

Eritrea: Selected Issues and Statistical Appendix

This Selected Issues paper and Statistical Appendix for Eritrea was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on **April 21, 2003**. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Eritrea or the Executive Board of the IMF.

The policy of publication of staff reports and other documents by the IMF allows for the deletion of market-sensitive information.

To assist the IMF in evaluating the publication policy, reader comments are invited and may be sent by e-mail to publicationpolicy@imf.org.

Copies of this report are available to the public from

International Monetary Fund • Publication Services
700 19th Street, N.W. • Washington, D.C. 20431
Telephone: (202) 623 7430 • Telefax: (202) 623 7201
E-mail: publications@imf.org • Internet: <http://www.imf.org>

Price: \$15.00 a copy

**International Monetary Fund
Washington, D.C.**

INTERNATIONAL MONETARY FUND

ERITREA

Selected Issues and Statistical Appendix

Prepared by a Staff Team Consisting of Mr. Riechel (head), Mr. Christensen,
Mr. Mercereau, Mr. Schindler, and Mr. Yamauchi (all AFR), and Mr. Ding (TRE)

Approved by the African Department

April 21, 2003

	Contents	Page
Basic Data		4
I. Introduction.....		6
II. Sustainability of the Public Finances		7
A. Introduction.....		7
B. The Importance of Fiscal Sustainability		8
C. Public Finance: Developments and Trends.....		13
D. Responses to Fiscal Policy and Management		21
E. Restoring Sustainability		25
Annex. Measures of Fiscal Sustainability Gaps		32
References.....		33
III. Monetary Policy and Management		34
A. Introduction.....		34
B. The Eritrean Financial Sector		34
C. Statutory Role of the BE.....		35
D. Implementation of Monetary Policy		41
E. Tentative Conclusions.....		44
IV. Exchange Rate Policy and Management.....		47
A. Introduction.....		47
B. Brief of Historical Overview		47
C. Official (de jure) Structure of the Foreign Exchange Market.....		48
D. Actual (de facto) Structure of the Foreign Exchange Market.....		49
E. Macroeconomic and Microeconomic Implications		52
F. Conclusions.....		57
Annex. Diagrammatic Analysis of Exchange Rate Determination		59

V.	Inflation and Its Determinants in Eritrea	61
A.	Introduction.....	61
B.	Measures of Inflation in Eritrea	61
C.	Recent Developments in Inflation	63
D.	Theoretical Background and Data Issues.....	67
E.	Results.....	71
F.	Conclusions.....	75
	Annex I. Data Issues Description and Sources	77
	Annex II. Time-Series Properties: Test for Stationarity	78

Text Figures

II.1.	Fiscal Policies and the Sustainability of Public Finance.	23
III.1.	Bank of Eritrea's Advances to the Government, 1997-2002.....	45
IV.1.	Nominal Exchange Rates, 1998-2002.....	54
IV.2.	Actual and Hypothetical exports, 1998-2001	54
V.1.	Inflation and Its Subcomponents, January 1997-December 2002	66
V.2.	Levels and First Differences of the Data Series, 1992:Q1-2002:Q4	69

Text Tables

II.1.	Key Fiscal Indicators, 1993-2002	14
II.2.	Indicators of Fiscal Sustainability, 1993-2002	16
II.3.	Assets and Liabilities of Government, 1993-2002	18
II.4.	Key Economic Developments, 1993-2002	20
II.5.	Sustainability Indicators, 1993-2002	26
II.6.	Minimum Primary Balance and Adjustment Required – Status Quo, 2000.....	28
II.7.	Minimum Primary Balance–Sensitivity Analysis, 2002-20	30
III.1.	Selected Monetary Indicators, 1997-2002	46
V.1.	Comparison of Weights in the CPI Measures of the BE, and SEO, and Ethiopia.....	63
V.2.	CPI and Selected Economic and Financial Indicators, 1993-2002.....	64
V.3.	Structural VAR Models, 1993:Q2-2002:Q3	72

Statistical Appendix Tables

1.	Gross Domestic Product by Sector, 1997-2002.....	79
2.	Agricultural Production and Prices, 1997-2002.....	80
3.	Regional Structure of the Agricultural Sector, 1997-2002	81
4.	Food Grain Position, 1996/97-2001/02.....	84
5.	Annual Catch and Sales of Fish, 1997-2002.....	85
6.	Gross Value of Public Enterprise Production, 1997-2002.....	86
7.	Investment Projects by Sector, 1997-2002	87
8.	Assab Refinery Production, Purchases, and Sales by Eritrea, 1997-2002.....	88
9.	Ex-Refinery and Retail Prices of Petroleum Products, 1997-2002.....	89
10.	Electricity Production, Sales, and Tariffs, 1997-2002.....	90
11.	Asmara Price Index, 1997-2002	91

12.	Developments in the Labor Market, 1997-2002	92
13.	Structure of Private Sector Wages, 1997-2002.....	93
14.	Summary of Government Operations, 1997-2002.....	94
15.	Selected Indicators of Government Operations, 1997-2002.....	95
16.	Government Revenues and Grants, 1997-2002	96
17.	Government Current Expenditure by Economic Classification, 1997-2002	97
18.	Government Current Expenditure by Functional Classification, 1997-2002	98
19.	Government Capital Expenditure, 1997-2002	99
20.	Monetary Survey, 1997-2002	100
21.	Summary Accounts of the Bank of Eritrea, 1997-2002.....	101
22.	Summary Accounts of the Commercial Banks, 1997-2002.....	102
23.	Distribution of Net Foreign Assets, 1997-2002.....	103
24.	Commercial Banks' Excess Reserves, 1997-2002.....	104
25.	Sectoral Distribution of Commercial Bank Loans, 1997-2002	105
26.	Structure of Interest Rates, 1997-2002	106
27.	Balance of Payments, 1997-2002	107
28.	Commodity Composition of Exports, 1997-2002.....	108
29.	Commodity Composition of Imports, 1997-2002.....	109
30.	Direction of Exports, 1997-2002	110
31.	Origin of Imports, 1997-2002	111
32.	External Public Debt Commitments and Disbursements, 1997-2002	112
33.	Foreign Exchange Rates, 1992-2002	113
34.	Summary of the Tax System as of December 2002.....	114

Eritrea: Basic Data

Area: 121,320 square kilometers
 Population, 2001 estimate: 4.2 million
 Population, 1997-2001 average annual growth: 2.6 percent
 GNI per capita, *World Bank Atlas* method, 2000 estimate: U.S. \$ 170

	1997	1998	1999	2000	2001	2002 Est. 1/
National accounts						
	(In millions of nakfa, unless otherwise specified)					
GDP at current market prices	4,974.3	5,530.4	5,982.1	6,200.5	7,771.0	9,031.2
GDP at constant (1992) market prices	3,641.2	3,706.3	3,705.8	3,218.7	3,547.7	3,612.3
GDP at constant (1992) factor cost	3,266.8	3,394.9	3,403.8	2,996.7	3,256.9	3,218.2
(annual percentage change)	7.7	3.9	0.3	-12.0	8.7	-1.2
	(In percent of GDP at current market prices)					
Gross domestic expenditure	155.8	164.8	172.5	162.1	159.3	158.6
Consumption	123.9	138.2	138.3	143.6	130.7	132.3
Investment	31.9	26.6	34.1	18.5	28.5	26.3
Net exports 2/	-55.8	-64.8	-72.5	-62.1	-59.3	-58.6
Gross national savings	34.0	3.0	6.2	2.3	10.1	10.9
Prices						
	(Annual percentage change)					
Consumer price index (annual average)	3.7	9.5	8.4	19.9	14.6	16.9
Consumer price index (end of period)	7.7	9.0	10.6	26.8	7.7	23.8
Terms of trade (- deterioration)	0.0	-5.7	2.2	3.5	-1.2	-2.5
Exchange rates						
Exchange rate (in nakfa per U.S. dollar; period average)	7.2	7.4	8.2	9.6	10.9	14.0
Nominal effective exchange rate (-depreciation; end of period)	3.2	-4.4	-14.8	2.8	-27.2	-7.8
Real effective exchange rate (- depreciation; end of period)	7.2	2.4	-8.9	29.5	-22.5	19.0
Central government finance						
	(In millions of nakfa, unless otherwise specified)					
Total revenue	2,022.8	1,688.7	1,895.5	2,108.3	1,986.4	2,291.4
Grants	287.9	519.4	489.0	1,204.8	1,375.6	1,118.4
Total expenditure and net lending	2,558.1	4,218.8	5,467.9	4,136.4	4,545.3	5,176.9
Current expenditure	1,412.8	2,781.6	3,213.9	3,364.2	3,287.3	3,656.0
Capital expenditure and net lending	1,145.3	1,437.2	2,254.0	772.2	1,258.1	1,520.9
Overall balance, excluding special programs						
Excluding grants	-535.3	-2,530.1	-3,572.4	-2,028.1	-2,559.0	-2,885.4
Including grants	-247.4	-2,010.7	-3,083.4	-823.3	-1,183.4	-1,767.1
Overall balance, including special programs						
Excluding grants	-568.0	-2,620.8	-3,714.4	-3,195.7	-4,080.3	-3,840.4
Including grants	-280.1	-2,101.4	-3,225.4	-1,991.0	-2,704.9	-2,722.0
Overall balance, including special programs (in percent of GDP)						
Excluding grants	-11.4	-47.4	-62.1	-51.5	-52.5	-42.5
Including grants	-5.6	-38.0	-53.9	-32.1	-34.8	-30.1

Eritrea: Basic Data (concluded)

	1997	1998	1999	2000	2001	2002 Est.
Money and credit	(Annual change in percent of beginning-of-period broad money stock)					
Domestic credit	12.0	40.4	38.0	18.0	19.0	18.4
Government (net)	3.0	35.6	45.1	25.0	3.7	15.2
Private sector	11.3	16.6	-3.1	-2.3	4.8	4.7
Broad money (including foreign currency deposits)	30.6	18.2	40.9	13.0	26.4	18.5
Balance of payments	(In millions of U.S. dollars, unless otherwise specified)					
Current account balance (including official transfers)	14.4	-177.1	-204.7	-104.5	-131.4	-99.6
Current account balance (excluding official transfers)	-37.0	-235.9	-282.1	-206.8	-252.1	-179.9
Exports, f.o.b.	53.5	28.2	20.1	36.7	19.9	51.8
Imports, c.i.f.	494.6	526.8	494.6	470.3	536.7	533.4
Trade balance	-441.1	-498.6	-474.5	-433.5	-516.7	-481.7
Services (net)	55.4	12.9	-57.3	32.4	94.2	102.3
Income (net)	-3.4	4.3	6.1	-1.4	-4.6	-6.1
Current transfers (net)	403.5	304.2	321.0	298.0	295.8	285.8
Capital and financial account (net)	90.5	80.3	205.6	98.7	102.1	68.2
Capital account (net)	0.0	2.7	0.6	0.0	7.3	3.6
Financial account (net)	90.5	77.7	205.0	98.7	94.8	64.6
Overall balance	146.7	-174.1	-14.7	-15.2	7.2	-39.0
Current account balance (in percent of GDP)						
Including official transfers	2.1	-23.6	-27.9	-16.2	-18.4	-15.4
Excluding official transfers	-5.4	-31.5	-38.4	-32.0	-35.4	-27.8
Gross official international reserves (end of period)						
In millions of U.S. dollars	243.3	69.0	54.3	36.6	50.6	33.1
In months of imports of goods and services	5.0	1.4	1.1	0.9	1.1	0.7
External debt						
Stock of external debt (end of period) 3/ (in percent of GDP)	11.0	18.8	37.5	51.4	60.8	78.6
Net present value of external public debt 3/ (in percent of exports of goods and services) 4/	25.2	51.7	135.4	225.9	247.8	198.3
Scheduled external debt service 3/ (in percent of exports of goods and services) 4/	0.3	0.8	5.7	3.8	5.3	15.1

Sources: Eritrean authorities; and IMF and World Bank staff estimates.

1/ Actual data for prices and exchange rates.

2/ Goods and services.

2/ Public and publicly guaranteed debt.

3/ Three-year average of exports of goods and services used.

I. INTRODUCTION

1. This selected issues paper and statistical appendix provide background information on the 2003 Article IV consultation discussions with Eritrea (SM/03/.../04/.../03). The staff report discusses the many demanding economic policy challenges confronting Eritrea. It points out, in particular, that the period since gaining independence in 1993 has not been long enough for the authorities to gain a full understanding of the functioning of the economy and develop the necessary skills and expertise to successfully implement the complex mix of economic, financial, and development policies needed to strengthen growth and reduce poverty. The policy making environment was further complicated by the border conflict with Ethiopia during 1998-2000, which created its own momentum and rationale, and interrupted the continuity of the development process. It also delayed the full implementation of laws that were intended to provide a solid foundation for the roles and objectives of government institutions, including the Bank of Eritrea (BE), the country's central bank.

2. In this environment, economic and financial policies were often driven by immediate needs and expediency, rather than funded by sound analytical concepts and medium-term policy objectives. The result has been a serious deterioration in the country's fiscal and external balances and an accumulation of distortions in the economic system that have impaired growth and skewed incentives, notably in the private sector. Realization of these circumstances has motivated the staff to prepare the four analytical documents presented in this paper. Drafts of these documents were sent to the authorities ahead of the mission and were discussed with officials during a full-day workshop that clarified a number of issues and sharpened the focus of the documents.

3. The large fiscal deficits observed over the past years are the root cause of many of the macroeconomic problems observed in the country, not only because of their size, but also because of the severe distortions they have caused in the monetary and exchange rate systems. They are also clearly unsustainable. In the document, on the sustainability of the public finances, an assessment is made of the causes of the fiscal deficits and how they have influenced the usual indicators of fiscal and external debt sustainability. However, the analysis does not stop here. Instead, the document also seeks to identify how and through which channels fiscal and other economic policies have affected the behavior of endogenous variables that in one way or another influence sustainability. By doing so, it looks at the sustainability issues from a dynamic perspective in which the endogeneity and interdependence of economic variables are highlighted and the potential for vicious or virtuous circles regarding sustainability is examined.

4. Monetary policy in Eritrea is completely subordinated to fiscal policy so that the statutory independence of the BE has been de facto suspended. This situation does not represent an approach that will permit the BE to successfully pursue the key stability objectives of stabilizing the domestic and external values of the nakfa under its 1997 law. The document on monetary policy and management clarifies the risks of this approach and also discusses the statutory role of the BE in relation to international best practices. It then turns to a comparison of statutory role and actual practice. In doing so, it clarifies the

rationale for key concepts of monetary management and provides guidance for changes in policy design and implementation.

5. Serious distortions and inefficiencies emanate from the current exchange rate system. As a result of an initial overvaluation of the nakfa and subsequent large external imbalances and decline in foreign reserves driven by fiscal deficits, a dual exchange system has emerged under which private transactions have been increasingly forced into the parallel market. The document on exchange rate policy and management first describes the official, *de jure* structure and regulations of the foreign exchange system and then discusses the *de facto* situation, as well as the nature and severity of distortions that this situation gives rise to. A distinction is made between macroeconomic and microeconomic effects and risks of the exchange rate system. To assess the former, an export equation is formulated that seeks to quantify the costs of the present system.

6. In the final document, the determinants of inflation in Eritrea are examined. A better understanding of these issues is considered critical for the design of economic policies in general, and of monetary and exchange rate policies in particular, including the question of an appropriate nominal anchor. The document first discusses the structure of, and developments in, the consumer price index, including underlying inflation. It then presents an analytical framework and cointegration analysis with respect to money demand as the basis for a detailed short- and long-term analysis of the determinants of inflation. The document then estimates the equations and discusses the importance of the various determinants of inflation and its dynamics.

II. SUSTAINABILITY OF THE PUBLIC FINANCES¹

A. Introduction

7. Following a promising start after independence in 1993, the war with Ethiopia during 1998-2000 drastically changed the performance of the Eritrean economy: GDP declined, inflation rose, the external current account worsened, international reserves were nearly depleted, and banking assets were severely compromised. However, the most significant change was the sharp deterioration of the public finances and rapid increase in domestic and external public debt, as a result of both war-related factors and policy decisions.

8. Against the backdrop of these developments, the purpose of this section is to examine developments in Eritrea's public finances with respect to their sustainability. Problems with sustainability could arise as the direct result of fiscal policies or indirectly through the changes in key variables or behavioral responses that government policies might induce. This section will give considerable attention to the identification of these responses.

9. The section is organized as follows: In the next subsection, the sustainability of the public finances will be more formally defined and explained. In Subsection C, developments in key indicators affecting sustainability will be described and analyzed against the

¹ Prepared by Ayumu Yamauchi.

background of the economic policies of the authorities and developments in exogenous variables. Subsection D attempts to identify endogenous responses to developments in the variables that directly affect sustainability, and inferences will be drawn about the prospective responses under unchanged policies. Finally, possible policy adjustments to restore sustainability are discussed.

B. The Importance of Fiscal Sustainability

Definition of sustainability

10. In the most general terms, sustainability is said to exist when the present value of budget constraint (PVBC) is satisfied without a major and abrupt correction having to be made in the balance of income and expenditure to avoid solvency and liquidity problems. Solvency, in turn, is ensured when the present value of current and future primary expenditure is not greater than that of current and future streams of income, net of any initial indebtedness, that is,

$$\sum_{i=0}^{\infty} \frac{E_{t+i}}{\prod_{j=1}^i (1+r_{t+j})} \leq \sum_{i=0}^{\infty} \frac{Y_{t+i}}{\prod_{j=1}^i (1+r_{t+j})} - (1+r_t)D_{t-1}, \quad (1)$$

where E_t is the primary expenditure (i.e., total expenditure minus interest payment) at period t , Y_t is the income (GDP for a country), D_{t-1} is the beginning-period stock of debt at period $t-1$, and r_t is the nominal interest rate. Liquidity exists when liquid assets and available financing are sufficient to meet or roll over maturing liabilities, regardless of whether the solvency condition is satisfied.

11. On the basis of this general definition, fiscal sustainability can be said to exist when government policies satisfy the PVBC, which is defined as follows:

$$D_t = \sum_{i=0}^{\infty} \frac{PB_{t+i}}{\prod_{j=0}^i (1+r_{t+j})} = \sum_{i=0}^{\infty} \frac{Z_{t+i}}{\prod_{j=0}^i (1+r_{t+j})} - \sum_{i=0}^{\infty} \frac{E_{t+i}}{\prod_{j=0}^i (1+r_{t+j})}, \quad (2)$$

where D_t is the beginning-period stock of government debt at period t , PB_t is the primary balance, Z_t is government revenue (including grants), E_t is the primary expenditure (i.e., total expenditure minus interest payment), and r_t is the nominal interest rate. Equation (2) states that the value of today's government debt must be matched by (or smaller than) an excess of future primary surpluses over primary deficits in present value terms. Temporary deficits can, therefore, be accepted as long as they are eventually offset by the sum of future primary surpluses.

12. If equation (2) is expressed in terms of the ratio of the variables to GDP, the PVBC becomes

$$d_t = \sum_{i=0}^{\infty} \frac{\prod_{k=1}^i (1+n_{t+k})}{\prod_{j=0}^i (1+r_{t+j})} pb_{t+i} = \sum_{i=0}^{\infty} \frac{\prod_{k=1}^i (1+n_{t+k})}{\prod_{j=0}^i (1+r_{t+j})} z_{t+i} - \sum_{i=0}^{\infty} \frac{\prod_{k=1}^i (1+n_{t+k})}{\prod_{j=0}^i (1+r_{t+j})} e_{t+i}, \quad (2a)$$

where lower letters correspond to the ratio of the variables to GDP and n_t is the nominal growth of GDP. In this formulation, the critical influence on sustainability of the performance of the economy (growth of GDP) becomes clear.

13. Equation (2) can be modified to take account the situation of both domestic and external debt as follows:

$$D_t = DD_t + \varepsilon_t DE_t = \sum_{i=0}^{\infty} \left(\frac{(1-\lambda_{t+i})}{\prod_{j=0}^i (1+r_{t+j})} + \frac{\lambda_{t+i} \varepsilon_t \prod_{j=0}^i (1+q_{t+j})}{\prod_{j=0}^i (1+r_{t+i}^*)} \right) PB_{t+i}, \quad (3)$$

where DD_t is the beginning-period stock of government domestic debt denominated in local currency at period t , DE_t is the beginning-period stock of government external debt denominated in foreign currency, ε_t is the nominal exchange rate (local currency per foreign currency), λ_t is the share of external borrowing in financing the primary balance, q_t is the rate of appreciation of the nominal exchange rate, and r_t^* is the nominal interest rate on external debt. Expressed in terms of the ratio of the variables to GDP, equation (3) becomes

$$d_t = dd_t + \varepsilon_t de_t = \sum_{i=0}^{\infty} \left(\frac{(1-\lambda_{t+i})}{\prod_{j=0}^i (1+r_{t+j})} + \frac{\lambda_{t+i} \varepsilon_t \prod_{j=0}^i (1+q_{t+j})}{\prod_{j=0}^i (1+r_{t+i}^*)} \right) \prod_{k=1}^i (1+n_{t+k}) pb_{t+i}. \quad (3a)$$

14. Equations(3) and (3a) indicate that the key variables determining the sustainability of the public finance (debt sustainability) are government revenue, primary expenditure, the domestic/external debt stock, the domestic/foreign nominal interest rate, the nominal exchange rate, real GDP growth, and the inflation rate. For the assessment of sustainability, it will, therefore, be necessary to understand the importance of these variables and the factors, including government policies, that affect their values.

Discussion of key variables influencing sustainability

Revenue

15. In the case of Eritrea, revenue Z consists of tax and nontax revenue T , exceptional revenue ER , such as receipts from privatization and external grants from donors and the Eritrean diaspora G .² Total revenue therefore is

$$Z_t = T_t + ER_t + G_t. \quad (4)$$

Tax revenue is a function of tax rate t and the tax base TB , which in the general terms is a function of GDP. Thus,

$$T_t = tTB(Y_t). \quad (5)$$

16. Unless domestic tax rates are raised or tax administration improves, GDP growth determines the level of tax revenue, and policies to enhance growth are therefore critical for fiscal sustainability. Customs revenue and port fees and charges, which are very important in Eritrea, are determined by trade activities and relations, and an increase in trade would not only raise domestic revenue but also relieve the foreign reserve constraint. Progress in privatization is the dominant factor affecting exceptional revenues. Finally, external grants are primarily influenced by the relationship with donors and the diaspora and by special factors, such as development programs, drought, and other calamities.

Primary expenditure

17. Primary expenditure E can be broken down into three types of components: primary current expenditure, excluding interest payments, C ; capital expenditure (investment) I ; and spending under special programs SP . Accordingly,

$$E = C + I + SP. \quad (6)$$

18. In the case of Eritrea, primary current expenditure is mainly composed of wages and materials and services (defense and nondefense), as well as government grants and contributions (for ex-soldiers and for food assistance). At present, the amount of defense spending depends significantly on the progress with demobilization. Capital expenditure is dominated by the government's reconstruction efforts and donor-financed development projects. The latter will not influence the fiscal balance, but they will affect sustainability if debt financed. Special program spending consists of spending on the Emergency Reconstruction Program (ERP), demobilization, and humanitarian assistance, and is entirely donor financed, including by grants.

² The Eritrean diaspora is a community of Eritrean people outside the country who generously support their families and relatives in Eritrea with recurrent transfers. During the war of 1998-2000, they also provided significant financing to the government in the form of grants and loans. For the scale of their contribution, see Table II.1 and Paragraph 47.

Domestic/external debt stock

19. The total debt of Eritrea consists of domestic and foreign debt, and can be defined as follows:

$$D_t = DD_t + \varepsilon_t DE_t = (1 + r_t)DD_{t-1} - (1 - \lambda_t)PB_t + \varepsilon_t(1 + r_t^*)DE_{t-1} - \lambda_t PB_t, \quad (7)$$

where r_t is the interest rate on domestic debt and r_t^* is the interest rate on foreign debt, and the primary balance PB_t is financed either domestically or externally. The debt stock in every period is therefore equal to the stock at the end of the preceding period and interest payments on this debt, plus any primary deficit in the current period. Apart from the primary balance, the debt stock is also affected by exchange rate and interest rate developments, which are, in turn, affected by fiscal policies and the sustainability of public finance itself, as much as by economic activities and external developments and the expectations they generate.

Nominal interest rate

20. Equations (3) and (3a) indicate that sustainability is critically dependent on the domestic and foreign interest rates on public debt. In particular, the higher these are interest rates, the larger the primary surplus must be to repay the initial debt stock. The domestic interest rate on government securities is administratively fixed in Eritrea, and no market mechanism functions as to government borrowings. The real interest rate is, therefore, often negative as a result of high inflation. The domestic interest rate is currently clearly below equilibrium, and, correspondingly, a substantial debt-service cost would emerge were the rate to be raised or freed. While this fact may be seen as an argument against freeing the domestic interest rate, it must be judged against the efficiency gains to be realized from market-determined interest rates. The interest rate on external debt is by and large the concessionally fixed donor rate, while borrowings from non-Paris club members and the diaspora entail different rate profiles and more closely reflect market risk.

Nominal exchange rate

21. The exchange rate plays a critical role in the determination of the external debt and debt service burden, as well as the sustainability of both, first because of its direct effect on their size and, second, because of its effect on competitiveness and growth. The equilibrium exchange rate generally reflects macroeconomic policies and developments, including fiscal policies and their sustainability, and is also a function of investors' confidence. The current exchange rate system in Eritrea is close to that of a conventional peg, at least as far as official transactions are concerned. Although the rate is allowed to respond to market forces, the current arrangement bears a substantial risk of depreciation, especially because of the large external deficits and low level of official reserves. Should such an adjustment occur, the foreign-currency-denominated debt would swell unless debt relief could be secured. At the same time, a market-determined exchange rate would strengthen the country's exports and growth.

Real GDP growth

22. Real GDP affects not only the ratios to GDP of a number of variables of sustainability but also the development of key constituent variables of fiscal sustainability, for example, tax revenues, inflation, and the exchange rate. The behavior of GDP is, therefore, critical for the maintenance of fiscal sustainability, and all economic policies affecting the growth of GDP therefore simultaneously affect fiscal and external sustainability. In the current situation, the growth of real GDP depends in large measure on the pace of demobilization, reconstruction efforts by the government, structural reforms conducive to private sector growth, developments in the foreign exchange markets and the financial sector, and macroeconomic stability.

Inflation

23. Inflation would have no impact on the real economy if markets functioned properly, that is, the nominal interest rate and the exchange rate kept their real rates unchanged by reflecting inflation developments. However, inflation does have an impact on fiscal sustainability, positively in the short term if nominal rigidities prevail and prevent those variables from regaining their equilibrium values. In particular, while ratios of debt to GDP decline when the nominal interest rate and exchange rate are administratively fixed, as in the case of Eritrea, the related rigidities impair economic growth.

Links between fiscal and external debt sustainability

24. As described above, any primary deficit needs to be financed either domestically or externally. When one source of finance is insufficient, the other must expand. External borrowing directly reduces external sustainability. At the same time, an expansion in domestic credit will increase imports and thereby reduce the amount of foreign exchange available to the domestic economy. Domestic financing may also cause a rise in inflation and increase pressure for an exchange rate depreciation. Domestic financing is, therefore, no panacea for the problems of external sustainability.

25. For a country like Eritrea, the external budget constraint is more likely to be binding than the domestic financing constraint because the country does not issue a convertible currency and its access to foreign lending is limited. It is, therefore, particularly important to assess the linkage between fiscal and external debt sustainability.

26. External debt sustainability is generally defined as the following:

$$F_t = \sum_{i=0}^{\infty} \frac{\prod_{k=1}^i (1 + q_{t+k})}{\prod_{j=0}^i (1 + r_{t+j}^*)} CA_{t+i}, \quad (8)$$

where F_t is the gross foreign liabilities of a country denominated in foreign currency terms and CA_t is the (primary) current account balance in domestic currency terms. Equation (8) indicates that today's external debt must be matched by the present value of future (primary)

current account surpluses (excess of surpluses over deficits). The large and chronic current account deficit in Eritrea suggests a violation of external debt sustainability and the need for major and abrupt corrections in imports in the absence of large and stable flows of official and private transfers.

27. Equation (8) can be explained further by reference to the national income identity:

$$CA_t = PB_t + S_t^P - I_t^P, \quad (9)$$

where S_t^P is private saving at period t and I_t^P is private investment. The equation indicates that the external current account balance is equal to the sum of the saving-investment balance of the public sector and that of the private sector. Because the public sector saving-investment balance is equal to the primary deficit, the link between fiscal sustainability and external sustainability becomes clear.

C. Public Finances: Developments and Trends

Key fiscal indicators

28. Developments in government revenue, expenditure, and financing, as well as different concepts of fiscal deficit in Eritrea, are reported in Table II.1. The key factors that affected fiscal variables and sustainability of the public finances over the period of observation were the following:

- The war with Ethiopia during 1998-2000 dominated developments in the fiscal sector: revenues declined and expenditure increased sharply, and fiscal deficits reached extreme proportions.
- Total revenue (excluding grants), which until 1998, had averaged some 35 percent of GDP, plummeted to some 25 percent of GDP in 2000, driven entirely by the sharp decline in nontax revenue; this revenue consisted mainly of port fees from Ethiopia as a result of the cessation of transshipments through the port of Massawa and Assab by landlocked Ethiopia. After the war, total revenue did not recover because the surtax collected during the conflict was gradually lifted, leading to a loss of revenue of some 5 percent of GDP. On the basis of the current revenue system, no major recovery of revenue to prewar levels can be expected. However, external grants for reconstruction and humanitarian purposes sharply increased following the cessation of hostilities in 2000, keeping total revenue and grants at about the same level as in the previous years.
- Total expenditure, which had fluctuated between 43 percent of GDP in 1994 and 66 percent in 1995, exceeded 90 percent of GDP in 1999 during the height of the war with Ethiopia. At the same time, primary current expenditure increased from 30 percent of GDP to more than 50 percent.

Table II.1. Eritrea: Key Fiscal Indicators, 1993-2002
(In percent of GDP, unless otherwise indicated)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total revenue and grants 1/	56.8	50.1	48.4	42.1	46.9	42.6	41.5	44.8	42.6	37.9
Revenue 1/	36.2	31.1	36.1	31.3	41.1	33.3	33.3	25.3	24.9	25.5
Tax revenue	21.0	19.9	19.2	18.7	19.3	17.7	17.0	15.8	16.5	17.0
Direct taxes	7.3	9.6	9.1	8.6	9.0	9.3	8.7	7.6	7.4	6.1
Indirect taxes	13.7	10.4	10.1	10.2	10.3	8.4	8.4	8.2	9.1	10.9
Nontax revenue	15.2	10.1	16.9	12.5	21.4	10.8	10.0	12.9	6.9	8.0
Port fees and charges	9.9	4.6	6.3	6.4	8.9	1.8	1.8	1.0	1.3	1.6
Contributions and other	5.3	5.5	10.6	6.1	12.4	9.0	8.2	12.0	5.5	6.4
Exceptional revenues 1/	0.0	1.1	0.0	0.1	0.4	4.8	6.3	-3.5	1.6	0.5
Extraordinary revenue	0.0	0.0	0.0	0.0	0.0	2.1	4.6	5.2	2.3	0.3
Privatization	0.0	1.1	0.0	0.1	0.4	2.7	1.6	-8.7	-0.6	0.2
Grants	20.6	19.0	12.3	10.8	5.8	9.4	8.2	19.4	17.7	12.4
Contribution from diaspora	0.0	0.0	0.0	0.0	0.0	1.1	2.2	3.2	0.5	0.2
Grants in kind/earmarked	20.6	19.0	12.3	10.8	5.8	8.3	6.0	16.3	17.2	12.2
Total expenditure and net lending, incl. special programs	63.2	61.5	71.9	61.4	52.1	77.9	93.8	85.5	78.1	67.9
Total expenditure and net lending, excl. special programs	53.5	43.0	66.2	56.7	51.4	76.3	91.4	66.7	58.5	57.3
Current expenditure	35.0	29.3	51.5	37.7	28.4	50.3	53.7	54.3	42.3	40.5
Wages, salaries, and allowances	9.5	14.0	17.5	18.0	14.2	15.5	15.4	21.1	15.0	16.3
Materials and services	22.2	13.0	22.7	16.2	10.4	30.4	31.4	24.7	18.1	16.5
Subsidies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.8	0.0
Pensions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2
Interest	0.0	0.1	0.5	0.8	1.0	1.2	1.9	2.8	3.4	3.9
Domestic	0.0	0.1	0.5	0.8	1.0	1.1	1.7	2.5	2.6	2.6
External	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.8	1.2
Grants and contributions	3.3	2.2	10.9	2.8	2.8	3.2	4.1	4.9	3.7	3.6
Capital expenditure	18.5	13.8	15.6	19.6	23.1	26.0	37.5	11.7	17.5	16.9
Central treasury	3.6	3.9	6.7	11.9	13.8	19.6	19.3	-4.8	6.9	7.0
Externally financed	14.8	9.8	8.9	7.7	9.2	15.4	18.2	7.0	10.5	10.0
Net lending	0.0	0.0	-0.9	-0.7	-0.1	0.0	0.1	0.7	-1.3	-0.1
Special programs	9.8	18.5	5.7	4.7	0.7	1.6	2.4	18.8	19.6	10.6
ERP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	8.3	5.1
Demobilization	4.0	4.7	1.1	0.3	0.0	0.0	0.0	0.0	0.1	0.1
Humanitarian	5.8	13.8	4.6	4.4	0.7	1.6	2.4	15.6	11.1	5.4
Domestic balance	-2.4	-3.2	-21.2	-17.8	-1.5	-30.2	-41.3	-25.5	-21.6	-20.8
Overall balance, excl. special programs and grants	-17.2	-11.9	-30.1	-25.3	-10.4	-43.0	-58.1	-41.4	-33.6	-31.8
Overall balance, excl. special programs and incl. grants	3.4	7.1	-17.8	-14.5	-4.6	-33.6	-49.9	-22.0	-15.9	-19.4
Primary balance, incl. special programs and excl. grants	-27.0	-30.3	-35.4	-29.2	-10.0	-43.5	-58.6	-57.4	-49.7	-38.5
Primary balance, incl. special programs and grants	-6.4	-11.3	-23.1	-18.4	-4.2	-34.1	-50.4	-38.0	-32.0	-26.1
Financing	-0.4	10.5	19.3	17.9	7.7	34.5	51.5	41.2	32.9	30.2
External (net)	0.1	4.7	1.2	1.2	4.1	3.7	8.7	8.6	13.5	10.2
Official (net)	0.1	4.7	1.2	1.2	4.1	3.5	5.6	6.3	12.4	7.4
Bilateral	0.0	0.5	0.0	0.0	0.4	1.4	2.0	0.7	0.0	0.3
Multilateral	0.5	3.0	0.9	0.5	0.7	2.1	3.7	5.6	12.4	7.7
Borrowings from diaspora (net)	0.0	0.0	0.0	0.0	0.0	0.1	3.1	0.9	0.1	-0.6
Rescheduled and debt forgiveness	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.5	1.0	3.3
Domestic (net)	-0.5	5.8	18.0	16.7	3.6	30.8	42.9	32.6	19.5	20.0
Banking system	-0.5	5.8	18.0	16.7	3.6	30.8	42.9	32.1	19.5	20.0
Central bank	-0.5	5.8	18.0	16.7	3.6	-5.2	27.4	9.4	11.1	12.0
Commercial banks	0.0	0.0	0.0	0.0	0.0	26.0	15.5	22.7	8.3	8.0
Noubanks 2/	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Errors and omissions	6.8	0.8	3.8	0.5	-3.5	-0.4	-1.2	-3.2	-0.9	-4.1
Memorandum items:										
Domestic borrowing of government 3/	-7.5	39.1	56.0	58.5	21.2	68.2	107.3	109.9	43.7	76.5
Excess reserves of the banking system 4/	-51.0	37.3	39.0	59.6	93.0	19.9	18.7	14.3	3.6	2.5
Port fees and charges (in percent of total revenue)	27.4	14.9	17.4	20.3	21.7	5.4	5.4	3.8	5.3	6.4
Grants (in percent of total revenue and grants)	36.2	37.9	25.4	25.6	12.4	22.0	19.7	43.4	41.5	32.7
Wages 5/	17.7	32.5	26.4	31.8	27.6	20.3	18.0	31.6	25.7	28.4
Interest 5/	0.1	0.2	0.7	1.4	1.9	1.5	2.1	4.2	5.9	6.7
Capital expenditure 5/	34.6	32.0	23.6	34.6	44.9	34.1	41.1	17.6	29.8	29.5
Defense expenditure 5/	...	...	...	21.1	12.7	35.0	37.2	35.8	24.2	23.3

Sources: Ministry of Finance; Bank of Eritrea; and staff estimates.

1/ Including privatization receipts.

2/ Excluding privatization receipts.

3/ In percent of total loans of the banking system.

4/ In percent of net domestic credit.

5/ In percent of total expenditure, excluding special programs.

- All measures of fiscal balance worsened markedly with the onset of war in 1998. In particular, the overall deficit (excluding grants and special programs) widened to 58 percent of GDP in 1999 and remained above the prewar levels of 12-30 percent of GDP. The same pattern applies to the primary balance, the major determinant of fiscal sustainability.
- The deficit financing of the Eritrean government is characterized by the large recourse to domestic credit and diaspora financing during the war, and by the substantial increase in external assistance for reconstruction thereafter. Financing of the government from domestic sources reached 43 percent of GDP in 1999 and amounted to a cumulative total of 106 percent of GDP during 1998-2000. Moreover, in 1999, credit to the government accounted for more than 100 percent of the increase in domestic credit of the banking system. This development sharply reduced excess liquidity in the financial system and crowded out private sector credit demand, which, in turn, impaired private sector growth and development.

29. On balance, then, fiscal indicators deteriorated substantially as a result of the war. Their impact on fiscal sustainability was aggravated by the deterioration of conditions for growth, as well as the weakening of confidence, including among investors and donors.

Indicators of fiscal sustainability

30. Developments in key debt and debt-service ratios affecting fiscal sustainability are presented in Table II.2. On balance, they suggest the following broad conclusions:

- Debt indicators have worsened significantly since 1998. As a result of the large fiscal deficits discussed above, the overall public debt-to-GDP ratio jumped from less than 10 percent in 1994 to 42 percent in 1997, and 77 percent in 1998, before reaching some 200 percent of GDP in 2002. The increase in debt was driven mainly by the accumulation of domestic debt. However, external debt and debt-service ratios also increased sharply, not only because of new external borrowing but also because of the depreciation of the exchange rate of the nakfa.³
- The net present value (NPV) of external public debt also increased sharply in 1999 and 2000 in terms of both exports of goods and services and domestic revenue, owing largely to new external borrowings but also because of the significant decline in exports and domestic revenue. Because of the largely concessional nature of loans to Eritrea, its NPV amounted to only 44 percent of GDP in 2002, while the external debt stood at 79 percent of GDP.

³ For a breakdown of the components of the increase in debt ratios, see the memorandum items in Table II.2.

Table II-2. Eritrea: Indicators of Fiscal Sustainability, 1993-2002
(In percent of GDP, unless otherwise indicated)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Fiscal balance, excl. grants and special programs										
Overall balance	-17.2	-11.9	-30.1	-25.3	-10.4	-43.0	-58.1	-41.4	-33.6	-31.8
Primary balance	-17.2	-11.8	-29.7	-24.5	-9.4	-41.8	-56.2	-38.6	-30.1	-27.9
Fiscal balance, incl. grants and special programs										
Overall balance	-6.4	-11.4	-23.5	-19.2	-5.2	-35.3	-52.3	-40.8	-35.4	-30.0
Primary balance	-6.4	-11.3	-23.1	-18.4	-4.2	-34.1	-50.4	-38.0	-32.0	-26.1
Public debt										
Domestic debt	-3.7	8.6	26.9	38.4	41.5	77.1	134.2	177.3	180.7	201.8
External debt	-4.2	2.7	20.3	31.7	30.5	58.2	96.7	125.9	119.9	123.2
External debt	0.5	5.9	6.6	6.7	11.0	18.8	37.5	51.4	60.8	78.6
Net present value of public external debt (NPVX)										
In percent of exports of goods and services 1/	2.0	13.0	14.7	14.9	25.2	51.7	135.4	225.9	247.8	198.3
In percent of domestic revenue 2/	1.8	13.2	17.6	19.6	36.2	65.9	137.0	201.2	218.7	257.5
Debt service										
Domestic debt service (in percent of domestic revenue) 2/	-6	-16	42	163	175	295	583	876	1,130	1,080
External debt service (in percent of exports of goods and services) 1/	0.0	0.1	0.2	0.2	0.3	0.5	3.0	4.1	7.6	19.5
Memorandum items:										
Real GDP (annual percentage change)	13.3	21.3	2.9	9.3	7.9	1.8	0.0	-13.1	10.2	1.8
Exports of goods and services (in millions of U.S. dollars)	93.3	144.3	171.4	200.2	203.2	110.4	65.7	97.5	147.5	184.4
Gross foreign reserves of the central bank 3/	3.9	5.0	4.1	3.8	5.0	1.4	1.1	0.9	1.1	0.7
External public debt (in millions of U.S. dollars)	0.5	5.9	6.6	6.7	11.0	18.8	37.5	51.4	60.8	78.6
External debt service / external debt (in percent)	0.0	0.4	0.9	0.8	0.7	0.6	1.4	1.1	1.8	5.5
Exchange rate (in nakfa per U.S. dollar, average)	5.2	6.2	6.3	6.4	7.2	7.4	8.2	9.6	10.9	14.0
Exchange rate (1993=100)	100.0	117.8	120.5	121.6	137.7	141.0	155.9	183.6	208.4	266.9
Changes in debt-to-GDP ratio										
Domestic	...	12.3	18.4	11.5	3.1	35.6	57.1	43.1	3.5	21.1
External	...	6.9	17.7	11.4	-1.2	27.7	38.5	29.2	-6.0	3.3
Of which: due to new borrowings	...	5.4	0.7	0.1	4.5	7.8	18.7	13.9	9.5	17.8
Domestic	...	8.1	19.0	15.4	5.5	36.2	54.1	37.9	26.6	24.2
External	...	5.8	18.0	14.6	2.2	30.8	42.9	32.6	19.5	20.0
Of which: due to changes in GDP	...	2.3	1.0	0.8	3.5	5.4	11.3	5.4	7.1	4.2
Domestic	...	0.9	-1.0	-4.3	-4.2	-4.2	-5.8	-4.7	-35.8	-25.2
External	...	1.1	-0.3	-3.3	-3.4	-3.1	-4.4	-3.4	-25.4	-16.7
Of which: due to changes in exchange rate	...	-0.1	-0.7	-1.1	-0.7	-1.1	-1.4	-1.3	-10.4	8.5
Domestic	...	3.2	0.4	0.4	1.7	3.6	8.8	9.8	12.7	22.0
External	...	0.9	-0.3	-3.3	-3.4	-3.1	-4.4	-3.4	-25.4	-16.7
Of which: due to changes in exchange rate	...	-0.1	-0.7	-1.1	-0.7	-1.1	-1.4	-1.3	-10.4	8.5
Domestic	...	3.2	0.4	0.4	1.7	3.6	8.8	9.8	12.7	22.0
External	...	0.9	-0.3	-3.3	-3.4	-3.1	-4.4	-3.4	-25.4	-16.7
Of which: due to changes in exchange rate	...	-0.1	-0.7	-1.1	-0.7	-1.1	-1.4	-1.3	-10.4	8.5
Changes in NPVX of debt-to-exports ratio										
Due to changes in NPV of debt	...	11.0	1.7	0.2	10.3	25.5	83.7	90.5	21.9	-49.5
Due to changes in exports	...	11.3	4.4	3.2	11.9	23.5	65.4	38.1	48.9	19.0
Due to changes in exports	...	0.3	2.6	-3.0	-1.5	3.0	18.3	52.4	-26.9	-68.5

Sources: Ministry of Finance; Bank of Eritrea; and staff estimates.

1/ Three-year-average of exports of goods and services used.

2/ Domestic revenue excludes exceptional revenue. Maturity is six months, while principal has never been repaid.

3/ In months of imports of goods and services.

Government assets and liabilities

Debt and debt-service ratios give an incomplete picture of the sustainability problems they raise. To obtain a more accurate picture, these ratios need to be examined with respect to the uses of the financing on which they are based. Clearly, for the same debt ratios, sustainability is more of a problem if the financing has been used for consumption rather than investment. It is, therefore, important to examine whether, and to what extent, the increase in indebtedness of government has financed investment in both physical and human capital. This assessment is critical because such investments strengthen the productive capacity of the country and thereby improve sustainability through their effect on potential output. To assess these issues for the case of Eritrea, an attempt has been made to measure changes in the country's physical and human capital stock since independence in 1993 (Table II.3). In the estimation, the government assets are assumed to consist of three kinds: physical capital, human capital, and government deposits.⁴ Physical and human capital stock is calculated based on the annual investment flow net of depreciation and war damage. The major findings are follows:

- Following independence in 1993, Eritrea's physical and human capital stock increased dramatically, reaching a cumulative level of 147 percent of GDP in 1999, despite increasing war damage. This substantially increased the growth potential of the country and strengthened fiscal and external sustainability.
- Following the eruption of hostilities with Ethiopia in 1998, net assets of the government declined substantially because new borrowing largely surpassed the increase in assets, resulting in a negative net worth of government by 2000.⁵
- The drastic change in the net asset position of the government reflects in good measure the shift in the use of borrowings from investment to consumption, notably for defense spending, which reached 20 percent of GDP in 2000.

31. On balance, then, the productive capacity of Eritrea and the related sustainability of its public finances and external debt, which had improved significantly until 1997, deteriorated substantially during the war years and have yet to recover.

Key macroeconomic developments and policies

Apart from the fiscal variables discussed above that influence sustainability directly and indirectly, the equations on fiscal and external sustainability point to other key economic variables that can have a substantial impact on sustainability measures. These include, above

⁴ The calculations in Table II.3 are indicative only because it is practically impossible to obtain the "correct," or market-determined, values of government assets as most of them are by nature not transacted in the market.

⁵ However, because of the absence of data on government assets and liabilities, the analysis starts artificially with a zero net worth at the time of independence.

Table 11.3. Eritrea: Assets and Liabilities of Government, 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
(In millions of nakfa)										
Net assets	702	975	996	1,379	2,510	1,987	768	-2,059	-2,312	-4,670
Government assets	610	1,258	1,999	3,083	4,574	6,248	8,795	8,922	11,233	13,556
Physical capital stock 1/	442	870	1,409	2,212	3,262	4,476	6,401	6,477	8,235	9,928
Gross capital formation	455	454	582	869	1,148	1,437	2,246	925	2,005	1,991
Depreciation 2/	-13	-26	-42	-66	-98	-134	-192	-194	-247	-298
War damage 3/	...	...	...	...	...	...	-90	-128	-655	...
Human capital stock 1/	65	165	337	464	685	943	1,215	1,478	1,753	2,052
Gross capital formation	65	100	173	127	220	259	272	263	280	294
Government deposits	104	223	253	407	627	829	1,179	966	1,240	1,575
Public liabilities	-91	283	1,003	1,704	2,063	4,261	8,028	10,991	14,045	18,226
Domestic debt	-104	88	757	1,405	1,517	3,221	5,786	7,806	9,318	11,128
External debt	13	195	247	299	547	1,041	2,242	3,186	4,728	7,098
(In percent of GDP)										
Net assets	28.5	29.6	26.7	31.1	50.5	35.9	12.8	-33.4	-36.2	-51.7
Government assets	24.8	38.1	53.7	69.5	91.9	113.0	147.0	143.9	144.6	150.1
Physical capital stock 1/	17.9	26.4	37.8	49.9	65.6	80.9	107.0	104.5	105.0	109.9
Gross capital formation	18.5	13.8	15.6	19.6	23.1	26.0	37.5	14.9	25.8	22.0
Depreciation 2/	-0.5	-0.8	-1.1	-1.5	-2.0	-2.4	-3.2	-3.1	-3.2	-3.3
War damage 3/	...	...	...	...	...	...	-1.6	-2.1	-10.6	...
Human capital stock 1/	2.6	5.0	9.1	10.5	13.8	17.1	20.3	23.8	22.6	22.7
Gross capital formation	2.6	3.0	4.6	2.9	4.4	4.7	4.6	4.2	3.6	3.3
Government deposits	4.2	6.8	6.8	9.2	12.6	15.0	19.7	15.6	16.0	17.4
Public liabilities	-3.7	8.6	26.9	38.4	41.5	77.1	134.2	177.5	180.7	201.8
Domestic debt	-4.2	2.7	20.3	31.7	30.5	58.2	96.7	125.9	119.9	123.2
External debt	0.5	5.9	6.6	6.7	11.0	18.8	37.5	51.4	60.8	78.6
(In millions of nakfa)										
Memorandum items:										
Physical capital expenditure 4/	455	454	582	869	1,148	1,437	2,246	925	2,005	1,991
Central treasury	89	130	249	529	688	584	1,157	493	559	665
Externally financed	366	324	333	340	460	853	1,089	432	1,446	1,326
Human capital expenditure 5/	65	100	173	127	220	259	272	263	280	294
Education	46	65	98	71	139	159	169	164	182	183
Health	18	35	75	56	81	99	103	99	98	111
Borrowing for consumption (flow) 6/	-530	-208	-37	-201	-985	202	182	1,218	192	196
Borrowing for consumption (cumulative) 7/	-530	-738	-775	-976	-1,961	-1,759	-1,176	-158	34	230
Total capital spending	520	554	755	996	1,368	1,696	2,518	1,188	2,285	2,285
Physical capital expenditure	455	454	582	869	1,148	1,437	2,246	925	2,005	1,991
Human capital expenditure	65	100	173	127	220	259	272	263	280	294
Total borrowing	-11	346	718	795	384	1,898	2,900	2,406	2,477	2,481
Domestic borrowing	-12	192	672	740	179	1,704	2,565	2,019	1,512	1,810
External borrowing	1	154	46	55	205	194	335	387	964	671
(In percent of GDP)										
Physical capital expenditure 4/	18.5	13.8	15.6	19.6	23.1	26.0	37.5	14.9	25.8	22.0
Central treasury	3.6	3.9	6.7	11.9	13.8	10.6	19.2	3.0	7.2	7.4
Externally financed	14.8	9.8	8.9	7.7	9.2	15.4	18.2	7.0	18.6	14.7
Human capital expenditure 5/	2.6	3.0	4.6	2.9	4.4	4.7	4.6	4.2	3.6	3.3
Education	1.9	2.0	2.6	1.6	2.8	2.9	2.8	2.6	2.3	2.0
Health	0.7	1.1	2.0	1.3	1.6	1.8	1.7	1.6	1.3	1.2
Borrowing for consumption (flow)	-21.5	-6.3	-1.0	-4.5	-19.8	3.6	6.4	19.6	2.5	2.2
Borrowing for consumption (cumulative)	-21.5	-22.4	-20.8	-22.0	-39.4	-31.8	-23.0	-2.6	0.4	2.5
Total capital spending	21.1	16.8	20.3	22.4	27.5	30.7	42.1	19.2	29.4	25.3
Physical capital expenditure	18.5	13.8	15.6	19.6	23.1	26.0	37.5	14.9	25.8	22.0
Human capital expenditure	2.6	3.0	4.6	2.9	4.4	4.7	4.6	4.2	3.6	3.3
Total borrowing	-0.4	10.5	19.3	17.9	7.7	34.3	48.5	38.8	31.9	27.5
Domestic borrowing	-0.5	5.8	18.0	16.7	3.6	30.8	42.9	32.6	19.5	20.0
External borrowing	0.1	4.7	1.2	1.2	4.1	3.5	5.6	6.2	12.4	7.4

Sources: Ministry of Finance; Bank of Eritrea; and staff estimates.

1/ End-year stock. Initial capital stock at end-1992 is assumed to be none. No depreciation is assumed for human capital.

2/ Assumed at 3 percent of the current period capital stock.

3/ Total damage is estimated from the study in July 2000 by the University of Asmara. Assumed at 2 percent of capital stock in 1998 and 1999 and the rest in 2000.

4/ Including ERP-related capital spending.

5/ Only current expenditure. Including externally financed spending up to 1999.

6/ Positive numbers indicate that the borrowing for consumption in the year was higher than that for investment, while the negative numbers indicate the opposite.

7/ Not adjusted for exchange rate movement.

all, economic growth and inflation, as well as external competitiveness and export performance; also important are changes in monetary and exchange rate policies that may become necessary to “correct,” offset, or accommodate the impact of fiscal policies. In addition, special factors, such as drought or the war, have a key impact on the economy and sustainability. Developments and influences of these variables are reported in Table II.4 and discussed below.

Growth and inflation

32. Growth performance over the last ten years was mixed, and no clear trend emerged. On average, real GDP grew by 5 percent, driven by the expansion in the nonagricultural sectors. Industry experienced the highest growth among major sectors, reaching 13 percent on average, and its share in GDP rose to 25 percent by 2002. By contrast, the growth of agriculture fluctuated significantly year by year, largely owing to the weather conditions, and, on the whole, Eritrea’s food security did not improve. In U.S. dollar terms, GDP per capita remained basically unchanged over the last ten years at a very low level by international standards. Inflation, which had remained manageable during the four years following independence, has been consistently high since 1998, mainly reflecting the war, drought conditions, monetary expansion for deficit financing, and the depreciation of the nakfa since 1998.

External performance

33. Information on the external accounts of Eritrea suggests that, particularly because of the war, the country has become more dependent on foreign assistance. Since 1998, current account deficits have widened mainly as a result of the loss of the traditional export market of Ethiopia, a surge in food and defense imports, and the decline in service receipts and private transfers. Capital inflows were not sufficient to cover the widened current account imbalance, and gross foreign reserves dropped to 1.4 months of imports of goods and services in 1998 from 5 months in the previous year, and declined further to less than 1 month in 2002. Together with the external debt developments discussed above, these changes in external performance, which are in good measure the result of fiscal policies, suggest that external sustainability cannot be achieved without major support by donors and improvement in economic growth and export performance.

Monetary policies and aggregates⁶

34. Monetary policy influences fiscal sustainability directly via credit to government and indirectly through the availability and conditions of credit to the private sector and the stability of the financial system. The latter can substantially affect the functioning of the economy and its capacity to grow out of debt. Since the introduction of a separate national currency in 1997, the Bank of Eritrea, the central bank, has been subordinating its objectives to fiscal policy objectives and cannot independently pursue its statutory objectives. This fact is especially evident from the large share of credit to government in total credit (Table II.4). In addition, the rate of interest on government securities is administratively fixed at 2.5 percent. These significant rigidities hamper the implementation of an effective monetary policy and prevent the financial sectors from

⁶ A more complete discussion of the issues is given in the companion paper, “Monetary Policy and Management.”

Table II.4. Eritrea: Key Economic Developments, 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Average 1993-2002
	(Annual percentage change)										
Growth											
GDP at constant factor cost	9.9	25.7	2.8	9.2	7.7	3.9	7.7	-17.0	8.7	-1.2	5.1
Agriculture	-19.4	36.7	-11.7	-5.8	0.5	57.4	-7.7	-43.5	29.1	-35.5	-4.5
Nonagriculture	22.8	22.5	7.4	13.1	9.3	-6.9	3.0	-2.3	5.0	6.3	7.7
Industry	43.4	14.0	21.2	36.9	19.8	-6.5	2.8	-6.4	6.3	9.2	13.0
Services	18.4	24.7	4.2	6.7	5.7	-7.1	3.0	-0.7	4.6	5.2	6.2
GDP per capita (in U.S. dollars)	138.6	153.5	165.1	189.9	182.9	193.2	183.8	157.6	159.8	152.6	168.7
GDP per capita	-41.1	10.7	7.6	15.0	-3.7	5.6	-4.9	-14.2	7.7	-10.1	0.5
Special factors affecting growth											
Drought year 1/	x		(x)	x	x			x		x	
War year						x	x	x			
Inflation 2/	4.6	11.6	10.7	9.3	3.7	9.5	8.4	19.9	14.6	16.9	10.8
Food 3/	...	...	...	...	0.2	19.8	14.9	21.7	15.2	15.3	14.0
Nonfood 3/	...	...	...	...	6.8	1.0	2.1	18.0	13.9	25.0	10.8
	(In millions of U.S. dollars, unless otherwise indicated)										
External performance											
Current account, excl. official transfers	-17.3	18.0	-53.2	-130.7	-37.0	-235.9	-282.1	-206.8	-252.6	-181.6	-137.9
(in percent of GDP)	-3.7	3.4	-9.0	-18.7	-5.4	-31.5	-38.4	-32.0	-35.4	-28.1	-19.9
Current account, incl. official transfers	52.1	97.7	17.8	-48.9	14.4	-177.1	-204.7	-104.5	-121.9	-101.4	-58.6
(in percent of GDP)	11.1	18.2	3.0	-7.0	2.1	-23.6	-27.9	-16.2	-18.5	-15.7	-7.4
Gross foreign reserves	88.8	168.5	154.6	179.0	243.3	69.0	54.3	36.6	50.6	33.1	107.8
(in months of imports of goods and services)	3.9	5.0	4.1	3.8	5.0	1.4	1.1	0.9	1.1	0.7	2.7
Monetary developments											
Net claims on the central government 4/	-62.9	13.4	40.9	47.5	41.2	51.7	67.2	75.4	74.0	67.1	41.6
Credit to the economy 4/	112.6	86.6	59.1	52.5	58.8	48.3	32.8	24.5	26.0	32.9	53.4
Excess reserves 4/	-51.0	37.3	39.0	59.6	96.7	20.8	19.8	14.8	3.6	1.4	24.2
Velocity	1.4	1.3	1.2	1.2	1.1	1.0	0.8	0.7	0.3	0.7	1.0
Money multiplier	6.5	3.6	2.3	1.5	1.0	1.9	1.9	2.0	2.6	2.8	2.6
Exchange rate developments											
Exchange rate (in nakfa per U.S. dollar; period average)	5.2	6.2	6.3	6.4	7.2	7.4	8.2	9.6	10.9	14.0	
Nominal effective exchange rate (1997=100)	87.7	87.8	89.1	92.9	100.0	95.3	90.8	81.5	72.7	56.8	
Real effective exchange rate (1997=100)	81.7	83.9	86.9	93.0	100.0	102.2	102.5	109.8	112.0	101.4	

Sources: Ministry of Finance; National Statistics Evaluation Office; and staff estimates.

1/ Decline in cereal production in 1995 was due to severe locust infestation.

2/ Consumer price index in Asmara; average.

3/ Average inflation is only during 1997-2000.

4/ In percent of net domestic credit.

playing an intermediation role. In this environment, monetary policy has not been able to contribute to economic growth and sustainability.

Exchange policy and developments⁷

35. As discussed above, exchange rate movements exercise a very important influence on fiscal and external sustainability. The choice of an exchange rate regime is, therefore, important for sustainability. At the same time, the regime has a critical effect on external competitiveness and growth. Experience in other countries demonstrates that a wrong exchange rate policy may temporarily support sustainability but will eventually undermine growth to such an extent that sustainability is damaged. For an assessment of the effects of exchange rate policy on fiscal sustainability, it will be important to examine these factors, as well as the functioning of foreign exchange markets and their influence on private sector activity. Mainly in order to limit the fiscal costs of foreign payments, including external debt service, the Eritrean authorities have kept the official nominal exchange rate of the nakfa essentially unchanged. This has supported “nominal” sustainability. However, the present exchange rate system and its management have resulted in a dual exchange rate regime with a strong parallel market and are marked by a high degree of rigidity that not only undermines transparency and competitiveness, but also hampers domestic growth.

Influence of special factors

36. As can be seen from Table II.4, special factors such as droughts and war, have had a significant influence on economic performance and fiscal and external balances. Drought conditions have affected Eritrea for six years out of the last ten years. They have mainly caused large swings in agricultural productions but have otherwise not affected so much the performance of other sectors and macroeconomic balances. By contrast, the effects of the 1998-2000 war are reflected clearly in every key variable of the economy: growth has declined, inflation has risen, public expenditure has increased, the current account deficit has widened, and foreign reserves have nearly been depleted.

D. Responses to Fiscal Policy and Management

37. As in most other developing countries, fiscal policy in Eritrea has a comprehensive and profound influence on the economy because directly or indirectly it affects virtually all economic agents and sectors through the financial impact of revenue and expenditure measures, as well as by influencing incentive structures and expectations. For a full evaluation of sustainability, it is, therefore, important to examine the channels through which these influences work and to assess the endogenous responses they entail. A full discussion of these issues lies outside the scope of this paper. References will, therefore, be made only to those variables that are of particular importance in Eritrea. They include, above all, the following: GDP growth, private initiative, financial sector stability, confidence in government policies, and diaspora and donor financing. The discussion is then extended to examine the effects on sustainability of endogenous responses to nominal rigidities in interest rates, exchange rates, and prices.

⁷ A more detailed treatment of the issues is given in the companion paper, “Exchange Rate Policy and Management.”

Key response variables and their effect on sustainability (Figure II.1)

38. The principal interdependences between fiscal policy and endogenous variables that affect fiscal sustainability are depicted in Figure II.1. The chart shows the main elements through which fiscal policies and developments influence the behavior of key actors and variables in the economy, and how their responses, in turn, affect fiscal sustainability.

Growth of GDP

39. Conventional growth theory posits that the growth of an economy depends on three factors: capital, labor, and total factor productivity (TFP). Fiscal policy typically influences all of these factors. First, Eritrea's capital stock is directly affected by the authorities' investment in economic and social infrastructure, as discussed above. Additional influences work through tax policies and income transfers that affect incentives and resources for private sector saving and investment. In support of sustainability, it will therefore be necessary to examine these influences and correct policies where they are seen to undermine capital formation.

40. Second, both the active volume and the productivity of labor matter. At present, demobilization policies dominate the availability of labor inputs into productive activities in the private and public sectors in Eritrea. The mobilization of combatants during the war severely impaired private sector activity and the functioning of public administration, not least because it affected skilled and managerial personnel most.⁸ It also significantly reduced the availability of labor in the rural areas and for agricultural production. Following the cessation of hostilities in 2000, demobilization has been slow so far, and an acceleration would, no doubt, increase economic activity and improve the public finances. At the same time, the Eritrean authorities have given substantial attention to investments in human capital through training and increases in spending on education and health. These actions should eventually increase labor productivity.

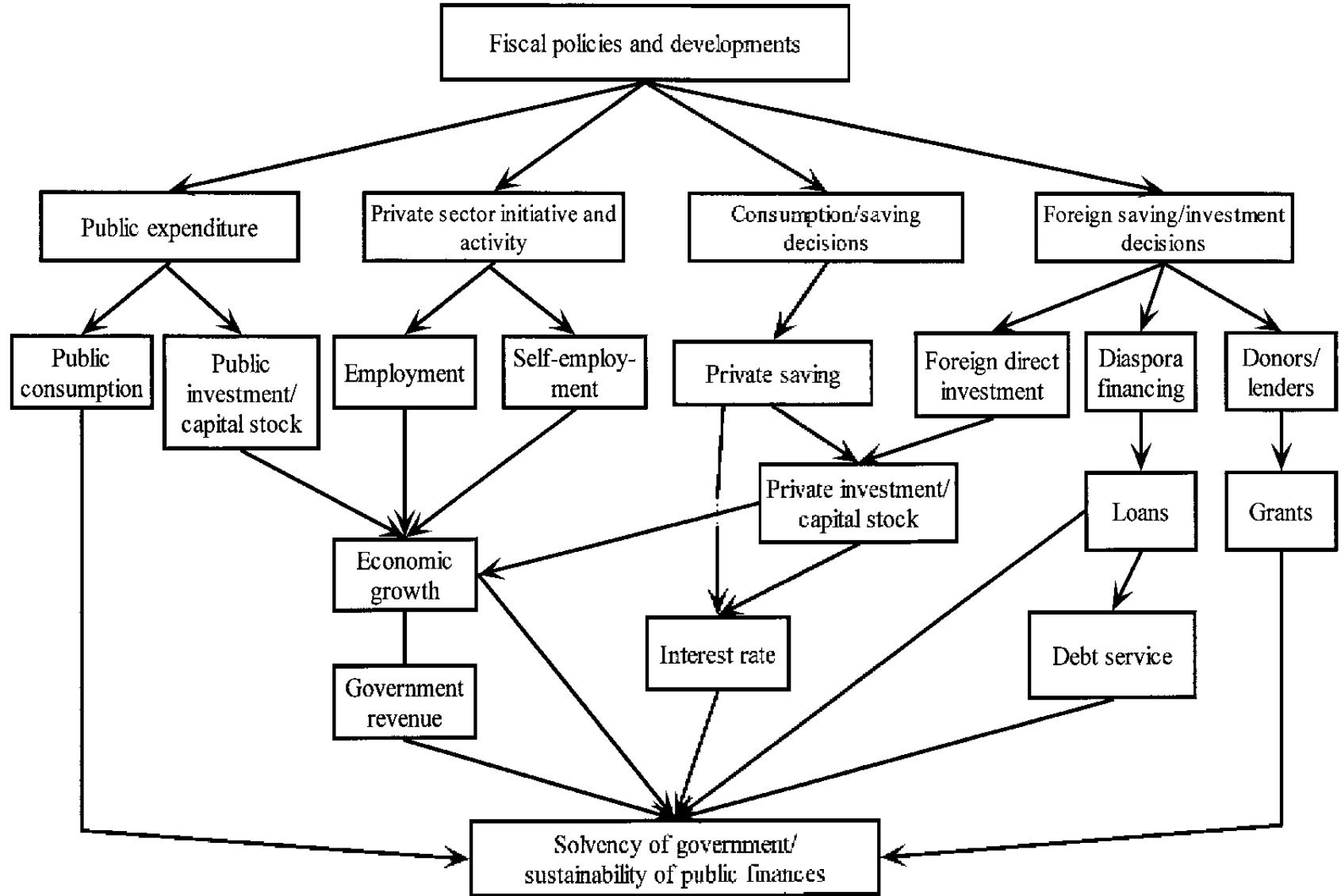
41. Finally, TFP in Eritrea is primarily influenced by imports of capital goods and know-how that result in technological advances and general efficiency gains in production. An open trade regime and adequate access of the private sector to foreign exchange are, therefore, critical. While good progress has been made in Eritrea in liberalizing trade and reducing tariffs, the precipitous decline in foreign reserves and the selectivity of their use have severely undermined private sector growth, and thereby reduced fiscal and external sustainability.

Private sector initiative and development

42. In most successful economies, the private sector has been the driving force for employment creation and economic development. Private sector initiative is particularly effective when the sector is offered an environment conducive to its development in an open and liberal organization of the economy. In Eritrea, most of these fundamental conditions were introduced after independence but have recently been rolled back in a number of areas, such as

⁸ Compare the investment climate assessment study by the World Bank, "Eritrea: Investment climate assessment" (Washington: World Bank, Africa Private Sector Group).

Figure II.1. Eritrea: Fiscal Policies and the Sustainability of Public Finances



finance, foreign exchange, utility services, petroleum products, and trade. More generally, the authorities' dissatisfaction⁹ with the private sector has resulted in an increased role of the government in the economy, including its intervention into markets — a practice that may stifle private initiatives and could endanger fiscal sustainability by lowering growth prospects.

Financial sector stability and development

43. In Eritrea, as elsewhere, fiscal policies affect financial sector stability and development mainly through the volume and the terms and conditions of domestic deficit financing of the government. In addition, private saving, the source of private investment, is strongly influenced by interest rate policies and expectations about financial sector stability. In Eritrea, the large increase in deficit financing and the setting of interest rates at hugely negative levels in real terms carry the risk of reducing private savings; they may also undermine the stability of the financial sector and thereby constrain private investment. Such an outcome would substantially reduce the prospects of fiscal sustainability and undermine the country's prospect of growing out of its poverty trap.

Expectations and confidence

44. Given their central role in Eritrea's macroeconomic policy, fiscal policies not only constitute its principal tool but also are the key determinants of expectations and confidence in the economy. In particular, the large fiscal deficits and increases in government debt have raised doubts about the sustainability of the public finances and have prompted both domestic and foreign investors to take protective measures. If not corrected in time, the country may enter into a vicious circle of self-fulfilling expectations, which would further undermine fiscal sustainability.

Diaspora financing

45. In the past, Eritrea benefited substantially from diaspora financing, which brought the country much-needed foreign exchange. This support has been mainly guided by family relationships and patriotism, but has increasingly also been viewed as an investment in the country. As the latter element increases in importance, the soundness of government policies and the performance of the economy will increasingly condition the preparedness of the diaspora to make savings available to the country and influence the sustainability of the public finances. The importance of the diaspora for the public finances and foreign exchange is demonstrated by the fact that the level of bonds issued to the diaspora reached 3.1 percent of GDP in 1999 and grants amounted to 3.2 percent of GDP in 2000. On the external account, private transfers from the Diaspora are the largest single source of foreign currency inflows into the country, with the ratio of these transfers to GDP averaging 37 percent over the last ten years. These levels of diaspora financing are clearly exceptional; but even lower levels are achievable only if confidence and trust in government policies and economic developments are maintained and contracts are honored. Both fiscal and external sustainability depend critically on the continued support of the diaspora.

⁹ The authorities consider that, despite a liberal business environment and large-scale privatization, the private sector has not played the role of engine of growth in the economy.

Donor financing

46. Generous donor financing is indispensable for Eritrea's economic development and the sustainability of its public finances and external deficits. Following independence, donor assistance became the largest engine of economic and social development. Similarly, following the conflict with Ethiopia, total assistance from donors, including net official loans and external grants, reached 31 percent of GDP in 2001, when the reconstruction and humanitarian support effort intensified. Since then, not only disputes over political governance but also concerns about fiscal and other economic policies have caused donors to hold back on new commitments, except for demobilization and humanitarian assistance. For sustainable economic development, a resumption of to budgetary and balance of payments support will be needed, and this will require a normalization of relationships with donors¹⁰.

Influence of nominal rigidities and policies taken to minimize endogenous effects

47. Mainly with a view to keeping budgetary costs low, the authorities have taken a number of actions to prevent market mechanisms from playing out. While these actions have temporarily avoided undesired consequences for the public finances, the external accounts, and the exchange rate, they are likely to result in compensatory action on the part of economic agents that are costly and undermine the responsiveness and development of the economy. This applies, in particular, to the measures taken on interest rates, exchange rates and foreign exchange allocation, and price controls¹¹. It is, therefore, important to review the need for these policies and to determine their long-term effect on incentives and growth.

E. Restoring Sustainability

Sustainability gap indicators

48. The various sustainability indicators calculated all indicate that fiscal policies over the last ten years have significantly moved away from sustainability, and that large adjustments in the balance of government revenue and expenditure are necessary for stabilizing the public finances.¹² Gap indicators are summarized in Table II.5 where a negative number indicates how far away the indicator is from the balance needed for stabilization and sustainability. The

¹⁰ Donor concerns relate to the imprisonment of political dissidents and journalists, as well as to delays in granting the permission to establish political parties and hold the elections provided for under the 1997 Constitution. These concerns remain unsolved and have so far prevented the full reengagement of donors in the country, outside of humanitarian assistance and the financing of demobilization. While the dialogue with the EU and other bilateral donors was resumed and resulted in an unblocking of part of the EU's demobilization assistance (€17 million out of €42 million), disbursements of budgetary and balance of payments assistance are conditional on satisfactory progress on the governance issues and a sound macroeconomic framework.

¹¹ See the relevant companion papers in this document.

¹² Analytical measures of various sustainability gaps are presented in Annex.

Table II.5. Eritrea: Sustainability Indicators, 1993-2002
(In percent of GDP, unless otherwise indicated)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Primary gap indicator 1/										
Excluding grants and special programs	-18.0	-10.1	-26.9	-18.1	-6.7	-35.4	-52.2	-45.1	3.6	-21.4
Including grants and special programs	-7.2	-9.6	-20.3	-12.0	-1.6	-27.7	-46.4	-44.5	1.7	-19.6
Necessary primary balance	0.8	-1.7	-2.8	-6.4	-2.7	-6.4	-4.0	6.6	-33.7	-6.5
Tax gap indicator 1/										
Excluding grants and special programs	-18.0	-10.1	-26.9	-18.1	-6.7	-35.4	-52.2	-45.1	3.6	-21.4
Including grants and special programs	-7.2	-9.6	-20.3	-12.0	-1.6	-27.7	-46.4	-44.5	1.7	-19.6
Necessary total revenue and grants 2/	64.0	59.7	68.7	54.1	48.4	70.3	87.9	89.3	40.9	57.5
Necessary total revenue 3/	54.2	41.2	63.0	49.4	47.8	68.7	85.5	70.5	21.4	46.9
Necessary tax revenue 3/ 4/	54.2	40.1	63.0	49.3	47.4	63.9	79.3	73.9	19.7	46.5
Necessary exceptional revenue 3/ 4/	33.2	21.3	43.8	30.7	28.5	51.0	68.5	54.6	4.9	29.9
Necessary grants 2/	9.8	18.5	5.7	4.7	0.7	1.6	2.4	18.8	19.6	10.6
Expenditure gap indicator 1/										
Excluding grants and special programs	-18.0	-10.1	-26.9	-18.1	-6.7	-35.4	-52.2	-45.1	3.6	-21.4
Including grants and special programs	-7.2	-9.6	-20.3	-12.0	-1.6	-27.7	-46.4	-44.5	1.7	-19.6
Necessary primary expenditure, incl. special programs 2/	56.0	51.8	51.2	48.5	49.5	49.1	45.5	38.2	76.3	44.4
Necessary primary expenditure, excl. special programs 3/	35.4	32.8	38.9	37.7	43.7	39.7	37.3	18.7	58.6	32.1
Necessary primary current expenditure 3/ 4/	16.9	19.1	24.1	18.8	20.7	13.7	-0.4	6.3	42.4	15.2
Necessary capital expenditure 3/ 4/	0.5	3.7	-12.2	0.8	16.3	-9.4	-14.6	-32.7	19.8	-4.6
Necessary special programs 2/	20.6	19.0	12.3	10.8	5.8	9.4	8.2	19.4	17.7	12.4
Memorandum items:										
Primary balance, excl. grants and special programs	-17.2	-11.8	-29.7	-24.5	-9.4	-41.8	-56.2	-38.6	-30.1	-27.9
Primary balance, incl. grants and special programs	-6.4	-11.3	-23.1	-18.4	-4.2	-34.1	-50.4	-38.0	-32.0	-26.1
Tax revenue and grants	56.8	50.1	48.4	42.1	46.9	42.6	41.5	44.8	42.6	37.9
Tax revenue	21.0	19.9	19.2	18.7	19.3	17.7	17.0	15.8	16.5	17.0
Exceptional revenue	0.0	1.1	0.0	0.1	0.4	4.8	6.3	-3.5	1.6	0.5
Grants	20.6	19.0	12.3	10.8	5.8	9.4	8.2	19.4	17.7	12.4
Primary expenditure, incl. special programs	63.2	61.4	71.5	60.5	51.1	76.7	91.9	82.7	74.6	64.0
Primary expenditure, excl. special programs	53.4	42.9	65.8	55.8	50.4	75.1	89.5	63.9	55.1	53.5
Primary current expenditure	34.9	29.2	51.1	36.9	27.4	49.1	51.8	51.4	38.9	36.6
Capital expenditure	18.5	13.8	14.7	18.9	23.0	26.0	37.7	12.5	16.2	16.8
Special programs	9.8	18.5	5.7	4.7	0.7	1.6	2.4	18.8	19.6	10.6
Nominal GDP (annual percentage change)	12.8	33.8	12.9	19.1	12.1	11.2	8.2	3.7	25.3	16.2
Domestic interest rate (in percent)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Foreign interest rate (weighted average; in percent)	0.8	0.9	1.0	1.0	1.3	1.6	1.6	1.5	1.4	1.3
Rate of exchange rate appreciation (in percent)	-86.8	-17.8	-2.3	-0.9	-13.3	-2.4	-10.5	-17.7	-13.5	-28.1

Sources: Bank of Eritrea; and staff estimates.

1/ The "primary/tax/expenditure gap indicator" measures how much adjustment a country needed in primary balance/tax revenue/expenditure relative to its actual level to keep the debt-to-GDP ratio constant. If positive, the primary balance/tax revenue/expenditure in a calculated period was enough to keep the debt-to-GDP ratio constant. If negative, the primary balance/tax revenue/expenditure was not enough to keep the ratio constant. See also Annex.

2/ Based on the assumption that grants are provided with special programs.

3/ Based on the assumption that grants are not provided without special programs.

4/ Based on the assumption that all the necessary adjustment is done to either primary current or capital expenditure.

indicators are all negative except for 2001¹³, indicating that the debt-to-GDP ratios could not be stabilized with the primary balance in the respective years because revenue was too low or expenditure too high. In the peak year of 1999, the gap indicators reached -52 percent of GDP, when grants and special programs are excluded, and -46 percent of GDP, including grants and special programs. These outcomes suggest that, in order to stabilize debt ratios at the 1999 level, total revenue and grants would have had to be raised to 88 percent of GDP, against the actual 42 percent, or total primary expenditure, including special programs, would have had to be cut to 46 percent of GDP, against the actual 92 percent.

49. Three factors suggest that even these large adjustments underestimate the actual correction now needed to move toward sustainability. First, the debt-to-GDP ratio climbed above 200 percent of GDP in 2002, and just maintaining this level is hardly enough. Setting more ambitious targets for debt reduction is, therefore, imperative. Second, the administratively fixed domestic interest rate for public debt underestimates the real costs of interest payments and thereby underreports the intrinsic size of gap indicators. Under an administratively fixed interest rate, inflation improves the gap indicators because nominal GDP growth, n_t , goes up, while r_t stays the same in the gap indicator formula.¹⁴ Third, the fixing of the official exchange rate at an overvalued rate underestimates the underlying size of the external debt stock and debt-service burden, and thereby underreports the sustainability gaps.¹⁵

50. To illustrate the dependence of changes in the sustainability gap and the need for adjustment on the two critical variables, GDP growth and interest rate, a matrix based on these two variables has been calculated for the situation observed in 2002 (Table II.6). The upper matrix indicates the size of the primary deficit needed to stabilize the debt-to-GDP ratio at its 2002 level of 201.8 percent. If it is assumed that the domestic nominal interest rate on government debt remains fixed at 2.5 percent, and taking the average annual GDP growth rate of 3.5 percent projected for the baseline scenario in the staff report, the primary deficit needed for stability of the debt-to-GDP ratio is 14.7 percent of GDP, compared with the level of 26.1 percent of GDP lower than actually observed in 2002. The adjustment needed for stability could, therefore, have been 11.5 percent of GDP (see bottom matrix). By contrast, in the case of the more optimistic scenario, under which demobilization advances speedily and donor assistance increases, average GDP growth is projected at 6 percent. In this case, the primary deficit needed for stabilization would be 19.1 percent of GDP under an unchanged interest rate on domestic public debt, implying an adjustment need of 7 percent of GDP. In turn, any increase in the interest rate to strengthen savings and banks' balance sheets would lower the "equilibrium primary deficit" again and require a stronger adjustment from either or both government revenue and expenditure to achieve the reduced deficit objective.

¹³ In 2001, high nominal GDP growth contributed to the exceptional improvement in the gap indicators.

¹⁴ See, for example, equations (2a) and (3a).

¹⁵ In equations (3) and (3a), a depreciation of the nakfa to its equilibrium level (q_t is negative) would widen the sustainability gap.

Table II.6. Eritrea: Minimum Primary Balance and Adjustment Required — Status Quo
(In percent of GDP, unless otherwise indicated)

	Real GDP Growth Rate										
	1.0	2.0	3.0	3.5	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Minimum primary balance needed to stabilize debt/GDP ratio											
Domestic nominal interest rate											
1.0	-11.7	-13.6	-15.4	-16.3	-17.2	-19.0	-20.7	-22.4	-24.0	-25.7	-27.3
2.0	-10.6	-12.5	-14.3	-15.2	-16.1	-17.9	-19.6	-21.3	-23.0	-24.6	-26.2
2.5	-10.0	-11.9	-13.8	-14.7	-15.6	-17.3	-19.1	-20.8	-22.5	-24.1	-25.7
3.0	-9.5	-11.4	-13.2	-14.1	-15.0	-16.8	-18.5	-20.3	-21.9	-23.6	-25.2
4.0	-8.4	-10.3	-12.1	-13.0	-13.9	-15.7	-17.5	-19.2	-20.9	-22.6	-24.2
5.0	-7.2	-9.1	-11.0	-11.9	-12.8	-14.6	-16.4	-18.1	-19.8	-21.5	-23.2
6.0	-6.1	-8.0	-9.9	-10.8	-11.8	-13.6	-15.3	-17.1	-18.8	-20.5	-22.1
7.0	-5.0	-6.9	-8.8	-9.8	-10.7	-12.5	-14.3	-16.0	-17.8	-19.4	-21.1
8.0	-3.9	-5.8	-7.7	-8.7	-9.6	-11.4	-13.2	-15.0	-16.7	-18.4	-20.1
9.0	-2.8	-4.7	-6.6	-7.6	-8.5	-10.3	-12.1	-13.9	-15.7	-17.4	-19.0
10.0	-1.6	-3.6	-5.5	-6.5	-7.4	-9.3	-11.1	-12.9	-14.6	-16.3	-18.0
Adjustment required relative to 2002											
Domestic nominal interest rate											
1.0	14.4	12.5	10.7	9.8	8.9	7.2	5.4	3.8	2.1	0.5	-1.1
2.0	15.5	13.7	11.8	10.9	10.0	8.2	6.5	4.8	3.1	1.5	-0.1
2.5	16.1	14.2	12.4	11.5	10.6	8.8	7.0	5.3	3.7	2.0	0.4
3.0	16.7	14.8	12.9	12.0	11.1	9.3	7.6	5.9	4.2	2.5	0.9
4.0	17.8	15.9	14.0	13.1	12.2	10.4	8.6	6.9	5.2	3.6	1.9
5.0	18.9	17.0	15.1	14.2	13.3	11.5	9.7	8.0	6.3	4.6	3.0
6.0	20.0	18.1	16.2	15.3	14.4	12.6	10.8	9.0	7.3	5.6	4.0
7.0	21.1	19.2	17.3	16.4	15.5	13.6	11.8	10.1	8.4	6.7	5.0
8.0	22.2	20.3	18.4	17.5	16.5	14.7	12.9	11.1	9.4	7.7	6.1
9.0	23.4	21.4	19.5	18.6	17.6	15.8	14.0	12.2	10.5	8.8	7.1
10.0	24.5	22.5	20.6	19.7	18.7	16.9	15.0	13.3	11.5	9.8	8.1
Memorandum items:											
Public debt in 2002	201.8										
Domestic debt in 2002	123.2										
External debt in 2002	78.6										
Primary balance in 2002	-26.1										
Foreign inflation rate (in percent) 1/	1.2										
Annual depreciation of nakfa (in percent)	6.7										
Domestic inflation rate (in percent) 2/	9.0										
Foreign inflation rate (in percent) 3/	2.2										

Sources: Ministry of Finance; Bank of Eritrea; and staff estimates.

1/ Historical weighted average.

2/ Based on a medium-term projection.

3/ Historical average for advanced economies.

Scenarios and sensitivity analysis

51. A number of scenarios have been calculated to assess the impact of alternative assumptions about GDP growth, average interest on public debt, and—critical for external debt—the exchange rate of the nakfa. In addition, in order to evaluate the adjustments in the primary fiscal deficit needed to achieve a given debt-to-GDP ratio over time, the calculations have set a target for the debt-to-GDP ratio of 70 percent to be reached over the period 2003-20. Finally, the assumption has been made that the target will be reached in an accelerating fashion, with a manageable initial reduction, following by increasing adjustments as smaller deficits make it easier to become more ambitious in the quest for sustainability.¹⁶

Table II.7 summarizes the results of these scenarios and sensitivity assessments; the assumptions about growth, interest rates, and the exchange rate are given in the footnotes of the table. The sensitivity assessments suggest that the key variables identified in the analysis above all exercise a significant influence on the size of fiscal adjustment needed to achieve the posited deficit objectives and sustainability. For the high GDP growth scenario, the average annual primary deficit could be 4.5 percent of GDP during 2003-20, against a zero balance needed under the low-growth scenario. On the other hand, a more market-oriented interest rate (high-rate scenario) would require an average primary balance of -0.8 percent of GDP, compared with an average deficit of 2.3 percent of GDP “acceptable” under the baseline scenario. Finally, the move of the official exchange rate to the levels currently observed in the parallel market—implying a 30 percent depreciation in 2003—would require smaller average primary deficits of 1.2 percent of GDP during 2003-20 (compared with average deficits of 3.3 percent of GDP under the smaller adjustment scenario) because of the heavier external debt and debt-service burden in domestic currency.

Key policies needed to restore sustainability

Policies needed to restore sustainability have to concentrate first, of course, on all those variables that directly influence the primary fiscal deficit, the key variable in all the fiscal sustainability equations discussed above. However, as was discussed in some detail above, there are a host of economic variables whose development influences sustainability, including, notably, GDP growth, but also private sector development and expectations. It is, therefore, important to pursue economic and financial policies that strengthen these variables through direct policy measures or by influencing incentives and confidence. Improving the business climate and investor expectations will be critical to pull out of a vicious circle that would otherwise require ever-increasing adjustment.

¹⁶ Alternative options would be a linear or a decelerating adjustment.

Table II.7. Eritrea: Minimum Primary Balance—Sensitivity Analysis, 2002-20
(70 Percent Debt-to-GDP Ratio by 2020 and Accelerating Decline in Debt-to-GDP Ratio)
(In percent of GDP, unless otherwise indicated)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average 2003-20
	Base year																			
GDP growth rate																				
Baseline	-26.1	-23.9	-21.0	-9.6	-5.9	-4.9	-4.3	-3.6	-2.8	-2.0	-1.1	0.0	1.1	2.3	3.6	5.1	6.8	8.5	10.5	-2.3
High growth 1/	-26.1	-23.9	-21.0	-9.6	-9.3	-8.3	-7.6	-6.8	-5.9	-5.0	-4.0	-2.8	-1.6	-0.2	1.3	2.9	4.8	6.8	9.0	-4.5
Low growth 2/	-26.1	-23.9	-21.0	-9.6	-2.3	-1.3	-0.8	-0.2	0.5	1.2	2.0	2.9	3.8	4.9	6.1	7.4	8.8	10.4	12.1	0.0
Domestic interest rate																				
Baseline	-26.1	-23.9	-21.0	-9.6	-5.9	-4.9	-4.3	-3.6	-2.8	-2.0	-1.1	0.0	1.1	2.3	3.6	5.1	6.8	8.5	10.5	-2.3
High rate 3/	-26.1	-23.9	-20.0	-7.5	-3.8	-2.8	-2.3	-1.6	-0.9	-0.2	0.7	1.5	2.7	3.8	5.1	6.4	7.9	9.6	11.4	-0.8
Low rate 4/	-26.1	-23.9	-22.0	-11.6	-7.9	-6.9	-6.2	-5.5	-4.7	-3.8	-2.8	-1.7	-0.5	0.8	2.2	3.8	5.6	7.5	9.6	-3.8
Exchange rate adjustment																				
Baseline	-26.1	-23.9	-21.0	-9.6	-5.9	-4.9	-4.3	-3.6	-2.8	-2.0	-1.1	0.0	1.1	2.3	3.6	5.1	6.8	8.5	10.5	-2.3
Larger adjustment 5/	-26.1	-3.8	-21.0	-9.6	-5.9	-4.9	-4.3	-3.6	-2.8	-2.0	-1.1	0.0	1.1	2.3	3.6	5.1	6.8	8.5	10.5	-1.2
Smaller adjustment 6/	-26.1	-41.9	-21.0	-9.6	-5.9	-4.9	-4.3	-3.6	-2.8	-2.0	-1.1	0.0	1.1	2.3	3.6	5.1	6.8	8.5	10.5	-3.3
Memorandum items:																				
Debt-to-GDP ratio	201.8	198.9	195.7	192.2	188.4	184.2	179.5	174.4	168.8	162.6	155.7	148.2	140.0	130.9	120.9	110.0	97.9	84.6	70.0	
GDP growth rate (annual percentage change)																				
Baseline	-1.2	5.4	9.0	5.1	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	4.3
High growth 1/	-1.2	5.4	9.0	5.1	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.9
Low growth 2/	-1.2	5.4	9.0	5.1	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.6
Domestic interest rate (in percent)																				
Baseline	2.5	2.5	5.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.1
High rate 3/	2.5	2.5	6.0	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	8.9
Low rate 4/	2.5	2.5	4.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.3
Exchange rate (in nakfa per U.S. dollar)																				
Baseline	14.0	16.3	18.0	19.5	21.0	22.4	23.9	25.5	27.2	29.0	30.9	33.0	35.2	37.6	40.1	42.8	45.7	48.7	52.0	
Large adjustment 5/	14.0	20.7	22.9	24.8	26.6	28.4	30.3	32.4	34.5	36.8	39.3	42.0	44.8	47.8	51.0	54.4	58.0	61.9	66.1	
Small adjustment 6/	14.0	12.4	13.7	14.8	15.9	16.9	18.1	19.3	20.6	22.0	23.4	25.0	26.7	28.5	30.4	32.4	34.6	36.9	39.4	

Sources: Ministry of Finance; Bank of Eritrea; and staff estimates.

1/ Higher growth rate at 5.8 percent (2 percentage points higher than the baseline) is assumed from 2006 onward, when the recovery from the 2002 drought and the impact of demobilization disappears.

2/ Lower growth rate at 1.8 percent (2 percentage points lower than the baseline) is assumed from 2006 onward, when the recovery from the 2002 drought and the impact of demobilization disappears.

3/ A percentage points higher interest rate is assumed on domestic interest rate.

4/ A percentage points lower interest rate is assumed on domestic interest rate.

5/ A 30 percent larger real depreciation is assumed in 2003.

6/ A 30 percent smaller real depreciation is assumed in 2003.

52. On the fiscal policy side, direct measures should aim to streamline the tax system in order to make it more efficient. Additional measures should include broadening tax bases and making more improvements in revenue administration and collections. There may also be a need to raise selected excises and taxes, such as those on petroleum products. On the expenditure side, the largest gains could be expected from a swift and full demobilization of combatants, and a more general move toward a peacetime economy. In addition, there is scope for improvement in budget management and expenditure control. At the same time, investments in physical and human capital will be required to increase potential growth. These fiscal measures need to be combined—and made compatible—with other policies that foster economic growth, including, in particular, in the private sector, and affecting Eritrea's export potential and foreign-exchange earning capacity.

53. Because for Eritrea, the foreign exchange constraint is the most binding constraint on economic development, it will be critical to attract both external investments and generous donor assistance. Both will depend critically on the soundness and transparency of economic policies, as well as accountability and good governance, and progress on restoring fiscal and external sustainability itself.

Measures of Fiscal Sustainability Gaps

Primary gap indicator (PGI)

$$PGI_t = pb_t - \overline{pb} = pb_t - (r_t - n_t)d_t, \quad (10)$$

where pb_t is the ratio of the primary balance to output at period t , $\overline{pb} = (r_t - n_t)d_t$ is the ratio to output of the permanent primary balance necessary to stabilize the debt ratio, r_t is the relevant interest rate for public debt service, n_t is the nominal output growth, and d_t is the ratio to output of the beginning-period stock of government debt. Making a distinction between domestic and external debt, the gap indicator becomes

$$PGI_t = (r_t - n_t)dd_t + (r_t^* - q_t - n_t)de_t + pb_t, \quad (10a)$$

where dd_t is the domestic debt-to-GDP ratio, de_t is the external debt-to-GDP ratio, and q_t is the rate of appreciation of exchange rate. Equation (10) and (10a) show that the current primary balance is enough to stabilize the debt ratio if PGI_t is positive. This is the case when the growth of nominal GDP exceeds the nominal interest rate on public debt.

Tax gap indicator (TGI)

$$TGI_t = t_t - \overline{t} = t_t + (n_t - r_t)d_t - g_t, \quad (11)$$

where t_t is the ratio of the total revenue with or without grants to output at period t , $\overline{t} = g_t + (r_t - n_t)d_t$ is the ratio to output of the permanent tax necessary to stabilize the debt ratio, and g_t is the ratio to output of government noninterest spending. Current tax revenue is enough to stabilize the debt ratio if TGI_t is positive.¹⁷

Expenditure gap indicator (EGI)

$$EGI_t = \overline{g} - g_t = t_t + (n_t - r_t)d_t - g_t, \quad (12)$$

where g_t is the ratio of the primary expenditure, including or excluding special programs, to output at period t , $\overline{g} = t_t + (n_t - r_t)d_t$ is the ratio to output of the permanent primary expenditure to stabilize the debt ratio, and t_t is the ratio to output of the total revenue with, or without grants. Current primary expenditure is small enough to stabilize the debt ratio if EGI_t is positive.

¹⁷ In a finite period of N , $TGI_t = t_t - \overline{t} = t_t + (n_t - r_t)d_t - \frac{1}{N} \sum_{i=0}^N g_{t+i}$, i.e., current tax revenue is enough to stabilize the debt ratio over the next N years if TGI is positive.

References

Balassone and Franco (2000), "Assessing Fiscal Sustainability: a Review of Methods with a View to EMU"; Banco d'Italia Workshop on "Fiscal Sustainability", 2000; pp. 21-60

Chalk and Hemming (2000), "Assessing Fiscal Sustainability in Theory and Practice", IMF Working Paper (WP/00/81) published in Banco d'Italia Workshop on "Fiscal Sustainability", 2002; pp. 61-93

International Monetary Fund (2002), "Assessing Sustainability", SM/02/166 (May 28, 2002)

Melhado, Oscar (2003), "Fiscal Sustainability and Resource Mobilization in the Dominican Republic", IMF Working Paper (WP/03/19)

World Bank (2002a), "Eritrea: Investment Climate Assessment"

World Bank (2002b), "Eritrea: Revitalizing Eritrea's Development Strategy"

III. MONETARY POLICY AND MANAGEMENT¹

A. Introduction

1. Eritrea's central bank, the Bank of Eritrea (BE), was established by a temporary proclamation (No. 32/1993) following independence in 1993. Prior to the introduction of the national currency, the nakfa, in November 1997, Eritrea was in a de facto currency union with Ethiopia—using the Ethiopian birr as the legal tender. In March 1997, the Bank of Eritrea Proclamation (No. 93/1997, hereafter “the Proclamation”) was enacted and superseded the temporary 1993 Proclamation.² The Proclamation was intended to provide for an independent central bank, with expanded powers to issue a legal tender and conduct monetary policy with a broad set of instruments, as well as to license, regulate, and supervise financial institutions.

2. This section begins with a brief description of the financial sector and policy environment for the BE. It then undertakes an assessment of key aspects of the Proclamation and its implementation with respect to their implications for central bank independence, and discusses the main factors that have affected actual monetary management of the BE. While the Proclamation contains many provisions that are in line with best practices in central bank legislation, there are a number of areas that could be strengthened or modified to enhance the autonomy, transparency, and accountability of the BE. Furthermore, it appears that the Proclamation as it stands now would have to be strictly enforced to achieve greater authority and independence of the BE in the conduct of monetary policy. Finally, it is observed that the effectiveness of monetary management is constrained by such factors as the lack of a well-defined monetary policy framework and effective instruments.

B. The Eritrean Financial Sector

3. Eritrea's financial sector is small and relatively underdeveloped, offering only a limited range of financial services to the public. The sector is dominated by the three commercial banks, only two of which accept deposits. The government-owned Commercial Bank of Eritrea (CBE), with a share of more than 80 percent of deposits and domestic lending, is by far the largest bank in the country and provides the bulk of the basic commercial banking services. The Housing and Commerce Bank of Eritrea (HCBE) is majority owned by the ruling party, and about 85 percent of its loans are related to housing projects. The Eritrean Development and Investment Bank (EDIB) was established in 1998 to meet the long-term development finance needs of the private sector. It is owned by the government and does not take deposits. The other major players in the financial sector are the National Insurance Corporation of Eritrea (NICE), which covers a limited range of insurance activities, and about 30 licensed foreign exchange bureaus, dominated by the party-owned

¹ Prepared by Shuang Ding.

² A Financial Institutions Proclamation (No. 94/1997) was also passed in March 1997. It provides for the role and obligations of the financial institutions that are tailored to the functions of the BE, to facilitate an effective and efficient regulation of the financial system.

Himbol, which has accounted, on average, for some 75 percent of foreign exchange operations over the past couple of years.

4. The structure of the financial sector has resulted in a lack of competition—a situation further undermined by the fact that its institutions are not always guided by commercial criteria. Recommendations by the Fund and others to privatize the CBE, in full or in part, have not been successful. In the meantime, it appears unlikely that a foreign bank will establish a presence in Eritrea in the near future because of its precarious economic situation. In these circumstances, the authorities see no immediate alternative but to strengthen the existing banks by restructuring and consolidations.

5. For most of the period since the introduction of the nakfa, the banking system has had abundant liquidity, reflecting in large part the high level of transfers from the Eritrean diaspora and the absence of alternative savings instruments. At the same time, commercial banks have adopted very conservative banking practices and have been reluctant to provide credit to the private sector in the absence of appropriate collateral or established loan service track records. Lending opportunities have been further reduced in the aftermath of the war with Ethiopia, which caused a massive displacement of population and damage to property. Reflecting these developments, all commercial banks maintained substantial excess reserves with the BE until the sharp increase in credit to government during and after the war. In this situation, and given the small number of banks and their ownership pattern, there was no scope for the development of money and capital markets.

C. Statutory Role of the BE

Key aspects of the proclamation vis-à-vis best practices³

Objectives of the BE

6. Article 5 of the Proclamation sets out the safeguarding of the value of the national currency as the principal policy objective for the BE.⁴ The article also provides more specific objectives, such as pursuing stability in prices, maintaining a sound exchange rate policy, fostering economic growth, and promoting a sound financial system, but it does so without prioritization of these objectives.

³ The comparison undertaken below is based; the IMF's Code of Good Practices on Transparency in Monetary and Financial Policies: Declaration of Principles; the Supporting Document to the Code, Part 2—Good Transparency Practices for Monetary Policy by Central Banks. The authorities agree in principle with most of the issues raised in the paper. They have separately reviewed the existing provisions of the Proclamation and are considering possible modifications, as described below.

⁴ Article 5 provides that “the principal objective of the Bank shall be to manage money and credit in the Eritrean economy, subject to the provisions of this Proclamation with the purpose of safeguarding the value of the national currency.”

7. Although all of these objectives are interrelated to varying degrees, the objectives of price stability and economic growth may at times conflict. Formulation of a priority objective helps to minimize conflicts between objectives and simplifies the policymaking and decision-making process of the central bank. Furthermore, a clearly defined objective enhances predictability, transparency, and accountability. Price stability is generally considered the best contribution monetary policy can make to macroeconomic stability and sustainable economic growth.

Relationship with the government

8. Article 6 of the Proclamation establishes the broad principles governing the central bank's relationship with the government, especially the independence of the central bank to perform its functions.⁵ Part XI—Relation with the Government—deals with such a relationship in more detail. In particular, it specifies the BE's role as banker of the government and the BE's advances to the government, as well as the issue of government securities.

9. However, some arrangements under Part XI have the potential to undermine the autonomy of the central bank. Article 30 allows the BE to make temporary advances to the government that do not exceed 25 percent of the estimated annual revenues of the government in any fiscal year, at such rates of interest as may be specified by the BE. This limit on short-term financing of government operations is quite high by international standards and, together with the possibility of BE purchases of long-term government bonds, could give rise to significant monetary growth and inflationary pressure.⁶ In countries with well-developed money markets, such credit is normally limited to the acquisition of short-term marketable government securities through the secondary market only. The government can also consider resorting to the banking system or to the public for deficit financing to limit its debt to the central bank.

10. Article 31 allows the BE to subscribe, hold, and sell shares of an entity set up with the approval or under the authority of the government for the purpose of financial sector development. This provision would generally be seen as problematic because it not only raises possible conflicts for monetary policy, but also introduces quasi-fiscal operations and costs to the central bank.

⁵ Article 6 provides that "(1) the Bank shall support the general economic objectives of the Government within the limits of its principal monetary objective; (2) the Bank shall be independent from and not be subject to instructions by the Government in performing its functions, determining its budget, and setting its procedures."

⁶ Article 31 provides that "the total amount of securities with maturity exceeding two years, other than securities held by the Bank as collateral or held as a result of open market operations of the Bank...may not at any time exceed 10 percent of the estimated annual budget revenues of the Government for the current fiscal year."

11. Article 32 allows the central bank to guarantee government or government-guaranteed external debt upon the request of the government. Central banks are normally not obliged to provide such guarantees, since these operations could increase the potential for risk and losses, reduce fiscal transparency and accountability, and limit or encumber the availability of the foreign exchange reserves entrusted to the central bank. When activated, these guarantees also have the potential to significantly increase the central bank's claims on the government.

Management and governance

12. Under the Proclamation, the Board of Directors of the BE consists of the Governor, the Deputy Governor, a representative of the Minister of Finance, the Auditor General, and three other members. The Governor and Deputy Governor are appointed for five years by the President with the approval of the national legislature; the terms of the Governor and Deputy Governor are staggered. The three unspecified members of the Board are nominated from a list of nine candidates prepared jointly by the first four Board members; they are appointed by the President for initial terms of three years, after which reappointment is possible.

13. International best practices generally propose that the terms of office of the Governor and the Board be longer than the election cycle of the entity with the predominant role in appointment. The goal is to enhance the autonomy of the central bank by detaching the appointment of its governing body from the national political cycle. Based on these arguments, the term of three years for the appointed members of the Board in Eritrea seems overly short. In addition, while it is not unusual to have the Auditor General and a representative of the Ministry of Finance on the Board, this practice can involve a potential conflict of interest and undermine the BE's independence, especially if the Directors have direct responsibility for ongoing policy decisions. In countries like Germany, by contrast, a representative of the Ministry of Finance is regularly invited to attend the Board meeting and can make statements and give recommendations, but does not possess voting rights.⁷

14. The Proclamation also stipulates that the Governor can be relieved of his duty by the President for "just cause" after consultation with the national legislature. The Deputy Governor can be removed for "just cause" by the President on the advice of the Governor and the recommendation of the Board. Board members lose their status if they are convicted for fraud or similar offenses or if it is demonstrated that they are unable or unfit to perform their duties.

15. The phrase "just cause" is a rather vague definition for an important decision like the removal of the most senior central bank officials. Internationally, it is more common to establish more specific grounds for removal, such as misconduct or incapacity. The same grounds for removal should apply to the Board. In both cases, it is essential to leave no room

⁷ The BE has proposed a minimum term of office of five years for the members of the Board. It has also suggested limiting government representation to one member from the Ministry of Finance, while increasing representation from the private sector.

for removal on account of general dissatisfaction or disagreement with policies. Otherwise, the removal authority could be used to undermine the autonomy of the central bank.

Monetary policy instruments

16. Part X of the Proclamation—Monetary Functions—sets out the monetary policy instruments, such as rediscount, open market operations, interest rate, and reserve requirements, that can be used to influence monetary conditions, including the supply of money and credit.

17. Article 25 allows the BE to issue its own securities to provide a basis for open market operations. Studies on open market instruments show that the central bank may incur substantial costs if large issuance is needed to sterilize liquidity. Moreover, if central bank bills are used in parallel with treasury bills, policy conflicts may occur in the absence of close coordination. A preferred approach would be to have the BE conduct open market operations with appropriately designed treasury bills.

18. Article 26 permits the BE to determine and differentiate, in consultation with the government, the terms and conditions for loans and deposits of commercial banks. Within the monetary policy framework established by the central bank, interest rates should ideally be determined by market forces, because administrative intervention could create distortions in the level and allocation of savings and investment. It could also constrain portfolio choices and magnify risks in financial institutions. The authorities argue that, while the BE may issue directives on such terms and conditions as the maximum period of term deposits and collateral waiver for small loans, banks are free to set their interest rates.

19. Article 27 entitles the BE to impose reserve requirements on financial institutions and inflict penalty charges for noncompliance. Reserve assets are defined as cash in vault and deposits at the BE. The Legal Reserve Requirements Regulation (Directive No. 8/2000) requires deposit-taking institutions in Eritrea to hold reserve assets of at least 20 percent of all local currency deposits without remuneration. Attainment of this internationally high ratio was for a long time no problem for Eritrean banks because they were highly liquid. In fact, banks even held substantial excess reserves on top of the required reserves. More recently, however, the large financing needs of government have made compliance with the 2000 directive difficult. In response, the BE issued Directive No. 1/2002 in November 2002, under which the reserve requirements have been reduced to 10 percent.⁸

20. Unremunerated reserve requirements are equivalent to a tax on financial intermediation. Such a tax may result in a widening of the spread between lending and deposit rates, which can lead to disintermediation. While the BE recognizes these potential problems, it is not in favor of remuneration for reserves because, as discussed above, commercial banks in Eritrea had a tendency of building up excess reserves in the past even

⁸ Simultaneously, the BE issued Directive No. 2/2002, which prescribes liquid asset requirements of 10 percent to be maintained by banks, including in the form of unencumbered government securities.

though the reserves were not remunerated. The risk of disintermediation was, therefore, not a concern of the BE. However, the authorities may need to reconsider the issue especially when some of the structural constraints on loan extension, such as collateral requirements, are eliminated and commercial banks begin to run down their excess reserves to meet increased demand for credit from the private sector. In addition, consideration may have to be given to requiring reserves on deposits held in foreign currencies, in order to avoid problems for commercial banks in managing liquidity and foreign exchange risks, especially when foreign currency deposits account for a significant portion of deposits.

Regulation and supervision of financial institutions

21. The legal framework for prudential regulation and supervision of banks and other financial institutions is primarily set out in the Financial Institutions Proclamation.⁹ However, prudential supervision is also covered in the BE Proclamation, especially in Part XII—Relations with and Supervision of Financial Institutions—which gives the BE the power to supervise all financial institutions. Article 35 of the Proclamation provides the basis for the BE’s lender-of-last-resort function, but most other provisions relate to matters of supervision and overlap with provisions contained in the Financial Institutions Proclamation. It is generally considered preferable for all provisions on prudential supervision to be consolidated in the Financial Institutions Proclamation, thus clearly distinguishing between the BE’s roles as a supervisor and a lender-of-last-resort. International best practices require that central banks lend only on a temporary basis against highly liquid and safe collateral and only to solvent but temporarily illiquid banks. It is usually up to the government to provide financing, if it is needed to avoid a systemic crisis.

Actual implementation of the proclamation

22. The BE has made important progress in implementing the Proclamation and developing supporting regulations. However, practices that appear to be incompatible with the central bank law have raised the following issues:

- In conflict with the intentions of the Proclamation, the BE remains the main source of financing of the fiscal deficit. This reflects a combination of factors, such as the conflict with Ethiopia, the food crisis, and ambitious development objectives, all of which have increased the financing needs of government. In fact, although the Proclamation limits the government’s borrowing from the BE at 25 percent of the estimated government revenue in any fiscal year, the ceiling was breached in 1999 when BE advances to government exceeded 100 percent of government revenues (see Figure III. 1).¹⁰ The limit was surpassed again in 2002: when BE advances to the

⁹ See in particular Part III on licensing, Part IV on prudential requirements, Part VI on prudential regulations, Part VII on prudential exposure limits, and Part XII on liquidation of institutions.

¹⁰ Actual government revenues are used as a proxy for estimated government revenues.

government amounted to about 60 percent of government revenues at the end of that year.

- The Proclamation provides for the capital of the BE to be equivalent to US\$10 million, to be subscribed and exclusively held by the government. The subscribed capital of the BE now actually amounts to ERN 6.1 million, or less than US\$ 0.5 million, based on the official exchange rate. However, total capital, including the central and legal reserve fund and the income account, exceeds the statutory minimum.
- The Proclamation allows the BE to impose penalty charges on any financial institution that fails to maintain the required reserves. However, although the CBE had been defaulting in its maintenance of required reserves before the reduction of reserve requirements in November 2002, the BE did not take any corrective action to bring the CBE into compliance.

Central bank independence

23. Central bank independence is a key element for the effectiveness of monetary policy and management, as well as the achievement of price stability, which has increasingly been accepted as the primary objective of a central bank. Through delegation of the authority over formulation and implementation of monetary policy to an autonomous central bank, the credibility of monetary policy can be improved significantly and expectations rationalized.

24. While the Proclamation explicitly states that the BE shall be independent from, and not subject to instructions by, the government, some of the provisions of the Proclamation have the potential of weakening the independence of the BE and thereby undermining its capacity to conduct policy in line with stated policy objectives:

- The objectives of the BE are not prioritized, leaving room for the pursuit of potentially conflicting objectives, such as economic growth and overall development, which are not the key responsibility of a central bank. In order to achieve a clearly defined objective, preferably price stability, the BE needs to have the autonomy to pursue this objective without outside interference.
- The limit on BE financing of government operations appears high and could undermine the BE's ability to control the growth of money supply.
- The government's apparent ability to exert, for political reasons, substantial influence on the appointment and removal of top officials and Board members of the BE could undermine the independence of the BE and its policymaking and decision-making process.
- Because the BE needs to consult the government in setting the interest rate policy, it lacks full instrument independence. Sufficient authority and adequate instruments are both crucial for the central bank to manage monetary conditions so as to meet its responsibility.

25. Independence is not an objective in itself. It serves the purpose of assigning the monetary policy instruments to the institution—the central bank—that is best suited to achieve the domestic and external stability of the currency in the context of overall economic policy. An indispensable complement to independence is credibility, which requires transparency and accountability. To achieve and maintain independence, it is therefore necessary to report regularly on the policies of the central bank and submit them to the judgment of outsiders. On this subject, much remains to be done in Eritrea.

D. Implementation of Monetary Policy

26. Although the Proclamation provides for an independent central bank and establishes the safeguarding of the value of the national currency as its objective, monetary policy has, soon after the creation of the BE, become captive to fiscal policy. Until late 1998, government domestic borrowing was entirely financed directly from the BE. At the end of 1998, approximately two-thirds of the related stock of debt was securitized into short-term treasury bills and issued to the CBE, thereby, significantly reducing excess liquidity in the banking system. Since then, the government has continued to run large fiscal deficits in connection with the conflict with Ethiopia and other special developments, and these deficits have been increasingly financed by domestic credit and money creation (see Table III.1).

27. The implementation of monetary policy has also been hampered by the lack of an analytically sound and transparent monetary framework, which makes it difficult to assess the performance of the central bank. The BE does not announce and explain its monetary policy objectives. In particular, it does not state its objectives for inflation and the exchange rate, which, if both were met, would achieve the objective of preserving the value of the currency. It is, therefore, not clear whether monetary policy pursues these objectives, aims to control the growth of a monetary aggregate—such as broad money, in the case of Eritrea—or simply responds to incidental factors, including the financing needs of the government. But even if a specific objective is pursued, it is not clear within which analytical framework that pursuit takes place and which key economic variables matter.

28. For example, if an inflation objective is pursued, is this done by targeting a monetary aggregate as an intermediate target? If so, has the relationship between the intermediate target and inflation proved substantially stable? To what extent have the large increase in the money multiplier and decline in velocity (see Table III.1) influenced the actual targeting and implementation of monetary policy? Moreover, to what extent do such developments as movements in the external current account of the balance of payments, foreign reserves, and the exchange rate (official and parallel) matter?

29. All in all, whichever monetary policy objectives were pursued in recent years, they were dominated by the need to finance large fiscal deficits that seemed unsustainable (fiscal deficits exceeded 30 percent of GDP in the past five years). As a result, reserve money growth was increasingly fueled by the BE's claims on the government (net claims on the government are now roughly 80 percent of reserve money). Additional effects were inflation rates deemed high by current international standards, large trade deficits (consistently over 60 percent of GDP), a rapid fall in the official exchange rate of the nakfa and the emergence

of a parallel market indicating even deeper depreciation, and a drop in the level of international reserves to less than one month of imports (see Table III.1).

30. The conduct of monetary policy is further complicated by the BE's lack of effective tools for controlling the monetary base. Currently, the BE uses mainly the statutory reserve requirements, interest rates, and the sale of government treasury bills as instruments to influence monetary conditions.

31. Reserve requirements are currently the main tool of monetary policy available to the BE. Owing to the high level of excess liquidity in the banking system, reserve requirements had until early 2001 no meaningful impact on the activities of the banks. However, as the BE moved government debt and borrowing to the commercial banks and the CBE transferred its debt in birr to the government,¹¹ excess liquidity in the banking system kept declining until the recent reduction in reserve requirements. On the one hand, a reduction in the liquidity of banks would increase the effectiveness of the monetary policy instruments. On the other hand, with declining bank liquidity, the deficits of the government would have to be financed increasingly by the BE, thereby further depleting its low level of foreign reserves. Moreover, an expansionary fiscal policy would in this case be more likely to crowd out private sector borrowing, which was not an issue when the banking system had substantial excess reserves.

32. Lending rates continue to be capped by a provision in the Civil Code that mandates that all loan contracts must carry an interest rate not exceeding 12 percent per annum.¹² There is, therefore, a conflict between the Civil Code and the need to conduct effective monetary policy and foster financial sector development. In particular, this conflict has helped generate interest rates that are at times highly negative in real terms. Until interest rates are liberalized and driven by market forces, their usefulness as an intermediate target of monetary policy will be limited.

33. The issuance of treasury bills to the commercial banks has the effect of absorbing excess liquidity in the banking system. The increase in treasury bill holdings by commercial banks also paves the way for the introduction of two-way open market operations as a new instrument of monetary policy. However, several issues need to be addressed before open market operations can become an effective tool:

- The current system for treasury bill sales is not a true auction system because of the small number of transactions and the heavy hand government is taking in its operation. As a result, it appears to operate like a long-term lending window for the government, and its parameters are not known. For effective monetary management,

¹¹ In June 2001, the government assumed the debt of the CBE to the Commercial Bank of Ethiopia. The CBE made a corresponding payment to the government by drawing down its reserves at the BE.

¹² In the proposed amendments to the Proclamation, the BE envisages introducing a provision to the effect that the Proclamation will prevail when provisions in any other laws are inconsistent with its provisions.

it is essential to introduce a transparent auctioning system that reflects the unfettered portfolio decisions of a greater number of banks.

- Interest paid on treasury bills is administratively set at 2.5 percent and is, therefore, in conflict with the notion of an “auction.” It is clearly not market determined and provides the banks with a poor rate of return.¹³ A willingness to accept market-based interest rates and to pay such rates on government debt is central to the success of open market operations. While adoption of market-based rates will have implications for the government’s cost of borrowing, it would promote financial sector development and stability and improve the profitability of commercial banks.
- The current 180-day bill structure does not provide sufficient variety of term, portfolio, and liquidity management options.
- Without a liquid and deep secondary market for treasury bills, open market operations lack flexibility in terms of the amount and timing of intervention because they can be carried out only in the primary market through treasury bill issues and redemptions.

34. Given the limited scope for effective use of monetary policy instruments in the current financial sector setting, the achievement of price stability and avoidance of foreign reserve losses would, above all, require the maintenance of a prudent fiscal stance to avoid large domestic financing.¹⁴

35. An additional problem in Eritrea is the weak link between monetary and exchange rate policies. Currently, it appears that no attempt is being made to make the two policies coherent and thereby support both domestic and external policy objectives. Having started with a “managed floating” system, Eritrea has now de facto adopted a pegged exchange rate. Normally, under such a regime, the monetary authorities have to relinquish control over money supply since they are committed to intervening in the foreign exchange market to defend the exchange rate in case changes in domestic credit generate an excess supply of, or demand for, money. In Eritrea, however, the impact of the exchange rate regime on monetary policy is muted for a number of reasons:¹⁵

- Eritrea maintains restrictions on the current account payments (Article XIV status). The BE is, therefore, not obliged to provide foreign exchange for current account transactions at the official exchange rate. In addition, the foreign exchange market is

¹³ However, to the extent that the purchases of treasury bills are financed by drawing down excess reserves that are not remunerated at all, they will increase bank profitability.

¹⁴ It could be argued, of course, that the excess liquidity in the system should not remain idle. However, this argument would carry more weight if its use would be only for investment purposes, and not for consumption of government.

¹⁵ For a fuller evaluation of the exchange rate regime of Eritrea, see the companion selected issues paper “Exchange Rate Policy and Management.”

monopolistic, and foreign exchange bureaus are not selling foreign currencies in the retail market. They also appear to be selective in their sales of foreign currencies.

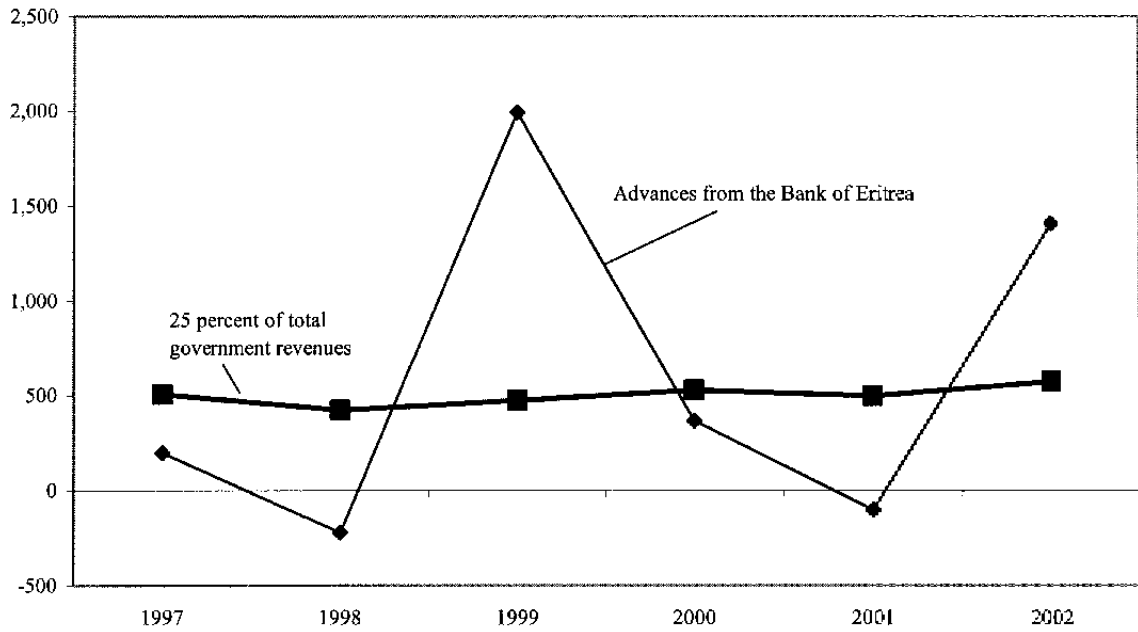
- Significant excess demand for foreign exchange has resulted in the emergence of a parallel market that carries an exchange rate premium as large as 60 percent. It appears that a large portion of foreign exchange transactions are now conducted in the unofficial market—a development that introduced a certain degree of flexibility into the current system, although in an undesirable way.

36. A further problem for monetary management and financial sector stability is that the state-controlled banking sector is burdened with a high ratio of nonperforming loans, owing to war-related payment problems and poor risk evaluation. This situation poses a considerable challenge for the BE in implementing its monetary policy, especially when there is a need to tighten the monetary condition.

E. Tentative Conclusions

37. On balance, monetary management in Eritrea has been constrained by a certain lack of independence of the central bank, the absence of a transparent and analytically sound monetary policy framework, and the absence of effective monetary instruments for a financial sector that is, in addition, characterized by monopolistic structures. The difficult financial condition of the banking sector also limits the scope for effective monetary policy. In addition, the low level of foreign reserves severely restricts the conduct of an independent monetary policy. Finally, the consistency of monetary and exchange rate policies is undermined by the substantial interventions of the government in both the distribution of domestic credit in favor of fiscal deficit financing and the operations of foreign exchange dealers in allocating scarce foreign exchange. As the country moves to peacetime economic management, well-sequenced reforms are called for, in order to enhance the independence of monetary policy and the effectiveness of monetary management.

Figure III.1. Eritrea: Bank of Eritrea's Advances to the Government, 1997-2002
(In millions of nakfa)



Sources: Eritrean authorities; and staff estimates.

Table III.1 Eritrea: Selected Monetary Indicators, 1997-2002

	1997	1998	1999	2000	2001	2002 Est.
	(In millions of nakfa, unless otherwise indicated; end of period)					
Net foreign assets of the BE	1,734	524	518	247	524	293
Net domestic assets of the BE	2,984	2,481	3,722	4,317	3,885	4,662
<i>Of which:</i> net claims on central government	1,626	1,336	2,964	3,551	3,239	4,248
Reserve money (M0)	4,718	3,005	4,241	4,564	4,409	4,955
Excess reserves	3,241	1,192	1,567	1,453	397	322
Broad money (M3)	4,792	5,663	7,977	9,018	11,402	13,507
Money multiplier (M3/M0)	1.02	1.88	1.88	1.98	2.59	2.73
Velocity (GDP/average M3)	1.22	1.08	0.88	0.76	0.79	0.73
Net domestic assets of the BE/reserve money	0.63	0.83	0.88	0.95	0.88	0.94
Net claims on central government/net domestic assets of the BE	0.54	0.54	0.80	0.82	0.83	0.91
	(Annual percentage change)					
Net foreign assets of the Bank of Eritrea	88.6	-69.8	-1.1	-52.3	111.9	-44.1
Net domestic assets of the Bank of Eritrea	89.6	-16.9	50.0	16.0	-10.0	20.0
<i>Of which:</i> net claims on central government	1.6	-17.8	121.8	19.8	-8.8	31.2
Reserve money (M0)	89.2	-36.3	41.1	7.6	-3.4	12.4
Excess reserves	83.9	-63.2	31.4	-7.2	-72.7	-16.5
Broad money (M3)	30.6	18.2	40.9	13.0	26.4	18.5
Memorandum items:	(In millions of nakfa, unless otherwise indicated)					
GDP	4974	5530	5982	6201	7771	9031
Consumer price index (Asmara; annual average change)	3.7	9.5	8.4	19.9	14.6	16.9
Total government revenues	2023	1689	1895	2108	1986	2289
(In percent of GDP)	40.7	30.5	31.7	34.0	25.6	25.4
Overall fiscal balance (incl. grants)	-280	-2101	-3225	-1991	-2705	-2722
(In percent of GDP)	-5.6	-38.0	-53.9	-32.1	-34.8	-30.1
Domestic financing	199	1854	2663	1482	1463	1824
(In percent of total financing)	49.1	90.1	83.6	73.5	58.3	66.5
Advances from the Bank of Eritrea 1/	197	221	1,992	365	-102	1,322
(In percent of total government revenues)	9.7	-13.1	105.1	17.3	-5.1	58.2
Trade balance 2/	-63.8	-66.5	-64.7	-67.1	-72.5	-72.0
Current account balance (including official transfers) 2/	2.1	-23.6	-27.9	-16.2	-18.4	-13.1
Exchange rate (nakfa per U.S. dollar, period average)						
Official rate	7.2	7.4	8.2	9.6	10.9	14.0
Parallel market rate	...	...	12.5	...	...	22.0
Gross international reserves (in millions of U.S. dollars)	243	69	54	37	51	33
(in months of imports of goods and services)	5.0	1.4	1.1	0.9	1.1	0.7

Sources: Eritrean authorities; and staff estimates and projections.

1/ Calculated as the difference between end-of-year credit to the central government.

2/ In percent of GDP.

IV. EXCHANGE RATE POLICY AND MANAGEMENT¹⁶

A. Introduction

38. The purpose of this section is to describe and analyze Eritrea's exchange rate regime, placing special emphasis on a comparison of the de jure regime, as it is officially stated, and the de facto regime, as it is reflected by actual exchange rate market developments. In addition, the implications of the current exchange rate regime for macroeconomic and microeconomic stability and efficiency are discussed, and the potential gains from switching to an alternative regime are examined. To put the analyses in their historical context, a brief overview of recent events is also provided.

B. Brief Historical Overview

39. Following Eritrea's proclamation of independence from Ethiopia in May 1993, the Eritrean authorities introduced on November 22, 1997 a national currency, the Eritrean nakfa (ERN), replacing the Ethiopian birr, which had previously served as the legal tender. According to the IMF's 1998 *Exchange Arrangements and Exchange Restrictions Annual Report* (AREAER), the Ethiopian authorities intended to pursue a managed floating exchange rate regime.

40. In its Foreign Exchange Regulation dated May 1, 1998, the Bank of Eritrea (BE) allowed banks to "set their own exchange rates," thereby establishing a mechanism for market determination of the foreign exchange rate. In connection with a separate Regulation for the Licensing and Operation of Foreign Exchange Bureaus dated May 1, 1998, the regulation set out the process of obtaining a license for operating a foreign exchange bureau. At that time, the foreign exchange market consisted of two commercial banks—the Commercial Bank of Eritrea (CBE) and the Housing and Commerce Bank of Eritrea (HCBE)—and twelve foreign exchange bureaus.

41. Immediately after the Foreign Exchange Regulation came into force, the nominal exchange rate increased to ERN 7.34 per U.S. dollar in May 1998 (up from ERN 7.13 per U.S. dollar in April 1998) and continued to depreciate further afterward. However, during extended time periods, the free float was interrupted, and the exchange rate remained at fixed levels (at ERN 8.1 per U.S. dollar during April-October 1999 and at ERN 9.6 per U.S. dollar from November 1999 through November 2000, in spite of mounting upward pressures stemming from the border war with Ethiopia, lasting from May 1998 to December 2000.

42. In connection with the border war, on July 1, 2000 the authorities imposed restrictions on foreign exchange transactions and gold in order to curb "the possible adverse impact of the current speculative activities in the foreign exchange market" (Legal Notice 44/2000). These restrictions authorizing the BE to fix of the foreign exchange rate, and allowing foreign exchange bureaus to sell foreign exchange only to the BE.

¹⁶ This section was prepared by Martin Schindler. Valuable input was provided by Klaus-Walter Riechel and Benoît Mercereau.

43. In August 2001, Legal Notice No. 49/2001 repealed the foreign exchange restrictions that had been imposed during the war with Ethiopia, allowing the exchange rate to “be determined by market forces, depending on the supply of and demand for foreign currency.” Foreign exchange bureaus and banks were free again to buy and sell foreign currency without restrictions, and to adjust rates of exchange in response to changing market conditions, and they were no longer required to surrender their foreign holdings to the BE. After freeing the foreign exchange market, the nakfa immediately depreciated by almost 35 percent in September 2001 to around ERN 13.8 per U.S. dollar. Since then, the official exchange rate has remained virtually unchanged, further depreciating only slightly to ERN 14.1 per U.S. dollar in mid-2002.

44. A new exchange rate directive (No. 01/2003) was issued on January 8, 2003. It explicitly allows exchange rate bureaus to set their own buying and selling rates of exchange and is also otherwise consistent with the Foreign Exchange Regulation and the Regulation for the Licensing and Operation of Foreign Exchange Bureaus that were issued in May 1998. The new directive, however, puts special emphasis on the requirement that bureaus explicitly and openly display their buying and selling rates and that they issue receipts for both purchases and sales.

C. Official (de jure) Structure of the Foreign Exchange Market

45. The formulation and enforcement of exchange rate policy and management lie with the BE. In particular, Section III.5.1.b of the Bank of Eritrea Proclamation No. 93/1997 states as one of the principal objectives of the BE to “maintain sound exchange rate policy to promote a healthy balance of payments and a sustainable foreign exchange reserve position.”¹⁷ However, the precise type of exchange rate regime is not written into BE law; rather, it is up to the BE to determine the appropriate regime.

46. In a recent paper by the authorities, “Transitional Growth and Poverty Reduction Strategy 2001-2002,” Eritrea’s official exchange rate policy is described as a managed floating exchange rate regime. Although the BE may influence exchange rate movements by buying or selling foreign currency in the foreign exchange market, using the U.S. dollar as the intervention currency, the authorities emphasize that they do “not want to use [the BE’s] limited foreign exchange reserves to defend a fixed exchange rate.”

47. Under a flexible, or floating, exchange rate regime, the domestic money supply can be controlled to contain domestic sources of inflation and to influence fluctuations in the current account balance. In this vein, the main objective of the BE, as described in the above-mentioned Eritrea strategy paper, is the use of its monetary policy instruments to maintain price stability while leaving the determination of the exchange rate to the market.

¹⁷ The other two main objectives of the BE are to pursue price stability and to foster economic growth and development. See also the companion paper, “Monetary Policy and Management.”

48. Within this framework, regular foreign exchange transactions were to be executed by commercial banks and foreign exchange bureaus, all of which require licensing by the BE. By September 2001, 22 licenses had been issued and two commercial banks were operating, as well as 14 foreign exchange bureaus in the foreign exchange markets.

49. As detailed in the Regulation for the Licensing and Operations of Foreign Exchange Bureaus, any individual, partnership, or company without a prior history of fraud or embezzlement may apply for a license. There are only a few requirements for obtaining a license, although some of the financial prerequisites are likely to be enormous for Eritreans. As of January 2003, these included a minimum paid-up capital of US\$5,000 (or its equivalent in nakfa), an ERN 300 application fee, an ERN 700 initial license fee, and recurring annual renewal fees equal to ERN 500. On the operational side, obtaining a license requires a fixed business location and the necessary infrastructure to maintain appropriate records.

50. Officially, then, Eritrea's foreign exchange regime and market structure constitute a highly liberal and open system with few rigidities. Also, the BE's declared strategy of using its monetary policy instruments mainly for maintaining price stability is consistent with the official policy of a market-determined foreign exchange rate.¹⁸

D. Actual (de facto) Structure of the Foreign Exchange Market

De facto exchange rate regime

51. Following the restrictions imposed on foreign exchange in July 2001, Eritrea's de facto exchange rate regime was reclassified in the IMF's 2001 AREAER from "independently floating" to a "conventional pegged arrangement," and this classification has been maintained henceforth.¹⁹ Although the authorities have officially declared themselves to be pursuing a managed floating exchange rate regime, the current regime is best described as a failed fixed exchange rate regime.

52. As seen in Figure IV.1, the official nominal exchange rate is fixed over long time periods, with virtually no month-to-month movements, and adjusted only infrequently in small, discrete steps. However, because the de facto fixing of the exchange rate is not supported by corresponding monetary policies, upward pressures on the exchange rate and an increasing shortage of foreign exchange at the official rate have led to the development of a parallel foreign exchange market in which the exchange rate differs markedly from the

¹⁸ See, however, the companion paper on the actual implementation of monetary policy (Section III).

¹⁹ See the 2002 *AREAER*.

official rate.²⁰ The large exchange rate spread, over 60 percent in August 2002, indicates that the official exchange rate significantly overvalues the nakfa.

53. Under this market structure, official transactions (and other “priority” needs) are conducted at the official exchange rate and through official channels, while the vast majority of private transactions, including bona fide transactions on the current account, as well as official transaction that could not be financed through official channels are executed in the parallel market.²¹ The volume of transactions in the parallel market has drastically increased since 1998 and has led to a widening spread of the parallel exchange rate over the official rate. The exclusion of many current international transactions from access to foreign exchange at the official rate and the large exchange rate spread give rise to an exchange restriction under the Fund’s Articles of Agreement (Article VIII, Section 2(a)). The current exchange system also constitutes a “multiple currency practice” under Article VIII, Section 3.

Institutional arrangements

54. The absence of monetary policies that would support the official exchange rate implies that the official rate is maintained through channels other than market forces. The persistence of dual exchange rates is to a large extent explained by the institutional structure of the foreign exchange market. Although foreign exchange bureaus are, in principle, free to choose their own rates according to market forces, they have in the past effectively taken as given the rates set by Himbol, the largest foreign exchange bureau, which is owned by the ruling party (PFDJ) and accounted for over 90 percent of all foreign exchange purchases by bureaus in 2001. Himbol’s strong position dates from the independence war, when it channeled the diaspora’s financial contributions to the armed struggle. In Eritrea, Himbol purchases foreign currency at the official rate. Outside the country, where it has several branches, it purchases foreign exchange from the diaspora at a higher rate. Currency transfers on behalf of foreign organizations (such as nongovernmental organizations (NGOs)) operating in the country are also carried at a rate somewhat higher than the official one (about ERN 17 per U.S. dollar as of January 2003). Himbol does not appear to sell foreign exchange, except to party enterprises and to other “preferred” clients (i.e., those deemed to be of essential importance to the domestic economy). It is this monopolistic market structure, as well as Himbol’s selective trading policy, that helps to keep the official market rate at its essentially fixed level. However, the authorities claim that Himbol’s position has considerably weakened because of the proliferation of parallel market operators.

²⁰ Monetary financing of the fiscal deficit, which has contributed to a large current account deficit and double-digit inflation rates, is likely to have contributed significantly to the rising exchange rate pressures.

²¹ The nature of the parallel market has changed over the recent months. According to a World Bank assessment in early 2002, the parallel market was an informal market consisting of a large number of unlicensed dealers. Recently, licensed bureaus (buying and selling) and the BE (only buying) also have participated in the parallel market.

55. The policy of favoring “essential” companies and transactions, as well as the recent Proclamation on Unfair Trade Practices indicates that party-owned Himbol is acting on considerations other than economic or commercial interests in selling foreign exchange and setting exchange rates.²² However, given the large spread between official and parallel exchange rates and the implied profit potential, it is unclear why other foreign exchange bureaus still find it in their interest to follow Himbol’s lead, and why more bureaus have not entered the market in pursuit of these apparently unexploited profits.²³

56. Part of the answer lies in the costs of obtaining a license to operate an official foreign exchange bureau. A US\$5,000 start-up capital requirement, plus other initial and recurring fees (see the previous subsection), are remarkably high when considering that Eritrea’s per capita GDP at market prices was about US\$150 in 2002 (using the official exchange rate). These financial costs therefore constitute a significant barrier to entry, thereby reducing pressures for a more market-based exchange rate that would arise from increased competition.

57. More important, however, there are indications that even officially licensed bureaus now increasingly operate in the parallel market at parallel market exchange rates, even though their published rates are always at the official one. Apparently, official foreign exchange bureaus do exploit the above-mentioned arbitrage opportunities by buying foreign currency at the official rate and selling it in the parallel market at the higher parallel rate. However, all the transactions in their books are recorded using the official rate, in order to hide their nonlegal operations and to avoid paying business taxes. This market behavior and bookkeeping practices might also explain the government’s recent reissuing of prior foreign exchange regulations with an added emphasis on the proper posting of, and accounting for, actual exchange rates.

58. One reason given by Himbol for maintaining the current regime, apparently shared by Eritrean officials, is the belief that increasing or freeing the official exchange rate would merely lead to an equal increase in the parallel market while leaving the existence of dual markets and the size of the exchange rate spread unchanged. Although there are signs that even the parallel market rate may overvalue the nakfa,²⁴ the previously mentioned arbitrage

²² See the footnote in the subsection on microeconomic implications.

²³ A foreign exchange bureau seeking to make a profit could offer a purchasing rate above the official exchange rate and a selling rate below the rates in the parallel market, implying a potentially large profit margin. Because this would also attract a larger share of the market, such a bureau should have little problem in acquiring the foreign currency necessary to run its operations. This will be particularly so if individuals and companies have a preference for acquiring foreign exchange legally over having to resort to the (illegal) parallel market.

²⁴ There are reports of foreign currency shortages also in the parallel market, which would not be the case if exchange rates fully adjusted. These shortages persist most likely because informal traders, having been tolerated by the authorities in spite of being unlicensed, may be hesitant to deviate too much from the official rate lest they incur stricter enforcement of the

opportunities would make it difficult for a dual exchange rate regime to persist over an extended period in the absence of any exchange rate restrictions. Also, a more freely operating official market would reduce the need to acquire foreign currency in the informal market, thereby lowering informal market demand and mitigating upward pressures there. The likeliest outcome of a more flexible exchange rate structure, therefore, is a reduction or elimination of the currently large exchange rate spread at a higher unified exchange rate.²⁵

59. Other exchange rate operators are the BE and commercial banks. Accounts in foreign currency at commercial banks have recently been allowed. Eritrean expatriates can send money through these accounts, which are then exchanged with the commercial banks at the official rate. It appears to be more common practice, however, for foreign currency account holders to withdraw their hard currency from the bank and then sell it in the parallel market in order to secure the better parallel rate, thereby circumventing the official rate.

60. Official external operations are conducted by the BE. In particular, when its own foreign reserves are insufficient, the BE acquires the necessary foreign currencies from officially licensed foreign exchange bureaus (particularly Himbol) and from commercial banks. When none of these sources are available, the BE sometimes obtains foreign currency from unofficial dealers at rates closer to the parallel market rate.

E. Macroeconomic and Microeconomic Implications

Macroeconomic Implications

External Competitiveness

61. The policy and management of exchange rates in Eritrea have widespread implications on both the macroeconomic and microeconomic level. Among the macroeconomic implications is the negative effect of the exchange rate regime on external competitiveness. The strong overvaluation of the nakfa at the official rate raises the real exchange rate and thus reduces competitiveness for those exports transacted at the official rate.²⁶ Reduced export competitiveness, in turn, translates into smaller export volumes than could otherwise be realized.

requirement to obtain a license. In fact, street traders have at times been arrested, resulting in a sharp reduction in the availability of foreign exchange to the private sector.

²⁵ The appendix illustrates some of these issues diagrammatically.

²⁶ Let e denote the nominal exchange rate (expressed in Eritrean nakfa per U.S. dollar) and P and P^* the domestic and foreign price indices, respectively. Then the real exchange rate can be expressed as $\varepsilon = P/(eP^*)$, the nominal exchange rate corrected for movements in relative price indices. Hence, domestic inflation pressures relative to external pressures lead to an increase in the real exchange rate, making domestic goods less competitive abroad.

62. The following empirical analysis illustrates quantitatively some of the potential benefits that could be obtained from freeing the exchange rate.²⁷ Reflecting the lag at which changes in economic variables work their way through the economy, quarterly export volumes (*EXP*) were regressed on lagged logs of the real effective exchange rate (*REER*) and a trade-weighted real GDP growth index of the main trading partners of Eritrea (*FGDP*), as well as on a dummy variable (*D*) to control for the effects of the border war with Ethiopia.²⁸ Using quarterly data for the period 1992-2001, the following results were obtained (standard deviations are in parentheses):²⁹

$$EXP_t = 11.85 - .81D_{t-2} - 1.85REER_{t-2} + 3.68FGDP_{t-2} \quad (R^2 = .52).$$

(4.5) (.14) (.99) (1.63)

63. Using these estimates, it is possible to calculate what level of exports could have been realized if the exchange rate had been determined by the market. Although not perfectly so, the parallel exchange rate is a possible proxy for the “true” exchange rate. As only a few data points are available, the parallel exchange rate time series is a combination of data obtained from the authorities and staff estimates.³⁰ Nominal and parallel exchange rates are shown in Figure IV.1.

64. According to Figure IV.1, the parallel market exchange rate started to deviate from the official one in 1998. To the extent that the parallel rate reflects the market valuation of the nakfa, starting in 1998, exports would have been higher than realized if the exchange rate market had been fully market based. By substituting the parallel exchange rate values into the export equation estimated above, one obtains a quantitative estimate of the benefits (or costs) of the current exchange rate regime.

65. Figure IV.2 shows how exports would have differed from actual exports if the parallel exchange rate, instead of the official one, had been used in all transactions. On average, quarterly exports would have been 55.2 percent higher, with a total export gain over the time

²⁷ As discussed below, several qualifications imply that this analysis should be interpreted as merely an **illustrative exercise**, rather than a firm quantitative prediction of the effects of removing Eritrea’s exchange restrictions.

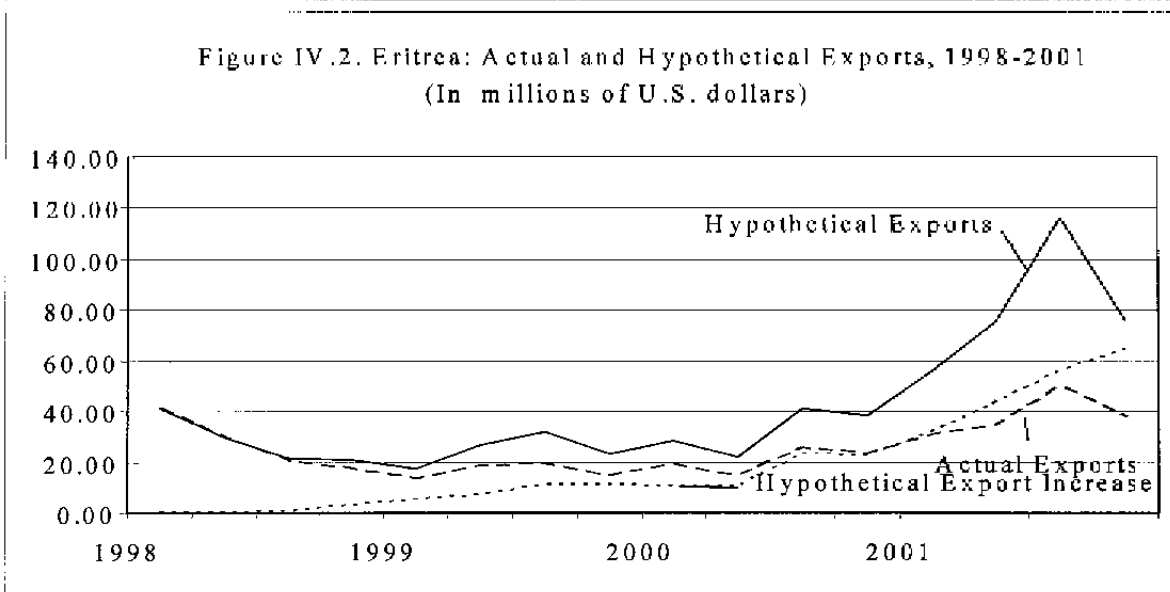
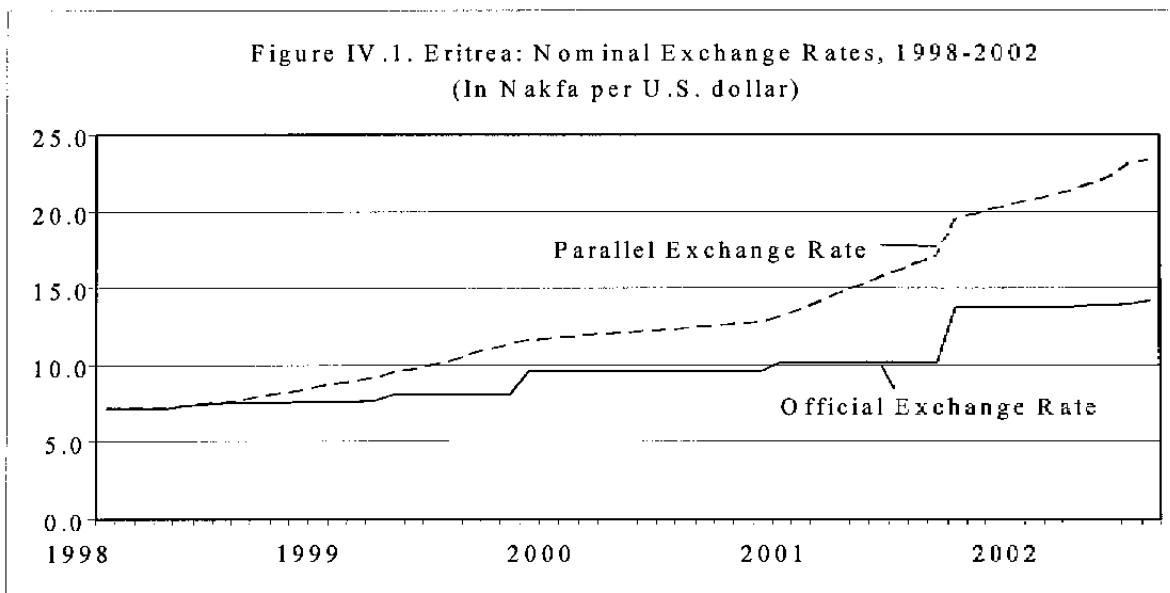
²⁸ A lag structure of two quarters was used, ensuring a high R^2 , as well as statistical significance of all variables (at the .05 level), particularly the real effective exchange rate.

²⁹ Given an F -statistic of 12.41, the overall regression, as well as all of the variables, are statistically significant at the .05 level. The high value of the D coefficient relative to the $REER$ coefficient (in absolute terms) and its high statistical significance suggest that war-related effects, including supply-side effects, dwarfed the influence of other economic variables.

³⁰ Although the authorities officially compile parallel exchange rate statistics, only data for 1999 and 2002 have been made available to IMF staff. The remaining values were constructed by interpolation.

period 1998-2001 equivalent to over US\$300 million. According to these estimates, in 2001 alone exports would have been more than twice as high as the actual figures, corresponding to over a one-fourth of total nominal GDP in 2001, and thus raising Eritrea's GDP growth potential by over 25 percentage points.

66. These estimates are subject to several important qualifications. First, the estimates reflect the relationship between export volume and the exogenous variables in equilibrium, which is determined simultaneously by export supply and demand. During much of the time period under consideration, Eritrea's war with Ethiopia put severe constraints on supply. To the extent that supply constraints will be less important as war effects diminish over time, projections using the above parameters must be interpreted with caution.



67. Second, while a depreciating exchange rate makes exports more competitive, it also makes import goods more expensive. If there are limited domestic substitutes for imported production inputs, domestic production using imported inputs will suffer. However, the already large volume of *franco valuta* imports (see below for more details on the *franco valuta* system), which are presumably executed at exchange rates closer to the parallel exchange rate, suggests that a move toward a unified exchange rate structure will have only a small effect on imports, as they already reflect the higher rate.

68. Lastly, and most important, the estimated benefits from removing the current exchange rate restrictions are based on the assumption that all export transactions have been executed at the official exchange rate. This is unlikely to have been the case in light of the increasingly active parallel market over the last year or so. The benefits of fully liberalizing exchange rate markets will, therefore, be more limited than suggested by the above regression. However, this exercise does illustrate the significant economic benefits that potentially flow from choosing an appropriate exchange rate regime.

Trade and payments channels

69. The scarcity of foreign exchange has reinforced the use of alternative payments systems. An informal funds transfer scheme known as the *franco valuta* system has been used and is rooted in the strong kinship ties of Eritreans with its large diaspora. The functioning of this scheme is illustrated by the following example. An importer contacts a person abroad to pay for the import goods in the exporting country. Instead of repaying the foreign contact person directly, the Eritrean importer repays the foreign contact person's domestic relative, friend, or business partner in nakfa at the agreed exchange rate (which typically is significantly higher than the official exchange rate). This system thus circumvents the domestic scarcity of foreign exchange and is estimated by the BEI to have been applied to almost two-thirds of goods imports during the first half of 2001.³¹

Scarcity of foreign exchange

70. The current exchange rate regime affects the scarcity of foreign exchange in two ways. First, the lack of adjustment of the overvalued official foreign exchange rate implies that the exchange rate is stuck below the market equilibrium, leading to excess demand for

³¹ Other examples of *franco valuta* transactions include remittances sent from abroad into Eritrea in the form of foreign currency, remittances channeled through foreign exchange bureaus, or those transferred via foreign currency accounts with commercial banks. Cash remittances, often via intermediaries, have been an important channel for foreign currency transfers from the diaspora into Eritrea. The official level of remittances channeled through exchange rate bureaus is very low, although some transfers seem to take place in this way at the unofficial rate of exchange. Foreign currency accounts with commercial banks have only recently been allowed; their usage for foreign currency transfers will depend on the extent to which individuals can withdraw foreign currency from these accounts and exchange it in the parallel market.

foreign exchange. Second, on the supply side, the shortage of foreign exchange is exacerbated by the reduction in exports discussed above, which thus generates a smaller inflow of foreign exchange.

71. The decline in Eritrea's foreign reserves has sharply reduced the country's capacity for imports, including those that may be important inputs into production. Moreover, the low level of reserves, combined with an overvalued fixed exchange rate, undermines credibility regarding exchange rate stability and has the potential to trigger financial crises.

Foreign direct investment (FDI)

72. As is evident from the discussion above, the current exchange rate regime in Eritrea is very complex and opaque. The "semilegal" nature of a substantial part of foreign exchange transactions and the authorities' occasional crackdowns on the parallel market also introduce uncertainty regarding the availability of foreign currency and the rate of exchange. All of these factors create an environment that is unfavorable to investment and deter FDI. Lower FDI, in turn, reduces growth, lowers exports, and makes foreign exchange scarcer (because of both smaller capital inflows and lower exports). Low FDI is particularly harmful because Eritrea's long-term growth prospects depend on imported technology.

Microeconomic implications

73. In addition to the macroeconomic effects of a dual exchange market and an overvalued exchange rate, Eritrea's management and structure of the foreign exchange market also have negative implications at the microeconomic level.

Allocative efficiency

74. In a market-based allocation with flexible prices, only those firms will obtain foreign exchange whose use for it is at least as productive as its costs. With productivity as the key criterion for obtaining resources, scarce foreign exchange is allocated to those uses that have the strongest impact on the productivity and growth of the economy.

75. In contrast, in the absence of price adjustment, like in Eritrea, a shortage of foreign exchange emerges and available foreign currency must be rationed. That is, it must be allocated through mechanisms other than price. In the current foreign exchange market structure, this may be party affiliation, random luck, or other noneconomic criteria. This allocation mechanism leads to inefficiencies and distorted competition by implicitly subsidizing those firms that obtain foreign exchange at the lower official rate.

76. In addition, the opacity of the system and its semilegal character involve high information and transaction costs that undermine competitiveness and distort competition. Finally, firms are required to account for foreign exchange transactions using the official rate, irrespective of the actual rate at which the foreign currency was obtained. This inflates profits and increases profit taxes for those firms that have to resort to the parallel market and thereby puts them at a further disadvantage. However, worst hit are those firms that have no access to foreign exchange for importing necessary production inputs.

Rent seeking and fraud

77. By allocating resources by criteria other than profitability, rationing creates incentives for rent seeking, thereby diverting resources away from productive activities toward those aimed at obtaining foreign exchange at a favorable rate. Counter to the system's intentions, it creates the potential for fraud and bribery and raises general governance issues. These risks are exacerbated by a lack of transparency and the uncertainty costs the system imposes on firms and individuals. The current system, therefore, puts at risk the reputation of the Eritrean people hardworking, honest, and free from corruption by raising the rewards for "bending" the rules.

78. A similar potential for fraud is created by forcing all firms to report costs and profits based on the official exchange rate. Private companies that must purchase their foreign currency in the parallel market thus face the unappealing choice of either following the rules and incurring an elevated tax rate or committing fraud through misreporting of profits.³² Neither option constitutes an adequate basis for a healthy and sustained development of the private sector.

F. Conclusions

79. Although Eritrea's official exchange rate regime and foreign exchange markets are extremely liberal, the actual implementation involves considerable open and hidden rigidities that keep the foreign exchange system from reaching a market equilibrium. Although the authorities maintain that the exchange rate restrictions are required because of the scarcity of foreign exchange, in order to keep foreign exchange affordable and available to meet the economy's priority needs, this section's discussion shows that, in stark contrast to the authorities' intentions, the current regime actually exacerbates the scarcity of foreign exchange as well as allocates the existing foreign exchange inefficiently. The current regime thus keeps the exchange rate from playing a positive role in Eritrea's economic development. The effects of these rigidities and distortions are far-reaching, extending from a loss in external competitiveness to allocative inefficiencies, which, in turn, lower exports and reduce macroeconomic growth.

80. Reforms of the foreign exchange regime are complicated by the extremely low level of foreign reserves and the high official demand for foreign exchange in connection with priority needs of the government, including, in particular, the management of the drought. Policy measures will, therefore, have to follow a well-sequenced and well-paced reform agenda, at the end of which a greater degree of exchange rate flexibility should be permitted in a unified market based on underlying supply and demand conditions. In principle, this

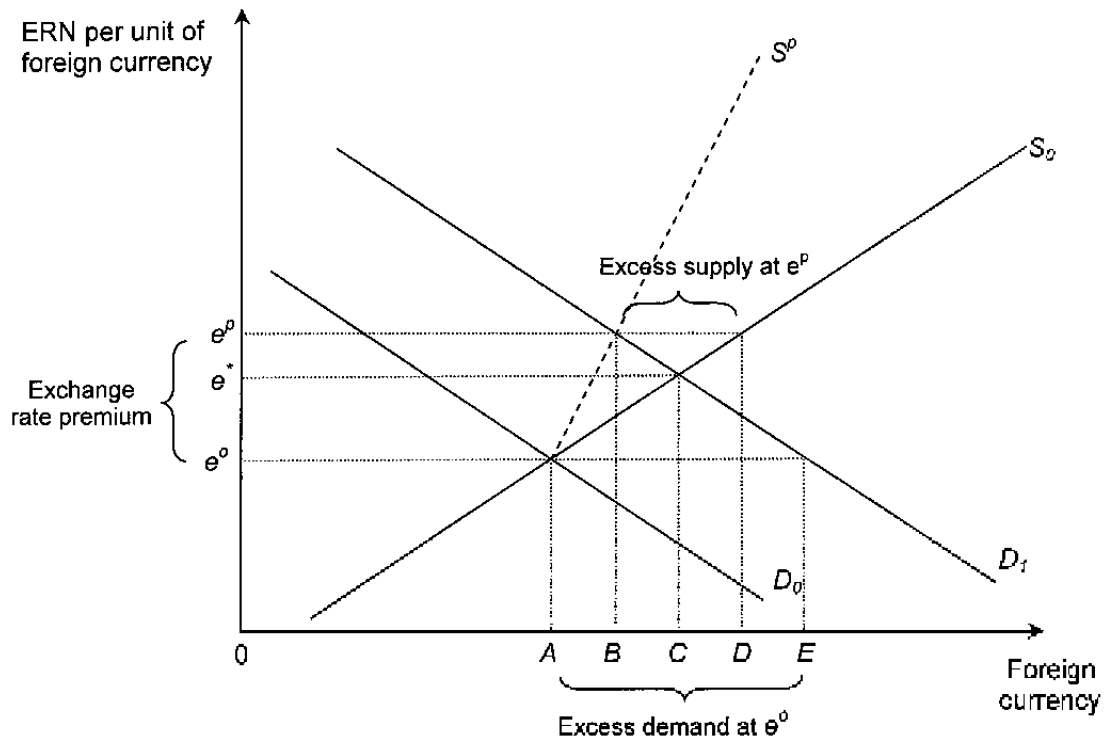
³² Alternatively, firms may attempt to recover higher costs of foreign exchange through higher sales prices. However, the scope for price adjustments is limited by the recent Proclamation No. 125/2003 on Unfair Trade Practices. This proclamation empowers the Ministry of Trade and Industry to subject goods or services to price controls if their prices are deemed "too high," and the determination of "fair prices" is presumably based on valuing imported inputs at the official exchange rate.

would imply no more than a return to the official system of a “managed float” introduced in 1998. To achieve this objective, reforms will also be needed in the exchange markets to ensure that market conditions are not undermined by dominant institutions and noneconomic allocation criteria.

Diagrammatic Analysis of Exchange Rate Determination

81. This appendix provides a diagrammatic description of recent exchange rate developments in Eritrea, as well as an analysis of the implications of removing existing exchange rate restrictions. As Figure IV.1 in the main text shows, the parallel foreign exchange market came into full existence only after 1998. Until then, both exchange rates were essentially identical, suggesting that the official exchange rate closely reflected a market equilibrium. In Figure IV.3, this situation corresponds to the intersection of D_0 and S_0 with e^0 as the resulting equilibrium exchange rate.

Figure IV.3. Eritrea: Exchange Rate Determination



82. After 1998, a parallel market began to emerge because the demand for foreign exchange by the private sector was no longer met in full by the supply at the official rate. In Figure IV.3, this situation is shown as the result of an outward shift in demand from D_0 to D_1 .³³ The lack of adjustment in the official exchange rate created excess demand equal to AE

³³ The exchange rate premium could also have been caused by a reduction in the supply of foreign currency. The analysis and the diagram would, however, be very similar, with identical implications for the effects of removing exchange rate restrictions on exchange rate developments.

in the official market and thus led to the formation of a parallel market, in which supply is given by S^p . For a number of reasons, the supply curve in the parallel market is likely to be steeper than the supply curve in the official market. First, parallel market dealers typically demand a risk premium in compensation for the risk of legal prosecution, given their illegal status. In addition, dealers may also be able to exploit informational imperfections in the highly non-transparent parallel foreign exchange market in Eritrea. Finally, transactions costs are often high because many parallel market dealers operate on a small scale. Requests for larger amounts of foreign currency are then often channeled through several layers of traders, each of whom requires a fee.

83. The parallel market rate e^p is determined by the intersection of S^p and D_1 , resulting in an exchange rate premium equal to $e^p - e^o$. The volume of foreign exchange traded in the parallel market at e^p is equal to AB , while that traded in the official market at e^o is equal to OA . The total traded volume of foreign exchange is, therefore, equal to OB .³⁴

84. Lifting restrictions on the exchange rate in the official market will remove the need for a parallel market. In the absence of restrictions, S_0 becomes the relevant supply curve in all markets. In the parallel market, at e^p there will therefore be excess supply of foreign currency equal to BD , putting downward pressure on the parallel exchange rate. Similarly, if the official exchange rate is allowed to adjust, excess demand in the official market exerts upward pressure on e^o . Eventually, both exchange rates will converge to the unitary market equilibrium rate, e^* . The total volume traded is equal to OC ; this is higher than the total volume of foreign currency traded under the dual market structure, illustrating the point that the current exchange restrictions reduce the available amount of foreign exchange.

³⁴ Demand in the diagram encompasses both private and official demand, although official demand and selected private demand for “priority needs” are given preference at the official rate, e^o . As a result, demand in the parallel market is mostly private. However, as discussed in the main text, there have recently been cases where the supply of foreign currency in the official market was insufficient to satisfy even official demand, thus temporarily forcing some official demand into the parallel market.

V. INFLATION AND ITS DETERMINANTS IN ERITREA³⁵

A. Introduction

85. For effective macroeconomic management, including policies to influence the monetary transmission mechanisms and the demand for money, a firm understanding of the determinants of inflation is essential. Currently, there exist no formal studies of the relation between inflation and its determinants in Eritrea. Moreover, the monetary authorities have had limited scope for conducting an independent monetary policy in pursuit of their statutory objective of maintaining the domestic and external value of the nakfa because, following the introduction of the nakfa at end-1997, monetary policy quickly became subordinated to fiscal policy objectives and the large financing needs of the government.

86. This section discusses various determinants of inflation and attempts to formally track the processes through which they influence inflation in Eritrea. In the next subsection, the two inflation measures existing in Eritrea are discussed and their strengths and weaknesses are highlighted. Subsection C reviews overall inflation developments in and discusses developments in subcategories of inflation, in order to evaluate inflation performance in recent years. Subsection D presents a theoretical framework for inflation and discusses related data issues. Subsection E discusses the results of an estimation of the long-run equations for both money market and purchasing power parity (PPP), as well as the short-run inflation dynamics. In the last part, some tentative conclusions and policy implications are presented.

B. Measures of Inflation in Eritrea

87. Until recently, the authorities have used two measures of inflation, one produced by the Bank of Eritrea (BE) and the other established by the National Eritrea Statistics and Evaluation Office (SEO) (see Table V.1). The BE began producing its consumer price index (CPI) measure in 1994, shortly after independence, on the basis of a limited goods basket comprising 14 groups and undertaken by six field staff during the last three days of each month. This CPI measure suffered from the following limitations: (i) an outdated weighting pattern, going back to the early 1990s and based on the Ethiopian and other countries' CPIs; (ii) a limited goods basket (115 items); (iii) exclusion of some essential goods, such as dwelling rents; and (iv) a coverage limited to the Asmara region.

88. The SEO began compiling its own measure of the CPI in January 1996. While this measure is more comprehensive than the BE index, the geographical coverage is still limited to Asmara, whose population makes up for less than 10 percent of the total population. At the same time, however, the average income and expenditure levels are considerably higher than in the rest of the country, so that the measure may cover well over one-fourth of total

³⁵ Prepared by Jakob Christensen.

household expenditure in Eritrea. Price information is collected once a month, but there are plans to collect the more volatile prices on fresh fruits and vegetables on a biweekly basis. The CPI measure comprises about 500 items, and three price quotations are obtained for each item. Prices for most items are collected from open-air markets. A major deficiency, so far, is the underlying weighting pattern, which is largely based on the household income and expenditure survey (HIES) conducted in 1996/97.

89. New HIES has been recently completed and will permit an updating of weights. In order to obtain a broader inflation picture, the Statistical Department of the Fund (STA) recommended that the authorities expand the geographical coverage of the CPI to include major urban centers other than Asmara. However, it was not considered feasible to include nonurban areas, given the high administrative costs related to such operations and the fact that most rural households make a considerable part of their purchases in urban markets.

90. Table V.1 shows the weights of the two different Eritrean CPI measures, as well as those of Ethiopia for comparison. It is seen that food and clothing and footwear have significantly larger weights in the SEO measure than in the BE measure. Despite these differences, the two measures have moved relatively closely for most of the time. Over the period May 1999-December 2001, the correlation coefficient for the monthly overall indexes of the two measures was 95 percent.³⁶

91. Given similar characteristics in neighboring Ethiopia (broadly the same income level, climate, and economic structures), the weights in the Eritrean CPIs are compared with those calculated in a recently conducted HIES in Ethiopia. The calculations for Ethiopia suggest that the weight for food in Eritrea may be larger than included in even the SEO's measure of the CPI. If so, inflation in Eritrea would have been higher than reported, especially for the recent period of food shortages.

³⁶ Recently, however, significant differences emerged between the two measures. For the year-on-year inflation in December 2002, the BE estimated inflation at 34 percent, against a rate of 24 percent reported by the SEO estimate. The main differences between the two indexes applied to clothing and footwear and transportation subcategories, where the BE measure was higher by 28 and 117 percentage points, respectively, than the SEO measure.

Table V.1. Eritrea: Comparison of the Weights in the CPI Measures of BE, SEO, and Ethiopia (in Percent)

Commodity/ Service Group	Eritrea		Ethiopia 1/
	BE	SEO	
Food	38	47	60
Beverage and tobacco	6	5	3
Clothing and footwear	7	14	9
Household items and furniture	13	7	5
Health services and medical care	3	1	1
Personal care	1	5	1
Energy, water, and household rent	23	13	15
Transportation and communications	3	6	2
Miscellaneous	7	2	4
Total	100	100	100
Memorandum items:			
Administered CPI 2/		17	
Non-administered CPI		83	
Tradables 3/		73	
Nontradables		27	

Sources: Bank of Eritrea; Eritrea Statistical and Evaluation Office; Ethiopian authorities; and IMF staff estimates.

1/ The CPI weights for Ethiopia are based on a recently compiled household income and expenditure survey (HIES).

2/ Prices on bread, flour, petroleum products, and pharmaceuticals are administered by the authorities.

3/ Tradables goods comprise food, beverages and tobacco, clothing and footwear, and household goods, whereas nontradables comprise all remaining items in the CPI.

C. Recent Developments in Inflation

Overall inflation developments

92. Until the war with Ethiopia during 1998-2000, the Eritrean economy experienced a relatively high degree of macroeconomic stability with mostly single-digit inflation (Table V.2).³⁷ During the first two years following independence, a combination of favorable

³⁷ To obtain a longer observation period, the two inflation measures of the BE and SEO were spliced, with the SEO measure used for data since 1996. This method appears justifiable,

(continued)

supply conditions, including strong agricultural production, kept inflation low. However, in 1995, inflation increased to 11 percent, reflecting mostly low domestic food production owing to a drought and a decline in food aid deliveries, but also demand pressures arising from strongly expansionary fiscal and credit policies. The deceleration in inflation in 1996 was mainly a result of the significant increase in manufactured production and the rise in imports, particularly of cheap food staples from Ethiopia following its bumper harvests in 1995-96.

93. During the war Ethiopia in 1998-2000, inflation accelerated significantly. Money growth increased strongly to finance defense spending, while money demand was subdued by relatively weak GDP growth. In addition, the hostilities caused a significant increase in food prices because of (i) the lack of food imports from Ethiopia following the closure of the joint border; (ii) the large-scale mobilization of farmers to the army; and (iii) the decline in arable land caused by a wide-ranging placements of land mines.

Table V.2. Eritrea: CPI and Selected Economic and Financial Indicators, 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	(Annual percentage change, unless otherwise indicated)									
Consumer price index (CPI) (Asmara; end of period)	9.6	6.8	11.0	3.4	7.7	9.0	10.6	26.8	7.7	23.8
Food CPI (end of period)	...	...	...	...	7.9	20.3	12.9	31.5	5.2	17.9
Nonfood CPI (end of period)	...	...	...	...	7.6	-0.7	8.2	21.8	10.7	30.4
Exchange rate (nakfa per U.S. dollar; end of period)	6.9	2.7	3.5	8.1	7.1	7.6	9.6	10.1	13.8	14.1
(annual percentage change)	37.8	-61.3	33.1	129.0	-12.6	7.1	26.2	5.2	36.5	2.5
Import unit prices	-4.1	3.9	8.2	0.9	-6.4	-3.7	-4.0	-2.9	-1.4	-1.4
Agricultural production	-62.6	171.9	-47.2	-31.1	6.2	358.8	-29.0	-54.8	101.6	-77.3
Broad money (including foreign currency deposits) 1/	52.4	45.5	17.3	18.7	30.6	18.2	40.9	13.0	26.4	18.5
Credit to the government 2/	-1.0	10.6	25.4	21.0	3.0	35.6	48.1	25.0	3.7	15.2
Overall fiscal balance (incl. grants, in percent of GDP)	-6.4	-12.5	-23.5	-19.4	-5.6	-38.0	-53.9	-32.1	-34.8	-30.1
Domestic fiscal balance (in percent of GDP)	-2.4	-3.2	-21.2	-17.8	-1.5	-30.2	-41.5	-25.5	-21.6	-20.8

Sources: Eritrean authorities; and staff estimates.

1/ Figures for 1993-97 exclude currency outside banks in Eritrea.

2/ Change in percent of broad money at the beginning of the period.

94. Good progress was made in restoring macroeconomic stability in the period immediately following the war. Monetary policy was tightened and domestic financing of the

given the close correlation between the two measures for the most of the overlapping observation period.

fiscal deficit reduced. Economic growth picked up, and inflationary pressures were further dampened by a relatively good harvest which boosted food supplies. However, in 2002, inflation surged again on account of a number of factors. First, in 2002-3 the country experienced its worst drought since independence. Second, the exchange rate came under increasing pressure as foreign reserves declined to below one month of imports. In particular, the parallel market exchange rate at which most private transactions are conducted has depreciated significantly, and this has resulted in an acceleration of imported inflation. Finally, both fiscal and monetary policy became expansionary again in 2002. These and other factors affecting inflation will be examined more formally in the sections below.

Specific inflation developments

95. The analysis above suggested that inflation in Eritrea was driven by a combination of general domestic and external factors, including, in particular, agricultural production, fiscal policies, and exchange rate movements. To shed more light on them, inflation developments are examined in further detail by disaggregating the CPI index. Figure V.1 (upper panel) shows that food and nonfood prices diverged quite strongly during the drought in 1997, which was followed by a significant increase in food prices while the rest of the economy enjoyed relative strong macroeconomic stability. Diverging trends persisted for most of the 1998-2000 war. However, the differences narrowed from 2000 and onwards, when nonfood inflation increased strongly in parallel with war financing.

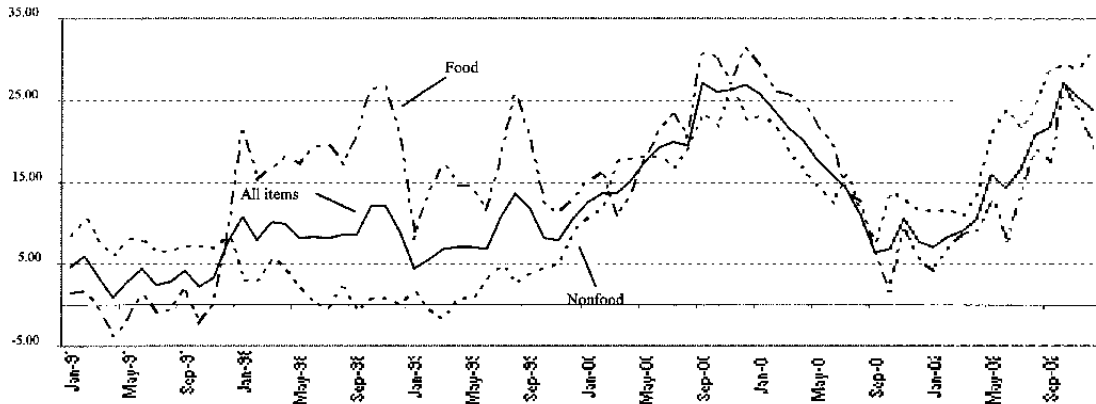
96. Prices of a number of essential goods are administered in Eritrea mainly for stabilization purposes. They include bread and flour, petroleum products, and pharmaceuticals, comprising 3 percent, 13 percent, and 1 percent, respectively, of the total CPI index. The middle panel in Figure V.1 shows developments in administered and nonadministered prices. For most of the period, price increases for administered goods and services were more limited than those for nonadministered goods and services. Where their rate of change exceeded the latter, this was mostly a result of incremental increases in the price of bread and the infrequent but rather large adjustments in petroleum prices.

97. A further breakdown of the CPI is possible by tradable and nontradable goods (bottom panel of Figure V.1). Tradables consist not only of goods whose prices are fully determined by foreign prices and the exchange rate, but also those domestic substitutes that are subject to strong competition from imports. In the Eritrean case, these comprise mainly food, beverages and tobacco, clothing and footwear, and household goods. Using this definition in line with the system proposed by Celasun and Goswami (2002),³⁸ tradables account for about 73 percent of the Eritrean CPI based on the weights of the SEO (Table V.1). The bottom panel in Figure V.1 shows that tradable goods inflation has been higher

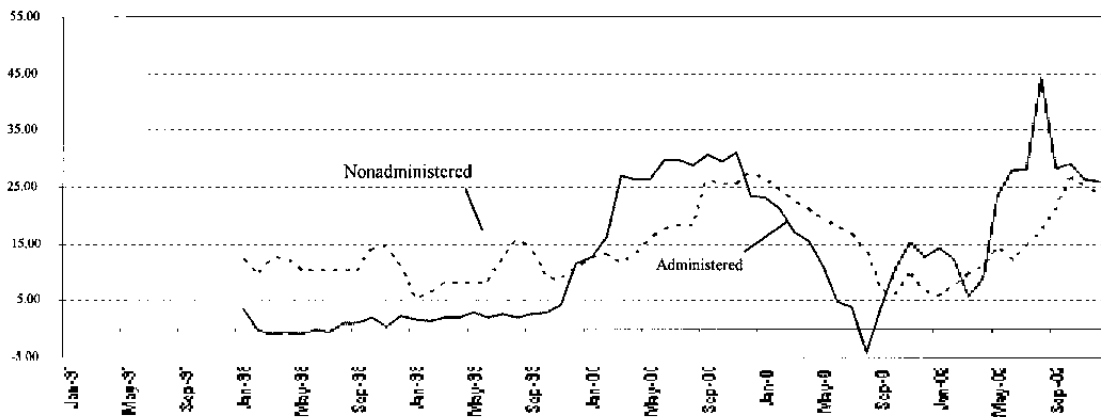
³⁸ Oya Celasun and Mangal Goswami, "An Analysis of Money Demand and Inflation in the Islamic Republic of Iran," IMF Working Paper 02/205 (Washington: International Monetary Fund, 2002).

Figure V.1. Eritrea: Inflation and its Subcomponents, January 1997-December 2002
(Percentage change from previous year)

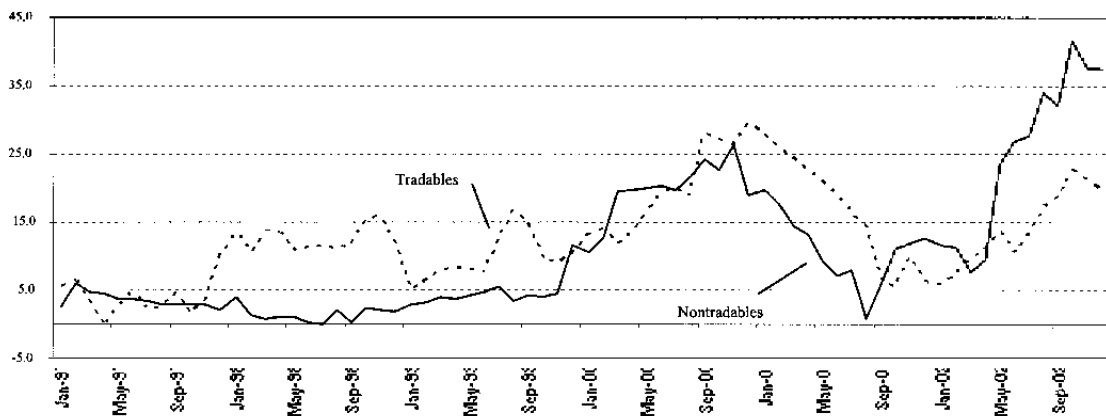
Food and Nonfood inflation



Administered and Nonadministered goods Inflation



Tradables and Nontradables goods inflation



Sources: Source: Bank of Eritrea; Eritrea statistical and evaluation office, and IMF staff estimates.

than inflation in nontradable goods for most of the period. This suggests that imported inflation is a driving force for overall domestic inflation.

D. Theoretical Background and Data Issues

Theoretical background

98. The literature on the determinants of inflation in developing countries suggests three principal influences: cost-push pressures, demand-pull factors, and structural changes or rigidities. The main cost-push factors normally include wage growth and changes in import prices. Wage growth in excess of productivity growth—often caused by real wage rigidity—is a principal determinant of nontraded goods inflation, while, especially in small open economies like Eritrea, a significant weakening of the exchange rate predictably raises the price of tradables in the economy. Demand-pull factors are dominated by monetary and fiscal expansion, or by large, unsterilized inflows of foreign exchange. In the case of Eritrea, these are mainly related to remittances from the diaspora. Finally, structural factors include movements in administered prices, increases in the tax rates, or exogenous shocks, such as droughts and war.

99. The inflation process in Eritrea can be described by a model including both a money market equation and an equation to capture the influence of the exchange rate and foreign prices. In this note, the domestic price level in the economy, p , is assumed to be a linear combination of the price level for tradable goods, p_T , and nontradable goods, p_{NT} , respectively. That is,

$$p = \theta p_T + (1 - \theta) p_{NT}, \quad (1)$$

where $0 < \theta < 1$. The purchasing power parity (PPP) hypothesis implies that the domestic price of tradable goods is determined in the world market and equal to³⁹

$$p_T = q - e, \quad (2)$$

where e is the nominal effective exchange rate (defined as foreign currency per domestic currency) and q represents the weighted average of foreign prices, where the weights for both are given by Eritrea's composition of imports. The price of nontradables, in turn, is determined by adding an assumption of equilibrium in the money market so that real money supply ($m^s - p$; both in logarithms) equals real money demand, where the latter is assumed to

³⁹ This and the following equations express variables in their logarithmic form.

being a positive function of real income, y , and a negative function of the nominal interest rate, i :⁴⁰

$$m^s - p = m^d(y, i). \quad (3)$$

Any excess supply of money is expected to increase demand for goods and services and put upward pressure on inflation.

Data issues and methodology

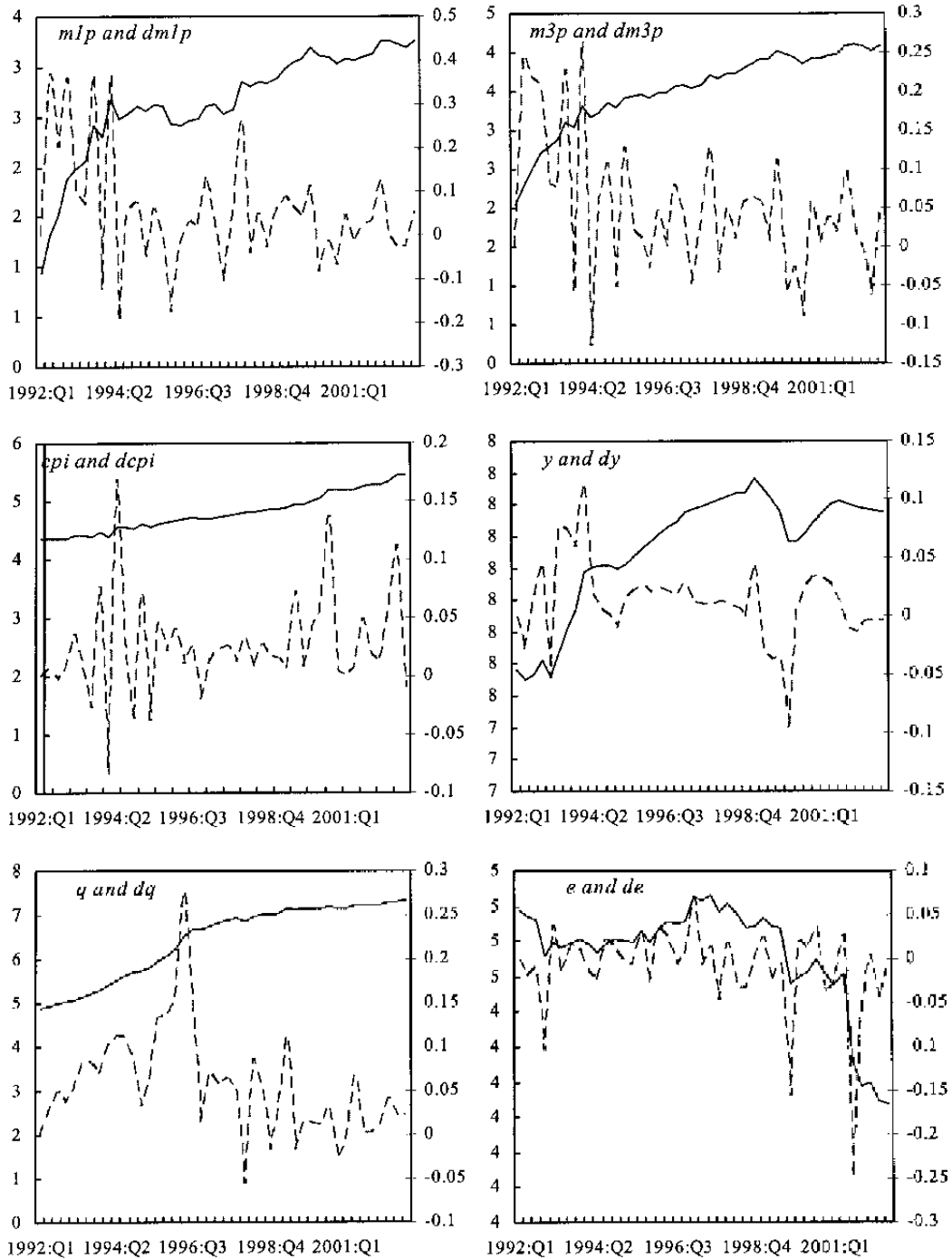
100. The empirical analysis was complicated by certain rigidities and a lack of reliable time series on some key variables. First and foremost, nominal interest rates, the normal measurement of the opportunity cost of holding money, are not a useful indicator in the case of Eritrea because they have remained fixed despite the scope, in principle, of banks to adjust them and their impact on money demand is likely to be limited. In this situation, the rate of inflation was used as a proxy for the opportunity costs of holding money.

101. The empirical analysis was carried out using quarterly data for the period 1992:Q2 to 2002:Q3. All series used in the analysis are plotted in Figure V.2. In order to examine the different impacts of broad money or narrow money on inflation, they were both included in the analysis: $m1p$ is real narrow money, including notes and coins in circulation, and $m3p$ is real broad money, consisting of $m1p$ plus time and savings and foreign currency deposits. The nominal exchange rate, e , and the foreign price level, q , were calculated in effective terms, taking into account the foreign trade pattern of Eritrea; an increase in the effective nominal exchange rate means an appreciation of the nakfa (see Annex I for further data details).

102. Traditional unit root tests (see the table in Annex II) indicated that all series were at least integrated of order one. However, the Dickey-Fuller tests gave inconclusive results with respect to foreign prices, the nominal effective exchange rate, and real broad money, which were found to be integrated of the second order in some specifications of the test. These findings imply that the first differences of these variables may be nonstationary and that the standard approach of determining a long-run relationship between these variables in levels may not be warranted (see further discussion below).

⁴⁰ In order to obtain a sufficient number of observations, quarterly data were used. In that context, it became necessary to interpolate quarterly data for GDP from annual data.

Figure V.2. Eritrea: Levels and First Differences of the Data Series, 1992:Q1-2002:Q4 1/



Sources: Eritrean authorities; and staff estimates.

1/ Natural logarithms of levels are shown on left-hand sides of panels; first differences, in dotted line, on right-hand sides.

103. Given the problems involving the measurement of the opportunity cost of holding money and the second-order integrated variables, the standard approach to an econometric analysis of inflation had to be modified. Under the standard approach, long-run relationships are usually based on variables specified in levels. This was not possible, given that inflation (i.e. the first difference of the price level) was used as a measure of the opportunity cost of holding money. Furthermore, the second-order integration of domestic and foreign price inflation and the exchange rate depreciation called for a cointegration analysis of these variables specified in first differences.

104. In the event, the equation applied consisted of five interrelated variables [*mp*, *y*, *dpi*, *dq*, *de*],⁴¹ where economic theory suggests that two long-run relationships would exist, first, a (revised) PPP, linking the (change in) domestic prices with that in foreign prices and the nominal exchange rate; and, second, an equation for money market equilibrium determined by real money, real income, and changes in domestic prices. Both the (change in) real exchange rate and real money demand would be expected to be fairly stable in the long run, and temporary deviations from long-run equilibria would be expected to cause an adjustment such that the long-run equilibria are restored.

105. More specifically, a vector of endogenous variables, *x*, that are integrated of order 1 is analyzed using the vector error-correction representation

$$\Delta x_t = \mu + \sum_{i=1}^k \Gamma_i \Delta x_{t-i} + \pi x_{t-1} + \varepsilon_t, \quad (4)$$

where the parameters μ and $\Gamma_1, \dots, \Gamma_k$ are allowed to vary without restrictions, k is the lag length of the model, and ε_t is the a vector of normally distributed shocks with a zero mean. The presence of cointegration is tested by examining the rank of π . In the event of reduced rank of π (i.e., when $\text{rank}(\pi)=r, n$, where n is the number of endogenous variables), there exist r cointegrating vectors and the matrix π can be written as $\pi=\alpha\beta'$, with β containing the r cointegrating vectors, and α describing the speed of adjustment to the long-run equilibrium (the error-correcting terms). If $r>1$, the issue of identification arises. In this study, the expected rank is two (in other words, there are two long-run relations relating to the money market and PPP), implying that (over)identifying restrictions should be placed on the parameters in

⁴¹ For the definition of variables, see Annex I to this section.

$$\pi x_{t-1} = \begin{bmatrix} \alpha_{11} & \alpha_{12} \\ \alpha_{21} & \alpha_{22} \\ \alpha_{31} & \alpha_{32} \\ \alpha_{41} & \alpha_{42} \\ \alpha_{51} & \alpha_{52} \end{bmatrix} \begin{bmatrix} \beta_{11} & \beta_{12} & \beta_{13} & \beta_{14} & \beta_{15} \\ \beta_{21} & \beta_{22} & \beta_{23} & \beta_{24} & \beta_{25} \end{bmatrix} \begin{bmatrix} mp \\ y \\ depi \\ dq \\ de \end{bmatrix}. \quad (5)$$

In the estimations below, β_{11} and β_{23} will be normalized to 1, while the simplest forms of the (revised) PPP and money demand relationships will be tested by adding exclusion restrictions on $[\beta_{14} \ \beta_{15}]$ and $[\beta_{21} \ \beta_{22}]$ to test the money market and PPP relationships.

E. Results

Long-run relationship

106. The results from the first set of cointegration tests are summarized in Table V.3. The number of cointegrating vectors was estimated using the Johansen procedure.⁴² Cointegration tests in the Johansen setting are sensitive to the lag length of the vector autoregression (VAR). Although it is common to include four lags in the VAR when quarterly data are used, at this stage, the results reported are with two, three, and four lags, respectively, included in the VAR.

107. The economic model suggests that two cointegrating vectors should be found and the cointegrating test typically picked up two stationary vectors (see column 2 in Table V.3). However, the results vary between one and three vectors, depending on the number of lags included in the model. The parameters in the restricted model were constrained to test whether the two stationary vectors could be represented by the two long-run relationships discussed above. The results were in part supportive of the theoretical arguments, although the significance was somewhat weak.

108. Turning to the parameters of the cointegrating vectors, it is noted that the estimated parameters for all variables had the expected sign except for inflation as a measure of the opportunity cost of holding money and, in some cases, foreign prices. The PPP relationship was found to be well established and suggests that, as expected, in the long run domestic inflation increases with foreign inflation and exchange rate depreciation.

⁴² See Soren Johansen "Statistical Analysis of Cointegrating Vectors," *Journal of Economic Dynamics and Control*, Vol.12 (June-September 1988), pp. 231-54. The number of cointegrating vectors was estimated using the trace statistics with the significance level set at 5 percent.

Table V.3. Eritrea: Structural VAR Models, 1993:Q2-2002:Q3

Lags	Number of Cointegrating Vectors 2/	Chi-Square Statistics of Likelihood Ratio Test: 3/		Restricted Cointegrating Vectors 4/
VAR models, including real narrow money, <i>m1p</i>				
2	3	9.22	**	$\begin{bmatrix} m1p & y & dp & dq & de \\ 1 & -0.51 & -35.1 & 0 & 0 \\ 0 & 0 & 1 & 0.12 & 0.15 \end{bmatrix}$
3	2	8.94	*	$\begin{bmatrix} 1 & -1.19 & -26.5 & 0 & 0 \\ 0 & 0 & 1 & 0.03 & 0.37 \end{bmatrix}$
4	2	9.11	*	$\begin{bmatrix} 1 & -1.53 & -24.5 & 0 & 0 \\ 0 & 0 & 1 & -0.63 & 1.61 \end{bmatrix}$
VAR-models including real broad money, <i>m3p</i>				
2	2	9.92	**	$\begin{bmatrix} m3p & y & dp & dq & de \\ 1 & -1.15 & -27.0 & 0 & 0 \\ 0 & 0 & 1 & 0.05 & 0.22 \end{bmatrix}$
3	1	6.96	*	$\begin{bmatrix} 1 & -2.63 & -25.4 & 0 & 0 \\ 0 & 0 & 1 & -0.21 & 0.58 \end{bmatrix}$
4	2	9.07	*	$\begin{bmatrix} 1 & -2.88 & -30.1 & 0 & 0 \\ 0 & 0 & 1 & -0.76 & 1.20 \end{bmatrix}$

1/ The VARs also include (unrestricted) seasonal dummy variables and a step-dummy for 1997:Q4

2/ The number of cointegrating vectors is based on Johansen's trace statistics at the 5 percent significance level.

3/ * and ** indicate rejection of the likelihood ratio-test at 5 percent and 1 percent levels, respectively.

4/ The estimations assume two cointegrating vectors. Bold figures are estimated coefficients.

109. By contrast, the results regarding the long-run money demand relationship were somewhat mixed. As expected, the coefficient for income indicates that money demand increases in line with real income. The income elasticity appears to be relatively high but is generally lower in regressions with narrow money than in those using broad money. This suggests that time and savings deposits are less directly influenced by developments in income than the components of M1. In Eritrea, a considerable part of these deposits depend on transfers to households from the diaspora, a large part of which appear to reflect factors other than those determining money demand of residents.

110. Against expectations, when inflation was interpreted as the opportunity cost of holding money, its coefficient was negative in all cases, suggesting that the demand for money increases with inflation. This result could point to model misspecification. On the other hand, inflation may be a more reliable measure of the need to hold money for

transactions purposes than of the opportunity cost for holding money as a savings instrument. If the transaction motive dominates, higher inflation would raise the demand for real balances. The likelihood that money demand in Eritrea is dominated by transactions needs appears to be plausible because the availability of goods for inflation protection is limited. More importantly, perhaps, a considerable part of the money balances reflects remittances of the diaspora, which are driven by considerations other than the usual domestic determinants of money demand. In fact, inflation may lead to increases in remittances by the diaspora to family members to protect their real purchasing power (and thereby increase bank deposits and money balances).

111. On the basis of this reasoning, all long-run coefficients of the money demand equation would display the correct sign, and the cointegrating vectors from the specification with four lags were used in the short-run analysis.⁴³ A visual inspection of these vectors suggested that they were relative stable in the equations with both narrow and broad money.

112. A test of weak exogeneity indicates that $m1p$, $m3p$, y , dq , and de are weakly exogenous in the model for both narrow and broad money, implying that the inflation rate, $dcpi$, is the only variable in the system that adjusts to the disequilibrium in the money market. In other words, a change in inflation increases the demand for money while reducing the real money supply, thereby putting downward pressure on prices and restoring equilibrium.

Short-run inflation dynamics

113. Given that inflation is the only variable in the money market relationship that is not weakly exogenous to the cointegrating vector, the dynamics can be consistently analyzed by estimating a single error-correction equation for the first difference of inflation⁴⁴. The model was estimated using ordinary least squares for both narrow and broad money. As explanatory variables, it included their current values and the four lags of the first difference of real money demand, output, the change in exchange rate depreciation, and the change in foreign price inflation (and including seasonal dummies), as well as the first lag of the two error-correction terms, $ECM(money)$ and $ECM(PPP)$, which represent excess supply of money and real depreciation, respectively.

⁴³ These long run vectors took the following form in the model using $m1p$: $ECM(money)=m1p-1.53y-24.5dp$ and $ECM(PPP)=dp-0.63dq+1.61de$; and in the model using $m3p$: $ECM(money)=m3p-2.88y-30.1dp$ and $ECM(PPP)=dp-0.76dq+1.20de$.

⁴⁴ If any of the other variables had not been weakly exogenous, a VAR error correction would have been the appropriate specification.

114. By removing the variables with statistically insignificant coefficients from the general error-correction equation, the following inflation equation is obtained for narrow money for the period 1994:Q1-2002:Q2:⁴⁵

$$\begin{aligned} ddcpi_t = & 1.33 + 1.14 ddcpi_{t-1} + 0.61 ddcpi_{t-2} + 0.29 ddcpi_{t-3} - 0.17 dm1p_t - 0.13 dm1p_{t-2} \\ & - 0.20 dde_{t-1} + 0.12 ECM(money)_{t-1}. \end{aligned}$$

(0.24**) (0.35**) (0.24*) (0.13*) (0.05**) (0.06*)
(0.10*) (0.02**)

115. Except for narrow real money balances, the coefficients in the equation have the expected sign. The first three lags of inflation enter the regression with positive signs, suggesting that there is a significant amount of inertia in the formation of inflation expectations and their influence on actual inflation. An acceleration in the rate of depreciation of the effective exchange rate significantly raises the rate of inflation with a lag of one quarter. As expected, the coefficient with respect to the error-correction term, $ECM(money)$, was positive, which suggests that an excess supply of money will cause the rate of inflation to increase in the subsequent quarter and thereby partly offsets the initial excess money supply in real terms. The coefficient for $ECM(PPP)$ was not significant, suggesting that the restoration of PPP is not achieved over short-term periods like the ones examined.

116. For the model using broad money, the following inflation equation was obtained:

$$\begin{aligned} ddcpi_t = & 0.77 + 0.56 ddcpi_{t-1} + 0.16 ddcpi_{t-3} + 0.11 dq_{t-2} - 0.45 dm3p_t - 0.24 dm3p_{t-2} \\ & + 0.26 dm3p_{t-3} + 0.06 ECM(money)_{t-1}. \end{aligned}$$

(0.08**) (0.13**) (0.06**) (0.05*) (0.04**) (0.08*)
(0.05**) (0.01**)

117. The coefficients in the equation have the expected sign, except, again, for real broad money balances (the first two lags). The first and third lags of inflation enter the regression with positive signs. Hence, similar to the model for narrow money, there appears to be significant amount of inertia in the formation of inflation expectations. Furthermore, foreign inflation was found to predictably increase domestic inflation with a lag of two quarters. A temporary deviation from the money market equilibrium $ECM(money)$ was again found to have a predictable influence on the rate of inflation. Interestingly, the pace of adjustment in the model with broad money was found to be only half as fast as that in the narrow money model. This may be explained by the fact that the support by the diaspora may increase in the wake of macroeconomic volatility, thereby prompting a rise in deposits, most of which are

⁴⁵ The exclusion restrictions were tested at each stage of the model reduction, and only statistically insignificant restrictions were accepted. Standard errors are in parentheses. Asterisks ** and * denote statistical significance of the coefficients at the 1 and 5 percent levels, respectively.

initially kept as savings. As in the model for narrow money, the coefficient with respect to *ECM(PPP)* was not found to be significant.

118. The most difficult result of the empirical analysis concerns the unexpected sign for real money balances in the short-term inflation equations. Normally, any increase in these balances would be expected to raise inflation, but that does not appear to be the case in the equations estimated. The reason may lie in the extremely large inflows of private transfers from the diaspora, which not only increase private sector deposits but for much of the period under review, also generated exceptionally high levels of excess reserves in commercial banks. As the latter constitute idle resources as far as the inflationary process is concerned, the relationship between their size (and change) and inflation must have been tenuous at best for much of the period under review. Since mid-2001, these excess reserves have disappeared as a result of the heavy borrowing of government from the banks. There are indications that this large deficit financing of government has contributed to the recent acceleration in inflation. However, this effect may not have lasted long enough to influence the parameter values for real money balances.

F. Conclusions

119. The analysis above has examined various aspects of inflation and its determinants in Eritrea. The two inflation measures of the BE and SEO are both fairly comprehensive in their coverage of various goods, but neither currently monitors price developments outside Asmara. The recent conclusion of an HIES will permit a reassessment of the weights used in the indexes and a broadening of inflation measures to urban centers outside Asmara.

120. The analysis suggests that inflation in Eritrea has been influenced to a considerable extent by recurrent drought and the war during 1998-2000. Some of these influences were direct, like the price increases for food during droughts, while others were indirect, such as the price increases that followed the depreciation of the nakfa as a result of the large financial imbalances of the country in connection with the war. In addition, discretionary adjustments in administered prices have at times had a significant effect on inflation.

121. All these special factors undermine the stability of the functional relationships between inflation and its determinants. The econometric analysis nevertheless suggested that a certain degree of stability exists, on one hand, for the long-term money demand function and for the reliability of the long-term purchasing power parity hypothesis on the other, which, together, underlie the inflation model presented in this document. In addition, it was possible to assess some key factors that dominate the short-term inflation dynamics.

122. The short-run analysis suggests that there is a substantial degree of inertia in the inflation process, which, in turn, points to a slow adjustment in inflation expectations. In addition, imported inflation resulting from increases in foreign prices or a depreciation of the nakfa predictably feeds into domestic inflation, albeit with a certain lag that may reflect administrative inertia or incomplete adjustment in inventory prices for imported products.

Moreover, an excess supply of money (measured by the error-correction term) as a result of e.g. expansionary monetary policy, has the expected upward effect on inflation.

123. An unexpected sign was observed for the effect of real money balances on inflation. The exact reason for this is not clear. However, the strong influence of diaspora transfers and its significant effect on banks' excess reserves may serve as an explanation. However, there may also be misspecification of the model. Further research of these issues is needed to understand the transmission mechanisms and give guidance to monetary policy and management in the BE's efforts to protect the domestic and external value of the nakfa.

Data Description and Sources

Data Definition and Sources

Variable	Description	Source
<i>M1</i>	Narrow money	National authorities
<i>CPI</i>	Consumer Price Index	A combination of the SEO and BOE CPI indexes
<i>m1</i>	logarithm of M1	
<i>cpi</i>	logarithm of CPI	
<i>m1p</i>	real M1 demand, $m1 - cpi$	
<i>dcpi</i>	inflation, first difference of <i>cpi</i>	
<i>ddcpi</i>	First difference of <i>dcpi</i>	
<i>E</i>	the effective nominal exchange rate (index)	Staff estimates, weighted by Eritrea's trade pattern.
<i>e</i>	The logarithm to <i>E</i>	
<i>de</i>	First difference of <i>e</i>	
<i>dde</i>	First difference of <i>de</i>	
<i>Y¹</i>	Real GDP at factor costs	National authorities.
<i>y</i>	Logarithm to real GDP	
<i>dy</i>	First difference of <i>dy</i>	
<i>P*</i>	the foreign price level (index)	Staff estimates
<i>p*</i>	logarithm of <i>P*</i>	Four individual data, weighted by Eritrea's trade pattern.
<i>dp*</i>	First difference of <i>p*</i>	
<i>ddp*</i>	First difference of <i>dp*</i>	

¹ Interpolated using the Cubic Spline method to obtain quarterly data.

Time-Series Properties: Test for Stationarity

124. It is important to examine the statistical properties of the variables before undertaking the empirical analysis, in particular stationarity. In the event that variables, which are found to be $I(1)$ in levels are included in levels in the regressions, the estimated coefficients will be biased. This problem can be avoided by taking the first difference of the variables. However, such an operation will remove the significant amount of information and prohibit a long inference from being drawn from the model. The former problem can be circumvented by including a long-run relationship among the variables. The test for the stationarity of the variables is reported in the table below.

Variable	Order of Integration 1/
<i>p</i>	1
<i>e</i>	1-2
<i>q</i>	1-2
<i>m1p</i>	1
<i>m3p</i>	1-2
<i>y</i>	1

1/ The order of integration (IOI) of the variables was determined by an augmented Dickey-Fuller test; A constant and trend were added and a maximum of eight lags were included. The IOI for *e*, *q*, and *m3p* were inconclusive, as the results were sensitive to the number of lags included in the test.

Table 1. Eritrea: Gross Domestic Product by Sector, 1997-2002

	1997	1998	1999	2000	2001 Prel.	2002 Prel.
(In millions of nakfa, unless otherwise indicated)						
Agriculture	752.5	1,293.3	1,291.9	871.1	1,279.2	941.3
Crops and livestock	606.1	1,127.3	1,103.8	634.0	997.5	611.5
Staple crops	184.9	500.7	450.7	184.0	380.4	98.5
Cash crops	91.9	248.8	224.0	91.5	189.1	49.0
Livestock	329.4	377.8	429.1	358.5	428.0	464.0
Forestry and fishing	146.3	165.9	188.1	237.1	281.7	329.8
Forestry	141.7	159.2	177.2	217.7	254.7	299.0
Fishing	4.6	6.7	10.8	19.5	26.9	30.8
Industry	1,044.4	1,067.0	1,186.8	1,326.1	1,602.5	1,997.1
Mining and quarrying	12.0	10.1	9.8	5.8	2.8	3.3
Manufacturing	350.5	348.4	378.7	467.9	561.2	682.2
Handicrafts and small industry	127.0	126.8	142.7	176.3	211.4	256.9
Electricity and water	44.0	49.1	56.5	68.4	80.8	100.8
Building and construction	510.8	532.6	599.0	607.8	746.3	954.0
Distribution services	1,670.4	1,520.8	1,661.7	1,864.0	2,246.5	2,743.9
Trade, wholesale, and retail	1,105.1	968.3	1,058.0	1,136.2	1,369.5	1,672.6
Transport and communications	565.3	552.5	603.7	727.8	877.0	1,071.3
Other services	995.6	1,184.6	1,354.2	1,711.6	2,005.8	2,363.6
Financial services	125.3	144.4	161.7	189.2	228.0	278.5
Dwellings and domestic services	78.7	89.1	99.1	121.9	143.5	169.5
Public administration and services	573.0	698.6	805.2	1,037.7	1,197.7	1,387.6
Domestic and other	218.7	252.5	288.1	362.7	436.6	528.0
GDP at current factor cost	4,462.8	5,065.7	5,494.6	5,772.8	7,134.0	8,045.8
Indirect taxes less subsidies	511.5	464.7	487.5	427.7	637.0	985.4
GDP at current market prices	4,974.3	5,530.4	5,982.1	6,200.5	7,771.0	9,031.2
Net factor payments 1/	1,275.8	913.4	1,038.4	961.0	983.1	1,472.8
GNP at current market prices	6,250.2	6,443.8	7,020.5	7,161.5	8,754.1	10,504.0
Memorandum items:						
GDP at constant factor prices	3,266.8	3,394.9	3,403.8	2,996.7	3,256.9	3,218.2
(annual percentage change)	7.7	3.9	0.3	-12.0	8.7	-1.2
(In percent of GDP at current factor cost)						
Agriculture	16.9	25.5	23.5	15.1	17.9	11.7
Industry	23.4	21.1	21.6	23.0	22.5	24.8
Distribution services	37.4	30.0	30.2	32.3	31.5	34.1
Other services	22.3	23.4	24.6	29.6	28.1	29.4

Source: Staff estimates based on information provided by the Eritrean authorities.

1/ Estimated as 50 percent of private remittances.

Table 2. Eritrea: Agricultural Production and Prices, 1997-2002

	1997	1998	1999	2000	2001 Prel.	2002 Prel.
(Unit price in nakfa per quintal; volume in thousands of quintals)						
Total volume of staple crops	984.1	4,673.2	3,408.4	1,319.5	2,379.9	642.8
Sorghum						
Retail unit price	195.0	242.0	257.0	339.0	357.0	448.0
Volume	553.2	2,697.7	2,072.0	620.1	787.6	284.3
Teff						
Retail unit price	320.0	658.0	1,125.0	1,159.0	1,084.0	1,018.0
Volume	41.5	187.1	131.5	104.1	195.5	31.9
Millet						
Retail unit price	200.0	368.0	391.0	442.0	733.0	702.0
Volume	74.9	518.0	232.3	72.5	302.7	58.0
Barley						
Retail unit price	215.0	280.0	282.0	286.0	298.0	381.0
Volume	160.9	566.0	403.4	257.9	449.3	97.4
Wheat						
Retail unit price	247.0	257.0	258.0	330.0	280.0	419.0
Volume	51.3	229.5	190.1	105.8	254.2	26.4
Peas						
Retail unit price	291.0	446.5	612.0	786.0	850.0	857.0
Volume	12.1	21.8	33.7	46.4	94.1	30.2
Sesame						
Retail unit price	400.0	...	...	...	...	...
Volume	23.0	45.2	61.6	0.7	19.4	14.4
Maize						
Retail unit price	186.0	275.0	298.0	404.0	414.0	520.0
Volume	64.1	289.9	159.0	53.2	90.5	30.1
Others 1/						
Retail unit price	300.0	...	...	...	...	...
Volume	3.2	118.0	124.8	58.8	186.6	70.1
(In thousands of units, unless otherwise indicated)						
Livestock 2/						
Cows	1,927.8	2,026.2	2,130.0	1,917.0	2,012.8	1,992.7
Goats	4,661.8	7,061.9	7,415.0	6,673.5	7,007.2	6,937.1
Poultry	1,134.3	1,160.9	1,184.1	1,065.7	1,120.0	1,108.8
Total area (thousands of hectares)	12,189.0	12,189.0	12,189.0	12,189.0	12,189.0	12,189.0
Cultivated area (thousands of hectares)	393.1	500.2	472.4	358.6	366.7	393.3
Cultivated area (as percent of total)	3.2	4.1	3.9	2.9	3.2	3.2

Source: Ministry of Agriculture.

1/ Including horsebeans, groundnuts, lentils, nihug, vetch, and soybeans.

2/ The livestock figures for 1997 are based on surveys conducted during April 1996 - April 1997, and the poultry figure excludes towns.

Table 3. Eritrea: Regional Structure of the Agricultural Sector, 1997-2002

1997									
Province 1/	Total population 2/ (In thousands)	Total cultivated area (In thousands of hectares)	Staple crops (In thousands of quintals)				Livestock population (In thousands)		
			Sorghum	Teff	Millet	Other 3/	Cows	Goats	Poultry
Debub	754.5	111.4	72.2	39.2	25.3	160.9	490	706	513
Gash-setit	641.2	183.7	424.0	0.1	29.4	27.1	917	1,746	424
Maekele	569.4	27.2	2.8	2.0	3.8	129.2	41	24	86
Anseba	445.7	43.6	16.5	0.1	6.5	8.1	219	620	78
Semienawi K.B.	462.7	27.2	37.4	...	9.6	34.0	179	995	27
Debubawi K.B.	204.6	...	...	...	...	...	82	571	6
Total	3,078.1	393.1	552.9	41.4	74.6	359.3	1,927	4,662	1,134
Serahe	446.9	72.9	110.2	54.4	42.4	169.2	...	...	...
Denkel	187.3	...	...	...	...	...	...	...	...
Total	634.2	72.9	110.2	54.4	42.4	169.2	...	...	...

1998									
Province 1/	Total population 4/ (In thousands)	Total cultivated area (In thousands of hectares)	Staple crops (In thousands of quintals)				Livestock population (In thousands)		
			Sorghum	Teff	Millet	Other 3/	Cows	Goats	Poultry
Debub	799.5	129.1	214.7	180.9	46.7	592.5	513	1,072	529
Gash-setit	515.6	220.4	2,167.1	0.7	122.0	86.1	969	2,633	432
Maekele	502.3	30.2	8.2	4.9	8.4	400.1	42	35	95
Anseba	400.8	53.8	170.0	0.5	143.3	40.0	231	941	72
Semienawi K.B.	392.7	66.6	137.6	0.0	197.5	134.5	186	1,516	27
Debubawi K.B.	189.6	...	...	...	...	...	85	865	6
Total	2,800.5	500.1	2,697.6	187.0	517.9	1,253.2	2,026	7,062	1,161

Table 3. Eritrea: Regional Structure of the Agricultural Sector, 1997-2002 (continued)

Province 1/	1999								
	Total population 4/	Total cultivated area	Staple crops				Livestock population		
			Sorghum	Teff	Millet	Other 3/	Cows	Goats	Poultry
(In thousands)	(In thousands of hectares)	(In thousands of quintals)				(In thousands)			
Debub	802.2	128.1	59.9	130.4	38.2	401.8	539	1,126	540
Gash-Barka	588.7	217.6	1,484.5	0.5	73.0	132.9	1,018	2,765	441
Maekef	573.5	27.8	0.5	0.4	1.5	44.1	44	37	97
Anseba	457.7	58.1	55.4	0.1	94.6	63.5	243	988	76
Semienawi K.B.	448.4	40.0	371.6	...	25.0	117.4	195	1,592	28
Debubawi K.B.	216.5	...	...	...	...	...	89	983	61
Other 5/	250.0	...	...	...	...	...	...	...	...
Total	3,337.0	472.4	2,071.9	131.5	232.3	972.7	2,127	7,491	1,187

Province 1/	2000								
	Total population 4/	Total cultivated area	Staple crops				Livestock population		
			Sorghum	Teff	Millet	Other 3/	Cows	Goats	Poultry
(In thousands)	(In thousands of hectares)	(In thousands of quintals)				(In thousands)			
Debub	702.5	131.0	109.7	103.5	25.7	229.5	487	1,295	81
Gash-Barka	515.6	93.3	394.8	0.0	4.9	29.0	913	2,369	480
Maekef	502.3	30.9	4.4	0.7	0.3	245.2	38	174	401
Anseba	400.6	48.2	11.7	0.0	10.9	15.9	219	734	74
Semienawi K.B.	392.6	55.1	99.5	0.0	30.7	15.8	178	1,435	26
Debubawi K.B.	189.6	0.0	0.0	0.0	0.0	0.0	82	667	5
Other 5/	...	...	...	...	...	...	...	...	...
Total	2,703.2	358.5	620.1	104.2	72.5	535.4	1,917	6,674	1,066

Table 3. Eritrea: Regional Structure of the Agricultural Sector, 1997-2002 (concluded)

Province 1/	2001 (Prel.)								
	Total population	Total cultivated area	Staple crops				Livestock population		
			Sorghum	Teff	Millet	Other 3/	Cows	Goats	Poultry
(In thousands)	(In thousands of hectares)	(In thousands of quintals)				(In thousands)			
Debub	702.5	146.8	213.0	190.5	109.5	613.7	511	1,359	504
Gash-Barka	515.6	111.1	414.3	1.2	43.2	38.0	958	2,488	421
Maekel	502.3	38.0	1.4	3.7	2.8	401.4	40	182	85
Anseba	400.8	48.9	84.4	0.0	113.3	37.1	230	771	77
Semienawi K.B.	392.6	41.9	74.5	0.1	33.9	3.8	187	1,507	27
Debubawi K.B.	189.6	0.0	0.0	0.0	0.0	0.0	87	701	6
Other 5/	...	...	...	...	...	...	...	...	...
Total	2,703.4	386.7	787.6	195.5	302.7	1,094.0	2,013	7,007	1,120

Province 1/	2002 (Prel.)								
	Total population	Total cultivated area	Staple crops				Livestock population		
			Sorghum	Teff	Millet	Other 3/	Cows	Goats	Poultry
(In thousands)	(In thousands of hectares)	(In thousands of quintals)				(In thousands)			
Debub	702.5	154	21.6	31.9	7.9	153.5	506	1,346	499
Gash-Barka	515.6	158	214.4	0.0	11.6	15.8	949	2,463	417
Maekel	502.3	20	0.0	0.1	0.0	32.4	40	180	84
Anseba	400.8	38	15.0	0.0	34.3	41.6	227	763	77
Semienawi K.B.	392.6	23	33.3	0.0	4.1	25.1	185	1,492	27
Debubawi K.B.	189.6	...	...	...	...	...	86	694	6
Other 5/	...	...	...	...	...	...	...	...	...
Total	2,703.4	393.0	284.3	31.9	57.9	268.4	1,992.6	6,937.0	1,108.7

Source: Ministry of Agriculture.

1/ Names of provinces change after 1997 onward due to the restructuring of local administrative zones in April 1996

2/ Based on 3 percent annual population growth.

3/ Includes barley, wheat, peas, sesame, and maize.

4/ Population figure in 1998 does not include returnees; 1999 and 2000 figures include returnees and expected returnees.

5/ Includes Seraye and Denkel.

Table 4. Eritrea: Food Grain Position, 1996/97-2001/02 1/

(In metric tons)

	1996/97	1997/98 2/	1998/99	1999/00	2000/01	2001/02 Prel.
Opening balance	14,997	50,000	...	134,038	18,879	40,000
Gross domestic production	132,000	100,289	...	340,850	133,235	237,991
Less post-harvest losses	11,000	10,029	...	34,085	13,324	23,800
Less seed, feed, and nonfood uses	15,000	12,559	...	20,191	22,650	40,460
Net domestic production	106,000	77,701	...	286,574	97,261	173,731
Domestic grain balance	120,997	127,701	...	420,612	116,137	213,731
Food imports	309,290	140,000	...	144,440	426,158	277,071
Commercial 3/	120,000	140,000	...	...	...	80,000
Food aid 4/	189,290	...	...	21,435	188,484	197,071
Total grain balance	430,287	267,701	...	565,052	542,295	490,802
Consumption	415,285	591,784	...	690,759	683,030	724,500
Memorandum item:						
Grain surplus/deficit	15,002	-324,083	...	-125,707	-140,735	-233,698

Source: Ministry of Agriculture.

1/ Agricultural year, September to August.

2/ Food balance for 1997.

3/ Commercial imports in 2002 are rough estimate of government and private sector imports.

4/ Food aid includes only deliveries in January-March; does not include pledges of forecast for response through the ye

Table 5. Eritrea: Annual Catch and Sales of Fish, 1997-2002 1/

	1997			1998			1999			2000			2001 (Prel.)			2002 (Prel.)		
	Industrial	Artisanal	Total	Industrial	Artisanal	Total	Industrial	Artisanal	Total	Industrial	Artisanal	Total	Industrial	Artisanal	Total	Industrial	Artisanal	Total
(In tons)																		
Massawa	37	154	191	350	1,370	1,720	3,845	712	4,557	11,528	1,237	12,766	...	...	...	...	...	...
Assab	0	34	34	0	201	201	11	229	240	...	153	153	...	...	...	...	...	...
Total	37	188	225	350	1,571	1,921	3,856	941	4,797	11,528	1,390	12,918	14,629	1,303	15,932	6,858	1,571	8,429
(In millions of nakfa)																		
Massawa 2/	0.2	0.9	1.1	...	1.2	...	3.8	0.2	4.0	31.0	8.6	39.6	...	...	...	...	...	...
Assab	0.0	0.2	0.2	0.0	1.0	1.0	0.6	1.1	1.7	...	0.9	0.9	...	...	...	...	...	...
Total	0.2	1.1	1.3	0.0	2.2	1.0	4.4	1.3	5.7	31.0	9.5	40.5	...	...	...	...	...	...

Source: Ministry of Marine Resources.

1/ Industrial or commercial fishing is almost exclusively for export.

2/ In 1998, industrial fishing was carried out by the Eridal Jve, which stopped its operations after six months of the fishing period. The sales revenue from Eridal Jve has not yet been settled.

Table 6. Eritrea: Gross Value of Public Enterprise Production, 1997-2002

Type of Industry	Number of Enterprises						Number of Employees						Production (In millions of nakfa)					
	1997	1998	1999	2000	2001 Prel.	2002	1997	1998	1999	2000	2001 Prel.	2002	1997	1998	1999	2000	2001 Prel.	2002
Food industries	60	60	60	...	1,296	1,586	1,391	...	...	...	...	...	263	321	331	...
Beverage industries	9	9	9	...	587	736	506	...	...	...	...	...	322	288	337	...
Tobacco and matches	1	1	1	...	236	103	0	...	...	...	...	...	43	109	109	...
Textile industries	13	13	13	...	3,706	2,503	2,313	...	...	...	...	...	69	91	74	...
Leather and shoes	22	22	22	...	951	917	880	...	...	...	...	...	68	57	65	...
Nonmetallic industries	73	73	73	...	414	369	327	...	...	...	...	...	108	151	173	...
<i>Of which: Eritrea Cement</i>	1	1	1	...	184	169	163	...	...	...	...	...	...	...	...	...
Paper and printing	6	6	6	...	326	242	297	...	...	...	...	...	29	32	51	...
Chemical industries	12	12	12	...	616	408	275	...	...	...	...	...	53	56	47	...
<i>Of which: Eritrea Saltworks</i>	2	2	2	...	537	349	275	...	...	...	...	...	...	...	...	...
Metal industries	16	16	16	...	693	379	243	...	...	...	...	...	45	38	57	...
Total	212	212	212	...	8,825	7,243	6,232	...	...	...	...	...	1,000	1,144	1,245	...

Source: Ministry of Trade and Industry.

Table 7. Eritrea: Investment Projects by Sector, 1997-2002
(Value in thousands of nakfa)

	1997			1998			1999			2000			2001 (Prel.)			2002 (Prel.)		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
Agriculture	7,235	...	7,235	22,651	3,360	26,011	29,767	11,801	41,568	2,501	10,547	13,048	3,730	8,000	11,730	6,069	20,531	26,600
Number of projects	3	...	3	...	...	17	...	...	27	...	...	4	...	...	4	...	...	7
Fishing	107	...	107	17817	1180	18,997	...	...	...	26,984	29,200	56,184	8,149	...	8,149	...	...	...
Number of projects	1	...	1	...	...	4	...	...	...	...	...	5	...	...	1	...	...	...
Mining	...	4,511	4,511	17603	1,220	18,823	...	3,453	3,453	...	...	...	...	...	...	...	...	...
Number of projects	...	1	1	...	...	4	...	...	1	...	...	...	...	...	...	...	...	...
Quarrying	18,722	...	18,722	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of projects	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Manufacturing	287,491	100,397	387,888	183,666	33,630	217,296	147,005	71,070	218,075	112,864	46,117	158,981	328,065	711,038	1,039,103	103,072	172,544	275,616
Number of projects	53	12	65	...	...	68	...	...	54	...	...	21	...	...	33	...	...	21
Construction	8,279	262,515	270,794	...	...	...	252,132	11,125	263,257	...	...	...	...	...	...	...	...	...
Number of projects	2	4	6	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...
Export/import trade	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of projects	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hotels and restaurants	28,842	68,004	96,846	215,506	60,446	275,952	27,845	2,595	30,438	35,051	1,125	36,176	30,307	41,130	71,437	121,883	29,041	150,924
Number of projects	13	2	15	...	...	43	...	...	10	...	...	11	...	...	15	...	...	10
Others	41,400	2,241	43,641	25,925	440	26,365	11,630	9,630	27,004	11,629	...	11,629	218,755	199,735	418,490	19,466	29,254	48,720
Number of projects	10	2	12	...	...	14	...	...	14	...	...	6	...	...	9	...	...	8
Total capital	392,076	437,668	829,744	483,168	100,276	583,444	474,211	109,674	583,795	189,029	86,989	276,018	589,006	959,903	1,548,909	250,490	251,371	501,861
Total number of projects	84	21	105	...	...	150	...	...	109	...	...	47	...	...	67	...	...	46

Source: Eritrean Investment Center.

Table 8. Eritrea: Assab Refinery Production, Purchases, and Sales by Eritrea, 1997-2002

(Quantities in metric tons; value in millions of nakfa)

	1997			1998 ^{1/}			1999			2000			2001 (Preliminary)			2002 (Preliminary)		
	Production	Purchases	Value	Purchases	Sales	Value	Purchases	Sales	Value	Purchases	Sales	Value	Purchases	Sales	Value	Purchases	Sales	Value
Liquefied petroleum gas	4,643	1,504	7	754	824	2	1,946	1,946	7	788	...	4	2,394	...	4	3,080	3102	27
Regular gasoline	63,865	14,733	21	15,888	15,804	18	14,139	12,939	41	15,891	17,030	102	18,743	18,123	62	15,980	15,905	81
Kerosene	12,181	21,086	30	9,660	21,387	20	...	20,740	14	...	22,706	73	22,087	23,203	65	24,515	20,277	91
Jet fuel	23,061	9,859	14	8,670	6,918	8	25,663	5,949	179	35,563	11,090	49	12,155	12,769	36	8,448	6,988	32
Automobile diesel	123,655	137,730	165	101,522	105,970	93	108,651	102,870	46	119,948	121,175	364	117,241	111,424	316	99,627	100,133	413
Inland fuel oil	114,964	43,160	49	33,403	41,379	28	26,039	39,147	9	34,747	44,367	96	46,888	40,002	98	12,072	20,146	40
Bunker fuel oil	0	7,971	4	14,192	954	11	15,951	5,916	333	...	...	...	15,198	14,964	29	22,094	29,339	91
Export fuel oil	77,960	167	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bitumen (asphalt)	15,962	483	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	436,291	236,693	290	184,089	193,236	180	192,389	174,622	333	206,937	217,157	688	234,706	220,485	610	185,816	195,890	775

Source: Petroleum Corporation of Eritrea.

^{1/} Eritrea has not been producing petroleum products since 1998, when the Assab oil refinery stopped production.

Table 9. Eritrea: Ex-Refinery and Retail Prices of Petroleum Products, 1997-2002

Unit		Retail Prices (Dec. 1997)					Retail Prices (Dec. 1998)					Retail Prices (Dec. 1999)				
		Asmara	Massawa	Assab	Keren	Nakfa	Asmara	Massawa	Assab	Keren	Nakfa	Asmara	Massawa	Assab	Keren	Nakfa
		Liquefied petroleum gas	Nakfa/ton	4,000	...	3,250	4,000	...	3,250	5,000	...	3,250
Regular gasoline	Cents/liter	280	275	275	283	292	280	275	275	283	292	280	275	275	384	397
Kerosene	Cents/liter	155	153	146	158	167	155	153	146	158	167	155	153	146	229	242
Jet fuel	Cents/liter	179	...	134	...	...	179	...	134	...	...	179	...	134	...	...
Automobile diesel	Cents/liter	170	165	156	173	182	170	165	156	173	182	170	165	156	209	222
Inland fuel oil	Cents/liter	113	109	105	117	128	113	109	104	117	128	113	109	104	187	200

Unit		Retail Prices (Dec. 2000)					Retail Prices (Dec. 2001, Preliminary)					Retail Prices (Dec. 2002, Preliminary)				
		Asmara	Massawa	Assab	Keren	Nakfa	Asmara	Massawa	Assab	Keren	Nakfa	Asmara	Massawa	Assab	Keren	Nakfa
		Liquefied petroleum gas	Nakfa/ton	6,750	7,000	6,940	7,000	10,750	10,670	10,750
Regular gasoline	Cents/liter	530	524	524	535	548	575	569	569	580	594	725	718	718	730	745
Kerosene	Cents/liter	290	284	284	295	308	315	309	309	320	334	461	454	454	466	481
Jet fuel	Cents/liter	400	394	394	...	...	420	414	414	...	...	566	559	559	...	...
Automobile diesel	Cents/liter	315	309	309	320	333	345	339	339	349	364	492	485	485	497	512
Inland fuel oil	Cents/liter	218	212	212	223	237	257	250	250	262	277	297	290	290	303	319

Source: Petroleum Corporation of Eritrea.

Table 10. Eritrea: Electricity Production, Sales, and Tariffs, 1997-2002

	1997	1998	1999	2000	2001 Prel.	2002 Prel.
(In thousands of kilowatt-hours)						
Total production	179,192	185,820	207,086	199,433	224,441	249,117
Interconnected system	149,305	150,498	170,607	179,210	200,936	222,016
Asmara	136,803	137,016	152,273	150,185	143,201	40,644
Massawa	12,502	13,482	18,334	18,883	16,478	3,873
Others	...	...	...	10,142	41,257	177,499
Self-contained system	29,887	35,322	36,479	20,223	23,505	27,101
Assab	18,992	20,596	18,542	16,650	18,480	20,137
Decamhare	3,099	3,693	4,514	...	...	...
Keren	3,027	4,889	6,192	...	...	...
Others	4,769	6,144	7,231	3,573	5,025	6,964
Total volume of sales	143,695	145,637	158,495	159,597	175,926	194,161
Interconnected system	117,313	117,789	128,276	142,447	156,190	170,976
Asmara	94,149	93,402	101,800	103,682	110,936	118,750
Ghindae	2,675	3,306	2,822	2,962	2,905	4,785
Massawa	20,489	21,081	23,654	23,407	27,443	29,071
Others	...	...	...	12,396	14,906	18,370
Self-contained system	26,383	27,848	30,219	17,150	19,736	23,185
Assab	16,589	15,916	15,613	14,060	15,349	17,441
Decamhare	2,783	3,095	3,568	...	...	...
Keren	2,621	3,854	4,793	...	...	...
Others	4,390	4,983	6,245	3,090	4,387	5,744
(In millions of nakfa)						
Total sales revenue	121.8	120.9	131.0	182.7	214.3	234.9
Interconnected system	98.5	96.4	104.3	161.9	189.8	206.3
Asmara	78.5	74.9	81.5	115.4	132.7	142.8
Ghindae	2.5	2.8	2.6	3.5	3.2	4.4
Massawa	17.5	18.7	20.3	27.0	33.3	34.6
Other	...	...	...	16.0	20.6	24.5
Self-contained system	23.3	24.5	26.7	20.7	24.5	28.6
Assab	13.6	12.8	13.0	15.8	17.4	20.0
Decamhare	2.3	3.4	3.3	...	...	...
Keren	2.6	3.7	4.6	...	...	...
Others	4.8	4.6	5.8	4.9	7.1	8.6
Electricity tariffs	(Nakfa per kimowatt-hour)					
Domestic						
Less than 500 kilowatt-hours	0.65 - 0.75	0.65 - 0.75	0.65 - 0.75	1.19	1.19	...
Greater than 500 kilowatt-hours	0.55 - 0.65	0.55 - 0.65	0.55 - 0.65	...	1.09	...
General 1/	1.00	1.00	1.00	...	...	...
Small industry	...	...	...	1.29	1.39	...
Large industry						
Less than 100,000 kilowatt-hours	0.75	0.75	0.75	0.90	0.90	...
Greater than 100,000 kilowatt-hours	0.50	0.50	0.50	0.64	0.64	...
Commercial	...	...	...	1.39	...	...

Source: Ministry of Energy and Mines.

1/ Includes street lighting and small industry.

Table 11. Eritrea: Asmara Price Index, 1997-2002 1/

	1997				1998				1999				2000				2001 (Preliminary)				2002 (Preliminary)			
	Mar.	June	Sep.	Dec.	Mar.	June	Sep.	Dec.	Mar.	June	Sep.	Dec.	Mar.	June	Sep.	Dec.	Mar.	June	Sep.	Dec.	Mar.	June	Sep.	Dec.
	(1996 = 100)																							
Food	97.1	99.7	103.9	106.6	132.6	118.8	125.1	128.2	132.6	132.4	150.6	144.8	146.7	160.4	196.8	190.4	184.2	192.2	208.2	200.3	198.8	205.2	242.8	236.0
Cereals	96.1	97.2	105.2	109.2	167.8	148.3	147.9	160.1	167.8	160.4	171.8	169.0	170.2	197.5	211.3	216.5	208.8	207.7	200.1	203.9	199.4	214.9	256.9	265.4
Bread and injera	100.0	100.0	100.1	100.2	97.7	100.2	100.8	104.3	97.7	98.2	102.1	102.1	102.1	120.5	117.8	125.0	125.0	129.5	125.0	126.5	137.6	145.9	140.9	169.7
Pulses and oilseeds	93.6	103.5	106.0	120.6	163.6	140.5	157.7	150.5	162.7	168.7	186.5	191.0	209.8	210.2	236.3	233.8	213.9	213.2	221.2	207.9	198.1	216.9	281.7	297.6
Vegetables and fruits	88.7	100.4	109.4	110.9	126.0	98.7	137.8	132.0	126.0	133.5	174.9	147.8	145.7	146.8	233.2	213.7	174.2	188.0	253.6	200.1	182.0	176.4	279.6	245.0
Spices	87.7	70.3	85.3	113.0	262.4	211.1	226.7	260.4	262.3	267.3	282.3	292.0	252.2	234.0	297.5	310.0	309.4	277.1	267.4	250.5	242.8	234.5	244.1	306.8
Meat	101.7	110.5	110.0	112.6	115.9	114.9	112.4	111.4	115.9	122.0	155.2	140.9	156.1	179.7	236.6	214.3	229.5	262.4	299.3	293.8	297.1	310.5	358.4	300.6
Fish	95.2	94.2	110.9	119.4	118.8	120.9	115.8	95.3	118.8	108.7	120.7	119.8	120.5	141.3	152.9	155.6	158.3	156.9	156.4	156.4	169.3	156.3	158.7	160.4
Dairy products	102.9	103.4	105.8	103.2	116.6	111.8	113.0	114.0	116.6	123.0	140.5	144.7	144.0	154.5	212.4	187.3	191.7	215.0	219.1	200.2	212.2	216.2	223.9	235.6
Other food	100.0	96.1	97.6	95.8	106.8	97.4	95.4	96.6	106.8	100.7	103.6	108.2	108.1	115.6	130.3	129.5	127.3	126.9	130.0	140.0	144.3	145.7	147.3	155.8
Beverage and tobacco	100.4	106.0	107.2	106.3	107.0	107.0	108.6	113.1	114.7	114.8	115.0	118.9	128.3	128.7	137.8	144.5	141.7	142.0	150.1	178.4	182.2	183.1	193.4	184.7
Clothing and footwear	107.8	112.9	116.5	119.1	122.7	111.8	113.8	112.3	103.2	106.7	110.2	108.2	113.5	117.5	122.3	133.0	139.1	140.5	138.3	143.0	151.8	156.5	170.3	181.4
Energy, water, and building materials	107.4	107.2	106.3	105.6	106.1	105.3	106.1	106.3	108.1	108.6	109.0	122.1	143.4	144.9	149.3	153.4	168.8	150.0	153.9	178.1	178.7	200.9	204.1	224.1
Furniture and housing equipment	106.6	108.5	109.5	107.1	108.8	104.3	101.0	103.5	106.6	109.1	112.7	127.9	134.2	134.3	159.4	166.7	167.3	154.9	159.9	170.7	183.2	198.7	196.7	222.8
Medical care	92.3	94.6	92.0	90.4	93.0	109.7	104.6	105.5	108.1	107.4	110.3	119.8	118.3	118.0	117.6	124.1	133.4	132.3	125.7	126.5	125.1	128.6	142.4	135.3
Transport and Communication	100.9	101.1	100.8	100.2	100.3	100.6	100.7	100.8	101.4	103.0	101.7	103.7	106.4	106.4	106.6	107.0	108.7	107.6	107.9	112.3	114.4	138.3	154.4	247.8
Recreation and education	103.6	102.6	101.6	103.7	103.2	101.5	105.3	110.5	116.9	117.9	119.0	124.7	127.1	134.0	131.7	152.3	151.7	151.0	149.0	149.5	153.9	154.4	159.2	175.6
Personal care	99.8	101.4	107.4	107.6	108.7	106.0	105.0	109.0	115.4	115.6	113.4	121.8	122.9	130.3	143.2	147.3	148.2	158.3	163.9	177.2	181.3	197.5	221.8	196.5
General index	101.2	103.6	106.3	107.7	111.4	112.2	115.4	117.4	119.1	119.9	129.1	129.8	135.3	143.0	164.0	164.7	164.8	165.8	174.4	177.4	179.6	189.5	212.2	219.7
12-month average index	101.1	101.8	102.6	103.7	106.2	108.4	110.6	113.6	115.1	117.0	120.5	123.1	127.0	132.1	139.2	147.6	155.6	161.8	165.9	169.2	172.6	178.2	186.7	197.8
	(Changes in percent)																							
Inflation																								
Annual (yearly average)	...	...	...	3.7	5.0	6.5	7.8	9.5	8.4	7.9	8.9	8.4	10.3	12.9	15.5	19.9	22.5	22.5	19.2	14.6	10.9	10.1	12.5	16.9
End of period	3.2	4.4	4.2	7.7	10.2	8.3	12.5	9.0	12.2	6.9	16.7	10.6	17.6	19.2	27.1	26.8	21.7	15.9	6.3	7.7	9.0	14.3	21.7	23.8

Source: National Statistics and Evaluation Office.

1/ This series replaces the previous price indices compiled by the Bank of Eritrea.

Table 12. Eritrea: Developments in the Labor Market, 1997-2002

	Dec. 1997			Dec. 1998			Sep. 1999			Dec. 2000			Dec. 2001 (Preliminary)			Dec. 2002 (Preliminary)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Registered job seekers	27,923	7,329	35,252	18,292	8,444	26,736	866	909	1,775	900	1,994	2,894	793	1,003	1,796	728	869	1,597
Number of job seekers placed	15,013	1,897	16,910	11,974	2,199	14,173	1,152	339	1,491	3,654	1,484	5,138	2,867	688	3,555	1,485	710	2,195
Reported vacancies	...	...	21,157	...	...	20,479	...	...	1,979	...	...	7,439	...	...	6,579	...	...	3,377
Eritreans permitted to work abroad	...	...	971	...	...	1,091	...	...	368	701	1,099	1,800	349	811	1,160	313	622	935
Employment in private and public establishments 1/	...	...	...	66,026	32,267	98,293	...	...	...	...	...	...	...	...	...	...	...	...
<i>Of which : government-owned establishments</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Source: Ministry of Labor and Human Welfare.

1/ Large establishments only.

Table 13. Eritrea: Structure of Private Sector Wages, 1997-2002

(Base salary per month, in nakfa)

	1997				1998				1999				2000				2001				2002			
	Production		Service		Production		Service		Production		Service		Production		Service		Production		Service		Production		Service	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Messenger	150	620	150	620	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Postman	150	620	150	620	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Driver	468	1,916	468	1,916	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Typist	205	1,461	205	1,461	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Clerk	205	1,461	205	1,461	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Storekeeper	158	9,000	158	9,000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Inspector	468	1,980	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Teacher	380	2,500	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Statistician	1,476	1,903	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nurse	450	1,874	450	1,874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Senior supervisor	924	1,000	924	1,000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Production manager	1,391	8,280	450	8,280	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Section head
Department head	1,391	8,280	450	8,280	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
University graduate (with master's degree)	1,844	16,400	1,844	16,400	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Specialist (in all fields)	1,200	12,933	1,200	12,933	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Senior expert	1,200	12,933	1,200	12,933	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Manager	1,391	8,280	450	8,280	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Source: Ministry of Labor and Human Welfare.

Table 14. Eritrea: Summary of Government Operations, 1997-2002

(In millions of nakfa, unless otherwise indicated)

	1997	1998	1999	2000	2001 Prel.	2002 Est.
Total revenue and grants	2,310.7	2,208.1	2,384.5	3,313.1	3,361.9	3,409.8
Total revenue	2,022.8	1,688.7	1,895.5	2,108.3	1,986.4	2,291.4
Tax revenue	959.4	977.0	1,018.7	982.7	1,278.8	1,538.2
Direct taxes	447.9	512.3	518.7	473.5	572.9	552.8
Indirect domestic taxes	212.8	198.5	236.8	238.1	297.0	368.3
Import duties and taxes	298.7	266.1	263.3	271.0	409.0	617.1
Non-tax revenue	1,063.4	597.8	599.9	802.8	532.7	724.1
Port fees and charges	444.3	99.7	107.0	59.4	103.3	148.5
Sale of goods, services, govt. property, and other fees	619.1	498.0	492.9	743.3	429.4	575.6
Extraordinary revenues	...	113.9	276.9	322.9	174.9	29.2
Grants	287.9	519.4	489.0	1,204.8	1,375.6	1,118.4
Public contribution (transfer to defense from abroad)	...	61.2	131.4	195.8	40.4	20.1
Grants in kind earmarked	287.9	458.2	357.6	1,008.9	1,335.1	1,098.3
Total expenditure	2,558.1	4,218.8	5,467.9	4,136.4	4,545.3	5,176.9
Current expenditure	1,412.8	2,781.6	3,213.9	3,364.2	3,287.3	3,656.0
Wages, salaries, and allowances	706.8	858.3	982.0	1,308.9	1,166.8	1,471.0
Materials	519.7	1,679.7	1,877.0	1,532.5	1,407.8	1,489.3
Subsidies	...	...	...	25.0	137.9	...
Pensions	...	...	...	21.6	21.0	18.9
Interest and charges	49.3	67.3	112.2	175.0	266.1	347.8
Domestic	49.3	62.9	100.9	157.0	202.5	239.2
External	...	4.4	11.3	18.0	63.7	108.7
Grants and contributions	137.0	176.3	242.7	301.1	287.6	329.0
Capital expenditure	1,147.8	1,437.4	2,245.7	727.2	1,356.6	1,527.3
Central treasury	687.8	584.2	1,157.0	295.5	539.8	628.2
Externally financed	460.0	853.2	1,088.7	431.7	816.8	899.1
Net lending and contingency	-2.5	-0.2	8.3	45.0	-98.5	-6.4
Overall balance, excluding special programs						
Excluding grants	-535.3	-2,530.1	-3,572.4	-2,028.1	-2,559.0	-2,885.4
Including grants	-247.4	-2,010.7	-3,083.4	-823.3	-1,183.4	-1,767.1
Special programs	32.7	90.7	142.0	1,167.7	1,521.5	955.0
Emergency Reconstruction Program (ERP)	...	...	...	198.0	648.4	463.8
Demobilization	...	...	...	...	6.9	7.8
Humanitarian	32.7	90.7	142.0	969.7	866.3	483.4
Overall balance, including special programs						
Excluding grants	-568.0	-2,620.8	-3,714.4	-3,195.7	-4,080.5	-3,840.4
Including grants	-280.1	-2,101.4	-3,225.4	-1,991.0	-2,704.9	-2,722.0
Financing	280.1	2,101.4	3,225.4	1,991.0	2,704.9	2,722.0
External (net)	204.8	198.3	524.9	535.0	1,046.6	918.9
Official (net)	204.8	193.9	340.5	386.7	964.5	671.4
Other public borrowing	...	4.4	184.3	57.9	4.5	-51.7
Exceptional financing	...	...	...	90.4	77.6	299.2
Domestic (net)	198.7	1,854.3	2,662.7	1,481.7	1,462.6	1,824.3
Banking system	178.7	1,703.9	2,565.4	1,989.5	1,512.3	1,809.6
Central bank	178.7	-289.6	1,640.9	583.5	865.3	1,085.1
Commercial banks	...	1,993.4	924.5	1,406.0	647.0	724.5
Nonbank financing	20.0	150.4	97.3	-507.8	-49.7	14.7
Errors and omissions	-123.4	48.8	37.8	-25.8	195.7	-21.2
Memorandum items:						
Stock of government domestic debt	1,516.9	3,220.7	5,786.1	7,805.6	9,317.9	11,127.5
(in percent of GDP)	30.5	58.2	96.7	125.9	119.9	123.2
Defense expenditures	634.2	1,936.3	2,224.5	2,220.3	1,883.6	2,104.4
(in percent of GDP)	12.7	35.0	37.2	35.8	24.2	23.3

Sources: Ministry of Finance; and staff estimates.

Table 15. Eritrea. Selected Indicators of Government Operations, 1997-2002

	1997	1998	1999	2000	2001 Prel.	2002 Est.
	(Annual percentage change)					
Total revenue and grants	24.0	-4.4	8.0	38.9	1.5	1.4
Total revenue	46.1	-16.5	12.2	11.2	-5.8	15.4
Tax revenue	15.5	1.8	4.3	-3.5	30.1	20.3
Nontax revenue	91.8	-43.8	0.3	33.8	-33.6	35.9
Extraordinary revenue	...	...	143.1	16.6	-45.8	-83.3
Grants	-39.8	80.4	-5.8	146.4	14.2	-18.7
Total expenditure	1.8	64.9	29.6	-24.4	9.9	13.9
Current expenditure	-15.6	96.9	15.5	4.7	-2.3	11.2
Capital expenditure	32.1	25.2	56.2	-67.6	86.5	12.6
Net lending and contingency	-91.6	-92.0	-4,250.0	442.1	-318.9	-93.5
Special programs	-84.3	177.4	56.6	722.3	30.3	-37.2
	(In percent of GDP, unless otherwise indicated)					
Total revenue and grants	46.5	39.9	39.9	53.4	43.3	37.8
Total revenue	40.7	30.5	31.7	34.0	25.6	25.4
Tax revenue	19.3	17.7	17.0	15.8	16.5	17.0
Nontax revenue	21.4	10.8	10.0	12.9	6.9	8.0
Extraordinary revenue	...	2.1	4.6	5.2	2.3	0.3
Grants	5.8	9.4	8.2	19.4	17.7	12.4
Total expenditure	51.4	76.3	91.4	66.7	58.5	57.3
Current expenditure	28.4	50.3	53.7	54.3	42.3	40.5
Capital expenditure	23.1	26.0	37.5	11.7	17.5	16.9
Net lending and contingency	-0.1	0.0	0.1	0.7	-1.3	-0.1
Overall balance, excluding special programs						
Excluding grants	-10.8	-45.7	-59.7	-32.7	-32.9	-31.9
Including grants	-5.0	-36.4	-51.5	-13.3	-15.2	-19.6
Special programs	0.7	1.6	2.4	18.8	19.6	10.6
Overall balance, including special programs						
Excluding grants	-11.4	-47.4	-62.1	-51.5	-52.5	-42.5
Including grants	-5.6	-38.0	-53.9	-32.1	-34.8	-30.1
Financing	5.6	38.0	53.9	32.1	34.8	30.1
External (net)	4.1	3.6	8.8	8.6	13.5	10.2
Domestic (net)	4.0	33.5	44.5	23.9	18.8	20.2
Errors and omissions	-2.5	0.9	0.6	-0.4	2.5	-0.2
Memorandum item:						
GDP at current market prices (in millions of nakfa) 1/	4,974	5,530	5,982	6,201	7,771	9,031

Sources: Ministry of Finance, and staff estimates.

Table 16. Britrea: Government Revenues and Grants, 1997-2002

	1997	1998	1999	2000	2001 Prel.	2002 Est.
(In millions of nakfa)						
Tax revenue	959.4	977.0	1,018.7	982.7	1,278.8	1,538.2
Direct taxes	447.9	512.3	518.7	473.5	572.9	552.8
Personal income	117.2	128.0	131.4	122.7	136.9	159.6
Business profits	292.9	334.1	337.7	299.9	387.5	337.2
Rehabilitation tax	18.1	17.5	11.3	10.4	2.9	1.8
Other 1/	19.7	32.7	38.2	40.6	45.5	54.1
Indirect domestic taxes	212.8	198.5	236.8	238.1	297.0	368.3
Sales tax on domestic goods	120.6	...	...	120.2	142.0	157.1
Sales tax on domestic services 2/	49.7	...	...	51.6	71.0	92.6
Excises	42.5	...	...	66.3	84.0	118.6
Import duties and taxes	298.7	266.1	263.3	271.0	409.0	617.1
Customs duties	184.2	167.3	162.0	162.7	241.3	303.3
Sales tax on imports	105.3	...	...	101.0	152.7	255.7
Excises on imports	9.1	...	...	7.4	15.0	58.1
Nontax revenue	1,063.4	597.8	599.9	802.8	532.7	724.1
Port fees and charges	444.3	99.7	107.0	59.4	103.3	148.5
Other fees and charges	93.3	86.7	102.6	364.3	165.7	321.0
Sales of goods and services	25.1	52.8	40.9	42.1	48.8	55.4
Sales of government property	55.4	11.3	64.9	136.4	28.9	29.3
Residual surplus and dividends	327.7	151.2	157.7	114.2	39.9	36.0
Other	117.6	196.1	126.8	86.4	146.1	133.9
Extraordinary revenue	...	113.9	276.9	322.9	174.9	29.2
Local transfer to defense	...	87.1	...	71.4	25.2	15.2
Surtax	...	26.8	276.9	251.5	149.7	13.9
Revenue	2,022.8	1,688.7	1,895.5	2,108.3	1,986.4	2,291.4
External grants	287.9	519.4	489.0	1,204.8	1,375.6	1,118.4
Grants in kind/earmarked	287.9	458.2	357.6	1,008.9	1,335.1	1,098.3
Humanitarian	32.7	90.7	142.0	969.7	866.3	483.4
Demobilization	...	...	...	...	6.9	6.5
Capital projects	255.2	367.5	215.6	39.3	462.0	608.4
Public contribution (transfer to defense from abroad)	...	61.2	131.4	195.8	40.4	20.1
Revenue and external grants	2,310.7	2,208.1	2,384.5	3,313.1	3,361.9	3,409.8
(In percent of GDP)						
Direct taxes	9.0	9.3	8.7	7.6	7.4	6.1
Domestic indirect taxes	4.3	3.6	4.0	3.8	3.8	4.1
Import duties and taxes	6.0	4.8	4.4	4.4	5.3	6.8
Nontax revenue	21.4	10.8	10.0	12.9	6.9	8.0
Extraordinary revenue	...	2.1	4.6	5.2	2.3	0.3
External grants	5.8	9.4	8.2	19.4	17.7	12.4
(In percent of total revenue and external grants)						
Direct taxes	19.4	23.2	21.8	14.3	17.0	16.2
Domestic indirect taxes	9.2	9.0	9.9	7.2	8.8	10.8
Import duties and taxes	12.9	12.1	11.0	8.2	12.2	18.1
Nontax revenue	46.0	27.1	25.2	24.2	15.8	21.2
Extraordinary revenue	...	5.2	11.6	9.7	5.2	0.9
External grants	12.5	23.5	20.5	36.4	40.9	32.8
(Annual percentage change)						
Direct taxes	17.9	14.4	1.2	-8.7	21.0	-3.5
Domestic indirect taxes	17.8	-6.7	19.2	0.6	24.7	24.0
Import duties and taxes	10.7	-10.9	-1.1	2.9	50.9	50.9
Nontax revenue	91.8	-43.8	0.3	33.8	-33.6	35.9
Extraordinary revenue	...	...	143.1	16.6	-45.8	-83.3
External grants	-39.8	80.4	-5.8	146.4	14.2	-18.7

Sources: Ministry of Finance; and staff estimates.

1/ Agricultural income tax and land use fee, taxes on dividends, and rental income.

2/ Including stamp duties.

Table 17. Eritrea: Government Current Expenditure by Economic Classification, 1997-2002

	1997	1998	1999	2000	2001 Prel.	2002 Est.
(In millions of nakfa)						
Current expenditure	1,445.5	2,872.3	3,355.9	4,333.8	4,160.4	4,147.2
Wages, salaries, and allowances	706.8	858.3	982.0	1,308.9	1,166.8	1,471.0
Defense	387.1	488.5	617.9	936.5	816.7	1,034.6
Others	319.7	369.8	364.1	372.4	350.1	436.4
Materials	519.7	1,679.7	1,877.0	1,532.5	1,407.8	1,489.3
Defense	247.1	1,447.8	1,606.6	1,283.7	1,066.9	1,069.8
Others	272.6	231.9	270.4	248.8	340.9	419.5
Subsidies	...	...	...	25.0	137.9	...
Pensions	...	...	...	21.6	21.0	18.9
Interest and charges	49.3	67.3	112.2	175.0	266.1	347.8
Domestic	49.3	62.9	100.9	157.0	202.5	239.2
External	...	4.4	11.3	18.0	63.7	108.7
Grants and contributions	137.0	176.3	242.7	301.1	287.6	329.0
Demobilization	...	...	...	...	6.9	7.8
Humanitarian assistance	32.7	90.7	142.0	969.7	866.3	483.4
(In percent of GDP)						
Current expenditure	29.1	51.9	56.1	69.9	53.5	45.9
Wages, salaries, and allowances	14.2	15.5	16.4	21.1	15.0	16.3
Defense	7.8	8.8	10.3	15.1	10.5	11.5
Others	6.4	6.7	6.1	6.0	4.5	4.8
Materials	10.4	30.4	31.4	24.7	18.1	16.5
Defense	5.0	26.2	26.9	20.7	13.7	11.8
Others	5.5	4.2	4.5	4.0	4.4	4.6
Subsidies	...	...	...	0.4	1.8	0.0
Pensions	...	...	...	0.3	0.3	0.2
Interest and charges	1.0	1.2	1.9	2.8	3.4	3.9
Domestic	1.0	1.1	1.7	2.5	2.6	2.6
External	...	0.1	0.2	0.3	0.8	1.2
Grants and contributions	2.8	3.2	4.1	4.9	3.7	3.6
Demobilization	...	...	...	...	0.1	0.1
Humanitarian assistance	0.7	1.6	2.4	15.6	11.1	5.4
(In percent of total current expenditure)						
Wages, salaries, and allowances	48.9	29.9	29.3	30.2	28.0	35.5
Materials	36.0	58.5	55.9	35.4	33.8	35.9
Subsidies	...	...	...	0.6	3.3	0.0
Pensions	...	...	...	0.5	0.5	0.5
Interest and charges	3.4	2.3	3.3	4.0	6.4	8.4
Grants and contributions	9.5	6.1	7.2	6.9	6.9	7.9
Demobilization	...	...	...	...	0.2	0.2
Humanitarian assistance	2.3	3.2	4.2	22.4	20.8	11.7
(Annual percentage change)						
Current expenditure	-23.2	98.7	16.8	29.1	-4.0	-0.3
Wages, salaries, and allowances	-11.5	21.4	14.4	33.3	-10.9	26.1
Materials	-27.6	223.2	11.7	-18.4	-8.1	5.8
Subsidies	...	...	...	...	451.5	-100.0
Pensions	...	...	...	...	-2.7	-9.8
Interest and charges	36.2	36.5	66.7	56.0	52.1	30.7
Grants and contributions	12.2	28.7	37.7	24.1	-4.5	14.4
Demobilization	-100.0	...	...	...	...	13.7
Humanitarian assistance	-83.2	177.4	56.6	582.9	-10.7	-44.2

Sources: Ministry of Finance, and staff estimates.

Table 18. Eritrea: Government Current Expenditure by Functional Classification, 1997-2002

	1997	1998	1999	2000	2001 Prel.	2002 Est.
(In millions of nakfa)						
General services	886.0	2,253.8	2,624.5	2,722.2	2,444.7	2,619.5
Internal affairs	56.6	21.1	24.4	25.9	36.4	46.9
Regional administration	55.5	161.8	242.8	328.8	326.7	164.8
Foreign affairs	84.5	88.4	58.1	102.7	103.6	179.1
Ministry of Finance	30.8	27.3	25.4	17.5	29.9	34.0
Defense 1/	634.2	1,936.3	2,224.5	2,220.3	1,883.6	2,104.4
Others 2/	24.4	18.9	49.3	27.0	64.5	90.3
Economic services	140.8	66.3	136.1	55.7	64.6	71.1
Agriculture and natural resources 3/	32.8	36.0	31.5	32.9	34.3	37.5
Trade, industry, and tourism	7.2	8.9	7.2	5.2	10.3	8.7
Mining and energy	4.0	3.3	3.1	2.9	3.1	3.4
Roads, transport, and communications	85.0	12.8	7.2	5.6	5.7	6.7
Construction and urban development	9.7	3.0	8.0	7.8	9.2	13.7
Others 4/	2.1	2.3	79.1	1.3	2.0	1.0
Social services	279.5	318.4	341.1	361.8	345.6	394.8
Education and training	139.3	159.2	169.2	163.8	182.0	182.9
Health	81.1	99.4	103.1	99.3	97.6	110.8
Labor and social welfare	8.9	8.6	8.6	8.3	8.6	11.0
Relief and rehabilitation	8.7	8.9	9.0	31.1	6.9	18.4
Others 5/	41.5	42.3	51.2	59.3	50.5	71.7
Safety net measures	12.5	4.4	...	...	6.9	7.8
Demobilization and reintegration	...	...	...	...	6.9	7.8
Support to martyrs' families	12.5	4.4	...	...	...	...
Pension payments	...	...	...	21.6	21.0	18.9
Interest and charges	49.3	67.3	112.2	175.0	266.1	347.8
Domestic debt	49.3	62.9	100.9	157.0	202.5	239.2
External debt	...	4.4	11.3	18.0	63.7	108.7
Humanitarian assistance	32.7	90.7	142.0	969.7	866.3	483.4
Miscellaneous 6/	44.7	71.4	...	27.9	145.2	203.7
Total current expenditure	1,445.5	2,872.3	3,355.9	4,333.8	4,160.4	4,147.1
(In percent of GDP)						
General services	17.8	40.8	43.9	43.9	31.5	29.0
Of which: defense	12.7	35.0	37.2	35.8	24.2	23.3
Economic services	2.8	1.2	2.3	0.9	0.8	0.8
Social services	5.6	5.8	5.7	5.8	4.4	4.4
Of which: education and health	4.4	4.7	4.6	4.2	3.6	3.3
Others	2.8	4.2	4.2	18.9	16.5	11.5
(In percent of total current expenditure)						
General services	61.3	78.5	78.2	62.8	58.8	63.2
Of which: defense	43.9	67.4	66.3	51.2	45.3	50.7
Economic services	9.7	2.3	4.1	1.3	1.6	1.7
Social services	19.3	11.1	10.2	8.3	8.3	9.5
Of which: education and health	15.2	9.0	8.1	6.1	6.7	7.1
Others	9.6	8.1	7.6	27.1	30.9	25.1
(Annual percentage change)						
General services	-34.3	128.8	7.7	0.1	-28.3	-7.8
Of which: defense	-39.7	174.6	6.2	-3.7	-32.3	-3.9
Economic services	-32.6	-57.7	89.8	-60.5	-7.5	-5.2
Social services	32.6	2.5	-1.0	2.3	-23.8	-1.7
Of which: education and health	55.1	5.5	-2.7	-6.8	-15.2	-9.6
Others	-59.4	51.1	0.5	345.0	-12.6	-30.1

Sources: Ministry of Finance; and staff estimates.

1/ Including the cost of the National Service Program in 1994-96, and the back pay of wages and salaries.

2/ Including President's Office, Ministry of Justice, Auditor General, Central Personnel Agency, Peace Keeping Commission, and National Statistics and Evaluation.

3/ Including Ministry of Fisheries.

4/ Including Eritrean Standard Institute, Privatization Agency, Free Zone Administration, and Land Commission.

5/ Including Ministry of Information and other national organizations.

6/ Including subsidies and support to families of the reserve army.

Table 19. Eritrea: Government Capital Expenditure, 1997-2002

	1997	1998	1999	2000	2001 Prel.	2002 Est.
(In millions of nakfa)						
General services	99.6	188.3	124.9	117.4	241.2	227.8
Economic development	714.2	998.4	2,008.3	581.4	1,359.0	955.6
Agriculture and natural resources 1/	180.6	410.6	367.5	116.2	164.7	131.3
Mining and energy	190.7	198.4	1.1	3.3	1.0	1.0
Trade, industry, and tourism	87.6	76.7	14.2	1.2	4.7	5.8
Transport, construction, and communications	242.1	312.7	1,475.2	262.7	551.2	378.4
Finance 2/	13.2	...	150.3	198.0	637.5	439.0
Social development	334.0	250.7	112.6	366.1	404.8	807.7
Education	99.3	94.2	64.1	262.2	231.2	284.3
Health	55.0	72.8	45.4	85.9	143.2	478.2
Social affairs	19.6	78.7	0.3	10.4	13.7	21.1
Others 3/	160.1	5.0	2.7	7.6	16.7	24.1
Total capital expenditure	1,147.8	1,437.4	2,245.7	1,064.9	2,005.0	1,991.1
Financing by source	1,147.8	1,437.4	2,245.7	1,064.9	2,005.0	1,991.1
Central treasury	687.8	584.2	1,157.0	493.5	559.3	665.3
Externally financed	460.0	853.2	1,088.7	571.4	1,445.6	1,325.7
(In percent of GDP)						
General services	2.0	3.4	2.1	1.9	3.1	2.5
Economic development	14.4	18.1	33.6	9.4	17.5	10.6
Of which: agriculture and natural resources	3.6	7.4	6.1	1.9	2.1	1.5
Social development	6.7	4.5	1.9	5.9	5.2	8.9
Of which: education and health	3.1	3.0	1.8	5.6	4.8	8.4
(In percent of total capital expenditure)						
General services	8.7	13.1	5.6	11.0	12.0	11.4
Economic development	62.2	69.5	89.4	54.6	67.8	48.0
Of which: agriculture and natural resources	15.7	28.6	16.4	10.9	8.2	6.6
Social development	29.1	17.4	5.0	34.4	20.2	40.6
Of which: education and health	13.4	11.6	4.9	32.7	18.7	38.3
(Annual percentage change)						
General services	-39.2	89.1	-33.7	-6.0	105.5	-5.5
Economic development	51.2	39.8	101.2	-71.0	133.7	-29.7
Of which: agriculture and natural resources	-29.5	127.4	-10.5	-68.4	41.7	-20.2
Social development	64.6	-24.9	-55.1	225.2	10.6	99.5
Of which: education and health	12.6	8.2	-34.4	217.9	7.6	103.6

Sources: Ministry of Finance; and staff estimates.

1/ Including Ministry of Fisheries.

2/ Including Emergency Reconstruction Program (ERP).

3/ Including Ministry of Information and national organizations.

Table 20. Eritrea: Monetary Survey, 1997-2002

	1997	1998	1999	2000	2001				2002			
	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec. Proj.
(In millions of nakfa)												
Net foreign assets	1,855	789	951	553	410	361	861	1,220	730	896	910	1,232
Foreign assets	2,102	1,084	1,391	1,299	1,227	1,530	2,239	2,831	2,247	2,455	2,648	2,993
<i>Of which</i> : foreign reserves	1,728	525	521	370	360	478	524	697	649	480	416	468
Foreign liabilities	247	294	440	745	816	1,169	1,378	1,610	1,518	1,559	1,738	1,761
Net domestic assets	2,937	4,874	7,027	8,465	8,657	9,134	9,304	10,182	11,084	11,488	12,118	12,275
Net domestic credit	3,486	5,985	8,364	10,178	10,343	9,439	9,927	10,943	11,365	11,906	12,580	13,209
Net claims on the central government	1,517	3,221	5,773	7,766	7,825	6,844	7,183	8,101	8,362	8,747	9,323	9,834
Credit to the economy	1,969	2,765	2,591	2,412	2,518	2,595	2,744	2,842	3,002	3,159	3,257	3,375
Credit to public enterprises	385	265	697	402	395	322	287	349	383	144	114	125
Credit to private sector	1,584	2,499	1,870	1,985	2,100	2,249	2,442	2,483	2,610	3,015	3,143	3,249
Valuation	0	283	465	492	492	492	692	454	457	468	463	485
Other items (net)	-549	-1,394	-1,802	-2,206	-2,179	-797	-1,315	-1,215	-737	-886	-926	-1,419
Money and quasi money	4,792	5,663	7,977	9,018	9,067	9,496	10,165	11,402	11,813	12,384	13,028	13,507
Money (M2)	4,710	5,577	7,554	8,728	8,740	9,114	9,626	10,950	11,270	11,857	12,479	13,031
Money (M1)	2,024	2,307	3,465	3,931	3,882	3,999	4,342	5,036	5,074	5,208	5,680	5,949
Currency outside banks	574	825	1,138	1,468	1,410	1,515	1,635	1,868	1,919	2,037	2,165	2,215
Demand deposits	1,450	1,481	2,327	2,463	2,472	2,484	2,707	3,169	3,155	3,171	3,515	3,735
Time and savings deposits	2,686	3,271	4,089	4,797	4,857	5,115	5,285	5,914	6,196	6,649	6,799	7,082
Foreign currency deposits	82	86	423	290	327	382	539	452	543	527	549	476
Reserve money (M0)	4,718	3,005	4,241	4,564	4,602	3,740	3,788	4,409	4,270	4,232	4,539	4,955
Excess reserves	3,241	1,192	1,567	1,453	1,485	488	149	397	163	-81	-11	332
(Annual change in percent of beginning-of-period broad money stock)												
Net foreign assets	17.9	-22.2	2.9	-5.0	-3.6	1.0	4.9	7.4	3.5	5.6	0.5	0.1
Net domestic assets	7.8	40.4	38.0	18.0	19.4	16.6	15.2	19.0	26.8	24.8	27.7	18.4
Net domestic credit	13.8	52.2	42.0	22.7	23.4	7.2	6.3	8.5	11.3	26.0	26.1	19.9
Net claims on central government	2.9	35.6	45.1	25.0	25.6	2.1	0.5	3.7	5.9	20.0	21.0	15.2
Credit to the economy	10.9	16.6	-3.1	-2.3	-2.2	5.1	5.8	4.8	5.3	5.9	5.1	4.7
Credit to private sector	12.8	19.1	-11.1	1.4	0.8	6.8	5.8	5.5	5.6	8.1	6.9	6.7
Valuation	...	5.9	3.2	0.3	0.3	0.3	2.7	-0.4	-0.4	-0.3	-2.2	0.3
Other items (net)	-6.1	-17.6	-7.2	-5.1	-4.4	9.0	6.2	11.0	15.9	-0.9	3.8	-1.8
Money and quasi money	25.7	18.2	40.9	13.0	15.8	17.5	20.1	26.4	30.3	30.4	28.2	18.5
Money (M2)	27.5	18.1	34.9	14.7	14.5	15.7	16.6	24.6	27.9	28.9	28.1	18.3
Money (M1)	14.1	5.9	20.5	5.8	7.1	6.4	7.2	12.3	13.1	12.7	13.2	8.0
Currency outside banks	...	5.2	5.5	4.1	3.5	2.6	2.9	4.4	5.6	5.5	5.2	3.0
Demand deposits	14.1	0.7	14.9	1.7	3.6	3.8	4.3	7.8	7.5	7.2	8.0	5.0
Time and savings deposits	13.4	12.2	14.4	8.9	7.4	9.3	9.4	12.4	14.8	16.2	14.9	10.2
Foreign currency deposits	-1.8	0.1	6.0	-1.7	1.3	1.8	3.5	1.8	2.4	1.5	0.1	0.2
Memorandum items:												
(Annual percentage change, unless otherwise indicated)												
Reserve money	28.4	-36.3	41.1	7.6	11.0	-11.4	-14.6	-3.4	-7.2	13.2	19.8	12.4
Broad money	26.7	18.2	40.9	13.0	15.8	17.5	20.1	26.4	30.3	30.4	28.2	18.5
M2	27.6	18.4	35.4	15.5	14.9	16.2	17.1	25.5	28.9	30.1	29.6	19.0
Credit to private sector	13.6	57.8	-25.2	6.2	3.1	32.2	25.1	25.1	24.3	34.1	28.7	30.8
Excess reserves/broad money (percent)	67.6	21.1	19.6	16.1	16.4	5.1	1.5	3.5	1.4	-0.7	-0.1	2.5
Composition of Broad money (in percent of broad money)												
M2	98.3	98.5	94.7	96.8	96.4	96.0	94.7	96.0	95.4	95.7	95.8	96.5
Currency outside banks	12.0	14.6	14.3	16.3	15.6	16.0	16.1	16.4	16.2	16.4	16.6	16.4
Demand deposits	30.3	26.2	29.2	27.3	27.3	26.2	26.6	27.8	26.7	25.6	27.0	27.7
Time and savings deposits	56.1	57.8	51.3	53.2	53.6	53.9	52.0	51.9	52.4	53.7	52.2	52.4
Foreign currency deposits	1.7	1.5	5.3	3.2	3.6	4.0	5.3	4.0	4.6	4.3	4.2	3.5

Sources: Bank of Eritrea; and staff estimates and projections.

Table 21. Eritrea: Summary Accounts of the Bank of Eritrea, 1997-2002

(In millions of nakfa) 1/

	1997	1998	1999	2000	2001				2002			
	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec. Proj.
Net foreign assets	1,734	524	518	247	236	201	336	524	479	309	242	293
Foreign assets	1,746	532	537	386	376	494	543	716	668	499	434	487
<i>Of which:</i> international reserves	1,728	525	521	370	360	478	524	697	649	480	416	468
Foreign liabilities	11	8	19	139	140	293	207	192	189	191	192	195
Net domestic assets	2,984	2,481	3,722	4,317	4,366	3,539	3,452	3,885	3,791	3,924	4,296	4,662
Net domestic credit	1,939	1,790	3,154	4,061	4,143	3,360	3,392	3,900	3,801	4,002	4,544	5,019
Net claims on central government	1,626	1,336	2,964	3,551	3,645	2,879	2,753	3,239	3,123	3,271	3,837	4,248
Excl. customs deposit accounts	1,626	1,336	2,977	3,561	3,664	2,901	2,776	3,240	3,146	3,297	3,839	4,255
Credit to central government	2,009	1,788	3,780	4,145	4,152	3,678	3,685	4,043	4,146	4,397	4,899	5,375
Deposits of central government	383	452	816	594	508	799	933	805	1,023	1,126	1,061	1,127
Credit to the economy	102	75	95	161	156	145	190	117	212	214	190	193
<i>Of which:</i> credit to private sector	102	75	95	161	156	145	190	117	212	214	190	193
Claims on nonbank financial institutions	0	0	0	0	0	0	0	0	0	0	0	0
Credit to commercial banks	235	381	371	448	453	457	597	653	588	597	605	624
Other deposits in foreign currency	-24	-3	-276	-100	-110	-122	-148	-108	-122	-79	-88	-46
Valuation	189	279	378	391	391	391	489	251	252	257	257	265
Other items (net)	856	412	190	-134	-167	-212	-429	-266	-262	-336	-505	-621
Assets	1,283	1,138	1,072	1,078	1,085	1,084	1,085	1,085	1,089	1,110	1,093	1,107
Liabilities	427	726	882	1,212	1,253	1,296	1,514	1,351	1,351	1,446	1,598	1,729
Reserve money (M0)	4,718	3,005	4,241	4,564	4,602	3,740	3,788	4,409	4,270	4,232	4,539	4,955

Sources: Bank of Eritrea; and staff estimates.

Table 22. Eritrea: Summary Accounts of the Commercial Banks, 1997-2002

(In millions of nakfa)

	1997	1998	1999	2000	2001				2002			
	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec. Proj.
Net foreign assets	121	265	432	306	174	160	525	697	250	587	667	939
Assets	356	551	854	913	851	1,036	1,696	2,115	1,580	1,956	2,213	2,505
Liabilities	235	286	421	607	676	876	1,172	1,418	1,329	1,368	1,546	1,566
Net domestic assets	3,979	4,545	5,937	7,106	7,275	7,649	7,654	8,643	9,413	9,500	9,958	10,226
Net domestic credit	5,573	6,346	7,842	9,076	9,185	8,133	8,337	9,388	9,684	9,839	10,172	10,803
Claims on central government (net)	-109	1,884	2,809	4,215	4,180	3,965	4,431	4,862	5,240	5,476	5,486	5,586
Credit to the economy	1,867	2,689	2,496	2,250	2,362	2,450	2,554	2,725	2,791	2,945	3,067	3,181
Credit to public enterprises	385	265	697	402	395	322	287	349	383	144	114	125
Credit to private sector	1,482	2,424	1,775	1,823	1,944	2,104	2,252	2,367	2,398	2,801	2,954	3,056
Claims on nonbank financial institutions	0	0	25	24	23	24	14	10	10	0	0	0
Claims on the Bank of Eritrea (net)	3,814	1,773	2,537	2,610	2,643	1,718	1,353	1,801	1,654	1,418	1,619	2,036
Total reserves	4,050	2,154	2,908	3,058	3,095	2,175	1,950	2,453	2,242	2,014	2,225	2,660
Required reserves	808	945	1,244	1,444	1,447	1,510	1,558	1,799	1,848	1,928	2,033	2,147
Excess reserves	3,241	1,192	1,567	1,453	1,485	488	149	397	163	-81	-11	332
Credit from the Bank of Eritrea	-235	-381	-371	-448	-453	-457	-597	-653	-588	-597	-605	-624
Valuation	0	4	87	102	102	102	203	203	205	211	206	220
Other items (net)	-1,594	-1,806	-1,993	-2,071	-2,011	-586	-886	-949	-476	-550	-420	-797
Deposits	4,100	4,810	6,369	7,412	7,450	7,809	8,179	9,339	9,664	10,088	10,626	11,165
Demand deposits	1,355	1,456	2,133	2,425	2,375	2,434	2,503	3,081	3,046	2,990	3,366	3,654
Savings deposits	2,616	3,225	3,995	4,739	4,823	5,077	5,243	5,860	6,155	6,610	6,757	7,039
Fixed deposits	70	46	94	57	35	38	42	54	41	39	42	43
Resident foreign currency deposits	58	83	147	190	217	260	391	345	422	448	460	429

Sources: Bank of Eritrea; Commercial Bank of Eritrea; and Housing and Commerce Bank of Eritrea; and staff estimates.

Table 23. Eritrea: Distribution of Net Foreign Assets, 1997-2002

(In millions of nakfa)

	1997	1998	1999	2000	2001				2002			
	Dec	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
Net foreign assets (excl. birr claims)	1,793	789	951	553	410	361	861	1,220	730	896	910	...
Bank of Eritrea (BE)	1,417	524	518	247	236	201	336	524	479	309	242	367
Commercial Bank of Eritrea (CBE)	359	214	366	248	102	83	367	530	33	402	526	...
Housing and Commerce Bank of Eritrea (HCB)	18	51	66	58	72	78	157	166	217	185	141	...
Assets	1,820	1,084	1,391	1,299	1,227	1,530	2,239	2,831	2,247	2,455	2,648	...
BE	1,428	532	537	386	376	494	543	716	668	499	434	560
CBE	362	500	787	855	779	958	1,539	1,907	1,362	1,771	2,015	...
Foreign exchange	19	32	105	192	156	65	176	136	106	154	164	...
Claims on foreign banks	344	468	683	663	623	893	1,363	1,771	1,256	1,616	1,851	...
HCB	30	51	66	58	72	78	157	207	217	185	198	...
Foreign exchange	8	11	12	16	9	6	40	43	11	18	11	...
Claims on foreign banks	22	40	54	42	63	72	117	165	206	167	186	...
Liabilities	27	294	440	745	816	1,169	1,378	1,610	1,518	1,559	1,738	...
BE	11	8	19	139	140	293	207	192	189	191	192	193
CBE	3	286	421	607	676	876	1,172	1,377	1,329	1,368	1,489	...
HCB	12	0	0	0	0	0	0	41	0	0	57	...
Annual change	913	-1,004	162	-397	-8	79	234	667	319	534	49	...
BE	778	-893	-6	-271	-104	-41	-40	277	243	108	-94	-157
CBE	113	-145	152	-118	69	86	175	282	-69	320	159	...
HCB	21	33	15	-8	27	34	100	109	145	107	-16	...
Birr claims (net)	-891	-204	-204	-209	-209	978	978	978	978	978	978	...
BE	-18	978	978	978	978	978	978	978	978	978	978	978
CBE	-864	-1,182	-1,182	-1,186	-1,186	0	0	0	0	0	0	...
HCB	-8	0	0	0	0	0	0	0	0	0	0	...
Assets	997	2,226	2,226	996	996	996	996	996	996	996	996	...
BE	0	996	996	996	996	996	996	996	996	996	996	996
CBE	997	1,230	1,230	0	0	0	0	0	0	0	0	...
HCB	0	0	0	0	0	0	0	0	0	0	0	...
Liabilities	1,887	2,430	2,430	1,205	1,205	18	18	18	18	18	18	...
BE	18	18	18	18	18	18	18	18	18	18	18	18
CBE	1,860	2,412	2,412	1,186	1,186	0	0	0	0	0	0	...
HCB	8	0	0	0	0	0	0	0	0	0	0	...
Annual change	-732	687	0	-5	-5	1,182	1,183	1,186	1,186	0	0	...
BE	0	996	0	0	0	0	0	0	0	0	0	0
CBE	-731	-318	0	-5	-5	1,182	1,183	1,186	1,186	0	0	...
HCB	-1	8	0	0	0	0	0	0	0	0	0	...

Sources: Bank of Eritrea; Commercial Bank of Eritrea; and Housing and Commerce Bank of Eritrea.

Table 24. Eritrea: Commercial Banks' Excess Reserves, 1997-2002

(In millions of nakfa, unless otherwise indicated)

	1997	1998	1999	2000	2001				2002			
	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
(In millions of nakfa, unless otherwise indicated)												
Commercial Bank of Eritrea												
Reserves 1/	3,918	1,968	2,349	2,492	2,544	1,408	1,206	1,679	1,443	1,156	1,268	...
Deposits with Bank of Eritrea	3,705	1,637	2,141	2,109	2,084	1,004	841	1,277	1,092	697	707	...
Cash in vaults	213	330	208	383	460	404	365	402	351	459	561	...
Deposits 1/	3,467	3,927	5,069	5,924	5,950	6,222	6,395	7,447	7,528	7,744	8,253	...
Demand	1,338	1,384	1,969	2,156	2,098	2,158	2,177	2,734	2,661	2,552	2,943	...
Savings	2,121	2,529	3,079	3,738	3,821	4,030	4,180	4,663	4,828	5,155	5,269	...
Fixed	8	14	21	31	31	34	37	50	38	36	41	...
Reserve requirements (20 percent of deposits)	693	785	1,014	1,185	1,190	1,244	1,279	1,489	1,506	1,549	1,651	...
Excess reserves	3,224	1,182	1,335	1,307	1,354	163	-73	190	-62	-393	-382	...
(in percent of deposits)	93.0	30.1	26.3	22.1	22.8	2.6	-1.1	2.6	-0.8	-5.1	-4.6	...
Housing and Commerce Bank of Eritrea												
Reserves 1/	132	170	464	406	387	590	500	517	568	691	754	...
Deposits with Bank of Eritrea	118	100	383	309	280	509	446	422	444	618	719	...
Cash in vaults	14	70	81	97	107	80	55	95	124	73	35	...
Deposits 1/	574	799	1,153	1,298	1,283	1,327	1,393	1,548	1,714	1,896	1,912	...
Demand	18	72	164	270	277	276	326	347	384	439	423	...
Savings	495	696	916	1,001	1,001	1,047	1,063	1,197	1,327	1,454	1,487	...
Fixed	62	32	73	27	4	4	4	3	3	3	2	...
Reserve requirements (20 percent of deposits)	115	160	231	260	257	265	279	310	343	379	382	...
Excess reserves	17	10	233	146	131	324	222	207	225	311	372	...
(in percent of deposits)	3.0	1.3	20.2	11.3	10.2	24.4	15.9	13.4	13.1	16.4	19.4	...
Total commercial banking sector												
Excess reserves	3,241	1,192	1,569	1,453	1,485	488	149	397	163	-81	-11	...
(in percent of deposits)	80.2	25.2	25.2	20.1	20.5	6.5	1.9	4.4	1.8	-0.8	-0.1	...

Sources: Bank of Eritrea; Commercial Bank of Eritrea; Housing and Commerce Bank of Eritrea; and staff estimates.

1/ Local currency only.

Table 25. Eritrea: Sectoral Distribution of Commercial Bank Loans, 1997-2002

(In millions of nakfa)

	1997		1998		1999		2000				2001				2002			
	December		December		December		June		December		June		December		June		December	
	Total	Of which private	Total	Of which private	Total	Of which private	Total	Of which private	Total	Of which private	Total	Of which private	Total	Of which private	Total	Of which private	Total	Of which private
Agriculture	119	66	165	112	171	118	183	127	144	99	...	...	...	...	...	...	...	...
Term loans	65	47	98	85	75	69	81	75	87	81	...	...	...	...	...	...	...	...
Overdrafts	55	19	67	27	96	49	102	52	57	19	...	...	...	...	...	...	...	...
Manufacturing	317	206	419	288	325	163	317	158	290	145	...	...	...	...	...	...	...	...
Term loans	189	129	204	132	134	62	124	58	136	63	...	...	...	...	...	...	...	...
Overdrafts	129	77	215	155	191	100	193	100	154	82	...	...	...	...	...	...	...	...
Domestic trade and services	751	581	904	839	984	925	536	506	687	652	...	...	...	...	...	...	...	...
Term loans	506	382	712	660	745	708	299	284	300	285	...	...	...	...	...	...	...	...
Overdrafts	244	199	193	180	239	217	237	222	387	367	...	...	...	...	...	...	...	...
Export	58	40	41	40	8	7	8	7	6	6	...	...	...	...	...	...	...	...
Term loans	31	25	23	22	4	3	2	2	2	2	...	...	...	...	...	...	...	...
Overdrafts	27	15	19	19	4	4	6	5	4	4	...	...	...	...	...	...	...	...
Import	231	200	297	275	224	204	266	241	247	224	...	...	...	...	...	...	...	...
Term loans	93	86	136	136	91	91	96	96	101	101	...	...	...	...	...	...	...	...
Overdrafts	138	113	161	139	133	112	170	146	146	123	...	...	...	...	...	...	...	...
Building and construction	104	53	113	100	62	55	45	40	47	41	...	...	...	...	...	...	...	...
Term loans	41	37	108	94	57	48	37	32	39	33	...	...	...	...	...	...	...	...
Overdrafts	63	16	6	6	5	7	8	8	8	8	...	...	...	...	...	...	...	...
Other	73	73	68	207	413	413	329	329	470	470	...	...	...	...	...	...	...	...
Total	1,653	1,219	2,008	1,862	2,599	2,276	2,013	1,764	2,361	2,108	...	...	...	...	...	...	...	...
Term loans	999	780	1,280	1,128	1,412	1,219	881	760	984	885	...	...	...	...	...	...	...	...
Overdrafts	655	439	660	526	774	644	803	675	906	753	...	...	...	...	...	...	...	...

Sources: Bank of Eritrea; Commercial Bank of Eritrea; Housing and Commerce Bank of Eritrea; and staff estimates.

Table 26. Eritrea: Structure of Interest Rates, 1997-2002 1/

(In percent per annum; end of period)

	1997	1998	1999	2000	2001	2002
Savings deposits	6.0	6.0 (6.5)	6.0 (6.0)	6.0 (6.0)	5.0 - 6.0	4.0 - 5.0
Loans						
Agriculture						
Commercial	8.5 - 9.5	8.5 - 9.5	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0
Small scale	7.5 - 8.5	7.5 - 8.5	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0
Industry, mining, power, and water resources	8.5 - 9.5	8.5 - 9.5 (8.5)	8.0 - 12.0	8.5 - 9.5 (8.5)	8.0 - 12.0	8.0 - 12.0
Cottage industries	7.5 - 8.5	7.5 - 8.5	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0
Domestic trade	12.0	12 (11.0)	8.0 - 12.0	8.0 - 12 (8.5 - 12)	8.0 - 12.0	8.0 - 12.0
Transport and communications	8.5	8.5	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0
Export trade	8.0	8.0 (8.0)	8.0 - 12.0	8.0 - 12.0 (8.0)	8.0 - 12.0	8.0 - 12.0
Import trade	9.0 - 12.0	9.0 - 12.0 (9.0)	8.0 - 12.0	8.0 - 12 (9.0)	8.0 - 12.0	8.0 - 12.0
Hotels and tourism	8.5 - 9.5	8.5 - 9.5	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0	8.0 - 12.0
Personal loans	10.0	10.0 (8.5 - 12.0)	8.0 - 12.0	8.0 - 12.0 (12.0)	10.0 - 12.0	10.0 - 12.0
Housing						
Construction	7.5 - 10.0	7.5-10.0 (8.5-9.0)	8.0 - 12.0	8.0 - 12.0 (9.5 - 10.0)	9.5 - 12.0	9.5 - 12.0
Purchases	8.5 - 11.0	8.5 - 11.0 (12.0)	8.0 - 12.0	8.0 - 12.0 (12.0)	...	...

Sources: Bank of Eritrea; Commercial Bank of Eritrea (CBE); Housing and Commerce Bank of Eritrea (HCBE); and staff estimates.

1/ Represents the interest rate structure of the CBE; from 1998 on, numbers in parentheses are for HCBE.

Table 27. Eritrea: Balance of Payments, 1997-2002

	1997	1998	1999	2000	2001 Prel.	2002 Est.
	(In millions of U.S. dollars)					
Trade balance	-441.1	-498.6	-474.5	-433.5	-516.7	-481.7
Exports, f.o.b	53.5	28.2	20.1	36.7	19.9	51.8
Imports, c.i.f.	494.6	526.8	494.6	470.3	536.7	533.4
Petroleum products	46.4	21.4	33.2	42.4	49.2	48.5
Other imports	448.2	505.4	461.4	427.9	487.4	484.9
Services (net)	55.4	12.9	-57.3	32.4	94.2	102.3
Receipts	149.8	82.2	45.6	60.7	127.5	132.6
Payments	94.4	69.3	102.8	28.3	33.4	30.3
Income (net)	-3.4	4.3	6.1	-1.4	-4.6	-6.1
Private transfers (net)	352.1	245.4	243.6	195.7	175.0	205.6
Receipts	354.4	247.7	254.7	200.2	180.4	211.0
Payments	2.3	2.3	11.1	4.5	5.4	5.5
Current account, excluding official transfers	-37.0	-235.9	-282.1	-206.8	-252.1	-179.9
Official transfers (net)	51.4	58.8	77.4	102.4	120.8	80.3
Current account, including official transfers	14.4	-177.1	-204.7	-104.5	-131.4	-99.6
Capital account (net)	0.0	2.7	0.6	0.0	7.3	3.6
Financial account	90.5	77.7	205.0	98.7	94.8	64.6
Official long-term capital	28.9	64.4	109.6	50.4	101.4	78.7
Loan disbursements (committed)	28.9	64.4	110.2	51.0	103.1	82.1
Amortization payments	0.0	0.0	-0.7	-0.6	-1.8	-3.4
Other public borrowings (net)	0.0	-0.6	-22.6	-5.7	0.0	18.2
Foreign direct investment	-38.7	-30.4	-83.0	-27.9	-12.1	-20.0
Short-term capital (net)	-22.8	17.8	10.2	-14.7	18.7	15.9
Errors and omissions	41.8	-77.3	-15.6	-9.5	36.5	-7.6
Overall balance	146.7	-174.1	-14.7	-15.2	7.2	-39.0
Financing	-146.7	174.1	14.7	15.2	-7.2	39.0
Change in net foreign assets of Bank of Eritrea	-146.9	173.3	14.5	5.8	-14.3	17.5
Change in arrears (+ increase)	0.2	0.8	0.2	0.5	0.6	14.4
Exceptional financing	0.0	0.0	0.0	9.0	6.5	7.1
	(In units indicated)					
Memorandum items:						
Current account, excluding official transfers (in millions of U.S. dollars)	-37.0	-235.9	-282.1	-206.8	-252.1	-179.9
(in percent of GDP)	-5.4	-31.5	-38.4	-32.0	-35.4	-27.8
Current account, including official transfers (in millions of U.S. dollars)	14.4	-177.1	-204.7	-104.5	-131.4	-99.6
(in percent of GDP)	2.1	-23.6	-27.9	-16.2	-18.4	-15.4
Gross reserves in convertible currency (in millions of U.S. dollars)	243.3	69.0	54.3	36.6	50.6	33.1
(in months of imports of goods and services)	5.0	1.4	1.1	0.9	1.1	0.7
Stock of external debt (in millions of U.S. dollars)	75.9	141.1	274.9	331.9	433.7	508.5
(in percent of GDP)	11.0	18.8	37.5	51.4	60.8	78.6
Debt-service ratio (in percent of exports)	0.3	0.8	5.7	3.8	5.3	15.1
Exchange rate (in nakfa per U.S. dollar; annual average)	7.4	8.2	9.6	9.6	10.9	14.0
GDP (in millions of U.S. dollars)	690.9	749.9	733.7	645.9	712.9	647.0

Sources: Bank of Eritrea; and staff estimates.

Table 28. Eritrea: Commodity Composition of Exports, 1997-2002 1/

(In millions of nakfa, unless otherwise indicated)

	1997	1998	1999	2000	2001 Prel.	2002 Est.
Food and live animals	81.3	58.3	68.2	109.8	89.8	422.6
<i>Of which</i> : Ethiopia	15.1	2.8	0.0	0.0	0.0	0.0
In percent	18.5	4.8	0.0	0.0	0.0	0.0
Beverages and tobacco	8.9	0.2	0.4	0.5	1.3	2.4
<i>Of which</i> : Ethiopia	8.4	0.1	0.0	0.0	0.0	0.0
In percent	93.8	50.0	0.0	0.0	0.0	0.0
Crude materials	129.5	89.6	24.2	37.7	31.0	62.6
<i>Of which</i> : Ethiopia	94.6	30.0	0.0	0.0	0.0	0.0
In percent	73.0	33.5	0.0	0.0	0.0	0.0
Mineral fuels, lubricants, and related materials	0.1	0.1	0.0	0.0	0.0	0.0
<i>Of which</i> : Ethiopia	0.1	0.1	0.0	0.0	0.0	0.0
In percent	100.0	100.0	0.0	0.0	0.0	0.0
Animal and vegetable oils, fats, and waxes	1.4	0.0	3.1	0.2	0.3	1.4
<i>Of which</i> : Ethiopia	1.3	0.0	0.0	0.0	0.0	0.0
In percent	97.1	0.0	0.0	0.0	0.0	0.0
Chemicals and related products	8.2	4.1	5.2	6.3	7.1	4.6
<i>Of which</i> : Ethiopia	5.6	1.4	0.0	0.0	0.0	0.0
In percent	67.8	34.1	0.0	0.0	0.0	0.0
Manufactured goods	64.3	26.1	23.2	26.1	57.1	56.0
<i>Of which</i> : Ethiopia	38.6	6.4	0.0	0.0	0.0	0.0
In percent	59.9	24.5	0.0	0.0	0.0	0.0
Machinery and transport equipment	10.8	4.7	29.8	3.4	1.4	8.7
<i>Of which</i> : Ethiopia	5.8	1.3	0.0	0.0	0.0	0.0
In percent	53.5	27.7	0.0	0.0	0.0	0.0
Miscellaneous manufactured articles	70.9	13.8	9.5	4.7	5.3	19.2
<i>Of which</i> : Ethiopia	68.8	10.1	0.0	0.0	0.0	0.0
In percent	97.1	73.2	0.0	0.0	0.0	0.0
Total	375.3	196.9	163.6	188.7	193.4	577.6
<i>Of which</i> : Ethiopia	238.1	52.2	0.0	0.0	0.0	0.0
In percent	63.5	26.6	0.0	0.0	0.0	0.0

Source: Customs Office.

1/ Data may differ from those in Table 30, owing to incomplete information on the commodity composition of exports.

Table 29. Eritrea: Commodity Composition of Imports, 1997-2002 1/

(In millions of nakfa, unless otherwise indicated)

	1997	1998	1999	2000	2001 Prel.	2002 Est.
Food and live animals	599.9	460.1	747.7	1,125.7	1,677.1	1,439.1
<i>Of which</i> : Ethiopia	202.7	18.8	0.0	0.0	0.0	0.0
In percent	33.8	4.1	0.0	0.0	0.0	0.0
Beverages and tobacco	22.4	20.2	18.8	13.8	20.2	35.5
<i>Of which</i> : Ethiopia	8.3	0.0	0.0	0.0	0.0	0.0
In percent	37.1	0.0	0.0	0.0	0.0	0.0
Crude materials	67.7	43.7	77.0	58.1	39.4	63.6
<i>Of which</i> : Ethiopia	16.0	1.0	0.0	0.0	0.0	0.0
In percent	23.6	2.3	0.0	0.0	0.0	0.0
Mineral fuels, lubricants, and related materials	52.5	41.3	31.4	51.0	34.0	74.1
<i>Of which</i> : Ethiopia	0.1	1.0	0.0	0.0	0.0	0.0
In percent	0.1	2.3	0.0	0.0	0.0	0.0
Animal and vegetable oils, fats, and waxes	57.6	71.3	89.8	111.2	156.0	85.2
<i>Of which</i> : Ethiopia	0.3	0.0	0.0	0.0	0.0	0.0
In percent	0.6	0.0	0.0	0.0	0.0	0.0
Chemicals and related products	182.8	152.2	298.6	241.0	271.0	407.9
<i>Of which</i> : Ethiopia	4.7	0.2	0.0	0.0	0.0	0.0
In percent	2.5	0.1	0.0	0.0	0.0	0.0
Manufactured goods	678.5	642.4	635.9	726.7	818.0	1,230.3
<i>Of which</i> : Ethiopia	18.4	1.3	0.0	0.0	0.0	0.0
In percent	2.7	0.2	0.0	0.0	0.0	0.0
Machinery and transport equipment	1,158.2	1,030.1	996.2	771.2	994.0	1,610.4
<i>Of which</i> : Ethiopia	12.6	2.5	0.0	0.0	0.0	0.0
In percent	1.1	0.2	0.0	0.0	0.0	0.0
Miscellaneous manufactured articles	242.7	231.4	233.2	245.3	346.0	501.3
<i>Of which</i> : Ethiopia	11.4	1.1	0.0	0.0	0.0	0.0
In percent	4.7	0.5	0.0	0.0	0.0	0.0
Total	3,062.0	2,693.0	3,128.6	3,344.0	4,355.7	5,447.3
<i>Of which</i> : Ethiopia	274.6	24.9	0.0	0.0	0.0	0.0
In percent	9.0	0.9	0.0	0.0	0.0	0.0

Source: Customs Office.

1/ Data may differ from those in Table 31, owing to incomplete information on the commodity composition of imports.

Table 30. Eritrea: Direction of Exports, 1997-2002 1/

	1997	1998	1999	2000	2001 Prel.	2002 Est. 2/
(In millions of nakfa)						
Belgium	0.0	0.2	0.0	0.3	0.0	0.0
Djibouti	2.7	0.5	28.3	0.0	0.3	5.7
Ethiopia	238.1	52.2	0.0	0.0	0.0	0.0
Germany	2.1	3.6	5.6	4.6	6.7	2.9
Italy	18.3	10.4	8.6	7.4	15.9	13.3
Japan	0.0	26.0	0.0	0.0	0.0	0.0
Korea, Rep. of	0.0	0.0	0.5	0.0	0.0	0.0
Netherlands	1.4	5.7	2.6	9.8	2.3	2.2
Saudi Arabia	7.3	2.3	12.9	17.4	3.1	0.9
Sudan	62.3	53.5	54.9	94.8	94.6	226.8
Sweden	0.0	0.0	0.0	0.0	0.0	0.0
United Arab Emirates	0.9	14.3	7.4	0.5	1.1	0.9
United Kingdom	1.8	2.0	2.7	0.0	2.1	1.4
United States	3.2	4.0	4.8	0.0	0.5	1.8
Yemen	0.2	0.8	4.4	4.9	1.6	1.2
Other	37.0	21.4	30.9	49.0	65.2	17.1
Total	375.3	196.9	163.6	188.7	193.4	274.3
(In percent)						
Belgium	0.0	0.1	0.0	0.2	0.0	0.0
Djibouti	0.7	0.3	17.3	0.0	0.2	2.1
Ethiopia	63.4	26.5	0.0	0.0	0.0	0.0
Germany	0.6	1.8	3.4	2.4	3.5	1.1
Italy	4.9	5.3	5.3	3.9	8.2	4.9
Japan	0.0	13.2	0.0	0.0	0.0	0.0
Korea	0.0	0.0	0.3	0.0	0.0	0.0
Netherlands	0.4	2.9	1.6	5.2	1.2	0.8
Saudi Arabia	1.9	1.2	7.9	9.2	1.6	0.3
Sudan	16.6	27.2	33.5	50.2	48.9	82.7
Sweden	0.0	0.0	0.0	0.0	0.0	0.0
United Arab Emirates	0.2	7.3	4.5	0.3	0.6	0.3
United Kingdom	0.5	1.0	1.7	0.0	1.1	0.5
United States	0.9	2.0	2.9	0.0	0.3	0.7
Yemen	0.1	0.4	2.7	2.6	0.8	0.4
Other	9.9	10.9	18.9	26.0	33.7	6.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Customs Office.

1/ Data may differ from those in Table 28, owing to incomplete information on the direction of exports.

2/ Estimated for first and second quarters.

Table 31. Eritrea: Origin of Imports, 1997-2002 1/

	1997	1998	1999	2000	2001 Prel.	2002 Est. 2/
(In millions of nakfa)						
Belgium	26.8	47.3	76.8	118.1	121.6	104.4
Djibouti	79.0	57.3	26.6	15.1	32.6	50.3
Ethiopia	274.6	25.0	1.9	3.3	2.5	0.0
Germany	168.4	152.7	125.0	103.4	120.9	109.9
Italy	420.1	469.8	480.9	436.3	806.0	391.1
Japan	125.5	107.1	74.9	25.2	58.6	52.6
Korea Rep. of	0.0	118.4	33.9	32.3	0.0	0.0
Netherlands	51.2	60.1	88.2	103.7	141.3	77.8
Saudi Arabia	480.2	15.4	521.8	374.2	714.3	404.1
Sudan	20.3	22.0	40.7	52.4	52.9	49.5
Sweden	22.9	19.0	24.7	24.3	21.1	35.1
United Arab Emirates	402.0	436.8	603.5	637.0	659.0	476.2
United Kingdom	142.1	120.5	108.5	155.0	98.4	51.9
United States	96.4	113.9	90.9	177.5	207.7	58.9
Yemen	5.4	11.4	52.1	59.8	64.5	33.5
Other	747.3	916.4	778.2	1,026.4	1,212.0	862.2
Total	3,062.2	2,693.1	3,128.6	3,344.0	4,313.4	2,757.5
(In percent)						
Belgium	0.9	1.8	2.5	3.5	2.8	3.8
Djibouti	2.6	2.1	0.9	0.5	0.8	1.8
Ethiopia	9.0	0.9	0.1	0.1	0.1	0.0
Germany	5.5	5.7	4.0	3.1	2.8	4.0
Italy	13.7	17.4	15.4	13.0	18.7	14.2
Japan	4.1	4.0	2.4	0.8	1.4	1.9
Korea	0.0	4.4	1.1	1.0	0.0	0.0
Netherlands	1.7	2.2	2.8	3.1	3.3	2.8
Saudi Arabia	15.7	0.6	16.7	11.2	16.6	14.7
Sudan	0.7	0.8	1.3	1.6	1.2	1.8
Sweden	0.7	0.7	0.8	0.7	0.5	1.3
United Arab Emirates	13.1	16.2	19.3	19.0	15.3	17.3
United Kingdom	4.6	4.5	3.5	4.6	2.3	1.9
United States	3.1	4.2	2.9	5.3	4.8	2.1
Yemen	0.2	0.4	1.7	1.8	1.5	1.2
Other	24.4	34.0	24.9	30.7	28.1	31.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Customs Office.

1/ Data may differ from those in Table 29, owing to incomplete information on the origin of imports.

2/ Estimated for first and second quarters.

Table 32. Eritrea: External Public Debt Commitments and Disbursements, 1997-2002

(In millions of U.S. dollars)

Lender	Contract Date	Amount Contracted, End-2000	1997	1998	1999	2000	2001 Prel.	2002 Est.
International Development Association-1 1/	April 7, 1993	26.0	0.4	0.0	0.0	0.0	0.0	0.0
China-1 2/	May 24, 1993	2.4	0.0	0.0	0.0	0.0	0.0	0.0
China-2 2/	April 4, 1994	3.6	0.3	0.0	0.0	0.0	0.0	0.0
European Investment Bank 3/	May 22, 1994	10.0	1.2	1.5	2.3	1.7	0.0	0.0
International Fund for Agricultural Development 1/	Jan. 30, 1995	12.3	1.1	0.2	0.1	0.7	4.1	2.7
Kuwait Fund for Arab Economic Development-1 4/	April 14, 1994	16.7	1.3	0.2	0.0	0.0	0.0	0.6
Saudi Fund for Development-1 5/	June 24, 1995	35.0	5.2	3.1	18.2	2.4	0.2	-2.3
Abu Dhabi Fund for Development-1 6/	July 7, 1995	25.0	3.7	8.7	6.9	1.0	0.4	1.9
Arab Bank for Economic Development in Africa (BADEA) 7/	Sep. 27, 1995	12.0	1.8	2.1	5.6	0.6	0.1	2.4
Kuwait Fund for Arab Economic Development-2 4/	Sep. 21, 1995	25.3	3.8	8.7	6.5	1.5	0.4	-1.1
International Development Association-2 1/	March 26, 1996	17.0	2.8	1.5	3.3	6.4	1.2	0.0
OPEC Fund for International Development-1 8/	July 16, 1996	5.0	0.7	1.8	1.3	0.3	0.0	0.0
African Development Bank-1 9/	Nov. 8, 1996	5.5	0.5	6.4	1.3	0.0	0.3	0.0
International Development Association-3 1/	April 24, 1997	6.0	0.3	0.8	2.0	2.0	0.6	0.0
Kuwait Fund for Arab Economic Development-3 10/	May 13, 1997	22.5	2.3	10.3	3.0	1.5	0.7	0.6
African Development Bank-2 9/	May 29, 1997	12.4	0.0	0.4	0.2	0.3	0.6	1.6
Italy 11/	July 11, 1997	25.0	3.3	2.0	14.1	2.3	1.8	0.4
BADEA	July 18, 1997	10.0	0.0	2.5	0.6	2.7	2.3	1.3
OPEC Fund for International Development-2 8/	Aug. 22, 1997	6.0	0.0	3.7	1.0	0.5	0.0	0.2
Swedish International Development Cooperation Agency (SIDA) 12/	Dec. 11, 1997	2.2	0.0	0.0	0.0	0.3	0.0	0.7
International Development Association-4 1/	Dec. 11, 1997	32.5	0.0	1.3	10.5	...	...	...
International Development Association-5 1/	Dec. 22, 1997	19.6	0.0	0.1	0.8	1.9	3.6	1.6
United States-1 13/	Jan. 24, 1998	10.0	...	10.0	0.0	0.0	0.0	0.0
International Development Association-6 1/	Feb. 10, 1998	57.2	...	0.2	1.2	20.0	12.1	12.2
African Development Bank-3 9/	Feb. 16, 1998	14.6	...	0.2	2.8	0.7	1.1	1.2
African Development Bank-4 9/	Feb. 16, 1998	16.8	...	0.0	0.0	0.2	0.5	0.3
Saudi Fund for Development-2 14/	Mar. 23, 1998	20.0	...	0.0	6.0	1.6	0.1	0.5
Libya-1 15/	Sep. 24, 1998	9.7	...	0.0	9.7	0.0	0.0	0.0
Libya-2 16/	Dec. 20, 1998	4.0	...	0.0	4.0	0.0	0.0	0.0
Saudi Fund for Development-3 17/	Mar. 23, 1998	10.0	...	0.0	5.9	1.4	0.5	0.3
International Development Association-7 1/	Jul. 31, 2000	40.0	...	...	...	0.2	4.0	1.1
International Development Association-8 1/	Dec. 6, 2000	90.0	...	...	...	0.0	55.4	22.6
International Development Association-9 1/	Dec. 19, 2000	40.0	...	...	...	0.1	1.5	5.2
China	Dec. 29, 2000	3.6	...	...	...	0.0	0.0	2.4
International Development Association-10 1/	Sep. 1, 2001	5.0	...	...	...	...	0.2	0.2
United States-2 4/	May 16, 2001	10.0	...	...	...	...	10.0	0.0
African Development Bank-5 9/	July 1, 2001	25.9	...	...	...	...	1.0	0.0
BADBA 2001	May 3, 2001	2.2	...	...	...	...	0.0	0.0
Saudi Fund for Development-4 18/	July 18, 2001	6.4	...	...	...	...	0.0	6.4
Kuwait Fund for Arab Economic Development-4 19/	Mar. 21, 2001	5.0	...	...	...	...	0.0	5.0
International Development Association-11 1/	May 16, 2002	60.0	...	...	...	...	...	0.5
United States-3 4/	Feb. 12, 2002	10.0	...	...	...	...	...	10.1
Abu Dhabi Fund for Development-2 20/	Jan. 10, 2002	5.0	...	...	...	...	...	2.9
OPEC Fund for International Development-3 21/	Oct. 29, 2002	0.9	...	...	...	...	...	0.0
Total		778.5	28.9	65.5	107.1	50.1	102.6	82.0

Source: Ministry of Finance.

- 1/ Maturity period 40 years; grace period 10 years; interest rate 0.75 percent.
2/ Maturity period 30 years; grace period 10 and 5 years for 1993 and 1994 loans, respectively; interest-free loans.
3/ Maturity period 20 years; grace period 6 years; interest rate 5.0 percent.
4/ Maturity period 30 years; grace period 5 years; interest rate 1.0 percent.
5/ Maturity period 20 years; grace period 5 years; interest rate 2.5 percent.
6/ Maturity period 20 years; grace period 5 years; interest rate 3.0 percent.
7/ Maturity period 18 years; grace period 5 years; interest rate 3.0 percent.
8/ Maturity period 18 years; grace period 5 years; interest rate 2.0 percent.
9/ Maturity period 50 years; grace period 10 years; interest rate 0.75 percent.
10/ Maturity period 41 years; grace period 5 years; interest rate 1.0 percent.
11/ Maturity period 30 years; grace period 12 years; interest rate 1.0 percent.
12/ Maturity period 15 years; grace period 9 years; interest-free loan.
13/ Maturity period 32 years; grace period 5 years; interest rate 3.0 percent.
14/ Maturity period 20 years; grace period 7 years; interest rate 1.0 percent.
15/ Maturity period 6 years; grace period 0 years; interest rate 4.0 percent.
16/ Maturity period 10 years; grace period 3 years; interest rate 3.0 percent.
17/ Maturity period 20 years; grace period 10 years; interest rate 1.0 percent.
18/ Maturity period 20 years; grace period 2 years; interest rate 2.5 percent.
19/ Maturity period 27 years; grace period 2 years; interest rate 1.5 percent.
20/ Maturity period 20 years; grace period 4 years; interest rate 2.0 percent.
21/ Maturity period 20 years; grace period 5 years; interest rate 2.0 percent.

Table 33. Eritrea: Foreign Exchange Rates, 1992-2002

(Average data)

	Nakfa- U.S. Dollar Official Exchange Rate 1/	Nakfa- U.S. Dollar Preferential Foreign Exchange Rate 1/	Nakfa- U.S. Dollar Exchange Bureau Exchange Rate 2/	Nominal Effective Exchange Rate Index (1995 = 100)	Real Effective Exchange Rate Index
1992	2.8	6.6	...	102.5	101.0
1993	5.3	7.1	...	98.4	94.0
1994	6.2	7.1	...	98.5	96.4
1995	6.3	7.1	...	100.0	100.0
1996	6.4	7.1	...	104.2	107.0
1997	7.0	7.1	...	112.2	115.1
1998	7.4	...	...	106.9	117.7
1999	8.0	...	...	101.9	118.5
2000	9.6	...	9.9	91.9	126.4
2001	11.3	...	11.4	81.6	128.9
2002	14.0	...	14.0	63.8	116.7
2000					
January	9.6	...	9.9	88.2	108.1
February	9.6	...	9.9	89.4	111.1
March	9.6	...	9.9	90.1	113.8
April	9.6	...	9.9	90.8	116.6
May	9.6	...	9.9	92.7	122.1
June	9.6	...	10.4	91.0	122.7
July	9.6	...	10.4	91.5	126.4
August	9.6	...	9.6	92.9	132.0
September	9.6	...	9.6	94.4	141.2
October	9.6	...	9.6	95.2	141.6
November	9.6	...	9.6	95.3	142.6
December	9.9	...	10.2	90.8	138.2
2001					
January	10.2	...	10.2	86.7	133.7
February	10.2	...	10.2	87.5	135.2
March	10.2	...	10.2	88.0	137.2
April	10.2	...	10.2	88.8	139.5
May	10.2	...	10.2	89.6	141.1
June	10.2	...	10.2	90.6	144.1
July	10.2	...	10.2	90.3	143.6
August	10.2	...	10.2	88.7	140.7
September	12.7	...	13.8	70.7	112.2
October	13.8	...	13.8	65.6	103.6
November	13.8	...	13.8	66.1	108.3
December	13.8	...	13.8	66.0	107.1
2002					
January	13.8	...	13.8	66.3	108.0
February	13.8	...	13.8	66.7	110.4
March	13.9	...	13.8	66.4	111.1
April	13.8	...	13.9	66.1	113.0
May	13.9	...	13.9	64.7	116.3
June	14.0	...	14.1	63.4	112.9
July	14.1	...	14.2	61.8	112.5
August	14.1	...	14.0	62.0	115.3
September	14.0	...	14.0	62.7	119.7
October	14.0	...	14.1	62.6	124.3
November	14.1	...	14.2	61.7	130.0
December	14.1	...	14.2	60.9	127.4

Sources: Eritrean authorities; National Bank of Ethiopia; and staff estimates.

1/ Prior to November 22, 1997, the exchange rate refers to the birr-U.S. dollar rate. Prior to May 1, 1993, the official exchange rate was pegged to the U.S. dollar. From May 1, 1993 to April 1, 1997, the official exchange rate was equal to the marginal rate determined in foreign exchange auctions conducted by the National Bank of Ethiopia. The official rate was unified with the preferential rate on April 1, 1997.

2/ Exchange controls were effective for a year beginning August 2000. During this period, the rate was determined by the Bank of Eritrea.

Table 34. Eritrea: Summary of the Tax System as of December 2002

Tax		Nature of Tax	Deductions and Exemptions		Rates	
1.	Tax on income and profits					
1.1	Income tax on employment (Proclamation No. 62/1994; October 5, 1994; Legal Notice No. 20/1995; Proclamation No. 116/2001; September 24, 2001)	Tax withheld monthly by employers on salaries, allowances, pension contributions, and other benefits and personal emoluments (cash and in kind).	Exemptions: income from employment of unskilled workers, employed on a daily and irregular basis; income of business representatives residing in the country less than 183 days.	No. 1 2 3 4 5	Taxable income (nakfa per month) up to 200 201 - 1,200 1,201 - 2,500 2,501 - 3,500 over 3,500	Tax rate on additional income (in percent) 2 10 20 25 30
1.2	Income taxes on agriculture					
1.2.1	Income tax on commercial farming (Proclamation No. 62/1994; October 5, 1994)	Annual tax levied on taxable income of commercial farms, payable within four months after the end of the fiscal year for all taxpayers. Assessment based on returns filed.	None.	No. 1 2 3 4 5	Taxable income (nakfa per year) up to 1,000 1,001 - 10,000 10,001 - 20,000 20,001 - 35,000 above 35,000	Tax rate on additional income (in percent) 2 5 10 15 20
1.2.2	Income tax, rural land use fee, and cattle tax for smallholders (Proclamation No. 63/1994; October 5, 1994; Legal Notice No. 21/1995)	General annual land use fee for every farmer, and an additional annual fee levied on smallholder commercial farming, with specific rates for livestock. A farmer or cattle owner in highland shall pay tax from December 1 to end-February, and an owner in lowland from March 1 to end-May.	None.		General annual land use fee of ERN 18 per farmer, and ERN 5 for every quarter of a hectare that is commercially used by farmers without a commercial farming license. Specific tax rates for each head of animal: Camel Horned cattle, horse, mule Donkey Sheep or goat	ERN 4.0 ERN 2.0 ERN 1.0 ERN 0.5

Table 34. Eritrea: Summary of the Tax System as of December 2002

Tax	Nature of Tax	Deductions and Exemptions	Rates			
1.3	Income tax on profits					
1.3.1	Income tax on profits of incorporated business (Proclamation No. 62/1994; October 5, 1994; Proclamation No. 116/2001; September 24, 2001)	Annual tax levied on taxable income, payable within one, two, or four months after the end of the fiscal year for taxpayer categories A, B, and C ¹ , respectively. Assessment based on returns filed.	Exemptions: dividends and interest income of persons. Profits derived from mining activities to be taxed as per mining legislation. Any net loss incurred in one year may be set off against taxable business income in the next five years, unless the ownership in the company changes by more than 25 percent. For new investments, losses incurred during the first two years may be carried forward for three consecutive years; for new investments, losses may be carried forward an additional one year in exceptionally critical circumstances.		30 percent	
1.3.2	Income tax on profits of unincorporated business (Proclamation No. 62/1994; October 5, 1994; Proclamation No. 116/2001; September 24, 2001)	Annual tax levied on taxable income, payable within one, two, or four months after the end of the fiscal year for taxpayer categories A, B, and C. Assessment based on self-declared income, except for certain sectors where presumptive tax rates are applied.	Exemptions: dividends, interest income from bank accounts, and income from self-employed persons residing in rural areas in certain sectors (e.g., blacksmiths, pottery).	No.	Taxable income (nakfa per year)	Tax rate on additional income (in percent)
			1	up to 2,400	2	
			2	2,401 - 14,400	10	
			3	14,401 - 30,000	20	
			4	30,001 - 42,000	25	
			5	over 42,000	30	

Table 34. Eritrea: Summary of the Tax System as of December 2002

Tax	Nature of Tax	Deductions and Exemptions	Rates			
1.4	Tax on gains from lottery and other games, royalties, and services income earned abroad (Proclamation No. 62/1994; October 5, 1994)	Levied on taxable gross income of lottery and game wins. To be paid within one month after income is received. Assessment based on returns filed.	None.	Income from lottery (above ERN 500), and from bingo (above ERN 400)	10 percent	
				Royalty and income from services from abroad	10 percent	
1.5	Rental income tax (Proclamation No. 62/1994; October 5, 1994; Proclamation No. 116/2001; September 24, 2001)	Annual tax levied on all income received in cash and in kind from the rental of movable and immovable property. Assessment based on returns filed. Tax payments are required within one month after the end of the fiscal year.	Local property tax payments, and one-fourth of gross income received for the rent of buildings, furniture, and equipment (as allowance for repairs, maintenance, and depreciation).	No.	Taxable income (nakfa per year)	Tax rate on additional income (in percentage)
				1	up to 2,400	2
				2	2,401 - 14,400	10
				3	14,401 - 30,000	20
				4	30,001 - 42,000	25
				5	over 42,000	30
1.6	Income tax on Eritreans working abroad (Proclamation No. 67/1995; February 10, 1995)	Tax on net income from employment, rent of movable and immovable property, and vocational and professional services. Payable monthly or annually. Collected through embassies, consulates and other delegations under the Ministry of Foreign Affairs; transferred directly to the Treasury.	None.			2 percent

Table 34. Eritrea: Summary of the Tax System as of December 2002

Tax	Nature of Tax	Deductions and Exemptions	Rates
2. Taxes on goods and services			
2.1 Sales tax on domestic goods (Proclamation No. 64/1994; October 5, 1994; Legal Notice No. 22/1995; Proclamation No. 117/2001; September 24, 2001)	Single-stage tax levied at factory or wholesale level on all manufactured goods and collected monthly. Producers responsible for tax payment. Tax imposed on the producers' wholesale price and the excise tax paid. Sales tax paid on raw materials used for local production will be refunded. Assessment based on self-declaration.	All exports, and the following products for domestic sale are exempted: basic foodstuffs (e.g., cereals, legumes, injera, rice, bread); live animals; capital goods for agriculture, industry, and construction; refractory bricks and the like used in building furnaces; fire-fighting equipment; public transport vehicles over 30 seats; vehicles used for road maintenance, lifting and loading equipment; kerosene and aviation fuel; medical equipment; medical, scientific, and technical instruments; fish nets; beehives and incubators; silver and gold when imported by the Bank of Eritrea; traveler's checks and revenue stamps.	<p>Agricultural products, raw materials, most intermediate and consumer goods 5 percent</p> <p>Benzene (gasoline) 0.45 nakfa per litre</p> <p>Gas oil (diesel) 0.10 nakfa per litre</p> <p>All other products (e.g., alcohol, soft drink, furniture, cloth, cigarettes) 12 percent</p>
2.2 Sales tax on domestic services (Proclamation No. 64/1994; October 5, 1994; Legal Notice No. 22/1995; Proclamation No. 117/2001; September 24, 2001)	Single-stage tax levied on all services rendered locally and collected monthly. Person(s) rendering the service responsible for tax payment. Assessment based on value of the service, through self-declaration.	All exports, and the following services: water and electricity supply; admission tickets; used car sales; foreign currency transactions; kindergarten and formal education; transport services (e.g., bus, taxi); medical services; and shoe shine).	<p>Subject to 10 percent sales tax: telecommunications; laundry; legal services; public notary and affairs services; photography, photocopying, and other reproduction; auditing and accountancy; lodging; consultancy; clearing and forwarding agents, and brokers; tourism; rent of goods and movable property; garages; software; and warehouse.</p> <p>Subject to 5 percent sales tax: contractors; hair dressing and beauty salons; tailoring; repairs and maintenance, excluding garages; gymnasium and swimming pool; billiard and bowling; educational training; carpentry; grain mill; printing; and internet.</p>

Table 34. Eritrea: Summary of the Tax System as of December 2002

Tax	Nature of Tax	Deductions and Exemptions	Rates
2.3	Excise tax on domestic goods (Proclamation No. 64/1994; October 5, 1994; Legal Notice No. 22/1995; Proclamation No. 117/2001; September 24, 2001)	Levied at factory level on all manufactured goods and payable within one month from the date of production. Assessed on the basis of costs of production, through self-declaration. Collected monthly.	Goods locally produced for direct export.
			Other services are subject to the rate determined in regulations issued by the Minister of Finance.
			Mineral water 15 percent or 0.20 nakfa per litre whichever higher
			Non-alcoholic beverages 15 percent or 0.30 nakfa per litre whichever higher
			Beer – bottled or canned 100 percent or 3.00 nakfa per litre whichever higher
			– draft 100 percent or 2.15 nakfa per litre whichever higher
			Wine 50 percent or 2.00 nakfa per litre whichever higher
			Hard liquor (e.g., whisky) 50 percent or 3.00 nakfa per litre whichever higher
			Cigars 100 percent or 100 nakfa per kg whichever higher
			Tobacco 100 percent or 20 nakfa per kg whichever higher
			Automobile - up to 1,800cc 25 percent - over 1,800cc 35 percent
			Land rover, jeep and the like 35 percent

Table 34. Eritrea: Summary of the Tax System as of December 2002

Tax	Nature of Tax	Deductions and Exemptions	Rates
3. Taxes on international trade			
3.1 Customs duties (Legal Notice 18/1994; October 5, 1994; Legal Notice 52/2001; September 24, 2001)	Customs tariff regulations follow the Standard International Trade Classification (SITC) system.	Exemptions: imports of diplomatic and consular missions, personal effects and property of Eritrean returnees, and trade samples not used as merchandise.	<p>Three different ad valorem rates, including the following:</p> <p>agricultural products and essential foods (e.g., cereals, live animals, oil seeds, hides and skins), capital goods (e.g., machinery), raw materials (e.g., cotton, petroleum, fertilizer), interme- diate goods (e.g., metal, steel), and pharmaceuticals 2 percent</p> <p>some foods (e.g., meat, dairy products, coffee and tea, vegetable oils), most consumer goods (e.g., electronics, kitchen and toiletry goods, stationary) 10 percent</p> <p>some foods (e.g., fish and fish products, fruit juices, salt), mineral water, alcohol, tobacco, perfume, electronics (e.g., TV, VCR, CD player), cars, and clothes 25 percent</p>
3.2 Sales tax on imports (Proclamation No. 64/1994; Legal Notice 18/1994; October 5, 1994; Legal Notice No. 22/1995; Proclamation No. 117/2001; September 24, 2001)	The sales tax applies to all imported commodities, and is computed based on the c.i.f. price plus customs duty and, if applicable, excise tax. Paid on clearance from customs.	Same exemptions as for customs duties, and as for sales tax on domestically produced goods. Reexports are also exempted. Sales tax paid on imports that are used for export production is refunded.	Same as for domestic sales tax.
3.3 Excise tax on imports	Paid by the importer when goods are cleared from customs.	Same as for domestically produced goods.	Same as for domestically produced goods.
3.4 Export tax	Abolished on October 5, 1994.		

Table 34. Eritrea: Summary of the Tax System as of December 2002

Tax	Nature of Tax	Deductions and Exemptions	Rates
4. Other taxes			
4.1 Stamp duties (Proclamation No 65/1994; October 5, 1994; Legal Notice No. 23/1995)	Duties are levied on a range of legal documents and instruments, including contracts, agreements, bills of exchange, etc.	Ministries, government authorities, and Bank of Eritrea are exempted. .	Twenty different ad valorem and specific rates.

Source: Eritrean authorities.

1/ Category A corresponds to incorporated tax payers who are not required to keep any books, category B to those who are required by regulations issued by the Minister of Finance to keep Profit and Loss Statement, and category C to those who are required to keep a Balance Sheet and a Profit and Loss Statement.