fertilizers, live animals, gemstones, and firearms, require special export permits.

[14] Zambia is a member of the WTO, COMESA, and SADC; as a least-developed country signatory to the Cotonou Agreement, Zambia enjoys non-reciprocal access to EU markets under the Everything but Arms (EBA) Initiative; and Zambia is eligible to access the U.S. market under the Africa Growth Opportunity Act (AGOA) of 2000.

reforms are essential to allow productivity to improve and nontraditional exports to make a growing contribution to overall exports, as a depreciation of the real exchange rate cannot be relied on to ensure competitiveness. These reforms are made doubly important by the recent real effective appreciation of the kwacha, which, at least in part, reflects an adjustment to an upward shift in the long-run equilibrium exchange rate in response to a fundamental improvement in Zambia's external prospects, owing to the recovery of the copper sector and the commitment of deep debt relief. The Zambian government has formulated an ambitious agenda of reforms and incorporated it in its FSDP, PSDI, MTEF, and NPD. The key to success, however, lies in the implementation.

Table 1. Zambia: Gross Domestic Product by Sector of Origin at Constant Prices, 1998-2004

	1998	1999	2000	2001	2002	2003	2004
			(In billions of kwacha)				
Agriculture, forestry, and fishing	384.6	423.3	429.9	418.9	411.7	432.5	450.8
Mining and quarrying	213.0	160.3	160.4	182.9	212.9	220.2	250.9
Manufacturing	246.7	253.7	262.7	273.7	289.4	311.4	323.2
Electricity, gas, and water	70.3	72.1	72.9	82.1	77.8	78.1	76.8
Construction	112.4	116.0	123.6	137.8	161.8	196.8	241.1
Wholesale and retail trade	427.2	446.2	456.6	481.2	505.4	536.4	562.2
Transport and communications	145.7	154.0	157.7	162.1	165.1	173.0	184.1
Community, social, and personal services 2/	178.8	193.7	192.8	203.9	207.3	210.5	211.7
Financial institutions and insurance	201.6	206.7	205.4	205.6	212.7	220.0	227.7
Real estate and business services	179.0	203.7	238.2	246.6	257.4	267.6	278.2
Restaurants and hotels	45.8	43.0	48.2	60.0	62.9	67.2	71.5
Other	155.2	140.1	150.6	166.5	143.5	132.8	122.2
Plus: import duties	271.0	258.9	272.4	291.4	271.6	264.1	256.9
Less: imputed banking service charges	115.8	118.8	121.8	124.9	128.1	131.3	134.6
Total GDP	2,360.2	2,412.7	2,499.0	2,621.3	2,707.9	2,846.5	3,000.5
Memorandum items:							
Nonagricultural GDP	1,975.6	1,989.4	2,069.2	2,202.5	2,296.2	2,414.1	2,549.6
Nonmining GDP	2,147.2	2,252.4	2,338.6	2,438.4	2,495.0	2,626.3	2,749.6
			(Percentage change)				
Agriculture, forestry, and fishing	1.2	10.1	1.6	-2.6	-1.7	5.0	4.3
Mining and quarrying	-25.1	-24.8	0.1	14.0	16.4	3.4	13.9
Manufacturing	1.9	2.8	3.6	4.2	5.7	7.6	3.8
Electricity, gas, and water	0.6	2.5	1.2	12.6	-5.2	0.4	-1.7
Construction	-9.1	3.2	6.5	11.5	17.4	21.6	22.5
Wholesale and retail trade	3.5	4.5	2.3	5.4	5.0	6.1	4.8
Transport and communications	8.5	5.7	2.4	2.8	1.8	4.8	6.4
Community, social, and personal services 1/	-2.3	8.4	-0.5	5.8	1.6	1.6	0.6
Financial institutions and insurance	0.4	2.5	-0.6	0.1	3.5	3.5	3.5
Real estate and business services	12.7	13.8	17.0	3.5	4.4	4.0	4.0
Restaurants and hotels	3.8	-6.2	12.3	24.4	4.9	6.9	6.4
Other	-9.2	-9.7	7.5	10.6	-13.8	-7.5	-7.9
Plus: import duties	-5.4	-4.5	5.2	7.0	-6.8	-2.8	-2.7
Less: imputed banking service charges	-0.4	2.5	2.5	2.5	2.5	2.5	2.5
Total GDP	-1.9	2.2	3.6	4.9	3.3	5.1	5.4
Memorandum items:							
Nonagricultural GDP	-2.4	0.7	4.0	6.4	4.3	5.1	5.6
Nonmining GDP	1.3	4.9	3.8	4.3	2.3	5.3	4.7

Source: Central Statistical Office.

1/ Includes public administration, defense, sanitary services, education, health, recreation, and personal services.

Table 2. Zambia: Gross Domestic Product by Sector of Origin at Current Prices, 1998-2004

	1998	1999	2000	2001	2002	2003	2004
	(In billions of kwacha)						
Agriculture, forestry, and fishing	1,127.9	1,614.4	2,002.2	2,582.0	3,247.4	4,244.6	5,568.2
Mining and quarrying	378.3	281.3	416.1	518.9	575.1	564.8	809.7
Manufacturing	692.2	806.7	1,024.6	1,293.1	1,693.6	2,241.0	2,802.9
Electricity, gas, and water	220.1	246.5	328.0	445.3	488.3	595.1	694.7
Construction	267.8	320.2	500.5	728.6	1,067.7	1,590.0	2,443.3
Wholesale and retail trade	1,048.7	1,380.3	1,879.8	2,340.5	3,004.1	3,873.8	4,827.3
Transport and communications	341.6	429.6	635.7	852.6	1,055.9	1,058.2	1,220.5
Community, social, and personal services 2/	511.4	666.8	901.9	1,236.1	1,414.4	1,757.0	2,041.6
Financial institutions and insurance	546.8	676.7	982.2	1,238.8	1,493.1	1,847.7	2,282.7
Real estate and business services	381.7	496.2	660.6	832.8	1,041.2	1,341.2	1,658.4
Restaurants and hotels	133.5	145.6	207.0	315.9	406.8	527.7	659.3
Other	378.0	413.4	533.3	748.1	772.8	838.1	907.3
Plus: import duties	692.2	802.3	1,097.7	1,460.0	1,630.8	1,899.9	2,219.1
Less: imputed banking service charges	314.2	388.9	564.4	711.9	858.1	1,061.8	1,311.8
Total GDP	6,027.9	7,477.7	10,071.9	13,132.7	16,260.4	20,479.2	25,915.9
	(In percent of GDP)						
Agriculture, forestry, and fishing	18.7	21.6	19.9	19.7	20.0	20.7	21.5
Mining and quarrying	6.3	3.8	4.1	4.0	3.5	2.8	3.1
Manufacturing	11.5	10.8	10.2	9.8	10.4	10.9	10.8
Electricity, gas, and water	3.7	3.3	3.3	3.4	3.0	2.9	2.7
Construction	4.4	4.3	5.0	5.5	6.6	7.8	9.4
Wholesale and retail trade	17.4	18.5	18.7	17.8	18.5	18.9	18.6
Transport and communications	5.7	5.7	6.3	6.5	6.5	5.2	4.7
Community, social, and personal services 1/	8.5	8.9	9.0	9.4	8.7	8.6	7.9
Financial institutions and insurance	9.1	9.0	9.8	9.4	9.2	9.0	8.8
Real estate and business services	6.3	6.6	6.6	6.3	6.4	6.5	6.4
Restaurants and hotels	2.2	1.9	2.1	2.4	2.5	2.6	2.5
Other	6.3	5.5	5.3	5.7	4.8	4.1	3.5
Plus: import duties	11.5	10.7	10.9	11.1	10.0	9.3	8.6
Less: imputed banking service charges	5.2	5.2	5.6	5.4	5.3	5.2	5.1
Total GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Central Statistical Office.

1/ Includes public administration, defense, sanitary services, education, health, recreation, and personal services.

Table 3. Zambia: Gross Domestic Product by Type of Expenditure, 1998-2004

	1998	1999	2000	2001	2002	2003	2004 Prel.
	(At current prices, in billions of kwacha)						
Total consumption	5,502	7,054	9,764	12,772	16,044	19,583	20,257
Government consumption	951	966	960	1,335	1,936	2,981	3,729
Private consumption	4,550	6,089	8,804	11,437	14,108	16,603	16,528
Total investment	988	1,313	1,757	2,496	3,580	5,238	6,296
Gross fixed capital formation	893	1,094	1,613	2,318	3,361	4,968	5,961
Public 1/	482	532	1,009	1,563	1,925	2,335	2,265
Private	412	562	604	754	1,436	2,633	3,695
Changes in stocks	95	117	144	178	219	270	335
Gross domestic expenditure	6,490	8,368	11,521	15,267	19,623	24,822	26,553
Net exports of goods and services	-462	-788	-1,449	-2,134	-3,363	-4,342	-637
Exports of goods and services	1,622	2,035	2,730	3,685	4,241	5,059	9,738
Of which : exports of goods	1,297	1,803	2,356	3,290	4,067	5,119	8,646
Imports of goods and services	-2,084	-2,823	-4,179	-5,819	-7,604	-9,401	-10,375
Of which : imports of goods	-1,907	-2,312	-3,042	-4,525	-5,184	-6,592	-8,254
Total GDP	6,028	7,478	10,072	13,133	16,260	20,479	25,916
	(In percent of GDP)						
Total consumption	91.3	94.3	96.9	97.2	98.7	95.6	78.2
Government consumption	15.8	12.9	9.5	10.2	11.9	14.6	14.4
Private consumption	75.5	81.4	87.4	87.1	86.8	81.1	63.8
Total investment	16.4	17.6	17.4	19.0	22.0	25.6	24.3
Gross fixed capital formation	14.8	14.6	16.0	17.6	20.7	24.3	23.0
Public	8.0	7.1	10.0	11.9	11.8	11.4	8.7
Private	6.8	7.5	6.0	5.7	8.8	12.9	14.3
Changes in stocks	1.6	1.6	1.4	1.4	1.3	1.3	1.3
Gross domestic expenditure	107.7	111.9	114.4	116.3	120.7	121.2	102.5
Net exports of goods and services	-7.7	-10.5	-14.4	-16.3	-20.7	-21.2	-2.5
Exports of goods and services	26.9	27.2	27.1	28.1	26.1	24.7	37.6
Of which : exports of goods	21.5	24.1	23.4	25.1	25.0	25.0	33.4
Imports of goods and services	-34.6	-37.8	-41.5	-44.3	-46.8	-45.9	-40.0
Of which : imports of goods	-31.6	-30.9	-30.2	-34.5	-31.9	-32.2	-31.8
Gross domestic savings 2/	2.5	0.2	-2.6	-4.2	-6.7	-2.2	16.5
Public 3/	3.0	4.8	9.9	8.9	6.0	3.4	3.9
Private	-0.5	-4.6	-12.5	-13.1	-12.7	-5.7	12.6
Gross national savings 4/	4.9	7.1	3.9	5.1	12.8	16.0	18.9
External current balance account, including grants	-11.6	-8.8	-13.5	-13.9	-9.2	-9.6	-5.4

Source: Central Statistical Office; and Fund staff estimates.

1/ Beginning in 2000, public investment is estimated to be equal to government capital expenditure.

2/ Excludes net income and net transfers from the external current account and grants.

3/ Total revenue (excluding grants) minus government consumption.

4/ Gross domestic savings plus net factor income and net current transfers from abroad.

Table 4. Zambia: Index of Industrial Production, 1998-2004
(2000 = 100)

	Weight (2000=100)	1998	1999	2000	2001	2002	2003	2004
Mining and quarrying	46.9	70.6	52.8	100.0	113.9	111.4	126.7	145.4
Coal	0.3	33.5	26.1	100.0	66.0	50.2	44.2	61.6
Nonferrous ore	46.5	71.5	53.4	100.0	122.1	126.0	140.0	158.2
Stone quarrying	0.1	98.3	105.2	100.0	96.7	79.9	99.1	119
Manufacturing	46.3	83.2	86.2	100.0	96.3	97.3	105.5	111.3
Food, beverages, and tobacco	22.1	85.1	87.9	100.0	112.6	122.0	129.4	136.9
Textiles and clothing	2.9	131.8	146.4	100.0	68.0	72.2	74.5	73.1
Wood and wood products	0.5	22.1	23.8	100.0	123.0	132.3	147.3	153.5
Paper and paper products	15.0	75.6	79.4	100.0	69.7	71.2	77.1	79.1
Chemicals, rubber, and plastics	2.2	81.2	91.1	100.0	67.9	73.8	79.6	85
Nonmetallic mineral products	2.3	77.7	82.9	100.0	106.7	108.5	124.5	142.5
Basic metal industries	0.9	39.9	41.6	100.0	56.6	59.0	67.9	70
Metal products and other	0.4	46.1	38.3	100.0	95.4	71.0	84.1	88.2
Electricity	6.8	82.5	76.2	100.0	115.3	106.9	106.8	103.5
Total industrial production	100.0	75.9	66.5	100.0	105.1	103.6	113.1	122.2

Source: Central Statistical Office.

Table 5. Zambia: Volume of Mineral Production, 1998-2004
(In thousands of metric tons)

	1998	1999	2000	2001	2002	2003	2004
Coal	192.2	130.8	162.2	104.6	71.7	71.8	103.1
Cobalt	7.5	3.7	3.4	4.4	3.9	3.2	6.4
Copper	298.5	286.7	259.8	298.7	337.7	349.8	410.9

Sources: Central Statistical Office; and Bank of Zambia.

Table 6. Zambia: Marketed Production of Selected Agricultural Crops, 1998/99-2004/05 1/

	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
				In Metric tons			
Maize	250,003	191,592	292,401	112,382	591,300	481,183	349,734
Tobacco (Virginia)	...	5,726	5,956	915	...	12,355	7,246
Tobacco (burley)	3,706	3,328	4,568	4,920	27,278	9,308	137
Mixed beans	8,768	4,061	10,979	7,541	10,921	8,455	12,258
Groundnuts	20,854	11,825	18,778	19,878	29,946	21,249	26,678
Sunflower seeds	8,934	5,420	14,358	4,722	1,227	9,367	3,391
Seed cotton	140,024	27,377	49,282	64,659	389,591	141,228	2,136
Wheat	...	79,493	93,877	4,722	135,287	77,740	133,302
Paddy rice	8,277	3,194	7,494	6,189	5,716	3,524	6,626
Soya beans	25,848	…	26,904	1,756	41,410	48,910	81,673
Sorghum	4,027	1,553	3,361	1,385	2,625	2,519	2,304
				(1990/91 = 100)			
Maize	41.5	31.8	48.5	18.6	98.1	79.8	58.0
Tobacco (Virginia)	...	662.7	689.4	105.9	...	1,430	839
Tobacco (burley)	457.5	410.9	564.0	607.4	3,367.7	1,149.1	16.9
Mixed beans	145.7	67.5	182.4	125.3	181.5	140.5	203.7
Groundnuts	235.6	133.6	212.2	224.6	338.4	240.1	301.4
Sunflower seeds	58.7	35.6	94.4	31.0	8.1	61.6	22.3
Seed cotton	287.5	56.2	101.2	132.7	799.8	289.9	4.4
Wheat	...	155.2	183.2	9.2	264.1	151.7	260.2
Paddy rice	92.9	35.9	84.1	69.5	64.2	39.6	74.4
Soya beans	106.0	...	110.3	7.2	169.8	200.5	334.8
Sorghum	399.9	154.2	333.7	137.5	260.6	250.1	228.8

Source: Central Statistical Office.

1/ Crop years run from May 1 to April 30.

Table 7. Zambia: Area Under Cultivation for Selected Crops, 1998/99 2004/05 1/

	1998/99	1999/00	2000/01	2001/02	2002/03 2/	2003/04	2004/05
				(In hectares)			
Maize	598,181	618,162	583,856	646,450	699,276	631,079	834,981
Groundnuts	141,320	141,319	137,108	139,015	150,460	116,978	161,962
Sunflower seeds	13,356	12,983	37,388	22,139	22,521	30,689	31,191
Cotton	105,539	36,680	56,933	87,026	86,431	121,593	176,217
Soya beans	11,716	11,721	16,754	6,820	17,402	33,186	65,170
Wheat	12,682	14,113	…	11,495	22,549	13,543	22,323
Virginia tobacco	7,851	5,280	4,247	3,855	11,204	5,464	15,630
Paddy rice	16,120	10,531	14,321	13,050	10,305	12,379	18,243
Sorghum	36,405	37,387	43,353	33,955	37,054	47,350	57,432
Millet	95,520	61,279	70,129	61,347	56,751	59,081	63,411
Mixed beans	39,854	39,853	51,025	40,043	44,002	45,270	50,496
				(Percentage change)			
Maize	17.2	3.3	-5.5	10.7	8.2	-9.8	32.3
Groundnuts	-8.6	0.0	-3.0	1.4	8.2	-22.3	38.5
Sunflower seeds	-14.9	-2.8	188.0	-40.8	1.7	36.3	1.6
Cotton	...	-65.2	55.2	52.9	-0.7	40.7	44.9
Soya beans	0.3	0.0	42.9	-59.3	155.2	90.7	96.4
Wheat	12.7	11.3	...	...	96.2	-39.9	64.8
Virginia tobacco	45.4	-32.7	-19.6	-9.2	190.6	-51.2	186.1
Paddy rice	77.8	-34.7	36.0	-8.9	-21.0	20.1	47.4
Sorghum	1.5	2.7	16.0	-21.7	9.1	27.8	21.3
Millet	6.1	-35.8	14.4	-12.5	-7.5	4.1	7.3
Mixed beans	12.4	0.0	28.0	-21.5	9.9	2.9	11.5

Sources: Ministry of Agriculture and Co-operatives; and Central Statistical Office.

1/ Crop years run from May 1 to April 30. Data are based on Post Harvest Survey results.
2/ 2003 data based on the Final Crop Forecasting Survey for 2003.

Table 8. Zambia: Paid Employment by Economic Sector, 1998-2004
(In number of employees)

	1998	1999	2000	2001	2002	2003	2004
Agriculture, forestry, and fishing	58,630	60,000	59,377	59,248	43,819	64,096	65,136
Mining and quarrying	39,160	38,521	35,042	34,966	37,245	48,597	46,078
Manufacturing	46,685	46,000	47,782	47,679	67,752	39,385	45,340
Electricity and water	5,237	5,300	5,049	5,038	7,316	10,832	12,217
Construction	13,459	12,895	13,828	13,798	2,406	3,467	5,787
Transport and communications	45,840	45,000	46,719	46,618	21,566	26,725	26,510
Distribution and trade (wholesale and retail)	48,964	51,097	52,336	52,223	50,812	53,450	44,460
Finance and insurance	35,276	34,682	31,483	31,415	52,727	28,555	31,880
Public administration	173,674	184,008	184,731	184,331	145,763	141,697	138,691
All sectors	466,925	477,503	476,347	475,316	429,406	416,804	416,099

Source: Central Statistical Office.

Table 9. Zambia: Annual Composite Index of Retail Prices, 1998-2004

	Weights	1998	1999	2000	2001	2002	2003	2004
				(1994 = 100, annual averages)				
Composite indices								
Food and beverages index	571	291.5	357.3	438.0	520.7	661.6	808.0	940.2
Nonfood composite index	429	308.7	407.7	530.2	658.4	771.3	930.1	1114.6
Clothing and footware	68	313.5	409.3	519.1	630.4	753.4	916.3	1160.2
Rent, fuel, and lighting	85	353.1	456.0	591.6	712.7	824.6	999.8	1170.5
Furniture and household goods	82	248.2	345.8	457.1	606.6	744.0	940.4	1191.3
Medical care	8	309.1	393.1	522.3	650.8	770.9	889.1	1041.5
Transport and communication	96	315.1	399.3	562.1	689.9	747.4	874.7	979.8
Recreation and education	49	367.0	530.8	639.4	800.9	1000.3	1172.0	1407.2
All other goods and services	41	245.1	303.9	363.9	452.6	527.3	636.1	748.8
Composite index 1/	1,000	298.9	379.0	477.7	579.9	708.8	860.5	1015.1
				(Average annual percentage change)				
Composite indices								
Food, beverages and tobacco		24.6	22.6	22.6	18.9	27.1	22.1	16.4
Nonfood composite index		24.3	32.1	30.0	24.2	17.1	20.6	19.8
Clothing and footware		22.6	30.6	26.8	21.4	19.5	21.6	26.6
Rent, fuel, and lighting		29.7	29.1	29.7	20.5	15.7	21.2	17.1
Furniture and household goods		25.6	39.3	32.2	32.7	22.6	26.4	26.7
Medical care		24.5	27.2	32.9	24.6	18.4	15.3	17.1
Transport and communication		21.1	26.7	40.8	22.7	8.3	17.0	12.0
Recreation and education		24.4	44.6	20.5	25.3	24.9	17.2	20.1
All other goods and services		20.2	24.0	19.7	24.4	16.5	20.6	17.7
Composite index		24.4	26.8	26.0	21.4	22.2	21.4	18.0

Source: Central Statistical Office.

1/ Composite index consists of food and nonfood indices.

Table 10. Zambia: Monthly Composite Index of Retail Prices, 2002-2004

	Composite Index 1/	Food & Beverages	Nonfood Composite	Clothing & Footware	Rent, Fuel & Lighting	Furniture & Household Goods	Medical Care	Transport & Commu-nication	Recreation and Education	All other Goods & Services
Weights	1000	571	429	68	85	82	8	96	49	41
					(1994 = 100)					
2002										
January	657.3	609.6	720.6	697.4	764.1	687.6	729.0	719.1	925.0	492.9
February	676.4	631.9	735.4	714.5	781.1	700.5	739.1	732.0	946.1	499.9
March	683.1	634.4	747.7	717.2	796.1	708.8	740.6	738.6	990.0	509.1
April	677.4	624.0	748.2	724.3	802.7	713.2	744.9	722.5	991.8	514.0
May	684.5	631.5	754.6	726.8	810.4	726.5	748.8	725.8	995.9	521.7
June	692.9	638.1	765.5	739.6	818.0	736.5	758.4	744.2	1,003.7	523.7
July	702.3	648.6	773.4	752.8	825.4	746.9	771.0	749.9	1,008.4	527.9
August	711.7	659.0	781.5	766.8	837.7	755.3	780.9	750.1	1,014.9	536.1
September	722.6	671.6	790.1	783.4	849.9	769.3	790.8	747.7	1,022.4	540.8
October	735.6	688.7	797.9	790.1	857.0	778.8	808.5	755.1	1,030.1	547.3
November	763.3	728.1	809.9	799.2	869.5	793.3	815.9	772.9	1,036.3	552.1
December	798.3	774.0	830.5	828.5	883.2	810.8	822.3	810.6	1,039.2	562.4
2003										
January	816.9	799.1	839.8	835.9	909.9	832.0	836.2	775.2	1,085.3	575.1
February	830.9	803.1	867.7	851.7	931.1	857.6	848.5	825.4	1,119.9	584.7
March	837.2	797.2	890.1	857.0	965.0	878.9	863.2	849.0	1,146.4	607.6
April	839.0	791.8	901.6	865.7	979.0	901.2	871.0	854.5	1,150.1	620.6
May	846.8	788.9	923.7	886.3	987.8	918.9	881.8	906.6	1,160.7	627.5
June	844.8	778.8	932.4	901.3	1,001.4	927.1	886.1	910.0	1,163.0	637.5
July	843.9	774.0	936.7	904.3	1,005.5	938.1	881.6	903.7	1,181.8	640.1
August	856.1	788.6	945.8	918.2	1,032.6	951.1	887.5	893.7	1,190.2	642.0
September	874.9	813.8	956.1	939.2	1,028.0	980.5	898.3	892.2	1,199.6	656.0
October	891.0	833.2	967.6	969.4	1,033.0	988.8	901.5	898.9	1,208.7	672.1
November	908.9	849.0	988.5	1,014.8	1,049.7	1,037.4	934.9	892.2	1,219.4	680.4
December	935.3	878.4	1,010.7	1,052.3	1,074.4	1,073.6	979.0	894.9	1,238.6	689.3
					(12-month percentage change)					
2002										
January	19.6	22.6	16.4	22.6	12.4	30.2	22.7	-0.6	31.4	18.6
February	19.2	20.1	18.2	22.8	13.6	27.0	23.5	7.6	29.9	14.9
March	18.1	17.6	18.6	20.7	14.2	23.6	20.8	9.8	35.2	13.6
April	17.8	17.1	18.6	18.4	15.3	22.5	20.3	10.8	33.7	15.0
May	20.9	23.8	17.9	18.4	16.2	23.8	20.6	9.6	26.1	16.8
June	23.6	28.9	18.1	19.4	17.0	24.6	21.0	9.1	26.0	16.6
July	23.4	30.3	16.6	16.4	17.2	21.6	17.2	8.1	23.9	16.6
August	23.7	30.8	16.7	18.2	15.7	20.8	14.8	8.6	23.8	18.2
September	23.9	31.6	16.1	18.6	15.7	21.4	15.1	8.0	19.3	18.4
October	23.8	31.7	15.8	18.6	16.5	19.9	16.0	7.4	19.3	18.2
November	25.3	34.4	15.9	19.4	17.0	19.3	15.8	8.8	18.0	15.2
December	26.7	35.5	17.2	20.8	17.0	19.6	15.6	13.3	17.2	16.1
2003										
January	24.3	31.1	16.5	19.9	19.1	21.0	14.7	7.8	17.3	16.7
February	22.8	27.1	18.0	19.2	19.2	22.4	14.8	12.8	18.4	17.0
March	22.6	25.7	19.0	19.5	21.2	24.0	16.6	14.9	15.8	19.3
April	23.9	26.9	20.5	19.5	22.0	26.4	16.9	18.3	16.0	20.7
May	23.7	24.9	22.4	21.9	21.9	26.5	17.8	24.9	16.5	20.3
June	21.9	22.0	21.8	21.9	22.4	25.9	16.8	22.3	15.9	21.7
July	20.2	19.3	21.1	20.1	21.8	25.6	14.3	20.5	17.2	21.3
August	20.3	19.7	21.0	19.7	23.3	25.9	13.7	19.1	17.3	19.8
September	21.1	21.2	21.0	19.9	21.0	27.5	13.6	19.3	17.3	21.3
October	21.1	21.0	21.3	22.7	20.5	27.0	11.5	19.0	17.3	22.8
November	19.1	16.6	22.1	27.0	20.7	30.8	14.6	15.4	17.7	23.2
December	17.2	13.5	21.7	27.0	21.6	32.4	19.1	10.4	19.2	22.6

Source: Central Statistical Office.

1/ Composite index consists of food and nonfood indices; alternatively, it consists of metropolitan high and low incomes, and nonmetropolitan indices.

Table 10. Zambia: Monthly Composite Index of Retail Prices, 2002-2004 (continued)

	Composite Index 1/	Food & Beverages	Nonfood Composite	Clothing & Footware	Rent, Fuel & Lighting	Furniture & Household Goods	Medical Care	Transport & Commu-nication	Recreation and Education	All other Goods & Services
Weights	1000	571	429	68	85	82	8	96	49	41
					(1994 = 100)					
2004										
January	959.4	898.7	1,040.1	1,060.8	1,112.1	1,091.4	1,009.7	912.1	1,341.4	696.6
February	970.3	906.6	1,055.0	1,103.7	1,117.7	1,104.4	1,011.5	916.0	1,363.8	707.9
March	984.8	924.3	1,065.2	1,118.2	1,130.5	1,120.4	1,016.9	912.4	1,380.0	720.4
April	987.9	921.0	1,076.8	1,134.2	1,136.5	1,137.5	1,021.4	922.8	1,397.5	723.1
May	994.4	922.1	1,090.5	1,148.2	1,145.9	1,171.4	1,026.7	929.0	1,400.0	737.4
June	1,002.0	924.4	1,105.2	1,157.6	1,168.7	1,182.8	1,035.5	953.0	1,403.1	743.7
July	1,008.2	927.7	1,115.1	1,166.1	1,176.5	1,187.5	1,039.1	973.7	1,408.9	751.9
August	1,017.9	935.7	1,127.1	1,171.8	1,176.1	1,215.3	1,043.4	994.9	1,411.2	760.0
September	1,030.3	941.2	1,148.7	1,189.8	1,190.7	1,238.9	1,054.0	1,027.8	1,437.6	771.5
October	1,051.5	966.9	1,164.0	1,200.3	1,202.3	1,254.1	1,056.1	1,060.9	1,440.1	773.7
November	1,075.3	991.9	1,186.2	1,229.3	1,228.3	1,288.6	1,072.0	1,072.3	1,450.3	793.6
December	1,099.0	1,021.7	1,201.8	1,242.4	1,260.2	1,303.0	1,111.4	1,082.4	1,452.4	805.7
2005										
January	1,134.3	1,059.3	1,233.8	1,244.3	1,318.4	1,328.3	1,132.6	1,099.9	1,528.3	833.0
February	1,151.6	1,072.5	1,259.5	1,281.5	1,371.3	1,348.7	1,143.6	1,113.5	1,537.7	844.9
March	1,156.1	1,072.0	1,267.8	1,275.6	1,379.8	1,367.1	1,151.6	1,117.9	1,555.4	853.6
April	1,171.5	1,086.6	1,284.1	1,280.2	1,420.3	1,392.3	1,154.2	1,122.5	1,563.7	861.6
May	1,184.7	1,098.6	1,299.2	1,296.9	1,432.5	1,398.4	1,159.5	1,143.4	1,592.1	870.4
June	1,194.8	1,102.4	1,317.4	1,314.6	1,487.3	1,419.3	1,174.5	1,140.8	1,594.4	877.2
July	1,196.6	1,100.9	1,323.9	1,319.7	1,504.8	1,437.4	1,186.9	1,128.2	1,597.5	886.4
August	1,214.4	1,126.1	1,331.6	1,338.2	1,515.0	1,443.3	1,209.1	1,128.6	1,601.1	894.6
September	1,231.2	1,136.1	1,357.6	1,354.7	1,528.3	1,496.4	1,213.4	1,162.9	1,622.9	897.5
October	1,244.1	1,148.9	1,370.5	1,381.6	1,562.4	1,506.5	1,217.7	1,153.5	1,633.9	905.4
November	1,260.6	1,173.4	1,376.9	1,406.1	1,583.0	1,520.3	1,227.5	1,124.5	1,646.0	914.6
December										
2004										
January	17.4	12.5	23.8	26.9	22.2	31.2	20.8	17.7	23.6	21.1
February	16.8	12.9	21.6	29.6	20.0	28.8	19.2	11.0	21.8	21.1
March	17.6	15.9	19.7	30.5	17.2	27.5	17.8	7.5	20.4	18.6
April	17.7	16.3	19.4	31.0	16.1	26.2	17.3	8.0	21.5	16.5
May	17.4	16.9	18.1	29.5	16.0	27.5	16.4	2.5	20.6	17.5
June	18.6	18.7	18.5	28.4	16.7	27.6	16.9	4.7	20.6	16.7
July	19.5	19.9	19.0	28.9	17.0	26.6	17.9	7.7	19.2	17.5
August	18.9	18.7	19.2	27.6	13.9	27.8	17.6	11.3	18.6	18.4
September	17.8	15.7	20.1	26.7	15.8	26.4	17.3	15.2	19.8	17.6
October	18.0	16.0	20.3	23.8	16.4	26.8	17.1	18.0	19.1	15.1
November	18.3	16.8	20.0	21.1	17.0	24.2	14.7	20.2	18.9	16.6
December	17.5	16.3	18.9	18.1	17.3	21.4	13.5	21.0	17.3	16.9
2005										
January	18.2	17.9	18.6	17.3	18.6	21.7	12.2	20.6	13.9	19.6
February	18.7	18.3	19.4	16.1	22.7	22.1	13.1	21.6	12.7	19.4
March	17.4	16.0	19.0	14.1	22.1	22.0	13.2	22.5	12.7	18.5
April	18.6	18.0	19.3	12.9	25.0	22.4	13.0	21.6	11.9	19.2
May	19.1	19.1	19.1	13.0	25.0	19.4	12.9	23.1	13.7	18.0
June	19.2	19.3	19.2	13.6	27.3	20.0	13.4	19.7	13.6	17.9
July	18.7	18.7	18.7	13.2	27.9	21.0	14.2	15.9	13.4	17.9
August	19.3	20.3	18.1	14.2	28.8	18.8	15.9	13.4	13.5	17.7
September	19.5	20.7	18.2	13.9	28.4	20.8	15.1	13.1	12.9	16.3
October	18.3	18.8	17.7	15.1	29.9	20.1	15.3	8.7	13.5	17.0
November	17.2	18.3	16.1	14.4	28.9	18.0	14.5	4.9	13.5	15.2

Source: Central Statistical Office.

1/ Composite index consists of food and nonfood indices; alternatively, it consists of metropolitan high and low incomes, and nonmetropolitan indices.

Table 11. Zambia: Summary of Central Government Operations, 1998-2004
(In billions of kwacha)

	1998	1999	2000	2001	2002	2003	2004
Revenue and grants	1,529	1,921	2,528	3,262	4,259	5,104	6,173
Revenue	1,131	1,324	1,953	2,509	2,909	3,680	4,740
Tax revenue	1,094	1,289	1,931	2,449	2,849	3,548	4,546
Company income tax	90	483	634	953	276	246	332
Personal income tax	291	222	278	366	965	1,364	1,697
Excise taxes	211	429	575	821	423	482	607
Value-added tax (VAT)	200	248	230	278	342	393	453
Trade taxes 1/	285	181	345	544	828	1,051	1,453
Extraction royalty	17	156	252	285	3	10	1
Clearance of ZESCO tax arrear	0	0	191	23	0	0	0
Nontax revenue	38	34	22	60	60	132	194
Grants	398	597	575	754	1,350	1,424	1,433
Total expenditures and net lending	1,842	2,195	3,122	4,212	5,086	6,337	6,919
Current expenditure	1,162	1,254	1,701	2,578	3,161	4,002	4,654
Wages and salaries	327	402	538	888	1,301	1,728	2,012
Public service retrenchment	77	51	74	19	80	10	20
Recurrent departmental charges	278	313	300	801	584	648	835
Transfers and pensions	149	181	219	353	412	361	446
Interest due 2/	203	212	307	331	660	792	898
Domestic debt	80	105	140	207	450	563	746
Foreign debt 3/	123	107	167	124	210	229	152
Other current expenditure	112	78	88	178	95	456	430
Agricultural expenditure	15	17	10	0	0	131	186
Contingency	0	0	82	8	29	6	13
Capital expenditure	680	789	1,009	1,557	1,925	2,335	2,265
Net lending 3/	0	152	413	77	86	0	0
Change in balances and other	-172	-24	-114	-106	-204	-116	304
Overall balance (cash)	-485	-298	-708	-1,056	-1,031	-1,349	-442
Financing	485	298	708	1,056	1,031	1,349	442
Domestic	220	72	177	589	337	1,041	212
Nonbanks	-3	37	38	106	247	62	167
Banking system	224	35	139	483	90	979	45
Foreign 4/	265	226	531	467	693	308	230
Memorandum item							
Domestic balance 5/ 6/	25	31	-351	-606	-662	-716	-22

Sources: Zambian authorities; and Fund staff estimates.

1/ Including VAT on imported goods.

2/ Amount paid.

3/ Figure for 1999 was foreign financed and thus was not counted toward the domestic balance.

4/ Including interest arrears and debt relief.

5/ Fiscal balance excluding grants, interest payments on foreign debt, and foreign-financed capital expenditures.

6/ To approximate a cash-based presentation, an adjustment is made for line ministries' payments of arrears and changes in balances.

Table 12. Zambia: Summary of Central Government Operations, 1998-2004
(In percent of GDP)

	1998	1999	2000	2001	2002	2003	2004
Revenue and grants	25.4	25.7	25.1	24.9	26.2	24.9	23.8
Revenue	18.8	17.7	19.4	19.2	17.9	18.0	18.3
Tax revenue	18.1	17.2	19.2	18.7	17.5	17.3	17.5
Company income tax	1.5	6.5	6.3	7.3	1.7	1.2	1.3
Personal income tax	4.8	3.0	2.8	2.8	5.9	6.7	6.6
Excise taxes	3.5	5.7	5.7	6.3	2.6	2.4	2.4
Sales tax/value-added tax (VAT)	3.3	3.3	2.3	2.1	2.1	1.9	1.7
Trade taxes 1/	4.7	2.4	3.4	4.1	5.1	5.2	5.6
Extraction royalty	0.3	2.1	2.5	2.2	0.0	0.0	0.0
Clearance of ZESCO tax arrears	0.0	0.0	1.9	0.2	0.0	0.0	0.0
Nontax revenue	0.6	0.5	0.2	0.5	0.4	0.6	0.8
Grants	6.6	8.0	5.7	5.8	8.3	7.0	5.5
Total expenditures and net lending	30.6	29.4	31.0	32.2	31.3	30.9	26.7
Current expenditure	19.3	16.8	16.9	19.7	19.4	19.5	18.0
Wages and salaries	5.4	5.4	5.3	6.8	8.0	8.4	7.8
Public service retrenchment	1.3	0.7	0.7	0.1	0.5	0.0	0.1
Recurrent departmental charges	4.6	4.2	3.0	6.1	3.6	3.2	3.2
Transfers and pensions	2.5	2.4	2.2	2.7	2.5	1.8	1.7
Interest due 2/	3.4	2.8	3.0	2.5	4.1	3.9	2.8
Other current expenditure	1.9	1.0	0.9	1.4	0.6	2.2	1.7
Agricultural expenditure	0.3	0.2	0.1	0.0	0.0	0.6	0.7
Contingency	0.0	0.0	0.8	0.1	0.2	0.0	0.1
Capital expenditure	11.3	10.6	10.0	11.9	11.8	11.4	8.7
Net lending 3/	0.0	2.0	4.1	0.6	0.5	0.0	0.0
Change in balances and other	-2.9	-0.3	-1.1	-0.8	-1.3	-0.6	1.2
Overall balance (accrual)	-8.0	-4.0	-7.0	-8.1	-6.3	-6.6	-1.7
Financing	8.0	4.0	7.0	8.1	6.3	6.6	1.7
Domestic	3.7	1.0	1.8	4.5	2.1	5.1	0.8
Nonbanks	-0.1	0.5	0.4	0.8	1.5	0.3	0.6
Banking system	3.7	0.5	1.4	3.7	0.6	4.8	0.2
Foreign 4/	4.4	3.0	5.3	3.6	4.3	1.5	0.9
Memorandum item:							
Domestic balance (cash) 5/ 6/	0.4	0.4	-3.5	-4.6	-4.1	-3.5	-0.1

Sources: Zambian authorities; and Fund staff estimates.

1/ Includes sales tax/VAT on imported goods.

2/ Amount paid.

3/ Figure for 1999 was foreign financed and thus was not counted toward the domestic balance.

4/ Includes interest arrears and debt relief.

5/ Fiscal balance excluding grants, interest payments on foreign debt, and foreign-financed capital expenditures.

6/ To approximate a cash-based presentation, an adjustment is made for line ministries' payments of arrears and changes in bank balances.

Table 13. Zambia: Summary of Central Government Revenues and Grants, 1998-2004
(In billions of kwacha)

	1998	1999	2000	2001	2002	2003	2004
Revenue and grants	1,529	1,921	2,528	3,262	4,259	5,104	6,173
Revenue	1,131	1,324	1,953	2,509	2,909	3,680	4,740
Tax revenue	1,094	1,289	1,931	2,449	2,849	3,548	4,546
Company income tax	90	483	634	953	276	246	332
Personal income tax	291	222	278	366	965	1,364	1,701
PAYE 1/	249	...	...	...	829	1,176	1,483
Withholding tax and other	42	...	...	...	136	189	219
Excise taxes	211	429	575	821	423	482	607
Sales tax/value-added tax (VAT)	200	248	230	278	342	393	453
Trade taxes 2/	285	181	345	544	828	1,051	1,453
Extraction royalty	17	156	252	285	3	10	4
Clearance of ZESCO arrears	0	0	191	23	0	0	0
Nontax revenue	38	34	22	60	60	132	194
User fees and charges	17	18	28	…	60	88	86
Privatization receipts 3/	1	7	-7	…	0	0	0
Other exceptional receipts	20	10	1	…	0	45	41
Grants	398	597	575	754	1,350	1,424	1,433

Sources: Zambian authorities; and Fund staff estimates.

1/ Pay-as-you-earn.
2/ Includes sales tax/VAT on imported goods.
3/ Net of direct privatization costs.

Table 14. Zambia: Summary of Central Government Expenditures, 1998-2004
(In billions of kwacha)

	1998	1999	2000	2001	2002	2003	2004
Total expenditures and net lending	1,842	2,195	3,122	4,212	5,172	6,338	6,999
Current expenditure	1,162	1,254	1,701	2,578	3,161	4,002	4,654
Wages and salaries	327	402	538	888	1,301	1,728	2,012
Personal emoluments	262	344	...	411	…	…	1,680
Nondefense	209	265	...	311	…	…	1,293
Defense	54	79	...	100	…	…	387
Wage adjustment	65	58	...	...	…	…	344
Public service retrenchment	77	51	74	19	80	10	20
Recurrent departmental charges 1/	278	313	392	801	584	648	809
Nondefense	135	138	...	...	…	…	624
Defense	27	54	...	...	…	…	185
Transfers and pensions	149	181	219	353	412	361	446
Grants and payments 2/	130	162	...	...	333	355	396
Pensions	19	19	...	...	79	7	27
Interest due 3/	203	212	307	331	660	793	898
Domestic debt	80	105	140	207	450	563	746
Foreign debt 3/	123	107	167	124	210	229	152
Other current expenditure	112	78	88	178	95	456	265
Defense	0	0	...	...	…	…	…
Awards and compensation	6	8	...	...	14	15	35
Contingency	22	12	...	53	0	39	…
Zambia Revenue Authority funding	49	54	...	...	95	104	118
Bank of Zambia capitalization	0	0	...	...	…	…	…
Other	35	4	...	...	…	221	112
Agricultural expenditure	15	17	10	0	0	131	186
Drought relief	4	4	...	...	…	…	…
Strategic food reserve	11	14	...	...	…	78	47
Input financing	0	0	...	...	…	54	126
Other	0	0	...	...	…	…	…
Contingency	0	0	82	8	29	6	13
Capital expenditure	680	789	1,009	1,557	1,925	2,335	2,265
Financed by the government of Zambia	113	124	228	494	417	507	585
Non defense	109	123	...	...	…	…	558
Defense	4	1	...	...	…	…	13
Foreign financed	567	666	781	1,063	1,508	1,828	1,681
Net lending	0	152	413	77	86	0	0

Sources: Zambian authorities; and Fund staff estimates.

1/ Includes arrears repayments.
2/ Includes K16 billion of grants to the Ministry of Defence in 1998.
3/ Figure for 2000 represents interest paid, after all forms of debt relief.

Table 15. Zambia: Government Securities, 1998-2004
(In millions of Kwacha, end-of-period stock)

	1998	1999	2000	2001	2002	2003	2004
Treasury bills	217,360	263,413	344,654	684,461	817,613	1,325,561	1,340,744
Comercial banks	154,859	176,356	218,889	510,124	516,252	1,091,252	886,980
Bank of Zambia	17,248	23,672	47,695	34,350	52,539	5,181	62,581
Nonbank holdings	45,252	63,381	78,069	129,522	248,823	229,128	391,183
GRZ bonds	25,294	63,925	203,925	402,585	2,268,351	2,780,850	2,898,259
Total bonds and treasury bills	242,654	327,338	548,579	1,087,046	3,085,963	4,106,411	4,239,003

Sources: Bank of Zambia; and Fund staff estimates.

Table 16. Zambia: Monetary Survey, 1998-2004

	1998	1999	2000	2001	2002	2003	2004
	(In billions of kwacha; end of period)						
Net foreign assets	-2,261	-2,424	-1,512	-2,843	-957	-1,454	-1,113
Monetary authorities	-2,677	-2,893	-2,440	-3,705	-1,954	-2,377	-2,518
Commercial banks	415	469	927	863	997	922	1,405
Net domestic assets	3,367	3,852	3,998	5,596	4,577	5,922	6,930
Net domestic credit	1,132	1,505	1,772	2,593	1,784	2,323	2,685
Net claims on government 1/	581	693	952	1,848	1,932	2,746	2,518
Monetary authorities	508	597	637	1,165	930	930	1,241
Commercial banks	73	96	315	683	786	1,635	1,277
HIPC account (IMF)	0	0	-401	-643	-1,704	-1,929	-2,067
Claims on nongovernment	551	812	1,221	1,388	1,556	1,506	2,234
Private sector	427	555	862	946	1,019	1,390	2,059
Public enterprises	124	257	359	442	537	116	175
Other items (net)	2,235	2,346	2,226	3,003	2,793	3,599	4,244
Broad money	1,105	1,428	2,486	2,754	3,620	4,468	5,818
Narrow money	398	504	761	1,015	1,323	1,696	2,042
Currency outside banks	170	212	288	374	422	592	733
Demand deposits	226	290	457	611	897	1,101	1,310
Bank of Zambia deposits	1	2	16	31	4	2	2
Quasi money	708	924	1,725	1,738	2,296	2,772	3,775
Savings deposits	146	190	289	344	471	679	847
Time deposits	167	201	266	350	396	474	489
Foreign currency deposits	394	534	1,171	1,045	1,429	1,619	2,440
	(Twelve-month percentage change)						
Net foreign assets	-100.2	-7.2	37.6	-88.0	66.3	-51.9	23.5
Net domestic assets	65.8	14.4	3.8	40.0	-18.2	29.4	17.0
Net domestic credit	95.4	33.0	17.7	47.5	-31.2	30.2	15.6
Net claims on government	374.8	19.4	37.3	94.1	4.6	42.1	-8.3
Claims on nongovernment	20.6	47.4	50.3	13.7	12.1	-3.2	48.3
Other items (net)	54.0	5.0	-5.1	34.0	-7.0	28.9	17.9
Broad money	22.6	29.2	74.1	10.7	31.4	23.4	30.2
Narrow money	11.9	26.7	50.9	33.2	30.4	28.1	20.4
Quasi money	29.6	30.6	86.7	0.8	32.1	20.7	36.2
	(Twelve-month change as percentage of beginning-of-period broad money)						
Net foreign assets	-125.6	-14.7	63.8	-53.5	68.5	-13.7	7.6
Net domestic assets	148.2	43.9	10.2	64.3	-37.0	37.2	22.5
Net domestic credit	61.3	33.8	18.7	33.9	-29.4	14.9	8.1
Net claims on government	50.9	10.2	18.1	36.0	3.1	22.5	-13.4
Claims on nongovernment	10.4	23.6	28.6	6.7	6.1	-1.4	16.3
Other items (net)	86.9	10.1	-8.4	30.4	-7.6	22.3	14.4
Broad money	22.6	29.2	74.1	10.7	31.4	23.4	30.2
Narrow money	4.7	9.6	18.0	10.2	11.2	10.3	7.8
Quasi money	17.9	19.6	56.1	0.5	20.3	13.2	22.5
Memorandum items:							
Velocity (GDP/average M2)	6.4	6.2	5.7	5.5	5.2	5.5	5.3
Money multiplier 2/	3.8	4.2	4.2	3.4	3.4	3.1	3.4

Sources: Bank of Zambia; and Fund staff estimates.

1/ Since January 1995, balance sheet of the Bank of Zambia has been compiled on the basis of the new chart of accounts. Complete historical data go back to December 1994 only.

2/ Ratio of broad money to reserve money.

Table 17. Zambia: Accounts of Commercial Banks, 1998-2004
(In billions of kwacha)

	1998	1999	2000	2001	2002	2003	2004
Net foreign assets	415	469	927	863	997	978	1,407
Gross assets	457	530	996	956	1,081	1,093	1,594
Liabilities	-42	-61	-68	-94	-84	-115	-187
Net domestic assets	518	743	1,252	1,540	1,995	2,156	2,604
Net position with the Bank of Zambia	113	97	283	473	565	762	935
Currency	26	39	43	58	57	78	86
Current accounts at the Bank of Zambia	46	55	90	126	120	199	243
Statutory reserves (kwacha)	36	48	88	182	264	286	352
Statutory reserves (foreign exchange)	27	34	101	137	148	233	295
Credit from Bank of Zambia	21	79	39	30	23	33	39
Net Domestic credit	583	869	1,331	1,722	1,818	3,040	3,360
Net claims on government	68	96	297	649	786	1,635	1,232
Claims	156	232	357	777	916	1,858	1,708
Treasury bills	142	187	228	510	516	1,091	865
Other assets	13	45	129	267	400	767	843
Deposits	-88	-136	-60	-128	-130	-223	-476
Claims on nongovernment	515	773	1,034	1,073	1,032	1,405	2,128
Other items (net)	-178	-223	-361	-655	-388	-884	-756
Private sector liabilities	933	1,212	2,180	2,346	3,168	3,820	4,753
Demand deposits	595	783	1,573	1,627	2,221	2,593	3,408
Savings and time deposits	338	430	606	719	947	1,227	1,344

Source: Bank of Zambia.

Table 18. Zambia: Net Foreign Assets of the Banking System, 1998-2004
(In millions of U.S. dollars)

	1998	1999	2000	2001	2002	2003	2004
Net foreign assets of the Bank of Zambia	-1,153	-1,099	-587	-968	-855	-797	-656
Assets	70	101	186	154	136	127	296
Gold	0	0	0	0	0	0	0
Other	69	101	186	154	136	127	296
Liabilities	-1,223	-1,200	-772	-1,121	-991	-924	-952
IMF	-1,188	-1,172	-1,135	-1,016	-940	-748	-887
Other	-35	-29	363	-105	-50	-176	-65
Net foreign assets of commercial banks	181	178	223	225	271	211	295
Assets	199	201	240	250	293	235	334
Liabilities	-18	-23	-16	-25	-23	-25	-39
Net foreign assets of the banking system	-972	-921	-364	-743	-584	-587	-362
Assets	268	302	425	403	429	362	630
Liabilities	-1,241	-1,223	-789	-1,146	-1,014	-949	-991

Sources: Bank of Zambia; and Fund staff estimates.

Table 19. Zambia: Structure of Interest Rates, 1998-2004
(In percent; end of period)

	1998	1999	2000	2001	2002	2003	2004
Bank rate	42.1	46.0	44.1	52.5	34.5	15.8	18.3
Treasury bill rate 1/ 2/	32.5	36.1	33.8	48.2	31.7	19.7	18.2
91 days treasury bill rate (end of period)	33.4	36.2	34.1	50.5	32.5	13.8	16.5
One-year government bond	43.9	48.6	38.7	54.1	42.7	22.0	19.9
18-month government bond	43.0	49.3	43.3	54.9	43.3	25.2	21.3
24-month government bond 3/	…	…	45.8	55.4	43.5	26.1	22.2
Kwacha deposit rates 4/							
Savings	7.4	9.4	11.5	8.7	8.3	7.6	5.6
Short-term deposits	15.0	19.5	17.9	19.8	18.3	17.3	8.2
3 months	16.5	21.0	20.0	24.3	22.5	21.1	11.1
6 months	13.4	19.8	12.7	26.8	22.3	20.4	10.9
24-hour call rate	7.3	7.9	6.5	7.0	7.9	8.1	5.3
Notice (7-90 days)	9.8	18.1	19.3	24.3	22.5	21.1	11.1
Fixed deposit (30-365 days)	...	...	…	…	…	…	…
Lending rates 4/							
Bank overdraft (minimum)	37.9	44.8	54.9	54.6	51.5	44.4	37.1

Source: Bank of Zambia.

1/ Annualized (weighted by maturity).
2/ Treasury bill rates became market determined in 1993.
3/ 24-month bond introduced in October 2000.
4/ Commercial bank rates were liberalized in 1992.

Table 20. Zambia: Balance of Payments, 1998-2004
(In millions of U.S. dollars, unless otherwise indicated)

	1998	1999	2000	2001	2002	2003	2004
Current account balance	-579	-429	-622	-758	-652	-700	-583
Merchandise trade balance	-153	-99	-221	-342	-259	-311	82
Exports, f.o.b.	816	755	746	884	916	1,052	1,779
Metal sector	520	467	497	590	560	669	1,322
Nonmetal	296	288	249	295	357	383	457
Imports, f.o.b.	-971	-870	-978	-1,253	-1,204	-1,393	-1,727
Services, nonfactor (net)	-179	-211	-225	-228	-245	-238	-215
Income (net)	-223	-164	-158	-168	-155	-148	-424
Of which: official interest payments	-192	-156	-155	-144	-137	-131	-121
Current transfers (net)	-24	45	-18	-20	7	-3	-25
Capital and financial accounts	285	452	202	466	238	380	251
Project grants	203	153	153	222	236	240	246
Official loan disbursement (net)	-45	121	-140	-96	-122	-141	-205
Disbursement	91	284	93	136	111	101	110
Amortization (-)	-136	-162	-233	-233	-234	-242	-315
Change in net foreign assets of commercial banks (- increase)	-35	2	-89	40	-53	48	-90
Private capital (net)	162	176	278	301	178	233	299
Errors and omissions, short-term capital	-159	-180	111	-107	31	-2	47
Overall balance	-453	-156	-420	-292	-414	-319	-332
Financing	453	156	309	399	383	321	285
Change in net int. reserves of BoZ (-increase)	246	-35	-155	-124	-225	-161	-44
Gross official reserves of BoZ (-increase)	194	-2	-68	0	-169	89	-28
BoZ liabilities	52	-47	-7	-5	-6	-6	-6
IMF (net)	0	14	-80	-119	-50	-244	-10
Disbursements	0	14	26	94	173	0	248
Repayments	0	0	-106	-213	-222	-244	-257
Other foreign assets of the BoZ	...	...	30	…	…	...	...
Debt relief	122	443	217	436	437	389	264
Non-HIPC Initiative	122	443	217	170	171	154	245
HIPC Initiative, including IMF	...	...	...	266	266	235	19
Net change in arrears (+ increase)	85	-251	-10	31	12	48	0
Memorandum items:							
Current account balance including grants (millions of U.S. dollars)	-376	-276	-438	-506	-348	-414	-292
Current account balance including grants (percent of GDP) 7/	-11.6	-8.8	-13.5	-13.9	-9.2	-9.6	-5.4
Copper volume (thousands of metric tons)	256	240	234	297	330	353	393
Copper price (U.S. dollars per pound)	0.72	0.70	0.82	0.77	0.70	0.78	1.20

Source: Bank of Zambia (BoZ).

Table 21. Zambia: Foreign Trade Volume and Unit Value, 1998-2004

(Percentage change from the preceding year, unless otherwise indicated)

	1998	1999	2000	2001	2002	2003	2004
Volume							
Exports	-8.2	-3.4	-5.7	26.2	11.2	1.8	16.6
Imports	0.1	-13.6	2.7	34.3	-3.9	6.9	4.3
Unit value 1/							
Exports	-20.0	-4.3	4.8	-6.2	-6.8	12.8	45.0
Imports	-8.2	3.8	9.5	-4.6	-0.1	8.2	18.9
Terms of trade	-12.9	-7.8	-4.2	-1.7	-6.7	4.2	21.9
Terms of trade index (1992=100)	83	77	73	72	67	70	85

Source: Staff estimates.

1/ In U.S. dollar terms.

Table 22. Zambia: Merchandise Exports, 1998-2004
(In millions of U.S. dollars, unless otherwise indicated)

	1998	1999	2000	2001	2002	2003	2004
Total exports, f.o.b.	816	755	746	884	916	1,052	1,779
Metal exports, f.o.b.	520	467	497	590	560	669	1,322
Copper							
Value	365	372	425	507	510	607	1,037
Volume (thousands of metric tons)	256	240	234	297	330	353	393
Price (U.S. dollars per pound) 1/	0.65	0.70	0.82	0.77	0.70	0.78	1.20
Cobalt							
Value	157	95	72	83	50	62	285
Volume (thousands metric tons)	4.9	3.7	3.4	4.7	4.2	3.4	6.1
Price (U.S. dollars per pound) 1/	14.4	11.6	9.6	8.0	5.6	8.4	21.2
Nonmetal exports, f.o.b.	296	288	249	295	357	383	457

Sources: Bank of Zambia; and Fund staff estimates.

Table 23. Zambia: Nontraditional Export Earnings by Sub-Sector, 1998-2004
(As percentage of total)

	1998	1999	2000	2001	2002	2003	2004
Animal products	1.3	1.4	1.3	1.0	1.4	1.1	0.4
Building materials	2.7	3.3	3.3	2.3	1.7	3.1	1.8
Chemical products	2.2	2.0	2.7	1.9	3.9	2.3	2.1
Engineering products	10.1	7.6	7.8	6.8	6.0	7.8	13.8
Floricultural products	10.5	14.0	12.8	10.9	8.2	5.2	5.7
Garments	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Gemstones	3.7	4.5	5.9	6.5	10.1	7.0	3.5
Handicrafts/curios	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Horticultural products	6.6	7.8	10.4	11.7	12.2	8.1	7.7
Leather	1.0	0.7	1.6	1.3	1.1	0.5	0.8
Nonmetallic	0.2	0.3	0.4	0.3	0.4	0.5	0.3
Other manufacture	1.0	2.1	1.7	2.9	2.7	2.9	6.2
Petroleum oils	2.2	2.1	0.2	0.5	0.4	4.5	6.0
Primary agriculture commodity	19.9	23.8	14.1	16.5	20.8	17.1	34.9
Processed foods	15.8	10.8	13.5	13.8	11.9	10.6	10.6
Textiles	13.5	12.2	13.7	11.0	7.0	5.7	5.3
Wood products	1.0	1.0	1.5	1.2	0.9	0.9	0.9
Sub-total	91.8	94.0	91.0	88.7	88.7	77.4	96.6
Reexports	1.2	0.9	1.5	1.4	1.5	6.0	0.4
Scrap metal	1.3	2.0	1.9	1.3	0.9	11.2	1.2
Mining	3.9	1.1	2.8	5.7	6.9	3.7	0.7
Total visible nontraditional exports	98.2	98.0	97.2	97.0	98.0	98.3	99.0
Electricity	1.8	2.0	2.8	3.0	2.0	1.7	1.0
Total nontraditional exports	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Export Board of Zambia; and Bank of Zambia.

Table 24. Zambia: Scheduled External Debt-Service Payments, 1998-2004 1/

	1998	1999	2000	2001	2002	2003	2004
	(In millions of U.S. dollars)						
Scheduled debt service	328	318	388	590	593	616	710
Interest	192	156	155	144	137	131	121
Of which : Fund charges/interest	7	7	7	6	5	6	6
Amortization	136	162	233	446	456	486	588
Of which : Fund repurchases	0	0	0	167	168	236	257
	(Percentage of exports of goods and services)						
Scheduled debt service	35.7	37.8	44.5	55.9	54.9	49.4	34.8
Interest	20.9	18.5	17.8	13.6	12.6	10.5	5.9
Of which : Fund charges/interest	0.7	0.8	0.8	0.6	0.5	0.5	0.3
Amortization	14.8	19.3	26.7	42.3	42.2	39.0	28.8
Of which : Fund repurchases	0.0	0.0	0.0	15.8	15.5	18.9	12.6
Memorandum item:							
Exports of goods and services (in millions of U.S. dollars)	918	842	872	1,055	1,080	1,246	2,041

Sources: Bank of Zambia; and staff estimates.

1/ Not including debt relief under the HIPC Initiative.

Table 25. Zambia: External Debt, 1998-2004 1/

	1998	1999	2000	2001	2002	2003	2004
	(In millions of U.S. dollars)						
Total external debt	6,613	6,407	6,252	7,270	6,488	6,468	7,080
Medium- and long-term debt 2/	6,613	6,126	6,068	7,095	6,488	6,299	7,080
Multilateral	3,412	3,328	3,404	3,346	3,241	3,693	3,872
IMF	1,132	1,172	1,128	992	742	1,065	890
Other	2,280	2,156	2,276	2,354	2,499	2,628	2,982
Bilateral official	3,141	2,676	2,438	3,092	2,615	2,229	2,748
Paris Club	2,732	2,405	2,179	2,714	2,343	1,996	2,483
Other	409	271	259	378	272	233	265
Suppliers and other 3/	60	122	226	657	632	377	460
Short-term debt	0	281	184	175	0	169	0
	(Percentage of exports of goods and services)						
Total external debt	720	761	717	689	601	519	347
Medium- and long-term debt 2/	720	728	696	672	601	505	347
Multilateral	372	395	390	317	300	296	190
IMF	123	139	129	94	69	85	44
Other	248	256	261	223	231	211	146
Bilateral official	342	318	280	293	242	179	135
Paris Club	297	286	250	257	217	160	122
Other	45	32	30	36	25	19	13
Suppliers and other 3/	7	14	26	62	59	30	23
Short-term debt	0	33	21	17	0	14	0
Memorandum item:							
Exports of goods and services (in millions of U.S. dollars)	918	842	872	1,055	1,080	1,246	2,041

Sources: Bank of Zambia; and staff estimates.

1/ Not including debt relief under the HIPC Initiative.

2/ Including arrears.

3/ Excludes "dormant" commercial debt not tendered in 1994 buyback, which the authorities estimate to amount to US$85 million.

Table 26. Zambia: Nominal, Nominal Effective, and Real Effective Exchange Rates, 1995: Q1-2005: Q3

(Index, 1995=100, unless otherwise indicated)

	Official Kwacha-U.S. Dollar Exchange Rate	Official U.S. Dollar-Kwacha Exchange Rate	Nominal Effective Exchange Rate	Real Effective Exchange Rate
1995 Q1	759.3	0.001317	116.5	105.5
Q2	849.8	0.001177	99.8	93.4
Q3	940.3	0.001063	91.4	92.4
Q4	943.7	0.001060	92.3	108.7
1996 Q1	1,053.2	0.000949	84.7	106.4
Q2	1,238.3	0.000808	73.1	99.7
Q3	1,264.6	0.000791	70.9	103.1
Q4	1,273.8	0.000785	71.0	109.4
1997 Q1	1,289.5	0.000775	73.4	119.8
Q2	1,295.9	0.000772	73.9	122.5
Q3	1,315.5	0.000760	74.8	128.2
Q4	1,357.4	0.000737	72.7	131.0
1998 Q1	1,544.2	0.000648	66.5	124.6
Q2	1,825.9	0.000548	56.4	113.4
Q3	1,941.2	0.000515	53.6	114.2
Q4	2,136.0	0.000468	47.2	106.1
1999 Q1	2,288.1	0.000437	44.9	106.9
Q2	2,377.9	0.000421	44.5	111.0
Q3	2,403.6	0.000416	43.9	115.6
Q4	2,482.5	0.000403	42.3	114.3
2000 Q1	2,714.4	0.000368	39.6	111.7
Q2	2,866.4	0.000349	38.8	117.0
Q3	3,177.6	0.000315	36.0	116.0
Q4	3,685.1	0.000271	32.3	108.6
2001 Q1	3,658.9	0.000273	34.4	120.9
Q2	3,344.0	0.000299	36.4	129.4
Q2	3,652.6	0.000274	32.8	119.9
Q2	3,788.3	0.000264	31.7	121.4
2002 Q1	3,894.5	0.000257	31.5	126.4
Q2	4,130.4	0.000242	28.7	118.8
Q3	4,503.7	0.000222	25.1	108.8
Q4	4,699.0	0.000213	23.9	109.1
2003 Q1	4,652.7	0.000215	23.8	110.9
Q2	4,845.0	0.000206	23.3	111.8
Q3	4,740.4	0.000211	23.8	116.8
Q4	4,697.9	0.000213	22.9	115.5
2004 Q1	4,750.7	0.000210	22.7	116.3
Q2	4,774.1	0.000209	23.3	123.6
Q3	4,808.9	0.000208	23.0	126.2
Q4	4,781.1	0.000209	22.4	126.3
2005 Q1	4,751.4	0.000210	22.2	128.5
Q2	4,684.2	0.000213	23.3	140.4
Q3	4,488.7	0.000223	25.5	156.6

Source: IMF, Information Notice System.

Table 27. Zambia: Summary of Consolidated Foreign Exchange Market, 2003-05

	2003					2004					2005				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
	(In millions of U.S. dollars)														
Interbank purchases	49.9	43.8	78.3	157.4	329.3	97.09	79.27	83.62	114.05	374.04	67.07	97.64	127.48	...	292.19
Interbank sales	66.8	43.8	76.8	130.8	318.2	97.09	79.29	83.62	114.05	374.04	67.07	97.64	127.48	...	292.19
Bureau purchases	0.0	0.0	0.1	0.4	0.4	...	...	...	...	...	0.18				0.18
Bureau sales	2.8	1.7	1.5	3.0	9.0	5.3	9.24	10.41	12.76	37.72	18.88	32.9	42.09	...	93.87
Commercial purchases	260.9	630.5	511.6	660.2	2,063.2	526.64	488.82	444.5	478.07	1,938.03	399.76	600.24	614.38	...	1614.38
Commercial sales	303.9	667.5	549.2	797.8	2,318.4	475.2	405.96	356.42	429.76	1,667.33	336.47	467.47	510.94	...	1314.88
Forward purchases	3.7	3.0	...	...	6.7	7.73	0.25	0.38	9.50	17.86	7.75	10.13	18.07	...	35.95
Forward sales	3.7	0.9	...	...	4.6	6.2	8.0	3.50	4.80	22.5	2.86	1.83	4.78	...	9.47
Memorandum items: 1/															
Bureau mid rate (k/US$)	5,005.6	4,935.0	4,866.7	4,781.7		4,783.3	4,905.8	4,958.3	4,795.0		4,760.0	4,770.8	4,540.0	...	
BoZ mid rate (k/US$)	4,873.7	4,828.3	4,806.7	4,645.5		4,721.8	4,789.3	4,906.1	4,771.3		4,677.8	4,667.1	4,503.3	...	

Sources: Bank of Zambia (Boz); and staff estimates.

1/ All exchange rates are end of period.