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# The Political Economy of Government Revenues in Postconflict Resource-Rich Africa
Liberia and Sierra Leone

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## 2.1 Introduction

Liberia and Sierra Leone have been hailed as success stories of political transition from civil war in Africa, having emerged from it as budding democracies. Sierra Leone has had two peaceful postwar elections, the second of which was won by the opposition, while Liberia has elected Africa's first female president. However, at the end of the war, the two countries faced the daunting challenge of resuscitating collapsed government revenues to help finance the peacebuilding and reconstruction process. Government revenues plummeted in Liberia from around US$240 million just before the onset of war in 1989 to about US$46 million at the onset of peace in 2003, and in Sierra Leone from 17 percent of gross domestic product (GDP) in the 1970s to around 12 percent at the end of the 1991–2001 civil war.

Natural resources were a key element of the revenue challenges facing Liberia and Sierra Leone. Both countries are endowed with a variety of natural resources with considerable scope for revenue generation. However,

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the resources sometimes played a pernicious role in the economy before the war and helped to fuel the conflict in the two countries. In wartime Liberia, the warlord Charles Taylor presided over commerce in gold, timber, and rubber (Reno 1998). Taylor godfathered an arms-for-diamonds trade with the Sierra Leone rebels (UN 2000), prompting United Nations sanctions on export of diamonds and timber from Liberia.[1] In prewar Sierra Leone, diamonds were at the epicenter of a thriving underground economy with the bulk of the diamonds smuggled abroad. The diamond mines attracted thousands of young quasi-criminal illicit diggers, generating a recruitment base and financing for the rebellion (Reno 1998; Smillie, Gberie, and Hazleton 2000). Thus, natural resources posed risks to the peace process while offering considerable scope for revenue generation in postwar Liberia and Sierra Leone.

The objective of this chapter, therefore, is to examine and draw lessons from the strategies adopted by Liberia and Sierra Leone to generate revenues from their natural resources. As part of the analysis, we develop an analytical model to illuminate the revenue challenges facing a resource-rich country emerging from conflict. We find that after the war, despite weak resource management capacity, the governments of Liberia and Sierra Leone initiated the process of exploiting their natural resources, offering large fiscal concessions. In Sierra Leone, the government argued that generous fiscal concessions were necessary to attract foreign investors to a high-risk environment. However, the fiscal concessions that both countries offered were often perceived to be overly generous, while in Liberia, the government revealed a preference for initial payments seemingly at the expense of longer-term benefits. Concerns endure that, despite revisions, some current exploitation contracts still offer overly generous fiscal concessions to exploiting companies. Moreover, fiscal terms vary, creating an uneven playing field that could discourage investment and distort incentives toward lobbying for better contract terms.

Against this backdrop, our analytical model illuminates the revenue challenges facing a government emerging from conflict in a resource-rich country like Liberia or Sierra Leone. We assume the government has a choice between two revenue rehabilitation strategies. The first, the impatience strategy, is to contract a multinational mining company to exploit the resources right away and share the profit with the company. However, the mining cost is the company's private information, providing an incentive for the company to cheat by inflating it. The second strategy, patience, is to defer exploitation of the resource, and rely on alternative tax instruments while developing resource management capacity. The model analyzes the challenges associated with the impatience strategy, which the government is likely to pursue

1. Charles Taylor is currently standing trial in The Hague for war crimes and crimes against humanity for his role in the Sierra Leone civil war.

given the urgent need to generate revenues to consolidate the peace process. The findings call attention to the potential role of the international community in developing postconflict countries' natural resource and revenue institutional capacity, as well as transparent corporate and government institutions for resource management.

While both countries initially adopted an impatience revenue strategy, Liberia appears to have made more progress toward developing tax and resource management capacity. According to the World Bank 2011 Doing Business Index, the process of paying taxes is more efficient in Liberia. Time spent to pay taxes per year is 158 hours in Liberia and 357 hours in Sierra Leone. Liberia has made efforts to develop a fiscal framework for natural resources with the help of the international financial institutions. Both countries have taken measures to introduce transparency in the management of natural resources and reduce the risk of the resources fueling conflict. They have enacted legislation setting aside a share of the revenues for local communities, and have joined the Extractive Industries Transparency Initiative (EITI). Liberia has gone much further, becoming Africa's first EITI compliant country in 2009. Sierra Leone has yet to reach that stage. Liberia also appears to have made more efforts to fight corruption in public management. Between 2005 and 2010, it moved from a rank of 137 out of 158 countries to 87 out of 178 countries on Transparency International's Corruption Perception Index, while Sierra Leone's rank deteriorated from 125 to 134. Unsurprisingly, Liberia's revenue-to-GDP ratio has been higher: 30 percent in 2010 compared to Sierra Leone's 13 percent. That national income statistics have not been compiled in Liberia for many years suggests caution in the interpretation of this ratio, however.

The rest of the chapter is structured as follows. Section 2.2 provides a context for the study with an overview of political and economic developments in Liberia and Sierra Leone. Section 2.3 analyzes the two countries' postconflict strategy to raise revenues from their natural resources. Section 2.4 discusses international initiatives to support revenue rehabilitation in postconflict resource-rich countries. Section 2.5 presents the model. Section 2.6 concludes.

## 2.2 The Postconflict Context in Liberia and Sierra Leone

In this section we present a brief outline of the socioeconomic and political context characterizing postconflict Liberia and Sierra Leone. The two countries share a border and many features. The civil wars in the two countries have been blamed on similar factors: state failure in the 1980s, induced by a sharp decline in economic and political governance (Reno 1998). In Liberia, a military coup by Sergeant Samuel Doe in 1980 ended the 130-year aristocracy of the Americo-Liberian ethnic group—descendants of resettled freed slaves from the United States—but only magnified the

**Table 2.1** **Liberia: Economic indicators**

| Year | GDP (current million US$) | Real GDP growth (annual %) | GDP per capita (constant 2000 US$) | Population (million) | External debt stocks (% of GNI) | Total external debt stock (current million US$) |
|---|---|---|---|---|---|---|
| 1970–79 | 580 | 3.0 | 800 | 1.6 | 42 | 600 |
| 1980–84 | 940 | –2.5 | 650 | 2.0 | 106 | 900 |
| 1985–89 | 930 | –6.4 | 522 | 2.2 | 230 | 1,670 |
| 1990–94 | 250 | –30 | 130 | 2.0 | — | 2,190 |
| 1995–99 | 280 | 33 | 114 | 2.3 | 830 | 2,480 |
| 2000 | 560 | 26 | 199 | 2.8 | 723 | 2,810 |
| 2001 | 543 | 3 | 195 | 3.0 | 747 | 3,000 |
| 2002 | 560 | 4 | 196 | 3.1 | 721 | 3,270 |
| 2003 | 410 | –31 | 131 | 3.1 | 1,028 | 3,600 |
| 2004 | 460 | 3 | 131 | 3.2 | 1,027 | 3,830 |
| 2005 | 530 | 5 | 133 | 3.3 | 940 | 3,920 |
| 2006 | 610 | 8 | 138 | 3.5 | 937 | 4,160 |
| 2007 | 735 | 9 | 144 | 3.6 | 669 | 3,790 |
| 2008 | 840 | 7 | 148 | 3.8 | 465 | 3,130 |
| 2009 | 880 | 5 | 148 | 4.0 | 257 | 1,670 |
| 2010 | 1,000 | 6 | | | 12 | 115 |

*Source:* World Development Indicators (2010).

underlying problems of corruption, nepotism, and repression (Government of Liberia 2005). Charles Taylor launched the rebellion on Christmas Eve 1989, with the declared goal of remedying the country's myriad problems. That year Liberia's per capita income was US$400, less than half of its level in the early 1970s, while its external debt stock was 319 percent of gross national income (GNI), compared with about 30 percent in the mid-1970s (table 2.1).

Splinter groups emerged in the rebellion. The Economic Community of West African States Monitoring Group (ECOMOG), a force assembled by the Economic Community of West African States (ECOWAS), intervened in 1990, using bases in Sierra Leone. The intervention prevented Taylor from taking complete power but left him in control of much of the country outside of the capital, Monrovia. In 1997, ECOMOG conducted presidential elections, which Taylor won. However, Taylor failed to transition from warlord to statesman. He sought to eliminate political opponents, godfathered an arms-for-diamonds trade with the Sierra Leone rebels, and kept most of the trade in Liberia's natural resources off budget (Economist Intelligence Unit 2007). The country soon returned to war. In 2003, with rebels closing in on Monrovia, Taylor agreed to relinquish power to an interim government and to go into exile. In 2005, elections were conducted, which were won by Mrs. Ellen Johnson Sirleaf.

Turning to Sierra Leone, the roots of the 1991–2001 civil war have been linked to the political leadership of the preceding years that emphasized informalization and control of markets and their reward, and replacement of political competition with a struggle for political favor (Reno 1998). There was extensive intervention in key markets for rice (the staple food), foreign exchange, diamonds, and agricultural exports while political and civil opposition was curtailed, culminating in a one-party state in 1978. By the mid-1980s, burgeoning black markets, dysfunctional infrastructure, and high unemployment were the norm. About 80 percent of the population was estimated to live below the poverty line of US$1 a day. The inflation rate sometimes exceeded 100 percent while government revenues were about 8 percent of GDP, down from 17 percent in the 1970s (Davies 2007). Real GDP growth was negative (table 2.2). The rebellion was launched in 1991 with help from Charles Taylor's rebel movement in Liberia. Like in Liberia, the declared aim was to redress the economic and political malaise afflicting the country. The rebels pursued their campaign despite a military coup in 1992. The military transferred power to an elected government in 1996, which was overthrown by the military in alliance with the rebel movement in 1997. The West African force, ECOMOG, intervened to reinstate the elected government in 1997. The war finally ended in 2002.

The war in Liberia claimed 270,000 lives (Government of Liberia 2005) from a prewar population of about three million, compared with 50,000 deaths in Sierra Leone, from a prewar population of about 4.5 million. In

**Table 2.2 Sierra Leone: Economic indicators**

| Year | GDP (current US$) | Real GDP growth (annual %) | GDP per capita (constant 2000 US$) | Population | Total external debt stock (% of GNI) | Total external debt stock (current million US$) |
|---|---|---|---|---|---|---|
| 1970–79 | 658 | 2.7 | 280 | 2.9 | 31 | 211 |
| 1980–84 | 112 | 2.9 | 290 | 3.3 | 54 | 589 |
| 1985–89 | 807 | –0.6 | 260 | 3.8 | 131 | 942 |
| 1990–94 | 758 | –2.8 | 230 | 4.1 | 201 | 1,371 |
| 1995–99 | 801 | –5.7 | 180 | 4.0 | 164 | 1,228 |
| 2000 | 636 | 3.8 | 150 | 4.2 | 193 | 1,190 |
| 2001 | 806 | 18.2 | 172 | 4.4 | 154 | 1,200 |
| 2002 | 936 | 27.5 | 210 | 4.5 | 150 | 1,355 |
| 2003 | 991 | 9.3 | 221 | 4.7 | 158 | 1,520 |
| 2004 | 1,096 | 7.5 | 228 | 4.9 | 157 | 1,630 |
| 2005 | 1,240 | 7.2 | 236 | 5.1 | 131 | 1,540 |
| 2006 | 1,422 | 7.3 | 245 | 5.3 | 93 | 1,270 |
| 2007 | 1,664 | 6.4 | 254 | 5.4 | 19 | 312 |
| 2008 | 1,955 | 5.5 | 261 | 5.6 | 21 | 399 |
| 2009 | 1,942 | 4.0 | 265 | 5.7 | 23 | 444 |
| 2010 | | 4.9 | | 5.7 | | 770 |

*Source:* World Development Indicators (2010).

Liberia, much of the fighting took place in Monrovia, damaging much of the infrastructure, unlike in Sierra Leone where much of the fighting was outside of Freetown. At the end of the war, Monrovia had no running water or public electric supply, unlike Freetown.

The UN has staged two of its largest peacekeeping operations in the two countries to help end the civil war. It deployed 17,000 peacekeepers in Sierra Leone and a similar number in Liberia. The two countries have emerged from civil war as budding democracies. Sierra Leone has conducted two peaceful postwar elections, with the opposition winning the second. Liberia has also conducted two peaceful postwar elections. It elected Mrs. Ellen Johnson Sirleaf, Africa's first female president, in the first elections in 2005 and reelected her in the second in November 2011.

Liberia and Sierra Leone are both resource-rich coastal economies. Diamonds have played a prominent role in Sierra Leone for good and ill. They accounted for 90 percent of exports and some 15 percent of GDP in the 1960s and 1970s and about a quarter of revenues. Iron ore, timber, and rubber (mainly from large-scale plantation agriculture) have historically been Liberia's leading exports. Sierra Leone has discovered oil (though the commercial viability is yet to be confirmed), while iron ore is set to become its leading export beginning in 2012. Liberia is also actively prospecting for oil. Agriculture is the dominant economic activity, accounting for 60 percent of GDP in Liberia, and 50 percent in Sierra Leone.

At the end of the civil war, Liberia and Sierra Leone embarked on International Monetary Fund (IMF)-supported economic reform programs. In Liberia, a key conditionality was the operation of a cash-based balanced budget. The Liberian economy is highly dollarized with a US dollar component of over 70 percent of broad money. The two countries have benefited from forgiveness of almost all their debts to the multilateral financial institutions after reaching the completion point of the Highly Indebted Poor Countries (HIPC) initiative. As a result, the external debt stock has fallen in Liberia from over 1,000 percent of GNI in 2003 to 12 percent in 2010, and in Sierra Leone from 193 percent of GNI in 2000 to 23 percent in 2009.

## 2.3 Revenue Measures and Outcomes

In this section we focus on the strategies adopted by Liberia and Sierra Leone to generate revenues from their natural resources. To provide a context for the analysis, we start with a review of the institutional framework for revenue administration.

### 2.3.1 Revenue Administration, Policy, and Outcomes

Liberia and Sierra Leone implemented a number of measures to rehabilitate and reform their collapsed revenue infrastructure. In 2003, Sierra Leone set up the semiautonomous National Revenue Authority to supervise "all aspects of revenue collection." Hitherto, customs duties and income taxes were collected independently, while other revenues like licence fees for mobile telephone operators and fishing vessels were collected by the line ministries. Other African countries such as Ghana and Uganda have set up a similar revenue authority, seeking to improve coordination of revenue collection activities, reduce duplication, and insulate revenue administration from undue external influence.

However, unlike the pattern observed in other countries, following the setting up of the National Revenue Authority, Sierra Leone's revenue to GDP ratio fell from 12.3 percent in 2003 to 11.9 percent in 2005 and to 11.7 percent in 2009. A 2007 report on the Authority highlighted the following problems: too many departments and vehicles, weak internal control over revenue collection, and political nepotism (Sierra Leone 2008). The Sierra Leone experience suggests that the fundamental governance problems facing revenue institutions should be addressed prior to the setting up of an independent revenue authority. In Liberia, customs duties and income taxes are collected by two departments in the ministry of finance. Plans are underway to set up an independent revenue authority.

Both countries have moved toward automating customs revenue collection by introducing the Automated System for Data Analysis (ASYCUDA) developed by the United Nations Conference on Trade and Development (UNCTAD). Automation could eliminate a major source of private revenues for corrupt customs officials and reduce the scope for duty evasion. Unsurprisingly, it has met with major obstacles in both countries. Nevertheless, Liberia was able to operationalize within eighteen months the more sophisticated, Internet-based ASYCUDA World in the Freeport of Monrovia, which handles 85 percent of the country's trade. In Sierra Leone, efforts are still ongoing to operationalize the less sophisticated ASYCUDA++.[2]

In the area of tax reform, Sierra Leone introduced a value-added tax (VAT) in 2010 to replace the domestic and import sales tax. The aim has been to replace inefficient production and sales tax with a less distortionary tax, to increase revenue, and improve tax efficiency. Plans are underway to implement the VAT in Liberia by 2013. Table 2.3 examines indicators of the ease of paying taxes from the World Bank Doing Business Index. The table suggests that prior to 2012—the indicators for any year are based on statistics as of June the previous year—paying taxes was easier and more efficiently organized in Liberia than in Sierra Leone. For instance Liberia ranked 85 and 84 out of 183 countries in the 2010 and 2011 ease of paying taxes index, compared with Sierra Leone's 160 and 159. In 2012, Sierra Leone's ranking improved considerably to 76 out of 183 countries, while Liberia's deterio-

2. Liberia has faced some logistical challenges in the implementation of ASYCUDA: The Free Port of Monrovia has no electric power supply. A 20 KVA generator was purchased and is operated for ten hours every day. The ASYCUDA system is operated during those ten hours. Limited band width for Internet access is another constraint.

**Table 2.3 The ease of paying taxes in Liberia and Sierra Leone**

| | Year | Country rank (ease of paying taxes) | Number of payments per year | Time (hours per year) needed to pay taxes | Total tax payable (% of gross profit) |
|---|---|---|---|---|---|
| Liberia | 2008 | 119/178 | 37 | 158 | 81.6 |
| | 2009 | 59/181 | 32 | 158 | 35.8 |
| | 2010 | 85/183 | 32 | 158 | 43.7 |
| | 2011 | 84/183 | 32 | 158 | 43.7 |
| | 2012 | 98/183 | 33 | 158 | 43.7 |
| Sierra Leone | 2006 | — | 20 | 399 | 163.9 |
| | 2007 | — | 20 | 399 | 277 |
| | 2008 | 145/178 | 22 | 399 | 233.5 |
| | 2009 | 160/181 | 28 | 399 | 233.5 |
| | 2010 | 160/183 | 29 | 357 | 235.6 |
| | 2011 | 159/183 | 29 | 357 | 235.6 |
| | 2012 | 76/183 | 29 | 357 | 32.1 |

*Source:* Doing Business Report (various years): International Finance Corporation.
*Note:* Total tax payable is the sum of all taxes and mandatory payments like employer contribution to employee social security.

rated to 98. Liberia's tax administration has been much more efficient in terms of minimizing the time spent to pay taxes: an average of 158 hours a year from 2008 to 2012, compared with 357 to 399 hours in Sierra Leone. However, the number of payments required per year in Sierra Leone has been slightly fewer, twenty-nine, compared with thirty-two in Liberia. Total taxes payable by businesses—the sum of all taxes and mandatory payments like employer contribution to employee social security—appears to have been inordinate in Sierra Leone prior to 2012: about 236 percent compared to about 44 percent in Liberia. Such a high rate of taxation would have been a recipe for tax evasion. As of writing, details were not available about the reforms undertaken in Sierra Leone that has resulted in the improvement in its 2012 ranking on the overall ease of paying taxes and the reduction in total taxes payable.

Tables 2.4 and 2.5 provide statistics on government revenues in Sierra Leone and Liberia. The tables indicate that revenues from natural resources have been modest in Sierra Leone, with mining revenues (including from diamonds) accounting for less than 4 percent of total revenues (less than 0.4 percent of GDP) postwar. This figure excludes payroll taxes and personal income taxes of employees in mining companies. When these are included, mining revenues were about US$28 million in 2010 (12 percent of total revenues and 1.5 percent of GDP). The country has been unable to generate large revenues from the exploitation of alluvial diamonds despite exports of over one hundred million dollars in recent years (table 2.3) due to the difficulty of policing the resource. The deposits are widely dispersed and can be mined with simple handheld tools, facilitating illicit mining and smuggling to evade taxes. Thus, export taxes have been kept low—3 percent initially and then 6 percent in 2010—to reduce the incentive for smuggling. Production of diamonds from kimberlite deposits began in 2003 by the Koidu Holdings company. Kimberlite deposits are spatially concentrated and require capital-intensive mining techniques, precluding illicit mining and hence offering better revenue prospects.

In Liberia, revenues from natural resources have apparently also been modest in the postwar period. An exception is one-off initial payments totaling US$80 million made between 2009 and 2011 by four iron ore-mining firms upon signing of mining concessions. It is not clear under which category these payments have been recorded in table 2.5. Iron ore production was scheduled to start by the end of 2011. While rubber has been the main export, accounting for 40–95 percent of total exports (table 2.4), details of its fiscal contribution are lacking. The export of timber, a major prewar source of revenue, was banned by the UN till 2007. Subsequently, stumpage fees (a percentage of the free on board [FOB] price of timber) and land rental fees accounted for 5 percent of total revenues in 2010.

Sierra Leone and Liberia have relied heavily on international trade taxes over the years. These have accounted for 50–60 percent of total revenues in Sierra Leone and 30–40 percent in Liberia. Petroleum imports have been taxed heavily, generating import duties of over 10 percent of total revenues

**Table 2.4** **Government revenues in Sierra Leone**

| | | | Composition of total revenues (%) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | International trade taxes | | | | |
| Year | Total revenues (million USD) | Total revenues (% GDP) | Income tax | Excise duty on petroleum import | Other international trade taxes | Road-user charges | Mining revenues | Other nontax revenues |
| 2000 | 73 | 11.4 | 26 | 12 | 50 | 3 | 2.5 | |
| 2001 | 105 | 13 | 26 | 10 | 50 | 3 | 1.9 | |
| 2002 | 114 | 12.2 | 26 | 12 | 14 | 3 | 1.8 | |
| 2003 | 123 | 12.3 | 25 | 13 | 12 | 3 | 2 | |
| 2004 | 132 | 11.9 | 26 | 12 | 47 | 5 | 3.6 | |
| 2005 | 144 | 11.9 | 28 | 11 | 42 | 6 | 2.5 | 8 |
| 2006 | 167 | 11.8 | 28 | 13 | 40 | 8 | 3 | 5 |
| 2007 | 180 | 10.8 | 27 | 12 | 42 | 6 | 3.5 | 6 |
| 2008 | 222 | 11.4 | 30 | 8 | 42 | 7 | 2.8 | 6 |
| 2009 | 223 | 11.7 | 28 | 13 | 40 | 7 | 2.7 | 6 |
| 2010 | 253 | 13.3 | 30 | | | 5 | 2.4 | 5 |

*Source:* Government of Sierra Leone.

*Notes:* Other nontax revenues include license fees paid by fishing vessels and by mobile phone companies, fines, rent of government lands and buildings, and fees and charges. Mining revenues include mining license fees, prospecting rights, mining leases, and royalties.

**Table 2.5** **Government revenues in Liberia**

| Year | Total revenue (million USD) | Total revenue (% GDP) | Key components of total revenues (%) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Personal income tax | Corporate profit tax | Taxes on international trade | Petroleum sales tax | Maritime revenue | Stumpage/ land rent | Other |
| 2000 | 79 | | 12 | 6 | 29 | 9 | 23 | 8 | 13 |
| 2001 | 65 | | 9 | 7 | 29 | 9 | 17 | 13 | 16 |
| 2002 | 73 | 13 | 9 | 10 | 23 | 8 | 18 | 18 | 14 |
| 2003 | 46 | 11 | 9 | 4 | 37 | 5 | 29 | 4 | 12 |
| 2004 | 68 | 15 | 17 | 11 | 40 | 1 | 20 | 0 | 11 |
| 2005 | 77 | 15 | 15 | 22 | 38 | 1 | 12 | 0 | 22 |
| 2006 | 11 | 19 | | 28 | 44 | 3 | 11 | 0 | 14 |
| 2007 | 175 | 24 | | 29 | 42 | 2 | 8 | 0 | 19 |
| 2008 | 201 | 25 | 11 | 10 | 39 | 3 | 7 | 0 | 30 |
| 2009 | 211 | 25 | 17 | 12 | 38 | 4 | 6 | 1 | 22 |
| 2010 | 275 | 30 | 14 | 9 | 32 | 4 | 6 | 5 | 30 |

*Source:* Government of Liberia.

in Sierra Leone. In Liberia, maritime revenues—registration fees from foreign ships flying the Liberian flag—have been a major source of revenues, especially before the end of the conflict in 2005, accounting for 18–29 percent of total revenues.

### 2.3.2 Natural Resource Revenue Strategies

With the onset of peace the governments of Liberia and Sierra Leone quickly embarked on the exploitation of natural resources. However, the institutional capacity to negotiate and implement contracts was weak while a defined fiscal regime for natural resources was lacking. Moreover, there were existing contracts that wartime governments had hastily signed. Unsurprisingly, the fiscal terms initially agreed to were perceived to give less than full value to the two countries for their natural resources. The rush to exploit natural resources was to be expected in Liberia in particular. It had a large, unelected transitional government from 2003 when the war ended to 2006 comprising members of various warring factions. In Sierra Leone, the government in power in 2002 at the end of the conflict was elected in 1996, and reelected in 2002.

In Liberia Mrs. Johnson Sirleaf's elected government, upon taking office in January 2006, decided to renegotiate all natural resource agreements entered into by the transitional government. The new government also subjected the 300-plus members of the transitional government to a special audit, many of whom, including the leader, were subsequently convicted of corruption (Economist Intelligence Unit 2007). The new government went on to sign iron ore-mining agreements with Arcelor Mittal, the leading global steel producer, in 2006, and later with three other mining companies. Following widespread concerns about generous fiscal concessions, the government renegotiated the contract with Arcelor Mittal.

In Sierra Leone Koidu Holdings began to mine kimberlite diamonds in 2003, having purchased the mining rights from Branch Energy, based on an agreement signed during the war. The government signed an agreement for the mining of rutile with Sierra Rutile in 2001, and bauxite with Sierra Minerals Holdings Limited in 2004. The government of President Koroma, elected from the opposition in 2007, signed iron ore mining contracts with London Mining in 2009, and with African Minerals in 2010. Like in Liberia, widespread concerns about generous fiscal concessions led to renegotiation of contracts. Petroleum exploration agreements, signed from 2001, were the only exception. The prospects of petroleum discovery were seemingly poor at the time.

Despite the sometimes repeated revisions, concerns endure that current exploitation contracts still offer overly generous fiscal concessions as well as considerable scope for fiscal abuse. Notably, in Sierra Leone, the government bridged a loan from the European Union to provide start-up capital for Sierra Rutile, bearing much of the production risk, and set the royalty rate at a meagre half a percent. The government argued that generous fiscal concessions were necessary to attract foreign investors at a time when the country was perceived as a high-risk environment. African Minerals, an iron ore-mining company in Sierra Leone, enjoys "duty and excise-free import of all equipment and consumables for company and contractors throughout mine life." The norm in the industry in other countries is to limit duty-free imports to the start of production. Moreover, the difficulty of distinguishing contractor's imports intended for use by African Minerals from those intended for other purposes represents a potential source of revenue loss for the government.

Another concern is that fiscal terms vary within a sector, creating an uneven playing field. This could discourage investment by signaling unpredictability and lack of policy consistency, and could also produce an incentive for investors to lobby for better contract terms. Tables 2.6 and 2.7, which summarize key fiscal terms in iron ore contracts in Liberia and Sierra Leone, show that in Liberia in particular, there are differences in the tax rates, royalties, and exemptions on import duties. This has been the result of case-by-case negotiations to resolve overlaps and ambiguities caused by the existence of a number of laws governing the fiscal terms of natural resource contracts—the New Minerals and Mining Law, the Liberian Revenue Code, and the Investment Incentive Code of 1973. Some terms of individual contracts are inconsistent with existing legislation. For instance, the income tax rate agreed to with BHP Billiton and China Union in Liberia is 25 percent compared with 30 percent in the Liberian Revenue Code.

**Table 2.6** **Liberia: Comparative iron ore fiscal terms**

| Fiscal terms | BHP Billiton | China Union | Arcelor Mittal | Putu | Liberia Revenue Code stipulation |
|---|---|---|---|---|---|
| Royalty | 3%–4.25%, depending on price | 3.25%–4.5%, depending on price | 4.5% | 4.5% | 4.5% |
| Income tax rate | 25% | 25% | 30% | 30% | 30% |
| Depreciation of development costs (years) | 5 | 5 | 15 | 5 | 5 |
| Import duties | Exempt 12 years from production | Exempt 10 years | $400,000 for five years | Exempt till production | Exempt till production |
| Upfront payment (million US$) | 15 | 40 | 15 | 10 | – |
| Government equity participation | None | None | 15% minimum | No | – |

*Source:* Government of Liberia.

**Table 2.7** **Sierra Leone: Comparative iron ore fiscal terms**

| Fiscal terms | African Minerals | London Mining |
|---|---|---|
| Royalty | 3% on gross sales price of iron ore | 3% on gross sales |
| Income tax rate | 25% over mine life | 6% for first three years, then 25% |
| Import duties | Duty and excise-free import of all equipment and consumables for company and contractors throughout mine life | 20% of prevailing rate (in effect 1%) |
| Upfront payment (million US$) | None | None |
| Government equity participation | 10 percent "free" share in one of the parties in the project | None |
| Explicit review process | Yes | No |

*Source:* Government of Liberia.

In Liberia, the government revealed a strong preference for initial payments. The preference for initial payment, the main biddable item in iron ore contracts, led to major fiscal concessions and to renegotiation of the Bong mines iron ore contract already awarded by competitive bidding. The fiscal terms (other than initial payment) for the contract were initially fixed and declared not open to bidding or negotiations. China Union won the bid with a signature bonus of US$40 million. However, before the contract was signed, following the onset of the global financial crisis, China Union argued that, in the face of falling commodity prices, the signature bonus could only be maintained if major fiscal concessions were awarded. The government agreed to this, rather than turn to the second-ranked bidder in the auction that had offered a much smaller signature bonus.

Table 2.5 summarizes natural resource contract award mechanisms in Liberia and Sierra Leone. In Sierra Leone there has been no clear institutional framework for awarding contracts unlike in Liberia, which has a centralized framework coordinated by an investment commission and involving line ministries. Liberia has moved toward competitive bidding for the award of contracts in forestry, iron ore mining, and petroleum exploration. However, as noted above, the competitive bidding process has sometimes been accompanied by direct negotiation with the successful bidder, resulting in a revision of bid terms.

There have been considerable delays in payments and the start of production in Liberia. In the iron ore sector, China Union delayed for over a year in payment of the signature bonus while production by Arcelor Mittal was delayed by the global recession, which created cash flow problems for the company. Only one of the seven forest management contractors (awarded between October 2008 and September 2009) and three of the nine timber sales contractors (awarded between June 2008 and July 2010) had started exporting by early 2011. Two forest management contractors had still not paid tax arrears for the previous tax year, while none had paid area fees and the land rental.

## 2.4 Revenue-Rehabilitation Initiatives by the International Community

In recent years, the international community has perceived revenue rehabilitation in postconflict environments as a key element of its approach to building a legitimate and effective state as the basis for durable peace. This section highlights key initiatives that have been undertaken to rehabilitate revenues in resource-rich countries emerging from conflict and to address other related challenges.

### 2.4.1 Preventing the Use of Natural Resources to Fuel Conflict

The UN imposed sanctions on diamond exports from Sierra Leone, Angola, and Liberia during the civil war in these countries in an effort to stop the use of diamonds to finance conflict. It then adopted in 2000 an international certification scheme for rough diamonds. The scheme was succeeded by the Kimberley Diamond Certification Process launched in 2003 as "a joint government, industry and civil society initiative to stem the flow of conflict diamonds to finance wars against legitimate governments." The scheme requires member governments to certify shipments of rough diamonds as "conflict-free." As of January 2012, the Kimberley Process had fifty participants representing seventy-six countries—including Liberia and Sierra Leone and other postconflict countries—with the European Union and its member states counting as a single participant. Member countries account for nearly 100 percent of the global production of rough diamonds. The international diamond industry and civil society organizations also participate in the process. However, the benefits of the scheme for countries that are no longer in conflict are likely to be limited, given that the initiative was designed primarily for countries in conflict.

### 2.4.2 Increasing Transparency and Accountability in the Management of Natural Resources

The Extractive Industry Transparency Initiative (EITI) aims to strengthen governance by improving transparency and accountability in the extractives sector in resource-rich countries in general (including nonconflict countries). The EITI supports improved governance in resource-rich countries through the verification and full publication of company payments and government revenues from oil, gas, and mining. The EITI is a coalition of governments, companies, civil society groups, investors, and international organizations. It is a global standard that promotes revenue transparency and provides a procedure for monitoring and reconciling company payments and government revenues at the country level. Each implementing country creates its own EITI process, which is overseen by participants from the government, companies, and national civil society. In October 2009, Liberia became the first country in Africa, and the second in the world, to attain EITI compliant status—a stage in which a country is considered to have met all EITI requirements. Fourteen countries are now EITI compliant while twenty-one, including Sierra Leone, are at the initial "candidate status" stage. Other countries have signaled their intent to implement the EITI.

Another initiative has been "Publish What You Pay"—a global network of civil society organizations that campaigns for transparency in the extractive industries. The initiative calls for companies to "publish what you pay" and for governments to "publish what you earn." It was motivated by a report published by the advocacy organization Global Witness on the role of the oil and banking industries in the misappropriation of state assets in Angola during the civil war. Publish What You Pay membership currently spans sixty countries, including Liberia and Sierra Leone.

### 2.4.3 Strengthening Revenue Collection and Administration

The World Bank, IMF, African Development Bank, and bilateral donors have provided technical and financial assistance to help countries emerging from conflict rebuild their revenue collection and administration capacity. Notably, donors have funded the setting up of a semiautonomous independent revenue authority in Uganda and Sierra Leone, and the automation of customs revenue collection in Liberia and Sierra Leone that involved the setting up of the ASYCUDA software system. Donors have sometimes used conditionality to address concerns that aid might substitute, rather than develop, domestic revenue capacity. The European Union conditioned its 2002 budget support to Mozambique—which experienced civil conflict from 1977 to 1992—on increases in domestic revenue (Boyce and O'Donnell 2007). One of the benchmarks in the Afghanistan Compact of 2006, which sets out the framework for international assistance, was an increase in the revenue/GDP ratio from 4.5 percent in 2004–05 to 8 percent in 2010–11 (Boyce and O'Donnell 2007).

### 2.4.4 Preventing Illegal Exploitation of Natural Resources

Liberia has adopted a Chain of Custody certification scheme for timber and timber products, which partly financed the civil war. The Chain of Custody scheme, a requirement by the UN for lifting sanctions on timber exports, is a traceability system that confirms that taxes have been paid and certifies that the timber product comes from an ethically well-managed source. The Switzerland-based Société Générale de Surveillance (SGS) was hired in October 2007 to build, implement, and eventually transfer the Chain of Custody system to Liberia's Forestry Development Authority (FDA).

Also, the government of Liberia has signed Voluntary Partnership Agreements (VPA) with the European Union to ensure that all timber products exported to the European Union are of legal origin. The VPA is a bilateral agreement between the European Union and wood exporting countries that aims to improve forest governance and ensure that the wood imported into the European Union has complied with the legal requirements of the partner country. There is no obligation for any country to enter into a VPA with the European Union. However, once agreed, VPAs are legally binding on both parties, committing them to trading only in wood products that can be verified as legal.

### 2.4.5 Managing the Wealth from Natural Resources

In 2011 the IMF launched the multidonor Topical Trust Fund on Managing Natural Resource Wealth to finance technical assistance to low-income and lower-middle-income countries endowed with oil, gas, and minerals to help them deal with the associated economic policy challenges. The trust fund seeks to help build macroeconomic policy capacities and assist countries to get a fair share of their natural resource wealth, and invest and spend it wisely. The Netherlands, Norway, and Switzerland have made contributions to the trust fund, which concentrates on capacity building in five areas:

- extractive industries fiscal regime;
- extractive industries revenue administration;
- fiscal policies and public financial management specific to resource-rich countries;
- natural resources-related financial asset and liability management; and
- statistics for natural resources.

The trust fund will serve fifteen to twenty countries from a group of fifty eligible countries that have substantial current or prospective extractive industry revenue. Country commitment to reform will be a key selection criterion.

### 2.4.6 Enhancing the Benefits of Natural Resources to Host Communities

Such initiatives have been prompted by widespread concern that host communities benefit little from the exploitation of natural resources. One such initiative is the Peace Diamond Alliance in Sierra Leone sponsored by the United States Agency for International Development (USAID). In 2002, USAID brought together producers, buyers, advocates, Sierra Leone government officials, and heavyweight industry players such as DeBeers and Rappaport to form an alliance for the first time to monitor diamond royalties and fees, inform miners of the value of stones, start addressing environmental degradation, and reduce exploitation of miners, especially children. Training was provided to help miners assess the true value of rough diamonds before making a sale. The USAID also began a pilot program to give miners access to credit at reasonable terms to purchase mining inputs and avoid getting into serious debt. These strategies were designed to help miners sell their stones to the highest bidder.

Generally, donors and domestic and international advocacy groups have advocated for measures to distribute some of the revenues from natural resources to the host communities. As a result, in Liberia the law stipulates the allocation of revenues from timber as follows: 10 percent of log export fees and of stumpage fees to the Protected Forest Areas Network, 30 percent of land rental fees to forest communities, 30 percent to counties, and 40 percent to general revenues. In Sierra Leone, the Mines and Minerals Act imposes a 1 percent expenditure tax on mining companies for community development. Also, half of the 20 percent profit-sharing tax on Koidu Holdings, a company mining diamonds from kimberlite sources, is paid directly to the mining community. With regard to alluvial diamonds, the government initially levied a 3 percent tax on exports—subsequently increased to 6 percent—and distributed half a percentage point to the diamond mining communities. (The half a percentage point was the rate when the export tax was 3 percent. We lack information about whether this rate may have increased at the higher export tax rate of 6 percent.)

## 2.5 A Model of Postconflict Revenue Rehabilitation

In this section, we provide a framework for analyzing the revenue rehabilitation challenges confronting postwar Liberia and Sierra Leone. Consider a benevolent government aiming to raise revenue to finance the peace consolidation process in the aftermath of a civil war. The country is endowed with a stock, $\theta$, of a given natural resource, say, iron ore, which requires a large capital outlay to exploit. The government has a choice between two revenue strategies. The first is to contract a multinational mining company to mine the resource right away—the impatience strategy. The other strategy is to delay exploiting the resource, and in the meantime, rely on alternative nonresource tax instruments while developing the public management institutions that will ensure the government gets good value for the resource—the patience strategy.

But in the aftermath of a devastating conflict, as in the case of Liberia and Sierra Leone, weak administrative capacity and a low nonresource tax base may limit the scope for raising nonresource tax revenues. Therefore, the government may have no choice but to adopt the impatience strategy. In what follows, we highlight the challenges confronting an impatient government in a postconflict environment.

### 2.5.1 The Payoff to Impatience

Suppose the government considers a contract requiring that the mining company pays a fraction $\lambda \in [0,1]$ of the gross receipts, less the mining cost. Denote gross receipts by $\pi$, and let the reported mining cost, $k$, be restricted to the closed interval $[k_0, \pi]$. This implies that the reported mining cost cannot be less than the true cost, $k_0$, and cannot exceed total receipts, $\pi < +\infty$.

Under this contract, the government will receive a share $\lambda(\pi - k)$ of the profit, with the remaining share accruing to the company, $(1 - \lambda)(\pi - k)$.

An important feature of the model is that the mining cost, $k$, is the company's private information, providing an incentive for the company to cheat by inflating it. Aware of this, the government may need to invest a level of public funds, $\theta$, to uncover the scheme used by the multinational firm to misrepresent the level of the mining cost. Transfer pricing is one possible misrepresentation scheme that the company could use.

The sequence of events under this revenue rehabilitation strategy is as follows. First, the government signs a contract with the mining company to mine the resource. Next the mining company decides whether or not to cheat by inflating the mining cost, $k$. If it decides to cheat, it declares a mining cost $k$, which in turn gives rise to a net government revenue,

$$\underline{R} = \lambda(\pi - k) - \theta, \tag{1}$$

if cheating is not detected and

$$\bar{R} = \lambda(\pi - k_0) - \theta \tag{2}$$

if it is. In the latter case, the multinational firm is assumed to repay all the money owed the government. After that, nature moves to reveal whether or not misrepresentation of the mining costs is detected. We denote as $\rho$ the probability that misrepresentation of the mining cost is uncovered. Next, nature moves again to reveal whether or not the peace process is consolidated. Finally, the economy ends.

Let

$$\sigma = k - k_0 \tag{3}$$

denote the extent of mining cost misrepresentation by the multinational firm, that is, the fictitious amount by which the true mining cost, $k_0$, is inflated. We make the following assumption.

The probability, $\rho$, that cheating is detected is given by:

$$\rho = \phi f(\theta, \sigma), \tag{4}$$

with (a) $f_\theta > 0$, (b) $f_\sigma > 0$, and (c) $f_{\theta\theta} > 0$, where $\phi \in (0,1)$ denotes a scalar measuring the productivity of the detection technology available to the government. Furthermore,

$$\varepsilon_\sigma < 1, \tag{5}$$

where

$$\varepsilon_\sigma = f_\sigma \frac{\sigma}{f(\theta, \sigma)}$$

denotes the elasticity of the probability that cheating is detected with respect to the size of the payoff from cheating.

Assumption A.1 implies that poor institutional capacity is an issue not only when the postconflict government chooses to adopt a patience strategy, but also when it elects to follows the impatience strategy, because of the need to mitigate perverse incentives to the multinational firm. Indeed, a low $\phi$ implies a poor institutional environment that impedes government capacity to fight corruption in mining. This may also happen if accountability mechanisms are weak. Condition (5), on the other hand, states that the probability that cheating is detected is not too sensitive to the size of the payoff from cheating. This can happen when a large proportion of overseas transactions affecting the cost of mining occurs between the multinational and its parent company, thereby maximizing the secrecy of the mining operations.

Another important feature of the model is that government revenue is an input in the peace process (for instance, it could be used to enhance job creation for former combatants). We thus add the following assumption:

The probability that the country returns to war, $p$, is a decreasing function of the level of government revenue, $R$, invested in the peace process:

$$p = 1 - \gamma R \tag{6}$$

where $\gamma \in (0,1)$ is a scalar.

Assumption A.2 highlights the political salience of revenue rehabilitation in the aftermath of civil war and other devastating conflicts. It implies that government ability to rehabilitate state revenue is crucial to lasting peace, which is necessary for sustaining rebuilding efforts. Indeed, the lower the state revenue, $R$, the higher the probability that the peace process will collapse, leading to a recurrence of the conflict.

We define the expected payoff from following the impatience strategy in the process of revenue rehabilitation to be the expected value of the probability that the peace process is consolidated, $1 - p$: $V = E(1 - p)$. The objective of the postconflict government is to maximize the expected value of this probability. This expected value can be written as follows using the definition of $p$

$$V = \gamma[\rho\bar{R} + (1 - \rho)\underline{R}]. \tag{7}$$

From equation (7), substituting in equations (1), (2), (3), and (4), rearranging yields a reformulation of this expected payoff as follows:

$$\bar{V}(\theta, \lambda, \phi, \sigma) = (\lambda(\pi - k_0) - \theta - \lambda\sigma[1 - \phi f(\theta, \sigma)])\gamma. \tag{8}$$

To fully highlight the challenges facing a postconflict government that adopts the impatience strategy, we need to specify the government choice of the level of public funds invested in mitigating corruption.

*Government Response to Cheating*

Taking the level of cheating $\sigma = k - k_0$ as a proxy for the incidence of corruption in this postconflict country, the implications of the impatience strategy for government revenue may arguably depend on (a) the productivity of the cheating detection technology, $\phi$, (b) the level of corruption, $\sigma$, and (c) the share of mining revenues accruing to the government, $\lambda$.

Therefore, a benevolent government's problem is to choose $\theta$ so as to solve:

$$\max_{\theta} \bar{V}(\theta, \lambda, \phi, \sigma).$$

Since by assumption A.1 the function $f$ is strictly concave in $\theta$, the optimal choice, $\theta^*$, must therefore satisfy the following necessary and sufficient condition:

$$\phi f_\theta(\theta, \sigma)\lambda\sigma - 1 = 0. \quad (9)$$

Applying the Implicit Function Theorem to equation (9) yields the government optimal choice of anticorruption action as follows:

$$\theta^* = \Theta(\phi, \lambda, \sigma) \quad (10)$$

where

$$(i)\ \Theta_\phi > 0,$$

$$(ii)\ \Theta_\lambda > 0,$$

$$(iii)\ \Theta_\sigma > 0,$$

as an implication of Assumption A.1. In other words, government effort to thwart corruption in mining extraction is higher (a) the more productive the detection technology, (b) the higher its claim to the mining revenues, and (c) the higher the firm's payoff from cheating.

### 2.5.2 The Determinants of the Effectiveness of the Impatience Strategy

We now discuss factors that bear on the effectiveness of a postconflict revenue rehabilitation strategy based on impatience.

With the above result, we can now reformulate the optimal government payoff from following the impatience strategy as follows using equation (8):

$$\bar{V}^*(\phi, \lambda, \sigma) = \left(\lambda(\pi - k_0) - \Theta(\phi, \lambda, \sigma) - \lambda\sigma[1 - \phi f[\Theta(\phi, \lambda, \sigma), \sigma]]\right)\gamma.$$

Hence the following proposition, which is obtained by a straightforward application of the Envelope Theorem:

Let Assumptions A.1 and A.2 hold. Then, in a postconflict environment, (a) access to a more productive cheating detection technology raises the expected payoff from adopting an impatience revenue rehabilitation strategy (i.e., $\partial\bar{V}^* / \partial\phi > 0$), (b) as does government's ability to secure a favorable mining deal (i.e., $\partial\bar{V}^* / \partial\lambda > 0$). Furthermore, (c) this expected payoff decreases with the size of the payoff from cheating (i.e., $\partial\bar{V}^* / \partial\sigma < 0$).

Proposition 1 highlights the challenges facing a postconflict government pursuing the impatience strategy for rehabilitating state revenue. First, detection of cheating is difficult because of weak institutional capacity for monitoring mining activity. Second, the government is often in a weak bargaining position relative to mining companies: it often lacks the technical capacity and international experience to secure a good deal for its natural resources. In these circumstances, as demonstrated in section 2.4, the international community could play a critical role to help ensure the country gets a fair share of the natural resource benefits. First, it could use aid to raise $\phi$—the productivity of the cheating detection technology. The international community could also use aid, especially technical assistance, to strengthen the government's negotiating capacity, raising $\lambda$, the government share of mining revenues. Third, the international community could pressure both the government and exploiting companies to be transparent in their actions.

### 2.5.3 Synthesis

We have developed a model to highlight the revenue rehabilitation challenges facing Liberia and Sierra Leone at the onset of peace. A key conclusion of the analysis is that prioritizing the development of public management institutions prior to the exploitation of the natural resources is required for a country to get full value for its natural resources. This conclusion concurs with Stiglitz (2007), who discusses the problems facing developing country governments in dealing with multinational oil exploitation companies. However, our analysis qualifies this conclusion: in the absence of alternative fiscal instruments, even a benevolent government might be forced to exploit the resources prior to developing sound public management institutions.

Although Liberia and Sierra Leone seemingly rushed to exploit their natural resources at the onset of peace, by several measures Liberia appears to have pursued a more patient revenue rehabilitation strategy over time. It has developed a fiscal framework for the natural resource sector, with the help of the international financial institutions, and has also realized much more improvement in fighting corruption. Between 2005 and 2010, it moved from a rank of 137 out of 158 countries to 87 out of 178 countries on Transparency International's Corruption Perception Index, while Sierra Leone's rank deteriorated from 125 to 134. Liberia's revenue-to-GDP ratio of 30 percent in 2010 is much higher than Sierra Leone's 13 percent. However, we hesitate to advance this as evidence that Liberia's patience has paid off because national income statistics have not been compiled in Liberia until recently, raising doubts about the reliability of GDP estimates.

The model is based on a number of simplifying assumptions that can be relaxed, such as a benevolent government. With a not-so-benevolent government or a government with a short-time horizon, the tendency toward impatience would only be stronger. For simplicity, the government rehabilitation strategy was presented as a stark choice between patience and impatience. In reality, the choice of strategy would lie in between and could change over time. Lastly, we assumed that under the patience strategy, with time, strong public management institutions can be developed. However, we ignored the question of how long that may take, if ever.

### 2.6 Conclusion

At the end of their respective civil conflicts, Liberia and Sierra Leone initially adopted an impatience strategy to generate revenues from their natural resources, opting to initiate right away the process of exploiting the resources despite weak public management capacity. Unsurprisingly, the generous fiscal concessions often granted exploiting companies raised concerns about whether the two countries were getting good value for their resources. Such concerns endure despite the corrective measures that both countries have taken with the revision of mining contracts and efforts to develop public management capacity.

A key lesson from the two countries' experience and our analytical model is that resource-rich countries emerging from conflict face a difficult tradeoff between relatively large longer-term gains from their natural resources and smaller short-term revenues. With a narrow nonresource fiscal base, the need to consolidate the peace process may make adoption of the impatience strategy inevitable. Moreover, other factors, notably elections that generate huge spending pressures, may also induce impatience.The international community can mitigate the potential costs of impatience in revenue generation by providing assistance to enhance the capacity of countries emerging from conflict to manage their natural resources, especially with regard to the negotiation and implementation of contracts with exploiting companies. Home countries of exploiting companies can set and enforce ethical standards for exploiting companies in their activities abroad. Similarly, as demonstrated by ongoing initiatives, the international civil society can advocate for such standards and monitor the activities of both the government and resource exploiting companies.

## References

Boyce, J. K., and O'Donnell. 2007. "Policy Implications: The Economics of Postwar Statebuilding." In *Peace and the Public Purse*, edited by J. K. Boyce and M. O'Donnell. Boulder, CO: Lynne Rienner Publishers.

Davies, V. A. B. 2007. "Sierra Leone's Economic Growth Performance, 1961–2000." In *The Political Economy of Economic Growth in Africa 1960–2000*, vol. 2: Country Case Studies, edited by B. Ndulu et al., Cambridge: Cambridge University Press.

Economist Intelligence Unit. 2007. "Liberia." Country Report, Economist Intelligence Unit, London.

Government of Liberia. 2005. "Liberia Poverty Reduction Strategy 2005." Monrovia, Liberia.
Reno, W. 1998. *Warlord Politics and African States*. Boulder, CO: Lynne Rienner Publishers.
Sierra Leone. 2008. *Presidential Transition Team Report*. Freetown: Government of Sierra Leone.
Smillie I., L. Gberie, and R. Hazleton. 2000. *The Heart of the Matter: Sierra Leone Diamonds and Human Security*. Ottawa: Partnership Africa Canada.
Stiglitz, Joeseph. 2007. "What is the Role of the State?" In *Escaping the Resource Curse*, edited by Macartan Humphreys, Jeffrey D. Sachs, and Joseph E. Stiglitz, 23–52. New York: Columbia University Press.
United Nations (UN). 2000. Report of Panel of Experts Appointed Pursuant to UN Security Council Resolution 1306 (2000), Paragraph 19, in Relation to Sierra Leone (S/2000/1195). New York: UN Security Council.