

**Democratic Republic of São Tomé and Príncipe:
Selected Issues and Statistical Appendix**

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DEMOCRATIC REPUBLIC OF SÃO TOMÉ AND PRÍNCIPE

Selected Issues and Statistical Appendix

Prepared by Gonzalo Pastor, Marcio Ronci, Alonso Segura, and Atsushi Iimi (All AFR)

Approved by the African Department

February 17, 2006

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São Tomé and Príncipe: Basic Data

Area, population, and GNI per capita					
Area (square kilometers)	1,001				
Population (2004)					
Total	160,600				
Annual growth rate (in percent)	2.0				
GNI per capita (in U.S. dollars; 2004)	370				
	2001	2002	2003	2004	2005
					Est.
	(In units indicated)				
Production and prices					
GDP at market prices (in billions of dobras)	422	487	553	629	749
Cocoa production (in metric tons)	3,652	3,462	3,820	2,500	2,900
Cocoa exports (in metric tons)	3,651	3,462	3,820	2,500	1,798
Consumer price index (percentage change, average)	9.5	9.2	9.8	13.3	17.2
	(In billions of dobras)				
Government finance					
Revenue and grants	249	246	321	381	972
Current expenditure	122	157	183	293	320
<i>Of which:</i> interest obligations	25	26	26	30	36
Capital expenditure	194	140	198	235	193
Net lending	0	0	0	-9	0
Overall fiscal balance (commitment basis)	-87	-80	-94	-167	427
Net change in arrears (decrease -)	4	49	28	41	-146
Overall fiscal balance (cash basis)	-83	-31	-65.8	-126.3	280.8
Financing	83	31	65.8	126.3	-280.8
Net foreign financing	32	4	25	74	-32
Net domestic financing	36	-2	16	17	-16
Oil reserve fund flows (net)	0	0	0	0	-277
Change in arrears (principal)	15	29	25	35	-100
Paris Club Rescheduling	0	0	0	0	144
Monetary survey (end of period)					
Net foreign assets	220	265	325	298	670
Net domestic assets	-67	-70	-49	-1	-296
Net domestic credit	12	31	101	213	-8
Net credit to government	-10	-11	19	36	-257
Net claims on other public institutions	-1	0	0	0	0
Credit to the economy	23	42	82	177	249
Other items (net)	-79	-101	-150	-214	-288
Broad money	153	195	276	297	374
	(In millions of U.S. dollars)				
Balance of payments					
Exports, f.o.b.	3.3	5.1	6.6	3.5	3.8
<i>Of which:</i> cocoa	2.8	4.5	6.1	3.1	3.4
Imports, f.o.b.	-26.2	-28.4	-33.6	-36.0	-42.1
Trade balance	-22.9	-23.3	-27.0	-32.5	-38.3
Services and income (net)	-8.9	-6.6	-8.4	-7.5	-5.3
Transfers (net)	21.2	17.0	22.2	27.0	20.4
Current account deficit, excluding official transfers	-31.2	-29.2	-33.5	-37.9	-41.6
Current account deficit, including official transfers	-10.7	-12.9	-13.2	-13.0	-23.2

São Tomé and Príncipe: Basic Data (concluded)

	2001	2002	2003	2004	2005 Prel.
	(In millions of U.S. dollars)				
Medium- and long-term capital (net)	7.1	-0.9	1.0	5.1	49.0
Short-term capital and errors and omissions	2.3	11.4	14.0	2.9	0.8
Overall balance	-1.3	-2.4	1.9	-5.0	26.6
Financing	1.4	2.4	-1.9	5.0	-26.5
Net change in reserves (increase -)	-2.4	-2.4	-5.9	0.0	-2.7
Use of Fund resources (net)	0.0	0.0	0.0	0.0	0.5
Permanent oil fund (increase -)	0.0	0.0	0.0	0.0	-23.3
Medium- and long-term arrears (net; decrease -)	2.1	4.9	4.0	5.0	-14.6
Debt relief	1.6	0.0	0.0	0.0	0.2
Rescheduling of arrears	0.0	0.0	0.0	0.0	13.3
	(In millions of U.S. dollars, unless otherwise specified)				
Gross foreign reserves					
End of period	15.2	17.3	23.0	18.0	20.6
In months of following year's imports, c.i.f.	4.0	3.9	4.8	3.5	3.7
External public debt					
Medium- and long-term debt (disbursed and outstanding)	283.9	288.5	310.4	362.3	368.7
Debt-service ratio before debt relief (as percent of exports of goods and services)	42.0	50.7	50.3	52.8	56.7
Real Effective exchange rate indices 1/ (trade weighted; end of period; 2000=100)	-6.0	-5.3	-10.0	-1.9	4.4
Social indicators					
Life expectancy at birth (in years; 2003)	...	65.8	66.0	65.8	...
Population (2003)	151,100	154,200	157,400	160,600	...
Rural	94,150	95,990	97,887	99,781	...
Urban	56,950	58,211	59,513	60,819	...
Women	75,701	77,254	79,015	80,621	...
Men	75,399	76,946	78,385	79,979	...
Crude birth rate (per thousand)	...	30.7	30.6	...	...
Crude death rate (per thousand)	...	9.0	9.0	...	...
Infant mortality rate (per thousand live births)	...	75.0	75.0	75.0	...
Population per physician (1998)	...	...	2,000	...	...
Primary school enrollment ratio (in percent of school-age population)	...	...	79.8	...	...
Literacy rate for ages 15 and above (in percent)	...	...	63.2	...	...
Prevalence of AIDS (in percent of population)	...	...	1.0	1.5	...

Sources: São Tomé and Príncipe authorities; and World Bank.

1/ Figures for 2005 through October.

INTRODUCTION

The selected issues paper has three chapters:

Chapter I reviews the historical background and the existing institutional framework for oil sector development in São Tomé and Príncipe. It illustrates the protracted process of shaping transparent rules governing the relationship between the government and oil companies involved in oil operations in the country, including those operating oil fields located in the joint development zone (JDZ) with Nigeria. The chapter reviews key aspects of the existing institutional framework for oil sector development, especially the Oil Revenue Management Law, which provides for strong governance and accountability provisions in the management of oil resources. Finally, the chapter briefly describes the challenges faced by the Sãotomean authorities in implementing transparency rules in all oil-related transactions that fall under their jurisdiction.

Chapter II contains a preliminary quantitative analysis of the impact of oil sector development in São Tomé and Príncipe on government receipts, spending, and savings. The analysis shows that, even under very conservative assumptions, the expected oil wealth of São Tomé and Príncipe could be significant, enabling for a stable source of financing to the budget and a gradual build up of a Permanent Fund for Future Generations. This financing to the budget would start in 2013, increase rapidly to about US\$70 million (at constant 2006 U.S. dollars) by 2015 and to US\$91.9 million by 2033. The Permanent Fund for Future Generations would gradually increase, reaching US\$1 billion by 2018 and a steady-state level of US\$3 billion by 2033. These figures are high when compared to the GDP of São Tomé and Príncipe, which is estimated at around US\$70 million in 2006. The chapter also includes a brief discussion of alternative fiscal rules for oil producing countries. It also analyses the advantages in terms of sustainable government consumption and intergenerational equity, of a fiscal rule based on the Permanent Income Hypothesis (PIH) framework, which São Tomé and Príncipe adopted in 2004. São Tomé and Príncipe is the first country in Africa to adopt such a rule.

Chapter III discusses the determinants of inflation from a statistical point of view. An estimated vector error-correction model indicates that, as expected, broad money growth and changes in the exchange rate have an impact on inflation. The analysis indicates that it takes around two years for a shock to the exchange rate to be fully-absorbed by inflation. This evidence indicates that the formation of inflationary expectations may be backward-looking. Also, the analysis shows a weak relationship between money growth and inflation. This suggests an increase in money demand related to expectations regarding the growth of the oil sector.

I. INSTITUTIONAL FRAMEWORK FOR OIL SECTOR DEVELOPMENT¹

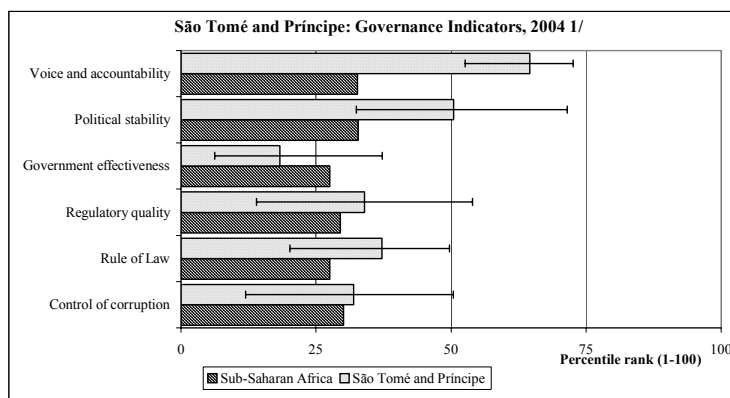
A. Overview and Conclusions

1. **This chapter reviews the historical background and existing institutional framework for oil sector development in São Tomé and Príncipe.** Section B summarizes the various attempts over the years to launch the exploration of the country's potential oil resources. Section C discusses institutions put in place since 2000 to support the impending oil exploitation process. Section D discusses challenges associated with the development of the oil fields located in the Joint Development Zone (JDZ) operated with Nigeria. The chapter consolidates information collected from a number of official and public sources, as well as other unpublished data sources.

2. **The analysis illustrates the protracted process of shaping transparent rules governing the relationship between oil companies and the government.** Looking to the future, the paper suggests that the enactment of the Oil Revenue Management Law in December 2004 is possibly the best chance the country has to put in place strong governance and accountability provisions before oil production starts around 2012. Nevertheless, the difficulties found with the bidding process of Blocks 2–6 located in the JDZ point at important implementation problems of transparency guidelines, despite a better surrounding legal framework in place. Addressing these challenges will require resolute political will on the side of the Sãotomean and Nigerian authorities to enforce and implement transparency rules in all oil-related transactions that fall under their joint jurisdiction.

B. Geographical and Historical Background

3. **São Tomé and Príncipe is an archipelago made up of two islands and many islets situated in the Gulf of Guinea, one of the most active regions for oil exploration in the last decade.** It is located approximately 300 kilometers from the continent, has a total on-shore area of 1,001 square kilometers and a population of 160,000 people. São Tomé and Príncipe is one of the poorest countries in the world with poverty levels above the sub-Saharan average and a weak institutional framework. In terms



Source: World Bank Governance Indicators.
1/ Higher rank reflects better governance.

¹ Prepared by Alonso Segura.

of governance indicators, however, the country is reasonably well-placed, standing above the average levels recorded for the region.

4. **For hydrocarbon exploration purposes, the country's territory can be divided into three distinct geographical zones:** the off-shore Joint Development Zone (JDZ) operated with Nigeria (Box I.1), the off-shore Exclusive Economic Zone (EEZ), and the on-shore area constituted mainly by the island of São Tomé and that of Príncipe. The JDZ is the northernmost zone and borders Nigerian territories of very intense hydrocarbon activity. Specifically, Block 1 in the JDZ is located only a few kilometers south of Nigeria's Akpo field which is believed to contain reserves as high as 1.0 to 1.5 billion of oil equivalent barrels. Extensive seismic data for the northern part of the JDZ suggests very promising oil prospects in terms of commercially viable discoveries. Oil production prospects in the EEZ are less promising to date, although preliminary seismic data and drilling in neighboring areas indicate some chance for commercial discoveries. The potential for hydrocarbon discoveries on-shore is considered low and, to date, the Sãotomean authorities have no plans for promoting exploration in this area.

Box I.1. Establishment of the Joint Development Zone (JDZ)

In 1998, São Tomé and Príncipe filed a territorial claim with the United Nations for the establishment of an Exclusive Economic Zone (EEZ), based on the Median Line Principle stipulated under the UN Convention on Law of the Sea (UNCLOS). This claim was contested by Nigeria on the argument that the northern part of the proposed EEZ was within Nigeria's own EEZ. The area in dispute covered 34,548 square kilometers.

In February 2001, Nigeria and São Tomé and Príncipe signed a Treaty for the joint development of petroleum and other resources in the maritime areas contained in their respective overlapping EEZs, thereby constituting the JDZ. While the countries did not renounce their respective claims to the zone, the Treaty provided the framework for a joint exploitation of natural resources for a period of forty-five years, unless otherwise agreed following a review in year thirty. The Treaty can be extended by mutual agreement after the initial forty-five year term.

Under the Treaty, Nigeria is granted 60 percent and São Tomé and Príncipe 40 percent of the benefits and obligations arising from development activities carried out in the JDZ. The Joint Development Authority (JDA), based in Abuja, was created and made responsible for the management of activities relating to exploration and exploitation of resources in the JDZ. The JDA responds to the Joint Ministerial Council (JMC), composed of two to four ministers or equivalent rank officials from each country. The JMC is the ultimate decision-making body within the JDZ. The JDA and JMC decisions are taken by consensus. In the case of a deadlock at the JMC level, the disputes are referred to the Heads of State of the two countries for a final resolution.

5. Indications of the existence of hydrocarbons in São Tomé and Príncipe date back to colonial days. In 1974, attempts by the Portuguese Colonial Administration to sign a Concession Agreement with Ball & Collins—an Anglo-American company—were abandoned following the declaration of independence of the country in 1975. Since then, until the mid-nineties, several attempts at jumpstarting petroleum exploration failed, including a 5-year concession signed with Island Oil Corporation in 1989, which briefly conducted onshore drilling activities before ending its operations.

6. São Tomé and Príncipe has granted—and, in several cases, subsequently amended—preferential rights on oil exploration and development with various oil companies over the past decade. The revisions to initial contracts with foreign oil companies have generally come about in the context of widespread criticisms by major domestic and international stakeholders about the possible economic and financial losses to the country under the terms of the original contracts. While the amendments mostly succeeded in obtaining better terms for the country, there have been cases in which the imbalances in terms of profit distribution between the country and the oil companies were not fully redressed in São Tomé and Príncipe's favor.

- In May 1997, a Memorandum of Agreement signed with Environmental Remedial Holding Corporation (ERHC) and Procura Financial Consultants (PFC) granted these companies large preferential rights over oil exploration and development within the country's territory (including surrounding waters). Notably, these preferential treatment included rights: (i) to perform a full and complete evaluation and feasibility study of the country's oil, gas, and mineral reserves, (ii) to operate a number of oil fields and concessions, (iii) to establish a joint venture with the government on the creation of a state oil company, (iv) to negotiate the leasing of oil fields to other international oil companies on behalf of the government, and (v) to issue rules and regulations for the development and functioning of the hydrocarbons sector.
- In 2003, an amendment to the Memorandum of Agreement curtailed some of ERHC's rights within the JDZ, but it did not amend those pertaining to the EEZ. Even after the amendment, ERHC retained preferential rights in no less than six blocks within the JDZ and in four blocks in the EEZ. These rights often included generous exemptions over the payment of oil signature bonuses in oil exploration and development ventures.
- In September 1998, São Tomé and Príncipe signed a Technical Assistance Agreement with Mobil Exploration and Producing Services Inc. (now Exxon Mobil) to conduct seismic studies in what now constitutes the JDZ. In virtue of this agreement, Exxon Mobil was granted preferential rights to acquire up to 40 percent of working interest in one block located in the JDZ (a preferential right that the company applied in the context of the exploration of Block 1) and the option to acquire up to 25 percent of working interest in two additional blocks in the JDZ.

- In February 2001, São Tomé and Príncipe signed agreements with PGS-Exploration-UK (Petroleum Geo Services, from Norway), granting this company exclusive rights to conduct seismic surveys in the EEZ until concession awards were granted. PGS holds the right to sell the results of these surveys. Also, PGS, or its subsidiaries, hold preferential rights on shared participation in the exploration of two blocks located in the EEZ.

C. Oil Sector Institutional Framework: Recent Developments

7. **Over the past five years, São Tomé and Príncipe has developed a number of institutions aimed at providing a sound regulatory framework for the development of the hydrocarbons sector.** The policy objective behind these efforts has been to address the “curse” of oil identified in many resource-rich countries around the world. This “curse” has frequently been associated with resource waste and corruption, and has resulted in weak and ineffective governmental institutions, slow progress in addressing poverty issues, and, in some cases, armed conflict. Against this background, a number of legal instruments have been created to enable a balanced, transparent and accountable oil revenue management. Crafting these laws and regulations has been an open democratic process, in which representatives from all political factions and social segments participated in consultation with international experts in the area.

8. **There are six main milestones among the recent efforts to set high transparency, accountability and governance standards in oil revenue management in São Tomé and Príncipe.** These include:

- **The General Law on Petroleum Exploration and Exploitation of August 2000**, which provides the overall legal framework for the development of the oil sector. The law states that all reserves and reservoirs of liquid and gaseous hydrocarbons belong to the State. It stipulates that petroleum operations are to be conducted either by the State, directly or through a state-owned petroleum company, or by commercial companies licensed by the State. The law specifies that the State can only enter into petroleum contracts of the type of production sharing agreements (PSAs), which are currently considered best international practice in the field.
- **The Treaty on the establishment of the Joint Development of Petroleum and other Resources with Nigeria of February 2001**, which regulates the hydrocarbon operations in the Joint Development Zone and establishes the Joint Development Agency and the Joint Ministerial Committee to manage oil activities in the JDZ.
- **The decree Law No.3/2004 of June 2004**, which creates the National Petroleum Council in charge of setting national energy policies. The Council is composed of fifteen members, including the President, the Prime Minister, several other ministers, representatives of the civil society, and other individuals designated by the President and the Prime Minister.

- **Law No.5/2004 of June, 2004**, that creates the National Petroleum Agency (ANP). The ANP is in charge of managing and monitoring oil and gas exploration and development in line with the policies devised by the National Petroleum Council.
- **The Abuja Joint Declaration signed by the Presidents of Nigeria and São Tomé and Príncipe in June 2004**. The Abuja Declaration sets transparency guidelines by which all JDZ operations must abide. The declaration also pledges adherence to the principles of the Extractive Industry Transparency Initiative (EITI).
- **The Oil Revenue Management Law (ORML)** of December 2004, which regulates the payments, management, use and oversight of oil revenues resulting from oil operations in the entire national territory, including the EEZ and JDZ. The ORML establishes fiscal rules under which oil proceeds are to be used in the annual budgets.

9. **The ORML is the key legislation providing for an open and transparent regime for the management of São Tomé and Príncipe's oil revenue.** The law was devised in close consultation with international experts on fiscal frameworks for resource-rich countries.² The fiscal framework underpinning the ORML is based on Friedman's (1957) permanent income hypothesis (PIH), which implies constant government consumption (in real terms) out of oil resources over time, equivalent to interest income on the net present value of the country's oil wealth. The implementation of a PIH fiscal rule provides for the establishment of a Permanent Fund for Future Generations that would secure inter-generational equity and guarantee a permanent flow of resources into the budget to foster economic development even after oil resources have been exhausted (Box I.2).³

10. **In addition to its sound fiscal properties governing the development of a Permanent Oil Fund, the ORML contains several provisions which, if adequately implemented, should ensure a transparent and accountable management of oil resources.** The transparency principles contained in the ORML explicitly state the obligation to make public all oil-related transactions, while specifically prohibiting the introduction of confidentiality clauses in oil contracts (including Production Sharing Agreements). Also, to protect the integrity of the Permanent Fund for Future Generations and ensure full accountability, the ORML establishes an independent oversight board—the Petroleum Oversight Commission—to monitor compliance with the law. The activity of the Permanent Fund is also subject to two levels of auditing: one conducted by the Auditor General's Office

² The Earth Institute at Columbia University was the main external advisor in developing the ORML. The World Bank and the Fund staffs were also consulted at several stages prior to the final approval of the legislation.

³ See chapter II in this Selected Issues Paper for some preliminary quantitative estimates of the annual funding into the budget and the gradual build-up of the Permanent Fund for Future Generations.

and another conducted by a reputable international auditing firm. Audits must be made public. In addition, the ORML provides adequate guidelines for the management and investment of the savings from oil proceeds.

Box I.2. Permanent Fund for Future Generations–Key Features

- All financial resources owed to the State as oil revenue will be deposited at the National Oil Account (NOA), which is to be opened by the central bank, on behalf of the government, with a (foreign) custodian bank. The NOA will comprise an Unrestricted Portion, in which current oil proceeds will be deposited, and a sub-account named the Permanent Fund (PF), for long-term savings for future generations. The full balance from the unrestricted portion will be transferred to the PF once a year, after fees and annual transfers to the budget have been carried out.
- All types of liens and encumbrances relating to the NOA or any other oil resources, whether existing or future, are prohibited, i.e. effectively barring oil-backed forward borrowing.
- An annual funding amount is to be transferred from the NOA in a single transfer to the budget each year. During the pre-production years, the annual funding amounts will be subject to a set of formulas which take account of the various stages of oil exploration and possible production. Once oil production starts, annual transfers to the budget will be based on a PIH framework, which will preserve the country's oil wealth and continue to support government spending indefinitely even after oil resources are exhausted.
- Spending of the annual funding amounts should follow the priorities set forth in the country's Poverty Reduction Strategy. Seven percent of the annual funding amount is reserved for the autonomous region of Principe and ten percent for local governments.
- The portfolio management of the resources deposited in the NOA is the responsibility of a Management and Investment Committee, which is composed by five members, including the Minister of Finance and the President of the Central Bank. Investments domiciled in the country are prohibited. Private managers can be hired.
- A Petroleum Oversight Commission is created to ensure the permanent monitoring and auditing of all transactions related to oil revenues and resources. It includes representatives of the civil society.

11. A remaining challenge for the Sãotomean authorities is to remove administrative bottlenecks that could prevent adequate implementation and development of the existing institutional framework. To address this concern, an ongoing World Bank capacity building and technical assistance credit includes a dossier on petroleum to provide extensive support to the government, particularly for capacity building in the National Petroleum Agency. Parallel efforts by the authorities and the World Bank have included the preparation

of a handbook for the full implementation of the provisions contained in the ORML, as well as the design of a Petroleum Sector Strategy for the medium and long term, which is in the final stages of preparation. This strategy is expected to be widely discussed within the country before its adoption by the Government, presumably, in the course of 2006.

D. Licensing of Oil Fields in the JDZ

12. The first bidding round for licenses in oil fields located in the JDZ was successfully concluded in April 2004, resulting in the awarding of Block 1. The winning bid totaled US\$123 million in oil signature bonuses, and the awardees were ChevronTexaco (with a 51 percent operating share), ExxonMobil (with a 40 percent share) and the joint Nigerian-Norwegian Dangote Energy Equity Resources Limited (with a 9 percent share). Chevron Texaco was the designated operator under the consortium, while ExxonMobil executed its preferential rights obtained under the 1998 agreement with the Sãotomean government. The Production Sharing Agreement (PSA) was signed in May 2005, and drilling exploration activities in the Block 1 area started in January 2006. Bids for six additional blocks were also received at that time, nevertheless, they were turned down due to technical and financial considerations assessed by the JDA.

13. A second bidding round, covering licenses for Blocks 2–6 in the JDZ, was completed in May 2005; subsequently the transparency of the auctioning process has been questioned. Indeed, shortly after the announcement of the winning bids, São Tomé and Príncipe's National Petroleum Council (headed by the President) issued a communiqué recognizing some deficiencies in the awarding process. However, the Council indicated that the process would move forward, as the national interests had not been harmed. Following a subsequent inquiry by the Petroleum Affairs Commission, the National Assembly ordered a formal investigation of the licensing round by the Attorney General's Office. The resulting report by the Attorney General, which was conducted with the assistance of an international expert, concluded that the procedures used in the selection process of oil companies had been seriously flawed, failed to meet minimum acceptable standards, and led to financial losses for São Tomé and Príncipe. The Attorney General's report recommended a thorough restructuring of the procedures for future bidding rounds by the JDA with a view to conform to best international practices. Notably, the report also called for re-examination of ERHC's preferential rights in oil exploration in São Tomé and Príncipe. ERHC executed these rights and has been granted interests in all five blocks awarded in this round. PSAs are currently being negotiated with awardees.

14. The Sãotomean authorities have acknowledged the seriousness of the alleged actions regarding the bidding process and the need for corrective actions. In line with the Treaty between São Tomé and Príncipe and Nigeria on the Joint Development Zone, the authorities intend to raise the issue at the forthcoming Joint Ministerial Committee meeting, scheduled for February 2006. The expectation would be to agree with Nigeria on a common action plan, supported at the countries' highest political levels.

E. References

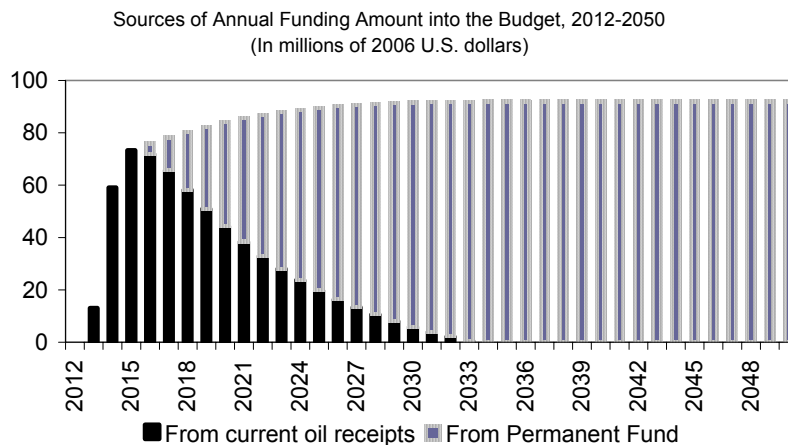
- Friedman, M. (1957), "A Theory of the Consumption Function," (Princeton: Princeton University Press)
- São Tomé and Príncipe, (2000), "*General Law on Petroleum Operations, Law 4/2000*" São Tomé, August. Available via Internet: www.anp-stp.gov.st
- _____, (2001), "*TREATY between The Federal Republic of Nigeria and The Democratic Republic of São Tomé e Príncipe on the Joint Development of Petroleum and other Resources, in respect of Areas of the Exclusive Economic Zone of the two States*" Abuja, February. Available via Internet: www.anp-stp.gov.st
- _____, (2004), "*National Petroleum Council, Decree-Law 3/2004*" São Tomé, June. Available via Internet: www.anp-stp.gov.st
- _____, (2004), "*National Petroleum Agency (ANP-STP), Decree-Law 5/2004*" São Tomé, June. Available via Internet: www.anp-stp.gov.st
- _____, (2004), "*The Abuja Joint Declaration Regarding Transparency and Governance in the Joint Development Zone*" Abuja, June. Available via Internet: www.anp-stp.gov.st
- _____, (2004), "*Oil Revenue Management Law, Law 8/2004*" São Tomé, December. Available via Internet: www.anp-stp.gov.st
- Wakeman-Linn, J. et al. (2003), "Oil Funds in Transition Economies: Azerbaijan and Kazakhstan," in Davis, J.M., Ossowski, R., and Fedelino, A., *Fiscal Policy Formulation and Implementation in Oil-Producing Countries* (Washington: International Monetary Fund)

II. ASSESSING THE FISCAL IMPACT OF OIL SECTOR DEVELOPMENT⁴

A. Overview and Conclusions

1. **This chapter contains a preliminary quantitative analysis of the impact of oil sector development in São Tomé and Príncipe on government receipts, spending and savings.** Section B presents a brief overview of fiscal rules that have been adopted by a number of oil-producing countries. Section C applies the Permanent Income Hypothesis framework to assess sustainable government consumption levels, under a conservative baseline scenario, consistent with a gradual build-up of an oil fund for future generations. Section D conducts a sensitivity analysis to explore the robustness of the quantitative findings under the baseline.

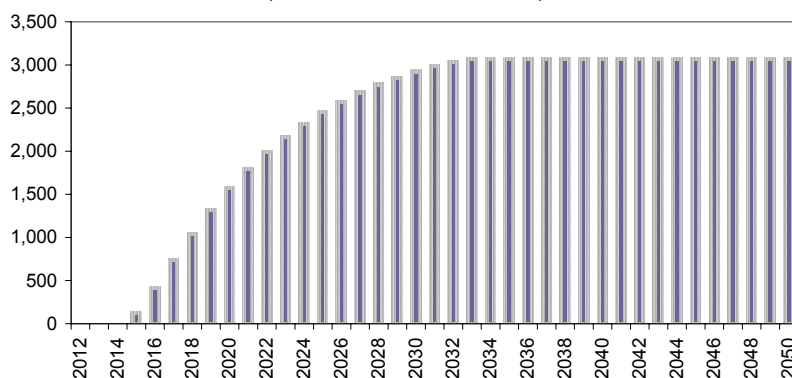
2. **The analysis in this paper shows that, even under very conservative assumptions, the expected oil wealth of São Tomé and Príncipe could be significant, enabling for a stable annual funding amount into the budget and a gradual build up of a Permanent Fund for Future Generations.** The annual funding amount into the budget would start in 2013, increase rapidly to about US\$70 million (at constant 2006 U.S. dollars) by 2015, and converge to US\$91.9 million by 2033, in perpetuity. At the same time, the Permanent Fund for Future Generations would gradually build up, reaching US\$1 billion by 2018, and its steady state value of US\$3 billion by 2033. The use of this fiscal rule would simultaneously ensure fiscal sustainability and intergenerational equity, while providing the country with a predictable stream of revenues out of oil to meet its pressing development needs.



Source: Fund staff estimates.

⁴ Prepared by Alonso Segura.

Build-Up of Permanent Fund for Future Generations, 2012-2050
(In millions of 2006 U.S. dollars)



Source: Fund staff estimates.

B. Fiscal Rules for Oil-Producing Countries

3. **The abundance of oil resources imposes serious challenges for the design and implementation of macroeconomic policies in oil-producing countries.** On the one hand, large oil tax receipts to the budget may allow oil-producing countries to significantly augment overall government spending towards reaching the Millennium Development Goals and thus addressing poverty and improving the provision of basic public services for education, health, and infrastructure development. On the other hand, macroeconomic management in these countries faces significant challenges arising from the exhaustible nature of oil resources, therefore raising important intergenerational considerations and the need to strike a balance between government consumption and savings over the long run. In practice, finding the right mix between consumption today or tomorrow, as well as prioritizing poverty-alleviating spending programs, may be a major challenge for policymakers. Also, the uncertainty surrounding the estimation of oil receipts, stemming both from volatile international prices and imprecise assessments of energy reserves, further complicates the design of fiscal policy rules governing the use of oil receipts.

4. **A number of fiscal rules have been developed and implemented in oil-producing countries over the years.** One extreme fiscal rule, the so called “balanced budget rule,” implies spending all annual oil receipts, while keeping the government’s overall financial position in balance. Although this fiscal policy would be sustainable in the short run, it would not benefit future generations. This policy rule would also subject the level of government spending to “boom-bust” cycles depending on developments in international oil markets.⁵ Another extreme fiscal rule is the so-called “Bird-in-Hand” policy, in which only the interest

⁵ A softer version of this policy would be to target a balanced budget over a longer period of time, for example three to five years, using a projection of oil prices and revenues.

income accruing from accumulated oil revenues is spent on a consistent basis over time. While this policy mostly avoids the “boom-bust” spending cycle of the previous rule, it may create social tensions, as it would yield low levels of public spending while the oil revenues are being accumulated during the period of oil exploitation. Also, there could be a high opportunity cost in terms of foregone social and infrastructure spending in the early years at the expense of future spending. In between these two extreme scenarios, several other fiscal rules have been used.⁶ These include constant expenditure rules, rules that target a price of oil with any revenues generated due to prices in excess of the threshold being saved, rules that save a fixed percentage of oil revenues, among others. The oil windfall not being spent in these cases can be allocated to savings funds and/or to stabilization funds that seek to smooth out fluctuations in annual government spending. In addition, in designing fiscal rules, countries need to take into consideration their absorptive capacity constraints—at the technical, institutional and infrastructure levels—and the need to ensure an effective public expenditure tracking system aimed at minimizing wasteful spending.

5. **A useful theoretical framework, with desirable intergenerational considerations, is based on Friedman’s (1957) permanent income hypothesis (PIH).** According to the PIH, individuals, as well as benevolent governments, should be considered forward-looking, trying to smooth their consumption over time in line with permanent income. In the case of zero population and productivity growth, the PIH implies constant government consumption out of oil over time, equal to the annuity present value of expected oil wealth⁷. By definition, expenditures out of oil proceeds would be stable, thus avoiding “boom-bust cycles” mentioned earlier. The added predictability implied by this rule, should, in principle, help policymakers in avoiding bottlenecks in terms of absorptive capacity.

6. **Formally, under the PIH, sustainable government consumption out of oil wealth (GC) at any point in time t+1 would be determined as follows:**

$$GC_{t+1} = GC = r \times \left[F_t + \sum_{i=0}^I \frac{T_{t+1+i}}{(1+r)^i} \right] \quad (\text{equation 1})$$

where F_t is the value of the accumulated oil revenue in the oil fund at the end of the previous year, in constant prices, T_i is the expected oil revenue to the government (net of production costs) in period i , in constant prices; r is the expected average real rate of return on oil wealth; and I is the number of years until oil production ends.

7. **The PIH could also be calculated in per capita terms.** Under this modified rule, policymakers target constant per capita government consumption out of oil wealth over time. The modified rule would be determined as follows:

⁶ See for example, Wakeman-Linn et al (2004).

⁷ If population growth is different from zero, a per capita PIH rule would apply.

$$GC_{t+1} = (r - n) \times \left[F_t + \sum_{i=0}^l \frac{T_{t+1+i}}{(1+r)^i} \right] \quad (\text{equation 2})$$

where GC_{t+1} is government consumption in period $t+1$, n is the annual rate of population growth and the other variables are as defined in equation 1.

C. Application of the PIH to São Tomé and Príncipe: Some Preliminary Baseline Projections

8. **São Tomé and Príncipe’s Oil Revenue Management Law (ORML) of December 2004, uses the PIH framework to develop the country’s Permanent Oil Fund for Future Generations.**⁸ São Tomé and Príncipe became the first country in Africa to apply such rule, demonstrating its concern for an efficient use of oil resources and for intergenerational equity considerations.⁹

9. **The PIH framework in place in São Tomé and Príncipe includes a number of features reflecting policymakers’ concerns about the intertemporal utilization of the country’s oil wealth.** Formally, the calculation of government consumption—or annual funding amount—is determined each year as follows:

$$GC_{t+1} = r \times \left[F_t + \sum_{i=0}^l \frac{T_{t+1+i}}{(1+d)^i} \right] \quad (\text{equation 3})$$

where d is the discount rate and the other variables are as defined in equation 1.

- a. Equation 3 is not expressed in per capita terms as the Sãotomean authorities considered that such a formulation would unduly back-load needed spending on health, education, and infrastructure which, in the authorities’ view, would have a very high rate of return for the Sãotomean economy. The authorities also noted that a per capita PIH rule¹⁰ would (i) yield a level of government

⁸ See chapter I in this Selected Issues Paper.

⁹ Even among developing countries, São Tomé and Príncipe was the first country to approve this type of rule. The Democratic Republic of Timor-Leste also approved a similar rule recently. However, in the latter case, the Parliament can deviate from the spending amount indicated by the PIH (see Kim (2005)).

¹⁰ See Annex II for figures depicting the dynamics under the PIH per capita rule. In this case, both the annual funding amounts into the budget and the level of the Permanent Fund, increase ad-infinitum.

spending that would be lower than the one consistent with the current levels of donor support to the country; and (ii) the annual funding amount could possibly be very low in a situation of low real rates of return and a marginal hike in the rate of population growth.

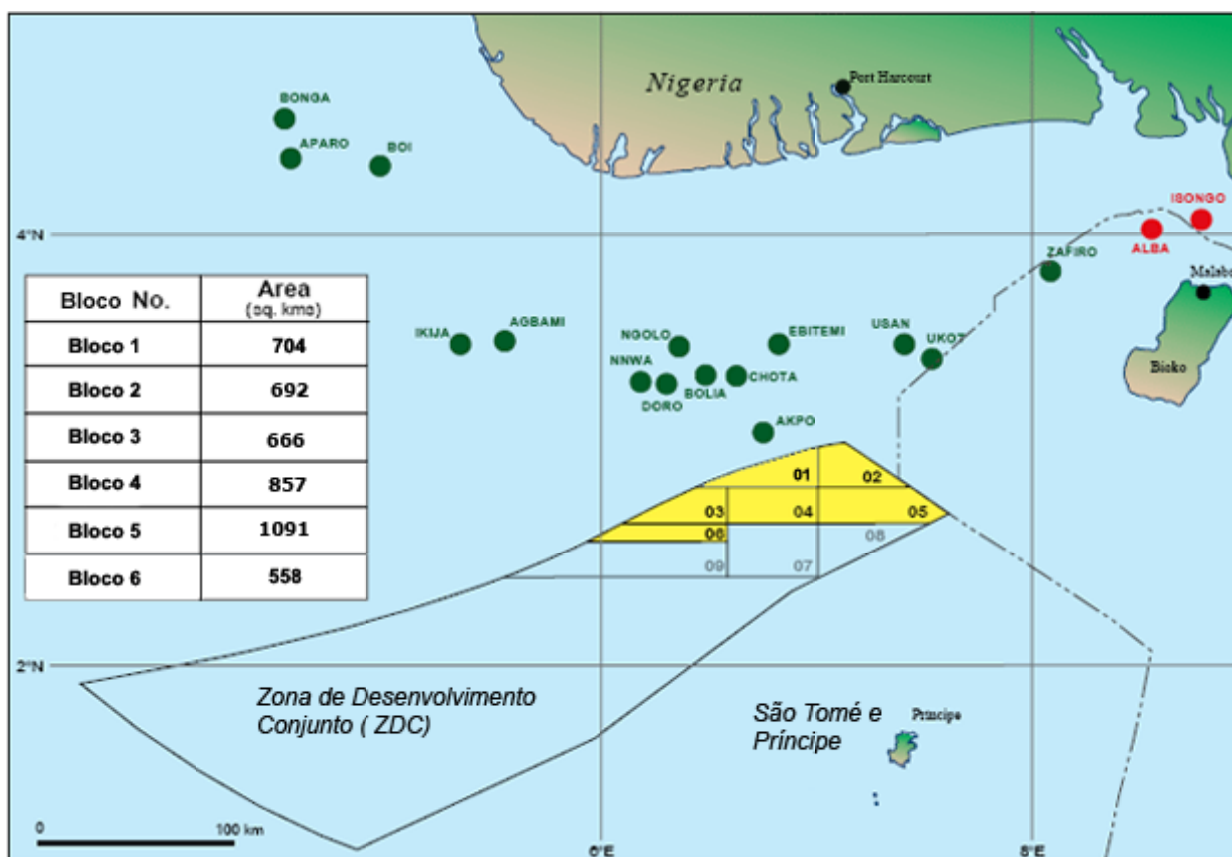
- b. The discount rate (d) and the long-run real rate of return (r) differ from each other.¹¹ Specifically, for the purpose of setting the annual funding amount, the ORML caps the long-run rate of return at 5 percent, and states that the discount rate cannot be set below 7 percent. This latter feature in the Sãotomean formulation was introduced out of prudence to acknowledge the uncertainties involved in future oil production. Also, the established discrepancy between r and d , results in an initially lower but gradually increasing annual funding amount into the budget as the Permanent Oil Fund is being built up.¹²

10. **The remainder of this section presents some preliminary staff calculations of the country's oil wealth and sustainable government consumption under the PIH.** Staff calculations are based on available seismic surveys for the Joint Development Zone (JDZ) and use information on the size of commercial energy reserves and production profiles in adjacent deep-water oil fields in the Gulf of Guinea as benchmarks for scaling purposes in the baseline scenario. Computation of the country's oil wealth and the path of sustainable annual government consumption out of oil proceeds have been performed using the production sharing agreement (PSA) template developed by the World Bank's expert group on oil. The baseline model's parameters were calibrated to match the sample PSA posted in the JDA's official website, which reportedly forms the basis for ongoing negotiations with prospective oil operators in the Joint Development Zone (JDZ).¹³

¹¹ This is not uncommon as the discount rate is often set up to include also country or industry specific risk.

¹² Industry standards indicate that while this is a reasonable floor for the discount rate, perhaps a higher rate would be recommended on grounds of valuation practices in the oil industry (see Johnson-Callari and Berkelaar (2005)). In practice, however, the impact of using a higher discount rate, on the annual funding amount and the steady state value of the Permanent Fund, is relatively small.

¹³ For detailed information on the characteristics of the PSA modeled under the Baseline Scenario, see Annex I.



Source: National Petroleum Agency of São Tomé and Príncipe.

Sample of Deep-Water Discoveries in Gulf of Guinea

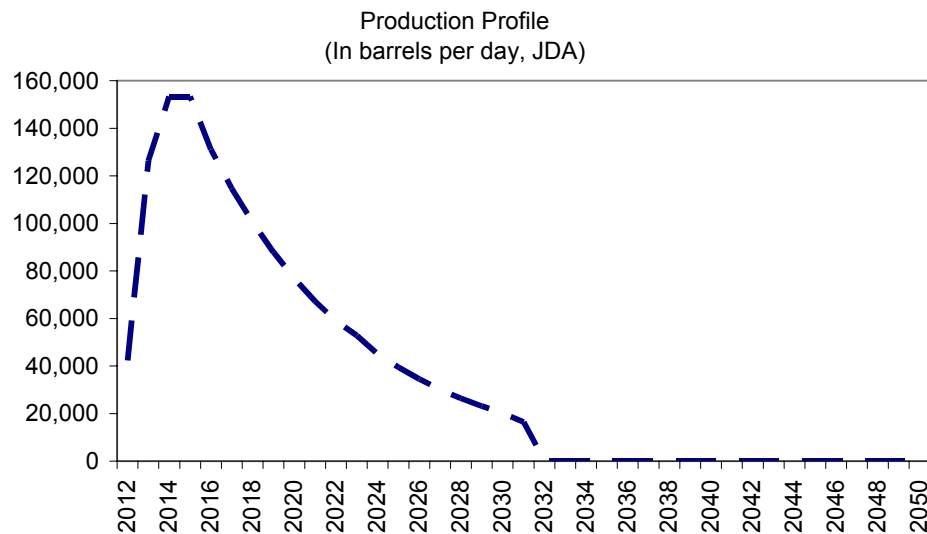
Field Name	Discovery Date	Production Start Date	Water Depth (mts.)	Recoverable Reserves 1/ (million barrels)
Bonga SW	2001	2007	1245	600
Bosi	1996	2006	1424	683
Nnwa-Doro	1999	2005	1283	500
Akpo	2000	2006	1366	1000
Agbami-Ekoli	1998	2006	1435	1000
Bonga	1996	2004	1125	735
Erha	1999	2005	1191	1000
Zafiro Complex	1995	1996	850	1200

Sources: Johnston (2003), JDA webpage (2006).

1/ At time of discovery.

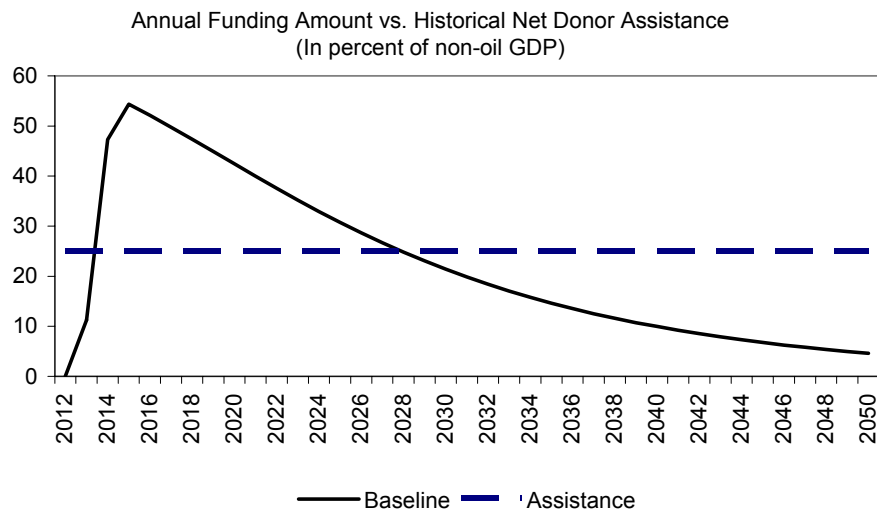
11. **At the time of the drafting of this report, exploration drilling of Block 1 located in the country's Joint Development Zone (JDZ) operated with Nigeria had just began, therefore, it is not yet possible to confirm any commercial discoveries.** Against this background, estimates on oil reserves, annual oil production and export receipts discussed in the paper, should be considered speculative and subject to significant uncertainty and margin of error.

12. **Baseline estimates of the impact of prospective oil wealth for São Tomé and Príncipe have been made under rather conservative assumptions.** Indeed, the baseline assumes the discovery of only one commercially-exploitable block in the JDZ, with 500 million equivalent barrels of oil in reserves (equivalent to a total production of 70,000 barrels per day for twenty years, with 28,000 barrels/day being the Sãotomean share). This level of production per day is roughly equivalent to that of an average-sized block being exploited in the Gulf of Guinea. Oil production is assumed to begin in 2012 and the production profile is consistent with that of deep-seawater wells: peaking to approximately 150,000 barrels per day in the third year of production, and gradually declining thereafter, until reaching depletion after 20 years. The oil price is assumed at US\$30 per barrel, in constant 2006 U.S. dollars. The baseline discount rate and long-run real rate of return were set at 7 percent and 3 percent, respectively.



Source: Fund staff estimates.

13. **Under the baseline scenario, oil wealth accruing to São Tomé and Príncipe would be significant.** The annual funding amounts into the budget would converge to US\$91.9 million¹⁴ (equivalent to 130 percent of projected 2006 GDP), while the Permanent Fund for Future Generations would stabilize slightly above US\$3 billion by 2032 (equivalent to 43 times 2006 GDP; see Text Table II.1, below). As a ratio to projected GDP, the annual funding amount would peak at over 50 percent in 2015–16. Compared to current levels of donor support, the annual funding amounts would be substantially higher, for almost two decades, and should, in principle, allow the country to substitute for any decline in foreign aid as oil production takes off.



Source: Fund staff estimates.

¹⁴ In the remainder of the document, all references to dollar amounts are in constant 2006 U.S. dollars, assuming international inflation at 2.5 percent annually.

Text Table II.1. São Tomé and Príncipe: Oil Flows under Baseline Scenario 1/ 2/ 3/
(In millions of 2006 U.S. dollars)

	Oil Receipts	Annual Funding Amount for Public Budget				Permanent Fund	
		Total	From annual production 4/	From Permanent Fund 5/	In percent of non-oil GDP	Balance	In percent of non-oil GDP
2012	25.9	0.0	0.0	0.0	0.0	0.0	0.0
2013	90.7	13.0	13.0	0.0	11.3	0.0	0.0
2014	306.6	59.0	59.0	0.0	47.3	0.0	0.0
2015	396.1	73.3	73.3	0.0	54.4	128.2	95.1
2016	364.6	75.9	72.0	3.8	52.1	414.6	284.7
2017	333.6	78.2	65.8	12.4	49.8	739.9	470.5
2018	300.5	80.4	58.2	22.2	47.3	1,042.0	613.5
2019	268.1	82.3	51.1	31.3	44.9	1,318.2	718.7
2020	237.6	84.0	44.5	39.5	42.4	1,567.3	791.2
2021	209.3	85.5	38.5	47.0	40.0	1,790.0	836.6
2022	183.5	86.7	33.0	53.7	37.5	1,987.7	860.2
2023	164.8	87.8	28.2	59.6	35.2	2,162.5	866.5
2024	140.1	88.7	23.8	64.9	32.9	2,318.5	860.3
2025	122.1	89.5	19.9	69.6	30.7	2,456.1	843.8
2026	106.2	90.1	16.4	73.7	28.7	2,575.2	819.2
2027	92.1	90.6	13.4	77.3	26.7	2,679.8	789.3
2028	79.8	91.0	10.6	80.4	24.8	2,771.6	755.9
2029	69.1	91.3	8.2	83.1	23.1	2,852.3	720.3
2030	59.6	91.6	6.0	85.6	21.4	2,923.2	683.5
2031	47.0	91.7	4.0	87.7	19.9	2,985.6	646.4
2032	0.0	91.8	2.3	89.6	18.4	3,038.5	609.1
2033	0.0	91.9	0.7	91.2	17.1	3,062.7	568.5
2034	0.0	91.9	0.0	91.9	15.8	3,063.2	526.5
2035	0.0	91.9	0.0	91.9	14.6	3,063.2	487.5
2036	0.0	91.9	0.0	91.9	13.5	3,063.2	451.3
2037	0.0	91.9	0.0	91.9	12.5	3,063.2	417.9
2038	0.0	91.9	0.0	91.9	11.6	3,063.2	387.0
2039	0.0	91.9	0.0	91.9	10.7	3,063.2	358.3
2040	0.0	91.9	0.0	91.9	10.0	3,063.2	331.8
2041	0.0	91.9	0.0	91.9	9.2	3,063.2	307.2
2042	0.0	91.9	0.0	91.9	8.5	3,063.2	284.4
2043	0.0	91.9	0.0	91.9	7.9	3,063.2	263.4
2044	0.0	91.9	0.0	91.9	7.3	3,063.2	243.8
2045	0.0	91.9	0.0	91.9	6.8	3,063.2	225.8
2046	0.0	91.9	0.0	91.9	6.3	3,063.2	209.1
2047	0.0	91.9	0.0	91.9	5.8	3,063.2	193.6
2048	0.0	91.9	0.0	91.9	5.4	3,063.2	179.2
2049	0.0	91.9	0.0	91.9	5.0	3,063.2	166.0
2050	0.0	91.9	0.0	91.9	4.6	3,063.2	153.7

Source: Fund Staff estimates.

1/ Unless otherwise indicated, amounts expressed in millions of 2006 U.S. dollars assuming 2.5 percent annual foreign inflation.

2/ Assumes exploitable oil reserves of 500 million barrels in the JDZ, 40 percent being São Tomé and Príncipe's share.

3/ Present value of flows calculated using 7% discount rate.

4/ Includes interest accrued at the Unrestricted Portion of the National Oil Account pending the annual drawing or transfer to Permanent Fund.

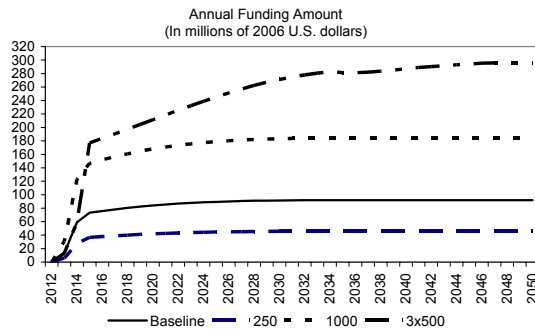
5/ Assumes real return of 3% on Permanent Fund.

6/ Assumes non-oil GDP growth rate of 6.25% on average for 2006-10 and 8% thereafter.

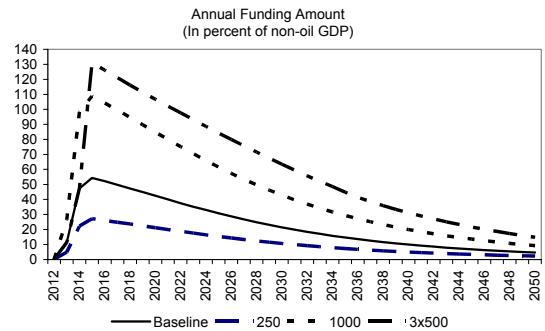
D. Sensitivity Analysis¹⁵

14. According to preliminary staff estimates, the scale of oil wealth could vary significantly, depending on the number, size and quality of commercial oil discoveries made. The baseline scenario assumes that only one medium-sized block in the JDZ is found to be commercially exploitable, with an average production of 70,000 barrels per day for twenty years (i.e., 28,000 barrels/day being the Sãotomean share in total daily production). If oil reserves were found to be twice as high as in the baseline, annual transfers into the budget would broadly double to US\$183.9 million, and the Permanent Fund for Future Generations would converge to a steady-state of roughly US\$6.1 billion. The annual funding amount and the level of the Permanent Fund would keep increasing as new blocks come into production—an issue that could eventually raise questions about the country’s absorptive capacity.¹⁶

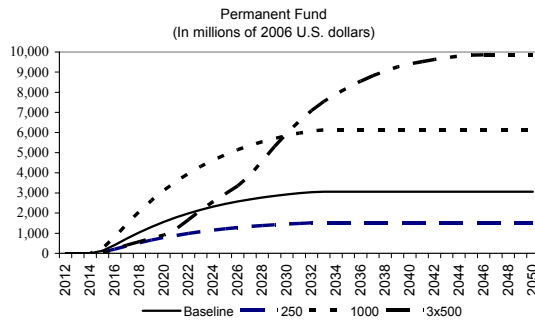
Sensitivity to Alternative Levels of Commercial Reserves in JDZ
(in millions of barrels)



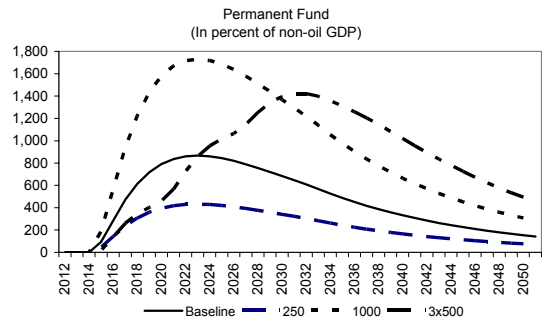
Source: Fund staff estimates.



Source: Fund staff estimates.



Source: Fund staff estimates.



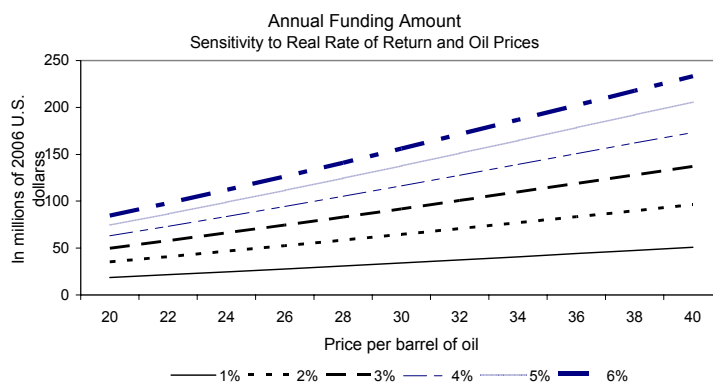
Source: Fund staff estimates.

¹⁵ See Text Table 2, at the end of this section, for a summary of results.

¹⁶ Alternatives available to the country, if this were the case, could possibly include switching to a per capita PIH rule at that point.

15. **The annual funding amount and the steady-state level of the Permanent Oil Fund are also very sensitive to changes in oil prices.** Since oil prices are highly volatile and unpredictable,¹⁷ the sensibility analysis covers a wide range of prices. However, there is now a consensus that at least part of the significant oil price increase observed over the past two years is due to structural reasons, with most forecasts predicting oil prices to stay at or above US\$40 a barrel (in real terms) over the long run.¹⁸ In this context, an increase in oil prices from the baseline assumption of US\$30 per barrel to US\$40 per barrel over the long run, would imply a significant increase in the annual funding amount (from US\$91.9 million to US\$137.0 million) and in the Permanent Fund for Future Generations (from US\$3.0 billion to US\$4.5 billion). The point elasticity of changes in the annual funding amount to changes in oil prices, evaluated at the baseline, is estimated at 1.49.

16. **Changes in the real rate of return on oil wealth have important effects on the annual funding amounts.** Annual funding amounts are very sensitive to changes in the real rate of return, since, by definition (see equation 3, above), these amounts are equal to the real rate of return multiplied by the present value of oil wealth. The point elasticity of changes in the annual funding amount to changes in oil prices, evaluated at the baseline, is currently estimated at 0.74. For example, an increase in the baseline long-run rate of return to 4 percent would increase the annual funding amounts from US\$91.9 million to roughly US\$115 million on perpetuity.



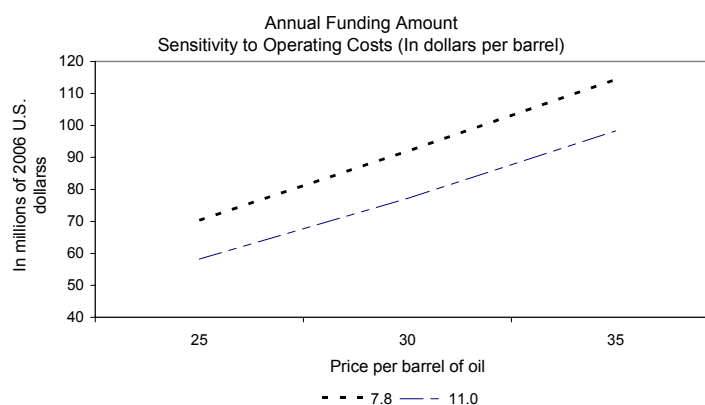
Source: Fund staff estimates.

¹⁷ Numerous studies have found the path of oil prices to be characterized as a random walk process, implying that the best predictor of tomorrow's price is today's price, subject to wide margins of error. For example, see Engel and Valdes (2000).

¹⁸ WEO projections currently forecast oil prices at US\$56.50 on average for the period 2008–11. Even assuming a gradual nominal reduction of prices in dollars in the following years, that projection would imply a higher-price scenario than the US\$40 (2006 prices growing at 2.5 percent annually) we assume as our high-price scenario. Under these assumptions, the revenue windfall from oil to STP would be even larger.

17. Changes in production costs alter the calculation of the annual funding amounts into the budget and gradual build-up of the Permanent Fund for Future Generations.

Specifically, a change in investment and/or operating costs would change the government's take from tax oil (levied on profits at a negotiated rate with oil operators) and profit oil.¹⁹ In the latter case, cost increases reduce the base and rate (so called, R-factor) used in assessing the government's return. Specifically, the base would decline as profits (net of taxes)



Source: Fund staff estimates.

would shrink with an increase in costs. Also, the R-Factor, as defined in the JDZ Model PSA, declines with an increase in the contractor's accumulated costs (see Annex I). Staff calculations indicate that an increase in total production costs per barrel from US\$7.8 per barrel (assumed under the baseline and considered average for deep-water wells) to US\$11.0 per barrel would reduce the annual funding amount to US\$77.2 million and the steady-state level of the Permanent Fund for Future Generations to US\$2.6 billion. In the baseline, the elasticity of the annual funding amount into the budget to changes in total production costs, assessed at -0.41, is less than one third in magnitude of that assessed for changes in oil prices. Also, standard practices in the industry suggest that production costs are less volatile, and more predictable, than oil prices. Sensitivity analysis for changes in other variables, such as the oil tax rate, are presented in Text Table 2.

¹⁹ A third source of government revenue is the royalty which, in the case of the JDZ Model PSA, is levied on gross revenue. With this mechanism, which is not standard in all PSAs, the government ensures itself of a minimum take, even if production costs balloon.

**Text Table II.2. Sensitivity Analysis at a Glance:
Baseline vs. Alternative Scenarios 1/
(In millions of 2006 U.S. dollars)**

	Annual Funding Amount	Permanent Fund Steady-state level
Oil Prices (per barrel)		
US\$20	49.9	1,663.7
US\$30 (Baseline)	91.9	3,063.2
US\$40	137.0	4,566.4
Real Rate of Return (r)		
1%	34.1	3,406.9
3% (Baseline)	91.9	3,063.2
5%	137.7	2,754.7
Discount Rate (d)		
3%	89.2	2,974.5
5% (Baseline)	91.9	3,063.2
12%	94.4	3,147.2
Production Costs		
US\$7.8 (Baseline)	91.9	3,063.2
US\$11	77.2	2,574.9
Tax Oil		
40%	88.0	2,933.0
50% (Baseline)	91.9	3,063.2
60%	96.6	3,219.1
Oil Reserves in JDZ (million barrels)		
250	45.8	1,527.9
500 (Baseline)	91.9	3,063.2
1000	183.9	6,129.8
1500	276.0	9,198.4
3x500 2/	295.8	9,860.3
Per-capita rule 3/	Increasing	Increasing

Source: Fund Staff estimates.

1/ Baseline assumes: Oil price US\$30, r=3%, d=7%, production costs=US\$ 7.8 p/b, tax oil=50%, oil reserves=500 million barrels.

2/ Assumes three blocks with 500 million barrels of oil each, going into production at six year intervals.

3/ See Annex II for figures showing the path of the annual funding and the Permanent Fund under this rule.

E. References

- Albin-Lackey, C. et al, (2004), “Proposal for an Oil Revenue Management Law for Sao Tome and Principe: Explanatory Notes,” (unpublished; New York, New York: The Earth Institute, Columbia University)
- Barnett, S. and Ossowski, R. (2003), “Operational Aspects of Fiscal Policy in Oil-Producing Countries,” in Davis, J.M., Ossowski, R., and Fedelino, A., *Fiscal Policy Formulation and Implementation in Oil-Producing Countries* (Washington: International Monetary Fund)
- Davoodi, H.R., (2002), “Assessing Fiscal Vulnerability, Fiscal Sustainability and Fiscal Stance in a Natural Resource Rich-Country,” in *Republic of Kazakhstan–Selected Issues and Statistical Appendix*, IMF Country Report No. 02/64, pp. 7–31 (Washington: International Monetary Fund)
- Engel, E. and Valdes, R. (2000), “Optimal Fiscal Strategy for Oil Exporting Countries” IMF Working Paper 00/118 (Washington: International Monetary Fund)
- Friedman, M. (1957), “A Theory of the Consumption Function,” (Princeton: Princeton University Press)
- Gomes, C. B., (2003), “The Fiscal Regime for the Nigeria—Sao Tome & Principe Joint Development Zone,” Paper presented at the 2004 JDZ Licensing Round Roadshow, London-Houston, June. Available via Internet: <http://www.nigeriasaotomejda.com>
- Johnson-Callari, J. and Berkelaar, B., (2005), “Commodity Funds for the Future,” (unpublished; Washington: World Bank Treasury)
- Johnston, D. (2003), “Nigeria-Sao Tome e Principe JDZ Contract Terms”, Paper presented at the 2004 JDZ Licensing Round Conference, Sao Tome, Sao Tome and Principe, December.
- Katz, M. et al. (2004), “Lifting the Oil Curse: Improving Petroleum Revenue Management in Sub-Saharan Africa” (Washington: International Monetary Fund)
- Kim, Y. K., (2005), “Managing Oil/Gas Wealth in Timor-Leste,” in *Democratic Republic of Timor-Leste–Selected Issues and Statistical Appendix*, IMF Country Report No. 05/150, pp. 16–29 (Washington: International Monetary Fund)
- Solow, R.M., (1974), “Intergenerational Equity and Exhaustible Resources,” *The Review of Economic Studies*, Vol. 41, Symposium on the Economics of Exhaustible Resources, pp. 29–45.

- Stiglitz, J., (1974), "Growth and Exhaustible Natural Resources: Efficient and Optimal Growth Paths," *The Review of Economic Studies*, Vol. 41, Symposium on the Economics of Exhaustible Resources, pp. 123-137.
- Thomas, T., and Kissinbay, T., (2004), "Fiscal Rules and Fiscal Sustainability Analysis," in *Republic of Kazakhstan–Selected Issues and Statistical Appendix*, IMF Country Report No. 04/362, pp. 50-63 (Washington: International Monetary Fund)
- Velculescu, D., and Rizavi, S. (2005), "Trinidad and Tobago: The Energy Boom and Proposals for a Sustainable Fiscal Policy" IMF Working Paper 05/197 (Washington: International Monetary Fund)
- Wakeman-Linn, J. et al. (2003), "Oil Funds in Transition Economies: Azerbaijan and Kazakhstan," in Davis, J.M., Ossowski, R., and Fedelino, A., *Fiscal Policy Formulation and Implementation in Oil-Producing Countries* (Washington: International Monetary Fund)
- _____ et al. (2004), "Managing Oil Wealth: The Case of Azerbaijan" (Washington: International Monetary Fund)

Joint Development Zone (JDZ) –Model Production Sharing Agreement (PSA)

Bonuses	Signature Bid \$30 million minimum								
Rentals	\$200/km ² for Oil Prospecting License (OPL) \$500/km ² for Oil Mining License (OML) first 10 years \$200/km ² for OML after 10 years								
Royalty Rate	Production (P) in thousand barrels of oil per day (MBOPD) <table border="1"> <thead> <tr> <th><u>MBOPD</u></th> <th><u>Royalty</u></th> </tr> </thead> <tbody> <tr> <td>0 - 20</td> <td>0%</td> </tr> <tr> <td>20 - 70</td> <td>5%{1-[(70-P)/(70-20)]}</td> </tr> <tr> <td>> 70</td> <td>5%</td> </tr> </tbody> </table>	<u>MBOPD</u>	<u>Royalty</u>	0 - 20	0%	20 - 70	5%{1-[(70-P)/(70-20)]}	> 70	5%
<u>MBOPD</u>	<u>Royalty</u>								
0 - 20	0%								
20 - 70	5%{1-[(70-P)/(70-20)]}								
> 70	5%								
Cost recovery limit	80% of production after royalty								
Taxation	50% “Tax Oil” levied on gross revenues net of royalties and production costs								
Investment allowance	50% of Tangible capital costs								
Profit oil split	<p>Contractor’s Share</p> <table border="1"> <thead> <tr> <th><u>R-Factor</u></th> <th><u>Share</u></th> </tr> </thead> <tbody> <tr> <td>0 - 1.2</td> <td>80%</td> </tr> <tr> <td>1.2 - 2.5</td> <td>25%+{[(2.5-R)/(2.5-1.2) x (80%-25%)]}</td> </tr> <tr> <td>> 2.5</td> <td>25%</td> </tr> </tbody> </table> <p>JDA’s Share 1 – Contractor’s share</p> <p>R-Factor = Contractor accumulated receipts/Contractor accumulated costs</p>	<u>R-Factor</u>	<u>Share</u>	0 - 1.2	80%	1.2 - 2.5	25%+{[(2.5-R)/(2.5-1.2) x (80%-25%)]}	> 2.5	25%
<u>R-Factor</u>	<u>Share</u>								
0 - 1.2	80%								
1.2 - 2.5	25%+{[(2.5-R)/(2.5-1.2) x (80%-25%)]}								
> 2.5	25%								
Ringfencing	Yes								
Government participation	No provision for States to take up a working interest								

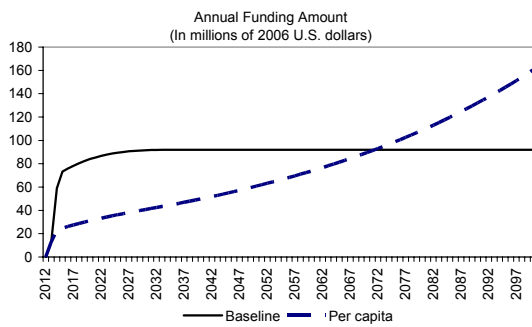
Sources: Gomes (2003) and Johnston (2003).

Comparison between Constant PIH Rule (Baseline) and Per capita PIH Rule

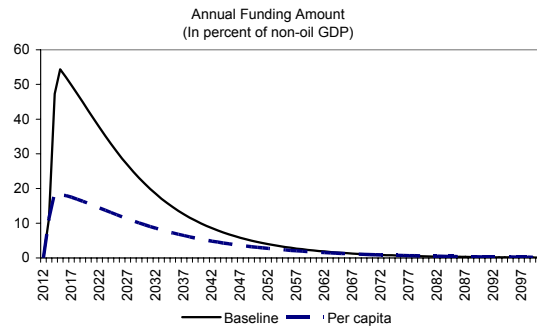
This annex shows the path described by the annual funding amount to the budget and the Permanent Fund for Future Generations under two alternative rules. Under the constant PIH rule adopted by São Tomé and Príncipe (Baseline), both the annual funding amount and the Permanent Fund converge to a steady state level in constant dollar amounts. On the other hand, under the per capita PIH rule, both variables would permanently increase over time, in order to allow for a convergence to a steady state, but on per capita terms.

The annual funding amount predicted by the per capita rule would surpass that under the Baseline scenario as late as 2070, and would imply significantly lower annual funding amounts during this transition, specially in the early-decades. Nevertheless, in terms of non-oil GDP, both rules would predict decreasing annual resources into the budget.

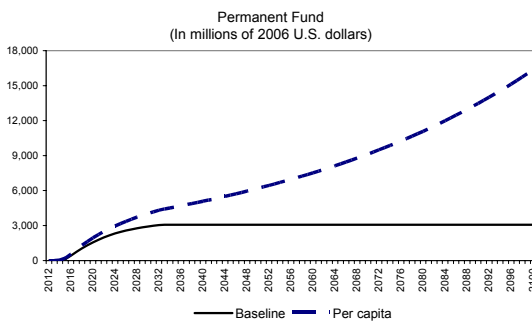
Baseline vs. Per-capita rule



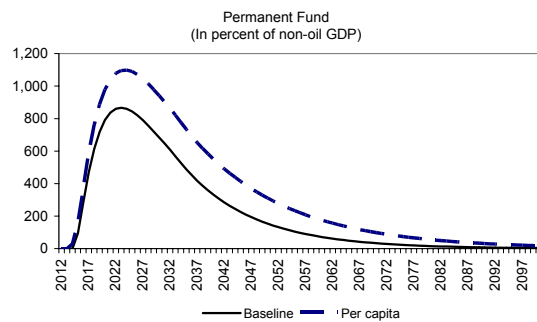
Source: Fund staff estimates.



Source: Fund staff estimates.



Source: Fund staff estimates.



Source: Fund staff estimates.

III. A NOTE ON INFLATION, 1998–2005²⁰

A. Overview and Conclusions

1. **This chapter discusses recent developments with inflation and monetary aggregates, and looks into determinants of inflation in São Tomé and Príncipe from a statistical point of view.** The analysis is motivated by the fact that inflation has picked up since 2004, posing new challenges to policymakers in devising a strategy to keep inflation low and determining which policy variables to monitor toward this end.
2. **The chapter builds upon analysis by Kuijs (2000) on the relationship between money growth, inflation, and exchange rate depreciation for the period 1992–98.** The times series data have been expanded to include the disinflation period of 2000–03 and the recent inflation rebound of 2004–05. The econometric results from this chapter are consistent with those of Kuijs (2000) regarding the important role played by money growth and exchange rate depreciation in explaining inflation in São Tomé and Príncipe. The statistical analysis and results from this paper, however, would need to be revisited over time to address the lack of long time series for critical variables and remaining questions about the stability of the model on account of changing institutional relationships.
3. **The chapter's main conclusions are the following:**
 - As predicted in theory, there exists a reasonable long-run relationship among prices, broad money, the exchange rate, and developments in the real economy in São Tomé and Príncipe. Over the long run, both broad money growth and changes in the exchange rate have an impact on inflation.
 - Statistical evidence suggests that exchange rate depreciation causes inflation and vice versa. Exchange rate movements may have an important effect on prices given the large share of imported products in the household consumption basket. Also, a more depreciated exchange rate reduces the demand for the *dobras*, thus increasing money velocity and creating inflationary pressures.
 - Our empirical results highlight the impact of exchange rate depreciation on inflation in the short run. In particular, a shock to the exchange rate has a larger and more lasting impact on inflation than an equivalent shock to broad money. Indeed, a shock to nominal money growth briefly leads to an increase in inflation, although this response is very small and statistically insignificant.

²⁰ Prepared by Atsushi Iimi. An earlier version of this note was presented at a seminar held at the Central Bank of São Tomé and Príncipe during the Article IV consultation mission in November 2005.

- Empirical evidence suggests that there is substantial inflation inertia in São Tomé and Príncipe. Indeed, when inflation deviates from its long-term path, convergence to the latter persists, but the adjustment is very slow. Also, lagged inflation explains a relatively large part of current inflation.

4. **A number of preliminary policy considerations could be derived from the analysis:**

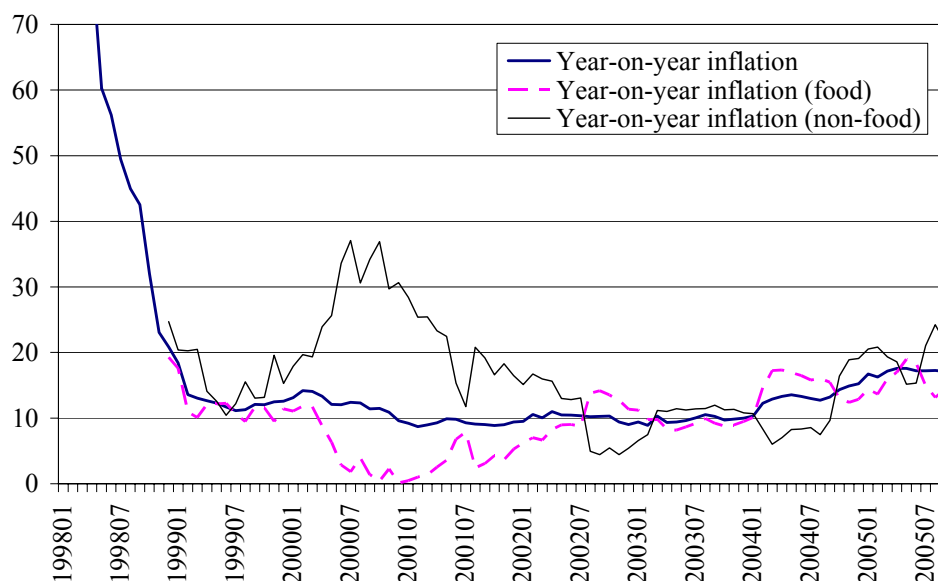
- The paper finds evidence of a weak statistical relationship between money growth and inflation. This may suggest an ongoing step-increase in money demand (spurred from expectations about the growth of the domestic oil sector) which needs to be taken into account in designing monetary policy to secure adequate liquidity for non-inflationary economic growth.
- Even assuming the existence of increasing money demand in the past, looking forward, the evidence of a relatively small but inflationary effect of money growth under such circumstances underscores the importance of controlling monetary conditions. This in turn highlights the need to maintain a sound fiscal stance and to avoid monetary financing of the budget deficits.
- The analysis indicates that it takes around two years for a shock to the exchange rate to be fully-absorbed by inflation. This could be interpreted to mean that the formation of inflationary expectations is backward-looking, to a degree. In this regard, the development of the foreign exchange auction since 2004 could, in principle, improve the formation of expectations in the economy.

5. **The structure of this paper is as follows.** Section B presents background information on the evolution of inflation and monetary aggregates in São Tomé and Príncipe. Section C presents a simple monetary model to explain inflation. The model is estimated for the period 1998–2005 using monthly data for consumer price inflation, monetary aggregates, the dobra exchange rate against the dollar, and a proxy for monthly real GDP growth. In line with standard analysis, the monetary model is first estimated without imposing any restrictions on the coefficients for the explanatory variables. As a second step, and to enhance the statistical significance of the estimated coefficients, the model is re-estimated with the necessary restrictions over the specification of the equation, mainly in terms of the number of lagged explanatory variables. Section D presents impulse responses of inflation to shocks in the exchange rate and money growth using the restricted inflation model. The objective is to gauge how changes in key explanatory variables affect inflation over the short run. Section D also includes a discussion of Granger-causality tests estimates.

B. Inflation Trends in São Tomé and Príncipe, 1998–2005

6. **After picking up in the late 1990s, inflation fell to almost single-digit levels during 2000–03, before increasing again in 2004–05** (Figure III.1). A significant hike in inflation in 1997 mirrored a sharp increase in domestic financing of a sizeable fiscal deficit. During 1998–2003, however, improved government policies helped sustain output growth and lower inflation. Over this period, real GDP growth increased from 2.5 percent to 4 percent, while inflation declined from 21 percent to 10 percent. In 2004, the economy continued to grow at a moderate pace, but inflation increased to 15 percent by year-end, as bank credit to the private sector rose sharply and the government loosened fiscal policy. In particular, the government raised expenditures to an unsustainable level in anticipation of a large oil signature bonus, which in the event was not received in 2004. Inflation continued to increase in 2005, albeit in the context of a sharp increase in international oil prices which was passed-through to domestic consumers.

Figure III.1. Inflation (12-month percentage change), Jan. 1998–Sep. 2005
(In percent)



7. **The volatility of inflation (measured by the standard deviation of the inflation rate) has mirrored the path of the inflation rate.** Indeed, the standard deviation of the monthly and the 12-month inflation rate declined during the disinflation period of 2000–03, before increasing again during 2004–05 (Text Table III.1). While the average and the standard deviation of monthly inflation were 1.3 percent and 1.0 percent in 1998–99, they fell to 0.8 and 0.5 during 2000–03, respectively. During 2004–05, the average monthly inflation rate rebounded to 1.3 percent, while its standard deviation doubled to 1.1 percent.

Text Table III.1. Average Inflation, Jan. 1998–Sep. 2005
(In percent)

	Monthly		12-month change	
	Average	Std. Dev.	Average	Std. Dev.
Jan. 1998 - Sep. 2005	1.0	0.8	17.5	16.9
Jan. 1998 - Dec. 1999	1.3	1.0	33.9	27.2
Jan. 2000 - Dec. 2001	0.8	0.4	10.7	1.8
Jan. 2002 - Dec. 2003	0.8	0.5	10.0	0.5
Jan. 2004 - Sep. 2005	1.3	1.1	14.9	2.2

Source: IMF staff estimates.

8. **The relationship between key monetary variables and inflation remains puzzling in São Tomé and Príncipe.** Text Table III.2 presents correlations among key monetary variables and inflation, while Figure III.2 shows the paths of inflation and growth of monetary aggregates (i.e., reserve money (M1) and broad money (M3)) during 1998–2005.²¹ There is a broadly positive relationship between inflation and money supply throughout the whole sample period. However, there exists unexpected irregularity in this relationship: while inflation is positively correlated with monetary aggregates in 1998–2002, such a relationship is not captured by the data for 2003–04. In 2005, inflation is again significantly correlated with reserve money growth.

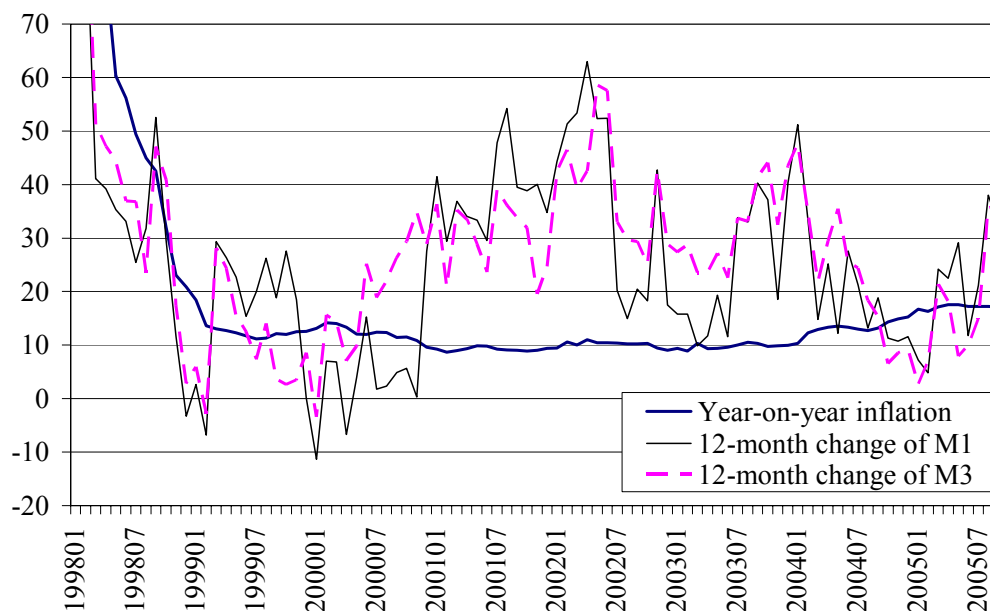
9. **Also, the data do not support a clear relationship between money growth and exchange rate depreciation.** For example, while monetary aggregates grew at double digit rates in 2001–03, the nominal exchange rate depreciated only marginally during this period. The relatively weak correlation between money growth and the exchange rate depreciation persists even using monthly data (Text Table III.2).

São Tomé and Príncipe—Broad Money Growth and
Exchange Rate Depreciation, 2001–05
(In percent)

	2001	2002	2003	2004	2005 Est.
Broad money growth	36.7	26.9	41.8	7.4	26.1
Exchange rate Depreciation	4.8	1.9	2.9	6.9	18.7

²¹ In the table, *INTR* denotes the central bank reference interest rate.

Figure III.2. Inflation and Money Growth, Jan. 1998–Sep. 2005
(In percent)



10. **The weak/unstable relationship either between money growth and inflation or between money growth and exchange rate depreciation might be explained by increases in money demand stemming from expectations about the domestic oil economy.** Indeed, the recent increase in the number of commercial banks in the country (from one bank in 2003 to six banks in 2005) appears to have been instrumental in supporting an increase in the ratio of monetary aggregates to GDP. Also, rigidities in the functioning of the managed float during 2003–04 may have prevented the exchange rate from reflecting any excesses of money supply over money demand. However, the introduction of a foreign exchange auction system in late 2004, and its ongoing development, should help improve the formation of exchange rate expectations in the economy and better reflect in the future the underlying relationship between money growth and the depreciation of the exchange rate.

Text Table III.2. Simple Correlations

(Correlation between 12-month rates of changes)

Jan. 1998–Sep. 2005

(Δ CPI, Δ M1)	0.407
(Δ CPI, Δ M3)	0.515
(Δ ER, Δ M1)	0.494
(Δ ER, Δ M3)	0.630
(Δ CPI, Δ ER)	0.941
(Δ CPI, INTR)	0.904

Jan. 1998–Dec. 2002

(Δ CPI, Δ M1)	0.430
(Δ CPI, Δ M3)	0.584
(Δ ER, Δ M1)	0.522
(Δ ER, Δ M3)	0.696
(Δ CPI, Δ ER)	0.946
(Δ CPI, INTR)	0.919

Jan. 2003–Dec. 2004

(Δ CPI, Δ M1)	-0.314
(Δ CPI, Δ M3)	-0.606
(Δ ER, Δ M1)	-0.345
(Δ ER, Δ M3)	-0.618
(Δ CPI, Δ ER)	0.859
(Δ CPI, INTR)	-0.225

Jan. 2005–Sep. 2005

(Δ CPI, Δ M1)	0.657
(Δ CPI, Δ M3)	0.282
(d ER, d M1)	-0.601
(d ER, d M3)	-0.421
(Δ CPI, Δ ER)	-0.585
(Δ CPI, INTR)	-0.020

Source: Staff estimates.

C. Empirical Analysis: Money, Exchange Rate and Prices

A vector error-correction model (VEC)

11. **In order to explore the relationship among money, the exchange rate, real income/GDP and prices, we considered the following simple inflation forecasting model** in which the price level (CPI) is determined by the behavior of the money supply and money demand:²²

$$CPI = \phi(M3, M^d(INTR, RGDP, ER)) \quad (1)$$

+ + - +

$M3$ is the money supply, which is in principle a policy variable and an increase in $M3$ should lead to an increase in general prices. M^d is the money demand, which mitigates inflationary pressures and is assumed to be a function of the nominal interest rate ($INTR$), real GDP growth, and the exchange rate (ER). While higher interest rates make money holdings more costly, real economic expansion increases the transactions demand for money, thus leading to disinflation. A depreciation of the exchange rate lowers the relative returns on dollar-denominated assets, reduces money demand, and fuels inflationary expectations.

12. **Our statistical analysis uses a vector error-correction (VEC) methodology**, which is the standard approach for the case when all dependent and independent variables in the model are co-moving with each other. We specify the above relationship as a VEC model with 7 lags, in which the equation for inflation is:²³

$$\begin{aligned} \Delta \ln CPI = & \beta_0 + \beta_1 \sum_k \Delta \ln CPI_{t-k} + \beta_2 \sum_k \Delta \ln M3_{t-k} + \beta_3 \sum_k \Delta ER_{t-k} \\ & + \beta_4 \sum_k \Delta \ln RGDP_{t-k} + \beta_5 ECM \ln CPI_{t-1} + \varepsilon_t \end{aligned} \quad (2)$$

where $\Delta \ln$ is the first difference in logs of the variables, and $ECM \ln CPI_t$ is an error correction term associated with disequilibrium from the long-term equilibrium in the money market, as defined in Equation (1):

²² For the derivation of the empirical model, see Nassar (2005). Also, see Gasha (2003) and Muñoz (2005).

²³ No cointegrating vector exists with a smaller number of lags.

$$ECM \ln CPI_t = \alpha_1 \ln CPI_t - \alpha_2 \ln M3_t - \alpha_3 \ln ER_t - \alpha_4 \ln RGDP_t \quad (3)$$

We exclude the interest rate variable from our estimated econometric equation (3) because the central bank reference interest rate had been unchanged since 2000 (albeit in the aftermath of a period of discretionary reductions in this rate during the disinflation period that started in 1998).²⁴

Data and empirical results (unrestricted VEC model)

13. **The analysis uses monthly data from January 1998 to September 2005.** Inflation is measured by the 12-month growth rate for the consumer price index (*CPI*). Money supply (*M3*) is defined as currency in circulation plus dobra-denominated deposits and foreign currency-denominated deposits. The amount of imported investment goods deflated by the CPI is used as a proxy of real GDP, in the absence of monthly GDP data. This variable (*RGDP*) is defined as the three-month moving average of this time series to accommodate the observed volatility of customs data. The exchange rate (*ER*) used is the dobra against the U.S. dollar.²⁵

14. **The augmented Dickey-Fuller unit root tests indicate that all variables (in logarithms) are non-stationary in levels, but stationary in their first differences** (Text Table III.3). In addition, the trace test statistics reject the null hypothesis of no cointegration in favor of one cointegrating vector at the 1 percent significance level (Text Table III.4).²⁶

Text Table III.3. Unit Root Test

	Augmented Dickey-Fuller statistics	
	In levels	In first differences
lnCPI	-1.020	-5.512 ***
lnM3	0.513	-12.508 ***
lnER	-0.073	-20.090 ***
lnRGDP	-1.923	-11.675 ***

***: 1 percent significance level.

²⁴ Including the reference interest rate in the econometric model did not result in a stable relationship for the price dynamics.

²⁵ An alternative definition for the exchange rate variable is the nominal effective exchange rate (NEER). In the case of São Tomé and Príncipe, however, the statistical evidence shows that the NEER has little explanatory power for inflation.

²⁶ For the trace test, see Johansen (1988).

Text Table III.4. Cointegration tests

Rank	Eigenvalue	Trace statistics	1% critical value
0		59.7551	54.46
1	0.2371	34.5861 ***	35.65
2	0.17302	16.9187	20.04

***: 1 percent significance level.

15. **Given the above, we estimated an error-correction inflation equation of the unrestricted VEC model** (see first three columns in Table I, Annex I). The fit of the inflation equation is satisfactory.²⁷ The underlying cointegrating equation, which suggests a long-term equilibrium relationship among monetary aggregates, the exchange rate, real GDP and the price level, is estimated as follows:

$$\ln CPI = 0.528 \ln M3 + 0.531 \ln ER - 0.104 \ln RGDP - 4.342 \quad (4)$$

All coefficients have the correct signs. Equation (4) shows that, in equilibrium, inflation tends to increase with money supply and depreciation of the exchange rate, and to decrease with real economic expansion.

A restricted VEC model

16. **While the above unrestricted VEC model has reasonable coefficients and explains the systematic relationship among inflation, money supply, and the exchange rate, the estimated coefficients are only marginally significant in an econometric sense, possibly reflecting multicollinearity among variables in the sample period.** Imposing constraints on statistically insignificant coefficients for a number of independent variables can result in a more concise specification of the error-correction inflation equation, while retaining the long-run relationship stated in equation (4). A restricted VEC model was estimated which significantly reduced the number of explanatory variables in the error-correction inflation equation (see last three columns in Table III.A, Annex I).

²⁷ The model explains about 85 percent of actual inflation according to the conventional R-square. Also, according to the conventional χ^2 test, the hypothesis of all the coefficients being zero can be rejected; the test statistics is 215.34.

17. **The restricted VEC model for inflation has broadly the correct signs of the coefficients for the explanatory variables.**²⁸ Notably, the model indicates that inflation is largely explained by the depreciation of the exchange rate and, to a lower extent, by the growth of broad money with a two-lag adjustment period. Also, there exists substantial inflation inertia. Specifically, the error correction terms enters negatively and significantly, implying that if inflation is 1 percent below its equilibrium level in one month, inflation will increase by roughly 0.02 percent in the following month. The role of inflation inertia is also highlighted by the high and significant coefficient of lagged inflation. Due to possible measurement errors, the estimated behavior of the real GDP variable remains statistically insignificant.

D. Impulse Analysis and Granger-causality Tests

18. **An impulse response function, in which one-standard deviation of shock is given to an explanatory variable, is depicted in Figure III.3.** The chart shows that, compared to other variables in the model, a shock to the exchange rate has the largest impact on domestic inflation in terms of magnitude, and it would take approximately two years for this transitory impact on inflation to be fully-absorbed in the inflation rate. This could be interpreted to mean that the formation of inflationary expectations is backward-looking, to a degree. A shock to nominal money growth briefly leads to an increase in inflation, although this response is very small and statistically insignificant. This outcome, along with the large increases in money growth observed in 2000–03, might be suggesting an ongoing step-increase in money demand.

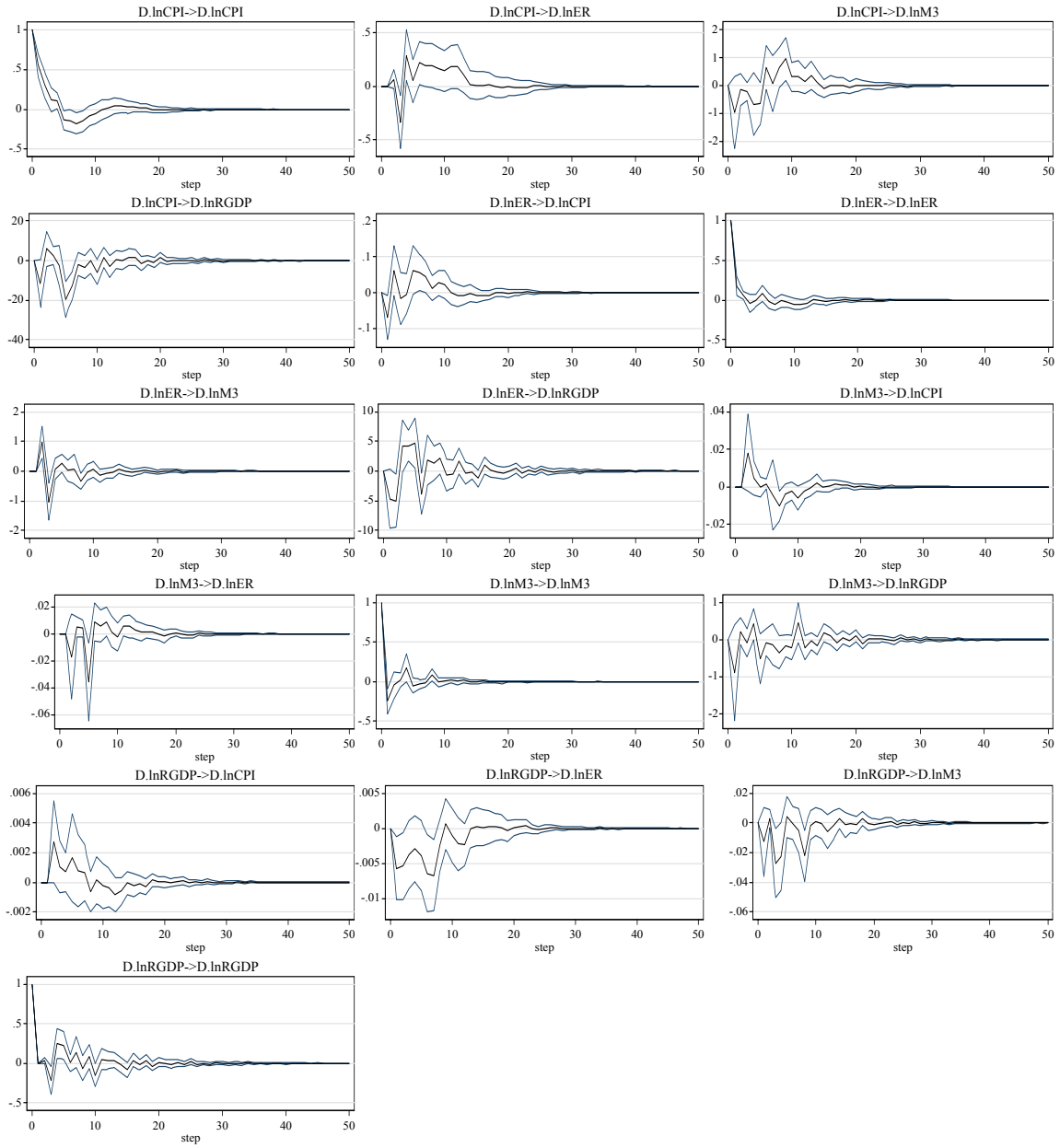
19. **When applying the Granger causality tests to the above restricted error-correction inflation model, we find that inflation Granger-causes depreciation of the exchange rate, and vice versa** (Text Table III.5).²⁹ This result can be interpreted to mean that inflation and depreciation expectations might be playing an important role in the economy given the past history of persistent inflation and continued exchange rate depreciation. At the same time, money supply does not seem to Granger-cause inflation.

20. **Concerning the relationship between monetary aggregates and the exchange rate, the evidence indicates that there is two-way causality;** while the former seems to weakly cause the latter in a statistical sense, exchange rate movements seem to affect monetary aggregates in a stronger manner.

²⁸ In spite of a remaining concern about normality in this restricted model, the results are statistically stable in the sense that all the eigenvalues lie inside the unit circle and any exogenous shocks will taper-off after some fluctuating transition. The hypothesis that there is no autocorrelation in the residuals for any of the orders cannot be rejected.

²⁹ As usual, causality test primarily suggests statistical precedence.

Figure III.3. Impulse Response Function



Text Table III.5: Granger Causality 1/ 2/

		Chi2	Degree of freedom
lnER	-> lnCPI	22.36 ***	4
lnCPI	-> lnER	15.18 ***	3
lnM3	-> lnCPI	3.76	2
lnCPI	-> lnM3	5.96	3
lnM3	-> lnER	6.91 **	2
lnER	-> lnM3	20.45 ***	3
lnRGDP	-> lnCPI	4.00	2
lnCPI	-> lnRGDP	25.34 ***	4
lnRGDP	-> lnER	14.24 **	7
lnER	-> lnRGDP	22.47 ***	5
lnRGDP	-> lnM3	8.34 **	3
lnM3	-> lnRGDP	1.83	1

1/ ** 5% significance level; *** 1% significance level.

2/ The null hypothesis is that there is no causality.

E. References

- Gasha, J. (2003), “A Note on Inflation,” in: *Angola—Selected Issues and Statistical Appendix*, IMF Staff Country Report No. 03/292, by Pastor, G. and others (Washington: International Monetary Fund).
- Johansen, S. (1988), Statistical analysis of cointegration vectors, *Journal of Economic Dynamics and Control*, 12, pp. 231–254.
- Johansen, S. (1995), *Likelihood-Based Inference in Cointegrated Vector Autoregressive Models* (New York: Oxford University Press).
- Johansen, S., and Juselius, K. (1992), Testing structural hypotheses in a multivariate cointegration analysis of the PPP and the UIP for UK, *Journal of Econometrics*, 53, pp. 211–244.
- Kuijs, A. (2000), “Monetary Policy, the Exchange Rate and Inflation,” in: *São Tomé and Príncipe—Recent Economic Developments and Selected Issues*, IMF Staff Country Report No. 00/69, by Thiam, I. and others (Washington: International Monetary Fund).
- Muñoz, S. (2005), “High Inflation and Money Demand,” in: *Zimbabwe—Selected Issues and Statistical Appendix*, IMF Staff Country Report No. 05/359, by Coorey, S. and others (Washington: International Monetary Fund).
- Nassar, K. (2005), “Determinants of Inflation in Madagascar,” in: *Republic of Madagascar—Selected Issues and Statistical Appendix*, IMF Staff Country Report No. 05/321, by Fayolle, A. and others (Washington: International Monetary Fund).

Statistical Properties of the Error-Correction Inflation Equation

1. **This annex presents the econometric estimates of the error-correction inflation equation estimated for São Tomé and Príncipe (Table III.A).** As noted in the text, our error-correction inflation equation could be stated as follows:

$$\Delta \ln CPI = \beta_0 + \beta_1 \sum_k \Delta \ln CPI_{t-k} + \beta_2 \sum_k \Delta \ln M3_{t-k} + \beta_3 \sum_k \Delta ER_{t-k} + \beta_4 \sum_k \Delta \ln RGDP_{t-k} + \beta_5 ECM \ln CPI_{t-1} + \varepsilon_t \quad (1)$$

where $\Delta \ln$ is the first difference in logs of the variables, and $ECM \ln CPI_t$ is an error correction term associated with disequilibrium from the long-term equilibrium in the money market.

2. **A number of tests was conducted to evaluate the statistical properties of our error-correction inflation model and the estimated long-run equilibrium relationship between inflation and key explanatory variables (equation 4 in text).** The diagnostic tests are, in general, encouraging:

- The corresponding adjustment matrix indicates that the estimated eigenvector is important for all four equations of the unrestricted error-correction model (Table III.B).

Table III.B. Unit Root Test

	Augmented Dickey-Fuller statistics	
	In levels	In first differences
lnCPI	-1.020	-5.512 ***
lnM3	0.513	-12.508 ***
lnER	-0.073	-20.090 ***
lnRGDP	-1.923	-11.675 ***

***: 1 percent significance level.

- The standard weak exogenous tests based on the adjustment speed parameters in Table II suggest that all variables included in the model are endogenously-determined as a unit system.³⁰ Inflation, money supply, exchange depreciation and real GDP cannot be treated as “weakly exogenous.”

³⁰ For the weak exogeneity test, for instance, see Johansen and Juselius (1992).

- Although there remain certain concerns about stability of the estimates in the error-correction inflation equation, the null hypothesis of no autocorrelation cannot be rejected at the 5 percent significance level,³¹ and the standard normality tests cannot be rejected at least at the 1 percent level.³²
- The coefficient associated with the error correction term is negative, as expected, and its absolute value indicates that the speed of the adjustment process toward equilibrium would be relatively slow in the short-run dynamics.

³¹ The Lagrange-multiplier test statistics, which follow the chi-square distribution, are 9.19 at the first lag order; 23.79 at the second lag order; 23.10 at the third lag order. The degree of freedom is 16.

³² As far as the inflation equation is concerned, the skewness test statistic estimated at 6.248 is smaller than the 1 percent critical value drawn from the chi-square distribution with the degree of freedom of 1. The kurtosis test statistic is 5.461, and thus the null hypothesis of normality cannot be rejected at the 1 percent significance level.

Table III.A: Coefficients of Error-Correction Inflation Equation 1/ 2/

	Unrestricted		Restricted	
	Coef.	Std.Err.	Coef.	Std.Err.
ECMlnCPI(-1)	-0.0215	0.0103 **	-0.0158	0.0067 **
$\Delta\ln\text{CPI}(-1)$	0.5724	0.1227 ***	0.5582	0.0753 ***
$\Delta\ln\text{CPI}(-2)$	-0.0536	0.1385		
$\Delta\ln\text{CPI}(-3)$	0.0287	0.1358		
$\Delta\ln\text{CPI}(-4)$	-0.0337	0.1334		
$\Delta\ln\text{CPI}(-5)$	-0.0996	0.1359	-0.1354	0.0510 ***
$\Delta\ln\text{CPI}(-6)$	-0.0542	0.1227		
$\Delta\ln\text{CPI}(-7)$	-0.0573	0.1083		
$\Delta\ln\text{ER}(-1)$	-0.0770	0.0533	-0.0705	0.0314 **
$\Delta\ln\text{ER}(-2)$	0.1163	0.0554 **	0.1136	0.0327 ***
$\Delta\ln\text{ER}(-3)$	-0.0796	0.0562	-0.0570	0.0338 *
$\Delta\ln\text{ER}(-4)$	0.0198	0.0590		
$\Delta\ln\text{ER}(-5)$	0.1148	0.0530 **	0.0819	0.0315 ***
$\Delta\ln\text{ER}(-6)$	0.0237	0.0560		
$\Delta\ln\text{ER}(-7)$	0.0388	0.0456		
$\Delta\ln\text{M3}(-1)$	0.0100	0.0142		
$\Delta\ln\text{M3}(-2)$	0.0177	0.0145	0.0182	0.0104 *
$\Delta\ln\text{M3}(-3)$	-0.0053	0.0150		
$\Delta\ln\text{M3}(-4)$	-0.0002	0.0147		
$\Delta\ln\text{M3}(-5)$	-0.0175	0.0134		
$\Delta\ln\text{M3}(-6)$	-0.0161	0.0137	-0.0099	0.0094
$\Delta\ln\text{M3}(-7)$	-0.0005	0.0127		
$\Delta\ln\text{RGDP}(-1)$	0.0013	0.0020		
$\Delta\ln\text{RGDP}(-2)$	0.0016	0.0019	0.0024	0.0014 *
$\Delta\ln\text{RGDP}(-3)$	-0.0010	0.0019		
$\Delta\ln\text{RGDP}(-4)$	0.0014	0.0019		
$\Delta\ln\text{RGDP}(-5)$	0.0028	0.0018	0.0022	0.0014
$\Delta\ln\text{RGDP}(-6)$	0.0013	0.0019		
$\Delta\ln\text{RGDP}(-7)$	0.0020	0.0019		
Constant	0.0024	0.0020	0.0024	0.0013 *

1/ The dependent variable is $\Delta\ln\text{CPI}$.

2/ *10% significance level, ** 5% significance level; *** 1% significance level.

Table 1. São Tomé and Príncipe: Gross Domestic Product and Expenditure at Current Prices, 2001–04
(In billions of dobras, unless otherwise specified)

	2001	2002	2003	2004 Prel.
Primary sector	80.9	87.4	94.5	102.3
Agriculture	66.0	71.4	77.3	83.7
Fishing	14.9	16.0	17.2	18.6
Secondary sector	70.2	75.5	81.2	87.5
Manufacturing and energy	21.9	23.3	24.7	26.3
Construction	48.3	52.3	56.5	61.1
Tertiary sector	270.9	323.8	376.8	439.5
Commerce and transport	109.3	129.0	150.0	175.0
Public administration	108.0	131.0	156.8	190.6
Financial institutions	42.6	50.7	59.1	69.4
Other services	11.0	13.1	10.9	4.4
Gross domestic product	422.0	486.8	552.6	629.3
Consumption	527.8	573.5	657.3	768.6
Private	324.1	392.4	415.5	433.7
Public	203.8	181.1	241.9	334.9
Gross fixed capital formation	152.1	159.3	199.5	221.7
Private	59.9	87.6	88.7	95.0
Public	92.2	71.7	110.8	126.6
Gross domestic expenditure	680.0	732.8	856.8	990.2
Resource balance	-258.0	-246.0	-304.2	-361.0
Exports of goods and services	142.2	168.2	193.6	196.5
Imports of goods and services	400.2	414.2	497.9	557.5
Memorandum items:				
Gross domestic savings	75.0	60.2	85.1	104.9
Private domestic savings	143.1	1.4	10.9	62.3
Public domestic savings	-68.1	58.8	74.2	42.6
GDP deflator (annual percentage changes)	9.8	10.8	9.2	9.7
Nominal GDP (annual percentage changes)	14.2	15.4	13.5	13.9
Real GDP (annual percentage changes)	4.0	4.1	4.0	3.8

Sources: São Tomé and Príncipe authorities; and staff estimates.

Table 2. São Tomé and Príncipe: Gross Domestic Product and Expenditure at Current Prices, 2001–04
(In percent of GDP)

	2001	2002	2003	2004 Prel.
Primary sector	19.2	18.0	17.1	16.3
Agriculture	15.6	14.7	14.0	13.3
Fishing	3.5	3.3	3.1	3.0
Secondary sector	16.6	15.5	14.7	13.9
Manufacturing and energy	5.2	4.8	4.5	4.2
Construction	11.5	10.7	10.2	9.7
Tertiary sector	64.2	66.5	68.2	69.8
Commerce and transport	25.9	26.5	27.2	27.8
Public administration	25.6	26.9	28.4	30.3
Financial institutions	10.1	10.4	10.7	11.0
Other services	2.6	2.7	2.0	0.7
Gross domestic product	100.0	100.0	100.0	100.0
Consumption	125.1	117.8	119.0	122.1
Private	76.8	80.6	75.2	68.9
Public	48.3	37.2	43.8	53.2
Gross fixed capital formation	36.1	32.7	36.1	35.2
Private	14.2	18.0	16.0	15.1
Public	21.9	14.7	20.1	20.1
Gross domestic expenditure	161.1	150.5	155.1	157.4
Resource balance	-61.1	-50.5	-55.1	-57.4
Exports of goods and services	33.7	34.6	35.0	31.2
Imports of goods and services	94.8	85.1	90.1	88.6
Memorandum items:				
Gross domestic savings	17.8	12.4	15.4	16.7
Private national savings	33.9	0.3	2.0	9.9
Public national savings	-16.1	12.1	13.4	6.8

Sources: São Tomé and Príncipe authorities; and staff estimates.

Table 3. São Tomé and Príncipe: Gross Domestic Product and Expenditure at Constant Prices, 2001–04

	2001	2002	2003	2004 Est.
(In billions of dobras)				
Gross domestic product at 1991 prices	14.1	14.6	15.2	15.8
Primary sector	4.5	4.6	4.8	4.9
Agriculture	4.0	4.2	4.3	4.4
Fishing	0.5	0.5	0.5	0.5
Secondary sector	2.5	2.6	2.7	2.8
Manufacturing and energy	1.0	1.0	1.0	1.0
Construction	1.5	1.6	1.7	1.8
Tertiary sector	7.1	7.4	7.7	8.1
Commerce and transport	3.9	4.0	4.2	4.4
Public administration	2.2	2.3	2.5	2.7
Financial institutions	0.8	0.8	0.8	0.9
Other services	0.2	0.3	0.2	0.1
Gross domestic expenditure	22.7	22.0	23.6	24.9
Consumption	17.6	17.2	18.1	19.3
Private	10.8	11.8	11.4	10.9
Public	6.8	5.4	6.7	8.4
Gross fixed capital formation	5.1	4.8	5.5	5.6
Resource balance	-8.6	-7.4	-8.4	-9.1
Exports of goods and services	4.7	5.1	5.3	4.9
Imports of goods and services	13.3	12.5	13.7	14.0
(Annual percentage changes)				
Gross domestic product at 1991 prices	4.0	4.1	4.0	3.8
Primary sector	2.8	2.8	2.8	2.9
Agriculture	2.9	2.8	2.8	2.9
Fishing	2.5	2.5	2.5	3.0
Secondary sector	4.2	4.3	4.3	4.4
Manufacturing and energy	2.3	2.5	2.5	2.6
Construction	5.0	5.0	5.0	5.0
Tertiary sector	4.7	4.9	4.7	4.2
Commerce and transport	4.0	3.2	4.2	5.0
Public administration	5.0	7.0	7.8	8.6
Financial institutions	5.0	5.0	5.0	5.0
Other services	30.7	13.3	-16.4	-64.4
Gross domestic expenditure	13.5	-2.7	7.1	5.3
Consumption	16.4	-1.9	5.0	6.6
Private	-0.4	9.3	-3.0	-4.8
Public	58.9	-19.8	22.4	26.2
Gross fixed capital formation	4.7	-5.5	14.7	1.3
Resource balance	33.6	-13.9	13.3	8.2
Exports of goods and services	4.9	6.8	5.4	-7.5
Imports of goods and services	21.7	-6.6	10.1	2.1

Sources: São Tomé and Príncipe authorities; and staff estimates.

Table 4. São Tomé and Príncipe: Land Distribution, 2001–04 1/

	2001	2002	2003	2004
	(In hectares)			
Total area distributed	4,435	866	245	223
Small farms (1–10 hectares)	3,996	263	190	129.3
Medium-sized farms (11–50 hectares)	350	182	25	51.8
Forest and other noncultivable areas	89	421	30	42.2
	(In percent of total area distributed)			
Total area used to be distributed	100.0	100.0	100.0	100.0
Small farms (1–10 hectares)	90.1	30.4	77.6	57.9
Medium-sized farms (11–50 hectares)	7.9	21.0	10.2	23.2
Forest and other noncultivable areas	2.0	48.6	12.2	18.9
Memorandum items:	(In units indicated)			
Total area distributed (in hectares; cumulative since 1993) 1/	42,441	43,307	43,552	43,775
Number of beneficiary families	1,969	171	32	142
Number of beneficiary families (cumulative since 1993)	8,532	8,703	8,735	8,877
Hectares per family (annual average) 2/	2.2	2.6	6.7	1.3
Farm land redimensioned	26,946	27,391	27,606	27,787
Hectares per family (cumulative average) 2/	3.2	3.1	3.2	3.1

Sources: São Tomé and Príncipe authorities; and staff calculations.

1/ The land distribution project was initiated in 1993 with the objective of distributing land from government agricultural estates to small and medium-sized farms. At end-1992, the government estates covered 65,367 hectares, of which 33,821 hectares were cultivated.

2/ Computed using only small and medium-sized farms. Forest and other noncultivable areas are not owned by individual households.

Table 5. São Tomé and Príncipe: Production of Principal Agricultural Crops, 2001–04
(In metric tons)

	2001	2002	2003	2004
Export crops				
Cocoa	3,652	3,462	3,820	2,500
Copra	363	...	...	20
Coffee	13	5	6	10
Pepper	2	3	4	...
Vanilla	...	0.2	0.5	...
Food crops				
Pineapples	...	...	...	700
Sugar	...	...	...	...
Bananas	27,020	28,620	29,050	25,250
Breadfruit	14,900	18,400	18,500	13,500
Palm oil	319	160	163	104
Taro	26,000	24,650	24,750	...
Maize	...	...	...	900

Source: São Tomé and Príncipe authorities.

Table 6. São Tomé and Príncipe: Energy Production and Consumption, 2001–05

	2001	2002	2003	2004	2005 Jan-Sept.
(In thousands of kilowatt-hours)					
Electricity production 1/	26,467	31,208	35,889	37,243	30,135
Hydroelectricity	4,835	5,792	6,661	6,173	3,812
Thermoelectricity	21,632	25,416	29,228	31,070	26,323
Electricity consumption	17,161	25,395	27,006	25,616	21,679
Residential	10,344	13,190	14,027	13,305	11,260
Industrial and other 2/	6,817	12,205	12,979	12,311	10,419
(In billions of dobras)					
Electricity consumption	23.3	38.5	37.7	40.9	36.8
Residential	11.8	17.9	17.5	19.0	17.1
Industrial and other 2/	11.3	20.6	20.2	21.9	19.7
(In dobras per kilowatt-hour)					
Electricity consumption	1,361	1,516	1,398	1,595	1,697
Residential	1,150	1,364	1,257	1,435	1,527
Industrial and other 2/	1,671	1,687	1,555	1,775	1,889
(In percent of total production)					
Memorandum items:					
Losses in distribution	35.2	18.6	24.7	31.2	28.1

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ Production exceeds consumption, owing to losses in distribution.

2/ Including the government.

Table 7. São Tomé and Príncipe: Imports of Petroleum Products, 2001–05

	2001	2002	2003	2004	2005
(In thousands of liters)					
Volume of imports					
Gasoline	5,981	5,858	5,355	6,912	5,702
Diesel	16,357	13,219	12,375	16,459	14,975
Kerosene and Jet A-1	6,230	6,826	5,479	7,640	7,133
(In millions of U.S. dollars)					
Value of imports, c.i.f.	6.0	5.6	5.5	9.9	12.6
Gasoline	1.3	1.5	1.0	2.1	2.3
Diesel	3.0	2.7	3.1	5.3	7.1
Kerosene and Jet A-1	1.7	1.5	1.3	2.5	3.2
(In dobras per liter)					
Average retail price					
Gasoline	6,600	6,600	7,000	10,500	12,500
Diesel	5,000	5,000	5,000	9,500	11,000
Kerosene	3,100	3,100	2,800	5,500	6,000
Jet A-1	2,766	2,633	3,132	4,938	7,399
(In U.S. dollars per liter)					
Average retail price					
Gasoline	0.75	0.68	0.75	1.07	1.19
Diesel	0.57	0.53	0.53	0.97	1.05
Kerosene	0.35	0.28	0.30	0.56	0.57
Jet A-1	0.32	0.29	0.34	0.50	0.70
Import price, c.i.f.					
Gasoline	0.22	0.25	0.20	0.30	0.40
Diesel	0.18	0.20	0.25	0.32	0.47
Kerosene and Jet A-1	0.27	0.22	0.24	0.33	0.46

Sources: São Tomé and Príncipe authorities; and staff estimates.

Table 8. São Tomé and Príncipe: Cost Structure of Petroleum Products, 2001–05

	Gasoline		Diesel		Kerosene		Jet A-1	
	In percent of c.i.f. cost	In dobras per liter	In percent of c.i.f. cost	In dobras per liter	In percent of c.i.f. cost	In dobras per liter	In percent of c.i.f. cost	In dobras per liter
Retail prices for 2001								
Average import cost, c.i.f.	100	2,237	100	2,452	100	2,315	100	2,318
Import duty	154	3,445	68	1,665	15	345	4	96
Road maintenance tax	4	85	4	93	0	0	0	0
Airport authority tax	0	0	0	0	0	0	0	0
ENCO's handling and distribution costs 1/	25	560	23	559	11	257	11	257
ENCO's wholesale margin 1/	5	103	4	86	2	51	2	51
Retail margin	5	103	4	86	3	69	2	51
Residual	3	67	3	59	3	63	0	-7
Average retail price	295	6,600	204	5,000	134	3,100	119	2,766
Retail prices for 2002								
Average import cost, c.i.f.	65	2,019	173	2,273	779	2,073	2692	2,073
Import duty	3	101	9	114	39	104	135	104
Consumption tax	86	2,705	92	1,214	0	0	0	0
Road maintenance tax	2	77	7	86	0	0	0	0
Airport authority tax	0	0	0	0	0	0	53	41
ENCO's handling and distribution costs 1/	20	625	45	591	125	332	431	332
ENCO's wholesale margin 1/	5	161	13	170	31	83	108	83
Retail margin	7	222	13	170	39	104	0	0
Contribution to operating expenses	0	0	0	0	0	0	0	0
Residual	22	690	29	382	152	404	0	0
Average retail price	211	6,600	380	5,000	1165	3,100	3419	2,633

Table 8. São Tomé and Príncipe: Cost Structure of Petroleum Products, 2001–05 (concluded)

	Gasoline		Diesel		Kerosene		Jet A-1	
	In percent of c.i.f. cost	In dobras per liter	In percent of c.i.f. cost	In dobras per liter	In percent of c.i.f. cost	In dobras per liter	In percent of c.i.f. cost	In dobras per liter
Retail prices for 2003								
Average import cost, c.i.f.	100	2,356	100	2,591	100	2,342	100	2,342
Import duty	5	118	5	130	5	117	5	117
Consumption tax	134	3,158	53	1,384	0	0	0	0
Road maintenance tax	4	90	4	98	0	0	0	0
Airport authority tax	0	0	0	0	0	0	2	47
ENCO's handling and distribution costs 1/	39	918	36	926	22	515	23	532
ENCO's wholesale margin 1/	6	141	7	194	4	94	4	94
Retail margin	18	424	12	311	10	234	0	0
Residual	-9	-205	-24	-634	-21	-502	0	0
Average retail price	297	7,000	193	5,000	120	2,800	134	3,132
Retail prices for 2004								
Average import cost, c.i.f.	100	3,309	100	3,525	155	3,641	100	3,692
Import duty	5	165	5	176	8	182	5	185
Consumption tax	134	4,434	53	1,882	0	0	0	0
Road maintenance tax	4	126	4	134	0	0	0	0
Airport authority tax	0	0.0	0	0	0	0	2	74
ENCO's handling and distribution costs 1/	31	1,026	29	1,005	26	608	18	679
ENCO's wholesale margin 1/	6	199	8	264	6	146	4	148
Retail margin	18	596	12	423	16	364	0	0
Residual	20	645	59	2,090	24	559	4	160
Average retail price	317	10,500	269	9,500	151	5,500	134	4,938
Retail prices for 2005								
Average import cost, c.i.f.	100	4,618	100	6,838	100	5,533	100	5,533
Import duty	5	231	5	342	5	277	4	227
Consumption tax	134	6,189	53	3,652	0	0	0	0
Road maintenance tax	4	176	4	260	0	0	0	0
Airport authority tax	0	0	0	0	0	0	2	111
ENCO's handling and distribution costs 1/	31	1,432	29	1,949	17	924	18	1,018
ENCO's wholesale margin 1/	6	277	8	513	4	221	4	221
Retail margin	18	831	12	821	10	553	0	0
Residual	-27	-1,254	-49	-3,375	-27	-1,508	5	289
Average retail price	271	12,500	161	11,000	108	6,000	134	7,399

Source: São Tomé and Príncipe authorities.

1/ ENCO: the National Petroleum Distribution Company.

Table 9. São Tomé and Príncipe: Components of Official Consumer Price Index, 2001–05
(Index, 1996=100; end of period)

	Weights (In percent)	2001	2002	2003	2004	2005
Food, beverages, and tobacco	71.9	307.7	342.6	375.1	423.3	507.3
Clothing	5.3	450.3	496.5	523.3	603.0	669.7
Housing and energy	10.2	647.6	677.7	731.2	830.0	989.2
Furniture, electrical equipment, and other housing equipment	2.8	440.5	469.9	497.5	548.8	572.4
Health services	1.3	459.1	501.1	580.1	618.3	621.4
Transport and communications	6.4	456	457.9	565.4	802.1	894.5
Entertainment and cultural activities	0.7	321.8	377.8	408.1	427.2	423.6
Education	0.4	343.1	370.2	413.1	422.7	421.0
Hotels and restaurants	0.7	260.6	275.6	313.5	365.1	336.8
Other	0.5	301.5	320.5	357.4	377.0	389.4
General index	100.0	364.6	397.5	437.2	503.8	590.5

Source: São Tomé and Príncipe authorities.

Table 10. São Tomé and Príncipe: Monthly Movements in
Official Consumer Price Index, 2001–05

(Index, 1996 = 100, unless otherwise indicated)

	2001	2002	2003	2004	2005
January	336.2	368.1	402.8	444.3	518.6
February	340.1	376.0	409.5	459.7	534.5
March	343.3	377.8	416.8	470.6	551.4
April	344.7	382.6	418.3	474.1	557.4
May	346.9	383.3	419.4	476.3	560.0
June	348.7	385.1	422.2	478.5	560.9
July	349.5	385.8	424.6	479.7	562.4
August	351.0	386.8	427.5	481.9	565.0
September	353.3	389.5	429.5	486.3	569.6
October	356.1	392.8	431.0	492.9	577.9
November	360.6	394.6	433.5	498.1	583.6
December	364.6	397.5	437.2	503.8	590.5
Annual average	349.6	385.0	422.7	478.9	561.0
Rate of inflation (in percent)					
End of period	9.4	9.0	10.0	15.2	17.2
Annual average	9.2	10.1	9.8	13.3	17.2

Source: São Tomé and Príncipe authorities.

Table 11. São Tomé and Príncipe: Monthly Movements in Components of Official Consumer Price Index, 2001-05

	Weight (In percent)	2001											
		Jan.	Feb.	March	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
(Annual average for 1996=100)													
Food, beverages, and tobacco	71.9	295.6	301.0	303.4	303.4	302.7	303.7	303.8	291.3	293.7	297.6	301.6	307.7
Clothing	5.3	335.4	339.1	351.0	380.4	382.2	385.4	390.0	396.9	405.3	405.6	432.1	450.3
Housing and energy	10.2	523.6	523.5	523.6	521.1	547.7	560.7	562.9	654.5	656.5	657.4	656.9	647.6
Furniture, electrical equipment, and other housing equipment	2.8	431.7	418.5	444.7	432.1	430.2	435.1	439.4	451.0	449.7	444.4	435.1	440.5
Health services	1.3	417.7	431.5	442.7	456.3	470.4	425.0	433.3	451.9	452.1	453.7	456.3	459.1
Transport and communications	6.4	459.2	460.1	459.1	457.9	458.0	457.9	458.0	459.3	459.2	458.7	458.0	456.0
Entertainment and cultural activities	0.7	270.0	267.9	277.8	310.0	316.0	305.3	311.8	314.3	309.3	312.8	315.7	321.8
Education	0.4	296.7	293.0	285.4	315.2	322.5	322.5	312.5	327.1	328.9	330.7	338.6	343.1
Hotels and restaurants	0.7	249.9	250.0	259.8	254.7	238.6	234.4	245.7	249.3	253.6	256.1	254.9	260.6
Other	0.5	288.2	293.3	278.3	287.7	258.4	267.0	276.8	282.8	276.2	278.7	290.1	301.5
General index	100.0	336.2	340.1	343.3	344.7	346.9	348.7	349.5	351.0	353.3	356.1	360.6	364.6
(Monthly percentage changes)													
Cumulative rate of inflation		0.9	2.1	3.0	3.5	4.1	4.6	4.9	5.3	6.0	6.8	8.2	9.4
Average annual inflation		11.9	11.4	11.0	10.7	10.5	10.3	10.0	9.8	9.6	9.4	9.2	9.2

Table 11. São Tomé and Príncipe: Monthly Movements in Components of Official Consumer Price Index, 2001–05 (continued)

	Weight (In percent)	2002											
		Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
		(Annual average for 1996=100)											
Food, beverages, and tobacco	71.9	314.0	322.1	323.6	328.6	329.8	331.2	330.4	331.4	335.3	337.8	340.0	342.6
Clothing	5.3	452.8	443.7	449.2	449.1	453.5	464.5	482.2	485.2	485.7	483.3	484.4	496.5
Housing and energy	10.2	636.1	666.2	669.0	672.8	668.1	665.7	666.8	664.4	666.5	674.1	673.6	677.7
Furniture, electrical equipment, and other housing equipment	2.8	439.2	416.1	423.6	446.0	447.6	453.9	460.4	461.8	452.2	469.9	473.0	469.9
Health services	1.3	459.1	459.1	459.5	473.3	473.4	507.5	500.4	521.7	496.6	506.4	502.7	501.1
Transport and communications	6.4	453.8	453.2	453.3	452.7	452.7	452.2	451.8	453.1	455.4	457.7	457.9	457.9
Entertainment and cultural activities	0.7	326.4	333.5	334.3	337.3	326.3	330.8	327.7	328.3	343.9	350.8	374.1	377.8
Education	0.4	352.8	358.5	354.6	355.3	361.5	365.2	362.0	362.5	361.7	361.6	367.8	370.2
Hotels and restaurants	0.7	258.9	258.2	258.2	257.6	259.1	258.1	277.3	281.6	275.6	275.6	275.6	275.6
Other	0.5	294.2	296.3	301.6	308.4	314.1	311.1	308.1	311.2	313.3	319.2	319.9	320.5
General index	100.0	368.1	376.0	377.8	382.6	383.3	385.1	385.8	386.8	389.5	392.8	394.6	397.5
		(Monthly percentage changes)											
Cumulative rate of inflation		1.0	3.1	3.6	4.9	5.1	5.6	5.8	6.1	6.8	7.7	8.2	9.0
Average annual inflation		9.2	9.4	9.5	9.6	9.7	9.7	9.8	9.9	10.0	10.1	10.2	10.1

Table 11. São Tomé and Príncipe: Monthly Movements in Components of Official Consumer Price Index, 2001–05 (continued)

	Weight (In percent)	2004											
		Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
(Annual average for 1996=100)													
Food, beverages, and tobacco	71.9	384.5	405.5	416.6	417.5	417.2	419.1	417.8	422.8	422.8	415.4	416.3	423.3
Clothing	5.3	526.2	529.3	543.9	545.9	562.0	563.2	570.6	572.9	576.7	582.7	572.3	603.0
Housing and energy	10.2	730.3	732.1	755.0	762.7	775.5	776.0	786.7	762.9	805.3	839.1	841.0	830.0
Furniture, electrical equipment, and other housing equipment	2.8	502.0	504.5	495.8	504.3	510.9	510.8	530.3	536.4	530.5	539.0	543.2	548.8
Health services	1.3	580.1	580.1	580.1	588.6	582.9	583.9	606.4	618.3	618.3	618.3	618.3	618.3
Transport and communications	6.4	567.9	564.6	565.0	591.0	591.4	597.5	593.9	602.9	603.0	728.0	802.3	802.1
Entertainment and cultural activities	0.7	408.1	408.0	407.8	408.0	408.0	407.9	424.8	429.4	426.7	427.0	427.8	427.2
Education	0.4	414.2	414.8	425.7	425.7	422.4	424.6	424.2	431.2	426.7	421.5	420.0	422.7
Hotels and restaurants	0.7	316.4	320.4	321.6	321.6	330.0	383.2	375.2	364.5	368.4	359.5	365.6	365.1
Other	0.5	356.3	359.6	364.0	359.3	368.3	369.5	379.0	379.2	378.5	370.9	377.2	377.0
General index	100.0	444.3	459.7	470.6	474.1	476.3	478.5	479.7	481.9	486.3	492.9	498.1	503.8
(Monthly percentage changes)													
Cumulative rate of inflation		1.6	5.1	7.6	8.4	8.9	9.4	9.7	10.2	11.2	12.7	13.9	15.2
Average annual inflation		9.9	10.1	10.4	10.7	11.1	11.4	11.6	11.8	12.1	12.4	12.9	13.3

Table 11. São Tomé and Príncipe: Monthly Movements in Components of Official Consumer Price Index, 2001–05 (concluded)

	Weight (In percent)	2005											
		Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
(Annual average for 1996=100)													
Food, beverages, and tobacco	71.9	439.9	460.8	483.0	488.4	496.4	495.9	480.3	478.4	483.8	494.5	499.3	507.3
Clothing	5.3	595.4	600.1	603.0	616.0	624.0	639.4	649.5	646.3	643.8	646.9	669.5	669.7
Housing and energy	10.2	862.5	872.9	876.0	887.0	853.0	859.0	950.2	970.2	974.8	978.6	979.9	989.2
Furniture, electrical equipment, and other housing equipment	2.8	549.8	532.3	550.3	557.7	555.3	557.8	559.3	558.9	572.9	579.1	574.4	572.4
Health services	1.3	618.3	618.3	618.3	618.3	618.3	618.3	618.3	618.3	618.3	618.3	621.4	621.4
Transport and communications	6.4	802.1	801.8	802.0	802.0	802.1	802.1	846.6	878.7	878.5	878.5	894.7	894.5
Entertainment and cultural activities	0.7	427.2	427.3	427.3	427.3	427.3	427.3	427.3	427.3	427.3	427.3	416.1	423.6
Education	0.4	421.4	422.0	420.2	421.2	421.2	420.9	421.1	421.1	421.0	421.0	421.0	421.0
Hotels and restaurants	0.7	366.6	368.2	365.9	374.3	375.9	339.9	334.5	334.5	340.1	332.2	338.5	336.8
Other	0.5	374.6	375.8	385.8	388.1	384.6	390.1	389.1	389.4	389.5	389.3	389.4	389.4
General index	100.0	518.6	534.5	551.4	557.4	560.0	560.9	562.4	565.0	569.6	577.9	583.6	590.5
(Monthly percentage changes)													
Cumulative rate of inflation		2.9	6.1	9.4	10.6	11.2	11.3	11.6	12.1	13.1	14.7	15.8	17.2
Average annual inflation		13.8	14.2	14.5	14.9	15.2	15.6	15.9	16.3	16.6	16.8	17.0	17.2

Source: São Tomé and Príncipe authorities.

Table 12. São Tomé and Príncipe: Financial Transactions of Central Government, 2001–05
(In billions of dobras)

	2001	2002	2003	2004	2005 Est.
Total revenue and grants	248.8	245.6	321.0	381.2	972.1
Tax revenue	77.2	95.0	114.2	147.3	183.9
Consumption taxes	30.1	30.3	39.4	53.6	69.5
Import taxes	19.4	23.8	30.9	35.7	40.8
Other taxes	27.7	40.9	43.8	58.1	73.6
Nontax revenue	12.0	18.4	27.4	31.3	42.6
<i>Of which:</i> fishing licenses	2.7	1.6	9.8	7.2	8.7
transfers from enterprises	8.2	5.7	4.9	3.8	4.2
Grants	159.5	132.2	179.4	202.6	184.1
Oil signature bonuses	0.0	0.0	0.0	0.0	561.5
Total expenditure and net lending	335.3	325.6	415.1	548.6	545.5
Current expenditure	121.9	156.8	183.3	292.5	320.4
Personnel costs	40.5	43.6	55.0	75.7	103.3
Goods and services 1/	18.8	26.7	43.9	95.8	65.5
Interest on external debt due	23.6	25.9	26.1	30.1	33.7
Interest on internal debt due	1.1	0.0	0.0	0.0	1.9
Transfers	13.1	40.7	35.9	65.9	89.8
<i>Of which:</i> Joint Development Agency	0.0	31.3	22.6	26.0	32.9
Other current expenditures	24.8	20.0	22.4	25.0	26.2
Capital expenditure	194.3	140.0	197.9	234.9	193.4
Financed by the treasury	29.4	12.3	38.0	50.5	15.1
Foreign financed	164.9	127.7	160.0	184.4	178.3
HIPC Initiative-related social expenditure	17.2	22.5	33.6	30.1	31.7
Public service restructuring	1.9	6.3	0.0	0.0	0.0
Net lending	0.0	0.0	0.3	-9.0	0.0
Overall fiscal balance (commitment basis)	-86.5	-80.0	-94.1	-167.3	426.6
Change in arrears (net; reduction -)	3.8	48.8	28.3	41.0	-145.9
External arrears (net; reduction -) 2/	3.8	14.9	9.4	13.8	-52.2
Domestic arrears (net; reduction -)	0.0	34.0	18.8	27.2	-93.6
<i>Of which:</i> Joint Development Agency	0.0	31.3	22.6	26.0	32.9
Overall fiscal balance (cash basis)	-82.7	-31.1	-65.8	-126.3	280.8
Financing	82.7	31.1	65.8	126.3	-280.8
External (net)	31.9	3.6	24.7	74.2	-32.1
Disbursements (projects)	42.9	17.7	17.9	38.4	41.8
Program financing (loans)	25.8	0.0	30.8	50.3	18.0
Short-term loans	0.0	45.0	46.7	58.7	0.0
Medium & long-term Amortization	-36.7	-59.1	-70.8	-73.2	-91.9
Domestic (net)	35.6	-1.8	16.0	17.2	-16.1
Banking credit	17.3	-0.3	29.7	16.6	-16.1
Nonbank financing	18.3	-1.5	-13.7	0.7	0.0
Oil reserve fund flows (net) 4/	0.0	0.0	0.0	0.0	-276.7
Change in arrears (principal) 5/	15.2	29.3	25.1	34.9	-100.0
Paris Club Rescheduling	0.0	0.0	0.0	0.0	144.1

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ In 2004, includes Db20.8 billion (i.e. 3.3 percent of GDP) for hosting the 2004 conference of the Community of Portuguese Language countries (CPLP).

2/ Interest arrears on Paris Club and non-Paris Club bilateral debt.

3/ For 2002-04, includes three US\$5 million loans from Nigeria borrowed during 2002-04 and a US\$1 million loan from Angola borrowed in 2004. Repayment of the Nigeria loans has been rescheduled until receipt of oil signature bonuses other than on Block 1.

4/ For 2005, net amount is negative on account of the transfer of oil bonuses, net of drawings, to the National Oil Account.

5/ For 2005, reflects impact of Paris Club rescheduling in the last quarter of 2005.

Table 13. São Tomé and Príncipe: Central Government Revenue, 2001–05
(In billions of dobras)

	2001	2002	2003	2004	2005 Est.
Total revenue and grants	248.8	245.6	321.0	381.2	972.2
Tax revenue	77.2	95.0	114.2	147.3	184.0
Direct taxes	23.8	34.1	33.0	44.5	54.3
Profit taxes	10.2	18.2	14.9	18.0	23.5
Income taxes	13.0	15.1	16.7	23.8	27.0
Other	0.7	0.8	1.4	2.7	3.8
Indirect taxes	53.4	60.8	81.2	102.8	129.7
Import taxes	19.4	23.8	30.9	35.7	40.8
Consumption taxes	30.1	30.3	39.4	53.6	69.5
On imported goods	28.3	28.5	31.8	46.4	46.4
On domestic goods	1.8	1.8	7.6	7.2	7.2
Other	3.9	6.8	10.9	13.6	19.4
Nontax revenue	12.0	18.4	27.4	31.3	42.6
Transfers from enterprises	8.2	5.7	4.9	3.8	4.2
Fishing royalties	2.7	1.6	9.8	7.2	8.7
Other 1/	1.1	11.1	12.7	20.3	29.7
Grants	159.5	132.2	179.4	202.6	184.1
Oil signature bonuses	0.0	0.0	0.0	0.0	561.5

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ Includes revenues from Nigeria's aid in kind.

Table 14. São Tomé and Príncipe: Central Government Expenditure, 2001–05
(In billions of dobras)

	2001	2002	2003	2004	2005 Est.
Total expenditure and net lending	335.3	325.6	415.1	492.9	545.5
Current expenditure	121.9	156.8	183.3	236.9	320.4
Personnel costs	40.5	43.6	55.0	20.1	103.3
Wages and salaries	32.6	35.7	50.5	10.5	90.4
Local	28.7	31.2	43.6	9.0	80.9
Embassies	3.9	4.5	6.9	1.5	9.5
Travel 1/	6.1	6.3	...	...	...
Other personnel expenditures 2/	0.9	0.6	3.0	7.3	10.1
Social security payments	0.9	1.0	1.5	2.3	2.8
Goods and services	18.8	26.7	43.9	95.8	65.5
Durable goods	0.5	0.6	0.9	0.9	0.6
Nondurable goods	2.8	4.6	11.0	12.6	11.4
Petroleum products	1.1	1.5	2.0	2.6	3.1
Other	1.7	3.1	9.0	10.0	8.3
Services	15.5	21.4	32.0	82.2	53.5
Of which: electricity	9.0	13.5	12.4	25.0	25.0
transport and communications	4.4	4.8	11.1	17.7	10.8
Interest on external debt due	23.6	25.9	26.1	30.1	33.7
Interest on internal debt due	1.1	0.0	0.0	0.0	1.9
Transfers	13.1	40.7	35.9	65.9	89.8
Public entities	3.6	5.0	7.8	8.3	16.1
Public enterprises	5.1	0.0	0.0	0.0	0.0
Private sector	3.0	3.1	3.7	4.6	3.4
Private institutions	0.1	0.1	0.4	0.6	0.2
Individuals	2.9	3.0	3.3	4.0	3.3
External	1.4	1.3	1.9	26.9	37.3
Joint Development Agency	...	31.3	22.6	26.0	32.9
Other current expenditures	24.8	20.0	22.4	25.0	26.2
Embassies	2.2	3.1	3.0	4.9	5.0
Extraordinary expenditures	0.8	0.6	0.7	0.7	...
Other	21.8	16.3	18.7	19.4	21.1
Public service restructuring	1.9	6.3	0.0	0.0	0.0
Capital expenditure 3/	194.3	140.0	197.9	234.9	193.4
Financed by the treasury	29.4	12.3	38.0	50.5	15.1
Financed by external sources	164.9	127.7	160.0	184.4	178.3
HIPC Initiative-financed social expenditure	17.2	22.5	33.6	30.1	31.7
Net lending	0.0	0.0	0.3	-9.0	0.0
Memorandum item:					
Total expenditure and net lending, excluding foreign-financed capital expenditure	170.4	197.9	255.1	308.5	367.2

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ Starting in 2003, travel expenditures are classified with goods and services.

2/ Includes bonuses and allowances.

3/ Includes outlays for technical assistance and other expenditures on social projects not associated with capital formation.

Table 15. São Tomé and Príncipe: Fiscal Indicators, 2001–05

	2001	2002	2003	2004	2005 Est.
	(Annual percentage changes)				
Total revenue and grants	35.2	-1.3	30.7	18.8	155.0
Tax revenue	30.0	23.0	20.2	29.0	24.9
Direct taxes	18.9	43.3	-3.3	34.9	22.1
Indirect taxes	35.7	14.0	33.4	26.7	26.1
<i>Of which:</i> import taxes	8.5	22.7	30.1	15.3	14.3
Nontax revenue	-41.3	53.2	48.3	14.5	36.1
<i>Of which:</i> transfers from enterprises	50.3	-30.4	-14.6	-22.1	12.2
Grants	53.2	-17.1	35.7	12.9	-9.1
Total expenditure	36.0	-2.9	27.5	18.8	10.7
Current expenditure	35.6	28.6	16.9	29.3	35.2
<i>Of which:</i> personnel costs	40.2	7.8	26.1	-63.4	413.9
goods and services	23.0	41.9	64.5	118.3	-31.6
interest on external debt due	0.2	9.4	1.1	15.3	11.8
Capital expenditure	25.1	-27.9	41.4	18.7	-17.7
	(In percent of total revenue and grants)				
Total revenue and grants	100.0	100.0	100.0	100.0	100.0
Tax revenue	31.0	38.7	35.6	38.6	18.9
Direct taxes	9.6	13.9	10.3	11.7	5.6
Indirect taxes	21.5	24.8	25.3	27.0	13.3
<i>Of which:</i> import taxes	7.8	9.7	9.6	9.4	4.2
export taxes	0.0	0.0	0.0	0.0	0.0
Nontax revenue	4.8	7.5	8.5	8.2	4.4
<i>Of which:</i> transfers from enterprises	3.3	2.3	1.5	1.0	0.4
Grants	64.1	53.8	55.9	53.1	18.9
Oil signature bonuses	0.0	0.0	0.0	0.0	57.8
	(In percent of total expenditure and net lending)				
Total expenditure and net lending	100.0	100.0	100.0	100.0	100.0
Current expenditure	36.4	48.2	44.2	48.1	65.0
<i>Of which:</i> personnel costs	12.1	13.4	13.2	4.1	21.0
goods and services	5.6	8.2	10.6	19.4	13.3
interest on external debt due	7.0	7.9	6.3	6.1	6.8
Public service restructuring	0.6	1.9	0.0	0.0	0.0
Capital expenditure	58.0	43.0	47.7	47.7	39.2
Financed by the treasury	8.8	3.8	9.1	10.2	3.1
Financed by external sources	49.2	39.2	38.5	37.4	36.2
HIPC Initiative-financed social expenditure	5.1	6.9	8.1	6.1	5.8
Net Lending	0.0	0.0	0.1	-1.8	0.0
	(In percent of GDP)				
Total revenue and grants	59.0	50.5	58.1	60.6	129.7
<i>Of which:</i> tax revenue	18.3	19.5	20.7	23.4	24.5
Total expenditure and net lending	79.5	66.9	75.1	87.2	72.8
<i>Of which:</i> current expenditure	28.9	32.2	33.2	46.5	42.8
capital expenditure	46.0	28.8	35.8	37.3	25.8
Primary current balance					
Primary overall balance 1/					
Domestic primary balance (commitment basis)1/	-12.9	-4.3	-11.7	-20.6	-14.0
Overall balance (commitment basis) 2/	-20.5	-16.4	-17.0	-26.6	-18.0

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ Including HIPC Initiative-financed social expenditure.

2/ Excluding oil signature bonuses.

Table 16. São Tomé and Príncipe: Public Investment Program, 2001–05

	2001	2002	2003	2004	2005 Est.
(In millions of U.S. dollars)					
Total investment	20.4	18.5	26.9	28.0	18.2
Public administration	2.9	3.6	6.6	12.8	6.0
Agriculture	2.3	3.8	1.8	0.9	1.4
Water and sewage	1.7	1.9	3.7	1.9	0.9
Education	4.0	1.5	3.8	1.8	0.9
Energy	1.6	0.7	0.8	0.2	0.0
Housing	0.3	0.0	1.2	0.2	0.3
Fisheries	0.6	0.3	0.4	0.1	0.0
Health	1.7	2.2	4.0	3.9	3.7
Transport and telecommunications	4.7	4.1	3.9	3.4	3.9
Other	0.5	0.3	0.6	2.8	1.3
Financing	20.4	18.5	26.9	28.0	18.2
Foreign	17.0	14.6	17.0	18.9	14.1
Grants	15.2	12.3	15.2	14.9	12.8
Loans	1.8	2.3	1.9	3.9	1.3
Domestic	3.4	3.9	9.8	9.1	4.1
Counterpart funds	0.2	0.1	0.0	0.0	0.0
Budget	1.0	1.4	6.9	4.9	1.8
HIPC account	2.2	2.5	3.0	4.2	2.3
(In percent of total investment)					
Total investment	100.0	100.0	100.0	100.0	100.0
Public administration	14.4	19.3	24.6	45.6	32.7
Agriculture	11.4	20.7	6.9	3.3	7.4
Water and sewage	8.4	10.4	13.7	6.7	5.0
Education	19.7	7.9	14.1	6.5	4.9
Energy	7.7	3.8	3.0	0.8	0.0
Housing	1.3	0.2	4.5	0.8	1.4
Fisheries	3.0	1.7	1.4	0.4	0.0
Health	8.5	12.0	14.9	13.8	20.3
Transport and telecommunications	23.0	22.2	14.6	12.2	21.2
Other	2.6	1.7	2.2	9.9	7.1
Financing	100.0	100.0	100.0	100.0	100.0
Foreign	83.3	78.8	63.4	67.4	77.5
Grants	74.6	66.6	56.5	53.4	70.3
Loans	8.6	12.2	6.9	14.0	7.1
Domestic	16.7	21.2	36.6	32.6	22.5
Counterpart funds	1.1	0.6	0.0	0.0	0.0
Other banking system deposits	4.8	7.3	25.5	17.7	9.9

Sources: São Tomé and Príncipe authorities; and staff estimates.

Table 17. São Tomé and Príncipe: Monetary Survey, 2001–05

	2001	2002	2003	2004	2005 Est.
(In billions of dobras; end of period)					
Net foreign assets	220.1	264.7	324.7	297.7	669.8
Central bank 1/	167.9	194.3	235.1	189.3	529.1
Commercial banks	52.2	70.5	89.6	108.5	140.7
Net domestic assets	-66.7	-69.9	-48.6	-1.2	-295.8
Net domestic credit	12.1	31.1	101.0	212.6	-7.9
Net credit to government 1/	-10.2	-10.5	19.2	35.8	-256.6
<i>Of which:</i> budgetary deposits	-33.8	-8.1	-18.5	-19.2	-15.5
Net claims on other public institutions	-0.7	0.0	0.0	0.0	0.0
Credit to the economy	23.0	41.6	81.8	176.8	248.7
Other items (net)	-78.8	-101.0	-149.6	-213.8	-287.9
Broad money	153.5	194.8	276.2	296.5	373.9
Currency in circulation	35.8	39.4	56.4	60.0	63.6
Demand deposits	53.4	64.6	90.7	99.3	130.1
Time deposits in local currency	8.9	12.2	11.2	16.5	16.5
Foreign currency deposits	55.4	78.5	117.9	120.7	163.8
(Changes from the beginning of the year; in billions of dobras)					
Net foreign assets 1/	83.9	44.6	60.0	-27.0	372.1
Net domestic assets	-42.7	-3.2	21.4	47.4	-294.6
Net domestic credit	14.3	19.0	69.9	111.5	-220.5
Net credit to government 1/	17.3	-0.3	29.7	16.6	-292.4
Credit to the economy	-2.3	18.6	40.2	95.0	71.9
Broad money (M3)	41.2	41.3	81.4	20.3	77.4
Currency in circulation	10.7	3.7	17.0	3.6	3.6
Deposits in local currency	21.8	14.6	25.0	14.0	30.8
Deposits in foreign currency	8.7	23.1	39.3	2.8	43.1
(Changes in percent of beginning-of-period money stock)					
Net foreign assets	74.7	29.1	30.8	-9.8	125.5
Net domestic assets	-38.0	-2.1	11.0	17.1	-99.4
Net domestic credit	12.7	12.4	35.9	40.4	-74.4
Net credit to government	15.4	-0.2	15.3	6.0	-98.6
Credit to the economy	-2.0	12.1	20.6	34.4	24.3
Broad money (M3)	36.7	26.9	41.8	7.4	26.1
Currency in circulation	9.5	2.4	8.7	1.3	1.2
Deposits in local currency	19.4	9.5	12.9	5.1	10.4
Deposits in foreign currency	7.7	15.0	20.2	1.0	14.5
(Annual percentage changes)					
Credit to the economy	-11.7	80.9	96.6	116.1	40.7
Broad money	36.6	26.9	41.8	7.4	26.1
Currency in circulation	42.6	10.2	43.1	6.3	5.9
Deposits in local currency	54.2	23.4	32.6	13.7	26.6
Deposits in foreign currency	18.6	41.6	50.1	2.4	35.7

Source: São Tomé and Príncipe authorities; and staff estimates.

1/ Includes the National Oil Account.

Table 18. São Tomé and Príncipe: Summary Accounts of Central Bank, 2001–05
(In billions of dobras; end of period)

	2001	2002	2003	2004	2005 Est.
Net foreign assets	167.9	194.3	235.1	189.3	529.1
Foreign assets 1/	192.9	217.7	287.1	246.5	585.0
<i>Of which:</i> Gross Reserves	139.7	159.5	240.6	197.1	526.4
National Oil Account	0.0	0.0	0.0	0.0	276.3
Foreign liabilities	-24.9	-23.5	-52.0	-57.3	-55.9
Net domestic assets	-74.5	-82.4	-76.4	-70.0	-375.8
Net domestic credit	-9.7	-5.4	29.4	54.7	-236.5
Net credit to government	-7.5	-7.1	23.8	42.6	-249.6
Claims	58.2	59.2	63.1	83.6	87.5
Deposits 1/	-65.7	-66.3	-39.2	-41.0	-337.0
<i>Of which:</i> National Oil Account	0.0	0.0	0.0	0.0	-276.3
counterpart funds	-22.3	-12.4	-11.5	-16.2	-22.6
HIPC Initiative resources	-4.3	-3.6	-10.3	-4.2	-8.5
Other items (net)	-64.8	-76.9	-105.8	-124.7	-139.3
Base money	87.7	111.9	158.7	119.2	153.3
Currency outside banks	35.8	45.7	63.1	67.2	73.2
Reserve deposits (including cash holdings)	52.0	66.1	95.6	52.1	80.1

Source: São Tomé and Príncipe authorities; and staff estimates.

1/ Includes the National Oil Account.

Table 19. São Tomé and Príncipe: Summary Accounts of Banking Institutions, 2001–05
(In billions of dobras; end of period)

	2001	2002	2003	2004	2005 Est.
Net foreign assets	52.2	70.5	89.6	108.5	140.7
Foreign assets	54.9	73.4	93.7	112.9	161.0
Foreign liabilities	-2.7	-2.9	-4.1	-4.4	-20.4
Net domestic assets	65.5	84.9	130.1	128.0	169.7
Reserves	59.8	72.4	119.8	62.7	89.7
Cash holdings	7.8	6.3	6.7	7.2	9.6
Local currency deposits at the central bank	46.3	61.3	85.6	51.9	39.5
Foreign currency deposits at the central bank	5.7	4.8	27.5	3.7	40.6
Short-term credit from the central bank	0.0	0.0	0.0	-4.0	0.0
Cash bonds	0.0	0.0	-9.4	-17.9	-7.5
Net domestic credit	22.6	36.5	71.6	161.9	228.6
Net credit to government	-2.7	-3.4	-4.6	-6.9	-7.0
Credit to the economy	25.2	39.9	76.3	168.7	235.6
Other items (net)	-16.9	-24.1	-52.0	-74.6	-141.1
Deposits	117.7	155.3	219.7	236.5	310.4
Deposits in local currency	62.3	76.8	101.9	115.8	146.6
Deposits in foreign currency	55.4	78.5	117.9	120.7	163.8

Source: São Tomé and Príncipe authorities; and staff estimates.

Table 20. São Tomé and Príncipe: Structure of Interest Rates, 2001–05 1/
(In percent a year; end of period)

	2001	2002	2003	2004	2005 Sept.
Interest rates for deposits					
Sight deposits	0.0	0.0	0.0	0.0	0.0
Term deposits					
90-180 days	14.0	14.0	10.6	10.6	12.5
181-365 days	15.0	15.0	10.3	10.3	12.8
Over one year	16.0	16.0	...	...	...
Interest rates for loans					
Commercial and industrial credits					
90-180 days	34.0	34.0	30.0	30.0	35.0
181-365 days	36.0	36.0	30.5	30.5	32.5
Over one year	39.0	39.0	31.5	31.5	...
Short-term crop credit	34.0	34.0	30.0	30.0	...
Central bank reference interest rate	15.5	15.5	14.5	14.5	18.2
Memorandum items:					
Interest rate for deposits of 181-365 days' maturity (in real terms)	5.1	5.5	0.3	-4.3	-3.8
Interest rate on commercial and industrial credits of 181-365 days' maturity (in real terms) 2/	24.3	24.8	18.6	13.2	13.0

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ The lending and deposit rates are maxima and minima, respectively.

2/ Real interest rates calculated on the basis of the respective end-of-period inflation rates.

Table 21. São Tomé and Príncipe: Balance of Payments, 2001–05
(In millions of U.S. dollars, unless otherwise specified)

	2001	2002	2003	2004	2005 Est.
Trade balance	-22.9	-23.3	-27.0	-32.5	-38.3
Exports, f.o.b.	3.3	5.1	6.6	3.5	3.8
Cocoa	2.8	4.5	6.1	3.1	3.4
Other	0.5	0.6	0.5	0.4	0.4
Imports, f.o.b.	-26.2	-28.4	-33.6	-36.0	-42.1
Food	-7.9	-10.1	-12.0	-12.2	-16.3
Investment goods	-11.9	-11.3	-13.4	-11.6	-12.2
Petroleum products	-3.8	-4.3	-4.7	-7.8	-9.9
Other	-2.6	-2.7	-3.5	-4.3	-3.7
Services and income (net)	-8.9	-6.6	-8.4	-7.5	-5.3
Exports of services	12.8	13.4	14.1	16.6	17.7
Travel and tourism	9.6	10.1	10.6	12.8	13.6
Other services	3.2	3.3	3.5	3.8	4.1
Imports of services	-19.0	-17.2	-19.7	-21.0	-20.0
Freight and insurance	-6.6	-7.1	-8.4	-9.0	-10.5
Technical assistance	-7.0	-4.8	-6.0	-6.7	-3.8
Other	-5.5	-5.2	-5.3	-5.4	-5.7
Factor services (net)	-2.7	-2.8	-2.8	-3.1	-3.0
Private transfers (net)	0.6	0.7	1.8	2.1	2.0
Current account balance (excluding official transfers)	-31.2	-29.2	-33.5	-37.9	-41.6
Official transfers (net)	18.8	16.3	20.3	25.0	18.4
Public investment projects	13.8	12.1	15.2	14.9	10.0
Nonproject grants	2.7	1.4	1.6	3.4	3.8
HIPC Initiative-related grants	2.4	2.8	3.2	3.2	3.2
Nigeria grant	0.0	0.0	0.1	1.4	1.4
Current account balance (including official transfers)	-10.7	-12.9	-13.2	-13.0	-23.2
Medium- and long-term capital (net)	7.1	-0.9	1.0	5.1	49.0
Project loans	4.9	2.0	1.9	3.9	3.9
Program loans	2.9	0.0	3.3	5.1	1.7
Oil signature bonuses	0.0	0.0	0.0	0.0	49.2
Direct foreign investment	3.3	3.6	3.4	3.5	3.5
Other investment	0.0	0.0	0.0	0.0	-0.5
Amortization	-4.1	-6.5	-7.6	-7.5	-8.9
Short-term capital and errors and omissions 1/	2.3	11.4	14.0	2.9	0.8
Overall balance	-1.3	-2.4	1.9	-5.0	26.6
Financing	1.4	2.4	-1.9	5.0	-26.5
Net change in reserves (increase -)	-2.4	-2.4	-5.9	0.0	-2.7
Use of Fund resources (net)	0.0	0.0	0.0	0.0	0.5
Permanent oil fund (increase -)	0.0	0.0	0.0	0.0	-23.3
Medium- and long-term arrears (net; decrease -)	2.1	4.9	4.0	5.0	-14.6
Debt relief	1.6	0.0	0.0	0.0	0.2
Rescheduling of arrears	0.0	0.0	0.0	0.0	13.3
Memorandum items:					
Debt-service ratio (before debt relief) 2/ 3/	42.0	50.7	50.3	52.8	56.7
Debt service paid 2/ 4/	4.0	9.2	15.4	11.8	109.0
Current account, before grants (in percent of GDP)	-65.4	-54.5	-56.7	-58.9	-59.2
Current account (in percent of GDP)	-22.3	-24.1	-22.3	-20.1	-33.1

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ Includes short-term loans from Nigeria.

2/ In percent of exports of goods and services, calculated as a backward three-year moving average.

3/ Includes amortization to the IMF; excludes arrears.

4/ Includes obligations to the IMF and cash settlement of arrears.

Table 22. São Tomé and Príncipe: Composition of Exports, 2001–05

	2001	2002	2003	2004	2005 Jan-Sept.
(In millions of U.S. dollars)					
Total	3.30	5.10	6.60	3.50	2.53
Cocoa	2.84	4.55	6.14	3.14	2.22
Coffee	0.02	0.01	0.00	0.00	0.00
Other	0.44	0.54	0.46	0.36	0.32
(In metric tons)					
Cocoa	3,651	3,462	3,820	2,500	1,798
Coffee	11	4	...	...	...
Other	716	518	...	1,222	927
(U.S. dollars per kilogram)					
Cocoa	0.78	1.31	1.61	1.26	1.23
Coffee	2.10	3.15	...	...	...
Other	0.61	1.04	...	0.29	0.34

Sources: São Tomé and Príncipe authorities; and staff estimates.

Table 23. São Tomé and Príncipe: Composition of Imports, 2001–05

	2001	2002	2003	2004	2005 Jan-Sept
(In millions of U.S. dollars)					
Total imports, f.o.b.	26.2	28.4	33.6	36.0	37.7
Foodstuffs	7.9	10.1	12.0	12.2	14.5
Petroleum products	11.9	11.3	13.4	11.6	6.6
Investment goods	3.8	4.3	4.7	7.8	10.9
Other	2.6	2.7	3.5	4.3	5.7
(In percent of total, unless otherwise indicated)					
Total imports, f.o.b.	100.0	100.0	100.0	100.0	100.0
Foodstuffs	30.0	35.6	35.7	34.0	38.5
Petroleum products	45.5	39.7	40.0	32.2	17.5
Investment goods	14.6	15.1	13.9	21.7	29.0
Other	9.8	9.6	10.3	12.0	15.1
Memorandum item:					
Total imports, c.i.f. (in millions of U.S. dollars)	32.8	35.5	42.0	45.0	43.8

Sources: São Tomé and Príncipe authorities; and staff estimates.

Table 24. São Tomé and Príncipe: Destination of Exports, 2001–05

	2001	2002	2003	2004	2005 Jan-Sept
(In millions of U.S. dollars)					
Total exports, f.o.b.	3.3	5.1	6.6	3.5	2.5
Angola	0.0	0.1	0.2	0.1	0.1
Belgium	0.4	0.7	1.6	0.6	0.4
Netherlands	1.6	3.1	2.7	1.9	1.3
Portugal	0.5	1.0	1.2	0.6	0.5
Other	0.8	0.3	0.8	0.3	0.2
(In percent of total)					
Total exports, f.o.b.	100.0	100.0	100.0	100.0	100.0
Angola	1.2	2.1	3.0	3.7	5.6
Belgium	12.2	13.1	24.8	16.0	15.1
Netherlands	47.2	60.1	41.6	55.0	50.9
Portugal	16.0	19.6	18.5	16.9	21.2
Other	23.4	5.1	12.1	8.4	7.2

Sources: São Tomé and Príncipe authorities; and staff estimates.

Table 25. São Tomé and Príncipe: Origin of Imports, 2001–05

	2001	2002	2003	2004	2005 Jan-Sept
(In millions of U.S. dollars)					
Total imports, c.i.f.	32.8	35.5	42.0	45.0	43.8
Angola	4.6	4.0	3.8	7.0	7.9
Belgium	3.4	5.3	5.7	4.5	2.8
France	3.9	0.3	1.6	0.2	0.1
Gabon	1.3	1.1	1.5	0.9	0.3
Japan	2.1	2.5	1.4	3.4	4.5
Netherlands	0.3	0.1	0.2	0.5	0.04
Portugal	15.1	21.3	25.5	25.5	25.3
Other	2.0	1.0	2.3	2.9	2.8
(In percent of total)					
Total imports, c.i.f.	100.0	100.0	100.0	100.0	100.0
Angola	14.1	11.2	9.1	15.6	18.1
Belgium	10.5	14.9	13.5	10.1	6.4
France	11.9	0.8	3.9	0.4	0.2
Gabon	4.1	3.0	3.5	2.0	0.7
Japan	6.4	7.0	3.4	7.5	10.2
Netherlands	0.8	0.3	0.4	1.2	0.1
Portugal	46.0	60.0	60.8	56.7	57.9
Other	6.2	2.8	5.4	6.6	6.4

Sources: São Tomé and Príncipe authorities; and staff estimates.

Table 26. São Tomé and Príncipe: Export, Import, and Terms of Trade Indices, 2001–05 1/

	2001	2002	2003	2004	2005 Est.
	(Index, 2000=100)				
Export unit value index	117.6	182.1	180.4	161.8	169.3
Import unit value index 2/	94.3	97.7	107.7	119.1	131.4
Terms of trade	124.7	186.3	167.5	135.9	128.9
	(Annual percentage changes)				
Terms of trade 3/	24.7	49.5	-10.1	-18.8	-5.2

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ In U.S. dollar terms.

2/ Calculated using export unit value indices of partner countries.

3/ For 2005, based on preliminary data through October.

Table 27. São Tomé and Príncipe: Indicators of External Public Debt, 2001–05 1/

	2001	2002	2003	2004	2005 Est.
(In millions of U.S. dollars; end of period)					
Disbursed medium- and long-term debt outstanding	299.1	301.3	313.6	325.1	316.3
<i>Of which:</i> arrears	44.2	49.1	53.1	58.1	43.5
Short-term debt outstanding	0.0	5.0	10.0	16.0	16.0
Nigeria	0.0	5.0	10.0	15.0	15.0
Angola	0.0	0.0	0.0	1.0	1.0
Arrears	0.0	0.0	0.0	0.0	0.0
Total external debt outstanding	299.1	306.3	323.6	341.1	368.7
<i>Of which:</i> arrears	44.2	49.1	53.1	58.1	43.5
Debt service due on medium- and long-term debt	6.7	9.3	10.4	10.6	12.0
Interest	2.7	2.8	2.8	3.1	3.2
Amortization	4.1	6.5	7.6	7.5	8.9
Debt relief 2/	4.0	2.8	3.2	3.2	16.7
Cash settlements 3/	0.0	0.0	0.0	0.0	14.6
(In percent of exports of goods and nonfactor services)					
External debt service					
Before debt relief	42.0	50.7	50.3	52.8	56.7
After debt relief	14.3	9.0	10.5	11.6	14.5
Net present value of external debt	481.6	467.3	463.5	500.7	499.5
(In percent of GDP)					
Total external debt outstanding (end of period, including arrears)	626.8	571.9	547.3	530.2	524.5

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ Includes IMF.

2/ Current maturities and arrears rescheduled, refinanced, or forgiven, including HIPC Initiative interim debt relief.

3/ Includes reduction in arrears.

Table 28. São Tomé and Príncipe: Outstanding External Medium- and Long-Term Public Debt, 2001–05
(In millions of U.S. dollars; end of period)

	2001	2002	2003	2004	2005 Prel.
Total 1/	299.1	301.3	313.6	325.1	316.3
<i>Of which:</i> arrears	44.2	49.1	53.1	58.1	43.5
Multilateral creditors 2/	177.5	180.6	192.1	204.5	199.9
<i>Of which:</i> arrears	0.0	0.0	0.0	0.0	0.0
World Bank	66.7	66.9	70.8	76.3	74.9
African Development Bank Group 3/	87.9	90.3	94.6	100.5	98.8
Arab Bank for Economic Development in Africa	8.4	8.6	11.8	11.2	10.6
Other	12.1	12.4	12.3	13.6	12.9
Official bilateral creditors	121.6	120.7	121.4	120.6	116.4
<i>Of which:</i> arrears	44.2	49.1	53.1	58.1	43.5
France	5.4	5.4	6.0	6.1	5.7
Germany	13.3	13.3	13.3	13.3	13.3
Portugal	28.7	26.8	24.9	23.0	21.2
Russian Federation	10.9	10.9	10.9	10.9	10.9
Angola	21.4	21.4	21.4	21.4	21.4
Other 5/	42.0	43.0	45.0	45.9	44.0

Sources: São Tomé and Príncipe authorities; and staff estimates.

1/ Debt with maturity of more than one year.

2/ Includes IMF.

3 / Includes African Development Fund.

4/ Bilateral rescheduling agreement signed in July 2003.

5/ Includes debt with Italy under dispute, and People's Republic of China.

Table 29. São Tomé and Príncipe: Exchange Rates, 2001–05
(In dobras per U.S. dollar, unless otherwise indicated; period average)

	Real Effective Exchange Rate (2000 = 100)	Nominal Effective Exchange Rate Index 1/ (2000 = 100)	Official Rate 2/	Bureau de Change Rate	Commercial Banks Rate 3/	Parallel Market Rate	Differential Between the Official and Parallel Rates 4/
Annual							
2001	99.4	93.6	8,842.1	8,822.6	8,919.2	8,852.1	0.1
2002	96.4	84.3	9,089.3	9,035.2	9,159.1	9,069.2	-0.2
2003	87.5	71.4	9,347.6	9,327.1	9,360.0	9,355.7	0.1
2004	84.8	62.4	9,779.9	9,857.0	9,978.6	9,866.7	0.9
2005	90.0	58.4	10,522.8	10,489.0	10,626.6	10,562.5	0.4
Quarterly							
2001 Q1	99.8	96.4	8,593.3	8,650.0	8,731.0	8,652.7	0.7
Q2	105.4	100.2	8,893.4	8,840.9	8,972.3	8,883.3	-0.1
Q3	95.7	89.5	8,895.7	8,850.8	8,963.5	8,872.7	-0.3
Q4	96.8	88.4	8,986.0	8,948.7	9,010.0	8,999.6	0.2
2002 Q1	100.1	89.7	9,014.5	8,936.6	9,113.4	8,993.4	-0.2
Q2	97.9	86.1	9,042.2	9,027.0	9,049.5	9,033.3	-0.1
Q3	93.8	81.3	9,105.0	9,051.3	9,204.8	9,058.8	-0.5
Q4	93.8	80.0	9,195.3	9,125.8	9,268.7	9,191.3	0.0
2003 Q1	89.5	75.3	9,225.8	9,191.8	9,239.8	9,245.6	0.2
Q2	86.5	71.5	9,307.5	9,300.0	9,311.5	9,311.1	0.0
Q3	88.9	71.5	9,390.8	9,368.7	9,412.4	9,391.3	0.0
Q4	85.0	67.3	9,466.3	9,477.9	9,476.3	9,474.6	0.1
2004 Q1	83.7	64.0	9,542.9	9,499.4	9,630.0	9,499.4	-0.5
Q2	86.7	64.6	9,858.5	9,786.7	9,978.9	9,776.3	-0.8
Q3	84.8	61.7	10,092.9	10,050.9	10,162.3	10,080.3	-0.1
Q4	83.9	59.1	10,115.0	10,091.0	10,143.3	10,110.7	0.0
2005 Q1	86.3	57.9	10,125.9	10,100.5	10,175.6	10,101.5	-0.2
Q2	91.8	59.5	10,182.3	10,148.1	10,250.1	10,148.8	-0.3
Q3	93.5	59.4	10,188.2	10,152.8	10,469.9	10,260.9	0.7
Q4	...	...	11,594.9	11,554.7	11,610.9	11,738.9	1.2

Sources: São Tomé and Príncipe authorities; and staff calculations.

1/ Trade weighted.

2/ Average between buying and selling rates.

3/ Up to end-2003, Banco Internacional de São Tomé and Príncipe only.

4/ In percent of the official rate.

São Tomé and Príncipe: Summary of Tax System
(as of December 31, 2005)

Tax	Nature of Tax	Exemptions or Deductions	Rates
1. Taxes on income, profit, and capital gains			
1.1 Individual.	Levied on all domestically earned income, in cash and in kind. The tax is withheld at source and payable within the first eight days of the month after the income was earned. It is levied on all individuals, including nonresidents who earn income in the country.		
1.1.1	Income tax (<i>Imposto sobre salários</i>) (Decree-Law 11/93 of February 25, 1993; Decree-Law 64/97 of November 3, 1997).	Earned annual income up to Db 480,000, after Db 5,000 monthly deductible. Salary supplements up to 10 percent of the fixed monthly salary.	Flat rate of 13 percent.
		Expense allowances and per diem and representation allowances up to the limits set for government employees.	
		Income of clergy from the exercise of their spiritual functions.	
		Foreign personnel of diplomatic and consular missions or in the service of international or foreign organizations.	
		Certain moving expenses.	
1.2 Corporate			
1.2.1	Profit tax (<i>Imposto sobre o rendimento</i>) (Decree-Law 9/93 of March 5, 1993; Decree-Law 84/93 of December 31, 1993; Decree-Law 46/93 of August 10, 1993; Decree-Law 58/95 of December 31, 1995; Decree-Law 40/96 of October 29, 1996).	Profits from investment or dividends from mutual aid societies and nonprofit cooperatives. Fifty percent of profits from agricultural activities. Special exemptions granted in the context of the investment code.	For commercial, industrial, service, and agricultural businesses, flat 30 percent rate on taxable profits; additional 15 percent rate on taxable profits in excess of Db 12 million. For independent professionals, a five-bracket schedule applies to taxable profits, with:

São Tomé and Príncipe: Summary of Tax System
(as of December 31, 2005)

Tax	Nature of Tax	Exemptions or Deductions	Rates
1.2.2	Minimum tax (<i>Valor mínimo</i>) (Decree-Law 58/95 of December 31, 1995).	Payable during the first half of the year by all commercial, industrial, and artisanal businesses, as well as by self-employed professionals. The minimum tax is deductible from the tax on profits.	<ul style="list-style-type: none"> progressive rates from 5 percent to 30 percent on taxable profits of Db 60,000 to Db 3,000,000; and a flat rate of 30 percent on taxable profits above Db 3,000,000, plus a 15 percent surcharge on the portion of taxable profits in excess of Db 3,000,000.
1.2.3	Tax on income by taxis (<i>Imposto sobre o rendimento dos taxistas</i>) (Decree-Law 36/00 of May 16, 2000).	None.	<p>Six progressive tax brackets:</p> <ul style="list-style-type: none"> up to Db 80,000: Db 18,000; up to Db 400,000: Db 42,000; up to Db 1,200,000: Db 105,000; up to Db 2,000,000: Db 212,000; up to Db 4,000,000: Db 424,000; and above 4,000,000: Db 636,000.
2.	Taxes on property	None.	Fixed rates depending on location and vehicle tonnage.
2.1	Urban property tax (<i>Contribuição predial urbana</i>) (Legislative Act 450 of September 8, 1954; Decree-Law 57/81 of November 28, 1981; Decree-Law 16/93 of March 5, 1993; Decree-Law 45/93 of August 10, 1993; Decree-Law 84/93 of December 31, 1993; Decree-Law 40/96 of October 29, 1996).	<p>Levied on all urban property, including:</p> <ul style="list-style-type: none"> permanent buildings intended for housing, commercial, or industrial purposes other than exploitation of land, and the land on which the buildings are located; and and for construction when declared as such by the owner or if covered under the law. <p>Government properties.</p> <p>For two years, permanent buildings for use as dwellings by owners or their families, including buildings replacing demolished buildings, provided the construction period does not exceed 24 months.</p> <p>Owners of property whose total income does not exceed Db 2,000 per day.</p>	<p>Fifteen percent on registered value corrected according to the following factors:</p> <ul style="list-style-type: none"> factor of 8 for property registered before December 31, 1970; factor of 4 for property registered between January 1, 1971 and December 31, 1980;

São Tomé and Príncipe: Summary of Tax System
(as of December 31, 2005)

Tax	Nature of Tax	Exemptions or Deductions	Rates
2.2	Motor vehicle tax (<i>Imposto sobre veículos</i>) (Decree-Law 13/93 of March 5, 1993; Decree-Law of December 31, 1993).	<p>Levied on motor vehicles equipped with engines larger than 50cc, either registered in the country or starting 180 days from entry into the country, that circulate or are parked in public thoroughfares or places.</p> <p>The government and any of its agencies, organizations, or services, except state-owned and mixed enterprises.</p> <p>Citizens of countries giving reciprocal treatment.</p> <p>Personnel of diplomatic and consular missions, pursuant to agreements.</p> <p>International or foreign organizations, pursuant to agreements</p> <p>Driver-training vehicles.</p> <p>Duly registered rental vehicles.</p> <p>Duly registered boats used in artisanal fishing.</p> <p>New vehicles purchased after October 31, 1997.</p> <p>Farm tractors.</p> <p>Motorcycles used for transporting freight.</p>	<ul style="list-style-type: none"> • factor of 2 for property registered between January 1, 1981 and December 31, 1990; • factor of 1.5 for property registered between January 1, 1991 and April 30, 1993; and • factor of 1 for property registered after May 1, 1993. <p>The taxes are renewed annually, and vary according to the size and the age of the vehicle:</p> <ul style="list-style-type: none"> • vehicles 50–500 cc are taxed Db 500 if less than 6 years old, and Db 1,000 if more than 6 years old; • vehicles 501–1,300 cc are taxed Db 2,500 if less than 6 years old and Db 4,000 if more than 6 years old; • vehicles 1,301–1,900 cc are taxed Db 4,000 if less than 6 years old and Db 6,000 if more than 6 years old; and • vehicles over 1,900 cc are taxed Db 6,000 if less than 6 years old and Db 10,000 if more than 6 years old.

For recreational boats, tariffs are:

- for recreational boats up to 25 hp, Db 500 if up to 6 years old, and Db 1,000 if more than 6 years old; and

São Tomé and Príncipe: Summary of Tax System
(as of December 31, 2005)

Tax	Nature of Tax	Exemptions or Deductions	Rates															
3. Domestic taxes on goods and services	Levied on the value of a limited number of manufactured goods listed in the schedules annexed to Decree-Law 1/00 of February 1, 2000 with the following valuation methods:	Locally produced goods exported directly by the industrial establishment. Alcohol needed in industrial processes. Gasoline for vehicles of diplomats, subject to reciprocity, and of officials of international organizations. Gasoline for aviation equipment in public use. Medical or medical-related services.	<ul style="list-style-type: none"> for each 10 hp or fraction over 25 hp, there are additional tariffs of Db 500 for boats up to 6 years old and Db 1,000 for boats more than 6 years old. 															
3.1 Excise tax (<i>Imposto sobre o consumo</i>) (Decree-Law 20/76 of April 26, 1976; Decree-Law 14/93 of March 5, 1993, Decree-Law 1/2000 of February 1, 2000; Decree-Law 35/2000 of May 15, 2000; and Decree-Law 8/2005 and Decree-Law 9/2005 of July 28, 2005).	<ul style="list-style-type: none"> the factory gate selling price is used for locally produced goods not distributed by an associated or subsidiary enterprise; the distributor's selling price less 20 percent is used if the producer is associated with the distributor or the subsidiary enterprise; and if the producer sells his goods directly to consumers, the factory gate price cannot, for purposes of the excise tax, be less than the price charged to the consumer less 20 percent. <p>The tax is payable by the producer. The excise tax also applies to the provision of services.</p>	<p>As listed in the schedules annexed to Decree-Law 1/2000 and modified by Decree-Laws 8/2005 and 9/2005, the rates are as follows:</p> <table border="1"> <thead> <tr> <th data-bbox="675 470 699 575">Products</th> <th data-bbox="675 176 732 302">Rates (In percent)</th> </tr> </thead> <tbody> <tr> <td data-bbox="748 365 773 575">Petroleum products</td> <td data-bbox="748 197 773 281">42-149</td> </tr> <tr> <td data-bbox="773 365 797 575">Motor vehicles</td> <td data-bbox="773 218 797 281">10-35</td> </tr> <tr> <td data-bbox="797 365 821 575">Alcoholic drinks</td> <td data-bbox="797 218 821 281">25-55</td> </tr> <tr> <td data-bbox="837 365 862 575"><i>Of which:</i> spirits</td> <td data-bbox="837 260 862 281">55</td> </tr> <tr> <td data-bbox="862 365 886 575">beer</td> <td data-bbox="862 260 886 281">25</td> </tr> <tr> <td data-bbox="902 365 927 575">Tobacco</td> <td data-bbox="902 260 927 281">55</td> </tr> <tr> <td data-bbox="927 365 951 575">Services</td> <td data-bbox="927 260 951 281">5</td> </tr> </tbody> </table>	Products	Rates (In percent)	Petroleum products	42-149	Motor vehicles	10-35	Alcoholic drinks	25-55	<i>Of which:</i> spirits	55	beer	25	Tobacco	55	Services	5
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São Tomé and Príncipe: Summary of Tax System
(as of December 31, 2005)

Tax	Nature of Tax	Exemptions or Deductions	Rates
4. Taxes on international trade and transactions			
4.1 Import duty (<i>Direitos de importação</i>) (Decree-Law 1/00 of February 1, 2000; and Decree-Law 31/2005 of December 21, 2005).	<p>Levied on customs value of imports determined on the assumption that:</p> <ul style="list-style-type: none"> the goods are delivered to the buyer at the port of entry; the seller's price is the c.i.f. price, which includes all costs related to the sale of the good and its delivery at the port of entry; the buyer pays the applicable duty and any other taxes that are excluded from the base price; if the goods being valued are manufactured under a patented process of registered design or mark, or bear a foreign trademark or brand name, or are imported to be sold under the same trademark even after additional finishing, the base price includes the royalty for use of the patent, registered design, trademark, or brand name; and 	<p>Goods imported by official agencies as specified in Decree 41024 of March 23, 1957 are exempt. Examples are:</p> <ul style="list-style-type: none"> aircraft and aircraft engines for use in civil aviation; equipment, machinery, and accessories for use in any public service; fixed plant and rolling stock for railroads, hoists, and floating docks and cranes imported by the port and railroad agencies; electrical equipment for postal, telegraph, and telephone stations; construction materials, electrical equipment, and machinery and apparatus imported by the government for use in the water, electricity distribution, or sewer systems, or by public works agencies for carrying out work on such systems; goods required for the country's development and the equipping of ports; and 	<p>There are three rate bands:</p> <ul style="list-style-type: none"> 5 percent on basic goods; 20 percent on luxury goods; and 10 percent on all other goods. <p>The majority of investment goods are taxed at 10 percent, although some are taxed at 20 percent.</p> <p>Surtaxes apply to a variety of goods.</p> <p>All raw material or inputs for industry or agriculture are subject to 5 percent rate.</p> <p>Petroleum products:</p> <ul style="list-style-type: none"> gasoline: 149 percent (5 percent + 144 percent surtax) kerosene: 9.4 percent (5 percent + 4.4 percent surtax); jet fuel: 322 percent (5 percent + 317 percent surtax); and diesel: 62.9 percent (5 percent + 57.9 percent surtax). <p>Alcoholic beverages:</p> <ul style="list-style-type: none"> beer: 61 percent (20 percent + 41 percent surtax); wine: 45 percent (20 percent + 25 percent surtax); and spirits 75 percent (20 percent + 55 percent surtax).

São Tomé and Príncipe: Summary of Tax System
(as of December 31, 2005)

Tax	Nature of Tax	Exemptions or Deductions	Rates
4.2	Lighthouse user fee (<i>Imposto de farolagem</i>) (Legislative Act 25 of December 24, 1933).	<ul style="list-style-type: none"> specific duties levied on the weight of goods are calculated on the basis of their gross, net, or actual weight, as stated in the tariff and its regulations. <p>Decree-Law 31/2005 establishes that private enterprises cannot be exempted from import duties. In all cases private enterprises may have a fiscal benefit, they will be subject to 5 percent rate.</p>	<p>Cigarettes: 65 percent (20 percent plus 55 percent surtax).</p> <p>Vehicles: 10 to 20 percent (plus 0 to 20 percent surtax, depending on the age of the vehicle).</p>
4.3	Harbor tax (<i>Taxas de porto</i>) (Decree-Law 22/89 of December 19, 1989).	<p>None.</p> <p>Scientific missions, domestic ships, and fishing boats pay 50 percent of the tax. The following equipment is exempt:</p> <ul style="list-style-type: none"> government and military boats; merchandise in transit; merchandise shipped between domestic harbors; passengers' luggage; and mail. <p>Exemptions are also granted by ENAPORT on a case-by-case basis.</p>	<p>Rates range from Db 150 to Db 650 per ship, depending on the nationality of ship and the time of day.</p> <p>Most rates are in the form of specific tariffs that vary with the weight, volume, and quantity of merchandise, the type of service, and time of utilization of service.</p> <p>For materiel procured from the port authorities, a tax of 1 percent of the c.i.f. value applies, plus an additional tax of 30 percent.</p>

São Tomé and Príncipe: Summary of Tax System
(as of December 31, 2005)

Tax	Nature of Tax	Exemptions or Deductions	Rates
5. Other taxes			
5.1 Inheritance and gift tax (<i>Imposto sobre as sucessões e doações</i>) (Decree 22 of June 22, 1988; Decree-Law 42/93 of August 10, 1993).	<p>Levied on all conveyance of tangible property, real estate, value, or title. Payable by the recipient.</p> <p>The tax base is determined by the value of the conveyed goods or property, after deduction of the transferor's debts and other costs set forth in the regulations.</p>	Transfers of less than Db 5,000. The gratuitous conveyance of tangible or real estate to descendants or to nonprofit organizations is also exempt.	Progressive rates between 7 percent and 25 percent, based on the value of the goods or property conveyed and the degree of kinship between the deceased and the heirs.
5.2 Real estate transfer tax (<i>Sisa sobre a transmissão de imóveis por título oneroso</i>) (Decree 22 of June 22, 1988; Decree-Law 42/93 of August 10, 1993).	<p>Levied on all onerous conveyances of real estate and payable by the purchaser.</p> <p>Taxable transactions include specifically:</p> <ul style="list-style-type: none"> • sale or bartering of real estate, subject to the prior authorization of the Planning Minister under Article 1 of Decree-Law 48/75 of June 19, 1975; • acquisitions of shares in companies other than business corporations that own real estate, if through such acquisitions one partner becomes the holder of at least 75 percent of the company's capital or the number of partners is reduced to two and the two are husband and wife married with community property; and 	<p>The state, nonprofit organizations, and recipients of real estate who are descendants, ascendants, husbands, wives, brothers or sisters, for property valued at less than Db 30,000.</p> <p>Not applicable to new buildings.</p>	<p>Property</p> <p>Rural property 10 percent Urban property 10 percent Barter deeds 5 percent</p> <p>Rate</p>

São Tomé and Príncipe: Summary of Tax System
(as of December 31, 2005)

Tax	Nature of Tax	Exemptions or Deductions	Rates
5.3	<p>Stamp tax (<i>Imposto do selo</i>) (Decree-Law 12/76 of April 19, 1976 and annexed schedule; Decree-Law 40/88 of December 20, 1988; Decree-Law 15/93 of March 5, 1993; Decree-Law 81/93 of December 31, 1993; Decree-Law 12/96 of April 19, 1996; and Decree-Law 7/2005).</p>	<p>Levied in the form of:</p> <ul style="list-style-type: none"> • revenue stamps (<i>selos fiscais</i>); • stamped forms (<i>papel selado</i>); • stamped bills (<i>letras seladas</i>); • revenue stamps (<i>selos de verba</i>); • collection advice stamps; • customs stamps; • check stamps; • pharmaceutical stamps; and • miscellaneous stamps. <p>The state, religious institutions, and some items in the schedule annexed to the regulations.</p> <p>Transfers of foreign currency from abroad.</p>	<p>Examples:</p> <ul style="list-style-type: none"> • stamped forms, Db 500; • revenue stamps, Db 1,500; • stamped bills, Db 1 to Db 500; and • check stamps, Db 3 for local payment and Db 15 for payment abroad.
5.4	<p>Special tax (<i>Imposto especial</i>) (Decree-Law 22793 of June 30, 1933).</p>	<p>None.</p>	<p>Single rate of 20 percent.</p>

São Tomé and Príncipe: Summary of Tax System
(as of December 31, 2005)

Tax	Nature of Tax	Exemptions or Deductions	Rates
5.5	Service stamp tax (<i>Imposto de selo de assistência</i>) (Decree-Law 44/T/75 of June 6, 1975; Decree-Law 11/86 of March 31, 1986).	Tax on customs clearance and receipts, licenses, and certificates. Same as stamp tax.	For customs clearance and receipts, specific tax for values below Db10,000, ranging from Db 2 to Db 10; and an ad valorem rate of 0.15 percent for values above Db 10,000. Specific rates of Db 100,000 for certificates; for licenses for 25 identified activities, the rates range from Db 100,000 to Db 500,000.
5.6	Military tax (Decree 17695 of December 1929; Decree 29 115 of November 12, 1938; Decree 32745 of April 10, 1943; Decree-Law 86/93 of December 31, 1993).	Payable by all nationals exempt from military service. Disabled nationals; students, until the end of their studies; and anyone who is currently part of military or paramilitary services, or who served in the army for at least five years.	Db 750 or Db 1,000, depending on income level.
5.7	Justice tax (Decree-Law 18/87 of August 31, 1987).	Due on the settlement value in legal cases.	Flat rate of 10 percent.

Source: São Tomé and Príncipe authorities.

Exchange and Payments System (As of December 31, 2005)

Exchange arrangement

1. The currency of São Tomé and Príncipe is the dobra (Db). Since September 2005, the official selling of the dobra vis-à-vis the U.S. dollar is determined on a daily basis as a weighted average of the commercial banks' selling rates and the outcomes of the central bank's foreign exchange auctions, with weights of 0.4 and 0.6 respectively.³³ On December 31, 2005, the exchange rate (middle rate) for the U.S. dollar was Db 11,929.7. Rates for other currencies are determined on the basis of the exchange rates of the U.S. dollar for the currencies concerned.
2. Foreign exchange transactions are divided into three categories for the purpose of assessing charges on purchases and sales of foreign exchange: import payments, transactions in foreign checks, and collection of export proceeds.
3. On import-related transactions, when a letter of credit is opened, a stamp duty of 0.25 percent of the import value and a postage levy of US\$2 are payable.
4. On foreign checks for collection, the commercial banks charge a commission of US\$2 for each transaction. For collection of export proceeds, a commission of 0.125 percent is charged by banks—with a minimum of US\$25 and a maximum of US\$300—when a letter of credit is opened, and a additional fee of 0.125 percent is charged by banks when funds are received. A postage levy of Db 39,000 is also charged.
5. There are no arrangements for forward cover against exchange rate risk.

Administration of control

6. As of the 2003 Article IV consultation (March 2, 2004), available information indicated that current account transactions were free of restrictions. A review of regulations and practices was conducted by the authorities, together with Fund staff in November 2005.
7. Importers and exporters are required to register with the Directorate of External Commerce for statistical purposes only.

Bilateral agreements

³³ In the past, the methodology used for calculating the official dobra/USD exchange rate consisted in calculating the simple average of the central bank, commercial banks, exchange bureaus, and the parallel market rates. The methodology was changed in September 2005 as the previous methodology did not represent effective rates applied in the market.

8. The bilateral payment agreement with Cape Verde is not operative, and its resulting debt was fully paid by the Central Bank of São Tomé and Príncipe in March 2000. The bilateral payment arrangement with the Central Bank of Angola is not operative; its resulting debt has been converted into government debt, and has not yet been paid but is the subject of rescheduling discussions.

Imports and import payments

9. All registered importers are permitted to make the related import payments. Import licenses are automatically granted by the Directorate of External Commerce. When importers open letters of credit, the commercial banks can require them to lodge a deposit³⁴ in domestic currency equivalent to between 0 percent and 100 percent of the value of the letters of credit, depending on the creditworthiness of the importer.

Wire payments

10. Commercial banks charge a commission of US\$2 for clients (and US\$4 for nonclients).

Exports and export proceeds

11. For the purpose of collecting information, all exports require the completion of registration forms, which specify the quantity and c.i.f. or f.o.b. value of the export shipment.

12. All export proceeds must be repatriated and collected through the commercial banks.

Proceeds from invisibles

13. Travelers may bring in any amount of domestic or foreign currency.

Capital account transactions

14. Inward foreign investments are governed by the investment code of October 15, 1992. Foreign capital investment, excluding investment in the petroleum and mining sectors, is permitted on the same basis as domestic investment. Repatriation of profits is permitted.

³⁴ Currently, these deposits are not remunerated.