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REPUBLIC OF EQUATORIAL GUINEA

Selected Issues and Statistical Appendix

Prepared by Samuel Itam (head), Helmut Franken, Elena Loukoianova, Ulrich Klueh, and Naly Carvalho

Approved by the African Department

May 1, 2006

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Equatorial Guinea: Basic Data, 2000-05

	2000	2001	2002	2003	2004	2005
Production, and Prices						
Real GDP (annual Percentage change))	13.1	67.8	20.1	13.6	30.0	6.5
Of which: non-oil GDP	9.6	18.1	10.4	11.3	11.3	10.7
Oil Production (thousands of barrels a day) 1/	119.7	210.1	250.6	283.9	382.8	403.6
Consumer Prices (annual percentage change)	4.8	8.8	7.6	7.9	4.3	6.2
			(In millions of CFA francs)			
Government finance						
Total revenue and grants	162,277	348,000	414,484	471,884	840,243	1,528,825
Of which : grants	0	0	0	722	776	1,417
Expenditure and net lending 2/	144,267	193,652	246,974	500,053	598,385	697,948
Current	59,263	61,653	100,602	98,695	121,940	158,958
Capital and net lending 2/	85,004	131,998	146,372	401,358	476,445	538,990
Overall balance (commitment basis, after grants)	18,011	154,348	167,510	-28,169	241,858	830,876
Money and credit (end of Period)						
Net foreign assets	16,396	60,584	104,572	153,621	153,621	1,300,186
Net domestic assets	38,003	28,961	45,344	35,466	35,466	-938,879
Credit to the Public sector (net)	7,715	-28,049	-50,811	-34,346	-34,346	-1,158,410
Credit to the economy	21,153	30,666	48,317	46,056	46,056	77,479
Other items (net)	10,328	14,962	13,021	11,344	11,344	-228744
Broad money	5,440	8,955	14,992	18,909	18,909	36,131
			(In millions of U.S. dollars)			
Balance of Payments						
Exports, f.o.b.	1,220.5	1,734.8	2,116.6	2,801.0	4,595.9	7,124.6
Imports, f.o.b.	-502.7	-809.0	-506.9	-1,287.8	-1,529.0	-1,905.6
Trade balance	717.8	925.8	1,609.8	1,513.2	3,067.0	5,219.1
Services and income (net)	-919.3	-1,753.5	-1,879.5	-2,724.7	-4,140.9	-6,050.2
Private transfers	-0.4	-16.5	-26.3	-44.4	-65.9	-86.7
Current account balance	-193.2	-829.8	-280.8	-1,237.6	-1,119.8	-897.7
Medium- and long-term capital (net)	-6.2	-7.8	-7.8	-18.9	-16.2	-23.8
Short-term capital (net)	60.8	-78.7	-120.3	-106.7	144.4	684.3
Net errors and ommissions	-2.7	19.9	90.8	42.0	-8.7	72.4
Overall balance	15.0	50.5	5.3	122.3	651.6	1,400.0
External public debt disbursed and outstanding stock of debt 3/	450.8	427.5	212.3	284.5	287.7	253.5
Debt service-to -export ratio	0.7	0.7	0.3	0.4	0.2	0.2
Debt dervice-to government revenue ratio	4.0	2.6	12.4	20.8	14.1	14.0
			(CFA francs per U.S. dollar)			
Exchange rate						
End of period	731	735	644	534	489	558
Average	712	733	697	581	528	527
Social and demographic indicators						
Population	940,658	1,014,999	1,044,434	1,074,723	1,105,890	1,137,960
Population growth (annual percentage change)	7.9	7.9	2.9	2.9	2.9	2.9
GNP (in US dollars per capita)	858	700	761	1,008	1,510	1,888
Area (square kilometers)	28,050	28,050	28,050	28,050	28,050	28,050
Population density per square kilometer	34	36	37	38	39	41
Life expectancy at birth (years)	50	...	52	...	52	...
Infant mortality rate (per thousand)	103	...	101	...	97	...
Under five years child mortality rate (per thousand	156	...	152	...	146	...

Sources: Equatoguinean authorities; World Bank, *World Development Indicators, 2004 ;* and Fund staff estimates.

1/ Including oil equivalent of methanol and liquefied gas.
2/ Includes foreign-financed capital expenditure and unclassified/extrabudgetary expenditure.
3/ Including the IMF.

I. INTRODUCTION AND SUMMARY[1]

1. The large-scale production of hydrocarbon in Equatorial Guinea has set the stage for a significant and dynamic transformation of its economy. However, because its nonrenewable hydrocarbon resources will eventually be depleted, the country needs to identify new **sources of growth** over the medium to long term. The following chapters analyze policy challenges and options, paying special attention to the fiscal dimension of future development strategies.

2. Policy formulation is examined in terms of **sustainable fiscal paths** under alternative scenarios for hydrocarbon revenue streams and initial conditions. Optimal fiscal paths are analyzed by comparing the implications of alternative **fiscal rules** for the non-oil balance. Since most of the policy guidelines derived imply a significant accumulation of financial assets, the experiences of other countries in **managing oil revenues** are compared with current institutional arrangements in Equatorial Guinea. These preliminary results are meant primarily to provide a background for advancing the policy dialogue with the authorities.

3. Chapter II analyses the medium- and long-term prospects of the hydrocarbon sector as a source of growth. In spite of many pessimistic accounts of growth in mineral-rich countries, it presents international experiences demonstrating that resource-led development strategies can be designed. Such strategies are characterized by five elements:

- A macroeconomic and structural framework that prevents internal and external price distortions;
- Sound organization of the resource sector;
- Partial front-loading of development expenditures in priority areas;
- Significant efforts to improve institutional and administrative capacities; and
- Selective policies that strengthen the non-resource tradables sector.

4. Chapter III demonstrates that the presence of substantial hydrocarbon and financial reserves implies a sizeable upward shift in the sustainable expenditure path. That result holds for a variety of scenarios and is robust to changes in the model set-up. However, the dynamics of the fiscal position become more involved and complicated. The model is recalibrated to reach long-term sustainability through a built-in transition path. It could therefore be used as an auxiliary tool to guide the formulation of medium-term fiscal policies.

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[1] Prepared by Samuel Itam and Ulrich Klueh.

5. In Chapter IV, four simple and intuitive fiscal rules are examined. The main insights are that

- The literature on optimal policy does not prescribe a unique type of rule, even though policy advice has usually focused on variants of the permanent consumption rule; and

- While it has been argued that the non-oil primary balance is the most useful measure of the direction (stance) and sustainability of fiscal policy in oil-exporting countries, the non-oil overall balance could be an appropriate indicator for Equatorial Guinea.

6. The final chapter looks at management of the surpluses that would emerge under most of the fiscal paths and rules examined earlier. Comparing cross-country experiences with the current set up in Equatorial Guinea, it suggests the following conclusions:

- The budgetary importance of hydrocarbon revenues and the size of expected surpluses call for the early introduction of a coherent macroeconomic framework. Since macrovolatility and intergenerational equity are major challenges, the framework should include elements of savings and stabilization funds.

- The existing Fund for Future Generations and the Special Reserve Fund could serve as basic elements of a coherent framework but would have to be integrated into an overall structure; and

- Establishing stabilization and savings funds per se does not guarantee that revenue management procedures and outcomes will improve. Administrative arrangements have to be accompanied by efforts to improve the overall fiscal framework as well as governance and transparency in the hydrocarbon sector.

II. The Hydrocarbons Sector As A Source Of Growth – The Case of Equatorial Guinea[2]

A. Introduction

1. **How have developments in the Equatoguinean hydrocarbon sector directly or indirectly affected the country's economic growth?** Besides the obvious direct growth effects of increasing production of raw petroleum, gas, and derived products, what are the consequences of hydrocarbon production for other activities? Of concern are the growth prospects for products and services along the hydrocarbon value chain, the potential for sectors that have synergies and complementarities with the hydrocarbons sector, and the broader effects of recent structural changes.

2. **The economics literature usually frames discussions about growth in oil-rich economies in terms of the "resource curse."** This paper asks about the development potential that large oil reserves imply. The analytical framework needed to answer this must be able to incorporate a number of distinct aspects. Beyond the dangers posed by the resource curse, other direct and indirect effects enhance the growth potential of a country. These effects and the pre-conditions for their emergence will be detailed in section II.

3. **The resource curse is not unavoidable; a successful resource-led development strategy can be devised.** Section III reviews evidence from other resource-rich countries to find the structural changes that typically occur along with large-scale mineral production. Clearly, the size and the structure of the economy is fundamentally transformed during an oil boom. Changes like that, together with the revenues from oil exports, set the scene for future developments in the economy as a whole.

4. **Equatorial Guinea has begun to take steps to manage its hydrocarbon wealth effectively, though much remains to be done if it is to become a source of sustained growth.** Section D will apply the insights of sections B and C to derive elements of a consistent growth strategy. It will also assess how responsive the current economic structure is to the dangers of the resource curse. Assessing growth potential and designing an optimal policy response require a thorough understanding of the hydrocarbon sector itself: the extent of oil reserves, the dynamics of production, the mixture between upstream and downstream activities, and how the sector is governed (section D.1).

B. Analytical Background: Sources of Growth in Resource-Abundant Economies

5. **In spite of its performance since 1995, if it is to alleviate poverty and improve living standards, Equatorial Guinea needs further sources of growth, in particular in**

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[2] Prepared by Ulrich Klueh.

the non-oil sectors. Are the preconditions for achieving sustained growth in place? What are the obstacles to continued growth? What policies must be implemented to remove them?

6. **To answer these questions, it is necessary to identify factors usually associated with periods of sustained economic expansions,** particularly in countries comparable to Equatorial Guinea in terms of the extent to which they depend on the production and export of mineral goods. Moreover, Equatorial Guinea is in sub-Saharan Africa (SSA), and the growth literature consistently emphasizes that countries in SSA can be very different from each other. The following discusses determinants of growth, particularly in SSA; current views on the relation between resource abundance and economic development; and an integrated perspective on the growth prospects of resource-abundant countries.

Sources of Growth in Sub-Saharan Africa

7. **Recent cross-country research has yielded a number of variables that are robustly related to the growth rate of GDP per capita**.[3] Most studies agree that certain well-defined factors substantially explain international variations in past economic performance. Apart from initial income, the following variables can be considered robust determinants of growth (see, e.g., Doppelhofer, Miller, and Sala-i-Martin, 2004):

- **Extensive capital accumulation**. Due to this finding the "Asian miracle" and the disappointing growth performance in many African countries have both been subject to reinterpretation. At least in the earlier stages of development, growth in total factor productivity is less important than factor accumulation as a source of growth.

- **Quality of human capital measures**. Variables related to life expectancy, health, and primary school enrollment have a stable relation to growth. That is why investing in human capital has become central to government actions to promote growth.

- **Variables capturing a country's openness**. Countries with a long-term commitment to trade integration (measured, for example, by the number of years since 1950 that an economy has been considered open) have higher and more stable growth. Closely related, successful promotion of exports has proven to be an important determinant of growth, particularly for small low-income economies.

[3] Recent econometric work uses Bayesian techniques to circumvent the inconclusiveness of earlier results. Given the large number of potential explanatory variables, identification in cross-country samples is indeed challenging. Earlier studies using extreme bound analysis have emphasized the small-sample problem of the cross-county approach, arguing that stable relationships between country characteristics and growth performance are difficult to maintain.

- **Variables measuring internal and external allocative distortions.** Black market premiums and real exchange rate misalignments, for instance, have consistently had a negative relation to growth.

- **Macroeconomic stability.** While it has proven difficult to establish a robust relation between growth and specific macroeconomic aspects, macroeconomic stability in a broad sense consistently produces a positive sign in the usual regressions.[4]

8. **Social capital and institutions figure prominently in nearly all recent discussions of sources of growth.** They are considered an important determinant of total factor productivity, shown to be a robust explanatory variable in cross-country regressions, and are consistently identified as a source of growth in cross-country studies. While there is "substantial uncertainty surrounding what might constitute an appropriate reform agenda for any particular country" (IMF, 2003, p. 113), there is considerable agreement on the need for an institutional framework that can protect property rights, implement the rule of law, safeguard against market failure through regulation, and support policies of macroeconomic stability and social cohesion.

9. **While geographical variables do not consistently explain differences in growth rates, a large number of studies try to identify the reasons for slow growth in SSA.[5]** Even after controlling for the fact that African countries often score low on factors that lead to growth and high on factors that hamper it, being part of SSA has long been seen as an additional and largely unexplained factor[6] that demands further study.

10. **Most countries in SSA are characterized by low factor accumulation and low growth in total factor productivity (TFP).** The lack of physical investment, including infrastructural, implies large growth losses relative to other regions. Growth accounting exercises suggest that low, or worse negative, growth in TFP has been the primary reason for disappointing economic performance since the 1970s. While these results support the findings of cross-country studies, they do raise questions about what explains low levels of investment, human capital formation, and productivity.

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[4] For example, it is likely that the relation between growth and inflation is not linear and is thus difficult to capture in standard regressions. However, as soon as the macro-environment becomes inherently unstable, the effects on growth become strong enough to be detected even in the usually small cross-country samples.

[5] Since the mid 1990s growth in many SSA countries has picked up speed. Early studies on the major drivers of acceleration suggest that the general assessment provided here is valid.

[6] The presence of an "African dummy" in cross-country regressions has often been called a "confession of ignorance".

11. **Some argue that a combination of high risk, lack of social capital, and a closed economy are the fundamental reasons for low growth in SSA.**[7] In this view, SSA does not differ qualitatively from other world regions in growth dynamics, but a complex interplay of endogenous or policy-dependent factors and exogenous characteristics has created a highly risky and capital-hostile environment. Exogenous characteristics alone—being landlocked, more extreme climate and health conditions, inheritance of specific colonial institutions, and ethnic fragmentation—would not have been sufficient to severely impede growth, but faulty macroeconomic and external policies have combined with debt overhang to push risks above a critical threshold. Private entities have reacted by either relocating financial and human capital or investing heavily in strategies to cope with the situation.

12. **Recent studies also emphasize deficiencies in public service and the role of public investment, in particular investment in infrastructure and human capital.** The role of public investment and provision of public services in SSA has been controversial. Because public investment in SSA has not been significantly lower than in other parts of the world, some observers conclude that attempts to foster growth by increasing capital expenditures are doomed.[8] Yet there seems to be an emerging consensus that public capital *can* further growth (de Haan and Romp, 2005) and have a positive impact on private investment (Hadjimichael and Ghura, 1995),[9] Rates of social return might be specifically high in basic infrastructure services (transportation and communication) and in provision of health care and education.

13. **Low-income countries that implement policies to reduce investment risk can thus benefit substantially from accumulating public capital.** Some recent studies have identified circumstances in which public investment is conducive to growth or leads to crowding-in effects.[10] Countries with particularly low income can benefit substantially from public investment, though certain preconditions must prevail. Most important, the macroeconomic, external, and institutional environment has to be supportive of spillover effects: If risks remain high after a public investment in productive infrastructure, the risk-adjusted rate of return might not increase enough to trigger private investment. Moreover,

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[7] Collier and Gunning (1999) survey the insights of a large number of studies on growth in SSA, comparing aggregate cross-country and microeconomic attempts.

[8] See Artadi and Sala-i-Martin (2003), who refer in particular to government-financed production facilities. They acknowledge that public health services to improve the quality of human capital will be essential to boost growth.

[9] The evidence in Serven and Calderon (2004), who calculate a principal component index of the infrastructure stock, supports this claim. After extensive testing for reverse causality and misspecification, they conclude that the stock of infrastructure (as measured by a principal component index) indeed increases growth.

[10] See Atukeren (2005) as well as Isham and Kaufmann (1999),

financial intermediation has to be able to provide the funds to private entities willing to invest. Finally, special attention has to be devoted to the actual delivery of public services.

Natural Resources and Economic Growth: The Prevailing View

14. **The "resource curse hypothesis" has largely shaped discussion of the relation between natural resource wealth and economic growth.** Based on cross-country econometric evidence, it is argued that resource-abundant countries have generally lower growth rates (see Sachs and Warner, 1995 and 2001), with the resource curse operating through a number of channels whose relative importance is still controversial.

15. **One group of researchers argues that hydrocarbon-related revenue inflows lead to the phenomenon of Dutch disease.** In its basic version, the theory asserts that a boom in the resource sector (and the resulting productivity and wage increases) will attract common production factors away from the non-resource tradables sector. If prices for both outputs are determined in world markets, profits and production in the non-booming sector will be squeezed. If a non-tradable sector is added to the scenario, increased demand for goods caused by increased revenues from resources will lead to price adjustments for non-tradable relative to tradable goods. The associated real exchange rate appreciation will drive factor movements and manufactured exports will lose competitiveness. Since the latter are believed to be important in the development process, due to technology spillovers and scale economies, growth in general slows down.

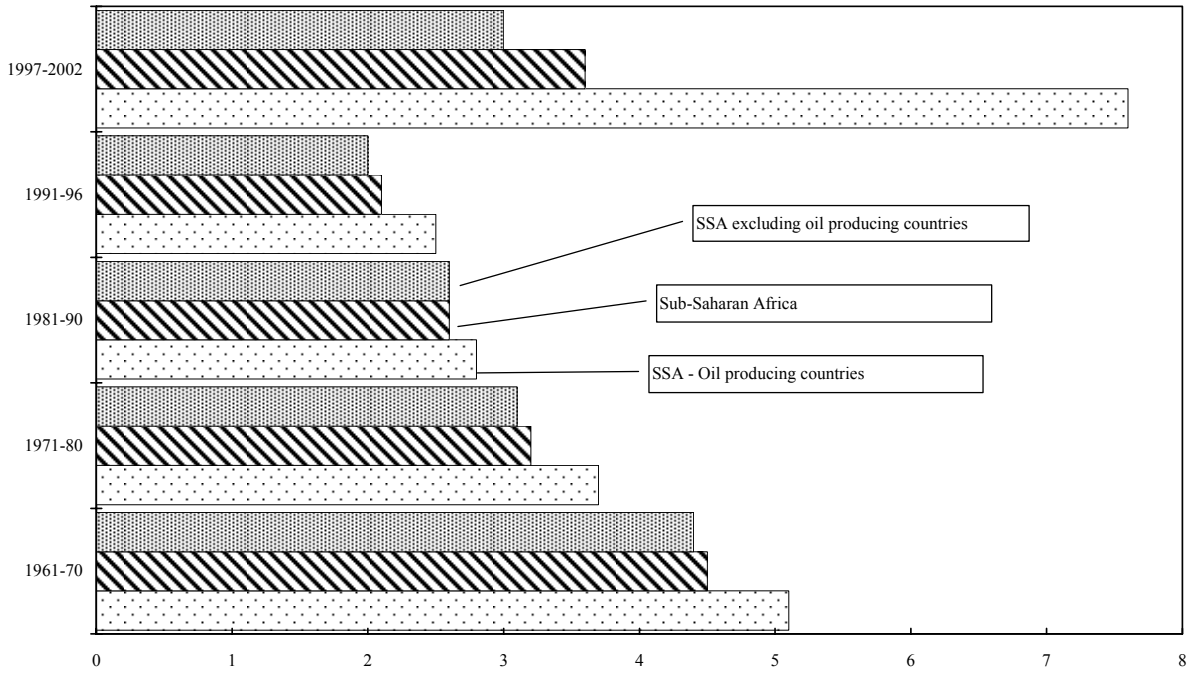
16. **Other observers emphasize the volatility of economies that rely heavily on resource exports.** Since macroeconomic stability is a major precondition for growth, volatility in fiscal, and often as a consequence monetary, aggregates is a major challenge for political and private-sector decision-makers alike. Such volatility may interact negatively with other aspects of resource-rich economies (Hausmann and Rigobon, 2002), Specifically, in an economy with a sizable nonresource tradables sector, resource income volatility (shocks to nontradable demand) can be partly accommodated by factor movements, dampening the necessary movements in the real exchange rate. As the tradable sector disappears, a change in demand for nontradables can only be accommodated by adjusting the return on capital, and thus the price, of local goods and services. The resulting expenditure switching will force a change in the relative price of these goods to guarantee market clearing, which will magnify the variability in the real exchange rate. If investors dislike the resulting volatility of profits, financing conditions deteriorate within the tradable sector (where prices cannot adjust), leading to a vicious circle of low investment, a shrinking tradables sector, and low growth.

17. **Another channel operates through incentives for rent-seeking.** Resource-abundant economies become less entrepreneurial because local elites find it more profitable to engage in competition for natural wealth deposits. Some authors argue that the institutional quality of resource-rich countries deteriorates because of this rent-seeking. In particular, point resources like minerals can cause conflicts over the power of disposal. Moreover, the

reliance on non-tax revenues may reduce political participation and thus the availability of alternative revenues when prices are depressed.

18. **While many researchers have advocated the resource-curse view, closer inspection suggests a more cautious assessment.**[11] Though indisputably a large number of countries have suffered from resource-curse-like effects, evidence for the benefits of being resource-rich has often been neglected. Oil-producing and other resource-intensive countries have in fact grown in line with or more than the SSA average in recent decades (see figure 1). This is underlined by studies using Bayesian averaging; they find that the fraction of GDP in mining is positively related to growth, but the fraction of primary exports in total exports is negatively related.

Figure II.1. Sub-Saharan Africa: Average growth rate in oil- and non-oil economies



Source: International Monetary Fund, 2005.

[11] Econometric studies to date may suffer from methodological problems, for example in the measurement of resource abundance. That may be why recent econometric studies yield a much more blurred picture about the relation between growth and natural resources (see Stijns, 2005, for a survey of recent results), Davis (1995) presents evidence that the development record of mineral-rich economies has been encouraging—better than in a control group of resource-poor economies.

19. **Moreover, many of today's industrialized countries have successfully followed a resource-led growth path (see Stijns, 2005).** Some of the most encouraging development experiences in recent decades have been closely associated with natural resources. So why do countries with similar initial conditions perform very differently? Why has growth in Indonesia outstripped growth in Nigeria, even though both economies are equipped with significant hydrocarbon wealth? Why did Botswana have the highest growth rate worldwide between 1965 and 1998, and Sierra Leone one of the lowest, though both have large reserves of diamonds? These and related questions are discussed next.

Growth strategies in resource-rich economies: An integrated perspective

20. **One problem with the resource-curse view is that it is not sufficiently integrated with other theories of economic growth; nor has it led to clear policy prescriptions.** In particular, current views neglect the possibility that other determinants of growth could be positively influenced by mineral production. In particular, the failure of some countries to use resource rents effectively may have been overly generalized (see Deaton, 1999), so that resource abundance is often viewed as fate. Some observers have proposed leaving the resources "in the ground" or hoping for depressed commodity prices. This section offers an integrated perspective for a more policy-oriented analysis.

21. **At least three channels link resource abundance to economic growth: the direct growth effects of mineral production, the mechanisms of the resource curse, and indirect growth effects.** Since the direct growth effects of mineral production are finite, countries have to ensure that other activities take over as soon as mineral production flattens. Such measures might be policies to prevent the macroeconomic pitfalls of resource booms and policies to encourage non-mineral production. The latter have to make active use of indirect growth effects, which are related to the fundamental changes that take place in countries where natural resource production increases significantly. These include spillover effects from the primary to the secondary and tertiary sector, structural changes that reshape comparative advantages, and increased government spending on infrastructure, capacity building, and human capital investment.

22. **In terms of indirect growth effects, point resources like hydrocarbons often provide few backward and forward linkages (Hirschman, 1958).**[12] Since most inputs to the production process are imported and further processing is often done closer to the final

[12] In the version inspired by export base theory, linkage analysis asserts that four basic mechanisms relate the major export commodity (or staple) with the rest of the economy (Auty, 2001). First, activities related to the supply of inputs for the staple will give rise to backward linkages—production activity in the upstream sectors. Second, forward linkages will materialize when the processing and marketing of the staple leads to spillover effects in terms of local inputs. Finally, the spending associated with private and government incomes from production will lead to final demand and fiscal linkages.

market, growth impulses from backward and forward linkages are quite rare. Stressing local content can contribute to future non-mineral growth only to a limited extent.

23. **Depending on the size of the resource base relative to the population, demand, and fiscal linkages between the major commodity and the rest of the economy are often significant.** Consequently, growth policies in resource-rich countries have to capitalize on the rents accruing through mineral production. The fact that rent utilization is the single most important determinant of future economic performance suggests an alternative interpretation of the resource curse: Growth in resource-rich countries is not impossible but it depends on mechanisms for (mostly fiscal) resource allocation that are more prone to policy failure than market-based ones.

24. **An integrated policy response to large-scale mineral production will aim at maximizing the effects of linkages.** Given the prominence of the fiscal linkage, in resource-rich countries public policy must assume major responsibilities for organizing related activities, either through direct distribution of rents or through targeted investments. This in turn requires a stable fiscal framework that emphasizes long-term objectives. At the same time, fiscal policy has to safeguard the economy against the macroeconomic pitfalls of resource booms. This double role can only be accomplished where there is a structured process of budget formulation, extensive monitoring, and effective accountability.

25. **The concept of two-pronged growth strategies that originated with Rodik (2004) is a useful operational framework for analyzing these issues.** It is based on the following generalizations about economic growth in the last fifty years:

- Growth spurts are frequent and are associated with well-defined policy reforms.
- These policy reforms usually incorporate elements of both orthodox and unorthodox institutional practices; they are usually associated with a strong increase in exports.
- Sustaining growth spurts is difficult because the single most important prerequisite for prolonged expansions—institutional capacity—is difficult to achieve and maintain.

Based on these stylized facts, the concept of two-pronged growth strategies emphasizes policies that can both kick-start growth (first prong) and sustain it (second prong).

26. **The first prong consists of creating a stable macroeconomic framework, committing to trade openness, and providing the basic public goods necessary to foster growth.** Policies here are usually more activist and are in the area of trade. Examples are active marketing and research support for emerging industries, export processing zones, and improved access to financing for emerging industries. All these policies in turn aim to improve the environment for private-sector activities outside the primary sector. Indeed, successful implementation of first-prong policies can successfully encourage private-sector activity; in particular, private investment can be boosted by increased government investment

if that is complemented by a stable macroeconomic environment, financial deepening, and improvements in the quality of institutions (Hadjimichael and Ghura, 1995).

27. **The second prong consists of policies for strengthening the institutional environment.** Here one of the major challenges is for countries to avoid the trap of dynamically inconsistent policies. It is always desirable to encourage private investment through improvements in the business environment. Ex post, however, incentives to renege on promises are strong. Anticipating this, private businesses might refrain from investing, thus jeopardizing the initial policy reforms. The only solution to this problem is a history of kept promises, leading to a long-term commitment to good governance.

28. **Small resource-rich countries often can support both sets of policies.** Investment in physical and human capital can be frontloaded. The local infrastructure for trade is usually improved substantially, for example, by constructing deep-water ports or by financing the means to import productivity-enhancing goods. As for the second prong, since mineral resources are often exploited through foreign companies, countries can demonstrate their willingness to make long-term commitments, thus attenuating one of the major challenges of institutional capacity building—its dynamic inconsistency.

29. **Still, the peculiarities of resource booms may undermine successful implementation of the strategy.** Macroeconomic stability can be adversely impacted by high and volatile inflows of rents. Private incentives to engage in non-mineral activity may be jeopardized because the booming sector is temporarily attractive, which often stimulates excessive rent-seeking. Institutional improvements may be difficult to achieve when competition for rents sets other priorities.

30. **Resource-rich countries need policy frameworks that defend against these problems.** These include macropolicies to avoid excess volatility and steps to preempt overstretching absorptive capacity. The institutional environment needs to be augmented to account for the complexity of resource-intensive industries (ensuring, in particular, transparency for all mineral-related activities). Finally, trade policies have to be tailored to the new structural characteristics of the economy. Four major elements will characterize appropriate policies:

- During resource booms, the competitive disadvantages for tradable goods must be countervailed. Governments have a variety of instruments at their disposal. Besides the exchange rate and a sound fiscal policy, they can enhance productivity by improving the physical infrastructure and forming human capital. An open trade policy, stronger financial intermediation, and selective incentives for investment in non-resource tradables can also help.
- Before the boom subsides, policies to allow for a swift rebalancing of relative price adjustments must be in place. In particular, labor markets have to be organized in a way that allows for flexible reactions to changing economic conditions.

- Prevention of excess macroeconomic volatility usually requires changes in fiscal policy.[13] The role of revenue-sharing arrangements in dampening or increasing volatility also has to be assessed thoroughly.
- Finally, policies to prevent deterioration in the social, institutional, and environmental infrastructure must be implemented. The most important policy choices here are in the area of mineral policies themselves. At the same time, building capacity and investing in effective and accountable governance will be essential.

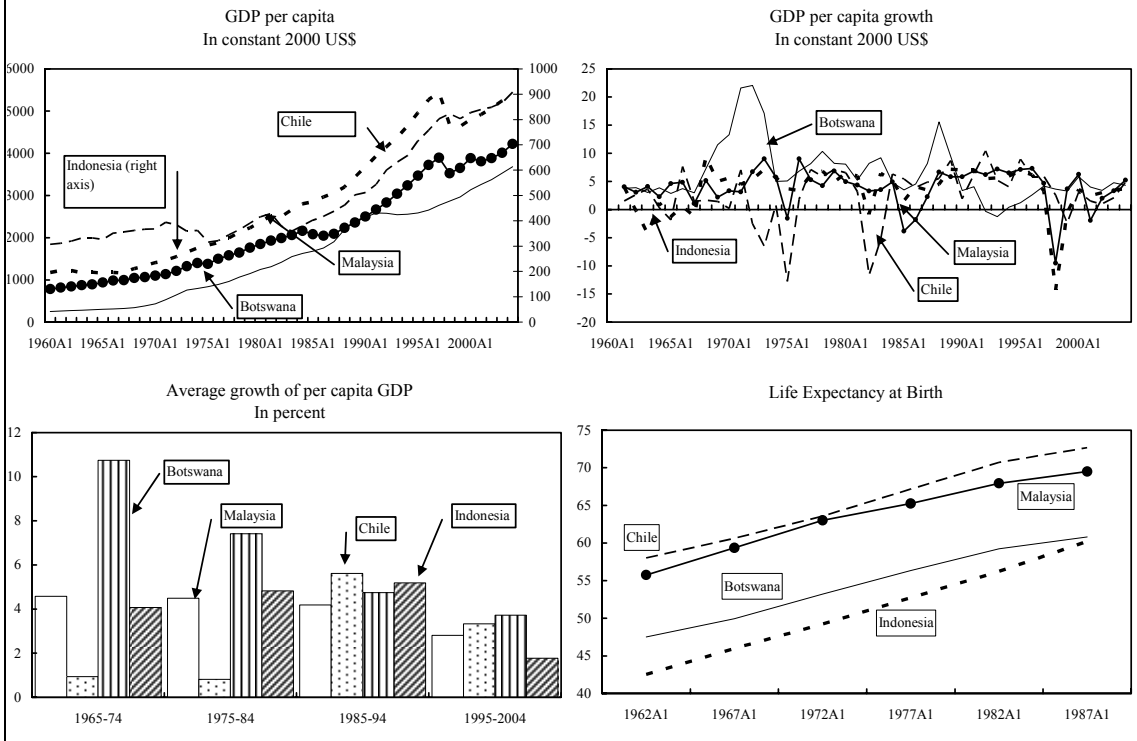
C. Growth and Resource Abundance: Cross-Country Experiences

Examples of sustained resource-led growth

31. **The following section draws from four recent examples of successful resource-based growth strategies; to make such a comparison valuable for Equatorial Guinea, it was necessary to choose countries that have similar characteristics.** Initial conditions must be broadly comparable: countries like Norway may provide useful points of reference for specific details of resource exploitation but their economic and institutional preconditions for growth are poles apart. The type of resource endowment also matters. *Land-abundant* can be distinguished from *mineral-abundant* countries, and the latter can be classified into countries with *point* or *diffuse* resources. Because Equatorial Guinea's off-shore hydrocarbons are supplemented by substantial quantities of other natural riches, among them non-oil minerals, extensive forests, and a favorable climate, comparators should be not only mineral and oil-rich countries but also economies with diversified natural resources. Given the current structure of the Equatoguinean economy, the peer group should also contain examples of successful diversification away from a predominant staple. Finally, the countries analyzed should be considered not only resource-abundant but as having at least partly employed natural resources to increase long-term economic growth.

[13] Chapters III, IV, and V discuss respective policy issues in detail.

Figure II.2. Botswana, Chile, Indonesia, and Malaysia: Indicators of Growth and Living Conditions



Source: World Development Indicators.

32. **The developing and emerging countries studied have implemented successful resource-based growth strategies.** Moreover, they initiated their growth spurts at relatively low levels of economic activity (GDP per capita in Botswana, Indonesia, Malaysia, and Chile was below $2,000 in the early 1960s, the period corresponding to the starting point of this investigation), they have diversified progressively, and they all have substantial mineral and other natural wealth, so they have had to deal with the challenges of resource volatility (figure 2). While none of these countries is an unambiguous success story, they have all experienced impressive growth and sustained improvement in living conditions for a prolonged period:[14]

- *Botswana* has been the fastest-growing economy in the world for several decades. Between 1965 and 1997 GDP grew at an annual average rate of 7.7 percent. Active

[14] The sample of countries considered is restricted to more recent examples of resource abundance. Many of today's industrialized countries benefited from large reserves of mineral and other natural resources (see, for example, the seminal study by Wright, 1990, and Stijns, 2005, and the references therein).

use of mineral resources, in particular diamonds, has been a major factor in this performance, even though the country has faced boom-bust cycles for its major export commodity and significant challenges in developing other primary commodities.[15]

- Before the Asian crisis in 1997/1998, *Indonesia* managed to develop from a country with one of the lowest per-capita incomes to a medium-income economy. The availability of natural resources has often been identified as one factor in this growth. Indonesia, however, is also an example of the problems that occur if growth does not lead to institutional improvements.

- Since the early 1960s *Malaysia* has successfully used an export-led strategy to diversify its economy. Its wide range of natural resources (including tin, rubber, logs and timber, and crude petroleum and liquefied natural gas) has significantly assisted this process.

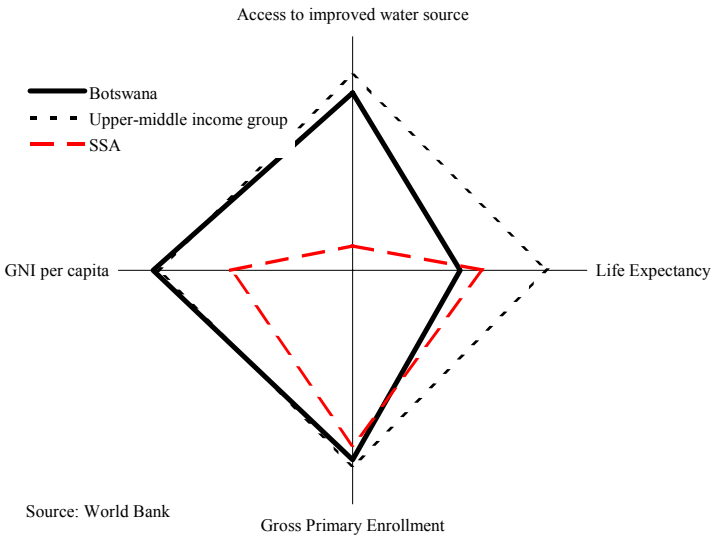
- *Chile* is often cited as a prime example of strong export-led growth and accelerating economic diversification. Starting in the mid-1980s, Chile has consistently achieved growth rates well above 5 percent. At the same time, it has diversified away from copper and other minerals (which represented more than 80 percent of exports between 1960 and 1970) to other primary and manufacturing exports.

Botswana

33. **Nearly all observers agree that Botswana's impressive growth can be attributed to policies that have taken due advantage of resource abundance.** According to the World Bank (2002), "In each of the major policy areas, growth-promoting policies have dominated." Among them are a policy of free trade, exchange rate management that has prevented disproportionate real appreciations, wage increases that track productivity increases, and a disciplined fiscal policy. Besides these factors, however, a number of other policies were important anchors for sustainable growth.

[15] In spite of its growth record, Botswana still faces major challenges. Income distribution is very unequal, and AIDS has eroded early successes in increasing life expectancy. Nonetheless, Botswana scores high on most development indicators except the latter, relative not just to SSA but also to upper-middle income countries (figure 3).

Figure II.3. Botswana: Development Indicators relative to upper-middle income and SSA countries



Source: World Bank

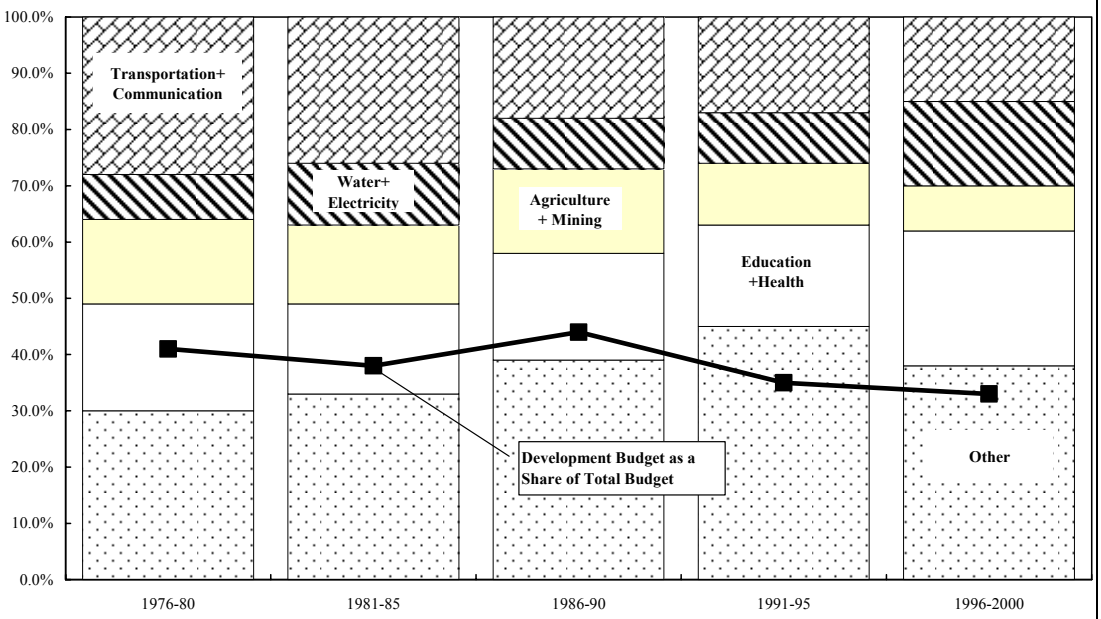
34. **Botswana's organization of the mineral sector has provided a stable framework for the sustainable exploitation of natural wealth, with important spillover effects on the business climate, and growth linkages.** Harvey and Lewis (1990) give an insightful account of the way mineral policy was carried out, revealing a number of decisive elements. First, the government always emphasized local content and ownership, stressing the need to be involved in project development and making local inputs a requirement in important agreements. Second, sourcing was designed to create further linkages. For example, the decision to manage the infrastructure of copper-nickel exploration locally led to the initiation of coal production and the creation of the Water Utilities Corporation and the Botswana Power Corporation, two entities that later played a major role in advancing particularly urban development. Third, the institutional framework for mining policy (involving, among other bodies, the Mineral Policy Committee) provided for continuity, expertise, and representation.

35. **The uncertainty related to the profitability and technical challenges of mining have made recurrent renegotiations necessary.** While the government made it very clear from the beginning that it would not accept unfavorable terms, contracts were always adjusted in a cooperative style, within the scope of contract law and with an emphasis on long-term relationships. This policy not only guaranteed efficient and profitable exploitation of natural resources, it also signaled to other private entities that property rights would be honored (see Leith, 2004) while the government maximized the developmental impact of resource wealth.

36. **An important factor behind the country's growth performance was the availability and effective fiscal use of mineral rents.** In contrast to accounts that attribute

Botswana's success to limited public involvement in the economy, the government has intervened extensively, mostly through investments in productive infrastructure, to the point that critics of Botswana's development strategy have often argued that the budget was too "heavily weighted to roads, urban infrastructure, railways, airports and telecommunications" (Harvey, 1990).These investments in fact successfully improved living conditions and productivity in the private sphere, as did extensive investments in education and health.[16]

Figure II.4. Botswana: Size and Structure of the Development Budget, 1975-2000
In percent of Development Budget, unless otherwise indicated



Source: Lange and Wright

37. **The six-year national development plans (NDPs) provide a stable framework for spending policies; they have a long-term perspective and proper monitoring.** Several features of the NDPs are worth noting: First, they were formulated through an elaborate consensus-seeking process (Leith, 2004). Second, the policy directive of the Sustainable Budget Index (SBI) was to use all proceeds from mineral production for investment (Lange and Wright, 2004).[17] Third, they introduced extensive financial controls and monitoring

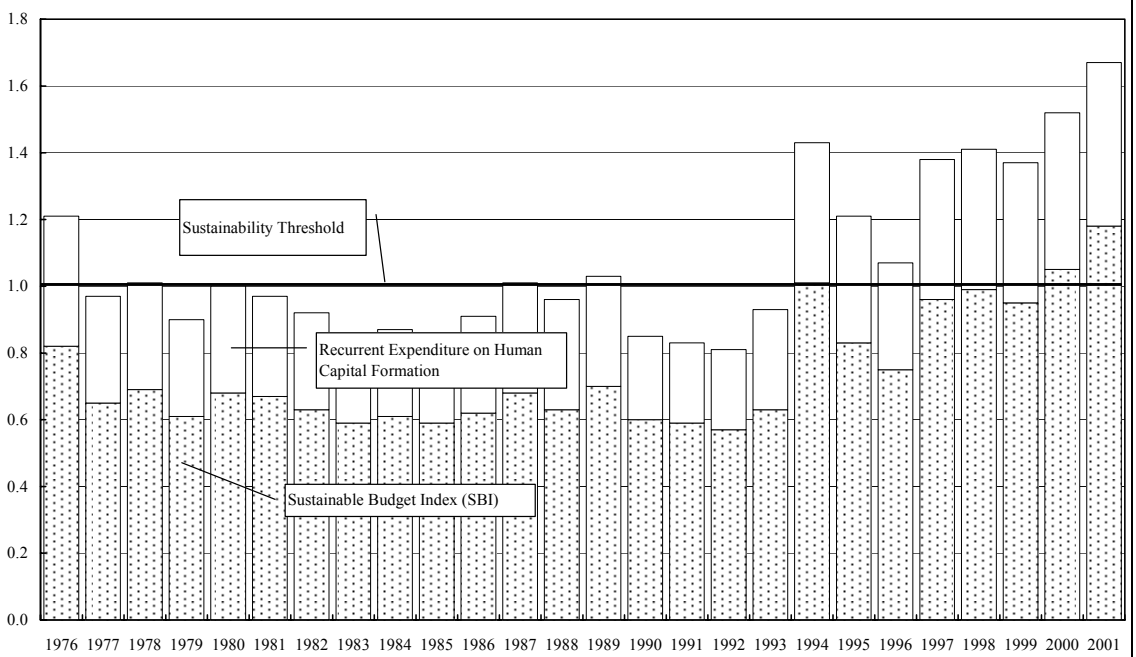
[16] Figure 4 shows the importance of different spending categories in the development budget. While transportation and communication dominated expenditures at first, utilities and other categories became successively more important. Education and health were emphasized throughout the period, their share in expenditures holding stable over time.

[17] Figure 5 plots the SBI, which is calculated as the ratio of non-investment spending (excluding recurrent human capital spending for health and education, which has

(continued…)

mechanisms, properly funded and complemented by strong efforts to measure and forecast key economic variables. Fourth, a culture of forward-looking decision-making has emerged, as demonstrated by recent attempts to augment medium-term planning with long-term strategic exercises.

Figure II.5. Botswana: Sustainable Budget Index and Human Capital Expenditure, 1976-2001



Source: Lange and Wright

38. **Besides public investment, the government has pursued more activist policies to promote growth.** Beyond the local sourcing provisions in contracts it has set up a number of successful state-owned enterprises (SOEs), Though these entities have been criticized lately, they were an important source of growth in the early stages of development. Besides SOEs, the government undertook other initiatives to promote growth in both the agriculture and the manufacturing sector. Often, the government provided infrastructure that directly related to a specific production activity, as with cattle. Trade policies emphasized competitiveness, providing active marketing support, and avoiding the protection of high-cost manufactures. When protection or subsidies were granted, the agreements were based on strict requirements to maintain low cost and high quality. It is important that these policies were undertaken

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traditionally been budgeted as investment spending), to recurrent revenues. The SBI has been mostly below 1 in recent decades, signaling a sustainable path for public consumption. At the same time, the figure shows the significance of education and health expenses in expenditures for development.

cautiously but with flexibility. For example, instead of picking a few likely winners for large-scale support, the government modestly subsidized a wider range of diversification efforts.

39. **The macroeconomic pitfalls of resource inflows have been prevented by a combination of exchange rate, monetary, and fiscal policy measures.** Volatility was smoothed using countercyclical reserve management and relatively conservative spending policies in times of large inflows. The cushion of large reserves not only contributed to the effectiveness of fiscal management during economic downturns but also to the smooth functioning of monetary policy.

40. **While a number of historical factors have contributed to the institutional prerequisites for effective policymaking, continued capacity building has been important in sustaining growth.** Among the potential sources of institutional quality, observers (see Acemoglu, Johnson and Robinson, 2003) have noted that (1) precolonial tribal institutions were largely untouched by British colonization, which encouraged broad-based participation, and (2) rural interests were powerfully defended by cattle owners and chiefs with an interest in promoting "institutions of private property." While these factors were indeed important, so are the continued attempts to improve institutional quality and capacity.

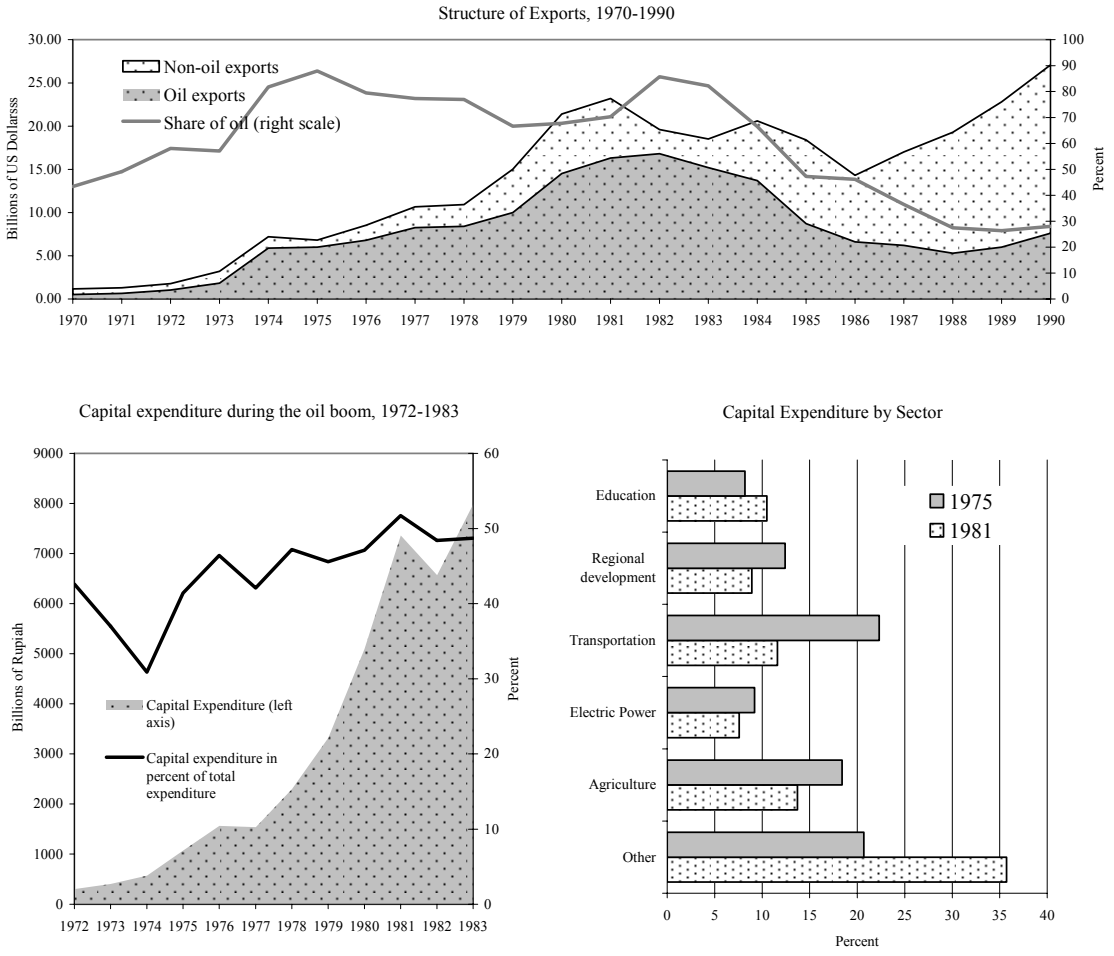
Indonesia

41. **Indonesia's economic success between 1965 and the mid-1990s is closely related to its adoption of the New Economic Order (NEO) policies in 1965.** Up to that point, Indonesia had suffered from a severe economic crisis. When the new government under Suharto came to office, it swiftly implemented macroeconomic reforms and a program to attract foreign financing from donors and private businesses. These policies, together with the investments following the oil windfall of the 1970s, yielded rapid economic expansion and a significant improvement in living conditions.

42. **The rents from natural resources and from the oil boom in the 1970s were used to expand public investment, in particular in rural development and human capital, without overstretching absorptive capacity.** Government investments were mainly targeted to the productive base of the tradable sector, to rural development, and to education. As a result, Indonesia achieved impressive educational attainments in a short time. In the ten years after a major educational program was adopted in 1973, the net primary enrollment ratio increased by 50 percent; by the 1980s enrollment was nearly complete (Rock, 2003), and disparities among regions or between boys and girls were largely eliminated.

43. **Dutch disease and related problems were avoided by adjusting the exchange rate and by sustaining the effects of devaluations through prudent fiscal and wage policies.** Though the government invested extensively, the years of the oil boom saw a steady accumulation of budget surpluses. These were used to smooth the oil price declines in the 1980s. At the same time, wage policy was designed to enhance the emerging manufacturing sector.

Figure II.6. Indonesia: Resource Dependence and Structure of Government Expenditure



Source: International Financial Statistics, World Development Indicators, and Usui (1997).

44. **Combining an active industrial and agricultural policy with a largely open trade regime supported economic diversification.** When oil prices fell sharply in the 1980s, the government took quick measures to liberalize trade and to encourage new economic activities. Even in the 1970s, the government adopted a number of controversial industrial policies to diversify the production base.

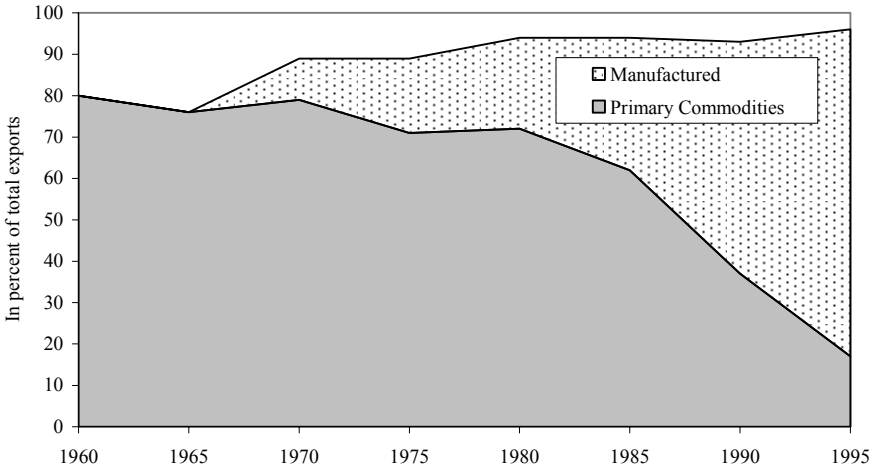
45. **Indonesia is also an example of how a country can "grow into trouble" (Temple, 2001) if economic expansion is not accompanied by institutional advances.** While macroeconomic policies continued to be prudent for a long time, the approach of many economic actors to micromanagement increasingly was characterized by close ties between large industrial players, financial institutions, and the official sector. This from of "cronyism" became important enough that it contributed to the severity of the crisis in 1997/98.

Malaysia

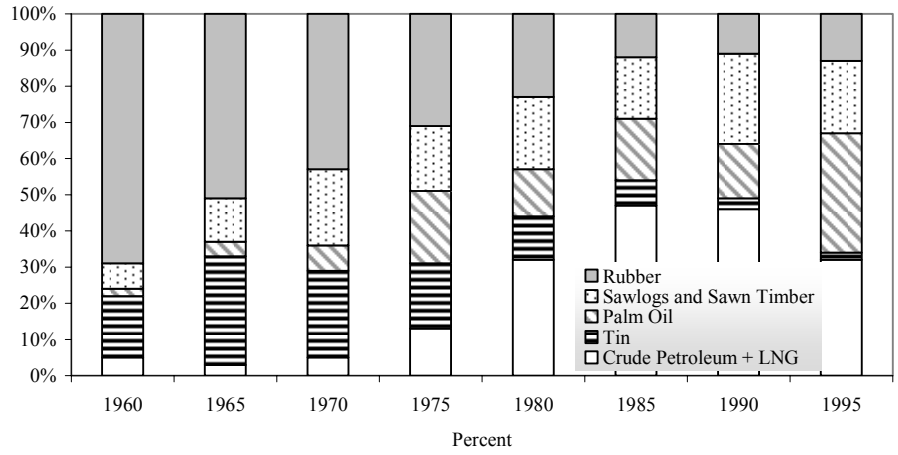
46. **Malaysia is an example of a country with a diversified resource base that managed to move into competitive manufacturing.** Central to the Malaysian development strategy were its dependence on high private and public savings rates (partly related to resource rents), public involvement in capital accumulation and economic diversification, an emphasis on human capital, and an outward orientation (see Abidin, 2001). Moreover, Malaysia's development strategy combined diversification in primary products with diversification into manufacturing.

Figure II.7. Malaysia: Structure of Commodity Exports

Share of Primary Commodity and Manufactured Exports



Structure of Malaysian Primary Commodity Exports, 1960-1995



Source: Abidin (2001).

47. **Public investment was a major input into economic development; it emphasized basic infrastructure and education.** While fiscal policy was not consistently prudent and growth-oriented (especially in the first half of the 1980s, when large-scale spending on individual industrial projects and other outlays led to severe macroeconomic imbalances), it has generally contributed to increased productivity while supporting external competitiveness. As with other Asian economies, a high share of spending was targeted to human capital accumulation, a factor that has helped to make Malaysia an attractive target for foreign direct investment in manufacturing.

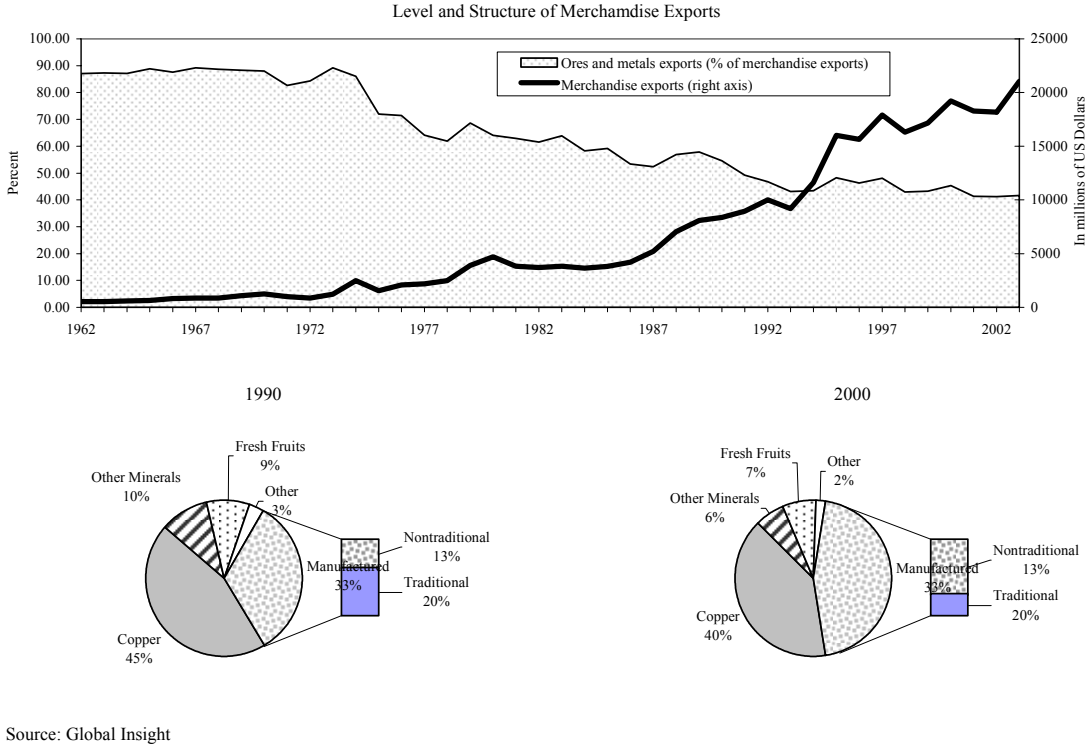
48. **Malaysia combined an open trade regime with swift macroeconomic and structural reactions to declines in competitiveness.** Authorities used structural measures in trade and the financial and labor markets to quickly react to decreasing competitiveness. Moreover, after severe imbalances in the first half of the 1980s, exchange rates were adjusted and fiscal as well as wage policy was tightened. The success of these measures is an important lesson for resource-abundant countries. As resource income declines, it is essential to let relative prices adjust back to nonboom levels. Flexible labor markets and an open economy substantially facilitate such adjustments.

Chile

49. **Many observers of the Chilean experience claim that it is a result of orthodox economic policies combined with favorable initial conditions.** Indeed, the radical trade liberalization that took place between 1974 and 1979 was crucial in sustaining export-led growth. Equally important were the government's sound macroeconomic and structural policies. From the 1980s onwards, these policies have become increasingly countercyclical, helping to smooth out the significant volatility caused by copper price changes. Meanwhile, the availability of considerable human capital and infrastructure boosted the supply response to outward-oriented economic policies.

50. **Part of Chile's success is related to its export portfolio of minerals, unprocessed and processed agricultural products, and now manufactured goods.** The Chilean product mix has made considerate use of specific comparative advantages. Moreover, it has been characterized by a few niche exports that have the advantage of being less prone to trade conflicts. The government has supported this trend by providing assistance broadly and by limiting large-scale support to forestry, where comparative advantages were thought to be too substantial to be ignored.

Figure II.8. Chile: Indicators of Resource Dependence and Export Diversification



Source: Global Insight

51. **A less discussed aspect of economic policy is Chile's active support for exporters.** Since the mid-1980s, the Chilean authorities have implemented a number of heterodox policies. While they do not interfere with private sector decisions about what might constitute a successful business strategy, they provided targeted policy incentives and support to engage in non-traditional exporting (Agosin, 2002):

- Exchange rate misalignments were closely monitored and corrected. Fiscal policy sustained real exchange rate realignments, providing clear price signals for potential exporters.

- Two drawback schemes were incentives for exporters. The "simple drawback," consisting of a small cash subsidy for exports below a certain threshold value, has shown that modest incentives can have powerful effects.

- The government has been active in resolving coordination problems within the private sector. Through an extensive network of foreign offices, the trade promotion division within the Ministry of Foreign Affairs gathers commercial information, does active marketing, and subsidizes industry associations. Similarly, technological development and investment in R&D have been fostered through joint programs with the private sector, often within Fundación Chile, a semipublic venture capital setup.

- Sectoral policies were carefully designed to avoid overinvestment in government-picked industries and to track the comparative advantages available. For the cultivated salmon industry, a niche market with substantial backward linkages was penetrated with the support of Fundación Chile. In general, though, targeting specific sectors was avoided, except for forestry, which benefited from special programs to relieve financing constraints, improve the legal framework, and provide training in forestry engineering after it became clear that comparative advantages in forestry were exceptional.

- Investments in human capital before and after the take-off were designed to align with the development strategy by complementing general efforts to boost education and form experts in crucial areas like forestry and agriculture.

52. **Copper and other minerals played, on balance, a supporting role in development.** According to De Gregorio (2004, p. 26) "there is no evidence that Chile's abundance of natural resources has been detrimental to growth; on the contrary, it has increased the country's income and welfare." Besides being a source of revenues, the copper industry has been the channel for the majority of foreign direct investment (FDI) inflows into Chile. The way the government approached foreign ventures (for example, through reforms of the FDI regime and the mining law) has given the country a strong reputation for institutional quality. Nonetheless, volatility in prices, revenues, and foreign exchange inflows has been seen as a major challenge; it led to the creation of the Copper Stabilization Fund whose resources have mainly been used to reduce Chile's debt burden.

Further evidence

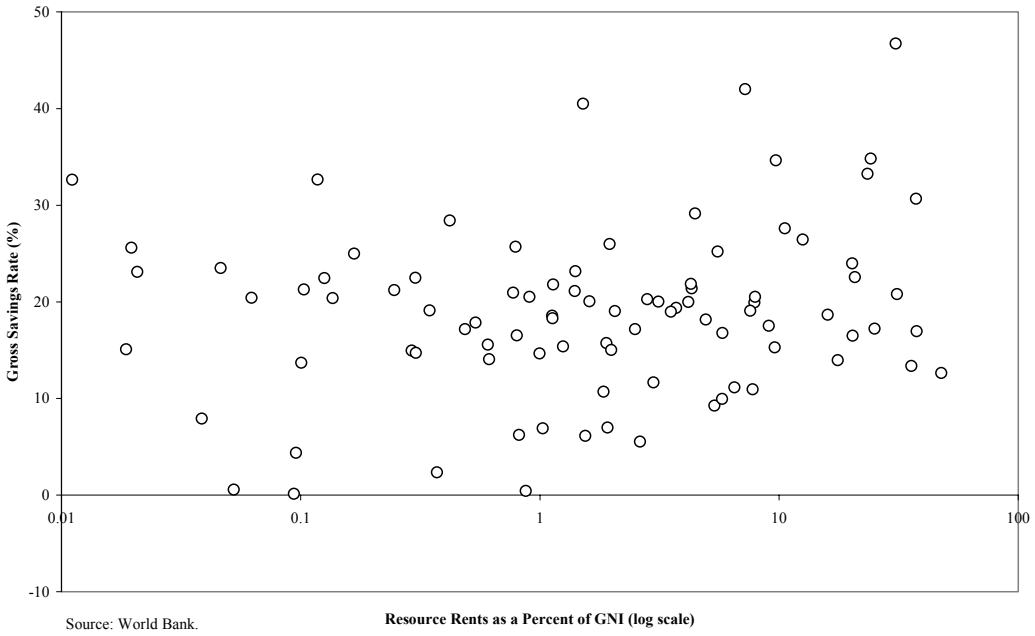
53. **To put these examples into perspective, it is useful to consider both other experiences and recent econometric evidence,** to further respond to the following questions: What was the relative importance of the different channels of the resource curse? How did fiscal policies contribute to the growth effects of resource dependence? And in particular, how important was the mix of current and capital spending relative to the quality of the projects financed? What are the specific lessons from the experiences of oil-exporting countries in SSA and CEMAC, where initial conditions are closest to those of Equatorial Guinea?[18]

54. **There is strong econometric evidence of the importance of fiscal policies in shaping development outcomes; it may be that the most important challenge is to limit**

[18] The experiences of these countries are discussed extensively elsewhere. For references, see Auty (2001), which contains a selection of papers on a variety of countries (including Bolivia, Saudi Arabia, and a number of transition economies) or Sala-i-Martin and Subramanian (2003), who review the Nigerian case.

current expenditures relative to public investment. Atkinson and Hamilton (2003) show that the negative effects of resource abundance might only emerge if there is excessive government consumption. Adding an interaction term of current government expenditures and resource rents to a standard cross-country regression, they find that the coefficient of this term is negative and significant. Moreover, after the term is included, the coefficient for resource abundance becomes positive but insignificant, suggesting that excessive government consumption explains a large part of any resource-curse effect. In contrast, the coefficient of the interaction term between resource rents and capital expenditure is positive and significant. Consequently, targeting spending on investment might substantially benefit a country, especially where private saving rates are low.[19]

Figure II.9. Resource Rents and Gross Savings Rents



Source: World Bank.

55. **Oil-exporting countries in SSA and CEMAC have faced a number of specific challenges and policy problems and have often had difficulties in transforming oil wealth into improved living conditions.** Katz et al. (2004) detail some developments, emphasizing, among other things, the following:

[19] Figure 9 provides further evidence; it suggests that the relation between the tendency of a country to save (in physical or financial terms) and the importance of resource rents is at most weak.

- Because fiscal policy has often not been able to smooth out oil-price-induced volatility, there has been a pronounced pattern of procyclicality in spending. Ratchet effects following spending increases have also created situations that severely restricted the flexibility of fiscal policies, and in most cases there have not been medium-term fiscal frameworks to prevent these effects.

- While many observers emphasize the availability of and need for expedient public investment opportunities in SSA (see paragraphs 12 and 13 above), because of institutional weaknesses and administrative capacity constraints, too many ventures have had low or even negative returns. The experience of Nigeria, a prime example of these problems, is discussed extensively in Sala-i-Martin and Subramanian (2003),

- Given the limited capacities of many countries to sterilize large resource-related inflows and the membership of many countries in currency unions, monetary and exchange rate policies have been less suited to minimizing the macroeconomic effects of resource inflows.

56. **In SSA, it is believed, problems of debt overhang are closely related to the growth-inhibiting effects of resource abundance.** Natural-resource-backed borrowing has been characteristic of early resource exporters during booms. This has had serious consequences when credit constraints tighten. Manzano and Rigobon (2001) document the pattern, presenting strong evidence that controlling for debt overhang largely eliminates the negative effect of resource abundance on growth.

57. **While the relative importance of the different channels of the resource curse is still debated, there has been a tendency to emphasize mechanisms other than Dutch disease.** Apart from debt overhang, recent studies favor approaches based on macro volatility and the effects of resource abundance on social capital. The following contributed to this change in emphasis:

- Oil-exporting economies grew strongly during the boom period up to 1980 (when real exchange rates tended to appreciate) but inadequately when prices were depressed (Table 1). Though Dutch disease is likely to have a lasting effect on economic activity, it is difficult to reconcile it with this evidence when decline of the resource sector (and the related real depreciation) continues for decades.[20]

[20] For an illustration using a country case, see Sala-ì-Martin and Subramanian, 2003. They present different measures of competitiveness, showing that variables like the real exchange rate have depreciated strongly for extended periods of time without a later recovery of tradables.

Table II.1: Growth of oil versus non-oil exporters, 1960-1998			
	1960-1998	1960-1980	1980-1998
Developing countries	1.7	3	0.2
Oil exporters	1.1	5.2	-2.1
Others	1.8	2.7	0.5
Source: Hausmann and Rigobon (2002)			

- In SSA, industries displaying the sort of learning-by-doing and scale effects necessary to generate Dutch disease have not been present independently of the scale of mineral resource production. While agricultural production, particularly cash crops, has sometimes declined deeply after oil booms (see Davis, 1995), the replacement of one dominant primary export staple by another should not have much effect on growth.

58. **The evidence in Africa suggests that failing to implement a fair distribution of oil revenues can lead to a severe deterioration of social capital:**

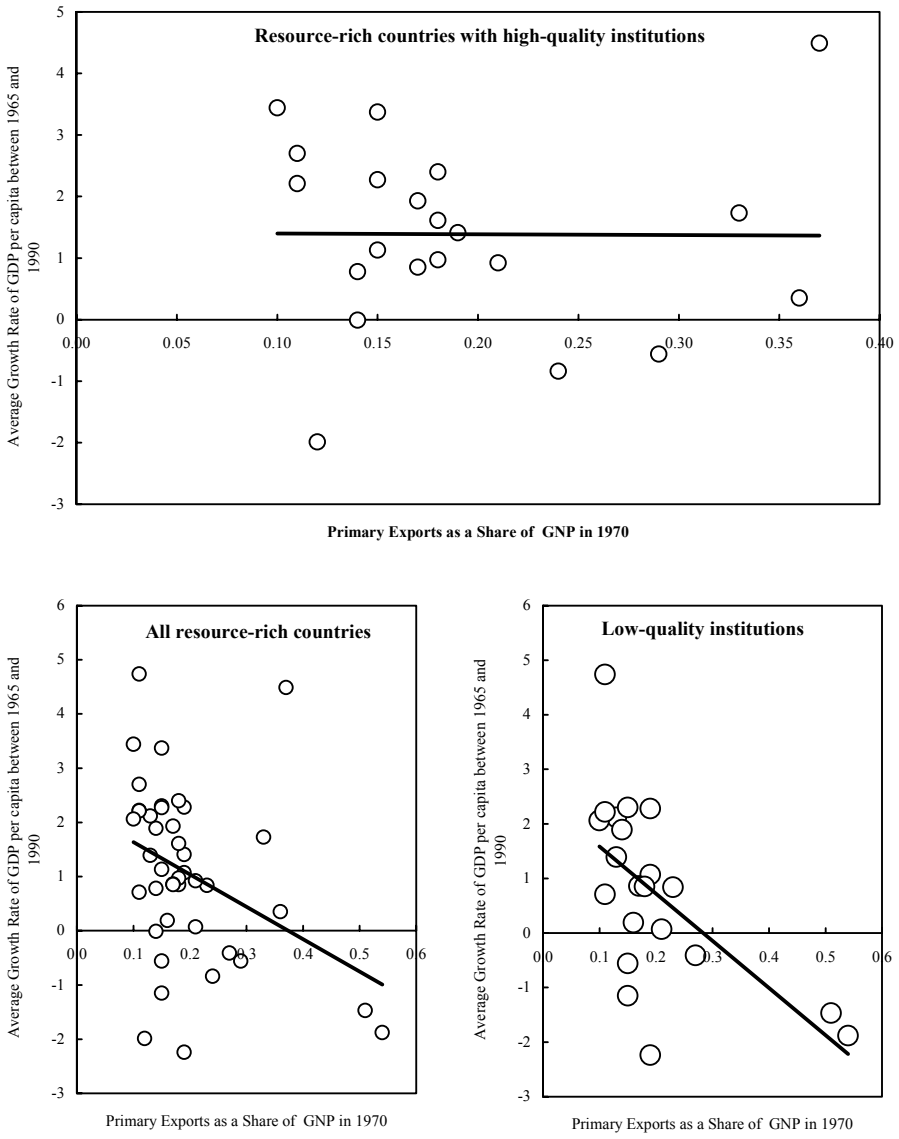
- Countries plagued by the resource curse have often channeled resource wealth to selected interest groups and prestigious projects. This, in combination with unsustainable fiscal and mineral policies, has led to an evaporation of social capital, disintegration, and violent conflicts, as is documented in a large number of studies (see Collier and Hoeffler, 2000, and Lane and Tornell, 1999),

- By establishing social safety nets or improving the infrastructure for health care and education, a number of countries have spread the new wealth more evenly. An alternative approach is to distribute some revenues (or part of the interest income of a fund, as in Alaska) directly to the population. Such a procedure, among other things, empowers civil society and makes potentially more efficient use of inflows through individual decision-making. However, the macroeconomic impact of the resulting increase in private-sector spending and the practical obstacles to direct distribution await further exploration.

59. **Case study evidence thus supports an integrated perspective on resource abundance, as does the most recent econometric evidence on growth and resource abundance.** The latter casts doubts on the general applicability of the resource-curse hypothesis by highlighting the following relationships:

- Higher levels of education spending can offset any negative effects of resource abundance (Bravo-Ortega and De Gregorio, 2005). Interestingly, a substantial part of the negative correlation between growth and natural resources may be due to lower spending on education in resource-rich economies (Gylfason, 2001).

Figure II.10. Resource Dependence, Growth, and Institutions



Source: Own calculations based on Sachs and Warner (1995) and Mehlum, Moene and Torvik (2005).

- Controlling for institutional quality significantly alters the underlying relationships. For example, Brunnschweiler (2006) finds that several measures of resource abundance, particularly mineral resources, show a positive correlation with growth that becomes stronger as institutional quality improves. Similarly, Mehlum, Moene and Torvik (2005) show that good institutions can completely offset any negative

effects of resource abundance as measured by Sachs and Warner (1995). Figure 10 provides similar evidence.[21]

Summary of Cross-Country Experiences

60. **The "resource curse" is not a curse: linkages between the staple commodity and the rest of the economy and structural measures to increase competitiveness can successfully generate growth.** Despite assertions to the contrary in the literature, it is possible to actively employ mineral resources. Strategies to do so, however, will only be successful within a stable framework for fiscal and mineral policies that emphasize productive investment in infrastructure and human capital, as well as macroeconomic stability. Moreover, selective policies to increase the outward orientation of the economy and to strengthen diversification capacities are important for kick-starting growth. To sustain growth, continued improvement in institutional quality and capacity are necessary.

61. **Sound planning for resource exploitation is a precondition for sustained growth; it can have positive spillovers to the rest of the economy.** The approach to foreign participation in resource exploitation is central. In dealing with foreign stakeholders, the government must have a clearly communicated set of objectives. How the government approaches the trade-off between maximizing rents for the society as a whole while protecting property rights will determine how attractive the country will be to foreign investors. Though backward and forward linkages are often limited, emphasizing them can contribute to the growth prospects of resource-rich economies.

62. **In resource-rich countries, fiscal policy has a dual role: It must protect against excess volatility and overheating while employing resource rents to effectively promote development.** Botswana, Indonesia, and Malaysia demonstrate that targeted spending can be crucial to development of the nonresource economy. Those countries often concentrated spending on physical infrastructure, building trade capacity, and investing in human capital. At the same time, safeguards against excess spending proved vital in preventing the initiation of low-productivity projects, unnecessary recurrent expenditures, and macroeconomic imbalances. Long-term development plans can be an important element of a fiscal framework that incorporates such safeguards. At the same time, the budget process in general must be institutionally sound, probably to a larger extent than in countries without substantial

[21] As in Mehlum, Moene, and Torvik (2005), institutional quality is measured as an un-weighted average of measures of the rule of law, bureaucratic quality, corruption in government, risk of expropriation, and a government repudiation of contracts index. The sample of 42 resource-rich countries was split using the median value of the index.

resource wealth, especially because inflexible fiscal rules with specific fiscal targets have been less important to successful resource-led growth.

63. **Avoiding the resource curse using such policy approaches simply creates the preconditions for further growth; further policy action is usually required to spur growth and sustain it.** In particular, the governments of successful resource-rich countries have often actively helped the private sector to build its capacities to compete internationally. While the exact policy measures undertaken to foster integration vary substantially, they usually combine elements of orthodoxy (policies to liberalize trade and avoid import substitution) with institutional innovations such as public investments in building trade capacity building, as by spending on infrastructure, research and marketing support, or more direct forms of export assistance. Attempts to pick "winners" have been less successful.[22]

D. The Case of Equatorial Guinea

The Hydrocarbon sector: recent developments and the medium-term outlook

Endowments, upstream activities, and expected production profile

64. **Equatorial Guinea has substantial hydrocarbon reserves.** Proven oil reserves are estimated at 1.28 billion barrels.[23] Current production is taking place in four major fields. The *Alba field* 12 miles north of Bioko Island, which is operated by Marathon Inc., was developed in the first half of the 1990s. Production there has focused on natural gas, including condensates. The largest field, *Zafiro,* northwest of Bioko Island, which is operated by ExxonMobil, holds most of the country's proven oil reserves. Production is projected to decrease continuously from now on. Besides production offshore Bioko recent years also saw major developments in the Rio Muni area, near the mainland, which has both off- and on-shore deposits, though the latter are largely unexplored. Offshore the third major field, *La Ceiba*, is operated by Amerada Hess, which will also operate the fourth field, *Okume,* which is nearby. Okume is expected to start production in 2007, with the first shipments in the third quarter.

65. **Though exploration drilling has slowed down marginally in recent years, it is still significant.** A fairly large number of foreign investors from a diversity of countries are doing the exploring, and significant acreage has not yet been licensed. Recent drillings have

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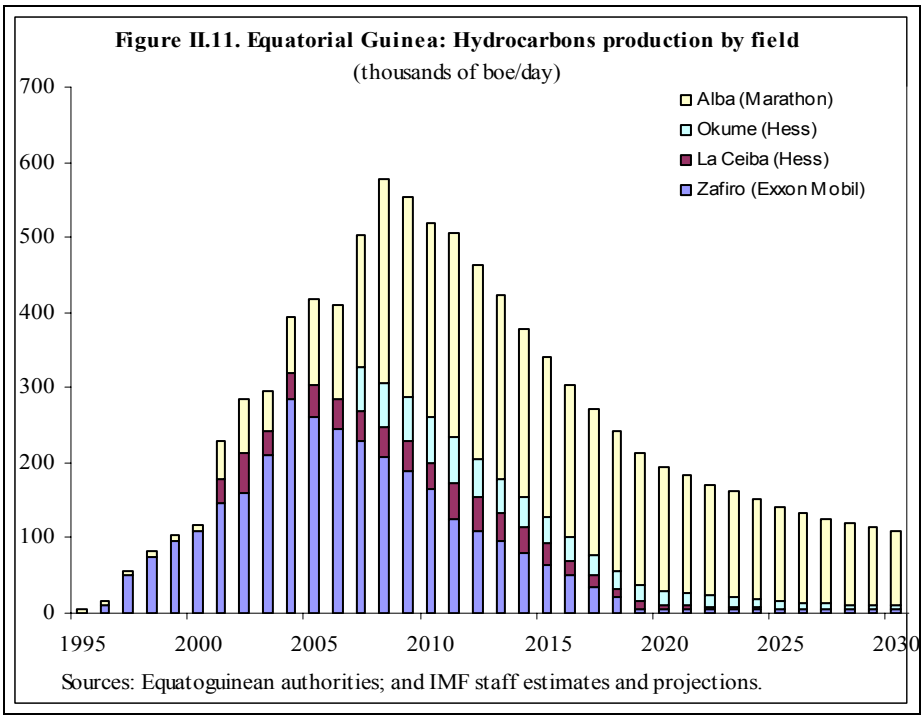
[22] Botswana as well as Malaysia and Indonesia had disappointing experiences with large-scale industrial projects (see Harvey and Lewis, 1990, on Botswana's Sashe project, Abidin, 2001, on Malaysia's "HCI Big Push" policies in the 1980ies).

[23] Estimates for proven natural gas reserves vary substantially, the most conservative estimate being 1.3 trillion cubic feed (Oil and Gas Journal, 2006),

yielded some significant discoveries but their commercial value is yet to be determined. Given the high development costs for many offshore ventures, whether further production facilities are built will strongly depend on the outlook for oil prices.

66. **While production increases in recent years have been impressive, unused acreage and uncertainties about the commercial value of less mature blocks complicate the planning for future production.** Oil and gas production have increased from around 5,000 barrels of oil in the early 1990s to around 400,000 barrels of oil equivalent per day recently, and much of the area around Bioko Island and near the mainland is still being developed. Though exploration costs in the deep waters south of Bioko and around the island of Annabon are expected to be high, several companies have acquired or expressed interest in those fields, and blocks in the Douala and Rio Muni basin have recently been described as promising.

67. **Based on staff projections and figures from the Ministry of Mines, major hydrocarbon production is expected to continue for at least two decades.** Figure 11 offers a scenario for hydrocarbon production through 2030 based on proven reserves by production field. Production is expected to peak in 2008. While output in Zafiro and La Ceiba is decreasing, gas, particularly liquefied natural gas (LNG), will continue to provide a stable source of production activity and revenues.



Midstream and downstream activities, and potential linkages

68. **Equatorial Guinea has moved to expand midstream and downstream activities.** The most important step was the construction of a major LNG plant, which is expected to start producing in 2007. Its annual capacity is estimated at about 3.4 million tons. A number of other ventures have been realized or are being considered:

- Reconstruction of the port in Malabo and installation of a deep-water port in Luba could significantly improve the trade environment. A joint venture led by GEPetrol was awarded a concession as an "Autonomous Free Zone" in the hope that it would help promote the area as a hub and service center for regional hydrocarbon-related activities.

- Recent attempts to reduce the flaring of gas and to use resources effectively have been very successful; saved resources, which would otherwise have been wasted and polluted the environment, are now feeding gas utilization projects. The methanol plant operated by a consortium led by Marathon has been a source of additional hydrocarbon growth. Similarly, formerly flared gas is used to generate gas power that supplies electricity to Bioko Island.

- Finally, the government is considering local refining. Though it seems to have no concrete plans as yet, such a step could significantly resolve one of the major downstream problems, the marketing of fuel for local use. Currently this is a monopoly, which impedes effective allocation of resources. The viability of local refining should be assessed thoroughly, taking into account future oil production, refining capacity in the region, and the effects on technology transfer.

69. **LNG offers a major opportunity in the medium term, though linkages to the rest of the economy will be limited.** The market for LNG is expected to experience a major breakthrough in coming years. With its new plant, Equatorial Guinea has the potential to become an LNG hub, receiving inputs for transformation from the region (in particular, Nigeria and Cameroon) and exporting LNG, mostly to the U.S. Recent announcements by Marathon, the company producing LNG, suggest that processing will be much more productive than expected. Given substantial economies of scale in LNG production, plans to double capacity are being pursued. However, because LNG requires sophisticated inputs, it is expected to have limited backward and forward linkages.

Output sharing and sectoral governance

70. **Equatorial Guinea has implemented a number of policies that resemble successful sectoral governance approaches in other resource-rich countries.** The relationship between public bodies, the national oil company (GEPetrol), and foreign investors is generally described as cooperative. After the Riggs Bank scandal, the country took steps to increase transparency, most notably by preparing to adopt the Extractive Industries Transparency Initiative.

71. **At the same time, numerous governance issues remain, particularly those related to a new decree on local ownership.** The revision of the 2004 investment law may raise concerns among international investors. The law requires 35 percent local ownership in ventures related to hydrocarbon production and appears to be targeted at subcontractors. Oil companies may fear that it will increase the difficulty of outsourcing certain activities that are central to the functioning of the hydrocarbon sector. Moreover, the law's retroactivity and scope may need to be clarified.

Impact of hydrocarbon production on other sectors of the economy

72. **Large-scale hydrocarbon production has had a deep impact on the structure of economic activities in Equatorial Guinea.** Labor markets, financial intermediation, the composition of investment, and the export/import mix have all changed significantly as the hydrocarbon sector has increased its share in production. Economic activities are more and more oriented to the hydrocarbon sector and closely related areas. The financial sector concentrates on providing financial services to foreign oil companies and related activities; it finances few non-oil investments. While data on labor markets are scarce, the current wage discrepancy between the oil and non-oil sectors is likely to have significant effects on labor allocation (Table 2),

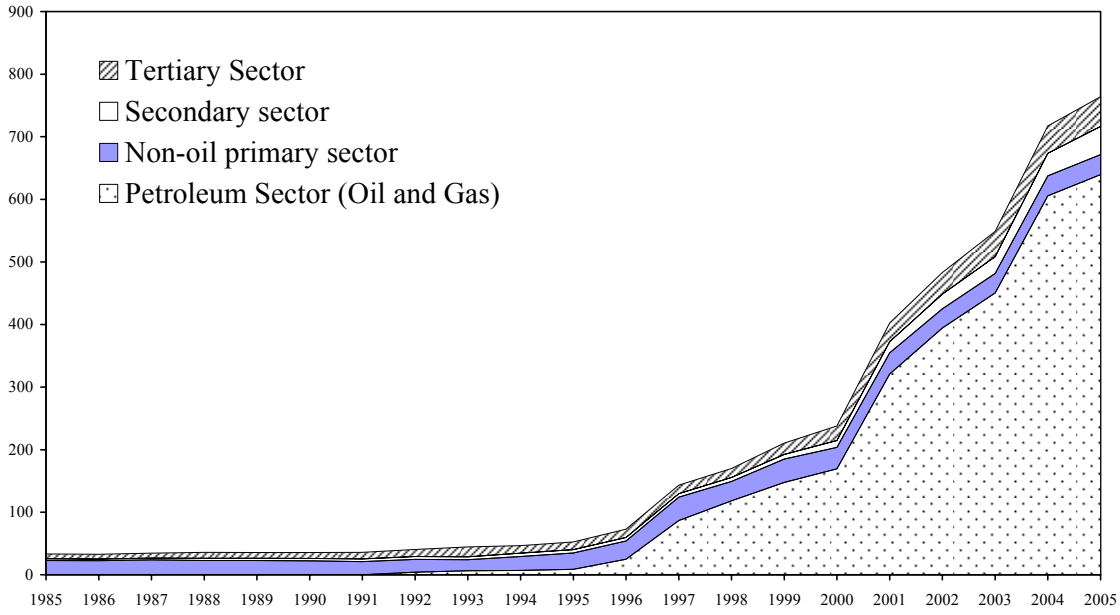
Table II.2. Equatorial Guinea: Monthly Minimum Wages[1]
(in CFA francs)

	2003-2005
Petroleum Sector	
Superior Technician	900000
Unskilled Workers	225000
Non-petroleum Sector[2]	
Superior Technician	450000
Unskilled Workers	90000

[1] Manufacturing, retail, agro-, and services sectors

73. **The composition of GDP reflects the changes that have occurred since major production began** (see table 3 and figure 12). While the non-oil primary sector has lost substantial ground, segments of the secondary and tertiary sectors have grown strongly, mainly because of spillover effects, including large government investments, and activities closely related to hydrocarbons.

Figure II.12. Equatorial Guinea: Sectoral Composition of Real GDP
In billions CFA Franc at 1985 prices



Source: Equatoguienan Authorities, and Fund staff estimates.

Table II.3. Equatorial Guinea: Sectoral Developments, 1990-2005

	(Five-year annual average change, in percent)[1]			(Share of nominal GDP)		
	1990-1995[2]	1995-2000	2000-2005	1995	2000	2005
Real GDP	8.7	33.9	26.0			
Petroleum Sector (Oil and Gas)	16.2	80.0	30.4	18.9	84.2	92.7
Non-oil sector	5.1	9.4	12.3	72.5	13.6	6.3
Of which						
Non-oil primary sector	2.9	5.7	-1.4	50.5	8.4	2.1
Agriculture	1.6	2.3	0.7	28.1	3.9	1.4
Forestry	11.0	13.6	-6.9	22.1	4.4	0.7
Fishing	-17.6	5.6	19.4	0.4	0.1	0.1
Secondary sector	8.3	15.4	31.9	6.8	1.5	1.7
Manufacturing	5.5	6.6	13.1	0.9	0.2	0.1
Utilities	5.2	9.7	25.4	2.4	0.4	0.4
Construction	11.7	20.4	36.0	3.6	0.9	1.2
Tertiary Sector	5.2	13.4	15.6	15.1	3.7	2.5
Trade and commerce	6.2	13.5	13.2	6.1	1.1	0.7
Transport and communications	3.2	9.5	10.9	1.3	0.2	0.1
Finance and housing	2.4	17.6	22.9	1.3	0.3	0.2
Public administration	5.3	14.2	9.9	4.3	1.6	1.1
Other services	5.1	10.8	27.9	2.0	0.5	0.5

[1] Geometric Average

[2] For the hydrocarbon sector, the average growth rate for the period 1992-1995 is applied

74. **The recent decline in cash-crop production can in part be attributed to structural changes following the oil boom.** It is unlikely that the non-oil primary sector suffers primarily from classic deagriculturalization , because government price guarantees should have provided enough incentives to continue production. However, the fact that production facilities have difficulty retaining capital and labor suggests that factor inputs have migrated. Given the current divergences between rates of returns and wages in the non-oil economy (Table 2), such movements are indeed likely.

75. **Recent trends may enhance growth potential over the medium term.** In particular, the strong growth in construction and utilities services is likely to increase productivity and eliminate major bottlenecks in transportation, electricity services, and communication. Strong growth has already brought back a large number of nationals who had emigrated and brought in a substantial number of foreigners. The resulting improvements in the quality and quantity of the workforce may well be itself a source of growth.

Policies for growth in Equatorial Guinea: challenges and opportunities

76. **The private sector should take the lead in identifying viable investment opportunities to diversify the economy.** Private-sector-led growth will in turn require active government participation to safeguard macrostability, improve the business environment, and help build trade capacity. Though large-scale industrial projects initiated by government have often yielded low returns, governments in resource-rich economies can and must provide the infrastructure and preconditions to help the private sector diversify its activities.

77. **With a coherent fiscal framework, fiscal policy could deter macroeconomic obstacles to growth.**[24] The prevention of internal and external price distortions has proven to be an important precondition for growth in resource-rich countries. Since there is no exchange rate-related adjustment mechanism, Equatorial Guinea's fiscal stance drives the macroeconomic aspects of competitiveness. The experience of other countries shows that a structured process, augmented by a fiscal rule, can significantly improve fiscal outcomes.

78. **Expenditures on health and education can enhance productivity.** The government has stepped up its human capital formation activities. The experiences of other resource-abundant countries show that only significant investments in human capital can increase productivity enough to compensate for the structural changes that usually occur during resource booms.

79. **By increasing the country's resilience in responding to real exchange rate shocks, further trade liberalization could increase its growth potential.** Such initiatives

[24] Elements of such a framework are discussed in the following chapters.

would be most effective on the regional level; particularly useful would be active measures to improve the availability of trade-related services (for example, in research and marketing).

80. **Institutional quality and capacity must be increased if growth is to be sustained.** Additional public service capacity (e.g., in statistics, planning, and tax administration) will be necessary to increase the efficiency of the public sector in a now much larger economy.

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III. Assessing Long-Term Fiscal Sustainability in Equatorial Guinea[1]

A. Introduction

1. **As an economy highly dependent on exports of nonrenewable resources (oil and gas), Equatorial Guinea is facing the issue of how best to allocate its revenues from the hydrocarbon sector.** One of the main questions is what share of hydrocarbon revenues the country should spend on current and capital expenditures and what share should be saved for the benefit of future generations. As it evaluates an optimal path of fiscal expenditures, it is important for Equatorial Guinea to consider how much public investment may be needed in the next decade to reach the Millennium Development Goals. This analysis will not necessarily track what has been done in other oil-producing countries.

2. **The design of an optimal path of fiscal expenditure and saving is a fiscal policy issues because oil and gas revenues accrue to the government.** In working to optimize its expenditures the government of Equatorial Guinea has recognize a need to take into account its institutional and absorptive capacity and to formulate a strategy to build up its financial assets for the benefit of future generations. One possibility is a policy of maintaining fiscal balance and saving all surpluses.[2]

3. **The purpose of this paper is** to (i) design an optimal fiscal policy strategy using a simple partial equilibrium model of fiscal sustainability[3] and (ii) evaluate how appropriate the current fiscal strategy of Equatorial Guinea is. The paper simply analyzes the question of fiscal sustainability against the backdrop of exhaustible oil reserves; it does not try to derive an optimal policy for public consumption, investment, and saving as well. Section B below outlines a simple theoretical model, which then is subjected to empirical analysis. Section C describes the data for Equatorial Guinea and the results of empirical modeling of four scenarios. Section D discusses the model results and practical applications of the model. Section E draws some conclusions.

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[1] Prepared by Elena Loukoianova and Naly Carvalho. The authors thank Srobona Mitra and Scott Roger for sharing the model discussed in their paper (2003).

[2] Currently, the budget surplus is saved as international reserves at the Bank of Central African Stets (BEAC). However, the Equatoguinean authorities have been proposing to establish an oil fund for stabilization and saving purposes.

[3] The framework of this paper follows closely the approach laid out in Barnett and Ossowski (2002) and Roger and Mitra (2003). The model presented in Barnett and Ossowski (2003) defines sustainability in terms of constant government expenditure as a share of GDP. See also Davoodi (2002) for references to similar approaches applied to other oil-exporting countries.

B. A Model of Fiscal Sustainability[4]

4. **A sustainable fiscal policy is defined as fiscal balance, with the optimal path of government expenditure equal to the government's budget constraint over time.** In the long-run steady state, the present discounted value of government expenditures over time must be equal to the present discounted value of government revenues over time plus the present value of government assets. First, a desirable path of government expenditure is designed against which a sustainable rate of government expenditure and the dynamics of the fiscal balance are assessed. Then, the paper defines current assets of the government and the stream of future hydrocarbon and non-hydrocarbon revenues. Finally, the paper draws implications from the budget constraints for government expenditure, evolution of the asset position of the government, and budget balance over time.

A desirable path of government expenditure

5. **A desirable path of government expenditure is derived from maximizing a social welfare function subject to the government budget constraint.** Because it is impossible to design a social welfare function that would reflect the reality, for simplicity this paper assumes that one goal of a welfare-maximizing strategy is to smooth the growth path of per capita real government expenditure.[5] To simplify further, it is assumed that the goal of optimal fiscal policy is to hold per capita government expenditure constant, which means that the growth rate of real spending is equal to the growth rate for the population. Under this assumption, the share of government expenditure in GDP would gradually decline, assuming positive productivity growth with real government expenditure per capita growing over time.

6. The present value of government expenditure can be written as

$$PV(G) = \bar{g}\sum_{i=1}^{\infty}\left(\frac{1+n}{1+r}\right)^{i} = \bar{g}\left(\frac{1+r}{r-n}\right), \qquad (1)$$

where $\bar{g}$ is a sustainable level of per capita real government expenditure, n is the population growth rate, and r is a discount rate.[6] [7]

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[4] This section follows closely Roger and Mitra (2003).

[5] See Roger and Mitra for a derivation of conditions under which stabilization of real government spending per capita is optimal.

[6] An average real interest rate can be taken as a discount rate.

The government budget constraint

7. **The intertemporal government budget constraint is the sum of current value of government's assets, the present value of non-oil revenue over time, and the present value of oil and gas revenue before depletion.** For simplicity we assume that non-oil revenues grow at the same rate as non-oil GDP.

8. The present value of non-oil revenues per capita can be written as

$$PV(\tau) = \tau \sum_{i=0}^{\infty} \left(\frac{1+n}{1+r}\right)^{i} \left(\frac{1+y}{1+n}\right)^{i} = \tau \left(\frac{1+r}{r-y}\right), \qquad (2)$$

where τ is non-oil revenue per capita in period 1 and y is the real growth rate of non-oil revenues (assumed to be equal to real growth rate of non-oil GDP).[8]

9. The present value of hydrocarbon revenue per capita can be written as

$$PV(z) = z \sum_{t=0}^{T} \left(\frac{1+n}{1+r}\right)^{t} \left(\frac{1+\theta}{1+n}\right)^{t} \qquad (3)$$

where z is hydrocarbon revenue per capita in period 1, θ is real growth rate of oil and gas revenues, and T is the number of years before hydrocarbon reserves are expected to be depleted.

10. Therefore, the government budget constraint can be written as

$$PV(W) = PV(\tau) + PV(z) + A = \tau \left(\frac{1+r}{r-y}\right) + z \sum_{t=1}^{T} \left(\frac{1+\theta}{1+r}\right)^{t-1} + A, \qquad (4)$$

where A is the present value of current government's financial assets.

Sustainable government expenditure

11. **In a steady state of long-term fiscal sustainability the present value of government expenditure is equal to the present value of the government budget**

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[7] The discount rate should be strictly greater that the population growth rate for the present value of real government expenditure to be finite.

[8] The real growth rate of non-oil revenues must be lower than the discount rate for the present value of non-oil revenues to be finite.

constraint, $PV(G) = PV(W)$. Therefore, the maximum sustainable level of government expenditure per capita is[9]

$$\bar{g} = \left(\frac{r-n}{r-y}\right)\tau + \left(\frac{r-n}{1+r}\right)z\sum_{t=1}^{T}\left(\frac{1+\theta}{1+r}\right)^{t-1} + \left(\frac{r-n}{1+r}\right)A. \qquad (5)$$

12. The dynamics of the government assets position is characterized by the following equality:

$$A_t - A_{t-1} = (R_t - G_t) + rA_{t-1}, \qquad (6)$$

where A_t is the level of assets in period *t*, R_t is non-interest government revenues in period *t*, and G_t is noninterest government expenditure in the same period.

13. Let x_t be the ratio of variable X_t to non-oil GDP. Equation (6) can then be rewritten as

$$a_t - a_{t-1} = (r_t - g_t) + \left(\frac{1+r}{1+y}\right)a_{t-1}. \qquad (7)$$

14. If the primary budget surplus or deficit converges to a fraction, *s*, of non-oil GDP in the long-run steady state, then the ratio of government assets to non-oil GDP converges to

$$\bar{a} = -(r-g)\left(\frac{1+y}{r-y}\right). \qquad (8)$$

Equation (7) indicates that if the ratio of assets to non-oil GDP is stable, debt service payments would absorb the primary budget surplus, or alternatively investment income would cover the steady-state primary deficit. Thus, equation (8) means that in the steady state, a primary budget surplus is associated with a negative net asset position, and a primary deficit with a positive net asset position.

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[9] This explicitly assumes that the government is able to lend or borrow up to the total amount of future revenues at the real interest rate *r*. This is a reasonable assumption in a world without uncertainty of the parameters in equation (5) and government willingness to repay debts.

C. Fiscal Sustainability in Equatorial Guinea

15. **The model outlined in the previous section can be applied to find a sustainable fiscal path for Equatorial Guinea, as is shown by an analysis of four scenarios.** The baseline scenario is a hypothetical situation in which Equatorial Guinea has no hydrocarbon revenue and no initial financial assets. The second and third scenarios are situations in which the country has a stream of hydrocarbon revenue but initially no financial assets. Comparing those scenarios with the first one would demonstrate how the stream of hydrocarbon revenues would affect the sustainability of government expenditures, evolution of the fiscal balance, and evolution of the government's assets position. Finally, the fourth scenario is a situation where there is both a stream of hydrocarbon revenue and an initial stock of financial assets (the current situation in Equatorial Guinea, whose financial assets consist of revenues previously accumulated from hydrocarbon resources). Comparing the results of this simulation with the second and third scenarios clarifies how the government's investment position affects the assessment of what a sustainable rate of expenditure is and the evolution of the fiscal balance.

16. **The assumptions for parameters for applying the model from section B are summarized in table III.1.** The assumptions take effect in 2012. For purposes of the analysis, staff medium-term projections are used for 2006-11. These projections reflect the authorities' budget plan for 2006, world oil prices, the interest rate, and the exchange rate assumptions from the *World Economic Outlook* (2005). Because the 2006-11 period is therefore considered a transition period, model assumptions are only applied from 2012 onward. For simplicity, the real effective exchange rate is assumed to be constant over time. The fiscal path for the transition period, 2007-11, is assumed to follow the fiscal rule adopted by the authorities: Current expenditures are financed by non-oil revenues, and capital expenditures are financed by oil revenues.

17. **To highlight the importance of major macroeconomic elements three progressively more complex scenarios are analyzed,** using scenario 1 as a benchmark. In this scenario, the only source of government revenue is non-oil revenue. Finite oil revenue is added in scenarios 2 and 3. Finally, an initial stock of government financial assets is added in scenario 4. The fourth scenario therefore incorporates all the assumptions from table III.1 and also describes the prospective evolution of the current situation in Equatorial Guinea.

Table III.1. Variable Definition and Assumptions

Variable	Assumed Value (percent per annum, unless otherwise indicated)	Coverage
Population growth – official projections of 3 percent until 2011	2.9	Projected rate from 2012 onward
Output growth per capita	0.2	Assumes productivity will grow equivalent to two times the weighted average of the growth of non-oil primary sector GDP from 2000-2011 estimates
Inflation rate	3.0	Based on the BEAC convergence criterion
Long-term real interest rate [1]	4.1	The average of BEAC's nominal prime rate minus Equatorial Guinea's average inflation for 2005, which is estimated at 6.81 percent
Real growth of government spending (excluding royalties)	2.9	Assumes it will grow in line with population growth .
Real growth of non-oil government revenue	3.1	Assumes the same growth rate as real per capita non-oil GDP
Non-oïl revenues/non-oïl GDP (in percent)	15	Assumes constant ratio in the long run in all scenarios
Years remaining until oil and gas reserves are depleted	20	Assumption based on authorities' estimate of proven reserves and a starting year of 2012, the first year of the model application
End-2011 government financial assets (in percent of non-oil GDP)	6.9 CFAF trillions	Data provided by authorities and staff projections.

[1] The paper calculates the real interest rate for Equatorial Guinea based on the nominal prime rate and the rate of inflation. It does not take into consideration the current regional (CEMAC) arrangement, which pays interest of 1.6 percent in nominal terms on foreign reserves.

Scenario 1: Constant real per capita government expenditure; No hydrocarbon revenue; no financial assets

18. Under the assumption of no hydrocarbon reserves and no initial financial assets, the government budget constraint, equation (4), can be written as

$$PV(W) = \tau\left(\frac{1+r}{r-y}\right). \qquad (9)$$

Together with a policy of maintaining per capita government spending constant (in real terms), this government budget constraint gives the following maximum sustainable level of government expenditure per capita:[10]

$$\bar{g} = \left(\frac{r-n}{r-y}\right)\tau. \qquad (10)$$

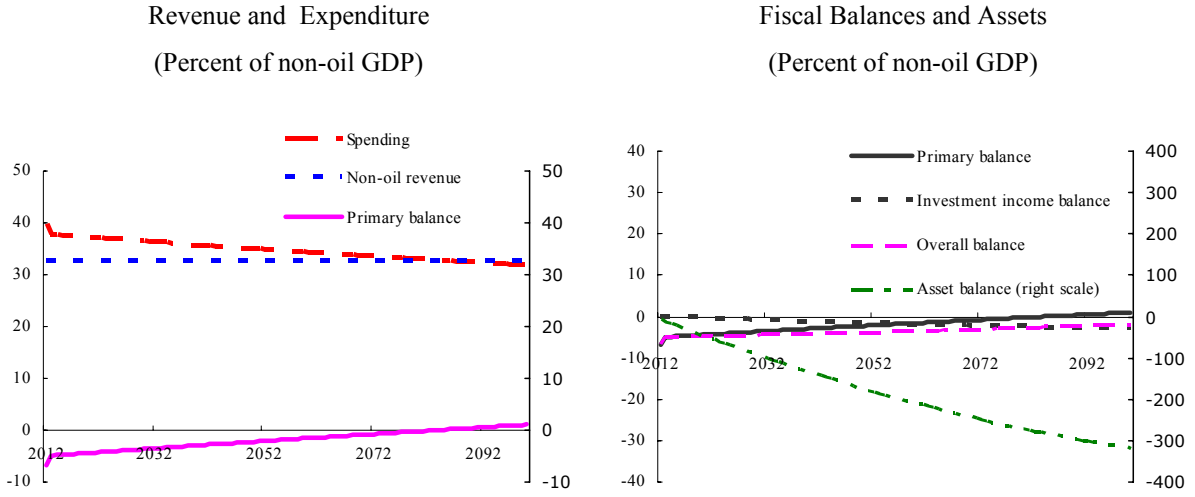
19. **Equation (10) demonstrates that spending may be above or below initial level of government revenues,** depending on the relative magnitudes of the population growth rate, n, and the real GDP growth rate, y. We assume that real GDP grows faster than population, $n < y$. Therefore, at the beginning the sustainable level of per capita government spending would exceed revenues, causing a primary budget deficit. However, this deficit would decline over time because revenues grow more than expenditures. The government would finance the budget deficit by contracting new public debt (external or domestic). In the long run, the primary budget deficit would evolve into a surplus, which would be used to service the debt. Asymptotically, the government debt-to-GDP ratio would stabilize at a level where the debt service payments exactly equal the primary surplus at any point, which would balance the budget.

20. **The results of this scenario show a smooth path of sustainable government spending between 2012 and 2100** (Figure III.1). In 2012, the sustainable rate of government expenditure is about 18 percent of non-oil GDP; the initial primary budget deficit is 7 percent of non-oil GDP. Though the primary budget deficit switches into surplus by 2084, at that time the budget is still in deficit, because budget surplus is not enough to fully cover debt service. Nonetheless, the fiscal balance narrows thereafter, slowing the growth of the public

[10] Equation (10) gives the maximum or the ceiling for sustainable government expenditure. Actual government spending may be lower than this maximum level.

debt (not shown on Figure III.1). By 2138, the primary budget surplus would converge to total debt service, stabilizing the debt-to-GDP ratio.[11]

Figure III.1. Equatorial Guinea: Fiscal Sustainability in Scenario 1:
(i) Stable Real Government Expenditure Per Capita
(ii) No Hydrocarbon Revenue
(iii) No Initial Financial Assets



Scenario 2: Constant real per capita government expenditure; Hydrocarbon reserves deplete in 20 years; no financial assets

21. **This scenario continues to assume that the government has no initial financial assets, but this time there is a finite stream of hydrocarbon revenue from 2005 through 2032.**[12] Here, the government budget constraint can be written as

$$PV(W) = \tau\left(\frac{1+r}{r-y}\right) + z\sum_{t=1}^{20}\left(\frac{1+\theta}{1+r}\right)^{t-1}, \qquad (11)$$

[11] See equation (8).

[12] The 20-year period before hydrocarbon reserves are depleted starts in 2012, the first year for applying the model.

where $t = 1$ corresponds to the first year of the model simulation. This constraint gives the following level of constant sustainable per capita government expenditure:

$$\bar{g} = \tau\left(\frac{r-n}{r-y}\right) + z\left(\frac{r-n}{1+r}\right)\sum_{t=1}^{20}\left(\frac{1+\theta}{1+r}\right)^{t-1} . \qquad (12)$$

Government expenditure now has two components: (i) the permanent stream of government revenue, as in scenario 1, and (ii) the share of oil revenue that would be spent.

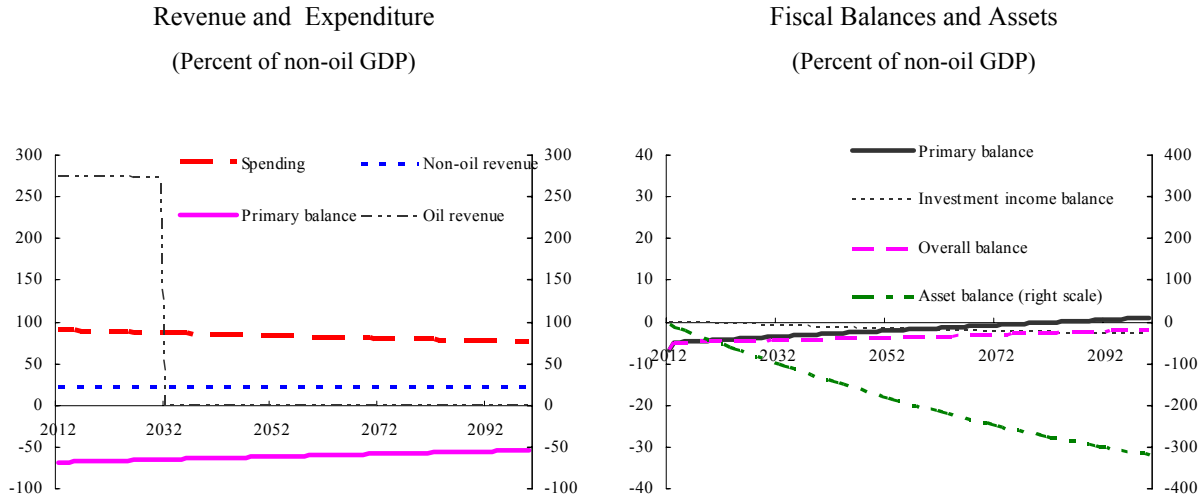
22. **As equation (12) shows, only a small fraction of oil revenues—about 1.6 percent of the present value of total oil revenues—should be spent.** Therefore, the ceiling for a sustainable level of per capita government expenditures would be about 3.5 times higher than in scenario 1, because most hydrocarbon revenues would be saved (the financial assets). Financial assets built up during the period when hydrocarbons were producing revenues would be about 45 times non-oil GDP in 2031.[13] Thus, before hydrocarbon reserves are depleted, the government would have a high primary budget surplus of about 210 percent of non-oil GDP. After the depletion point in 2032, a large budget deficit of 65 percent of non-oil GDP would emerge, and the path would mimic scenario 1, though at different levels of government revenues, expenditures, and overall budget balance.

Figure III.2. Equatorial Guinea: Fiscal Sustainability in Scenario 2:

(i) Constant Real Per Capita Government Expenditures

(ii) Oil and Gas Reserves Deplete in 20 Years

(iii) No Initial Stock of Financial Assets



[13] Non-oil GDP in Equatorial Guinea was estimated at about 20 percent of total GDP in 2005.

23. **After the depletion point, investment income would only partially cover the primary budget deficit;** the remaining shortfall would be financed by a gradual erosion of the financial assets. Thereafter, the fiscal position would evolve very much in scenario 1, with the country converging to balance in the very long run.

24. **In summary, the differences between scenarios 1 and 2 indicate that the transition hydrocarbon revenues may significantly increase the sustainability ceiling for government expenditures;** at the same time, it complicates the dynamics of the fiscal position. However, the long-term fiscal path remains unchanged. In other words, hydrocarbon resources postpone but do not change the logic: if non-oil revenue grows faster than expenditures, the country will eventually converge to fiscal balance (or primary budget surplus) in the long run.

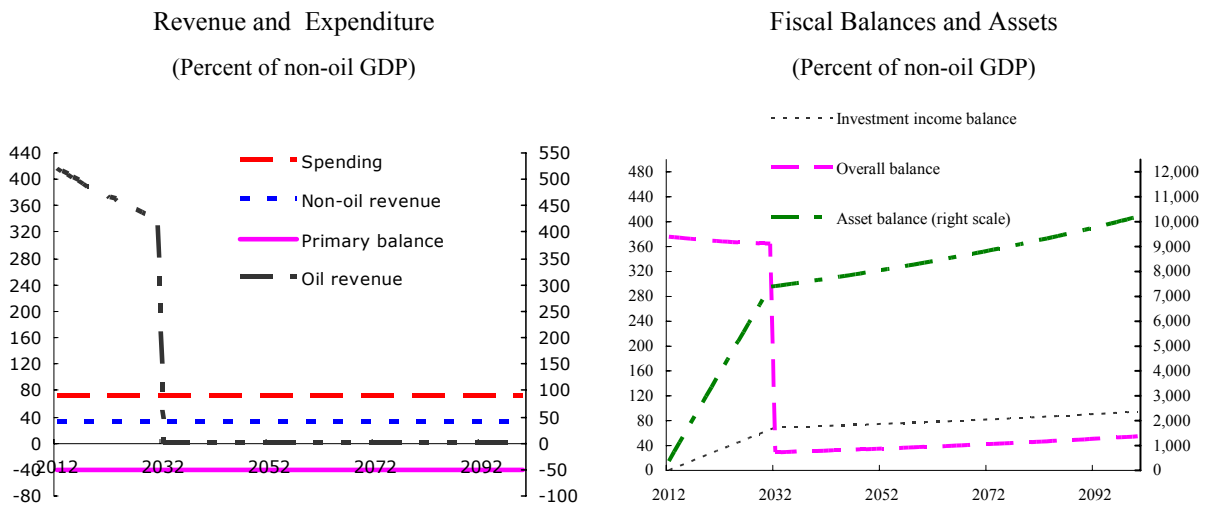
Scenario 3. Constant real government expenditure as a share of non-oil GDP; hydrocarbon reserves deplete in 20 years; no financial assets

25. **If government expenditures grow at the same rate as real non-oil GDP, the results are very different.** This scenario considers a variation of the model, in which government expenditure and real non-oil GDP grow at the same rate. In this case, government expenditure grows faster than in both the previous scenarios. As non-oil revenue stabilizes at about 15 percent of non-oil GDP, sustainable budget expenditure are 51 percent of non-oil GDP, and the primary budget deficit is 78 percent.[14] Once hydrocarbon resources are depleted, the constant primary balance relative to non-oil GDP implies a constant investment income balance relative to non-oil GDP (Figure III.3).

26. **Assuming the same growth rate for government expenditure and real GDP implies that all key fiscal ratios reach their long-term steady state values immediately after the depletion point.** Steady state non-oil revenue is the same as in scenario 2, but the long-run equilibrium is the opposite of that in scenarios 1 and 2: in scenario 3, the government runs a primary budget deficit over the long run, and it also has a large creditor position.

[14] See Roger and Mitra (2003) for details on the steady state sustainable rate of expenditure in this scenario.

Figure III.3. Equatorial Guinea: Fiscal Sustainability in Scenario 3:
(i) Constant Real Government Expenditure as a Share of non-Oil GDP
(ii) Oil and Gas Reserves Deplete in 20 Years
(iii) No Initial Stock of Financial Assets



Scenario 4: Constant real per capita government expenditures; oil and gas reserves deplete in 20 years; initial financial assets are 12.5 times non-oil GDP in 2011

27. **Scenario 4 returns to the assumption of constant per capita real government expenditure,** and to further assumes that in 2011 the government has initial financial assets of 6.9 trillion of CFA francs (equivalent to US$12.5 million; 12.5 times 2011 non-oil GDP).[15] Reflecting the assumed horizon for hydrocarbon resources, the sustainable government expenditure path can be written as

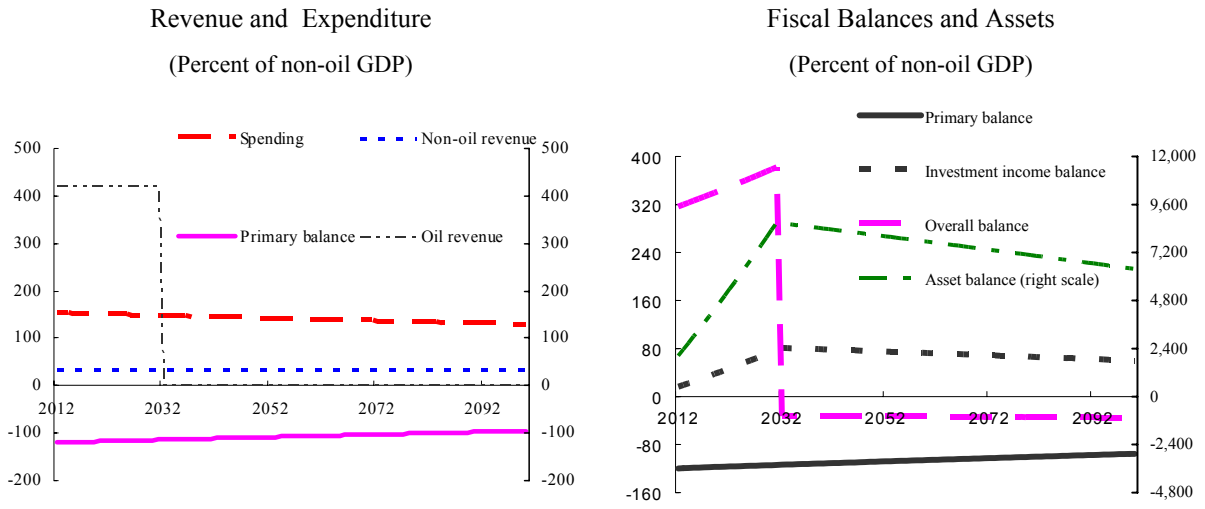
$$\bar{g} = \tau\left(\frac{r-n}{r-y}\right) + z\left(\frac{r-n}{1+r}\right)\sum_{t=1}^{20}\left(\frac{1+\theta}{1+r}\right)^{t-1} + A\left(\frac{r-n}{1+r}\right). \qquad (13)$$

28. In 2012 the ceiling of sustainable government expenditure in this scenario is 69 percent of non-oil GDP—1.4 times higher than in scenario 2. However, the fiscal balance

[15] We assume that projected gross international reserves of Equatorial Guinea at end-2012 constitute government financial assets.

and government asset position evolves as it did in scenario 2 (see figures III.2 and III.4). Although government expenditure is higher in scenario 4 than in scenario 2, the accumulation of financial assets in 2032 is also higher, at about 86.6 times non-oil GDP (it was 45 times in scenario 2). After the depletion point, the large primary budget deficit of about 120 percent of non-oil GDP is partly financed by investment income and partly by spending down accumulated government financial assets. In the very long run the government fiscal position reverts to primary budget surplus and fiscal balance.

Figure III.4. Equatorial Guinea: Fiscal Sustainability in Scenario 4:
(i) Constant Real Per Capita Government Expenditure
(ii) Oil and Gas Reserves Deplete in 20 Years
(iii) Initial Stock of Financial Assets



D. Discussion of the Results and the Practical use of the Model Simulation

29. **The model simulated here provides only an asymptotic path and a qualitative description of a few possible scenarios, not a realistic evolution of the ceiling for a sustainable fiscal path.** The only variable that is determined by the model is the sustainable level of budget expenditure. All other model parameters are fixed ex ante and do not vary with the time (Table III.1). In reality, however, because all parameters would not be constant over time, there should be many degrees of uncertainty in setting a ceiling for sustainable expenditures. Thus, the model results should be interpreted with caution.

30. **In practice, it is possible to build in a transition path from current reality to long-term fiscal sustainability,** though the path should be resimulated each time any of the model parameters changes. This does not mean, however, that policy makers cannot use the

model results for short- and medium-term forecasting within the macroeconomic framework. As happens at present, the macroeconomic framework can be revised fairly often.

31. **From the practical design standpoint, the transition period should cover the horizon that is most relevant for economic planning.** Here, that is assumed to be five years, consistent with the medium-term macroeconomic projections and the forecast period covered in the *World Economic Outlook* (WEO). WEO projections for world oil prices, interest rates, and exchange rates are used as the basis for structuring the medium-term macroeconomic framework for Equatorial Guinea.

32. **For the transition period 2006-11, the model uses a medium-term macroeconomic framework based on 2006 projections that reflect the authorities' budget plan.** For 2007-11, the fiscal path assumes the fiscal rule adopted by the authorities: Current expenditure is financed by non-oil revenue; capital expenditure is financed by oil revenue. This makes for quite a sharp shift in government expenditure at the end of the transition period in all scenarios.

33. **To smooth the shift between the transition period and the model simulation period, the following adjustment might be reiterated several times.** The targeted government expenditure in percent of non-oil GDP depends on the path of government expenditure, because that affects the starting-point values of variables used in the sustainability equations. Therefore, the transition path and the sustainable rate of government expenditure are interdependent. The transition path converges to the sustainable rate of expenditure as follows: (i) Set an initial path for government expenditure for the transition period and use the end-point value to solve for the sustainable level of expenditure. (ii) Use this rate to revise the transition end-point and compute a new transition path. The convergence should be achieved in several iterations.

34. **Another way to forecast the transition path of government expenditure is by choosing a starting point for a long-term sustainable path.** The starting point could be chosen for considerations other than those in the model.[16] For example, the starting point could be chosen by a rule that the primary budget deficit would be financed in part or totally by interest on the accumulated financial assets, so that the principal would not be used to finance budget expenditures.

35. **Alternatively, Equatorial Guinea can explore options for public investment with a view to improving growth ion the non-oil sector over the long run.** Then, the transition path could be identified, and the length of the transition period chosen, which together with the initial level of the sustainable fiscal path, would influence the transitional fiscal path.

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[16] See, for example, Wiegand (2004) on developing analytical framework for the fiscal surveillance in oil-producing countries.

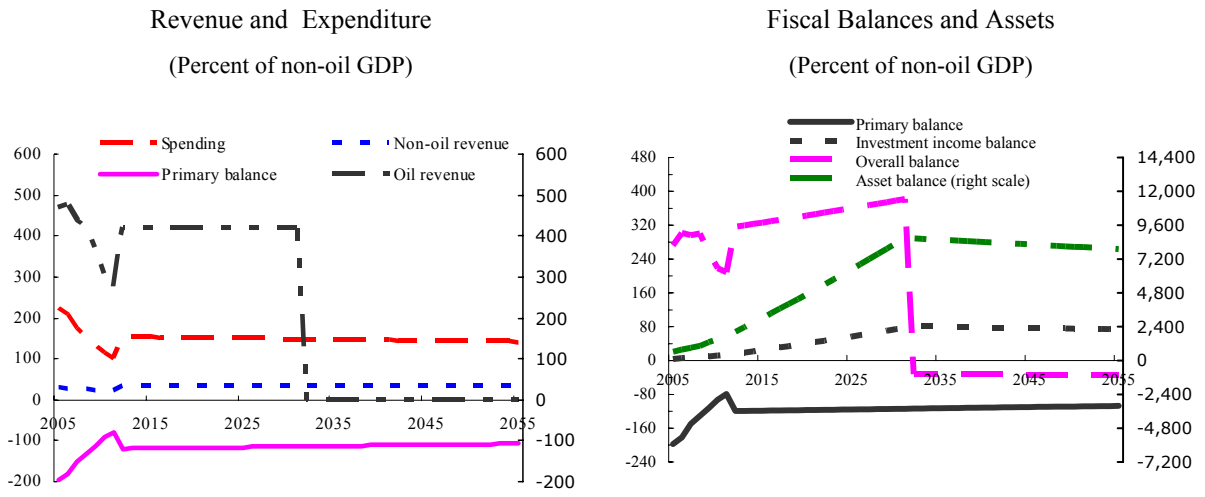
36. **Both the length and the particular path of the transition (adjustment) period could vary, which would affect the long-term sustainable rate of government expenditure.** The sustainable rate will also be affected by changes in world oil prices as they occur. With the current forecast, no substantial changes at the beginning of a transition period are required because oil prices are expected to stay high. However, a sharp decline in oil prices would necessitate a substantial adjustment in government expenditure. Because adjusting expenditures rapidly could be costly and politically unpopular, a gradual adjustment would be desirable. There is a trade-off between keeping the transition period the same length and changing the transition path of expenditure. Expanding the transition period would require adjustments to the values of model variables. Changing the transition path while keeping the transition period constant may also require substantial adjustments. Furthermore, more adjustments upfront could reduce the future adjustment, and the costs of it could be higher than with a gradual adjustment. In summary, in designing the transitional fiscal path, the government should resist the tendency to persistently overspend, jeopardizing macroeconomic stability—unless it is willing to pay the price later and reduce long-term expenditure as hydrocarbon revenues diminish.[17]

37. **Figure III.5 gives an example of setting a transition path for the first 40 years of figure III.4.** Because the projection for government expenditure for 2006-2011 reflect the medium-term macroeconomic framework, there is a sharp shift in government spending between 2011 and 2012, the first year the model is applied. After the depletion of hydrocarbon resources, it is assumed that government spending continues to gradually decline, reaching its chosen sustainable rate about ten years after the depletion point. This would gradually reduce the primary budget deficit, and thus the need for additional public debt to finance it. Such a case fits a scenario where the country has high capital expenditures when hydrocarbon revenues are high because it is investing in infrastructure and public human capital. After the depletion point it is assumed that capital expenditures decline gradually. After stabilizing its expenditures, the government needs to maintain already developed infrastructure rather than invest in new public megaprojects.

38. **Another assumption is that part, if not all, of the primary budget deficit would be financed in scenario 4 by interest received from the invested financial assets that were saved when hydrocarbon revenues were high.** This helps the country avoid accumulating large public debt. Keeping debt sustainability in mind, it would be possible to plot a transition path for government expenditure that would lead to both a sustainable rate of long-term government expenditure and a sustainable public debt.

[17] See Wiegand (2004).

Figure III.5. Equatorial Guinea: Fiscal Sustainability in Scenario 4:
(i) Constant Real Per Capita Government Expenditure
(ii) Oil and Gas Reserves Deplete in 20 Years
(iii) Initial Stock of Financial Assets



E. Conclusions

39. **The model is sensitive to even small changes in each of the assumed parameters.** The analysis above is based on the assumption that most of the model parameters are fixed for the entire period, though in reality this is not the case: population growth rate, real interest rate, real GDP growth rate, changes in productivity, and world oil prices all change over time. Thus, the estimate of the ceiling for a long-term sustainable rate of government expenditure is subject to substantial uncertainty. As it is costly to adjust government expenditure sharply, any adjustment should be gradual. This would also help to avoid going too far with adjustment, because newer information could reverse the directions of a previous adjustment.

40. **The analysis in this paper has demonstrated that the presence of substantial reserves, accumulated from hydrocarbon revenues, implies a sizable upward shift in sustainable expenditures.** The model is recalibrated to reach long-term fiscal sustainability through a built-in transition path. The results of the analysis hold for several scenarios. They are also robust to changes in the model setup, such as adding initial government financial assets, hydrocarbon revenues, and simulations of the model with government expenditure as a share of GDP or constant real government expenditure in per capita terms. As the scenarios become increasingly complex, the dynamics of the fiscal position become more complicated.

41. **The model analyzed in this paper can be used as an auxiliary tool to guide the formulation of medium- and long-term fiscal policies directed to long-term fiscal sustainability.** The setup of the model makes it simple to recalibrate whenever new information becomes available. This gives a certain flexibility to policymakers designing fiscal policies.

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IV. Fiscal Rules as a Mean of Guiding Policy Decisions in a Resource-Rich Country: Some Options For Equatorial Guinea[1]

A. Introduction

1. **Economies where the government owns an uncertain and exhaustible income stream like oil and gas need fiscal policies to support the process of deciding how much to spend and how much to save.**[2] In Equatorial Guinea—where hydrocarbon-related revenues amount to about 33 percent of GDP and nearly 95 percent of total revenues—a coherent fiscal framework to guide decisions would enhance the authorities' ability to analyze fiscal issues and apply economic policies. Because the country belongs to a monetary union, fiscal policy is dominant in macroeconomic management.

2. **There is considerable support for the notion that a rules-based approach facilitates the management of resource wealth.** For this reason a fiscal rule should be considered an important element of the fiscal framework in resource-rich countries.[3] While a rules-based approach by itself does not guarantee sound macroeconomic management, it makes the pursuit of erratic policies in response to shocks less likely.

3. **The objective of this paper is to analyze policy guidelines that can be useful—simple and intuitive rules.** The theoretical literature about optimal fiscal policy often assumes that when that objective is achieved, the intertemporal constraint on the government is always satisfied.[4]

4. **The rest of the paper is organized as follows:** Section B provides an analytical background based on the literature on optimal fiscal policy. Section C looks at ways to select a suitable fiscal indicator for assessing the performance of fiscal policy. Section D simulates alternative fiscal rules for Equatorial Guinea and discusses their implications in terms of the selected fiscal indicator. Section E states the conclusion.

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[1] Prepared by Helmut Franken.

[2] These policy guidelines "often call for important savings in the near future, both due to intergenerational considerations, since wealth is front loaded, and because of precautionary savings" (Engel and Valdés, 2000). However, in countries with pressing social needs and serious deficiencies in physical infrastructure and human capital, it is difficult to make the case for saving a substantial portion of oil windfalls.

[3] "Within the rules-based approach, a continuum of possibilities exists for the choice of a fiscal stance at given oil prices" (Katz et al., 2003).

[4] That is, Ponzi schemes are ruled out. For a discussion of fiscal sustainability in oil-producing countries see, for example, Liuksila et al. (1994).

B. Analytical Background: Optimal Fiscal Policy in Resource-Rich Economies

5. **Determining an optimal fiscal policy mirrors the problem of determining an optimal consumption path.** It depends critically on the choice of the social welfare function (SWF) that drives the relative importance of current and future consumption. Maximizing a utilitarian SWF is equivalent to maximizing the weighted sum of the utility of present and future generations; maximizing a Rawlsian SWF is equivalent to maximizing the generation with the smallest utility (the poorest).[5]

6. **The incorporation of uncertainty translates into the maximization of expected utility and strengthens the case for using a fiscal rule with a pro-saving bias.** Moreover, the maximization of a utility function will depend on certain constraints. Typically, absorptive capacity constraints should lead to a more conservative fiscal policy at an early stage. Formally, this could be incorporated through adjustment costs.[6]

7. **The policy instruments, e.g., taxes and transfers policy, are also important to maximization.** They could therefore be used to affect the distribution of income or wealth within and across generations. For instance, the society may wish to make an intergenerational transfer if future generations are expected to be much better off than the current generation.[7] Also, public-private transfers could be considered as part of the appropriate mix of public and private consumption goods.

8. **Taking all these factors into consideration, the prescriptions for fiscal policy will typically produce a variant of the permanent consumption rule.** Oil[8] wealth will be

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[5] Alier and Kaufman (1999) offer a model in which the path of primary balances depends critically on the government's intergenerational weights. In any case, the existence of nonrenewable resources will constitute a case for temporary but large fiscal surpluses (the higher the resource wealth, the higher the optimal initial primary surplus).

[6] Incorporating adjustment costs can also serve other purposes; Leigh and Olters (2006) used it to slow the optimal speed of adjustment in a model with habit formation.

[7] For a fiscal rule that considers intergenerational transfers within a permanent income framework, see, for example, Engel and Valdés (2000). The rule is obtained by maximizing the expected utility of the representative consumer, subject to the constraint that each generation is at least as well-off as in the situation where there is no natural resources wealth. Hence, it is biased toward present and near-future generations, which is why government expenditure per capita will diminish over time. Drexler, Engel, and Valdés (2001) assess this rule for the case of Chile.

[8] Please note that when referring to oil throughout the paper, we are actually referring to the much broader concept of hydrocarbons.

gradually transformed into financial wealth, which in turn will make it possible to derive an income stream to keep government spending stable over the long term.[9] This result will hold as long as the premise that government spending is like consumption is maintained.

9. **More front-loaded policies could also be justified from an economic point of view.** *The Guide on Resource Revenue Transparency* (June 2005) states that in resource-rich poor countries there may be a case for investing revenue from oil or other natural resources in human and physical capital so as to offset the eventual decline in resource wealth. However, it also warns that there may be limited capacity to absorb such investment, and the effectiveness of government investment will be difficult to assess.[10]

10. **Under certain circumstances, a fiscal policy rule that prescribes spending the bulk of oil revenues as they accrue could achieve a higher welfare level than a permanent consumption rule.**[11] Government spending that contains both an investment and a consumption component affects the welfare not only of the current generation but also of future generations because of its impact on productivity and the incentives it creates for private capital accumulation.[12] Hence, if the marginal benefit of government spending is higher than the return from financial assets, the fiscal policy prescription would be to spend more of the resource endowment upfront. Indeed, for a capital-scarce economy— and depending on the productivity-enhancing effects of government investment (taking into account its quality and efficiency)—the benefits of faster convergence to the steady state could outweigh the losses of lower government spending in the steady state.

C. Performance Indicators for Fiscal Policy in Oil-Exporting Countries

11. **To understand the fiscal issues in resource-rich countries, it is necessary to separate the resource balance from the non-resource balance,**[13] on the theory that resource-richness should be treated as national wealth rather than income. The level at which

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[9] Yet the consumption path could be rising/declining in the short/medium term.

[10] See paragraph 107.

[11] See Takizawa, Gardner, and Ueda (2004).

[12] See Chapter I for a line of argument on how hydrocarbon resources could be used to support growth-enhancing policies (paragraphs 25-28).

[13] The non-resource balance is defined to exclude all resource revenue (e.g., signature bonuses, royalties, profit shares, corporate profit tax payments, indirect tax revenue) and expenditure.

the non-resource balance is set should take into consideration its effect on government wealth over time. In terms of the fiscal stance, because the evolution of the non-oil balance is more directly linked to aggregate domestic demand, adjustments to it should be considered the primary fiscal tool for influencing macroeconomic stability.[14]

12. **It has been argued that the primary non-oil balance is the most useful measure of the direction (stance) and sustainability of fiscal policy in oil-exporting countries.**[15] The main reason to favor the primary over the overall non-oil balance is that the former remains constant as long as both non-oil tax revenue and (primary) government spending are held constant. The overall non-oil balance, however, steadily increases over time as debt is paid down and income-generating assets are accumulated.

13. **For Equatorial Guinea, the overall non-oil balance may be an appropriate measure of the fiscal stance.**[16] The main point is that if it is to be a sensible indicator of the fiscal stance, the non-oil balance should not vary systematically[17] with oil receipts While this is not problematic for the expenditure component, oil receipts could (possibly with a lag) induce an increase or reduction in non-oil tax revenue.[18] If these types of effects are significant, excluding oil revenue would not be sufficient to control for the oil price/production–induced volatility. It turns out, however, that for countries comparable to Equatorial Guinea, the magnitude of this type of effect is marginal. Moreover, under present circumstances the effect of changes in the overall non-oil balance due to changes in net interest payments is likely to be small.[19]

14. **The implications of alternative fiscal rules will therefore be assessed through the overall non-oil balance,** measured as a ratio to non-oil GDP—keeping in mind, however, that in Equatorial Guinea oil revenues constitute more than 90 percent of total revenue and

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[14] If the country belongs to a monetary union, as Equatorial Guinea does, this would be the main policy tool for such a purpose.

[15] See Barnett and Ossowski (2003).

[16] See Wiegand (2004).

[17] That is to say, for reasons beyond government control.

[18] For instance, oil receipts could generate income outside the oil sector, the effects of Dutch disease could crowd out domestic non-oil production, or both.

[19] This is particularly true for Equatorial Guinea, where current outstanding public debt and interest accrued on accumulated assets is rather small. However, as the assets continue to accumulate and with a “reasonable” rate of remuneration for reserves from oil ,the situation may vary.

the non-oil sector is embryonic. Hence, the interpretation of a large non-oil deficit as a percentage of non-oil GDP should be taken with a grain of salt.

D. Alternative Fiscal Rules for Equatorial Guinea

15. **The following alternative fiscal rules for Equatorial Guinea are simulated:**

- *Bird-in-hand rule (BHR):* All current oil revenue is saved and only the real projected return on assets accumulated in previous years is spent.

- *Permanent income hypothesis rule (PIH)*[20]: Only the permanent (annual) income from oil wealth is spent each year. In the most strict version of the PIH rule, current and future generations are treated equally because the annuity value of expenditure is calculated per capita (PIH_pc). The simulation performed here considers first a more front-loaded version—the constant PIH rule[21]—that calculates the annuity value of expenditure in terms of total expenditure. While this implies reaching a point after which the real value of financial wealth accumulated through oil receipts is constant, per capita expenditure will decrease over time if the population is growing. Then, to emphasize the fact that PIH is the most front-loaded rule among the "conservative alternatives," it is compared with PIH_pc and BHR.

- *Going-on-a-binge rule (GBR):* Most oil revenues are spent as they accrue.[22]

- *Medium-term price rule (MTP):* Oil receipts valued using a *medium-term price assumption* are spent and the rest are saved (assuming that the actual oil price is higher than the medium-term price assumption, as it is in this simulation).[23, 24]

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[20] The PIH rule has been extensively applied. For example, for Kazakhstan, see Davoodi (2002); for Oman, Davoodi (2003); for Qatar, Grigorian (2004); for Timor-Leste, Kim (2005); and for São Tomé & Príncipe, Segura (2006).

[21] To save on notation it is called simply PIH.

[22] See Katz et al. (2003) for a good summary of BHR, PIH, and GBR. Regarding the last, please note that to the extent that savings have accumulated before this rule is applied, they can finance a stream of consumption after oil production ends.

[23] Baunsgaard (2003) considers this type of rule for the case of Nigeria. Similarly, Wiegand (2004) proposes to replace the criterion of a nonnegative basic fiscal balance with the non-oil overall balance calculated at medium-term oil prices and exchange rate.

[24] A more sophisticated version of this type of rule could be based on the concept of the structural budget balance (Hagemann, 1999). The fiscal rule currently applied in Chile—the

(continued…)

- To simulate the alternative fiscal rules for Equatorial Guinea, the following assumptions are made:

- Total expenditure financed by oil-wealth follows the corresponding rule from 2007 onwards; 2006 is based on the current baseline scenario in staff projections.

- There are initial oil savings of $2 billion (2006 U.S. dollars). This would be about two-thirds of gross official reserves at the end of 2005.

- The hydrocarbon production profile 2006-30 is the same as in Chapter II. It is then assumed that all remaining reserves are exhausted in 2035, that all production[25] is exported, and that the government share of hydrocarbon exports reaches 50 percent by 2025 (up from 35 percent in 2006).

- Short and medium-term assumptions are based on the *World Economic Outlook* (WEO) projections for 2006-11[26] and the current baseline scenario in staff projections (2006-10). The main assumptions are the following:

    - *Oil price:* The WEO price includes a discount for the quality of Equatoguinean oil. After 2011, it is assumed that by 2030 the oil price drops linearly to US$30 per barrel in real terms (2006 U.S. dollars) and remains at that level thereafter. [27]

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world's largest producer of copper with about one third of total world's reserves, according to the *2006 Mineral Commodity Summaries* of the U.S. Geological Service—is a prime example (see Marcel et al., 2001) of a methodological description). The rule has proven to be quite successful in allowing implementation of a countercyclical fiscal policy (see Chile Staff Report for the 2004 Article IV Consultation, Country Report No. 04/291). For an oil-exporting country, the overall balance could be decomposed into a structural oil component, i.e., the oil balance calculated on the basis of a medium-term oil price and exchange rate and the current hydrocarbon production profile, plus a structural non-oil component, i.e., the non-oil balance calculated on the basis of potential non-oil output.

[25] Production for all hydrocarbon types is measured in barrels of oil equivalent; its value is calculated using the oil price assumption. While this approach was chosen for simplicity, a more refined estimation should distinguish natural gas from crude oil.

[26] As in the staff report, the vintage corresponds to the preliminary assumptions (January 4, 2006) circulated for the Winter 2006 issue: The WEO average oil price for 2006-11 for this vintage is US$58.5 per barrel.

[27] For MTP, the medium-term oil price assumption (applied from 2007 onwards) is US$45 per barrel (including discount) in 2006 dollars. This assumption is relatively conservative

(continued…)

- *Nominal exchange rate:* Until 2011, the CFA/US$ parity is calculated using the WEO US$/euro exchange rate assumption. Then it is assumed that the bilateral exchange rate remains constant over time, i.e., the nominal exchange rate varies with the inflation differential between U.S. and Equatorial Guinea.
- *Inflation:* U.S. inflation follows the WEO forecast until 2011; after that it is assumed to remain constant at 2 percent. Until 2010 Equatorial Guinea's inflation is the same as in the current baseline scenario in staff projections; after that it is assumed to remain constant at 3 percent onwards.
- *Non-oil GDP growth rate:* This is based on the current baseline scenario in staff projections for 2006-10. By 2015, it is assumed, non-oil GDP real growth rate drops to 3.6% and then from 2025 onwards to 3% .

- The present value of flows (in 2006 U.S. dollars) is discounted at the same rate as the real return of the Special Reserve Fund (3 percent).[28]

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compared with the WEO assumptions (slightly below US$60 on average for 2006-11 after subtracting the discount for the quality of Equatoguinean oil). However, it is not conservative compared with recent history.

[28] It is assumed that all oil wealth is accumulated in the Special Reserve Fund, as it is now, when only 0.5 percent of total oil revenues is deposited in the Fund for Future Generations. As Davis et al. (2003) argue, establishing a resource fund is not necessary, since all issues can be tackled as integral elements of government budget and fiscal policy. Yet political-economic considerations may lead some countries to create funds. For a discussion on saving funds as applied to Equatorial Guinea, see Chapter V.

16. **The four alternative fiscal rules are simulated below.** Figure IV.1 shows the total expenditure financed by oil wealth according to each rule, and the associated evolution of the balance of the Special Reserve Fund.[29] Clearly, the most front-loaded rule is GBR, and the most back-loaded one is BHR. The BHR would imply a very deep consolidation of public expenditure from the current situation, with total expenditure (financed by oil) reaching the current level only by 2020. The GBR, on the other hand, would imply a huge increase in oil expenditure (probably exceeding absorptive capacity) and then consolidation aligned with decreasing oil receipts. Future generations could still enjoy some benefits from oil wealth, thanks to the financial assets accumulated by 2006. MTP is a slightly less front-loaded rule. Finally, PIH would imply a slightly increasing path for total public expenditure financed by oil (long-term expenditure would be about 15 percent higher than it is now).

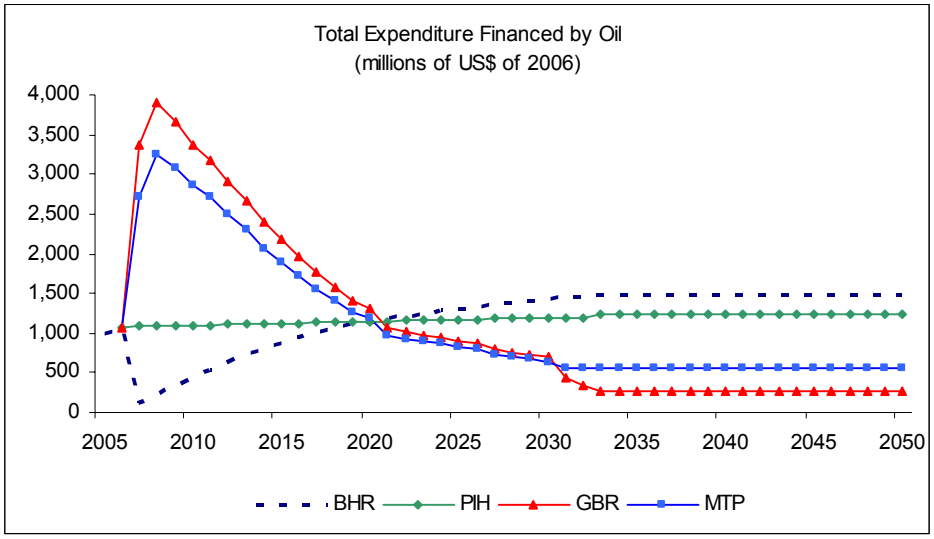
17. **The alternative fiscal rules have significant differences in the path they would indicate for the non-oil deficit (figure 2).** [30] Thus, the BHR rule would prescribe a drastic reduction in the non-oil deficit, from the current 200 percent to about 20 percent in 2007. Thereafter, the non-oil deficit would increase steadily until it reaches about 95 percent in 2020 and then start falling again, to 50 percent by 2050. In sharp contrast, both the MTP and the GBR imply a steep increase in the non-oil deficit in 2007 (the MTP to about 450 percent and the GBR to 550 percent), and a gradual consolidation thereafter, with the non-oil deficit falling to the current level in about 2015.[31] Finally, under the PIH the non-oil deficit would decrease steadily and gradually. In that sense, it seems to be the rule that implies less risk to macroeconomic stability. Yet the broader macroeconomic objectives should also include economic growth and an efficient allocation of resources.

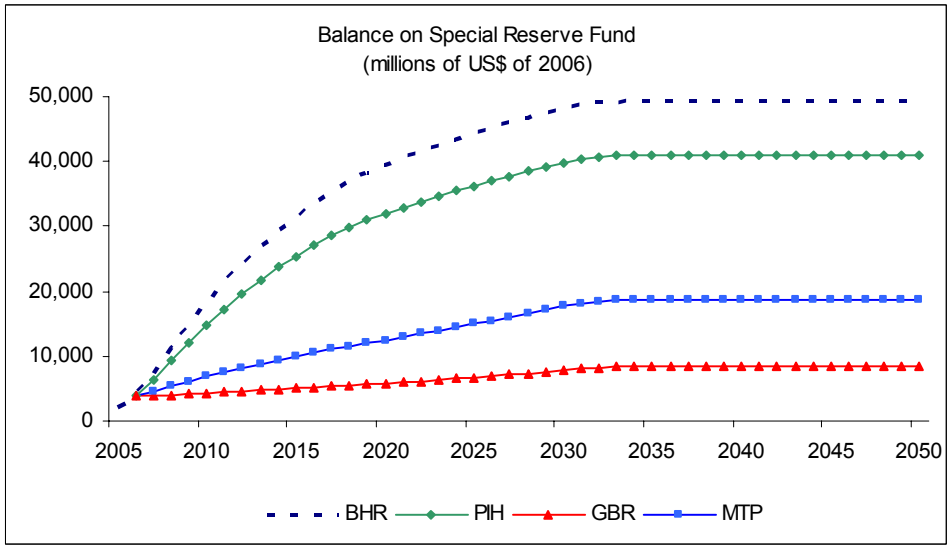
[29] See also Table 1 and 2 in the appendix.

[30] See also table 3 in the appendix.

[31] To the extent that public expenditure needs to be raised to support achievement of the MDGs, a more front-loaded fiscal rule would be appropriate.

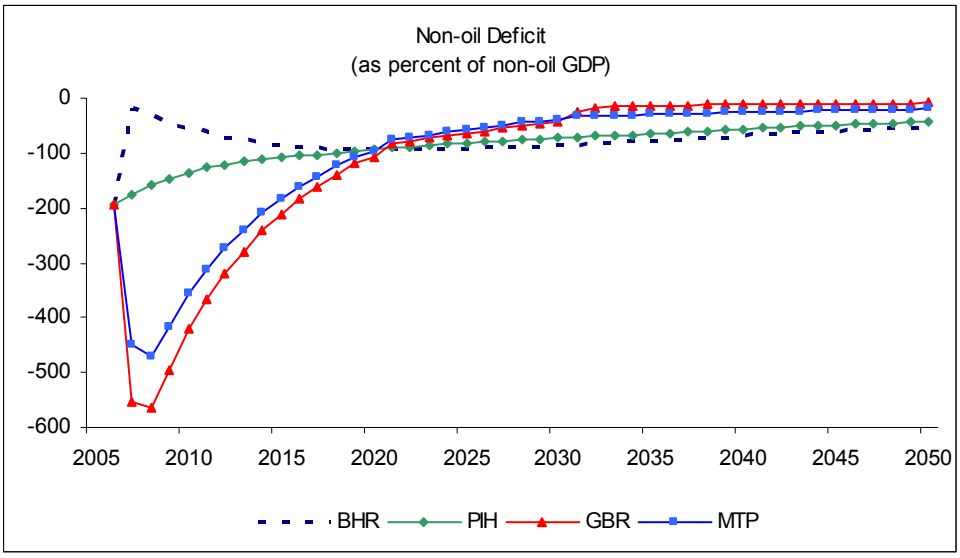
Figure IV.1. Equatorial Guinea: Alternative Fiscal Rules





Source: Fund staff estimates.

Figure IV.2. Equatorial Guinea: Non-oil Deficit under Alternative Fiscal Rules



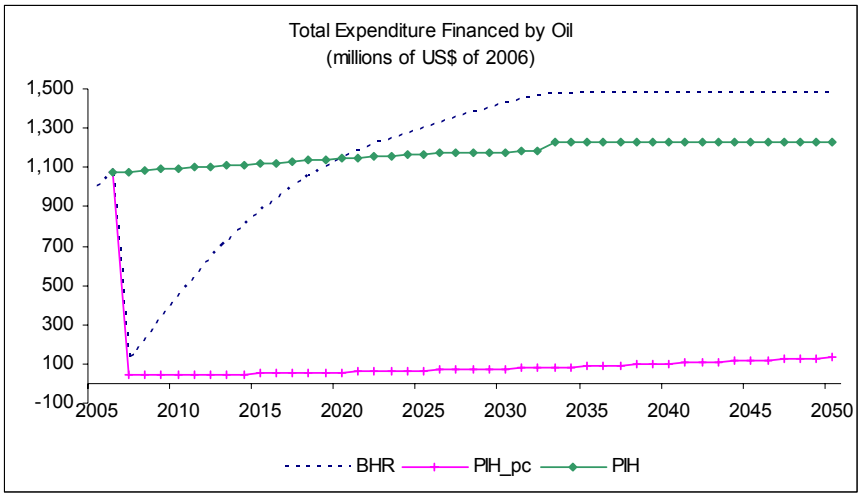
Source: Fund staff estimates.

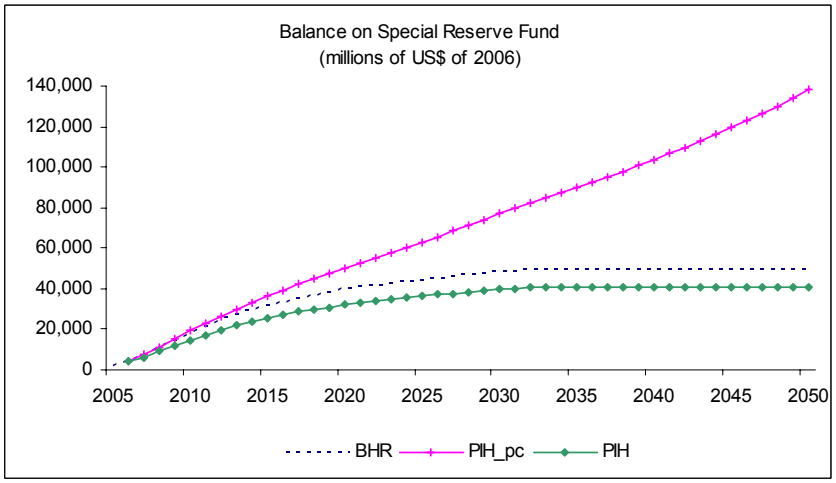
18. **Among the conservative options for fiscal rules, the constant PIH rule is significantly more frontloaded.** Figure 3 compares PIH, PIH_pc, and BHR on the three dimensions mentioned (total expenditure financed by oil revenues and savings; the associated evolution of the balance of the Special Reserve Fund; and the projected path for the non-oil deficit).[32] Among these three rules, clearly the most front-loaded one is PIH, and the most backloaded PIH_pc. The latter is due to the fact that the population growth rate is very similar to the assumed real rate of return on accumulated assets. Also, under PIH_pc, total expenditure financed by oil and the balance of the Special Reserve Fund increase steadily over time but converge to a constant level on per capita terms. Therefore, under PIH_pc, current (seemingly poorer) generations would bear the cost of the adjustment so that allow future generations could enjoy similar per capita consumption financed by oil savings.

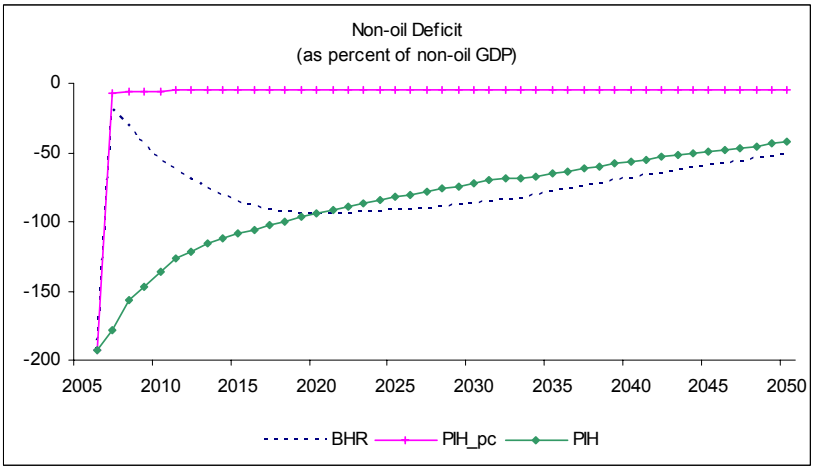
19. **Taking into consideration all four alternative fiscal rules simulated, the average non-oil deficit is lowest under per capita PIH and highest under GBR.** As shown in figure 4, the average non-oil deficit under PIH_pc is around 10 percent, significantly lower than it would be under BHR (75 percent) and PIH (85 percent). Finally, MTP implies a significantly higher average non-oil deficit than PIH (around 105 percent) but still about 10 percentage points lower than the one implied by GBR

[32] In simulating PIH_pc, a population growth rate of 2.9 percent is assumed.

Figure IV.3. Equatorial Guinea: Conservative Fiscal Rules

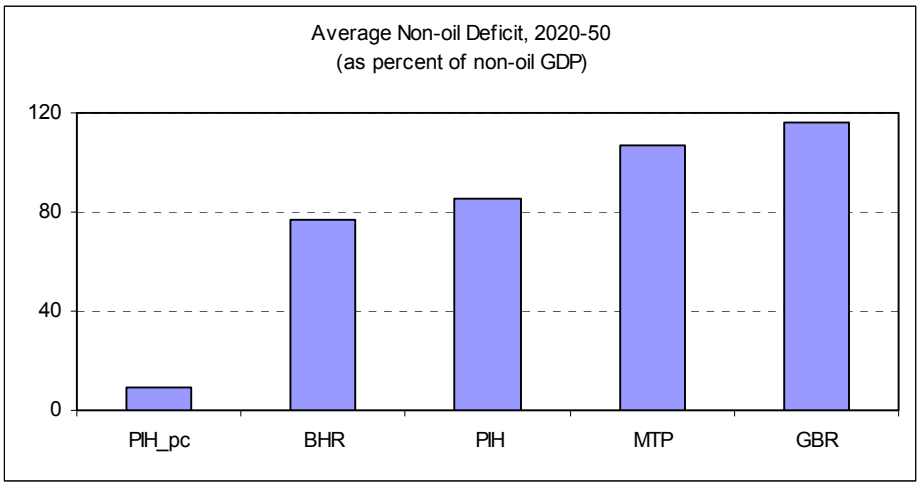






Source: Fund staff estimates.

Figure IV.4. Equatorial Guinea: Average Non-oil Deficit Under Alternative Fiscal



Source: Fund staff estimates

E. Conclusion

21. Rather than suggesting a specific fiscal rule, four simple alternatives are simulated and their implications assessed in terms of the overall non-oil balance. A rules-based approach allows considerable room for decisions that will drive the choice of fiscal rule. For instance, should rights equal to those of the current generation be given to future generations that are likely to be born in a country with many more opportunities? Or, provided that absorptive capacity is adequate, should more be spent on the current poorer generation and on building the country's physical infrastructure and human capital?

Table IV.1: Total Exp. Financed by Oil (millions of US$ of 2006)				
	BHR	PIH	MTP	GBR
2006	1,071	1,071	1,071	1,071
2007	115	1,079	2,725	3,366
2008	216	1,084	3,245	3,902
2009	333	1,089	3,073	3,660
2010	443	1,094	2,850	3,378
2011	544	1,099	2,707	3,179
2012	640	1,104	2,493	2,913
2013	727	1,109	2,293	2,664
2014	807	1,114	2,072	2,395
2015	879	1,119	1,893	2,175
2016	944	1,124	1,723	1,967
2017	1,003	1,129	1,562	1,770
2018	1,056	1,134	1,408	1,583
2019	1,104	1,139	1,260	1,406
2020	1,146	1,144	1,177	1,303
2021	1,185	1,149	964	1,059
2022	1,217	1,154	929	1,019
2023	1,247	1,159	894	980
2024	1,277	1,164	861	943
2025	1,305	1,169	827	905
2026	1,332	1,174	794	869
2027	1,358	1,179	733	801
2028	1,382	1,179	695	757
2029	1,405	1,179	667	725
2030	1,427	1,179	641	693
2031	1,447	1,180	561	442
2032	1,461	1,181	561	330
2033	1,470	1,229	560	258
2034	1,477	1,228	560	258
2035	1,480	1,228	560	257
:				
2050	1,480	1,228	560	257
Source: Fund Staff Estimates				

Table IV.2. Balance on Special Reserve Fund
(in millions of US$ of 2006)

	BHR	PIH	MTP	GBR
2006	3,832	3,832	3,832	3,832
2007	7,198	6,234	4,588	3,947
2008	11,100	9,239	5,383	4,066
2009	14,761	12,088	6,131	4,188
2010	18,139	14,734	6,844	4,313
2011	21,318	17,257	7,521	4,443
2012	24,231	19,584	8,167	4,576
2013	26,896	21,727	8,784	4,713
2014	29,290	23,659	9,369	4,855
2015	31,465	25,425	9,932	5,000
2016	33,431	27,030	10,473	5,150
2017	35,201	28,482	10,995	5,305
2018	36,784	29,786	11,501	5,464
2019	38,190	30,946	11,991	5,628
2020	39,493	32,033	12,476	5,797
2021	40,552	32,904	12,946	5,971
2022	41,571	33,756	13,424	6,150
2023	42,551	34,590	13,913	6,334
2024	43,494	35,407	14,413	6,524
2025	44,399	36,205	14,923	6,720
2026	45,268	36,986	15,445	6,922
2027	46,069	37,718	15,977	7,129
2028	46,826	38,427	16,518	7,343
2029	47,551	39,126	17,071	7,564
2030	48,244	39,814	17,636	7,791
2031	48,686	40,270	18,045	8,024
2032	49,016	40,628	18,356	8,265
2033	49,235	40,837	18,565	8,474
2034	49,344	40,943	18,671	8,580
2035	49,344	40,943	18,671	8,580
:				
2050	49,344	40,943	18,671	8,580

Source: Fund Staff Estimates

Table IV.3. Non-oil Deficit (as percent of non-oil GDP)

	BHR	PIH	MTP	GBR
2006	-193	-193	-193	-193
2007	-19	-178	-449	-555
2008	-31	-157	-471	-566
2009	-45	-147	-415	-495
2010	-55	-137	-356	-422
2011	-63	-127	-313	-367
2012	-70	-121	-274	-320
2013	-76	-116	-240	-279
2014	-81	-112	-208	-240
2015	-85	-109	-184	-211
2016	-89	-106	-162	-185
2017	-91	-103	-142	-161
2018	-93	-100	-124	-139
2019	-94	-97	-107	-120
2020	-94	-94	-97	-107
2021	-94	-91	-77	-84
2022	-94	-89	-72	-79
2023	-93	-87	-67	-73
2024	-93	-84	-62	-68
2025	-92	-82	-58	-64
2026	-91	-80	-54	-59
2027	-90	-78	-49	-53
2028	-89	-76	-45	-49
2029	-88	-74	-42	-46
2030	-87	-72	-39	-42
2031	-86	-70	-33	-26
2032	-84	-68	-32	-19
2033	-83	-69	-31	-14
2034	-81	-67	-31	-14
2035	-79	-65	-30	-14
:				
2050	-51	-43	-19	-9

Source: Fund Staff Estimates

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V. Management of the Oil Revenues: Current Practice and Challenges[1]

A. Introduction

1. **Hydrocarbon export revenues have been continuously accelerating in Equatorial Guinea, increasing both the balance of payments and the fiscal surplus.** Because markets have come to expect that a significant proportion of high oil prices will be long-lasting, it has become increasingly important to put in place a strategy for managing oil revenues.[2] Among possible strategies for managing hydrocarbon revenues are institutional arrangements designed to help stabilize the short-run effects of the volatility of oil export revenues on public finances and the economy, increase capital investment in infrastructure and poverty-related expenditure, and over the long run store wealth t benefit future generations and to smooth the path of government expenditures.[3] Possible institutional arrangements are oil funds, a multi-year public investment program, fiscal rules and guidelines, hedging on the financial markets, and using low-oil-price scenarios in budget projections.

2. **This paper discusses only the possible use of oil funds, with varying objectives, as oil-revenue management strategies for Equatorial Guinea;** it draws on lessons from other resource-rich countries. Section B briefly reviews how hydrocarbon revenues are currently managed in Equatorial Guinea. Section C briefly surveys known types of oil funds and other institutional arrangements for oil reserve management and summarizes the experience of hydrocarbon reserve management in some other oil-producing countries. Finally, Section D proposes future strategies for managing oil revenues and discusses their advantages and disadvantages of those.

B. The Current situation in Equatorial Guinea

3. **Equatorial Guinea's economy has grown rapidly since 1996 because of successful offshore petroleum development:** described as a "future African Kuwait," the nation has attracted considerable attention from international petroleum companies. Current estimates of Equatorial Guinea's total proven oil and natural gas reserves vary (Table V.1). Four major fields are already producing; and while exploratory drilling has slowed

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[1] Prepared by Elena Loukoianova.

[2] Empirical studies also have shown that oil prices are more volatile than prices of other commodities (Engel and Valdes, 2000).

[3] See the chapter "Assessing Long-Run Fiscal Sustainability in Equatorial Guinea" in this Selected Issues Paper for a discussion on long-term government expenditure path.

marginally in recent years, it is still significant. Nevertheless, based on proven oil reserves, it is estimated that the country's oil will be depleted around 2032. [4]

Table V.1. Equatorial Guinea: Proven Reserves of Oil and Gas [1]

	Oil (Biliion barrels)	Natural Gas (Trillion cubic feet)
BP Statistical Review [2] (year-end 2004)	1.280	Not separately reported
Oil and Gas Journal [3] (January 1, 2006)	0.012	1.300
Worl Oil [4] (year-end 2004)	1.765	3.400
CEDIGAZ [5] (January 1, 2005)	...	2.472

Source: Energy Information Administration (EIA), www.eia.doe.gov

[1] EIA makes available foreign fuel reserve estimates from other sources, but it does not certify these data.

[2] British Petroleum, *BP Statistical Review of World Energy June 2005* . Oil includes crude oil, gas condensate, and natural gas liquids. For natural gas reserves, BP states that "the estimates in this table have been compiled using third-party data from Cedigaz, the OPEC Secretariat, Oil & Gas Journal, and a combination of primary official sources.

[3] *Oil & Gas Journal* , Vol. 103, No. 47 (December 19, 2005). Oil includes crude oil and condensate.

[4] Gulf Publishing Co., *World Oil* , Vol. 226, No.9 (September 2005). Oil includes crude oil and condensate but not natural gas liquids.

[5] Centre International d'Information sur le Gaz Naturel et tous Hydrocarbures Gazeux (CEDIGAZ), *Natural Gas in the World, Major Trends for the Gas Industry July 2005* . Data converted from cubic meters to cubic feet at 35.315 cubic feet per cubic meter.

4. **Until 2001, when hydrocarbon revenue was first incorporated into the budget, fiscal surplus was held in treasury investment accounts abroad.** The realism and accuracy of oil revenue projections improved with the revised budget for 2002, submitted to parliament in May 2002. It discontinued the previous practice of financing extra-budgetary expenditures using advances from the oil companies. Equatorial Guinea now has a rule that allows hydrocarbon revenue to be used only to finance public investment. At present, the government holds the bulk of its foreign reserves in the regional central bank, BEAC. Though it does maintain foreign exchange deposit accounts abroad, only the president has

[4] See the chapter "The Hydrocarbon Sector as a Source of Growth – The Case of Equatorial Guinea" in this Selected Issues Paper for a detailed description of recent developments and the medium-term outlook for the hydrocarbon sector in Equatorial Guinea.

access to them. One goal of the government is to maintain the real value of the foreign assets it holds with the BEAC over the medium to long term through appropriate remunerations. The government is considering the possibility of managing its hydrocarbon revenue through two funds – the Fund for Future Generations and the Special Reserve Fund.

C. Oil Funds: Types, Objectives, and Experience

Petroleum funds[5]

5. **An appropriately designed petroleum fund (or, more generally, a natural resource fund) can increase transparency and accountability.** It should be designed to make it possible to track what funds are accumulated, how they are managed, and how much is transferred to the fiscal authority–thus increasing public scrutiny of public finance in general and hydrocarbon revenue in particular. [6]

6. **Establishing a petroleum fund is not a substitute for sound fiscal and macroeconomic management, but under certain circumstances it can contribute to better policy decisions.** To reach medium- and long-term policy objectives, petroleum funds should have clear savings and withdrawal rules and be transparently managed to avoid wasteful use of revenues, rent-seeking, and corruption. The policy objectives of petroleum funds can vary by country and over time.

7. **Petroleum funds can take a variety of forms, ranging from separate institutions with discretion and autonomy to funds that in practice are little more than just another government account.** Some countries have already begun to use petroleum funds to address the short-run stabilization and long-run savings challenges posed by nonrenewable resource revenues. The general justification is that some share of government petroleum revenues should be put aside for the time when revenues will decline because hydrocarbon reserves are depleted or oil prices fall. Besides saving for future generations and reducing the impact of volatile oil revenues on the budget and the economy, there may be a precautionary objective: a fund is set up to absorb spending efficiently or to smooth the uncertainties of future petroleum revenues. Hence, the two broad categories of petroleum funds are stabilization funds and saving funds.

8. **A *stabilization fund* protects the budget from revenue volatility and the uncertainty related to world oil prices.** It may be used to support fiscal discipline and make spending more transparent. However, unless there are liquidity constraints, this fund does not directly stabilize expenditure: since resources are fungible, a government could finance

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[5] This section follows Davis et al. (2001).

[6] See Devlin and Lewin (2004) for a more detailed discussion of the design of oil-revenue funds.

expenditure by borrowing domestically or through other channels. Expenditure smoothing requires additional fiscal policy decisions. In managing revenues, however, stabilization funds do ensure the stability of transfers to the budgetary or fiscal authority. The accumulation and withdrawal rules of such funds differ depending on the more detailed objectives of each fund.

9. **Stabilization funds are often price- or revenue-contingent.** They are designed to accumulate resources when oil prices or revenues are "high" (e.g. exceeding a stated threshold) and pay out when the prices or revenues are "low" (e.g. below a stated threshold). By specifying the resources that will be recurrently available, contingent funds in effect transfer uncertainty and volatility from the budget to the fund. This has implications for how liquid the fund must be, in the absence of other financing sources, if it is to function as a budgetary stabilization mechanism on a short-notice.

10. **The contingency rules for transfers of revenue to the fund may be based on a reference (nominal) export price, a formula based on past observation, or forecasts of future oil prices.** How much is allowed to accumulate in the contingent fund may also depend on the size of the fund at the time; the rules may determine the maximum and minimum size of such a fund, particularly if the main objective is short-term stabilization. The rules would also need to specify whether the government may use fund capital as collateral for debt.

11. **A basic policy objective of stabilization funds is to level public finances – to help keep budget revenue predictable in the face of volatile revenues.** Implicitly, such a fund would lead to higher government saving during high-revenue times through liquidity constraints: if some revenue is removed from the budget, the government may avoid expansionary expenditure plans. Without liquidity constraints, however, the government could borrow or run expansionary expenditure, leaving its government savings unchanged even if the fund were to operate according to its rules and budget revenues were equalized. Therefore, where there is a stabilization fund, additional fiscal policy decisions are required to control expenditures and budget deficit outside the fund.

12. **A *saving fund* aims to create a store of wealth so that future generations can benefit from part of the nonrenewable revenue arising from the depletion of today's oil resources.** Saving funds, which often rely on noncontingent rules, are of two types: revenue-share funds and funds with a fixed contribution. In the former, a fixed share of petroleum revenues or total revenues would be deposited into the fund each period irrespective of what is happening in the petroleum markets and of fiscal developments. Alternatively, a fixed amount to the saving fund may be specified each period to gradually store wealth for future generations. Revenue-share funds may also have a stabilization objective, allowing withdrawals from the fund when there is a fiscal downturn or a catastrophic natural event.

13. **Saving funds can be set up so that they automatically stabilize fiscal policy as assets are accumulated according to the actual surplus at the end of the fiscal year.** Here they face the same problems of fiscal discipline as stabilization funds. For example, unless

there are liquidity constraints, saving funds would not necessarily lead to higher government savings, because the government could finance expenditures through extensive borrowing. To prevent this, the public debt should be capped to ensure long-term debt sustainability. If a saving fund spends on investment, financial saving is also reduced. Managing such a fund separately from other public sector investment decisions could also lead to inefficiency.

14. **A *financing fund* receives budget surpluses and finances budget deficit.** This type of fund – an example if the Norwegian State Petroleum Fund – operates so as to effectively finance the overall budget balance. The assets held by the fund may be managed according to separate investment guidelines (as in Norway) or jointly with other treasury resources. A financing fund establishes an explicit link between fiscal policy and asset accumulation; it also addresses fungibility. Changes in the assets held by the fund correspond to those in the overall net financial asset position of the government, which is driven by the fiscal balance. Such a fund probably functions best when fiscal policy operates within a sound macroeconomic framework.

15. **A financing fund may be established for political economy reasons and in response to decisions on expenditure choices over time.** Yet this type of petroleum fund may not have desirable disciplinary effects, since the flows in and out of it depend on resource revenue and policy decisions of the authorities that are embodied in the nonresource fiscal stance. It is important that all oil-related financial operations be part of the government budget and that petroleum funds, especially saving funds, be an integral part of budgetary operations.

16. There are other arguments for establishing petroleum funds, but the same benefits may be achieved by using other existing institutions and financial arrangements:

- A fund may decrease real exchange rate volatility by facilitating savings abroad during "good" times. This can also be done, however, by increasing the government's foreign exchange reserves and investing them abroad.

- A fund can increase the government's liquid assets, providing an element of self-insurance. In principle, the government can also do this by holding precautionary resources without establishing a formal fund.

- A fund may be seen as a way to increase transparency. For example, by making information about its resources and management available easily and often, it may improve the transparency of government management of petroleum revenues. Also, by transferring budget surpluses to the petroleum fund, the underlying budget position of the government would become clearer. However, the same benefit could be achieved by a more transparent fiscal reporting system.

- A fund could in principle be established to improve governance, especially if existing institutions are poorly governed. However, creating a petroleum fund with large gross

assets in such an environment may bring a danger of it being infected by the poor public governance practice. The preferred solution in this case might be to tackle the governance issues directly.

17. **In theory, the effectiveness of petroleum funds depends on both a country's initial petroleum revenues and its investment needs.**[7] When petroleum revenues greatly exceed the public investment program[8] and oil price volatility is temporary, petroleum funds can eliminate most of the risks of fluctuations in oil prices. Surpluses accumulated in the funds can offset possible shortfalls resulting from temporary price declines. However, if the revenue surpluses are not high enough and oil prices are trending downward over the long term, a petroleum fund may not be sufficient to offset the potential negative effect of fluctuations in oil prices. When public investment is close to expected petroleum revenues and thus the expected surplus is small, the funds may be drained even before the ultimate decline in oil prices.

18. **In practice, the effectiveness of nonrenewable resource funds seems limited. There are in fact few known studies of their effectiveness.** The empirical evidence from Davis et al. (2001) points out to two general results: (1) Some of the countries with petroleum funds had a more limited reaction to changes in resource revenues than those without. (2) In some cases, considered below, the relation between government expenditure and resource export earnings was not affected by the establishment of petroleum funds. This may suggest that countries that are more prudent in their expenditures tend to establish petroleum funds, rather than creating a petroleum fund leads to more prudent expenditure policy. However, the empirical results should be interpreted with caution because data were limited in availability and quality and the sample was small. More recent analysis by Crain and Devlin (2002) using panel data for 71 countries for 1970-2000 suggests that resource funds have a dampening effect on government expenditure as a percent of GDP at the cost of higher fiscal deficits during a boom, potentially causing expenditure volatility. At the same time, establishing a fund appears to raise investment as a share of GDP, and there is a positive relationship between the balances held in the fund and fixed investment. In Chile, Norway, and Oman the funds appear to reduce volatility in government expenditure, lower government expenditure, and increase gross fixed investment as a share of GDP. This implies that country-specific circumstances matter and that more case studies should be done before any firm conclusions can be drawn.

[7] Devlin and Titman, 2004.

[8] This is typically the case in petroleum-rich countries with small population, such as East Timor, Kuwait, São Tomé and Príncipe, and Equatorial Guinea.

Evidence from elsewhere

19. **There are major differences from country to country in the design and operation of oil funds, including the rules and institutional setup** (Table V.2). Rules for accumulation vary from a fixed share of budget revenues (the U.S. State of Alaska, Kazakhstan, Kuwait) or of residual oil revenues after budget allocation (Algeria, Bahrain, Iran, Libya, Norway, Oman, Qatar) to price-contingent rules (Chile, Oman, Venezuela). Withdrawals can be rule-based (Algeria, Azerbaijan), but usually tend to be discretionary. In Azerbaijan and Kazakhstan withdrawals from the resource funds are subject to government or presidential approval. Three somewhat different cases – Norway, Kuwait, and Oman – are discussed here.

Norway's State Petroleum Fund (SPF)

20. **Norway established the SPF in 1990,** though it was not activated until 1995, when the national budget achieved a surplus. Because the SPF is designed to manage accumulated budget surpluses, contributions to it are made when oil prices are stable or rising oil prices and economic activity is increasing. Since the SPF has no specific rules for the accumulation or withdrawal of resources, its operation is very flexible. The budget transfers net oil revenues to the SPF; in turn, the SPF finances the budget's non-oil deficit through reverse transfers.

21. **The SPF is integrated within the budget process and is not earmarked for any specific purposes.** [9] Domestic expenditure from the fund is restricted to financing the non-oil budget deficit. The SPF is effectively a government account at the central bank rather than a fund. The lack of restrictions on the SPF appears to have worked well, but because oil revenues in Norway account for less than 15 percent of total government revenue, oil price volatility has in any case significantly less impact on fiscal management than in other oil-producing countries.

Kuwait's Reserve Fund for Future Generations (RFFG)

22. **The government of Kuwait established a savings fund, the RFFG, in 1976;** its main objective is to provide a stream of income for future generations. Transfers to the RFFG, which are independent of budget or oil market developments, constitute 10 percent of total government revenues. The fund also accumulates the return on its assets. Most of the fund's assets are invested in major international capital markets. There are no specific rules for withdrawals, except that the national assembly must approve them.

[9] Information on the SPF, including flow and stock of assets, is readily available via the Internet at www.norges-bank.no/english/petroleum_fund.

23. **Kuwait's consolidated fiscal position has generally seen a surplus of more than 10 percent of GDP** (except for the reconstruction period in the early 1990s after the regional conflict). Because the expenditure policy is driven by revenue availability, the oil funds in Kuwait do not affect government fiscal policies.

Oman's State General Reserve Fund (SGRF)

24. **The SGRF was created in 1980 to save oil revenue for future generations.** However, in the first ten years, its resources were often used to support the budget against external shocks. In 1990, the Contingency Fund was established to smooth the budgetary oil revenue stream; it was replaced in 1993 by the Oil Fund, which finances investment in the oil sector.

25. **Initially, the SGRF received 15 percent of oil revenues, but the SGRF accumulation rules have changed often.** Since 1998, this fund receives the oil revenue that exceeds reference prices set in the annual budget. Every year the government can withdraw from the fund up to the amount of the budget deficit. Because its resources can be withdrawn at the discretion of the government, effectively the SGRF's balance is determined in part by the national budgetary needs.

Summary

26. Savings funds in countries like Kuwait and Norway have built sizable assets for future generations for reasons like projected increases in social spending (in the case of Norway) or a projected decline in earnings because of depletion of oil reserves or a drop in oil prices. Some of these funds have also helped to reduce the pressure on governments to spend more when oil prices were high by channeling a significant proportion of resources out of the budget. In Norway, investing the fund's resources abroad may have helped reduce appreciation of the real exchange rates.

D. Future Strategy and Challenges for Equatorial Guinea

27. **Equatorial Guinea is currently the only African oil-producing country where oil revenue clearly exceeds the country's absorptive capacity and where sizable foreign assets have been accumulated.**[10] The facts that Equatorial Guinea has severe absorptive capacity constraints and that the efficiency of public spending has been low would suggest that a large portion of oil revenue savings should be invested in financial assets. Yet the widespread poverty and low human development indicators in Equatorial Guinea argue for upgrading domestic infrastructure and increasing public services so as to improve the quality and productivity of physical and human capital. Investment in financial assets would build the reserves needed to gradually increase capital investment as absorptive capacity grows.

[10] See Katz et al. (2004).

28. **A major concern of the authorities is efficient use of the hydrocarbon revenues that the government may manage through oil funds** (the Fund for Future Generations and the Special Reserve Fund). The current fiscal rule, which the authorities are trying to follow, is to use non-oil revenue to finance current expenditures and oil revenue to finance capital expenditure, and to save what is left. While petroleum funds can be a useful buffer against external shocks, there is still the challenge of balancing the urgent current need to fight poverty and improve infrastructure against a need to accumulate wealth for future generations. Moreover, front-loading public expenditures may have adverse macroeconomic effects. Given the current limited absorptive capacity, high public expenditure may easily be transferred into high inflation that would impose a disproportionate burden on the poor as well as distorting resource allocation. While intergenerational equity and the long-term sustainability of fiscal policy must therefore guide the design of stable strategies of oil-revenue management in Equatorial Guinea, discernable and rapid poverty reduction should be the main element.

29. **One possible management strategy may be to design the public investment program taking into consideration infrastructure needs and development of human capital.** The public investment program would guide the government as it creates rules for spending and saving of petroleum revenues. The part that is saved might be divided between stabilization and saving funds: The resources of the stabilization fund could cushion against oil price vulnerability, external shocks, and possible future budget deficits. They might also be used as collateral for short-term public borrowing. The resources in the savings fund would provide wealth for future generations.

30. **In designing the petroleum funds, it would be desirable to keep their operations within the budget, assuming a context of sound macroeconomic management and a strong commitment to fiscal discipline** – oil funds cannot substitute for sound fiscal policies. Managing petroleum revenue using funds should make both budget operations and government accounts more transparent. In cautioning against oil price fluctuations, it would also stabilize fiscal balance generally, as transfers from a stabilization fund may be made back to the budget as needed.

31. **There are also some advantages to managing hydrocarbon revenues without creating petroleum funds.** The government might use a government account at the BEAC (as Norway's SPF does) that is part of the budget. This would again require prudent fiscal policy and sound macroeconomic management but it might also prevent corruption and rent-seeking (new funds would have large gross assets). The government might also use financial instruments to hedge oil price risk. However, in practice risk management programs have rarely been implemented.

Table V.2. Oil Funds: Objectives and Features

Country	Fund name	Objectives	Date established	Accumulation rules	Withdrawal rules
Canada (Alberta)	Alberta Heritage Savings Trust Fund	Savings (pre-1997, also economic and social development)	1976	30 percent of resource revenue until 1983. 1984-87: 15 percent. Transfers discontinued thereafter.	Discretionary transfers to the budget
United States (Alaska)	Alaska Permanent Fund	Stabilization and savings	1976	50 percent of mineral revenues	Principal (inflation adjusted since 1982) invested permanently. Use of earnings decided by Government and Legislature.
Algeria	Revenue Regulation Fund	Stabilization	2000	Residual hydrocarbon revenue after budget allocation; exceptional advances by the central bank to the Treasury	Transfers to the budget if hydrocarbon revenue outcome less than budgeted; and debt repayment
Azerbaijan	State Oil Fund of Azerbaijan Republic	Stabilization and savings	1999	All revenues associated with the post-Soviet oil and gas production fields	Withdrawal cannot exceed inflows in a given year. Transfers to the budget to finance selected capital expenditure projects and expenditures related to refugees with parliament approval
Bahrain	Reserve Fund for Strategic Projects	Stabilization	2000	Residual oil revenues after budget allocation	Discretionary transfers to the budget
Chile	Copper Stabilization Fund	Stabilization	1985, activated in 1987	Based on discretionary reference price determined by the government.	Transfers to the budget (and extrabudgetary lending) based on discretionary reference price determined by the government.
Iran	Oil Stabilization Fund	Stabilization	2000	Residual oil revenues after budget allocation	Discretionary transfers to the budget with parliament approval. 50 percent of resources can be used for lending to private sector in foreign currency
Kazakhstan	National Fund of the Republic of Kazakhstan	Stabilization and Saving	2001	Savings: 10 percent of the budget baseline revenue. Stabilization: residual oil revenue above the baseline price and royalties generated by a number of identified companies; privatization receipts; and bonus payments.	Subject to President's approval

Table V.2. Oil Funds: Objectives and Features (continued)

Country	Name of the Fund	Objectives	Date established	Accumulation rules	Withdrawal rules
Kiribati	Revenue Equalization Reserve Fund	Stabilization and savings	When surplus permits	"When surplus permits", later apparently changed to 25 percent of all phosphate receipts.	Discretionary transfers to the budget with parliamentary approval.
Kuwait	General Reserve Fund	Stabilization and savings	1960	Investment of the residual budgetary surpluses in Kuwait's financial and real estate markets	Discretionary transfers to the budget
	Reserve Fund fo Future Generations	Saving	1976	10 percent of government revenue	Discretionary transfers to the budget with National Assembly approval
Libya	Oil Reserve Fund	Stabilization	1995	Residual oil revenue after budget allocation	Discretionary transfers to the budget
Norway	State Petroleum Fund	Stabilization and savings	1990	Residual oil revenue after budget allocation (overall budget surplus)	No specific rules for access to its resources, making its operations flexible
Oman	State General Reserve Fund (SGRF)	Saving	1980	Since 1998, oil revenue in excess of budgeted amount	Discretionary transfers to the budget
	Contingency Fund	Stabilization	1990, abolished in 1993	Residual oil revenue after budget and SGRF allocations.	-
	Oil Fund	Oil Sector investment	1993	Since 1998, market value of 15,000 barrels per day	-
Papua New Guinea	Mineral Resources Stabilization Fund	Stabilization	1974	Government mineral revenues	Government discretion though based on estimates of long-run prices.
Qatar	Stabilization Fund	Stabilization	2000	Residual oil revenue after budget allocation	Lending to the budget
	State Reserve Fund	Saving	N/A	N/A	N/A
Venezuela	Macroeconomic Stabilization Fund	Stabilization	1998	residual oil revenue, higher than a reference value	Presidential discretion for withdrawals, while earmaking the use of resources to social and investment expenditures, and debt repayment

Sources: Middle East and Central Asia: Regional Economic Outlook (2005); Davis et al. (2001); Devlin and Titman (2004); and Fasano (2000).

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Table 1. Equatorial Guinea: GDP by Sector of Origin, 2000-05

	2000	2001	2002	2003	2004	2005 Est.
	(In billions of current CFA francs)					
Primary sector	775.8	1,155.7	1,339.0	1,504.2	2,283.2	3,373.8
Non-oil	70.2	71.4	65.0	68.1	70.0	74.3
Agriculture	32.6	36.8	36.7	41.5	45.2	48.1
Forestry	36.9	33.5	26.7	24.8	22.9	24.2
Fishing	0.7	1.1	1.6	1.8	1.9	2.0
Oil	705.6	1,084.3	1,274.0	1,436.1	2,213.2	3,299.5
Secondary sector	12.6	20.7	29.1	34.5	47.1	61.1
Manufacturing	1.5	1.8	2.1	2.6	3.3	3.6
Electricity	3.4	4.9	6.0	7.0	10.3	12.8
Construction	7.7	14.0	21.0	24.9	33.5	44.5
Tertiary sector	31.0	44.4	60.8	72.4	78.3	90.3
Trade and commerce	9.5	13.5	16.7	19.0	20.8	23.7
Transport and communications	1.6	2.2	3.3	3.7	4.1	4.7
Finance and housing	2.1	3.2	3.7	4.2	6.4	7.0
Public administration	13.8	19.4	30.0	34.5	34.9	37.6
Other services	4.0	6.1	7.1	11.0	12.1	16.1
GDP at factor costs	819.4	1,220.8	1,428.9	1,611.1	2,408.6	3,525.2
Of which : non-oil GDP	113.8	136.5	154.9	175.0	195.4	225.7
Import duties and subsidies	18.8	21.6	23.5	31.0	30.9	32.6
Discrepancy	0.2	0.1	0.1	0.2	0.3	0.0
GDP at market prices	838.4	1,242.5	1,452.5	1,642.3	2,439.8	3,557.8
Of which : non-oil GDP	132.6	158.1	178.4	206.0	226.3	258.3
	(Annual percentage change)					
Primary sector	90.7	49.0	15.9	12.3	51.8	47.8
Non-oil primary sector	0.1	1.7	-9.0	4.8	2.8	6.2
Agriculture	8.6	12.9	-0.3	13.1	8.9	6.4
Forestry	-6.8	-9.2	-20.3	-7.1	-7.7	5.6
Fishing	28.4	57.1	45.5	12.5	5.6	6.7
Oil sector	109.5	53.7	17.5	12.7	54.1	49.1
Secondary sector	58.1	64.3	40.6	18.6	36.5	29.7
Manufacturing	71.4	20.0	16.7	23.8	26.9	8.8
Electricity	21.7	44.1	22.4	16.7	47.1	24.4
Construction	79.1	81.8	50.0	18.6	34.5	32.7
Tertiary sector	24.8	43.2	36.9	19.1	8.1	15.3
Trade and commerce	39.7	42.1	23.7	13.8	9.5	14.0
Transport and communications	30.1	37.5	50.0	12.1	10.8	15.8
Finance and housing	72.1	52.4	15.6	13.5	52.4	9.8
Public administration	9.6	40.6	54.6	15.0	1.2	7.7
Other services	33.3	52.5	16.4	54.9	10.0	33.3
GDP at factor costs	86.4	49.0	17.0	12.8	49.5	46.4
Of which : non-oil GDP	10.5	19.9	13.5	13.0	11.7	15.5
Import duties and subsidies	28.0	14.9	8.8	31.9	-0.3	5.6
Discrepancy	0.0	0.0	0.0	0.0	0.0	0.0
GDP at market prices	84.5	48.2	16.9	13.1	48.6	45.8
Of which : non-oil GDP	12.7	19.2	12.8	15.5	9.9	14.1

Sources: Equatoguinean authorities; and Fund staff estimates.

Table 2. Equatorial Guinea: GDP by Sector of Origin, 2000-05
(In percent of GDP)

	2000	2001	2002	2003	2004	2005 Est.
Primary sector	92.5	93.0	92.2	91.6	93.6	94.8
Non-oil	8.4	5.7	4.5	4.1	2.9	2.1
Agriculture	3.9	3.0	2.5	2.5	1.9	1.4
Forestry	4.4	2.7	1.8	1.5	0.9	0.7
Fishing	0.1	0.1	0.1	0.1	0.1	0.1
Oil	84.2	87.3	87.7	87.4	90.7	92.7
Secondary sector	1.5	1.7	2.0	2.1	1.9	1.7
Manufacturing	0.2	0.1	0.1	0.2	0.1	0.1
Electricity	0.4	0.4	0.4	0.4	0.4	0.4
Construction	0.9	1.1	1.4	1.5	1.4	1.2
Tertiary sector	3.7	3.6	4.2	4.4	3.2	2.5
Trade and commerce	1.1	1.1	1.1	1.2	0.9	0.7
Transport and communications	0.2	0.2	0.2	0.2	0.2	0.1
Finance and housing	0.3	0.3	0.3	0.3	0.3	0.2
Public administration	1.6	1.6	2.1	2.1	1.4	1.1
Other services	0.5	0.5	0.5	0.7	0.5	0.5
Import duties and subsidies	2.2	1.7	1.6	1.9	1.3	0.9
GDP at market prices	100.0	100.0	100.0	100.0	100.0	100.0
Of which : non-oil GDP	15.8	12.7	12.3	12.5	9.3	7.3

Sources: Equatoguinean authorities; and Fund staff estimates.

Table 3. Equatorial Guinea: GDP by Sector of Origin, 2000-05

	2000	2001	2002	2003	2004	2005 Est.
	(In billions of CFA francs in 1985 prices)					
Primary sector	203.6	354.9	424.8	481.6	637.3	671.6
Non-oil	34.3	33.7	30.2	31.2	31.7	31.9
Agriculture	21.2	21.3	19.8	20.8	21.7	21.9
Forestry	12.6	11.6	9.3	9.2	8.8	8.8
Fishing	0.5	0.8	1.1	1.2	1.2	1.2
Oil	169.4	321.2	394.6	450.4	605.6	639.7
Secondary sector	11.2	17.8	23.7	26.9	36.4	44.7
Manufacturing	1.0	1.1	1.2	1.5	1.8	1.9
Electricity	3.0	3.9	4.7	5.6	7.9	9.3
Construction	7.2	12.8	17.8	19.8	26.7	33.6
Tertiary sector	23.1	29.9	34.8	40.2	43.6	47.65
Trade and commerce	9.3	12.2	14.4	15.3	16.0	17.28
Transport and communications	1.7	1.9	2.3	2.5	2.6	2.85
Finance and housing	2.5	3.5	4.1	4.5	6.7	7.01
Public administration	6.8	8.1	9.3	10.6	10.7	10.91
Other services	2.8	4.2	4.7	7.3	7.6	9.59
GDP at factor costs	237.9	402.6	483.4	548.7	717.4	764.0
Import duties	6.0	6.7	8.4	9.9	8.7	9.1
GDP at market prices	243.9	409.3	491.8	558.6	726.1	773.1
Of which : non-oil GDP	74.6	88.1	97.2	108.2	120.5	133.4
	(Annual percentage change in constant prices)					
Primary sector	10.0	74.3	19.7	13.4	32.3	5.4
Non-oil	-8.4	-1.8	-10.1	3.2	1.7	0.6
Agriculture	-6.2	0.5	-6.6	4.8	4.5	0.8
Forestry	-12.7	-7.9	-19.8	-1.1	-4.3	0.0
Fishing	25.0	60.0	37.5	9.1	0.0	1.0
Oil	14.7	89.7	22.8	14.1	34.5	5.6
Secondary sector	54.7	58.9	33.1	13.5	35.3	22.8
Manufacturing	18.6	10.0	9.1	25.0	20.0	3.0
Electricity	20.0	30.0	20.5	19.1	41.1	17.8
Construction	84.6	77.8	39.1	11.2	34.8	25.7
Tertiary sector	26.2	29.4	16.5	15.4	8.6	9.2
Trade and commerce	32.9	31.2	18.4	6.0	4.6	8.0
Transport and communications	21.4	11.8	21.1	8.7	4.0	9.7
Finance and housing	66.7	40.0	17.1	9.8	49.8	4.0
Public administration	9.6	19.1	14.8	14.0	0.9	2.0
Other services	27.3	50.0	11.9	55.3	4.1	26.2
GDP at factor costs	13.0	69.2	20.1	13.5	30.7	6.5
Import duties and subsidies	18.1	11.7	25.4	17.9	-12.1	5.0
GDP at market prices	13.1	67.8	20.1	13.6	30.0	6.5
Of which : non-oil GDP	9.6	18.1	10.4	11.3	11.3	10.7

Sources: Equatoguinean authorities; and Fund staff estimates.

Table 4. Equatorial Guinea: GDP by Use of Resources, 2000-05

	2000	2001	2002	2003	2004	2005 Est.
	(In billions of CFA francs)					
Domestic demand	718.1	1,127.4	741.7	1,302.6	1,449.5	1,570.1
Resource balance	120.1	115.0	710.8	339.5	990.0	1,987.7
Exports of goods and nonfactor services	881.5	1,287.2	1,493.0	1,647.8	2,454.3	3,791.5
Imports of goods and nonfactor services	-761.4	-1,172.2	-782.2	-1,308.3	-1,464.3	-1,803.9
Gross domestic product	838.2	1,242.4	1,452.4	1,642.1	2,439.5	3,557.8
Net factor income from abroad	-263.6	-721.8	-898.7	-1,012.5	-1,557.3	-2,425.6
Public	-4.0	-4.9	-2.6	-2.3	-1.7	-1.5
Private	-259.6	-717.0	-896.2	-1,010.3	-1,555.6	-2,424.0
Gross national product	574.6	520.6	553.7	629.6	882.2	1,132.2
Unrequited transfers	5.9	-1.5	-7.7	-15.2	-24.2	-35.1
Private	6.2	10.6	10.6	10.6	10.6	10.6
Public	-0.3	-12.1	-18.3	-25.8	-34.8	-45.7
Gross disposable income	580.5	519.1	546.0	614.4	858.0	1,097.1
Consumption	199.2	221.1	279.7	302.1	330.4	381.7
Public	40.8	41.4	76.9	65.0	81.3	111.0
Private	158.4	179.7	202.8	237.1	249.1	270.6
National savings	381.2	297.9	266.2	281.0	527.2	715.4
Public	106.3	291.3	317.8	373.9	720.1	1,370.6
Private	274.9	6.6	-51.6	-92.9	-192.9	-655.2
Gross fixed capital formation	518.7	906.1	461.9	1,000.3	1,118.7	1,188.4
Public	45.6	94.0	126.6	169.8	363.0	446.0
Private	473.0	812.1	335.3	830.5	755.7	742.4
Oil	445.5	779.1	281.8	768.7	673.6	648.7
Non-oil	27.5	33.0	53.5	61.8	82.1	93.8
External current account	-137.5	-608.3	-195.7	-719.3	-591.6	-473.0
	(In percent of GDP)					
Domestic demand	85.7	90.7	51.1	79.3	59.4	44.1
Resource balance	14.3	9.3	48.9	20.7	40.6	55.9
Net factor income from abroad	-31.4	-58.1	-61.9	-61.7	-63.8	-68.2
Unrequited transfers	0.7	-0.1	-0.5	-0.9	-1.0	-1.0
Gross disposable income	69.3	41.8	37.6	37.4	35.2	30.8
Consumption	23.8	17.8	19.3	18.4	13.5	10.7
Public	4.9	3.3	5.3	4.0	3.3	3.1
Private	18.9	14.5	14.0	14.4	10.2	7.6
National savings	45.5	24.0	18.3	17.1	21.6	20.1
Public	12.7	23.4	21.9	22.8	29.5	38.5
Private	32.8	0.5	-3.6	-5.7	-7.9	-18.4
Gross fixed capital formation	61.9	72.9	31.8	60.9	45.9	33.4
Public	5.4	7.6	8.7	10.3	14.9	12.5
Private	56.4	65.4	23.1	50.6	31.0	20.9
External current account	-16.4	-49.0	-13.5	-43.8	-24.2	-13.3

Sources: Equatoguinean authorities; and Fund staff estimates.

Table 5. Equatorial Guinea: Production and Exports of Timber, 2000-05

(In thousands of cubic meters)

	2000	2001	2002	2003	2004	2005
Total production	714.87	669.87	574.16	419.50	...	
Logs	689.17	634.77	574.16	419.50	...	
Sawn timber	6.60	4.10	...	...	...	
Processed timber	19.10	31.00	...	...	...	
Exports	419.50	620.79	537.25	465.64	...	
Logs	407.34	589.36	519.86	438.29	...	
Sawn timber	2.19	3.03	4.29	1.06	...	
Consumption and change in stocks (- decrease) 1/	97.64	49.08	36.91	-46.14	...	
Logs	89.84	45.41	54.30	-18.79	...	
Sawn timber	4.41	1.07	-4.29	-1.06	...	
Processed timber	3.40	2.60	-13.10	-26.29	...	

Sources: Equatoguinean authorities; and Fund staff estimates.

1/ Calculated as a residual.

Table 6. Equatorial Guinea: Consumer Price Index, 2000-05
(Index, 2000=100)

		Weight (percent)	2000 Dec.	2001 Dec.	2002 Dec.	2003 Dec.	2004 Dec.	2005 Dec Est.
Food, beverages and tobacco	5972	60	100.0	116.1	125.3	130.1	132.2	…
Clothing	1556	16	100.0	105.9	108.6	125.2	128.4	…
Housing, water, electricity	506	5	100.0	104.3	99.4	106.0	108.9	…
Furniture and other equipments	939	9	100.0	105.4	112.3	119.7	122.8	…
Health	146	1	100.0	100.4	104.0	104.0	106.2	…
Transport	345	3	100.0	124.0	120.9	119.8	141.7	…
Leisure	134	1	100.0	102.0	105.0	106.7	106.7	…
Hotel, restaurants	315	3	100.0	102.3	117.2	134.5	139.4	…
Other goods and services	75	1	100.0	103.5	114.0	114.4	113.7	…
General index	10000	100	100.0	112.3	119.2	126.2	132.7	139.1

Source: Equatoguinean authorities.

Table 7. Equatorial Guinea: Consumer Price Inflation, 2000-05 1/
(12-month percentage change)

	2000	2001	2002	2003	2004	2005 Est.
January	6.7	4.6	10.8	4.7	3.2	7.4
February	6.1	4.6	7.6	9.7	1.5	10.4
March	4.2	5.7	7.6	9.5	3.8	7.4
April	3.7	6.8	7.9	9.3	3.6	7.2
May	0.5	9.7	9.1	8.5	4.6	5.9
June	3.4	8.9	6.6	9.5	4.4	6.0
July	4.3	8.6	8.7	7.4	4.1	6.5
August	6.3	8.2	7.6	6.7	5.1	5.6
September	4.7	11.8	7.1	5.5	5.8	4.4
October	4.9	12.3	6.2	5.7	4.5	5.0
November	6.3	12.4	5.9	5.4	5.1	4.4
December	6.6	12.3	6.2	5.8	5.1	4.8
Memorandum item:			(Annual percentage change)			
Average	4.8	8.8	7.6	7.9	4.3	6.2

Source: Equatoguinean authorities, and Fund staff estimates.

Table 8. Equatorial Guinea: Public Investment Program, 2004-05 (Execution) and 2006-08 (Program)

	2004	2005	2006	2007	2008
			Program		
Expenditure by sector		(In billions of CFA francs)			
Administrative development	65,346	116,869	18,600	15,951	15,057
Infrastructure development	225,082	256,406	199,805	410,395	399,214
Productive development	7,261	12,873	7,687	5,407	3,882
Social development	65,346	58,438	202,205	71,381	65,978
Total	363,035	444,586	428,297	503,135	484,131
Financing					
Domestic	362,259	443,168	427,000	502,134	483,365
External	776	1,417	1,298	1,001	766
Grants	776	1,417	1,298	1,001	766
Loans	0	0	0	0	0
Total	363,035	444,586	428,297	503,135	484,131
Expenditure by sector		(In millions of U.S. dollars)			
Administrative development	123.7	221.8	33.4	28.7	27.2
Infrastructure development	426.1	486.6	358.8	738.4	720.7
Productive development	13.7	24.4	13.8	9.7	7.0
Social development	123.7	110.9	363.1	128.4	119.1
Total	687.2	843.8	769.0	905.2	874.0
Financing					
Domestic	685.7	841.1	766.7	903.4	872.6
External	1.5	2.7	2.3	1.8	1.4
Grants	1.5	2.7	2.3	1.8	1.4
Loans	0.0	0.0	0.0	0.0	0.0
Total	687.2	843.8	769.0	905.2	874.0
Expenditure by sector		(As a share of total capital expenditure)			
Administrative development	18.0	26.3	4.3	3.2	3.1
Infrastructure development	62.0	57.7	46.7	81.6	82.5
Productive development	2.0	2.9	1.8	1.1	0.8
Social development	18.0	13.1	47.2	14.2	13.6
Total	100.0	100.0	100.0	100.0	100.0
Financing					
Domestic	99.8	99.7	99.7	99.8	99.8
External	0.2	0.3	0.3	0.2	0.2
Grants	0.2	0.3	0.3	0.2	0.2
Loans	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0

Table 9. Equatorial Guinea: Summary of Central Government Financial Operations, 2000-05

(In millions of CFA francs, unless otherwise specified)

	2000	2001	2002	2003	2004	2005
Total revenue and grants	162,277	348,000	414,484	471,884	840,243	1,528,825
Revenue	162,277	348,000	414,484	471,162	839,467	1,527,408
Oil revenue	133,199	303,761	362,460	409,709	766,278	1,440,885
Non-oil revenue	29,078	44,239	52,024	61,453	73,189	87,940
Grants	0	0	0	722	776	1,417
Total expenditure and net lending and other	144,267	193,652	246,974	500,053	598,385	697,948
Current expenditure	59,263	61,653	100,602	98,695	121,940	158,958
Of which: interest	3,249	4,930	3,922	1,423	2,548	2,134
Capital expenditure	36,700	93,985	126,634	169,740	363,035	446,003
Of which: foreign financed	0	0	0	722	776	1,417
Net Lending and Other	48,304	38,013	19,738	231,618	113,410	92,987
Of which : net lending	0	0	0	0	65,910	92,987
unclassified expenditure	48,304	38,013	19,738	231,618	47,500	0
Overall balance (commitment basis)	18,011	154,348	167,510	-28,169	241,858	830,876
Net change in arrears	-10,985	-8,129	-2,120	-1,022	-1,440	-2,650
Domestic	-11,185	-8,129	-2,120	-1,022	-1,440	-2,650
External (interest only)	200	0	0	0	0	0
Overall balance (cash basis)	7,026	146,219	165,390	-29,191	240,418	828,226
Financing	-7,026	-146,219	-165,390	29,191	-240,425	-941,568
External (net)	-64,118	-94,867	-142,628	13,591	44,235	-115,164
Disbursements	0	0	0	0	776	1,417
Scheduled amortization	-2,907	-5,716	-5,791	-7,519	-14,353	-27,171
Net change in arrears (principal only)	-1,500	-3,987	0	0	0	0
Debt relief	0	1,318	0	0	0	0
Domestic (net)	57,092	-51,352	-22,762	15,599	-284,660	-826,404
Net bank credit	-1,693	-51,352	-22,762	16,465	-297,660	-826,404
Of which : IMF (net)	-2,107	-1,500	0	-564	-142	0
Nonbank financing	3,729	0	0	-866	13,000	0
Residual financing gap	0	0	0	0	7	113,341
Memorandum items:						
Oil revenue (in million $)	187.1	414.4	520.0	704.9	1,450.5	2,734.6
As a share of GDP						
Overall balance after grants (cash basis)	0.8	11.8	11.4	-1.8	9.9	23.3
Overall balance after grants excluding oil revenue, interest	-13.7	-12.0	-13.4	-26.7	-18.8	-14.5
As a share of non-oil GDP						
Overall balance after grants (commitment basis)	13.6	97.6	93.9	116.7	106.9	321.7
Overall balance after grants excluding oil revenue, and interest from oil reserve fund (commitment basis)	-86.9	-94.5	-109.3	-66.0	-202.6	-200.2

Sources: Equatoguinean authorities; and Fund staff calculations.

Table 10. Equatorial Guinea: Fiscal Indicators, 2000-05

	2000	2001	2002	2003	2004	2005
	(Annual percentage change)					
Revenue	84.1	114.4	19.1	13.7	78.2	81.9
Oil revenue	104.4	128.1	19.3	13.0	87.0	88.0
Non-oil revenue	26.5	52.1	17.6	18.1	19.1	20.2
Total expenditure and net lending 1/	50.0	34.2	27.5	102.5	19.7	16.6
Current expenditure	28.4	4.0	63.2	-1.9	23.6	30.4
Capital expenditure 1/	-26.6	156.1	34.7	34.0	113.9	22.9
	(In percent of total revenue and grants)					
Revenue	100.0	100.0	100.0	99.8	99.9	99.9
Oil revenue	82.1	87.3	87.4	86.8	91.2	94.2
Non-oil revenue	17.9	12.7	12.6	13.0	8.7	5.8
	(In percent of total expenditure and net lending)					
Current expenditure	41.1	31.8	40.7	19.7	20.4	22.8
Capital expenditure 1/	25.4	48.5	51.3	33.9	60.7	63.9
Net lending and other	33.5	19.6	8.0	46.3	19.0	13.3
	(In percent of GDP)					
Revenue	19.4	28.0	28.5	28.7	34.4	42.9
Oil revenue	15.9	24.4	25.0	25.0	31.4	40.5
Non-oil revenue	3.5	3.6	3.6	3.7	3.0	2.5
Total expenditure and net lending 1/	17.2	15.6	17.0	30.5	24.5	19.6
Current expenditure	7.1	5.0	6.9	6.0	5.0	4.5
Capital expenditure 1/	4.4	7.6	8.7	10.3	14.9	12.5
Net lending and government equity	2.4					
	(In percent of non-oil GDP)					
Non-oil revenue	21.9	28.0	29.2	29.8	32.3	34.0
Domestically financed investment	27.7	59.4	71.0	82.0	160.1	172.1

Sources: Equatoguinean authorities; and Fund staff estimates.

1/ Including foreign-financed capital expenditure.

Table 11. Equatorial Guinea: Revenue of the Central Government, 2000-05

(In millions of CFA francs, unless otherwise specified)

	2000	2001	2002	2003	2004	2005
Total revenue and grants	164.4	348.0	414.5	471.9	840.2	1,528.8
Revenue	164.4	348.0	414.5	471.2	839.5	1,527.4
Oil revenue 1/	135.3	303.8	362.5	409.7	766.3	1,440.9
Corporate and oil companies employees income tax	0.0	65.5	136.6	122.5	138.0	252.4
Royalties	117.7	197.2	172.2	240.1	381.6	473.3
Bonuses	0.0	0.0	0.0	0.3	2.4	2.0
Rent	0.7	1.2	0.0	0.6	1.7	51.2
Profit sharing	0.0	34.7	40.7	38.6	144.5	490.3
Sales tax on oil companies' subcontractors	16.9	5.2	13.0	7.6	32.2	58.9
Interest income on Oil Reserve Fund	0.0	0.0	0.0	0.0	0.0	19.9
Nonbudgetary revenue	0.0	0.0	0.0	0.0	65.9	93.0
Non-oil revenue	29.1	44.2	52.0	61.5	73.2	87.9
Tax revenue	23.7	31.3	39.3	45.4	56.5	58.1
Taxes on income and profits	3.7	8.5	14.7	12.8	20.0	25.7
Taxes on goods and services	7.8	12.3	14.2	19.7	22.6	21.4
Taxes on international trade	8.9	9.3	9.3	11.3	8.3	8.1
Import taxes	2.8	3.6	4.9	4.9	4.4	3.9
Export taxes	6.2	5.7	4.4	6.4	3.9	4.1
Other taxes	3.2	1.2	1.1	1.6	5.5	2.9
Nontax revenue	5.4	12.9	12.7	16.0	16.7	29.8
Of which: interest on oil reserve fund	0.0	0.0	0.0	0.0	0.0	19.9
Grants	0.0	0.0	0.0	0.7	0.8	1.4

Sources: Equatoguinean authorities; and Fund staff estimates.

1/ Government investment in LNG project is outside the budget. However, it is included here under oil revenue.

Table 12. Equatorial Guinea: Expenditures of Central Government, 2000-05

	2000	2001	2002	2003	2004	2005
	(In billions of CFA francs)					
Total expenditure and net lending and other	114.3	193.7	247.0	500.1	598.4	697.9
Primary expenditure	111.0	188.7	243.1	497.9	595.1	694.4
Current expenditure	59.3	61.7	100.6	98.7	121.9	159.0
Wages and salaries	12.9	17.4	26.0	27.5	30.9	36.6
Goods and services	30.9	24.0	50.9	49.7	50.5	80.7
Subsidies and transfers	12.2	15.3	19.8	20.1	38.0	39.5
Interest	3.2	4.9	3.9	1.4	2.5	2.1
Domestic	1.0	1.2	1.4	0.2	0.4	0.5
External	2.3	3.7	2.6	1.2	2.2	1.7
Capital expenditure	55.0	94.0	126.6	169.7	363.0	446.0
Domestically financed capital expenditure	55.0	94.0	126.6	169.0	362.3	444.6
Foreign-financed capital expenditure	0.0	0.0	0.0	0.7	0.8	1.4
Net lending and other	0.0	38.0	19.7	231.6	113.4	93.0
Net lending 1/	0.0	0.0	0.0	0.0	65.9	93.0
Other (discrepancy) 2/	0.0	38.0	19.7	231.6	47.5	0.0
Primary balance	1.0	1.2	1.4	0.2	0.4	0.5
Overall balance before grants (commitment basis)	50.1	154.3	167.5	-28.9	241.1	829.5
Overall balance (commitment basis)	50.1	154.3	167.5	-28.9	241.1	829.5
Non-oil overall balance 3/	-85.2	-149.4	-194.9	-437.9	-458.5	-517.0
Non-oil primary balance	-82.0	-144.5	-191.0	-436.5	-456.0	-514.9
Net change in arrears (repayment -)	-3.8	-8.1	-2.1	-1.0	-1.4	-2.7
Domestic	-4.3	-8.1	-2.1	-1.0	-1.4	-2.7
External (interest only)	0.4	0.0	0.0	0.0	0.0	0.0

Sources: Equatoguinean authorities; and IMF staff estimates and projections.

1/ Government investment in LNG project is outside the budget. However, it is included here under net lending.
2/ Based on the discrepancy with monetary survey.
3/ Excluding oil revenues and oil-related expenditures.

Table 13. Equatorial Guinea: Central Bank and Commercial Banks, 2000-05

(In billion of CFA francs, unless otherwise specified; end of period)

	1993	2000	2001	2002	2003	2004	2005
		Dec.	Dec.	Dec.	Dec.	Dec.	Dec. Proj.
Central Bank							
Net foreign assets		7.5	45.9	50.0	118.0	450.3	1954.0
(in millions of U.S. dollars)		10.2	62.5	77.6	221.1	920.3	3512.0
Net domestic assets		18.1	1.5	-0.4	2.3	-299.7	-1443.1
Claims on government (net)		12.3	-3.5	-4.1	-2.6	-302.4	-1613.9
Claims on commercial banks (net)		0.0	0.0	0.0	0.0	0.0	0.0
Claims on rest of the economy (net)		-5.9	-6.2	-5.9	-5.6	-5.3	-1.1
Other items, net (assets +)		11.7	11.3	9.7	10.4	8.0	171.9
Reserve money (RM)		25.6	47.4	49.6	120.3	150.5	510.9
Currency outside banks		15.2	17.6	26.0	35.1	45.7	105.5
Bank reserves		10.4	29.0	22.9	84.4	104.7	405.4
Cash		1.3	3.9	6.5	5.1	7.3	24.9
Deposits		9.1	25.1	16.4	79.3	97.4	330.5
Nonbank deposits		0.0	0.8	0.8	0.8	0.1	0.3
Commercial banks		0.0	0.0	0.0	0.0	0.0	0.0
Net foreign assets		8.9	14.6	54.6	35.6	49.3	71.4
(in millions of U.S. dollars)		12.2	19.9	84.8	66.7	100.8	128.2
Reserves		10.4	29.0	22.9	84.4	104.7	405.4
Cash		1.3	3.9	6.5	5.1	7.3	24.9
Deposits with BEAC		9.1	25.1	16.4	79.3	97.4	330.5
Net claims on Central Bank		0.0	0.0	0.0	0.0	0.0	0.0
Domestic credit		29.0	37.2	58.4	53.7	68.6	106.0
Claims on government (net)		-4.6	-24.5	-46.7	-31.8	-29.6	-705.3
Claims		1.9	0.3	4.1	2.1	5.8	5.2
Deposits		-6.5	-24.8	-50.8	-33.8	-35.4	-710.5
Claims on non-government		27.1	36.9	54.2	51.6	62.8	106.0
Public enterprises (PE)		0.0	0.4	1.5	0.9	0.8	0.8
Private sector		27.1	36.5	52.8	50.8	62.1	105.2
Other items, net (assets +)		-1.4	3.7	3.4	0.9	3.6	-203.7
Total deposits		39.2	71.1	123.2	153.2	196.8	344.5

Sources: Equatoguinean authorities; and IMF staff estimates and projections.

Table 14. Equatorial Guiena: Monetary Survey, 2000-05

	2000 Dec.	2001 Dec.	2002 Dec.	2003 Dec.	2004 Dec.	2005 Dec. Proj.
Monetary survey	(In billions of CFA, unless otherwise specified; end of period)					
Net foreign assets	16.4	60.6	104.6	153.6	499.6	1300.2
(in millions of U.S. dollars)	22.4	82.4	162.3	287.8	1021.0	2331.9
Net domestic assets	38.0	29.0	45.3	35.5	-257.0	-938.9
Domestic credit	28.9	2.6	-2.5	11.7	-274.5	-1080.9
Claims on government (net)	7.7	-28.0	-50.8	-34.3	-332.0	-1158.4
Claims on non-government	21.2	30.7	48.3	46.1	57.5	77.5
Other items, net (assets +)	10.3	15.0	13.0	11.3	11.6	-228.7
Broad money (M2)	54.4	89.5	149.9	189.1	242.6	361.3
Currency	15.2	17.6	26.0	35.1	45.7	112.5
Deposits	39.2	71.9	124.0	154.0	196.9	248.8
Memorandum items:	(Annual percentage change, unless otherwise specified)					
Broad money (M2)	18.4	64.6	67.4	26.1	28.3	48.9
Reserve money (RM)	48.9	85.6	4.6	142.5	25.1	108.3
Velocity (GDP/end-of-period M2)	15.4	13.9	9.7	8.7	10.1	9.8
Reserve money multiplier (M2/RM)	2.1	1.9	3.0	1.6	1.6	1.2
Bank reserves-to-deposits ratio	0.3	0.4	0.2	0.6	0.5	1.0
Currency-to-deposits ratio	0.4	0.2	0.2	0.2	0.2	0.3
Currency/M2 ratio	0.3	0.2	0.2	0.2	0.2	0.2
Credit to the private sector	27.1	34.8	44.6	-3.8	22.3	25.3
Net international reserves (millions of U.S. dollars)	10.1	62.4	77.5	221.0	920.1	2226.4

Sources: Equatoguinean authorities; and IMF staff estimates and projections.

Table 15. Equatorial Guinea: Balance of Payments, 2000-05

(In millions of U.S. dollars, unless otherwise specified)

	2000	2001	2002	2003	2004	2005 Prel.
Current account	-193.2	-829.8	-280.8	-1237.6	-1119.8	-897.7
Trade balance	717.8	925.8	1609.8	1513.2	3067.0	5219.1
Export, f.o.b.	1220.5	1734.8	2116.6	2801.0	4595.9	7124.6
Of which: Petroleum (oil and gas)	1137.7	1669.2	2052.6	2726.2	4515.0	7049.5
Import, f.o.b.	-502.7	-809.0	-506.9	-1287.8	-1529.0	-1905.6
Services	-549.1	-768.8	-590.0	-982.5	-1193.1	-1446.7
Credit	17.6	21.3	25.4	34.1	50.0	71.2
Debit	-566.7	-790.1	-615.4	-1016.7	-1243.1	-1517.9
Income	-370.2	-984.7	-1289.5	-1742.1	-2947.8	-4603.4
Investment income (net)	-340.0	-941.3	-1236.1	-1669.8	-2829.6	-4455.7
Current transfers (net)	8.3	-2.1	-11.0	-26.2	-45.8	-66.6
Public	8.7	14.5	15.2	18.2	20.1	20.1
Private	-0.4	-16.5	-26.3	-44.4	-65.9	-86.7
Capital and Financial account	210.9	860.3	195.3	1318.0	1780.0	2225.4
Capital account	1.8	6.4	0.0	0.0	0.0	0.0
Capital transfers	1.8	6.4	0.0	0.0	0.0	0.0
Public	1.8	6.4	0.0	0.0	0.0	0.0
Private	0.0	0.0	0.0	0.0	0.0	0.0
Financial account	209.1	853.9	195.3	1318.0	1780.0	2225.4
Direct investment	154.5	940.8	323.4	1443.5	1651.8	1564.8
Direct investment abroad	0.0	-4.2	0.0	0.0	0.0	0.0
Direct investment to Equatorial Guinea	154.5	945.0	323.4	1443.5	1651.8	1564.8
Portfolio investment	0.0	-0.4	0.0	0.0	0.0	0.0
Other ivestment	54.6	-86.5	-128.1	-125.5	128.2	660.5
Medium- and long-term capital transactions	-6.2	-7.8	-7.8	-18.9	-16.2	-23.8
Public	-5.9	-7.8	-7.5	-7.0	-8.8	-13.1
Disbursements	1.3	0.0	0.0	0.4	1.5	13.4
Amortization	-7.3	-7.8	-7.5	-7.4	-10.2	-26.4
Other	0.0	0.0	0.0	0.0	0.0	0.0
Private	-0.3	0.0	-0.3	-11.9	-7.5	-10.7
Non-capital investment	6.3	0.0	5.8	8.0	11.7	13.3
Amortization	0.0	0.0	0.0	0.0	0.0	0.0
Other	-5.2	0.0	-6.1	-19.8	-19.1	-24.0
Short-term capital transactions	60.8	-78.7	-120.3	-106.7	144.4	684.3
Private (net)	0.0	0.0	0.0	0.0	0.0	0.0
Other short-term investment	54.9	-74.9	-58.8	-139.4	170.4	688.9
Banks	5.9	-3.8	-61.5	32.7	-25.9	-4.6
Disbursements (net)	5.9	-3.8	-61.5	32.7	-25.9	-4.6
Errors and omissions	-2.7	19.9	90.8	42.0	-8.7	72.4
Overall balance	15.0	50.5	5.3	122.3	651.6	1400.0
Financing						
Net change in reserves (increase -) 1/	-21.3	-51.8	-6.4	-127.4	-678.8	-1306.3
Of which : use of Fund credit (net)	-2.1	-2.8	-1.3	-1.0	-0.3	0.0
Operational account (net)	-19.3	-49.0	-4.3	-117.8	-627.1	-1380.8
Treasury offshore accounts (increase -) 1/	0.1	0.1	-0.2	1.8	-1.3	-1.5

Sources: Equatoguinean authorities; and Fund staff estimates and projections.

1/ Official reserves are held at the BEAC. Exchange rate valuation may affect end-of-period stock.

Table 16. Equatorial Guinea: Production and Prices of Principal Export Commodities Composition of Exports, 2000-05

	2000	2001	2002	2003	2004	2005
Oil (crude)						
Production (thsd barrrels/day)	119.7	223.2	267.7	303.1	408.3	429.0
Price per barrel (USD), brent	28.2	24.3	25.0	28.9	37.8	53.4
Price per barrel (USD), GNQ oil	26.1	23.2	23.8	27.7	34.2	48.4
Average discount for GNQ oil (USD)	2.1	1.1	1.2	1.1	3.6	5.0
Methanol						
Export (metric tonnes/day)		1410.0	1968.5	2204.9	2806.9	2879.6
world rate of methanol (USD/mt)	212.9	189.2	193.7	226.1	278.6	394.1
Timber						
Production of logs (thsd cubic meters)	708.2	585.7	516.0	503.3	497.5	362.9
Production of processed wood (thsd cubic meters)	25.7	35.1	21.2	27.7	31.2	45.4
Export (thsd cubic meters)	733.9	620.8	537.2	531.0	528.7	408.3
world price for log (USD/cubic meters)	190.1	159.9	162.4	187.1	197.4	205.0
Cocoa						
Export (thsd tonnes)	3.6	4.4	1.6	2.4	3.5	2.3
World price (Cent/pound)	903.9	1088.4	1779.0	1753.1	1550.7	1549.8
Coffee						
Export (tonnes)	87.0	83.3	65.2	83.7	197.6	108.4
World price of robust coffee (Cent/pound)	42.2	27.3	30.8	38.4	37.3	52.2

Sources: Equatoguinean authorities.

Table 17. Equatorial Guinea: Composition of Imports, 2000-05

	2000	2001	2002	2003	2004	2005
	(In millions of U.S. dollars)					
Total imports, f.o.b.	502.7	809.0	506.9	1,287.8	1,529.0	1,905.6
Public sector equipment	44.9	89.8	127.2	204.5	481.0	571.0
Petroleum sector	367.3	665.0	305.8	928.5	905.9	1,097.0
Petroleum products	26.3	27.3	27.8	37.7	61.7	96.7
Other	64.2	27.0	46.1	63.8	80.4	140.8
	(In percent of total)					
Total imports, f.o.b.	100.0	100.0	100.0	95.9	100.0	100.0
Public sector	8.9	11.1	25.1	15.9	31.5	30.0
Oil sector	73.1	82.2	60.3	72.1	59.2	57.6
Petroleum products	5.2	3.4	5.5	2.9	4.0	5.1
Other	12.8	3.3	9.1	5.0	5.3	7.4

Sources: Equatoguinean authorities; and Fund staff estimates.

Table 18. Equatorial Guinea: Direction of Trade, 2000-04

(In percent of total)

	2000	2001	2002	2003	2004
Total exports	100.0	100.0	100.0	100.0	100.0
United States	13.4	27.8	29.0	33.2	43.4
Canada	0.0	4.5	10.8	12.7	10.1
Japan	3.6	0.9	2.6	0.0	1.7
Belgum	0.0	0.0	0.0	0.0	0.1
France	1.6	2.3	5.1	3.6	3.1
Germany	0.2	0.3	0.3	0.1	0.3
Italy	0.0	0.0	1.4	6.3	5.9
Netherlands	0.2	2.0	1.0	1.9	1.9
Spain	54.7	34.4	25.9	25.4	23.6
United Kingdom	0.1	0.5	0.5	0.4	0.7
Cameroon	1.8	2.3	0.0	0.0	0.0
China	22.3	21.7	17.9	14.2	33.7
Malaysia	0.0	0.0	0.0	0.0	0.0
Brazil	0.8	0.7	0.2	0.0	0.5
Other	1.2	2.6	5.1	2.2	24.2
Total imports	100.0	100.0	100.0	100.0	100.0
United States	32.3	27.8	27.0	30.3	26.8
Canada	0.0	0.7	0.3	0.2	0.2
Japan	4.1	0.3	0.4	0.3	1.0
Belgium	1.0	1.0	2.1	1.2	2.1
France	5.9	8.7	9.6	14.9	8.8
Germany	0.9	1.6	1.3	0.7	0.6
Italy	3.9	8.1	4.4	5.3	4.4
Netherlands	3.1	4.3	4.4	1.9	2.9
Spain	11.8	15.4	14.8	8.1	13.6
United Kingdom	14.9	12.4	13.7	15.9	7.8
Cameroon	2.6	3.5	0.0	0.0	0.0
Côte d'Ivoire	6.6	4.7	4.3	11.8	21.4
China,P.R.: Mainland	1.2	0.9	0.7	0.5	1.3
Malaysia	0.2	0.0	0.0	0.0	0.0
Others	11.3	10.7	16.5	8.9	9.3

Sources: Equatoguinean authorities; IMF, *Direction of Trade Statistics Yearbook.*

Table 19. Equatorial Guinea: Scheduled External Public Debt Service, 2000-05

(In millions of U.S. dollars, unless otherwise indicated)

	2000	2001	2002	2003	2004	2005
Multilateral creditors	6.4	6.3	2.8	5.3	4.1	5.1
Principal	4.8	4.6	2.0	4.3	3.6	3.8
Interest	1.6	1.7	0.8	1.0	0.6	1.3
Bilateral creditors	7.0	6.1	3.5	5.6	4.0	6.7
Principal	3.6	2.7	7.1	3.4	5.9	5.6
Interest	3.4	3.4	2.3	1.6	1.2	1.1
Paris Club creditors	6.6	5.8	3.5	5.6	4.0	6.7
Principal	3.3	2.5	1.3	2.8	2.8	5.6
Interest	3.3	3.3	2.2	2.8	1.2	1.1
Other bilateral creditors	0.4	0.3	0.0	0.0	0.0	0.0
Principal	0.3	0.2	0.0	0.0	0.0	0.0
Interest	0.1	0.1	0.0	0.0	0.0	0.0
Commercial banks	0.0	0.0	0.0	0.0	0.0	0.0
Principal	0.0	0.0	0.0	0.0	0.0	0.0
Interest	0.0	0.0	0.0	0.0	0.0	0.0
Total	13.4	12.4	6.3	12.3	11.0	15.5
Principal	8.4	7.3	3.2	8.5	9.2	13.1
Interest	5.0	5.1	3.1	3.8	1.7	2.4
Memorandum items:						
Debt-service ratio						
In percent of exports of goods and nonfactor services 1/	0.8	0.7	0.0	0.0	0.0	0.0
In percent of government revenue	3.9	2.6	0.0	0.0	0.0	0.0

Sources: Equatoguinean authorities; and Fund staff estimates.

1/ Before debt relief.

Table 20. Equatorial Guinea: External Medium- and Long-Term Outstanding Public Debt, 2000-05

(In millions of U.S. dollars, unless otherwise specified)

	2000	2001	2002	2003	2004	2005 Prel.
Total outstanding debt	247.8	239.9	212.3	284.5	287.7	253.5
Multilateral debt	93.6	89.1	91.3	99.2	101.8	101.7
African Development Bank/African Development Fund	31.9	30.1	32.0	37.3	40.2	39.6
IDA	47.3	45.0	44.6	47.8	49.0	50.9
IMF	4.0	2.5	1.1	0.3	0.0	0.0
Other	10.4	11.5	13.6	13.8	12.5	11.2
Bilateral debt	154.2	150.8	121.0	185.3	185.9	151.7
Paris Club creditors	98.8	88.5	83.3	147.8	146.5	116.7
Non-Paris Club creditors	55.4	62.4	37.8	37.5	39.3	35.0
Commercial banks and suppliers' credits	...	...	...	...	...	...

Sources: Data provided byEquatoguinean authorities; and Fund staff estimates.

Table 21. Equatorial Guinea: Exchange Rates, 2000-05

	Nominal Effective Exchange Rate		Real Effective Exchange Rate		CFA franc per U.S. dollar		CFA franc per SDR	
	Index 1/	Annual percentage change	Index 1/	Annual percentage change	Period average	End of period	Period average	End of period
Annual								
2000	68.6	-4.4	80.3	-0.9	712.0	731.1	939.1	964.3
2001	69.1	0.7	85.6	6.6	733.0	735.1	933.3	935.9
2002	70.4	1.9	91.9	7.4	697.0	644.2	902.8	834.5
2003	73.5	4.4	101.1	10.0	581.2	533.7	814.2	747.7
2004	74.8	1.8	105.4	4.3	528.3	489.3	782.5	724.7
2005	75.2	0.5	110.1	4.4	526.9	557.6	778.6	823.9

Sources: Equatoguinean authorities; IMF, Inforı Source:

1/ 1990 = 100.

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
1. Taxes on net income and profits (*Impuesto sobre la renta y utilidades*)			
1.1 Tax on income from rural property (*Contribución rústica*)	Levied on size of, and income from, rural property. The tax is payable every six months.	A 50 percent deduction from the fixed rate is allowed for property used for husbandry and for cultivation of cocoa, coffee, coconuts, foodstuffs, and palm oil. Exempt are properties of less than 5 hectares and properties owned by the government, by nonprofit organizations, by religious institutions, and by representatives of foreign governments on a reciprocity basis.	Component based on size of land: CFAF 200 per hectare; component based on income: the rates are those of the corporate and personal income taxes (sections 1.3 and 1.4).
1.2 Tax on income from urban property (*Contribución urbana*)	Levied on actual or potential income from urban property, which is based on the value of land and buildings. The tax is payable every six months.	Exempt are property with a taxable base below CFAF 1,000,000 (provided that it is the only property of the owner or that the combined taxable base of all his properties does not exceed that value). New or renovated properties are also exempt for the first five years..	The tax base is 40 percent the value of land and buildings, over which a 1 percent tax rate is levied.
1.3 Corporate income tax (*Impuesto sobre sociedades*)	Levied on combined income received by companies from activities in Equatorial Guinea. Return of taxable income must be filed within four months following the date of the balance sheet.	Exempt are cooperatives involved in the production and sale of agricultural products; agricultural labor unions and credit unions; cooperatives that sell products that can be used as inputs for agriculture and industry; rural development institutions; nonprofit organizations, educational cooperatives; and local governments. Companies benefiting from tax holidays under the Investment Code are also exempt. Normal	35 percent of income. An exemption of 50% is established for commercial/productive activities conducted within non littoral districts (including Anobon) with the exception of extractive activities.. Non Residents: 10 percent of gross income (individuals) or turnover (companies).

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
		business expenses, including depreciation allowances, are deductible.	
1.3.1 Minimum tax on companies (*Cuota mínima fiscal*)	Levied on companies for which the corporate income tax falls below the minimum of 1 percent of turnover. The tax is payable by end-March.	Companies benefiting from tax holidays under the Investment Code, and agricultural and artisans' cooperatives are exempt. Exporters of agricultural products and companies engaged in agricultural and husbandry activities are also exempt.	1 percent of turnover, with a minimum of CFAF 800,000.. Lump-sum taxes for entrepreneurs subject to the personal income tax, de-pending on the type and size of business.
1.4 Personal income tax *(Impuesto sobre la renta de las personas fisicas)*	Tax levied on annual income received by individuals who are residents of Equatorial Guinea. The same rate applies to all taxable personal income. Returns must be filed within two months after the end of the year.	Diplomats are exempt on a reciprocity basis. Professional expenditure of up to CFAF 1 million incurred in the process of generating income may be deducted.	Annual income tax brackets (CFAF) / Marginal rate (percent) / Tax owed is at most (CFAF) Below 1,000,000 — 0 — Exempt From 1,000,001 to 3,000,000 — 10 — 200,000 From 3,000,001 to 5,000,000 — 15 — 500,000 From 5,000,001 to 10,000,000 — 20 — 1,500,000 From 10,000,001 to 15,000,000 — 25 — 2,750,000 From 15,000,001 to 20,000,000 — 30 — 4,250,000 More than 20,000,000 — 35
1.4.1 Tax on rental income (*Impuesto sobre rentas inmobiliarias*)	Levied on rental income from real estate.	Normal business expenses, including interest payments on debt contracted in relation to acquisition, maintenance, repair, or renovation of property, are deductible. Rental income from properties	Tax Table 1.4.

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
		owned by the government and buildings occupied by owners, direct descendants, or ascendants are exempt.	
1.4.2 Tax on industrial and commercial profits (*Impuesto sobre beneficios industriales y comerciales*)	Levied on net income from industrial and commercial operations. Taxpayers are assessed on actual net profits (*regimen del beneficio real*), or they may opt for an estimated income assessment (*régimen a destajo*).	Normal business expenses, including depreciation allowances and amortizations, are deductible.	Tax Table 1.4. 10 percent for those subject to the estimated income assessment.
1.4.3 Tax on agricultural profits *(Impuesto sobre el beneficio agrícola)*	Levied on the net income of farmers. The two assessment systems described in 1.4.2 are also applicable.	Exempt income from land used in food crop, if cultivated area is smaller than 5 hectare.. Same deductions apply as in 1.4.2.	Tax Table 1.4.
1.4.4 Tax on noncommercial profits (*Impuesto sobre beneficios no comerciales*)	Levied on the net income of all residents engaged in independent activities of a noncommercial nature; it applies mainly to professional income.	Same deductions apply as in 1.4.2.	Tax Table 1.4.
1.4.5 Tax on wages and salaries (*Impuesto sobre sueldos y salarios*)	Levied on net income from wages, salaries, pensions, and annuities. The tax is withheld at source, and declarations must be made by employers every month. Self employees are subject to the estimated income assessment.	Dependency allowances and social security benefits, as well as 20 percent of remunerations representing professional expenses, are deductible (up to a limit of 1,000,000 per person and per year). exemptions include: study scholarships; retirement income for military personnel and their surviving wife; war victims; disability benefits; and transportation allowances. However, remuneration in	Tax Table 1.4. 10 percent for those subject to the estimated income assessment.

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
		kind is included as follows: Benefit — Assessment (in percent of gross salary) Housing — 15 Electricity & water — 5 Domestic services — 5 Food (with a ceiling of CFAF 150,000 per person) — 20	
1.4.6 Tax on income from securities and stocks (*Impuesto sobre rentas de capitales mobiliarios*)	Levied on dividend distributions and interest derived in Equatorial Guinea by Non-Residents.	Exempt are loans given with borrowed money, savings accounts, and use of reserves to augment capital.	25 percent of income. Residents, Tax Table 1.4.
2. Taxes on goods and services (*Impuesto sobre bienes y servicios)*			

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
2.1 Value-Added tax (*Impuesto sobre el valor añadido*)	Levied on net receipts obtained from industrial, commercial, and professional activities, including sale of goods and services. The tax is payable during the first half of the month that follows the taxable event..	Sales without further processing of goods that have already paid the turnover tax are exempt. Also exempt are exports, unprocessed agricultural products (including timber), newspapers, and private schools. Diesel consumption by the electricity company is also exempt.	6 percent on goods and services classified as basic needs (list available in an annex of the Tax Code). 15 percent on all other goods and services.
2.2 Tax on gross income and turnover of residents and non-residents active in the domestic hydrocarbon sector	Levied on income of physical persons and turnover of companies that are contractors or subcontractors in the hydro-carbon sector. Withheld at the source.	Expenses incurred can be deducted from income (individuals) and turnover (companies).	Residents: 6.25 percent of gross income (individuals) or 35 percent of turnover (companies). Non Residents: 10 percent of gross income (individuals) or 35 percent of turnover (companies). 5 percent of costs associated to transportation activities.
2.3 Surcharge on the domestic sale of refined oil products (*Recargo excepcional*)	Levied value per liter of refined product.	Diesel consumption by the electricity company is exempt.	CFAF 199.0 per liter on gasoline; CFAF7.3 per liter on kerosene; CFAF 16 per liter on diesel; and CFAF 27 per liter on jet fuel.

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
2.4 Special Surcharges	Assessed on: i)ownership and enjoyment of land vehicles (cars), and any type of air or sea means of transportation; ii) image and sounds broadcasting; iii) gambling or any other type of casino entertainment; iv) consumption, distribution, and production of alcoholic beverages		The tax rate applicable within each category is described in Chapter IV of the Tax Code.
2.5 Royalties on crude oil production (*Regalía sobre la producción petrolera)*	Levied on crude oil production.		10-16 percent of the value, f.o.b., of crude oil exports; rates according to the daily output (in barrels per day).
3. Property transfer taxes	Levied on net value of property transferred *inter-vivos* in Equatorial Guinea; on capital gains in urban and rural property; on the transfer of shares and securities; on the sale, lease, exchange, and mortgage of real estate; on the sale and lease of movable property; and on the transfer of other selected financial claims.	The state and autonomous bodies of the government are specifically exempt from the tax. Also exempt are nonprofit, educational, and religious institutions, local governments, transfers of real estate made in favor of foreign governments for diplomatic use, and transfers exempt under international agreements.	A detailed description of tax rates applicable to each case is found in Article 454 of the Tax Code.
3.1 Property transfer (*Impuesto sobre transferencias patri-moniales*)			

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
3.2 Inheritance duties (*Impuesto sobre las sucesiones*)	Levied on net value of property transferred *causa mortis*.	Debts to be honored by inheritor, provided that they are properly documented, are deductible. Inheritance below CFAF 100,000 is exempt, as well as salaries not received by the deceased while in active service; life insurance benefits of up to CFAF 500,000 are exempt if the inheritor is a spouse or a legitimate or adoptive descendant or ascendant.	10 percent (including life insurance payments). 5 percent for Donations.
4. Stamp tax (*Impuesto del timbre*)	Assessed on the value declared at the time a juridical act is concluded. Applies to legal instruments, including accounting and banking documents; import and export documents; insurance; transportation, rental, and other contracts; and property registration.	None.	A detailed description of tax rates applicable to each case is found in Article 454 of the Tax Code.
5. Poll tax (*Impuesto sobre personas físicas*)	Annual tax payable by most residents of Equatorial Guinea over 18 years of age. The tax is payable in the first quarter of the fiscal year. Payment of this tax is deductible from annual global payments made by foreigners to the security office.	Exempt are citizens under 18 years of age; diplomats (on a reciprocity basis); parents having more than six children under 18 years of age; men over age 60 and women over age 50; single women with more than three children under 18 years of age; and the handicapped.	CFAF 500 to CFAF 5,000 per person, depending on place of residence.

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
6. Logging taxes (*tasas forestales)*			
6.1 Forest surface fee	Based on the area of forest conceded, in accordance with concession contracts.		CFAF 50 per hectare a year.
6.2 Reforestation fee	Levied on logging companies.		5 percent of the value, f.o.b., of exported logs.
6.3 Road tax	Levied on logging companies.		2.5 percent of the value, f.o.b., of exported logs.
7. Taxes on foreign trade *(Impuesto sobre el comercio internacional*)			
7.1 Taxes on imports	The rates of all import taxes, with the exception of the import duties on petroleum products, are identical for all Central African Economic Monetary Community (CEMAC) member countries.		
7.1.1 Customs duty *(Derechos de importación)*	Collected on the c.i.f. value of all imports, with the exception of petroleum products, which are subject to special arrangements.	Imports are admitted under special franchise or those subject to special treatment according to the Investment Code.	Category — Rate (percent) Category I (basic necessities) — 5 Category II (raw materials and equipment) — 10 Category III (investment goods) — 20 Category IV

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
			(consumption goods) 30
			Petroleum products (per liter) / Tax (CFAF) Gasoline 10.2 Kerosene 5.2 Diesel 4.5 Jet fuel 3.0
7.1.2 Fiscal duty (*Derechos fiscales*)	Assessed on the c.i.f. value of all imports, except alcohol, tobacco, and wine, for which the rates are specified by weight or volume.	Exemptions are granted for (i) equipment imported by enterprises that are exempt from customs duties; (ii) goods imported by certain categories of consignees (embassies, international organizations, etc.); and (iii) petroleum products.	From 15 percent to 40 percent.
7.1.3 Value added tax on imports (*Impuestoal valor añadid sobre importaciones*)	Levy applicable to the c.i.f. value of imports, plus customs and fiscal duties.	Same exemptions as in 7.1.2.	6 percent (reduced rate); 15 percent (standard rate).
7.2 Taxes on exports			
7.2.1 Export duty (*Derechos de exportación*)	Assessed on f.o.b. value, which is based on reference prices (*precios de referencia*)		For cocoa and coffee, 1 percent of f.o.b. value. For logs, 15.8 percent plus CFAF 650 per cubic meter.

Equatorial Guinea: Summary of Tax System as of January, 2006

Tax	Nature of Tax	Exemptions and Deductions	Rates
	established for cocoa, coffee, and timber.		For plywood and sawn wood, 9 percent plus CFAF 650 per cubic meter.
7.2.2 Tax on reexports and merchandise in transit	Assessed on the c.i.f. value of goods to reexport or in transit.		For reexports and transiting goods, 5 percent and 3 percent of f.o.b. value for nonresidents and residents, respectively.
7.2.3 Stumpage fee (*tasa por árbol apeado)*	Levied on logging companies.		2.7 percent of the value, f.o.b., of exported logs and 1 percent of the value, f.o.b., of exported plywood and sawn wood.

Source: Equatoguinean authorities.