

An aerial photograph of an offshore oil rig in the ocean, with a white diagonal line separating it from an aerial view of a railway track below. The rig is green and yellow, with various structures and equipment. The railway track consists of multiple parallel tracks with wooden sleepers and gravel ballast.

# Resource- Backed Loans: Pitfalls and Potential

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# Contents

INTRODUCTION.....	2
I. OUR DEFINITION.....	3
II. OUR DATASET .....	5
III. THE RESOURCE-BACKED LOAN LANDSCAPE .....	7
IV. RESOURCE-BACKED LOAN TERMS.....	19
V. RESOURCE-BACKED LOANS' PUBLIC FINANCE IMPACT .....	28
VI. POLICY RECOMMENDATIONS .....	38
ANNEX 1. KEY INFORMATION ON RESOURCE-BACKED LOANS FROM OUR DATABASE..	41
ANNEX 2. KEY SOURCES ON RESOURCE-BACKED LOANS .....	42

## Key messages

- Resource-backed loans (RBLs) are all loans provided to a government or a state-owned company, where:
  - repayment is either made directly in natural resources (in kind) such as oil or minerals, or from a resource-related future income stream; or
  - repayment is guaranteed by a resource-related income stream, or where a natural resource asset serves as collateral.
- This research identifies 52 RBLs in 14 different countries across sub-Saharan Africa and Latin America, with a total value of \$164 billion, made from 2004 to 2018. Two thirds of these RBLs went to countries with a poor or failing score on NRGi's Resource Governance Index.
- RBLs are opaque. In only a single case is the key contract document public. Even basic information such as the loan's interest rate was identifiable in just 19 out of 52 cases surveyed.
- RBLs have been a major public finance risk. Of the 14 RBL recipient countries, ten experienced serious debt problems after the commodity price crash of 2014, with RBLs often an important contributor.
- Two Chinese policy banks were the lenders in the majority of studied RBLs. The next most common lenders were commodity traders. The large majority of the loans studied were backed by oil. A smaller number were backed by minerals.
- This policy brief highlights five key risks and four key opportunities associated with RBLs. There is now an important momentum to change how RBLs are undertaken by learning from past mistakes and finding more sustainable ways forward. The report provides nine guidelines for more responsible use of RBLs going forward.

## Resource-backed loans: risks and opportunities

Loan landscape	
 <b>Risk 1.</b> Weak resource governance can jeopardize a loan	 <b>Opportunity 1.</b> Resource-backed loans are primarily designated for infrastructure development
 <b>Risk 2.</b> The market for loans is not competitive	
Terms	
 <b>Risk 3.</b> The terms of resource-backed loans are often hidden	 <b>Opportunity 2.</b> Resource-backed loans may offer cheaper financing
	 <b>Opportunity 3.</b> Resource-backed loans can be structured to mitigate volatility
Public financial impact	
 <b>Risk 4.</b> Large resource-backed loans can undermine debt sustainability	 <b>Opportunity 4.</b> Resource-backed loans can be renegotiated in difficult time
 <b>Risk 5.</b> Resource-backed loans can exacerbate financial distress	

# Introduction

To finance their progress, developing countries must inevitably find ways to overcome challenges. One major issue that these countries face is that investors often perceive developing countries as carrying a high financial risk, which limits their ability to access international capital markets. In the natural resource boom that started at the turn of the millennium, a new financing model has become a popular way to circumvent these risks. In this financing model—called “resource-backed loans” (RBLs)—countries access finance in exchange for, or collateralized by, future streams of income from their natural resource wealth.

RBLs use a country’s natural resources to serve as a source of repayment or guarantee for loans to a state or a state-owned enterprise (SOE) from another state, the private sector and/or international financial institutions. An early example of this practice is the Peruvian government’s mid-nineteenth century borrowing from British investors which it repaid from the state’s proceeds of the then flourishing guano trade. While most other countries in Latin America were locked out of borrowing after the politically and financially turbulent decades post-independence, Peru was able to access much needed foreign capital.<sup>1</sup>

In sub-Saharan Africa, this practice was first well documented in Angola in the mid-1990s. Then, various banks provided funds to the government

to finance its civil war by using future petroleum revenues as a guarantee that they would be paid back. After the war, a Chinese state-owned company, the Export-Import Bank of China (China Eximbank) started offering similar loans to Angola.<sup>2</sup> Since then, RBLs have become relatively commonplace in resource-rich countries in sub-Saharan Africa, Latin America and beyond. The lenders are mainly state-owned development banks from China and commercial players such as commodity traders.

Countries often use RBLs to finance infrastructure projects. If they select and execute these projects well, they should, in theory, generate positive returns for the country’s economy. This could in turn generate the tax base for repaying the loans, and help cash-strapped countries deliver on their development strategies. However, if countries do not select projects carefully, make poor deals or take on too many loans, RBLs, which can reach billions of U.S. dollars, can have dire consequences.

We review the experiences with RBLs in sub-Saharan Africa and Latin America to highlight five key risks associated with RBLs. We also identify four opportunities RBLs offer. We conclude with policy recommendations to help countries decide whether to pursue RBLs. For countries that choose to do so, we offer suggestions on how to approach risks and opportunities so that RBLs work better for citizens.

1 Catalina Vizcarra, *Guano, Credible Commitments and State Finances in Nineteenth Century Peru* (The Journal of Economic History, 2009).

2 Deborah Bräutigam, *The Dragon’s Gift: The Real Story of China in Africa* (Oxford University Press, 2011).

# I. Our definition

RBLs are all loans provided to a government or a state-owned company, in which the repayment is made in the form of natural resources.<sup>3</sup> In these loans, natural resources can serve as payment in kind, the source of an income revenue stream used to make repayments or as an asset that serves as collateral. Our proposed definition is a broad one, and incorporates various loan types, which include:<sup>4</sup>

## Pre-payment versus longer loans

Some RBLs are basically an advance payment by the purchaser in connection with a specific natural resource shipment. These prepayments are repaid through future delivery of resources, and are a type of financing usually offered by commodity trading companies. They are generally short-term, with a repayment period up to a few years.<sup>5</sup> Other RBLs are to be repaid through the proceeds gained from selling the resources to a third-party, which are sometime labelled “pre-financing,” “loans in exchange for resource sales-receivable” or “pre-export finance.”<sup>6</sup> Some of the loans we reviewed had a repayment period of 25 to 30 years.

## Repayment schedule

Some RBLs have repayment in kind, with schedules set as volumes of natural resources (e.g., 20,000 bpd or 70 percent of royalty oil receipts). These quantities

are valued at an agreed benchmark price to calculate the remaining loan balance. Such RBLs are therefore repaid faster when commodity prices are high. Other RBLs have their repayment terms set in value terms or equivalent (200 million USD or 10 percent of principal), which is like any regular loan. In some of these cases RBLs make repayment speed dependent on commodity prices, with faster or slower repayment depending on prices.<sup>7</sup> Sometimes RBLs require the full loan value to be repaid in set volume terms. This type of loan is sometimes referred to as a “commodity-indexed loan.”<sup>8</sup>

## Collateral

Some RBLs use natural resources as collateral to mitigate the risk of payment difficulties. In these, the lender can require placement of a resource revenue flow (e.g., a set percentage of oil receipts) in escrow or assign rights to future production (e.g., assign the right to a set number of oil cargoes). This type of loan is sometimes labelled a “collateralized future commodity receipts arrangement.”<sup>9</sup> In other cases, borrowers set aside a natural-resource-related underground asset as collateral (e.g., security over government ownership rights in a company with assets such as oil or bauxite reserves).

3 Some of the enterprises are only partly state-owned with sovereign guarantees.

4 We do not include bond instruments. Bonds with similar features do exist but are rare. See a discussion of commodity-backed bonds in Gonçalo Pina, *State-contingent Sovereign Bonds: a new database* (IMF, 2019), [www.imf.org/en/About/Key-Issues/state-contingent-debt-instruments](http://www.imf.org/en/About/Key-Issues/state-contingent-debt-instruments).

5 We did not include pre-payments or short-term advances to be repaid within a year into our review of cases.

6 Note that definitions are inconsistent across sources. IMF Country Report No. 232/2004 on Congo provides a distinction between pre-financing and pre-payment based on whether maturity is below or above six months. Our definition is more closely aligned with IMF Country Report No. 170/2019 on Angola.

7 Loans for which the repayment schedule is adjusted are sometime referred to as state-contingent loans in that debt service is somehow linked to a measure of the state’s capacity to pay. See IMF, *State-Contingent Debt Instruments for Sovereigns* (2017) [www.imf.org/en/About/Key-Issues/state-contingent-debt-instruments](http://www.imf.org/en/About/Key-Issues/state-contingent-debt-instruments).

8 Timothy Besley and Andrew Powell. *Commodity-Indexed Debt in International Lending* (World Bank, 1989) [documents.worldbank.org/curated/en/263011468764385124/pdf/multi-page.pdf](http://documents.worldbank.org/curated/en/263011468764385124/pdf/multi-page.pdf).

9 IMF, *Assessing Public Sector Borrowing Collateralized on Future Flow Receivables* (2003), [www.imf.org/external/np/fad/2003/061103.pdf](http://www.imf.org/external/np/fad/2003/061103.pdf).

### Extraction rights

Often, an RBL designates a natural-resource asset that is already developed and producing as the repayment source for a loan. However, other RBLs are contracted with the intent to develop new assets, where the granting of extraction rights is an essential part of the RBL. In a typical deal like this, a company obtains a mineral right and then commits to build socially useful infrastructure alongside a mine in exchange for decreased future tax obligations on the mine.<sup>10</sup> They are sometimes labelled “resource-for-infrastructure deals,” “barter deals” or “swap deals.”<sup>11</sup> We do not consider commonplace transactions such as regular project finance loans or loans for the “carry” of a state equity interest to be RBLs.<sup>12</sup>

### Flexibility in loan disbursement/use

Some lenders make credit lines available for drawdown over a period of time, while others distribute loans all at once. RBLs also differ in that some lenders earmark funds to be spent on specific items (typically infrastructure) and others create more flexible terms for funding use. In certain cases, RBLs include further spending requirements. For example, some lenders may prescribe which companies should build associated infrastructure. RBLs from foreign government lenders will typically stipulate involvement of companies from their state in the project.

Our definition of RBLs is broad for three reasons. First, all RBLs have the common feature of swapping or putting future resource revenues at risk for easier access to immediate financing. Second, the details necessary to confidently classify an RBL into such sub-categories, such as repayment schedules or collateral provisions, are seldom available in the public domain. Third, the discourse and often heated debates on whether countries should take an RBL does not seem to differentiate between loan types. We recognize that the latter two reasons are not necessarily ‘good reasons’ and that such a broad definition has drawbacks. We therefore hope that more attention to these deals will bring more transparency and ultimately the possibility to more systematically analyze the various types of deals in the future.

In our analysis we attempt to differentiate between the various features of the RBL types listed above to determine which may be more advantageous for states in a given context. For example, more resource dependent countries will want to consider the advantages of setting repayment schedules in volumes rather than in value. But governments will also want to analyze the risks associated with putting up various types of natural resource assets as collateral for a loan.

10 That there is additional infrastructure being built from the loan is important. We do not consider the financing of a resource project by equity partners an RBL.

11 Håvard Halland, John Beardsworth, Bryan Land and James Schmidt. *Resource Financed Infrastructure: A Discussion on a New Form of Infrastructure Financing* (World Bank, 2014), [documents.worldbank.org/curated/en/394371468154490931/pdf/Resource-financed-infrastructure-a-discussion-on-a-new-form-of-infrastructure-financing.pdf](https://documents.worldbank.org/curated/en/394371468154490931/pdf/Resource-financed-infrastructure-a-discussion-on-a-new-form-of-infrastructure-financing.pdf).

12 In other words, an RBL needs to be spent on things external to the revenue stream used for repayment (i.e., not financing the particular extractive project producing the revenue stream). Otherwise, much of project finance would likely fall into the RBL category.

## II. Our dataset

We review countries' past experiences with RBLs across sub-Saharan Africa and Latin America. We rely on a dataset of RBLs which we present in short form as an annex to the piece. (See annex 1.) We based this dataset on two original datasets maintained by institutions dedicated to the research of China's activities abroad: the China-Africa loans dataset produced by the Johns Hopkins SAIS China-Africa Research Initiative (CARI) and the China-Latin America Finance Database from the Inter-American Dialogue and the Boston University Global Development Policy Center.<sup>13</sup>

These two datasets include information on the lending entity, the borrowing country, the amount of the loan, the year of loan agreement signing, the type of resources used and, when available, projects to be financed by the loan and repayment terms. Both databases are based primarily on desk research, prioritizing the use of Chinese and African or Latin American government sources, reports from multilateral institutions and press releases from construction companies. They also include data that is the result of fieldwork and interviews with personal contacts.<sup>14</sup>

We collected additional data and conducted review of many cases, which we present in the following sections. We relied on reports by government, international institutions, the Extractive Industries Transparency Initiative (EITI) as well as articles in the financial press to collect data on non-Chinese lenders who provided RBLs in the two regions. While we have made significant effort to ensure

the accuracy of the data, we caution that our reliance on mixed sources and methods may justify a level of caution and verification in the use of facts and figures from this research in further analysis. Please refer directly to the underlying datasets and sources for specific details. Information presented in this brief is based on the dataset unless otherwise indicated.

We identified 52 RBLs signed between 2004 and 2018 in sub-Saharan Africa and Latin America that match our definition and where sufficient minimum information was available to incorporate them into our dataset.<sup>15</sup> Our minimum criteria required details on both the lending and borrowing entity, the loan's size, the year the loan was agreed and confirmation that the loan had a repayment period beyond a single year.

Of the 52 RBLs, 30 were agreed to by countries in sub-Saharan Africa. The remaining 22 we agreed to by Latin American countries. The 52 RBLs were agreed to by a total of 14 countries. Chinese policy banks were the lenders in the majority of RBLs (38). Other lenders included commodity traders (seven RBLs), Chinese SOEs (four RBLs), the Export-Import Bank of Korea (Korea Exim) (one RBL), the Nigerian government (one RBL) and Russian SOE Rosneft (one RBL).<sup>16</sup> The majority of the loans (43) were backed by oil. Other commodities that countries used to back loans included minerals (six RBLs), cocoa (two RBLs) and tobacco (one RBL). Our dataset includes \$164 billion in loans, \$66 billion of which were taken by

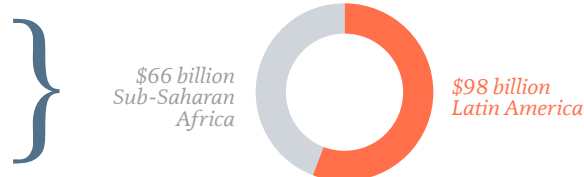
<sup>13</sup> Links to dataset [www.thedialogue.org/map\\_list](http://www.thedialogue.org/map_list) and [www.sais-cari.org/data](http://www.sais-cari.org/data).

<sup>14</sup> The authors of these two databases have also published research on RBLs, with a heavy focus on the Chinese financing angle and using a smaller sample of 22 loans. We also build on their work. See Deborah Bräutigam and Kevin P. Gallagher. *Bartering Globalization: China's Commodity-Backed Finance in Africa and Latin America* (Global Policy, 2014) [onlinelibrary.wiley.com/doi/full/10.1111/1758-5899.12138](https://onlinelibrary.wiley.com/doi/full/10.1111/1758-5899.12138).

<sup>15</sup> Note that the data is very limited on loans from 2017 to 2018. This is probably the result of lags in sufficient information becoming available. Hence for some of our analysis, we restrict the sample to 2004 to 2016 period.

<sup>16</sup> The dominance of loans provided by China in our dataset may be partly a result of more information on those loans from two sources on which we relied heavily. Also, as explained in section IV, there is less transparency on details of RBLs provided by commodity traders.

*The dataset for this report includes \$164 billion in loans.*



sub-Saharan African countries and \$98 billion of which were taken by Latin American countries.

Our review of the literature suggests that RBLs are most prevalent in sub-Saharan Africa and Latin America, and so we chose these two regions for our research. (See annex 2 for a list of key references.) However, there are also RBLs active elsewhere, such as the China National Petroleum Corporation's (CNPC) \$5 billion loan to Kazakhstan's state-owned KazMunaiGas.<sup>17</sup> Interestingly, Russian company Rosneft is an RBL lender in Venezuela, but also borrows from

commodity trader Trafigura through an RBL.<sup>18</sup> Private sector entities also take forms of resource-backed financing. These agreements are outside the scope of our work.

Our dataset is by no means comprehensive, and there are certainly more RBLs in the two regions than those that we list. The dataset and our analysis are limited by what information is publicly available. As we describe further in section IV, the RBL landscape is largely opaque. Limited information is available about the terms and at times even the existence of RBLs.

17 Jing Yang and Victoria Ruan. "China, Kazakhstan Sign Loan-for-Oil Deal," *The Wall Street Journal*, 18 April 2009, [www.wsj.com/articles/SB123996097676128865](http://www.wsj.com/articles/SB123996097676128865).

18 Trafigura. *Trafigura signs USD1.5 billion prepayment facility*. 4 October 2013, [www.trafigura.com/news/trafigura-signs-usd15-billion-prepayment-facility](http://www.trafigura.com/news/trafigura-signs-usd15-billion-prepayment-facility).



### III. The resource-backed loan landscape

In this first section, we discuss which countries and which entities within them tend to enter into RBLs. We next review the main lending entities and finally, we identify how countries are spending funds received through RBLs. We highlight two important risks: first, that the borrowers generally have weak governance and second, that there is little competition between the lenders. We also show that most RBLs within our dataset are earmarked for investments, rather than directed towards consumption.

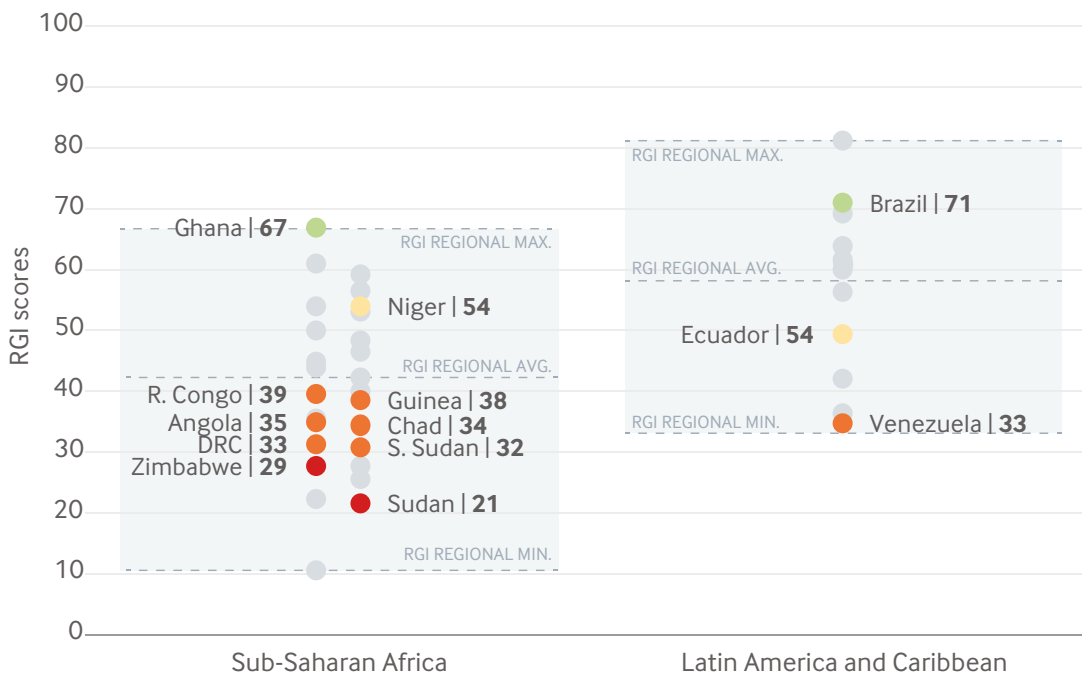
**RISK 1. WEAK RESOURCE GOVERNANCE CAN JEOPARDIZE A LOAN**

The information that we collected on sub-Saharan Africa and Latin America provides a partial but

telling picture of RBL borrowers. We analyze the loan recipient countries using the 2017 Resource Governance Index (RGI), which measures the quality of governance in the oil, gas and mining sector across 81 countries. We also reviewed which entities received the RBLs within each country.

Eleven sub-Saharan African countries took out RBLs. These countries are Angola, Chad, the Democratic Republic of Congo (DRC), Ghana, Guinea, Niger, the Republic of Congo, São Tomé and Príncipe, South Sudan, Sudan and Zimbabwe. Eight of these countries have poor or failing scores on the RGI and fall into the bottom half of the regional ranking. Ghana stands out with a satisfactory score. Niger also ranks above the regional average with a score categorized as weak.<sup>19</sup> (See figure 1.)

Figure 1. Resource Governance Index scores of resource-backed loan borrowers



<sup>19</sup> Guinea had a poor score on the 2017 RGI, but it has since improved it to a “weak” score in a 2019 interim update. We do not have any RGI scoring for Sao Tome because of its smaller population. For countries where the RGI covers both the mining and oil sectors, we chose the more appropriate one based on sector linked to RBL: oil and gas for Ghana, and mining in the DRC.

*In total, two thirds of resource-backed loans went to countries with poor or failing Resource Governance Index scores.*

In Latin America, we found evidence of RBLs in Brazil, Ecuador and Venezuela. Venezuela's poor score on the RGI ranks it last in the region. Ecuador also has a weak score and ranks in the bottom half of RGI countries. On the other hand, Brazil has a relatively high satisfactory score, the second highest in the region.

In total, two thirds of the individual loans went to countries with a poor or failing RGI score.<sup>20</sup> In practice, this means that countries with limited transparency and accountability of their resource sectors used those assets to secure RBLs. The countries with by far the largest amounts of RBLs in their respective region—Venezuela in Latin America (\$59 billion) and Angola in sub-Saharan Africa (\$24 billion)—both have poor resource governance according to the RGI.

Our data shows that in roughly 40 percent of cases (21 cases), the borrowing entity was an SOE operating in the oil or mining sector. Across our dataset, the following national oil companies (NOCs) were recipients of RBLs: Petrobras (Brazil), PetroEcuador (Ecuador), Petróleos de Venezuela (Venezuela), Sonangol (Angola), Société des Hydrocarbures du Tchad (Chad), Société Nationale des Pétroles du Congo (Congo). The following state-owned mining companies were recipients: Gecamines (DRC), Ghana Integrated Aluminium Corporation (Ghana) and Zimbabwe Mining Development Corporation (Zimbabwe). Eight of the nine SOE recipients evaluated under the 2017 RGI received weak, poor or failing scores.

A recent NNGI report reveals that financial flows through national oil companies bring additional governance challenges.<sup>21</sup> Most NOCs remit very

little of their revenues to the state. (In 2015, the median NOC remitted only 17 percent of its revenue to the state.) Less than half of NOCs publish audited financial accounts (39 percent in 2015) and few of the companies report in any detail on how they spend their proceeds.<sup>22</sup> Therefore, the role played by these companies is a major source of governance risks associated with the use of RBLs.

One major risk that countries face when SOEs take on RBLs is that funds may be made available to the SOE outside of the government's regular budgetary process. On one hand, having sources of revenue independent from the budget process can sometimes allow SOEs to contract more technically qualified staff and expert consultants. But on the other hand, off budget spending is not subject to the normal budgetary safeguards such as national investment planning, national debt strategy, parliamentary scrutiny, national procurement procedures and the auditing of execution by the appropriate government agencies. As a result, the RBLs may work at cross purposes with a country's investment strategy and debt management.

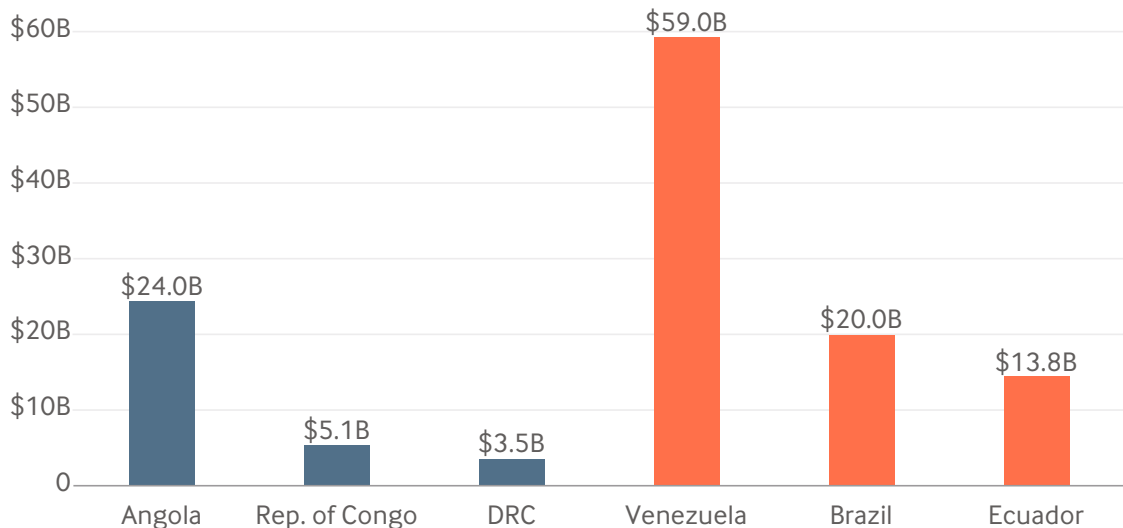
In figure 2, we present some insight on the largest RBL recipients from the dataset in both regions studied.

Venezuela is by far the largest borrower in Latin America and in our overall database, with over \$59 billion in oil-backed loans coming from China Development Bank (CDB) and Rosneft. Venezuela's Economic and Social Development Bank (BANDES) and the national oil company, PDVSA contracted most of these loans.

20 Thirty-three out of 51 RBLs excluding São Tomé.

21 Patrick Heller and David Mihalyi. *Massive and Misunderstood: Data-Driven Insights into National Oil Companies* (NNGI, 2019), [resourcegovernance.org/analysis-tools/publications/massive-and-misunderstood-data-driven-insights-national-oil-companies](https://resourcegovernance.org/analysis-tools/publications/massive-and-misunderstood-data-driven-insights-national-oil-companies).

22 *Ibid.*

Figure 2. Top resource-backed loan borrowers by region, 2004 to 2016<sup>23</sup>

Through these RBLs, Venezuela committed to sell its oil to designated parties (ChinaOil and Rosneft) to repay their loans. The nine different loans to Venezuela that we identified, including some which are renewals of earlier loans, varied in their lender, borrower and exact purpose. The earliest RBL that we identified happened in 2007, the year in which the government expropriated the oil assets of ExxonMobil and ConocoPhillips after they could not reach a deal to convert their projects into joint ventures controlled by PDVSA.<sup>24</sup>

Despite access to debt financing and the world's largest oil reserves, PDVSA gravely mismanaged the sector, which led to a sharp decline in production in subsequent years. PDVSA heavily ramped up spending on “quasi-fiscal activities,”

that is spending outside their core business and which would ordinarily be associated with government agencies. In 2012, PDVSA spent more on social programs—including literacy and health promotion—than on its oil-sector operations.<sup>25</sup>

Brazil, the second largest borrower, contracted \$20 billion worth of oil-backed loans from CDB, all of which were borrowed through the state-owned oil company Petrobras. Though the company lists some of its shares on a stock exchange and is generally more transparent than most SOEs, a large corruption scandal in 2014 damaged its reputation. The company subsequently admitted that its board members were involved in facilitating corrupt payments to Brazilian politicians.<sup>26</sup>

23 We exclude 2017 to 2018 where our data is limited and where we are aware that the three loans signed are unlikely to have been significantly drawn down. Were it included, Guinea's \$20 billion agreement would rank second in Africa.

24 Marianna Parraga, “PDVSA ordered to pay Conoco \$2 billion after Venezuela oil nationalization: arbitration,” Reuters, 25 April 2018, [www.reuters.com/article/us-venezuela-conocophillips/pdvs-a-ordered-to-pay-conoco-2-billion-after-venezuela-oil-nationalization-arbitration-idUSKBN1HW2NV](http://www.reuters.com/article/us-venezuela-conocophillips/pdvs-a-ordered-to-pay-conoco-2-billion-after-venezuela-oil-nationalization-arbitration-idUSKBN1HW2NV).

25 “PDVSA: Social Spending Outstrips Investments,” *Latin American Herald Tribune*. Retrieved 15 December 2018. [laht.com/article.asp?CategoryId=107117&ArticleId=200037](http://laht.com/article.asp?CategoryId=107117&ArticleId=200037).

26 U.S. Department of Justice. *Petrobras Agrees to Pay More Than \$850 Million for FCPA Violations* (DoJ, 2018). [www.justice.gov/opa/pr/petr-leo-brasileiro-sa-petrobras-agrees-pay-more-850-million-fcpa-violations](http://www.justice.gov/opa/pr/petr-leo-brasileiro-sa-petrobras-agrees-pay-more-850-million-fcpa-violations).

*One major risk that a country faces when a state company takes on resource-backed loans is that funds may be made available to the company outside of the government's regular budgetary process.*

Third in Latin America is Ecuador, with \$13.8 billion in oil-backed loans. After Ecuador defaulted on its sovereign debt in 2008, China became Ecuador's "lender of last resort."<sup>27</sup> Ecuador addressed its 2013 and 2015 budget shortfalls with a \$2 billion and a \$1.5 billion RBL, respectively, from CDB. The state-owned oil company PetroEcuador signed the earliest RBLs, which dated back to 2010 and 2011. The government of Ecuador signed the subsequent RBLs.

Angola received the largest amount of RBLs in sub-Saharan Africa. Between 2000 and 2016, Chinese lenders committed over \$24 billion worth of oil-backed loans and credit lines to Angola, most of which have been disbursed. The national oil company Sonangol has played an important role in RBLs in Angola. In addition to the Chinese RBLs mentioned above, Sonangol independently borrowed large amounts from Chinese lenders during the same period, though we only found evidence that a \$2.5 billion loan signed in 2010 was explicitly oil-backed. Moreover, \$10 billion from the \$15 billion oil-backed credit line that the Angolan government signed with CDB in 2015 was subsequently lent to Sonangol.

The financial flows between Sonangol and Angola's government budget have been murky. In 2012, for example, the International Monetary Fund (IMF) uncovered \$32 billion excess of revenues over expenditures in Angola's state budget from 2007 to 2010, which was the result of Sonangol using government oil revenues to finance "quasi-fiscal operations" not recorded in official budget accounts.<sup>28</sup> Overall, we documented six

individual resource-backed credit lines that Angola received from 2004 to 2016.

The Republic of Congo is the second largest sub-Saharan African recipient of RBLs, with a total of \$5.1 billion worth of RBLs. The government borrowed about half of this amount (\$2.6 billion) from the China Eximbank through two consecutive credit lines. The state-owned oil company, Société Nationale des Pétroles du Congo (SNPC), borrowed the other half of this amount from commodity traders such as Trafigura (\$1 billion), Glencore (\$850 million) and Gunvor (\$625 million). These loans came in the form advances on oil shipments. The Congolese government only revealed to the public that it had taken these loans once it had difficulties servicing them.<sup>29</sup>

The third largest recipient of RBLs in sub-Saharan Africa is the DRC with \$3.5 billion in RBLs from two mineral barter deals. These include a \$3 billion RBL under the Sicominex project. In 2008, the Congolese state-owned mining company Gécamines formed a joint venture company named Sicominex and a consortium of Chinese companies led by Sinohydro and China Railway Engineering Corporation (CREC) to develop a copper and cobalt mine. China Eximbank then awarded Sicominex two credit lines totaling \$6.2 billion. China Eximbank intended one credit line of \$3.2 billion to be used for mine development. It intended the second credit line of \$3 billion to be used for various public infrastructure projects. DRC would pay back the loans through the mine's future profits and with government guarantees.<sup>30</sup> Gécamines, which represents the state in the deal and has a

27 "China's Role in Ecuador's Oil Sector," *The Dialogue*, 23 January 2014. [www.thedialogue.org/blogs/2014/01/chinas-role-in-ecuadors-oil-sector](http://www.thedialogue.org/blogs/2014/01/chinas-role-in-ecuadors-oil-sector).

28 Lesley Wroughton. "IMF finds most of Angola's missing \$32 bln," Reuters, 25 January 2012. [www.reuters.com/article/ozatp-imf-angola-20120125-idAFJ0E80000020120125](http://www.reuters.com/article/ozatp-imf-angola-20120125-idAFJ0E80000020120125).

29 IMF, *Country Report No. 19/244 on Congo: Staff Report* (2019), [www.imf.org/~media/Files/Publications/CR/2019/1COGEA2019001.pdf](http://www.imf.org/~media/Files/Publications/CR/2019/1COGEA2019001.pdf).

30 In our definition, we only consider the latter to be an RBL, although clearly the two deals are interlinked and part of the same resource-for-infrastructure deal.

*Within sub-Saharan Africa, just two Chinese policy banks provided a combined 53 percent of the value of the resource-backed loans in the dataset.*

32 percent stake in the project, is the DRC's largest state-owned mining company. It often engages in joint ventures with private mining companies, and sometimes acts as fiscal agent at the same time, collecting fiscal payments from them. Gécamines does not publish an annual report and the rules governing fiscal transfers between the company and the government are not fully transparent.<sup>31</sup>

The data we collected suggests that RBL borrowers tend to be governments with weak resource governance.<sup>32</sup> Angola and Venezuela, the most significant recipients on their respective continents exemplify that. There is an added risk from the frequent involvement of state-owned companies as parties in these deals because of the limited information they provide and the risks associated with off-budget spending.

## RISK 2. THE MARKET FOR LOANS IS NOT COMPETITIVE

We analyzed the identity of lenders across our dataset in part to evaluate the degree of lender variety and competition in the RBL landscape. Across the cases we reviewed, government lenders are by far the most significant RBL providers, and China contributes the bulk of loans. Of the \$164 billion in RBLs committed in sub-Saharan Africa and Latin America between 2004 and 2018, 77 percent of the amount came from two Chinese policy banks, specifically CDB and the China Eximbank. The rest are a mix of state-owned companies of various nationalities and international commodity traders.

Within sub-Saharan Africa, the two Chinese policy banks contribute a combined 53 percent of the RBLs in value in our dataset. China Eximbank contributed \$17 billion through 14 different loans and CDB supplied \$18 billion through three large loans. In contrast, CDB is by far the largest RBL lender in Latin-America. Of the \$98 billion in RBL in our dataset, \$82 billion came from CDB. China Eximbank's RBL lending in sub-Saharan Africa began as early as 2004, with a \$2 billion credit line to Angola for post-conflict infrastructure reconstruction. China Eximbank lent roughly \$5.8 billion of its \$14 billion in RBLs to Angola. They distributed the rest of their RBLs between the DRC, the Republic of Congo, Niger, Ghana, Zimbabwe and Sudan.

In most countries that have borrowed through Chinese RBLs, Chinese companies are also very active in the resource sector linked to the loan. A study by China expert Cristina Alves documents that the provision and scaling up of oil-backed loans in Angola has coincided with the increased participation of Chinese companies in upstream production.<sup>33</sup> Among the other recipient countries in sub-Saharan Africa, Chinese oil companies are also important players (either as upstream producers or oil purchasers) in Niger, Sudan, South Sudan and Congo. In Venezuela, ChinaOil plays an important role as a buyer. In Brazil, Unipet and PetroChina are important buyers and CNPC and CNOOC participate in the sector. In Ecuador, PetroChina is a buyer and Sinochem, Sinopec and CNPC have a commercial stake in oil fields and pipelines.<sup>34</sup>

31 Resource Governance Index on DRC.

32 Note that the RGI includes an "Enabling Environment" component based on the Worldwide Governance Indicators (WGI) capturing broader governance aspects beyond the sector.

33 Ana Cristina Alves, *Chinese Economic Statecraft: A Comparative Study of China's Oil-backed Loans in Angola and Brazil* (Journal of Current Chinese Affairs, 2013), [journals.sagepub.com/doi/full/10.1177/186810261304200105](https://journals.sagepub.com/doi/full/10.1177/186810261304200105).

34 Michal Meidan, *China's loans for oil: asset or liability?* (Oxford Institute for Energy Studies, 2016), [www.oxfordenergy.org/publications/chinas-loans-oil-asset-liability/?v=35b5282113b8](http://www.oxfordenergy.org/publications/chinas-loans-oil-asset-liability/?v=35b5282113b8).

*Commodity traders have played a major role as lenders in three countries in sub-Saharan Africa: Chad, Republic of Congo and South Sudan. They have not played a role in resource-backed loans to Latin American countries in the dataset.*

### Box 1. Chinese policy banks

The China Development Bank (CDB) and the Export-Import Bank of China (China Eximbank) are Chinese state-owned development banks. The Chinese government established these banks in 1994 through the Policy Banks Law and placed them under the authority of the State Council. They are often labelled “policy banks” because they are mandated to implement the economic policies of the government.

CDB primarily finances high-priority large-scale infrastructure projects with medium- to long-term loans. It supplies non-concessional loans and credit lines to both foreign governments and Chinese companies. As of the end of 2018, it held over \$2 trillion in assets.<sup>35</sup>

China Eximbank primarily provides financial support to promote the export of Chinese products and services. It supplies concessional loans to foreign governments as well as preferential export credits to companies and export buyers’ credits to governments. At the end of 2018, it held over \$0.6 trillion in assets.<sup>36</sup>

Though China does not hold any licenses in Ghana’s producing fields, Unipeac (a subsidiary of Sinopec Group) secured a 15.5 year offtake agreement to purchase cargoes from Ghana National Petroleum Company’s (the Ghanaian SOE) share of crude production from the Jubilee field. The terms of the offtake mirror an RBL between CDB and the government of Ghana.<sup>37</sup>

These examples highlight that RBLs with Chinese policy banks are often bundled with oil sector production or trading agreements. The deals generally come with requirements or additional agreements regarding the use of Chinese construction companies and other suppliers in delivering infrastructure financed by the RBL.<sup>38</sup> The multi-faceted approach that tends to accompany Chinese RBLs has important implications in our evaluation of RBLs. Evaluating

RBLs from only a debt perspective risks ignoring other important elements such as the quality and value of associated infrastructure or impact on competition for rights to upstream production.

China is not the only lender to use a multifaceted approach. Russian state-owned oil company Rosneft has lent \$6.5 billion to Venezuela’s PDVSA. These loans are to be repaid with shipments of oil to Rosneft. Rosneft is also active in exploration and production in Venezuela, and supplies oil-related and infrastructure construction services to PDVSA.<sup>39</sup>

Among other types of RBL lenders, our dataset shows that international commercial commodity traders have played a major role in three countries in sub-Saharan Africa (Chad, Republic of Congo and South Sudan). They have not played a role in any Latin American countries. The largest

35 China Development Bank. 2018 Annual Report (2018).

36 Based on Sabrina Snell. *China’s Development Finance: Outbound, Inbound, and Future Trends in Financial Statecraft*. U.S.-China Economic and Security Review Commission (2015) and company websites.

37 GHEITI. *Ghana EITI Oil & Gas Commodity Trading Pilot, 2018*, [eiti.org/sites/default/files/documents/ghana\\_eiti\\_commodity\\_trading\\_pilot\\_report\\_-\\_august\\_2018.pdf](http://eiti.org/sites/default/files/documents/ghana_eiti_commodity_trading_pilot_report_-_august_2018.pdf).

38 These are documented in Bräutigam and Gallagher, *Bartering Globalization: China’s Commodity-Backed Finance in Africa and Latin America*.

39 Christian Lowe and Rinat Sagdiev. “How Russia sank billions of dollars into Venezuelan quicksand,” Reuters, 14 March 2019, [www.reuters.com/investigates/special-report/venezuela-russia-rosneft/](http://www.reuters.com/investigates/special-report/venezuela-russia-rosneft/).

international commercial commodity trader RBLs in sub-Saharan Africa are two related loans from the Anglo-Swiss trading company Glencore in Chad. These loans helped the state-owned oil company, Société des Hydrocarbures du Tchad (SHT), purchase Chevron's share in the Esso-run oil consortium for \$1.36 million. It also provided the government with budget financing of \$600 million. As an integral part of the RBL, all SHT sales are currently to Glencore, under a monopsony marketing contract. Glencore also has a stake in the country's Mangara and Badila fields.<sup>40</sup>

In Congo, SNPC has taken at least three RBLs from commodity trading companies which also have long-term contracts to market the country's crude oil production.<sup>41</sup> Civil society heavily criticized the process by which some of these loans were secured.<sup>42</sup> A series of leaked contracts, invoices, court records, emails and other documents shed light on how one of the traders (Gunvor) obtained contracts. Further analysis suggests that the allocation of contracts "violated Congolese law — the shipments were purchased without a required public tender" and "were only possible because of payments made to government officials derived from the oil revenues and the inflated loan fees Gunvor charged the Congolese state oil company."<sup>43</sup> A Swiss court subsequently held Gunvor criminally

liable for failing to prevent its employees and agents from bribing public officials in order to gain access to the petroleum markets in the Republic of Congo.<sup>44</sup> The court sentenced a Gunvor employee to 18 months in prison for bribery.<sup>45</sup>

In South Sudan, the government has taken RBLs from at least two different trading companies, Chinese company CNPC and Swiss company Trafigura. There are indications that they took additional RBLs, but information on them is sparse.<sup>46</sup> A June 2019 government statement following the suspension of all RBLs points to problems with the RBLs, including lack of competition. The government said, "The president directed that all pre-sales contract should be suspended. These pre-sales contracts are not healthy and they are actually destroying the economy [ . . . ] When you sell to a specific company without competition, definitely you agree on certain rates but when it is free competition you give to the highest bidder."<sup>47</sup>

In the DRC's mining sector, the two RBLs in place are barter deals. In these, the financing for infrastructure is explicitly tied to rights to develop a mine. In addition to the Sicominex case that we referenced earlier, in 2011, the Export-Import Bank of Korea (KEXIM) also agreed on a deal to loan to the DRC government in exchange for development rights to Musoshi copper mine.

40 IMF, *Country Report No. 16/275 on Chad: Selected Issues* (2016), [www.imf.org/external/pubs/ft/scr/2016/cr16275.pdf](http://www.imf.org/external/pubs/ft/scr/2016/cr16275.pdf).

41 In fact, there is also evidence of an RBL provided by traders Orion and Mercuria, but not enough information is available to ascertain loan amounts and whether it is short-term or beyond a year, hence not included in our data.

42 PWYP Congo. *Note De Position - De l'urgence de Stopper le cercle vicieux de l'endettement du Congo-Brazzaville*. 24 April 2019, [rpdh-cg.org/sites/default/files/pdf/pwyp\\_note\\_de\\_position\\_endettement\\_congo\\_24\\_avril\\_2019\\_.pdf](http://rpdh-cg.org/sites/default/files/pdf/pwyp_note_de_position_endettement_congo_24_avril_2019_.pdf).

43 Khadija Sharife and Philippe Engels, *The Unlikely Partnership that Unlocked Congo's Crude*. OCCRP, 7 September 2018 [www.occrp.org/en/investigations/8557-the-bribery-network-that-unlocked-congo-s-crude](http://www.occrp.org/en/investigations/8557-the-bribery-network-that-unlocked-congo-s-crude).

44 Office of the Attorney General of Switzerland. *Commodities trader Gunvor held criminally liable for acts of corruption*. 17 October 2019 [www.admin.ch/gov/en/start/documentation/media-releases.msg-id-76725.html](http://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-76725.html).

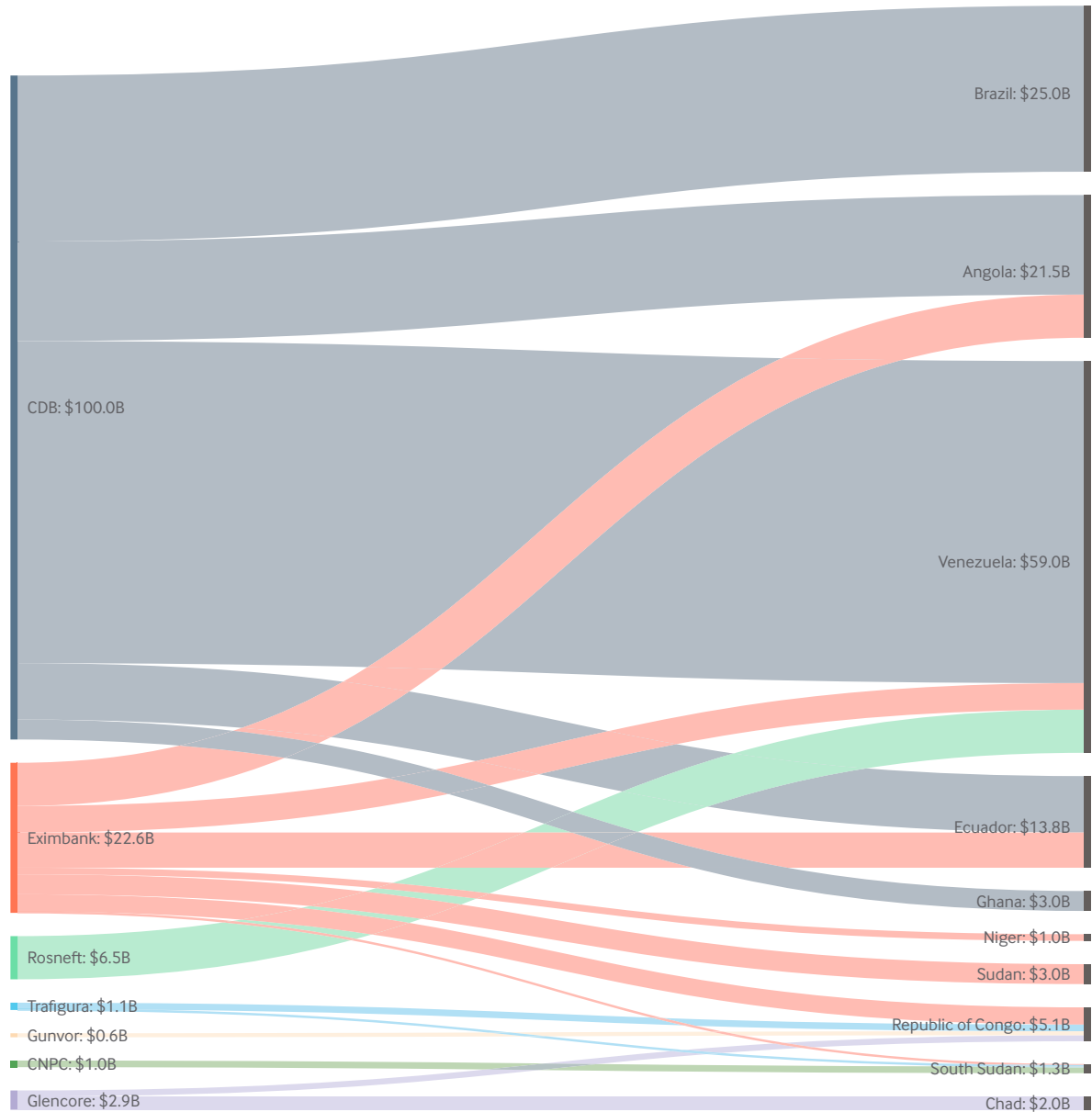
45 Hugo Miller and Andy Hoffman. "Ex-Gunvor Oil Trader Found Guilty of Bribing African Officials," Bloomberg. 28 August 2018, [www.bnnbloomberg.ca/ex-gunvor-oil-trader-found-guilty-of-bribing-african-officials-1.1129704](http://www.bnnbloomberg.ca/ex-gunvor-oil-trader-found-guilty-of-bribing-african-officials-1.1129704).

46 Sahara Energy, BB Energy, African Export-Import Bank, and Trinity Energy are some of the companies involved in pre-financing and oil trading according to a UN report, but it is unclear on terms and whether these loans extend beyond one year. UN Security Council, *Final report of the Panel of Experts on South Sudan submitted pursuant to resolution 2428* (2018), [www.undocs.org/S/2019/301](http://www.undocs.org/S/2019/301).

47 "South Sudan suspends all pre-sales oil contracts," Reuters, 28 June 2019. [uk.reuters.com/article/uk-southsudan-oil-idUKKCN1TT226](http://uk.reuters.com/article/uk-southsudan-oil-idUKKCN1TT226).

*There are very few entities offering resource-backed loans.*

Figure 3. Resource-backed loan flow between lenders and recipient governments (oil sector only)





*According to Paul Collier, resource-backed loans can be a tool to commit to infrastructure investment and tie the government's hands against political pressures to spend resource revenues on consumption.*

To summarize, there are very few entities offering RBLs. (See figure 3 for a flow map of the oil sector.) Two Chinese policy banks supply the bulk of these loans, and they tend to provide loans through bundled deals, in places where Chinese state-owned companies have a large stake in the oil sector. Other RBL providers, such as commodity trading companies, also seem to favor lending RBLs in countries where they have a strong interest and face limited competition. Bundled deals may be opportunistic and help lenders use better information, make use of synergies between activities and ensure orderly repayment. However, the relative lack of variety among providers and the way RBLs are often tied to upstream rights means that they may not be strategic for borrowers because they deprive recipient countries of reaping the benefits of competitive tender processes. RBL borrowers are likely not receiving the best value for their money. Across the cases reviewed, we have found no evidence of countries using open and competitive processes to get RBLs.

#### OPPORTUNITY 1. RBLs ARE PRIMARILY DESIGNATED FOR INFRASTRUCTURE INVESTMENT

It is essential to know how countries spend loaned money. Countries can only justify paying interest on the borrowed money when they invest loans productively and in ways that generate positive economic and social returns in the future.

Economists at the United Nations Economic Commission for Africa (UNECA) and the World Bank have argued that RBLs can be an important tool for development precisely because they are directed towards infrastructure investment.<sup>48</sup> According to development economist Paul Collier, RBLs can be a tool to commit to infrastructure investment and tie the government's hands against political pressures to spend resource revenues on consumption.<sup>49</sup> Earmarking also has some drawbacks, as it can undermine the government's ability to adjust spending priorities when needed, and can be especially risky if done off-budget.

Our review of the data suggests, that governments earmarked over 85 percent of RBLs and over 90 percent in RBL value for capital spending. The allocated the remainder to budget support and rollover of existing debt. (In three cases, we could not clearly identify for what sector or purpose the loan was taken.)

Table 1 marks RBLs allocated for capital spending in green.

Most of the largest RBLs include many credit lines that are meant for multiple infrastructure projects across various sectors. In some cases, we were able to obtain a further breakdown of sectors covered or a list of some of the large projects. Many of these large projects are road projects. (See Annex 1 for more details.)

48 Håvard Halland, John Beardsworth, Bryan Land, and James Schmidt. *Resource Financed Infrastructure and Vera Songwe, From Bottom Billion to Top Trillion: Using Commodity-Backed Securities to Support the Future of Africa's Resource Economies* (Brookings, 2017), [www.brookings.edu/opinions/from-bottom-billion-to-top-trillion-using-commodity-backed-securities-to-support-the-future-of-africas-resource-economies/](http://www.brookings.edu/opinions/from-bottom-billion-to-top-trillion-using-commodity-backed-securities-to-support-the-future-of-africas-resource-economies/).

49 Paul Collier. *The Plundered Planet: Why We Must--and How We Can--Manage Nature for Global Prosperity*. (Oxford University Press, 2010).

Table 1. Resource-backed loan earmarks by project type

Sector	Total		Sub-Saharan Africa		Latin America	
	Number of loans	Loan value (\$ billion)	Number of loans	Loan value (\$ billion)	Number of loans	Loan value (\$ billion)
Multisector infrastructure projects	25	100.7	13	40.6	12	60.1
Oil sector	10	29.2	4	3.0	6	26.2
Multisector infrastructure projects + oil sector	2	19.0	1	15.0	1	4.0
Power	3	0.7	3	0.7	0	0.0
Education	1	0.1	1	0.1	0	0.0
Agriculture	1	0.2	1	0.2	0	0.0
Road	1	0.2	1	0.2	0	0.0
Housing	1	2.5	1	2.5	0	0.0
Budget support and debt rollover	5	9.1	2	1.6	3	7.5
Unknown	3	1.9	3	1.9	0	0.0
<b>Total</b>	<b>52</b>	<b>163.6</b>	<b>30</b>	<b>65.8</b>	<b>22</b>	<b>97.8</b>

The DRC's Sicominex agreement enumerates 25 projects (road, railroad and health related) to be financed by an RBL. Similarly, a 2017 loan to Guinea details spending plans for various road projects, sanitation projects and a university building.

Where the spending is clearly earmarked for one sector, oil sector-related expenses dominate. This includes finances to help the national oil companies expand their operations through new oil projects (e.g., pre-salt and Orinoco Belt oil fields in Brazil and Venezuela or refineries in Angola), buying assets from other companies (e.g., buying out Chevron in Chad). São Tomé used an RBL to finance administration of its oil sector.<sup>50</sup>

Countries also used RBLs to invest in their energy sectors. Examples include Ghana's Bui Dam, Zimbabwe's Rural Electrification Program and multiple hydroelectric dams and a thermoelectric plant in Ecuador. There was also a road project in South Sudan and a housing project in Angola.

A small number of loans went to helping borrowers roll over their debt (a way to extend the loan's maturity). Governments also used RBL funds for general budget financing. Non-earmarked RBLs were especially prevalent among those provided by the commodity traders, which are essentially advance payments of oil shipments. Only two out of seven such loans were clearly earmarked for investment.<sup>51</sup>

50 These figures exclude project finance and paid equity participation loans for SOEs based on our definition of RBLs, even if they have resource guarantees or resource-related income as payback.

51 The largest one being the the \$1.54 billion RBL from Glencore to Chad's national oil company (SHT) in 2014 to finance the purchase of Chevron's 25 percent stake in the Esso-led oil joint venture.

## Select projects financed by resource-backed loans

Kilamba Town housing project in Angola<sup>52</sup>



Atuabo gas plant in Ghana<sup>54</sup>



Pointe-Noire Brazzaville road in the Republic of Congo<sup>53</sup>



Villonaco wind farm in Ecuador<sup>55</sup>

There is no guarantee that governments will use all loans for their intended purposes. In this study, we did not attempt to verify RBL loan use comprehensively.<sup>56</sup> However, our review of press reports and articles on RBLs suggests that the

designated earmarked projects are generally being financed (as is also illustrated by the photos above). However, their execution is often slow and subject to cost overruns and other difficulties.<sup>57</sup>

52 Image retrieved from [www.chinaafricarealstory.com/2018/12/cari-update-angolan-ghost-town-wakes-up.html](http://www.chinaafricarealstory.com/2018/12/cari-update-angolan-ghost-town-wakes-up.html).

53 Image retrieved from [www.flickr.com/photos/jbdodane/11984168725](http://www.flickr.com/photos/jbdodane/11984168725).

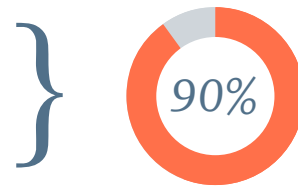
54 Image retrieved from [www.wikiwand.com/en/Atuabo\\_Gas\\_Plant](http://www.wikiwand.com/en/Atuabo_Gas_Plant).

55 Image retrieved from [flickr.com/photos/franzleonardo/7860040726](http://flickr.com/photos/franzleonardo/7860040726).

56 There is evidence about Chinese-funded projects generally demonstrating significant positive contributions to short-term growth. See Axel Dreher, Andreas Fuchs, Bradley Parks, Austin M. Strange and Michael J. Tierney. *Aid, China, and Growth: Evidence from a New Global Development Finance Dataset* (AidData, 2017), [www.aiddata.org/publications/aid-china-and-growth-evidence-from-a-new-global-development-finance-dataset](http://www.aiddata.org/publications/aid-china-and-growth-evidence-from-a-new-global-development-finance-dataset).

57 A detailed example is presented in Andoni Maiza-Larrarte and Gloria Claudio-Quiroga, *The impact of Sicomines on development in the DRC* (International Affairs, 2019). Evidence from hydropower projects are presented in Deborah Brautigam, Jyhjong Hwang, and Lu Wang. *Chinese hydropower finance in Africa* (SAIS CARI, 2015), [www.sais-cari.org/research-chinese-hydropower-finance-in-africa](http://www.sais-cari.org/research-chinese-hydropower-finance-in-africa).

*Governments earmarked over 90 percent of resource-backed loans' value for capital spending.*



However, a potential counterexample exists in an RBL that South Sudan took from a commodity trader to finance its Green Horizon farming project and provide general budget support. In an OCCRP investigation, it has been alleged that some of these RBL funds were instead used for military spending (though this has been disputed).<sup>58</sup> RBL lenders may potentially safeguard the use of funds by releasing funds only when payment for the designated project's execution are due, and sometimes directly to contractors as is the case with some Chinese RBLs.

We also did not seek to evaluate the efficiency of spending. However, the lack of competitive factors and the governance risks associated with recipient entities as described above increases the risk of poor spending efficacy, corruption and misappropriation of funds. Since infrastructure is in principle observable, there is the potential for accountability, provided that the relevant information is accessible to oversight actors charged with monitoring project execution. Unfortunately, this is often not the case.

We did not seek to understand whether governments used RBLs to finance additional public investment projects or simply substituted the funds for domestic spending on public investment. Given the large sums spent through such loans, it seems likely that at least some of it was additional, but this could be an important area of further research.

To summarize, the majority of RBLs are earmarked for financing particular infrastructure projects. Since the infrastructure gap in developing countries tends to be so large, it may economically justify the borrowing if the social returns from the infrastructure projects are higher than the interest charges and risks associated with the loan.<sup>59</sup> However, there are also risks associated with project selection and execution, especially when there is a lack of transparency, accountability and competition. Therefore, it is critical for lenders and loan recipients to create safeguards to ensure that RBLs are invested productively.

58 Sam Mednick, *Sprouting Weapons of War*, OCCRP, 17 July 2019, [www.occrp.org/en/investigations/sprouting-weapons-of-war](http://www.occrp.org/en/investigations/sprouting-weapons-of-war).

59 George Ingram and Robert A. Mosbacher, Jr. *Development finance: Filling today's funding gap* (Brookings, 2018), [www.brookings.edu/research/development-finance-filling-todays-funding-gap](http://www.brookings.edu/research/development-finance-filling-todays-funding-gap).

## IV. Resource-backed loan terms

In this section, we review what is known about the terms of individual deals. First, we discuss the lack of transparency surrounding the deals and how it limits our understanding. Next, we present a short analysis of observable terms, highlighting the rather favorable (at least at face value) lending terms of RBLs from China to sub-Saharan Africa. Finally, we draw attention to some distinct and potentially beneficial features of certain types of RBLs.

### RISK 3. THE TERMS OF RBLs ARE OFTEN HIDDEN

Transparency is lacking in all stages of these deals, and all parties to them contribute to their opacity. Both development and commercial banks publish global lending aggregates on a regular basis. Unfortunately, they rarely make loan-level information such as interest rates, maturity, and resource-security arrangements available to the public. More often, specific RBL deals are mentioned in passing in official bank or company press releases that state only the total amount of the loan and offer vague references to resource-security.

When it comes to disclosing oil advances, commodity traders are just as opaque as other lenders. Generally, they only make substantial disclosures when repayment problems emerge. Glencore, for example, provides a short account of loans outstanding in its yearly report, but offers no information on other key terms such as interest rates.<sup>60</sup> It is also hard to identify RBLs from the published accounts of lenders. Large lenders don't disaggregate enough and the smaller lenders, like

traders, often bring in other investors (banks) to provide the financing. This process, called “syndication,” means that the smaller lenders don't necessarily hold the debt themselves. For example, Deutsche Bank, Credit Agricole and ING partly financed Glencore's loan to Chad.<sup>61</sup>

Generally, borrowing countries' official reports provide more RBL information than those of the lenders, but transparency varies greatly among the top borrowers. The annual reports of borrowing countries' ministries of finance, office of debt management reports, press releases, and interviews with ministers are the most common information sources. Other sources include the IMF, World Bank and EITI reports and contractor's media releases. Industry media reports provide most of the information on oil advances, but usually only when reports of payment are delayed or corruption surfaces. Occasionally, countries under pressure from multilaterals to increase transparency—notably countries engaged in programs with the IMF—may reveal these advances and include them in their official debt reports. For example, the Republic of Congo released additional information in late 2018 in conjunction with their participation in an IMF program.<sup>62</sup>

As we said when introducing our dataset, our list of RBLs is likely incomplete. Moreover, we cannot be sure our sample is representative and cannot verify whether the terms we present are accurate due to the lack of transparency.

The RBLs that we identified from public sources are all missing key pieces of information. The loan

60 Glencore, *Payment to Governments*, 2018.

[www.glencore.com/dam/jcr/c9cea7dd-9fe6-4f9b-bd6a-e82f72672075/Glencore\\_Payments\\_to\\_governments\\_report\\_2018--.pdf](http://www.glencore.com/dam/jcr/c9cea7dd-9fe6-4f9b-bd6a-e82f72672075/Glencore_Payments_to_governments_report_2018--.pdf)

61 Jenny Strasburg and Margot Patrick. “Glencore Oil Deals Could Bite Banks,” *Wall Street Journal*, 4 October 2015, [www.wsj.com/articles/glencore-oil-deals-could-bite-banks-1443989065](http://www.wsj.com/articles/glencore-oil-deals-could-bite-banks-1443989065).

62 Ministère des Finances et du Budget, *République du Congo. Situation de la dette publique du Congo*, 31 December 2018, [www.finances.gouv.cg/sites/default/files/documents/SIDE\\_31\\_DECEMBRE\\_2018.pdf](http://www.finances.gouv.cg/sites/default/files/documents/SIDE_31_DECEMBRE_2018.pdf).

*The opacity of resource-backed loans stands in contrast to an increasing recognition of the risks that secretive loans present to public finances and that lenders have a role to play in this regard. In better established forms of lending, such as sovereign bonds or loans from multilateral institutions, the key terms of loans are often disclosed.*

agreements are only available in one out of the 52 cases, the Sicominex deal in the DRC. (See box 2.) In other cases, loan summary documents were made publicly available either as a stand-alone document (such as in Ghana<sup>63</sup>), or in the bond prospectus published when the government took on other commercial loans (such as in Angola<sup>64</sup>). We could only identify basic information, such as the interest rate, for 19 out of 52 cases surveyed. We rarely have information on loan collateral arrangements and on the mode and schedule of repayment. Annex 1 highlights how sparse public information on these loans is.

The lack of information is not confined to RBLs. Some other loans to sovereign borrowers are also hidden from the public. Mozambique is a prime example: the state-owned company secretly took

more than \$2 billion in loans (ostensibly for a fishing company, but used to buy patrol boats) using sovereign guarantees. In doing so, they bypassed the requirement for parliamentary ratification.<sup>65</sup> The deal resulted in criminal proceedings against a lender and the former minister of finance.<sup>66</sup>

The opacity of RBLs stands in contrast to an increasing recognition of the risks that secretive loans present to public finances and that lenders have a role to play in this regard. In better established forms of lending, such as sovereign bonds or loans from multilateral institutions, the key terms of loans are often disclosed and the various properties of the loans are better understood. Multiple actors including the IMF, the World Bank, the G-20 (which includes many key lending countries) and the Institute of International Finance (IIF, a body

### Box 2. Disclosing key resource-backed loan information in the DRC

In 2008, the DRC and the Chinese government formed a partnership called Sicominex to construct infrastructure and develop a mining project in the DRC. The Chinese government provided \$6.2 billion in loans to be repaid by the DRC from the profits of the Sicominex partnership.

During the initial stages of the partnership, Sicominex did not disclose much information. However, as part of the EITI disclosure process, civil society requested more information. As a result, the 2011 EITI report on the DRC included information on the ownership structure of Sicominex, the payments made to the state and the staffing arrangements of the partnership. The *protocole d'accord* (memorandum of understanding), the *Convention de Collaboration*, the *Convention de Joint-venture* (the contracts) and their various amendments also became public.<sup>67</sup>

Despite these strides in disclosure, some vital information is still undisclosed. This includes information on project execution, actual project costs, procurement and audit. Civil society in the DRC continues to advocate for all project-related information to be made public.

63 Ministry of Finance and Economic Planning, Ghana. *US\$3 Billion Term Loan Facility from China Development Bank – Summary* (2012), [mofep.gov.gh/sites/default/files/reports/economic/CDB\\_Loan\\_Summary\\_050112.pdf](http://mofep.gov.gh/sites/default/files/reports/economic/CDB_Loan_Summary_050112.pdf).

64 The Republic of Angola, *Bond Prospectus for Notes due 2025* (2015), [www.ise.ie/debt\\_documents/Prospectus - Standalone\\_a8e9ce81-396d-4b85-b827-66b7d5362541.pdf](http://www.ise.ie/debt_documents/Prospectus - Standalone_a8e9ce81-396d-4b85-b827-66b7d5362541.pdf).

65 Jubilee Debt Campaign. *Transparency of loans to governments* (2019), [eurodad.org/files/pdf/5ca332e959ffa.pdf](http://eurodad.org/files/pdf/5ca332e959ffa.pdf)

66 Lynsey Chutel, "A search for Mozambique's secret \$2 billion debt shows how the global banking system aids corruption," *Quartz*, 10 January 2019, [qz.com/africa/1519653/mozambique-finance-minister-arrested-credit-suisse-fbi-caught-up/](http://qz.com/africa/1519653/mozambique-finance-minister-arrested-credit-suisse-fbi-caught-up/).

67 The contract documents are available on the Ministry of Mines website, [mines-rdc.cd](http://mines-rdc.cd), and on [congominex.org](http://congominex.org)

representing private lenders) have each been involved in proposals to increase the transparency of loans to sovereigns.<sup>68</sup> The IIF's Voluntary Principles for Debt Transparency urge private banks to publicly disclose key terms such as the parties to the deal, the loan amount and type, the repayment profile, any collateral/security and the range in which the interest rate falls.<sup>69</sup> They recommend that this disclosure be made with the consent of the sovereign borrowers for loans to low-income countries that exceed one year.<sup>70</sup> G-20 members have committed to sharing information on their government-to-government loans with the IMF and WB.<sup>71</sup> However, a coalition of civil society organizations has highlighted the limitations of the IIF and G20 initiatives, stressing the importance of a public registry of loans, which includes loans provided by public lenders.<sup>72</sup>

EITI has pushed for transparency specifically on RBLs. The 2019 standard includes a requirement for transparency of payments related to RBLs as part of the payment flows that EITI implementing countries must disclose.<sup>73</sup> EITI also requires countries and companies to disclose any barter arrangements involving the exchange of oil or mining for goods or services, such as infrastructure but also loans.<sup>74</sup> Six of the 14 RBL recipient countries are also EITI member

countries, and these reports are a useful source of information on RBLs.<sup>75</sup>

## OPPORTUNITY 2. RBLs MAY OFFER CHEAPER FINANCING

RBL loan terms are seldom public and do not lend themselves to straightforward comparison due to their complexity. It is also difficult to compare RBLs with other types of sovereign lending given the different objectives and lending practices of the relevant lenders (e.g., Chinese government versus private sovereign debt investors versus multilateral financial institutions). Another challenge is assessing the impact of resource security or resource backing on RBLs.

Nevertheless, we can offer some basis for very early stage comparison based on the partial information available on maturity, repayment schedule, repayment modes, grace periods or interests for 34 loans. Among these, we have data on the interest rates for 19 loans, most of which are in sub-Saharan Africa and originate from China. This partial insight provides some tentative evidence that at least for this category of loans, the rates are below market rates for some other sovereign debt.

68 G20 Note, *Strengthening public debt transparency: the role of the IMF and the World Bank* (2018), [documents.worldbank.org/curated/en/991171532695036951/pdf/128725-repl-For-VP-G-20-NOTE-STRENGTHENING-PUBLIC-DEBT-TRANSPARENCY-clean.pdf](https://documents.worldbank.org/curated/en/991171532695036951/pdf/128725-repl-For-VP-G-20-NOTE-STRENGTHENING-PUBLIC-DEBT-TRANSPARENCY-clean.pdf).

69 This should cover commodity traders providing RBLs and/or their syndicating banks.

70 IIF, *Voluntary Principles For Debt Transparency* (2019), [www.iif.com/Portals/0/Files/Principles for Debt Transparency.pdf](http://www.iif.com/Portals/0/Files/Principles%20for%20Debt%20Transparency.pdf).

71 G20, *Operational Guidelines for Sustainable Financing* (2017), [www.bundesfinanzministerium.de/Content/EN/Standardartikel/Topics/world/G7-G20/G20-Documents/g20-operational-guidelines-for-sustainable-financing.pdf](http://www.bundesfinanzministerium.de/Content/EN/Standardartikel/Topics/world/G7-G20/G20-Documents/g20-operational-guidelines-for-sustainable-financing.pdf).

72 Tim Jones, *G20 falls short on loan transparency*, Jubilee Debt Campaign (2019), [jubileedebt.org.uk/blog/g20-falls-short-on-loan-transparency](http://jubileedebt.org.uk/blog/g20-falls-short-on-loan-transparency).

73 EITI, *EITI Standard 2019*, Requirement 4.2, [eiti.org/document/eiti-standard-2019-r4-2](http://eiti.org/document/eiti-standard-2019-r4-2). "Where applicable, this should include payments (in cash or in kind) related to ... resource-backed loans."

74 EITI, *EITI Standard 2019*, Requirement 4.3, [eiti.org/document/eiti-standard-2019-r4-3](http://eiti.org/document/eiti-standard-2019-r4-3). "The multi-stakeholder group is required to consider whether there are any agreements, or sets of agreements involving the provision of goods and services (including loans, grants and infrastructure works), in full or partial exchange for oil, gas or mining exploration or production concessions or physical delivery of such commodities. To be able to do so, the multi-stakeholder group needs to gain a full understanding of: the terms of the relevant agreements and contracts, the parties involved, the resources which have been pledged by the state, the value of the balancing benefit stream (e.g. infrastructure works), and the materiality of these agreements relative to conventional contracts."

75 The 2016 EITI report for Republic of Congo is one such example. [www.itie-congo.org/images/rapports/conciliation2016/Rapport-ITIE-Congo-2016-version-finale.pdf](http://www.itie-congo.org/images/rapports/conciliation2016/Rapport-ITIE-Congo-2016-version-finale.pdf)

### Box 3. EITI: Resource-backed loans and commodity trading transparency

The 2013 EITI standard required that governments, including state-owned enterprises, disclose the sale of the state's share of production of oil, gas and minerals. As a result, countries including Cameroon, Chad, Republic of Congo, Ghana, Indonesia, Iraq, Nigeria and Trinidad and Tobago have disclosed information on the volumes they sell and revenues that they receive from these sales. Buying companies were also implicitly encouraged to disclose information through the EITI's reconciliation process.

The 2016 EITI standard explicitly required sales information to be disaggregated by individual buying company. A small number of large commodity traders have become EITI supporting companies. Glencore, Gunvor and Trafigura unilaterally publish their payments to governments for the purchase of commodities. Many EITI reports contain valuable information on the volume and value of shipments sold to various traders, which in some cases (such as Chad's) relate to the repayment of loans.

The 2019 EITI standard includes a new requirement for transparency of payments related to RBLs as part of the payment flows that EITI implementing countries must disclose. The 2019 standard also encourages transparency in the processes for selecting buyers and the sales agreements.<sup>76</sup>

Maturities (the number of years from signing until the loan is fully repaid) of RBLs from China range from three to 25 years, with an average of 13 years. The maturities are much shorter for loans from commodity traders. Some RBLs have no fixed maturities. Instead, they have indicative maturities with repayment lengths that vary depending on the value of the commodity stream used for repayment. (See the next section.) The grace periods for RBLs, where they exist, are typically five years, though eight-year grace periods have also occurred.

Ten out of the 19 loans for which we know the interest rates have fixed rates, while nine have floating interest rates.<sup>77</sup> In sub-Saharan Africa, Chinese policy banks offered fixed interest rates as low as 0.25 percent on RBLs, as in the case of a 2009 loan to the Republic of Congo. Interest rates ranged as high as 2 percent in Niger and

Zimbabwe. Chinese Eximbank offered all the fixed interest rate Chinese RBLs in sub-Saharan Africa. Floating interest rates are usually London Inter-bank Offered Rate (LIBOR) based, with a margin ranging from 1.0 percent to 2.95 percent. In Latin America, we have data on four loans in Ecuador with fixed rates of 6 percent to 7.25 percent and on one floating rate loan in Brazil with a margin of 2.8 percent over LIBOR.

We have little information on additional fees, but Ghana's 2018 RBL from Sinohydro reveals that on top of an annual interest of LIBOR + 2.8 percent, there is also a requirement to pay a flat management fee of 0.7 percent, a commitment fee of 0.5 percent per annum and a one-time China Export and Credit Insurance Corporation (Sinosure) premium of 7 percent.

76 EITI, *Transparency in the First Trade* (2019), [eiti.org/sites/default/files/documents/eiti\\_commodity\\_trading\\_transparency\\_may2019\\_web\\_0.pdf](https://eiti.org/sites/default/files/documents/eiti_commodity_trading_transparency_may2019_web_0.pdf).

77 This is a rather important distinction, given that most loans originated when global interest rates were rather low. However, a floating interest can increase if global lending rates increase.



*“[Resource-backed loans] interest rates do not appear to be out of line with mainstream capital markets or even the international development banks.”*

Terms vary substantially over time and countries, and due to the lack of comparable databases for other loans, only an anecdotal comparison of headline terms is possible. In sub-Saharan Africa, RBLs originating from China seem to attract lower rates than commercial loans without resource security such as Eurobonds.<sup>78</sup> As the most popular form of large commercial external borrowing by African governments, Eurobonds offer wide ranging interest rates at issuance, ranging from as low as 5 percent up to 11 percent.<sup>79</sup> Even so, these rates are much higher than those stated for RBLs.<sup>80</sup> But terms of RBLs are not as favorable as multilateral loans. For example, concessional loans from World Bank Group (WBG) offer better terms.<sup>81</sup>

One can also compare Eximbank’s RBL terms to non-Chinese policy banks’ RBLs lending in sub-Saharan Africa, such as South Korea’s KEXIM. KEXIM provided one RBL that we list (a copper backed deal in DRC). Generally, KEXIM’s EDCF loans have 10 to 30 years maturity, a five to 10-year grace period, and a 0.5 to 3 percent interest rate. These terms are comparable to China Eximbank’s RBLs’ maturity and grace period but offer somewhat more favorable fixed interest rates.<sup>82</sup> Chinese RBLs to Latin American countries tend to have higher nominal interest rates and shorter repayment periods than those to African countries.

It is also difficult to compare Chinese RBLs with those offered by other policy banks or trade finance institutions because there are few other institutions who have offered loans of a similar size, especially without a resource security. The World Bank, for a variety of reasons including its emphasis on fiscal responsibility and its limits on how bank funds can be used, would not offer multi-billion dollar credit lines to countries, resource-secured or not. Similarly, KEXIM’s RBL in the DRC is much smaller than those offered by China Eximbank. In fact, China Eximbank has regularly offered loans of \$500 million or more to African governments for infrastructure projects on concessional terms and with no resource security at all.<sup>83</sup>

While our own data are very limited, there are generally in-line with an earlier study of RBLs from China across both continents, which finds that “interest rates do not appear to be out of line with mainstream capital markets or even the international development banks.”<sup>84</sup>

Two RBLs in Chad and Republic of Congo offer insight into loans from commercial commodity traders. A consortium of international lenders led by Glencore extended a \$1.36 billion oil-backed loan to Chad in 2014 to purchase Chevron’s 25 percent share in the Esso-led consortium that exploits the Doba oil fields. After oil prices collapsed, Glencore and Chad renegotiated the

78 It could be the case that the resource security on one loan may have adverse effects on attracting other loans because there are fewer assets available to generate repayment. This is beyond the scope of our analysis.

79 Cytonn Report, *Eurobonds in Sub-Saharan Africa* (2018), [cytonnreport.com/topicals/eurobonds-in-sub-saharan-africa](http://cytonnreport.com/topicals/eurobonds-in-sub-saharan-africa).

80 We have not explored whether Chinese RBLs also provide favorable rates as compared to other Chinese lending to the relevant countries, or whether these rates are merely consistent with Chinese lending rates generally in comparison to the private sector and the World Bank Group. Isolating the impact of whether the loan is an RBL could be an area for further research.

81 Rates of WBG’s International Bank for Reconstruction and Development credits and International Development Association credits vary between countries, especially depending on the income level of the borrower. USD lending rates effective April 2014 ranged between LIBOR +0.65 percent and LIBOR +1.05 percent, which is more favorable than most LIBOR-based rates from China Eximbank. (The World Bank Group, 2014). [www.worldbank.org/en/news/press-release/2014/04/21/increase-in-fixed-spread-for-ibrd-flexible-loans](http://www.worldbank.org/en/news/press-release/2014/04/21/increase-in-fixed-spread-for-ibrd-flexible-loans)

82 HIPC CBP, *Guide to Donors - South Korea profile* (2009), [www.development-finance.org/en/component/docman/doc\\_download/625-south-korea-17-09-2009.html](http://www.development-finance.org/en/component/docman/doc_download/625-south-korea-17-09-2009.html).

83 For example, 2012 Abuja Light Rail in Nigeria, 2013 Soubre Hydropower Project in Côte d’Ivoire, 2014 Welkait Sugar Mill in Ethiopia.

84 Bräutigam and Gallagher, *Bartering Globalization*.

*Countries in sub-Saharan Africa can get cheaper rates by borrowing via Chinese resource-backed loans rather than through commercial lenders. However, these Chinese loans seem to be more expensive than concessional borrowing from international finance institutions—though these are unlikely to provide such large loans for infrastructure.*

terms. In early 2018, a deal was struck to increase the maturity from eight years to 16 years, adding a two-year grace period where there previously was none and reducing the interest rate from LIBOR+7 percent to LIBOR+2 percent.<sup>85</sup> In other words, in this case, a commercial RBL from a trader ended up, after a default and extensive renegotiation, with terms comparable to Eximbank RBLs.

In the Republic of Congo, an investigation by Public Eye provides evidence on lending rates and additional charges. According to that investigation, Gunvor lent to the SNPC at “roughly the same rate at which it was borrowing from BNP Paribas,” which is a commercial bank. The profit came from the various activities linked to the deal rather than from interests earned. This included an “arrangement fee” for setting up the loan, the commission on selling the oil to service the loan, the profits made on exchange rate conversions (the loan was in USD and the shipments were paid in euro) and commissions taken from other companies that wanted support in securing public contracts that were financed by the loan to SNPC.<sup>86</sup>

Overall, this partial comparison shows that countries, especially those in sub-Saharan Africa, can get cheaper rates by borrowing via Chinese RBLs instead of through commercial lenders. However, Chinese RBLs seem to be more expensive than concessional borrowing from international finance institutions, though these are unlikely to provide such large loans for infrastructure and are more demanding regarding project design and competitive procurement.

However, the limited information that is available on the terms of loans from commercial traders indicates that these terms are less favorable than

those of commercial lenders. Our findings should be read with much caution, as they are based on limited information and compare approaches and actors that may be inherently incomparable. Moreover, stated rates can be a misleading basis for comparison. Only careful modeling using detailed knowledge of the various fees and repayment schedules can reveal a loan’s real financial cost. The loan needs to be evaluated together with the expected returns from the projects it finances. Even a concessional loan is too expensive to finance poorly selected or executed projects.

### OPPORTUNITY 3. RBLs CAN BE STRUCTURED TO MITIGATE VOLATILITY

Having a loan tied to a commodity-related income stream allows for various types of loan structures. We presented a classification of the varieties of RBLs in section I alongside our definitions. In this section, we provide evidence that RBLs with certain features can be less risky to resource-rich borrowers than normal loans.

Some RBLs have repayment structures that are largely equivalent to those of a regular loan. Such an RBL may set out that the principal and interest must be repaid in-kind at some daily benchmark price or from the proceeds of sales of natural resources to a third party. The amounts to be repaid are fixed in value terms (generally in USD). The RBL may also require keeping some resources as security but these would be untouched if the loan is repaid normally.

Some RBLs have variability built into the loan’s repayment schedule that depends on commodity

85 Julia Payne, “Glencore, banks and Chad reach deal on \$1 bln-plus oil-backed loan,” Reuters, 21 February 2018, [www.reuters.com/article/us-glencore-chad/glencore-banks-and-chad-reach-deal-on-1-bln-plus-oil-backed-loan-idUSKCN1G52B9](http://www.reuters.com/article/us-glencore-chad/glencore-banks-and-chad-reach-deal-on-1-bln-plus-oil-backed-loan-idUSKCN1G52B9).

86 Public Eye, *Gunvor in Congo* (2017) [gunvorincongo.publiceye.ch](http://gunvorincongo.publiceye.ch).

price.<sup>87</sup> This can happen for several reasons. First, this can occur when payment is made in-kind, with set volumes to deliver on a daily, monthly or yearly basis. Second, repayment variability can occur when payment is set as a percentage of an in-kind revenue stream (e.g., a percentage of total production from a field or a percentage of profit-oil). Finally, repayment variability can occur

when there are commodity price bands, where the repayment schedules adjust when prices go below or above a certain trigger. Where such a commodity price-dependent repayment structure is in place, they are generally designed such that the RBL is repaid more slowly when prices are low and more quickly when prices are high. (See box 4 for an illustration.)

#### Box 4. Variable resource-backed loan repayment schedules

Here, we present a short comparison between an RBL where the repayment schedule is fixed in volume and a regular loan (or an RBL where the repayment schedule is set in value). These examples are loosely based on the terms that we observed, but we have simplified them for the sake of comparison.

Both loans are for \$1 billion, have a five-year grace period and are expected to be paid back over an additional 10 years. The total tenor/maturity is 15 years. We set the interest at 5 percent annually, which is about the average across fixed rate loans in our dataset. We assume the government can fully service the loan in all scenarios.

When the repayment schedule is fixed in value, we assume that the principal must be repaid in equal amounts (10 percent every year after the grace period) with interest being paid throughout on the outstanding amount. If the repayment schedule is fixed in volume, we assume it is signed at a prevailing and expected future price of \$60/barrel and that the amount set to be repaid is 8,000 barrels of oil per day. This enables the government to pay back the loan with interest in 10 years following the five-year grace period, if oil prices were to remain flat (no inflation).

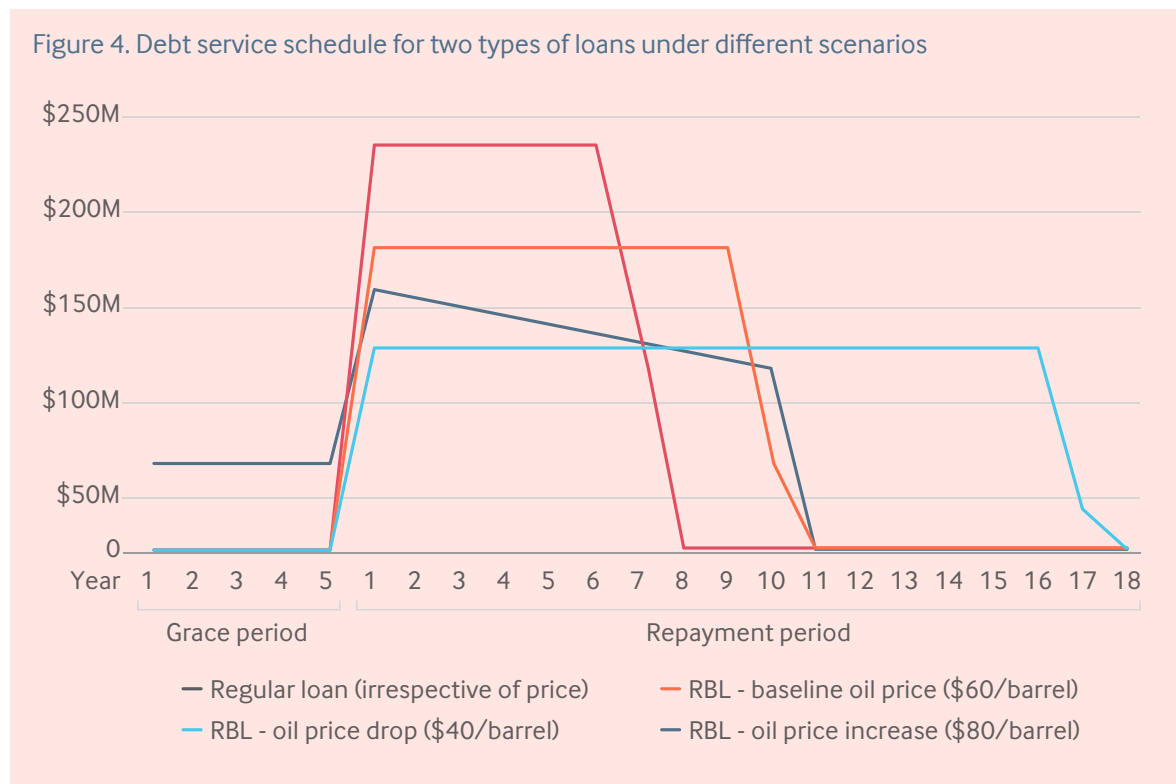
We intentionally selected the terms so that the repayment schedules in both cases are the same when oil prices stay at \$60/barrel. We label this oil price our baseline. We also present results for the financial costs when the oil prices change to a new level from year five, a low price scenario of \$40/ barrel and a high oil price scenario of \$80/barrel.

Figure 4 shows the repayment schedule of a regular loan (irrespective of oil price) and that of the RBL under three scenarios (unchanged baseline, low and high oil price). It highlights that the repayment schedule for regular loans (or fixed value RBLs) are similar to RBLs with fixed volumes of repayment in the baseline scenario.

It also shows that the fixed volume RBLs' repayment length depends on oil prices. Instead of taking 10 years to repay the loan in the baseline, in a low oil price (US \$40 per barrel) situation, it will take 17 years to repay the RBL in full. However, when prices are high (US \$80 per barrel), the RBL can be repaid in seven years. The repayment amounts are the same 8,000 barrel/day in all three RBL price scenarios, but the value changes depending on the oil price, which makes repayment quicker or slower.

87 In theory, it would also be possible to have loans where the total amount of principal to be repaid adjusts and not just the repayment schedule, but we have not found any such examples. In the cases we reviewed the principal and yearly interest are set, only the schedule adapts.

Figure 4. Debt service schedule for two types of loans under different scenarios



In our research, we have identified a number of RBLs where the repayment schedule is not fixed, but rather depends in some way on commodity prices or commodity revenue levels. We found 12 RBLs that have repayments set in oil barrel volumes to be sold per day. These range from 10,000 barrel a day for some of the smaller loans in Angola to over 200,000 barrels a day in Venezuela. In some cases, the annual repayments change, with less to be repaid in earlier years. Four RBLs set a range of volumes (e.g., 150,000 to 200,000 barrels per day or up to up to 40,000 metric tons of cocoa). We presume that these RBLs require more volume to be repaid when prices are low, but still effectively cap the repayment value.

In at least five cases, the loans are to be repaid from a designated commodity income stream (or a percentage of it) and repayment speed depends on how much revenues that income stream generates. Such earmarks include the Musoshi copper mine and the Sicominex copper and cobalt mine in the DRC, the Agadem revenues in Niger, the Badoit project in Chad and the JDZ revenues in Sao Tome.

There are also at least two cases in which there are some oil price-related terms. For Angola, we understand that the 2015 \$15 billion credit facility from CDB includes a pricing structure that allows Angola to benefit from an increase in the price of oil.<sup>88</sup> The second case is Chad’s renegotiated contract with Glencore, in which

88 Referenced in a 2018 bond prospectus which describes earlier borrowing. [www.rns-pdf.londonstockexchange.com/rns/9480U\\_1-2018-7-17.pdf](http://www.rns-pdf.londonstockexchange.com/rns/9480U_1-2018-7-17.pdf), p. 131.

*Resource-backed loans should be carefully designed and negotiated to protect borrowers' ability to service them.*

exists a requirement for additional repayment if oil prices are higher than the baseline set in the new contract.<sup>89</sup>

We discuss two examples of how these more adaptive RBL repayment schedules can affect the borrower.

São Tomé and Príncipe took an RBL from Nigeria for \$30 million for administering the Joint Development Zone in 2009. Though São Tomé and Príncipe received and spent the funds, they are not servicing the loan because the RBL terms dictated that they would make repayments from the revenue stream and no oil project and consequently no oil revenues materialized from the project.<sup>90</sup> The loan (currently in dispute) provides a cautionary tale on lending against highly uncertain revenues. However, it also shows how the structure can benefit borrowers.

In Chad, the initial RBLs between Glencore and SHT set out a maximum repayment as percentage of oil volumes from the state's stake in a particular oil project (the Badoit project). Glencore was entitled to up to 100 percent of profit oil ("equity deliveries") and initially up to 50 percent of royalties paid in-kind ("royalty deliveries") and subject to quarterly caps. (From 2016 onwards, this percentage increased 70 percent of royalties paid in-kind.) Glencore also bought the oil at a price discount up to \$12.50 per barrel compared to the Brent oil price in 2015. In practice, the high caps meant that after the commodity price drop, the government ended up having to relinquish much of the revenues from the

project to service its debt. (In 2015, this amounted to about 50 percent of the government's share of Badoit oil receipts after subtracting cost. In 2016, it amounted to 90 percent.)<sup>91</sup>

Chad's deal was renegotiated in June 2018 so that repayment amounts depends on oil price, but with various triggers. When the oil price is up, the level of interest and principal that Chad repays also increases. In the new contract, Chad must repay substantially less during times of low oil prices than under the previous contract. This is illustrated by IMF calculations showing that the amount spent on repayment decreases from 67 percent in 2017 to 31 percent in 2018 because of the low oil price period.<sup>92</sup>

The more flexible, commodity price-dependent structures presented above can be attractive for resource-dependent countries. When commodity prices are high, they can more easily afford to repay the loan more quickly given that their remaining oil not used to service the loan is also more valuable. When prices are low, their budget revenues and often the whole economy comes under severe strain, which makes it very valuable for them to have to service lesser debt amounts. If we assume prices fluctuate across years, the high and low repayment values would alternate with more to repay in good (high price) years. But using the example of Chad's old and new RBL, we also show that having such flexible repayment structure is itself no panacea. Instead, RBLs should be carefully designed and negotiated to protect the borrower's ability to service the loan.

89 IMF, Chad: *Selected Issues, Country Report 19/259* (2019), [www.imf.org/en/Publications/CR/Issues/2019/07/31/Chad-Selected-Issues-48548](http://www.imf.org/en/Publications/CR/Issues/2019/07/31/Chad-Selected-Issues-48548).

90 IMF, *Democratic Republic of São Tomé and Príncipe: 2018 Article IV Consultation, Fifth Review Under the Extended Credit Facility Arrangement, Request for Waivers for Nonobservance of Performance Criteria, and Financing Assurances Review, Country Report 18/251* (2018), [www.imf.org/en/Publications/CR/Issues/2018/08/02/Democratic-Republic-of-So-Tom-and-Principe-2018-Article-IV-Consultation-Fifth-Review-Under-46149](http://www.imf.org/en/Publications/CR/Issues/2018/08/02/Democratic-Republic-of-So-Tom-and-Principe-2018-Article-IV-Consultation-Fifth-Review-Under-46149).

91 IMF, Chad: *Selected Issues, Country Report 16/275*.

92 Ibid and IMF, Chad: *Selected Issues, Country Report 19/259*. Figures exclude share allocated for cost oil.

## V. Resource-backed loans’ public finance impact

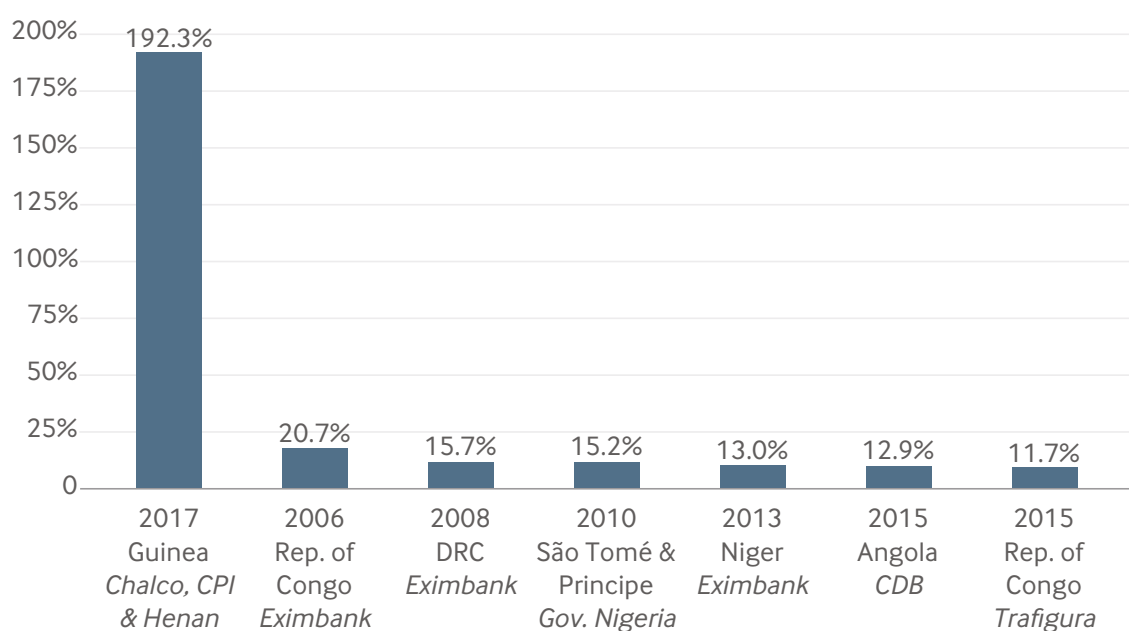
In this section, we study RBLs’ impact on overall debt sustainability in light of the recent severe and prolonged commodity price crash that started in late 2014. We show that RBLs often represent a large proportion of the recipient country’s economy. In many countries, RBLs have contributed to deteriorating debt sustainability. Because RBLs often must be repaid in-kind, there may be collateral attached to the loan that can leave other traditional lenders at a disadvantage. This may make other lenders reluctant to extend credit or impact their terms for doing so, making it more difficult for countries to borrow overall. Finally, we highlight the fact that several RBLs were successfully renegotiated. This shows that countries are not always trapped in bad loan terms for the duration of their loan period.

### RISK 4. LARGE RBLs CAN UNDERMINE DEBT SUSTAINABILITY

Small sovereign loans are often evaluated in isolation to understand financing costs and the social returns that the investment may bring. However, when a sovereign loan is large enough, it can undermine the country’s overall debt sustainability. Therefore, we study the size of RBLs and the effect they may have on the country’s debt position after the commodity price crash.

The most straightforward approach to assessing RBLs’ importance is to compare them to the size of the recipient countries’ economies. In figure 5, we highlight the largest RBLs in our dataset as a percentage of the recipient country’s GDP in the year the loan was contracted.

Figure 5. Resource-backed loans as percent of GDP, by country and lender



By far the largest is this respect, is Guinea's \$20 billion RBL. It was agreed upon in 2017 and was equivalent to nearly 200 percent of the country's GDP.<sup>93</sup> The second largest ratio is the Republic of Congo's 2006 RBL. The RBL was a \$1.6 billion credit line that constituted 21 percent of the country's GDP that year. Third is the DRC's 2008 Sicomines infrastructure deal, which was 16 percent of the country's GDP. There are often large differences in RBLs taken by the same country. For example, South Sudan took relatively small oil repayment loans from Trafigura, worth \$75 million (only 1 percent GDP), but also loans as large as \$1 billion from CNPC (8 percent GDP). In contrast to sub-Saharan African countries, Latin Americas borrowers have seen much lower exposure. Although their RBL credit lines are much larger, they represent a smaller proportion of their economies.

Though our data on loan disbursement is limited, the DRC's \$3 billion Sicomines RBL teaches a key lesson on debt sustainability. In a September 2007 memorandum, the country's credit line for infrastructure was initially set at \$6 billion. In the 2008 agreement, it was reduced to \$3 billion.<sup>94</sup> This loan is only one of the country's two credit lines. Another credit line allocated \$3.2 billion to finance the mine's construction. Setbacks befell the mining project, and construction only began in earnest in

November 2015, which made the DRC's ability to pay back the loan uncertain.<sup>95</sup> However, the Chinese banks also delayed the disbursement of funds for infrastructure, with less than \$0.5 billion disbursed by the end of 2014. The risk of repayment problems due to construction delays at the mine is lessened by the significant period of time that the government has to repay the loan: the government guarantee can only be called in after 2034.<sup>96</sup>

Some countries used RBLs to roll-over existing loans.<sup>97</sup> In some cases, an RBL may have replaced a more expensive form of borrowing. In consideration of these cases, we cannot claim that all RBLs have only added to debt stocks and have worsened the country's debt situation.

Despite the above limitations and because our review suggests that RBLs in general do bring additional (though often off-budget) investment spending, we tallied the total RBLs taken by countries between 2004 to 2016.<sup>98</sup> We built a crude measure of the country's total RBL exposure, by calculating the total RBL amounts as a percentage of the country's 2016 GDP.<sup>99</sup> To compare RBL debt to total government debt for each country, we present the total debt stock as a percentage of 2016 GDP using the result of their latest IMF Debt Sustainability Assessment (DSA) for low income developing countries.<sup>100</sup> For market access countries, where IMF DSA scores

93 We would speculate it will only be drawn down over an extended time period within the 20 year period stipulated.

94 Johanna Jansson. *The Sicomines agreement revisited: prudent Chinese banks and risk-taking Chinese companies* (Review of African Political Economy, 2013).

95 David G. Landry, *The risks and rewards of resource-for-infrastructure deals: Lessons from the Congo's Sicomines agreement* (Resources Policy, 2018).

96 IMF, *Democratic Republic of the Congo 2015 Article IV Consultation, Country Report 15/280* (2015), [www.imf.org/external/pubs/ft/scr/2015/cr15280.pdf](http://www.imf.org/external/pubs/ft/scr/2015/cr15280.pdf).

97 This can be stated explicitly (such as a loan to Petrobras from CDB in 2016), or a renewal of lines of credit already paid back in full (such as the tranche renewals in Venezuela) or when financing public investments that would have happened through regular budget financing (this is the fungibility problem discussed in the first section).

98 We limit the analysis to the period ending in 2016 for data availability and to match other sources on impacts of RBLs post-commodity price crash.

99 This ignores the fact that some RBLs might have been (partly) paid back by 2016 or not fully drawn down.

100 These are generally done annually and published with some lag, and, so many are based on assessment completed a year or two earlier.

are not available, we present the credit rating of the country as reported by the three leading agencies. (See table 2.)

The top countries with the highest ratio of RBLs to GDP are the Republic of Congo, South Sudan, Angola and Chad with total values above 20 percent of GDP. A total of eight countries (marked in orange) have taken RBLs beyond 10 percent of GDP. For all of these, RBLs represent a significant—30 percent or higher—share of current debt stock. Across the thirteen countries that took out RBLs during the time period we assessed, all but three countries have experienced serious debt problems. They are either

labelled in debt distress or at high risk of debt distress by the IMF or characterized as in default or as highly speculative investment by credit rating agencies.<sup>101</sup>

Though it is beyond the scope of this paper to provide causal evidence on the contribution of RBLs to debt sustainability, we looked at some of the risks associated with high levels of RBL through a review of the latest IMF country reports and additional sources. Out of the countries listed in Table 2 with RBLs adding up to more than 10 percent GDP, we found that in all cases where debt sustainability problems emerged, RBLs were cited as an important contributor to those problems.<sup>102</sup>

Table 2. Countries with large known resource-backed loan exposure and their debt sustainability<sup>103</sup>

Country	Total RBLs 2004 to 2016 as percent of 2016 GDP	Total government debt stock to GDP (2016)	IMF Debt Sustainability Assessment status for low income developing countries (latest assessment as of November 2019)	Credit rating for market access countries (as of July 2019)
Republic of Congo	65%	128%	In debt distress	n/a
South Sudan	42%	89%	In debt distress	n/a
Angola	25%	76%	n/a	Highly speculative
Chad	21%	52%	High risk of debt distress (after restructuring)	n/a
Ecuador	14%	43%	n/a	Highly speculative
Niger	13%	44%	Moderate risk of debt distress	n/a
Venezuela	12%	30%	n/a	In selective default according to two agencies
DRC	10%	19%	Moderate risk of debt distress	n/a
São Tomé & Príncipe	8%	92%	In debt distress	n/a
Ghana	8%	57%	High risk of debt distress	n/a
Sudan	3%	100%	In debt distress	n/a
Zimbabwe	2%	54%	In debt distress	n/a
Brazil	1%	78%	n/a	Non-investment grade speculative

101 We have excluded Guinea with its first RBL in 2017.

102 A fuller account would also review countries not taking on RBLs, both before and after price collapse. This is beyond our scope.

103 Source of data: IMF WEO 2019 April; IMF Debt Sustainability Assessments for Low Income Developing Countries; Trading Economics for credit ratings from Fitch, Moody's and S&P (all three fall in same category for countries reviewed).



*South Sudan is in a deep economic crisis because of conflict, economic mismanagement and falling oil prices. Its continued reliance on resource-backed loans to finance the budget has been an important contributor.*

Out of the countries listed in Table 2 with RBLs adding up to more than 10 percent GDP, we found that in all cases where debt sustainability problems emerged, RBLs were cited as an important contributor to those problems.<sup>104</sup>

The oil price crash had dire consequences for the Republic of Congo. When oil prices were high in 2013, the sector contributed up to 60 percent of total government revenues. With this revenue, the government was able to build up savings (though these were mainly kept in China as a sort of debt service reserve account for a Chinese RBL credit line). Soon after the oil price crash, the Republic of Congo's debt expanded to unsustainable levels, quickly growing from 70 percent to 120 percent of GDP. This dramatic turn was precipitated by the country's RBLs. The multiple RBLs that SNPC had taken from commodity traders were kept off the Ministry of Finance's books. Once unveiled, the loan terms were clearly non-concessional and went against earlier government pledges to stop pre-financing oil sales.<sup>105, 106</sup>

South Sudan is in a deep economic crisis because of conflict, economic mismanagement and falling oil prices. Its continued reliance on RBLs to finance the budget has been an important contributor. The loans are non-transparent and costly. For example, from 2017 to 2018, repaying oil advances absorbed over 95 percent of the oil revenues. This

left the country without the oil revenue that they'd previously relied upon to finance their budget. As a result, the government suspended the practice of using oil advances.<sup>107, 108</sup>

Angola's oil receipts dwindled very quickly after the oil price crash because they had to use most of their revenue from their oil exports to repay Chinese loans. These loan repayments are believed to be linked to the price of oil at the time they were negotiated, and so Angola has to ship more crude when the value of oil depreciates.<sup>109</sup> Though the government reportedly obtained a fresh round of Chinese pre-financing in 2016, this only added to their significant oil-backed debt. That same year, Angolan oil-backed loans had reached \$25 billion, which was more than half of the government's total debt.<sup>110</sup> The country requested an IMF bailout in 2018, in which it committed to stop taking any new RBLs (collateralized loans) and limit how much it draws down on existing RBLs.<sup>111</sup>

As we discussed earlier, Chad's RBL from Glencore was initially structured so that when oil prices declined traders could keep most of the state's share of oil revenues. In 2016, for example, 90 percent of oil revenues from a major field went to repay the loan. The IMF cites the heavy RBL burden as a major contributor to Chad's external commercial debt problem. Government authorities also highlighted

104 A fuller account would also review countries not taking on RBLs, both before and after price collapse. This is beyond our scope.

105 Natasha White, *Strings Attached - Why the IMF must secure Republic of Congo transparency actions before it unlocks cash* (Global Witness, 2019), [www.globalwitness.org/en-gb/campaigns/oil-gas-and-mining/imf-congo-transparency-actions-before-bailout/](http://www.globalwitness.org/en-gb/campaigns/oil-gas-and-mining/imf-congo-transparency-actions-before-bailout/).

106 Based on Albert Zeufack's (World Bank) lecture at 2015 NRG1 conference: [www.youtube.com/watch?v=QfIXCrEOcpc](http://www.youtube.com/watch?v=QfIXCrEOcpc).

107 IMF, *South Sudan: 2019 Article IV Consultation-Press Release, Country Report No. 19/153* (2019), [www.imf.org/en/Publications/CR/Issues/2019/06/04/South-Sudan-2019-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-46965](http://www.imf.org/en/Publications/CR/Issues/2019/06/04/South-Sudan-2019-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-46965).

108 Duncan Miriri, "South Sudan suspends all pre-sales oil contracts," Reuters, 28 June 2019, [uk.reuters.com/article/uk-southsudan-oil-idUKKCN1TT226](http://uk.reuters.com/article/uk-southsudan-oil-idUKKCN1TT226).

109 Yigal Chazan, "Angola's debt reliance on China may leave it short-changed," *Financial Times*, 13 June 2018, [www.ft.com/content/fb9f8528-6f03-11e8-92d3-6c13e5c92914](http://www.ft.com/content/fb9f8528-6f03-11e8-92d3-6c13e5c92914).

110 Libby George, "Growing Chinese debt leaves Angola with little spare oil," Reuters, 14 March 2016.

111 IMF, *Angola: First Review of the Extended Arrangement Under the Extended Fund Facility, Country Report No. 19/170* (2019), [www.imf.org/en/Publications/CR/Issues/2019/06/19/Angola-First-Review-of-the-Extended-Arrangement-Under-the-Extended-Fund-Facility-Requests-47003](http://www.imf.org/en/Publications/CR/Issues/2019/06/19/Angola-First-Review-of-the-Extended-Arrangement-Under-the-Extended-Fund-Facility-Requests-47003).

the Glencore loans as a key factor.<sup>112</sup> As a result, the IMF made the restructuring of this loan a key priority for their continued lending to the country.<sup>113</sup>

Ecuador took several RBLs from China between 2005 and 2015. By the time of the commodity price crash came, the government had multiple large RBLs from China outstanding, some of which were in the form of oil-backed deals. To repay their debt, the country committed to sell up to 80 percent of the country's oil exports at a discounted price.<sup>114</sup> As a result of the deteriorating economic situation, in 2019, the Ecuadorian president argued that to avoid suffering the same fate as Venezuela, his country needed an IMF bailout.<sup>115</sup> There is no indication in the terms of the IMF bailout agreement or their first program monitoring report that the IMF takes issue with the terms Ecuador's past RBLs. However, they do find it problematic that the definition of Ecuador's debt excludes oil advances and recommend amending that.<sup>116</sup>

According to the IMF, Niger is at moderate risk of debt distress, and there is no indication that it is having any difficulty servicing its China Eximbank RBL linked to the Agadem oil project. The

outstanding amount only is 1.7 percent of GDP and full repayment is expected in 2023.<sup>117</sup>

In Venezuela, the drop in commodity prices precipitated problems in an already gravely mismanaged economy. In the years following the commodities downturn, the country deteriorated into political and economic crisis. There have been no IMF country reports for Venezuela since 2004.<sup>118</sup> However, oil backed loans have clearly been at the center of the country's debt problems. According to news reports, in 2016, the government requested an extension on the payment of these loans.<sup>119</sup>

The IMF describes the DRC as being at moderate risk of debt distress.<sup>120</sup> Nevertheless, the country's large resources-for-infrastructure agreement still presents a risk, albeit a more distant one. Signed in 2008, the deal says that if the joint venture (between state and private investors) that took the loan for infrastructure fails to repay it within 25 years, then the government must repay the debt.<sup>121</sup> So far, production has been significantly lower than expected, though this problem is somewhat attenuated by the fact that draw down from the loan has also been more modest.<sup>122</sup> It is therefore

112 IMF, Chad: 2016 Article IV Consultation, Country Report No.16/274 (2016), [www.imf.org/en/Publications/CR/Issues/2016/12/31/Chad-2016-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-Executive-44190](http://www.imf.org/en/Publications/CR/Issues/2016/12/31/Chad-2016-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-Executive-44190).

113 "IMF resumes lending to Chad following Glencore debt deal," Reuters, 14 April 2018, [www.reuters.com/article/us-chad-imf/imf-resumes-lending-to-chad-following-glencore-debt-deal-idUSKBN1HL0U8](http://www.reuters.com/article/us-chad-imf/imf-resumes-lending-to-chad-following-glencore-debt-deal-idUSKBN1HL0U8).

114 Nicholas Casey and Clifford Krauss, "It Doesn't Matter if Ecuador Can Afford This Dam. China Still Gets Paid," *New York Times*, 24 December 2018, [www.nytimes.com/2018/12/24/world/americas/ecuador-china-dam.html](http://www.nytimes.com/2018/12/24/world/americas/ecuador-china-dam.html).

115 John Paul Rathbone and Colby Smith, "IMF agrees to \$4.2bn fund for Ecuador," *Financial Times*, February 21 2019, [www.ft.com/content/f6aed944-35e9-11e9-bd3a-8b2a211d90d5](http://www.ft.com/content/f6aed944-35e9-11e9-bd3a-8b2a211d90d5).

116 IMF, *Ecuador: First Review under the Extended Fund Facility Arrangement, Country Report No. 19/210* (2019), [www.imf.org/en/Publications/CR/Issues/2019/07/03/Ecuador-First-Review-under-the-Extended-Fund-Facility-Arrangement-Requests-for-Waiver-of-47087](http://www.imf.org/en/Publications/CR/Issues/2019/07/03/Ecuador-First-Review-under-the-Extended-Fund-Facility-Arrangement-Requests-for-Waiver-of-47087).

117 IMF, Niger: 2019 Article IV Consultation, Country Report No. 19/239 (2019), [www.imf.org/en/Publications/CR/Issues/2019/07/22/Niger-2019-Article-IV-Consultation-Fourth-Review-Under-the-Extended-Credit-Facility-and-48514](http://www.imf.org/en/Publications/CR/Issues/2019/07/22/Niger-2019-Article-IV-Consultation-Fourth-Review-Under-the-Extended-Credit-Facility-and-48514).

118 IMF, *List of IMF Member Countries with Delays in Completion of Article IV Consultations or Mandatory Financial Stability Assessments over 18 Months* (2019), [www.imf.org/en/Publications/Policy-Papers/Issues/2019/12/26/List-of-IMF-Member-Countries-with-Delays-in-Completion-of-Article-IV-Consultations-or-48924](http://www.imf.org/en/Publications/Policy-Papers/Issues/2019/12/26/List-of-IMF-Member-Countries-with-Delays-in-Completion-of-Article-IV-Consultations-or-48924)

119 Corina Pons, Alexandra Ulmer, Marianna Parraga, "Exclusive: Venezuela in talks with China for grace period in oil-for-loans deal - sources," *Reuters*, 14 June 2016, [www.reuters.com/article/us-venezuela-china-idUSKCN0Z01VH](http://www.reuters.com/article/us-venezuela-china-idUSKCN0Z01VH).

120 Moderate risk still means less concessional loans from IDA (WB) available for borrowing.

121 *Protocole d'Accord RDC – Groupement Entreprises Chinoises* (2007), p. 18.

122 Maiza-Larrarte and Claudio-Quiroga, *The impact of Sicominés on development in the DRC*.

*Resource-backed loans have been a major factor in the debt problems experienced by Angola, Chad, Republic of Congo, South Sudan and Venezuela, which all relied very heavily on this mode of borrowing.*

too early to opine on overall impact, and much will depend on copper and cobalt prices, which, unlike oil, have been high.<sup>123</sup>

Ghana underwent major economic problems after the oil price crash and is still at high risk of debt distress. The country only started producing major quantities of oil in 2010, which led to a period of high expectations of future wealth and heavy borrowing. By 2015 this led to debt levels escalating beyond 70 percent of GDP and an eventual IMF bailout. The 2007 RBL for Bui Hydro Project was rather small and was linked to cocoa, which had relatively high price at the time. Ghana was to pay back its 2011 CDB loan through oil sales and the RBL was still in its grace period during the country's economic difficulties. While the government drew \$1.5 billion from the RBL, it also issued twice as much (\$3 billion in Eurobonds from 2013 to 2015 at less favorable interest rates).<sup>124</sup> Therefore it does not appear as if the RBLs were the major contributor to Ghana's debt problems. As the IMF program comes to an end, the government is negotiating a new \$2 billion RBL with Synohydro, which Ghana plans to pay back through bauxite.<sup>125</sup>

The recent commodity price crash that started in late 2014 put public finances under pressure across resource-rich countries. It also revealed where and how RBLs may have contributed to this. Our review of cases suggests that, they have been a major factor in the debt problems experienced by Angola, Chad, Republic of Congo, South Sudan and Venezuela, which all relied very heavily on this

mode of borrowing. These examples highlight the importance of respecting prudent borrowing limits.



## RISK 5. RBLs CAN EXACERBATE FINANCIAL DISTRESS

With traditional financing, when a government turns insolvent and is unable to service its debt, it can aim for an “orderly default procedure.” This is a process where the government negotiates with its creditors to restructure or reschedule its debt. The aim is for all creditors to agree to reschedule the debt, which may mean reducing interest rates and/or a partially writing off the debt, to return the country to solvency. The IMF often insists on a rescheduling as part of any program to achieve a sustainable debt situation.

The place of RBLs in this debt distress architecture can be problematic. For one, China does not participate in the Paris Club, the forum where government creditors coordinate on debt rescheduling and the commodity trading companies are not in the London Club, a forum for private creditors, or other bodies representing private lenders.<sup>126</sup> Therefore, RBLs from any of these sources further complicate any debt rescheduling attempt. It took the Republic of Congo several years to come to an agreement with China, and it still has not come to an agreement with the commodity traders.

Another complication is that RBLs can be de facto more senior than other debt. This means that RBLs will be repaid before other loans are by

<sup>123</sup> Landry, *The risks and rewards of resource-for-infrastructure deals*.

<sup>124</sup> Though the RBL may have impacted the rate of Eurobonds. On Ghana's Eurobonds see also Aisha Adam and David Mihalyi. *Optimizing Ghana's Fiscal Rule* (NRGI, 2017), resourcegovernance.org/analysis-tools/publications/optimizing-ghana-fiscal-rule.

<sup>125</sup> IMF, *Ghana: Seventh and Eighth Reviews Under the Extended Credit Facility Arrangement and Request for Waivers of Nonobservance of Performance Criteria*, Country Report No. 19/97 (2019), www.imf.org/~media/Files/Publications/CR/2019/1GHAEA2019001.ashx.

<sup>126</sup> The London Club, sometimes referred to as the Bank Advisory Committee, is an informal group of private creditors on the international stage. The group of lending banks meet to co-ordinate debt rescheduling for borrower countries.

*The use of collateral can create complications in case of debt distress. In case of non-payment the collateral lost might be of greater financial value than the loan or at least perceived as more valuable by citizens.*

virtue of their earmarked revenue stream. Further complications can arise when RBLs benefit from legal security in the form of additional assets provided as collateral. Lenders can seize these assets if the government stops servicing the loan, for example, where specific cargoes are assigned as security to a commodity trader.

The problem of debt seniority and coordination with other lenders is illustrated by Venezuela. Given the severe crisis Venezuela is undergoing (see previous section), it is no surprise that the country is having difficulty servicing its debt. In fact, in 2018, Venezuela defaulted on some of its debt obligations.<sup>127</sup> While it decided to not pay some bondholders, PDVSA still keeps servicing the oil backed loans it received from Russian and China. As explained by former Minister of Planning Ricardo Hausmann, these loans are senior (or as he calls them “super-senior debt”). This means that RBL repayments supersede other sovereign loan commitments, including to private creditors as well as the IMF and World Bank. RBLs will be repaid directly as oil is being produced, whereas other creditors must wait for some receipts to come into the treasury. This preferential treatment jeopardizes attempts to work out a solution with all creditors.<sup>128</sup>

Countries often have to turn to RBLs because other lending sources are unavailable. However, even if they manage to improve their economy to be considered a worthy place for investment, many traditional creditors will be reluctant to lend to

them, knowing that their loans could be junior to those of RBLs and therefore less likely to be paid back in case of a downturn.

Some RBL borrowers may have pledged assets as collateral. The collateral can take the form of rights to commodity reserves, ownership of state-owned company or rights to assets abroad. Some RBLs require borrowers to keep a minimum cash balance in dedicated accounts (likely to be pledged as collateral). However, very limited information is available on assets designated as collateral for RBLs in the cases reviewed. We do not know if this is because there is no such collateral or because parties are reluctant to disclose it.

The use of collateral can create its own complications in case of debt distress. In case of non-payment the collateral lost might be of greater financial value than the loan (this is referred to as an over-collateralized loan) or at least perceived as more valuable by citizens of the country.

One such example is also in Venezuela, where PDVSA mortgaged 49.9 percent of its U.S.-based refining company Citgo as collateral for Rosneft’s oil backed loan. It used the other half of the company as collateral for a commercial bond also issued by PDVSA.<sup>129</sup> As the country faced growing difficulties in servicing its various loans, the loss of PDVSA’s most prized asset abroad became a real threat. The country’s opposition party has turned to the UN for asset protection given the exceptional circumstances the country is facing.<sup>130</sup>

127 Corina Pons, “Exclusive: Venezuela faces heavy bill as grace period lapses on China loans,” Reuters, 27 April 2018, [www.reuters.com/article/us-venezuela-china/exclusive-venezuela-faces-heavy-bill-as-grace-period-lapses-on-china-loans-sources-idUSKBN1HY2K0](http://www.reuters.com/article/us-venezuela-china/exclusive-venezuela-faces-heavy-bill-as-grace-period-lapses-on-china-loans-sources-idUSKBN1HY2K0).

128 Ricardo Hausmann, *China’s Malign Secrecy*, 2 January 2019, [www.project-syndicate.org/commentary/china-development-finance-secrecy-by-ricardo-hausmann-2019-01](http://www.project-syndicate.org/commentary/china-development-finance-secrecy-by-ricardo-hausmann-2019-01)

129 The other half was made a collateral to an international bond. See LAHT, *Venezuela’s PDVSA Mortgages US Refinery Citgo to Russia’s Rosneft*, 2016. [www.laht.com/article.asp?ArticleId=2427676&CategoryId=10717](http://www.laht.com/article.asp?ArticleId=2427676&CategoryId=10717)

130 Luc Cohen and Mayela Armas, “Exclusive: Venezuela opposition eyes U.N. asset protection as option to save Citgo,” Reuters, 19 September 2019, [www.reuters.com/article/us-venezuela-debt-citgo-un-exclusive/exclusive-venezuela-opposition-eyes-un-asset-protection-as-option-to-save-citgo-idUSKBN1W431H](http://www.reuters.com/article/us-venezuela-debt-citgo-un-exclusive/exclusive-venezuela-opposition-eyes-un-asset-protection-as-option-to-save-citgo-idUSKBN1W431H).

Ghana's new RBL provided by Synohydro offers to develop infrastructure in exchange for future refined bauxite. Ghana's Integrated Aluminum Development Corporation, which manages the country's bauxite reserves took the loan. Analysis of the loan shows that it may prove hard to service, as the repayment schedule requires a rapid ramp up of production and refining.<sup>131</sup> The IMF warns that development delays to expanding production could lead to potential loss of collateral.<sup>132</sup>

An older review by the IMF from 2003 discusses several collateralized loans (not just in the resource sector). The review generally advises against such borrowing, though it also states that each loan should be reviewed on a case-by-case basis. The review offers several reasons, many that we also state in this report, including the fact such loans are typically over-collateralized to enhance the arrangement's creditworthiness. They also highlight how the seniority of certain RBLs might run afoul of "negative pledge clauses" in certain loan contracts, including International Bank for Reconstruction and Development (World Bank Group) loans. They also emphasize how RBLs may threaten countries' abilities to repay the IMF.<sup>133</sup>

#### OPPORTUNITY 4. RBLs CAN BE RENEGOTIATED IN DIFFICULT TIMES

While coordination between RBL lenders and other lenders can be an issue in times of debt distress, there are also some advantages in trying to renegotiate

RBLs at these times as compared to renegotiation with more traditional lending instruments.

RBLs are likely to involve fewer creditors than do other forms of sovereign debt, such as sovereign bonds. This may make it easier to reach an agreement. This is advantageous in contrast to bonds, which might have holdout creditors that are less amenable to bargaining. The parties to an RBL are also often more heavily interdependent. This may imply that the lender has incentives to reach an agreement to continue its business operations, such as related upstream rights.

Although RBLs can sometimes include collateral, enforcing on this collateral may be difficult in practice. Enforcement can be a challenge without the consent of the borrowing government, particularly where the collateral involves assets in the country. Assets such as the bauxite reserves supposedly serving as collateral in Ghana's GIADEC RBL or the Selous and Northfields platinum reserves put up as collateral in Zimbabwe are highly sensitive and their loss would face great resistance.<sup>134</sup> If lenders tried to seize them rather than negotiate, they would be heavily dependent on local cooperation by state and citizens for using them productively, which they would likely find difficult. Therefore, they are unlikely to work effectively as collateral (unless lenders ask for heavy over-collateralization). This may be the key reason that no claims on such subsoil collateral have emerged publicly from the various RBLs facing repayment difficulties.<sup>135</sup>

131 Joseph Ackah-Blay, "Ghana cannot repay \$2 billion Sinohydro loan – ACEP," *Joy Online*, 2 October 2019, [www.myjoyonline.com/news/2019/October-2nd/ghana-cannot-repay-2bn-sinohydro-loan-acep.php](http://www.myjoyonline.com/news/2019/October-2nd/ghana-cannot-repay-2bn-sinohydro-loan-acep.php).

132 IMF, *Ghana: Seventh and Eighth Reviews Under the Extended Credit Facility Arrangement and Request for Waivers of Nonobservance of Performance Criteria*.

133 IMF, *Assessing Public Sector Borrowing Collateralized on Future Flow Receivables* (2003), [www.imf.org/external/np/fad/2003/061103.pdf](http://www.imf.org/external/np/fad/2003/061103.pdf).

134 "Storm Brews Over China Deal," *Zimbabwe Independent*, 9 July 2009, [www.theindependent.co.zw/2009/07/09/storm-brews-over-china-deal/](http://www.theindependent.co.zw/2009/07/09/storm-brews-over-china-deal/).

135 The same cannot be said about other types of collateral. See for example the dispute over the ownership of CITGO pledged by PDVSA as security. CITGO's refinery assets are above ground in the US, rather than underground reserves in Venezuela.

These characteristics may help explain why multiple RBLs have been successfully renegotiated.

In Chad, in order to service the NOC's RBL following the price crash, Glencore was allowed to keep a large share of the government's oil revenues (100 percent of equity oil and 70 percent of royalty oil). But the government found ways to reduce its repayment. SHT started diverting some of the oil to the domestic refinery rather than paying Glencore, showing that designated RBL revenue streams can be altered by governments looking to force a renegotiation. At one point, Chad asked to pay other international oil companies in cash rather than in kind, to avoid paying Glencore.<sup>136</sup> The country's president also threatened to give Glencore's monopoly trading rights to ExxonMobil. Glencore's upstream interests may have also made the company more amenable to renegotiate.<sup>137</sup> In 2018, as part of its IMF program, Chad completed its debt restructuring with Glencore, which lengthened the maturities on the debt, lowered interest rates and made the debt more counter-cyclical by including contingencies which adjust repayment downwards if oil price falls.

In April 2019, the Republic of Congo restructured its RBL with China without reduction of the principal but with a 15-year extension in maturity of the loan. This restructuring was a pre-condition

for an IMF program that started in July 2019. In the context of the program, the IMF insists that the country also renegotiate its loans from Trafigura and Glencore. They have already suspended servicing of the debt and an extension of maturities seems likely. However, a new deal had not yet been ratified when we wrote this report.<sup>138</sup>

In 2016, China initially eased payment terms for Venezuela on its \$19 billion RBL. They allowed PDVSA to make only interest payments for two years. Eventually, however, that grace period ended, which precipitated the financial difficulties discussed above.<sup>139</sup>

In 2015, facing dwindling oil revenues, Angola was also able to renegotiate its repayment terms and obtain further loans to refinance existing ones from China.<sup>140</sup> The President of Angola also requested a two-year moratorium on repayment of an RBL from CDB. It is unclear whether China agreed to this request.<sup>141</sup>

In looking at the broader public finance impact of RBLs, it is worth mentioning the argument that creditor governments are deliberately trying to push countries into over-borrowing through RBLs (sometimes labeled "debt trap diplomacy"). Though this line of argument has been often made about China, the supporting global evidence is weak and we have found no indication of this in

136 Madjasra Nako and Julia Payne, "Exclusive: Chad wants to cut off Glencore's oil supplies in debt row," Reuters, 30 October 2017, [reuters.com/article/us-glencore-chad-oil-exclusive/exclusive-chad-wants-to-cut-off-glencores-oil-supplies-in-debt-row-idUSKBN1CZ1TK](https://www.reuters.com/article/us-glencore-chad-oil-exclusive/exclusive-chad-wants-to-cut-off-glencores-oil-supplies-in-debt-row-idUSKBN1CZ1TK).

137 Ian Lewis, "Oil price recovery eases Chad's gloom," *Petroleum Economist*, 25 June 2019, [www.petroleum-economist.com/articles/politics-economics/africa/2019/oil-price-recovery-eases-chads-gloom](http://www.petroleum-economist.com/articles/politics-economics/africa/2019/oil-price-recovery-eases-chads-gloom)

138 The Government also committed to publish loan contracts. Javier Blas and Jack Faricy, "Congo Nears Restructuring of Oil Loans, Unlocking IMF Cash," Bloomberg, 15 May 2019, [www.bloomberg.com/news/articles/2019-05-15/congo-trafigura-are-said-to-agree-restructuring-of-oil-loans](http://www.bloomberg.com/news/articles/2019-05-15/congo-trafigura-are-said-to-agree-restructuring-of-oil-loans).

139 Corina Pons, "Exclusive - Venezuela faces heavy bill as grace period lapses on China loans," Reuters, 27 April 2018, [www.reuters.com/article/us-venezuela-china/exclusive-venezuela-faces-heavy-bill-as-grace-period-lapses-on-china-loans-sources-idUSKBN1HY2K0](http://www.reuters.com/article/us-venezuela-china/exclusive-venezuela-faces-heavy-bill-as-grace-period-lapses-on-china-loans-sources-idUSKBN1HY2K0).

140 Agatha Kratz, Allen Feng, and Logan Wright. *New Data on the 'Debt Trap' Question* (Rhodium Group, 2019), [rhg.com/research/new-data-on-the-debt-trap-question](http://rhg.com/research/new-data-on-the-debt-trap-question).

141 Lucas Atkins, Deborah Brautigam, Yunnan Chen and Jyhjong Hwang, *Challenges of and opportunities from the commodity price slump* (SAIS-CARI, 2017).

our research.<sup>142, 143</sup> CDB states that it has strict limits on sovereign borrowers' credit lines and on concentration of loans. Eximbank has also imposed a debt ceiling for each country.<sup>144</sup>

In 2019 China's Ministry of Finance released its own debt sustainability framework which it will use to measure risks of over-indebtedness in countries taking part in the Belt and Road Initiative.<sup>145</sup> A review also found that overall, China renegotiated \$50 billion worth of debt to developing countries. Though there is no detail on which debts were resource backed, the study finds "that resource-backed loans are not an element of leverage for Beijing."<sup>146</sup>

Sometimes RBL terms may be revised upwards. In 2014, when oil prices began to plummet, the CDB requested to increase Ghana's repayment volumes

on its loan by 2,000 barrels per day beyond the agreed upon 13,000 barrels of oil per day.<sup>147</sup> This may have contributed to the government's subsequent decision not to draw down the second half (tranche) of the loan.<sup>148</sup>

To summarize, RBLs can undermine a country's ability to take part in orderly default. RBLs may still need to be serviced from oil production or because of risk of losing collateral. This can happen even when the country is otherwise in default on other obligations and unable to pay for basic services. However, the mutual interdependence between RBL borrower and lender creates stronger opportunities to renegotiate, as highlighted by the instances in Angola, Chad, Republic of Congo and Venezuela where payment difficulties of borrowers were partly accommodated.

142 Sri Lanka's example is often cited as cautionary tale. In 2017, the country handed over its strategic port in Hambantota to China for 99 years due to its inability to service a loan (not resource-backed).

143 Rebuttals include Thierry Pairault, *Dettes africaines et prêts chinois* (AOC, 2019) and Janet Eom, Deborah Brautigam, and Lina Benabdallah. *The Path Ahead: The Seventh Forum on China-Africa Cooperation* (SAIS CARI, 2018).

144 Shu Zang and Matthew Miller, "Behind China's Silk Road vision: cheap funds, heavy debt, growing risk," Reuters, 15 May 2017, [www.reuters.com/article/us-china-silkroad-finance/behind-chinas-silk-road-vision-cheap-funds-heavy-debt-growing-risk-idUSKCN18B0YS](http://www.reuters.com/article/us-china-silkroad-finance/behind-chinas-silk-road-vision-cheap-funds-heavy-debt-growing-risk-idUSKCN18B0YS).

145 Ministry of Finance of People's Republic of China, *Debt Sustainability Framework for Participating Countries of the Belt and Road Initiative* (2019) [m.mof.gov.cn/czxw/201904/P020190425513990982189.pdf](http://m.mof.gov.cn/czxw/201904/P020190425513990982189.pdf)

146 Kratz et al. *New Data on the 'Debt Trap' Question*.

147 Aid Data. *China Loaned \$3 Billion for Oil, Roads, and Agriculture to Ghana* (2017), [china.aiddata.org/projects/2034](http://china.aiddata.org/projects/2034).

148 "Ghana will not draw second half of \$3 billion China loan- govt," Reuters, 16 July 2014, [uk.reuters.com/article/uk-ghana-china-loans/ghana-will-not-draw-second-half-of-3-billion-china-loan-govt-idUKKBN0FL1WY20140716](http://uk.reuters.com/article/uk-ghana-china-loans/ghana-will-not-draw-second-half-of-3-billion-china-loan-govt-idUKKBN0FL1WY20140716).

## VI. Policy recommendations

RBLs bring about some important opportunities and also severe risks, as highlighted by country experiences. RBLs can potentially finance significant infrastructure investment at sometimes advantageous borrowing terms. However, RBLs have been generally negotiated through highly opaque deals, uncompetitive procedures and often carried out off-budget by poorly governed SOEs. After the commodity price crash, the heavy reliance on this mode of financing in many resource-rich countries has also brought about crippling levels of debt. Although ultimately RBLs were successfully renegotiated in several instances, renegotiation was difficult and challenges remain in restoring financial stability in these countries.

There is now momentum to assess this experience with RBLs to assist countries in determining if and how they should enter into RBLs in the future. Several countries' recent repayment challenges revealed important parts of largely hidden deals. These disclosures and renegotiations can be important inputs in forging new approaches on process and substance. There is also a renewed interest in this mode of financing, with new deals signed in Brazil and Guinea in 2017, Ghana in 2018 and probably many more under discussion. Borrowing governments, lending institutions, civil society actors and international financial institutions all share a common interest in avoiding bad loans, learning from past mistakes and finding more sustainable ways forward.

Based on the above, we recommend that governments take a cautious approach in taking RBLs. Governments should first determine whether an RBL is the right financing tool to consider in the country's financial and governance context. The recent experience of other countries shows that RBLs have not proven an ideal tool for several countries. This evaluation should involve a cost-benefit analysis, including, in the case of bundled deals, economic modeling of the loan and

repayment terms offered, the value of the extractive rights granted and the value of the infrastructure to be provided. If a government looks to consider RBLs further, they should only do so if they can ensure the following safeguards are in place.

**Borrow transparently.** Recent steps taken by the EITI, IMF and others have improved the transparency norms applicable to RBLs. Practice should follow so all key terms of each loan contract are promptly made public. Where loan contracts are bundled with contracts for extractive rights or trading, the government should also publish contract terms for those elements. As encouraged by EITI, the criteria for company selection with regards to trading rights should be made public. Both companies and governments should disclose payment flows for RBLs in detail, as they already have done across several EITI reports. By making information publicly available, governments stand to benefit in two ways. First, they gain legitimacy and citizen trust by involving citizens in discussions on potential RBLs. Second, the greater scrutiny will help ensure the country is not signing a bad deal. Strengthening transparency will also help lenders and policymakers by providing a clearer picture of the country's debt levels and repayment capacity.

**Bring loans on budget.** Given their complex nature and importance, the loans and their associated spending cannot be executed by state-owned enterprises with a limited borrowing remit. Rather, the loans and their associated spending should be brought on budget, be vetted by countries' ministries of finance and subject to parliamentary scrutiny (where applicable). This will help ensure that governments have their full debt situation in view when taking on more financial commitments. Ultimately, when the budget balance sheet includes RBLs and their associated spending, countries will be more careful of the implications of additional debt burdens and how the proceeds are spent.



**Invest productively.** Loans come at an oftentimes significant cost. Money accrued from borrowing should not be consumed, but spent in productive investments that can generate returns over the long term that exceed their financing costs. Governments should base project selection on their national development plan. The spending plans for RBLs should also be made public and updated periodically. Given the costs involved, the use of RBLs as a form of short-term advance should be avoided.

**Make borrowing more competitive.** Governments should encourage competition amongst potential RBL providers on loan terms and financed projects. This will help governments secure the best possible deals when presented with alternative options. Even when loan contracts are tied to specific projects, there could still be clauses to increase competition in selecting the contractors and executing the subcontracts to the project. Detailed project evaluations and scrutiny of infrastructure companies' cost declarations are also key. This will help ensure reasonable loan terms and value for projects funded by RBLs. Also, competition will incentivize competent contractors to bid for available contracts and reasonable loan terms will benefit from a lower default rate.

**Use counter-cyclical loans.** RBLs allow for more flexibility in structuring the repayment schedule than regular loans. Governments of resource-rich countries should insist that the monetary burden of repayment be less when commodity prices are low, and that loans are repaid quicker when prices are high.

**Respect prudent borrowing limits.** Countries' ministries of finance need to scrutinize any RBL and ensure that the additional loan fits in its overall debt management strategy and that total debt levels stay within prudent levels. One way to learn this is to include detailed evaluation of RBLs under various price scenarios as part of the IMF and World Bank

led debt sustainability analysis. This was done, for example, with the Sicominex project in DRC.<sup>149</sup>

**Avoid using resource rights as collateral.** Rights to subsoil wealth make for poor collateral. They are very hard to value appropriately, are likely to be politically and legally contested and likely worth much less to a lender who will have difficulties utilizing it without government's support. For these reasons, the buyer may demand excessively large collateral, which in turn increases the risks. In the event of default, countries may stand to lose many times more than the loan amounts contracted and set themselves up for prolonged disputes. If the lenders need guarantees, these can take the form of sovereign guarantees, money kept in escrow or securitizing additional revenue streams.

**Bring experts to the negotiation.** Governments need robust institutions with the capacity to negotiate such complex deals as RBLs. This includes legal expertise in contracting, economic modeling of the loan conditions, valuation of resources used for repayments and unbiased technical assessments of the projects. These are all critical to ensure that governments can make informed decisions on whether the proposals it received are worthwhile. Once an RBL deal is agreed upon, it should be set out in legal instruments that fit within the country's binding legal framework and are subject to legally required oversight, as opposed to vague protocols that can create excessive ambiguity and discretion.

**Lend responsibly.** While the primary responsibility for a country's public finances lie with the borrowing country, lenders should also ensure RBLs are only used responsibly. They should disclose key terms of contracts in line with the proposal by the IIF, encourage more competitive allocation processes and ensure debt sustainability.

149 IMF, *Democratic Republic of the Congo 2015 Article IV Consultation*.

## Annex 1. Key information on resource-backed loans from our database

Agmt year	Loan value (\$M)	Borrowing country	Borrower entity	Lending country	Lender entity	Associated project
2004	2,000	Angola	Government	China	Eximbank	Multisector infrastructure projects (energy, water supply, education)
2007	500	Angola	Government	China	Eximbank	Multisector infrastructure projects (health, education)
2007	2,000	Angola	Government	China	Eximbank	Multisector infrastructure projects (government's public infrastructures programme)
2009	2,000	Angola	Government	China	Eximbank	Multisector infrastructure
2010	2,500	Angola	Sonangol (SOE)	China	ICBC	Kilambia Kiayi New Town Phase I
2015	15,000	Angola	Government	China	CDB	Multisector infrastructure and Sonangol development
2009	10,000	Brazil	Petrobras	China	CDB	Exploitation of pre-salt oil fields
2015	3,500	Brazil	Petrobras	China	CDB	Oil sector investment (bilateral cooperation agreement 1st tranche)
2015	1,500	Brazil	Petrobras	China	CDB	Oil sector investment (bilateral cooperation agreement 2nd tranche)
2016	5,000	Brazil	Petrobras	China	CDB	Reduce other debts
2017	5,000	Brazil	Petrobras	China	CDB	Financing and leasing of oil platforms, other equipment needed for oil exploration and production, and joint investments in exploration and refining
2013	600	Chad	Government	International	Glencore	Budget financing
2014	1,356	Chad	SHT	International	Glencore	Purchase of Chevron oil fields
2008	3,000	Democratic Republic of the Congo	Sicomines: JV of Congolese SOE Gecamines (32%) and Chinese consortium of CREC and Sinohydro (68%)	China	Eximbank	Construction and rehabilitation of various railways, roads, hospitals
2011	500	Democratic Republic of the Congo	Government	Korea	Korea Exim	Economic Development Cooperation Fund - network of water supply pipelines in Kinshasa
2010	1,000	Ecuador	Petroecuador	China	CDB	80% discretionary, 20% oil
2011	2,000	Ecuador	Petroecuador	China	CDB	70% discretionary, 30% oil-related (discretionary includes \$680 million for hydroelectric dams [Delsitanisagua, Minas-San Francisco, Mazar-Dudas] \$50 million Esmeraldas thermoelectric plant, \$37.5 million Villonaco wind farm, possibly \$240 million ECU-911 security project)
2012	2,000	Ecuador	Government	China	CDB	Finance 2013 budget deficit
2015	5,296	Ecuador	Government	China	Eximbank	Finance transportation, education, and health-care projects
2015	1,500	Ecuador	Government	China	CDB	Partially finance the Annual Investment Plan for 2015
2016	1,500	Ecuador	Government	China	CDB	Non-discretionary government spending/government finance
2016	500	Ecuador	Government	China	CDB	Infrastructure projects

Project sector	Resource	Resource payments	Interest rate	Maturity (years)	Grace period	Loan as % of GDP
Infrastructure	Oil	10,000 bpd	LIBOR + 1.5%	17	5	8.5%
Infrastructure	Oil	10,000 bpd	LIBOR + 1.5%	17	5	0.8%
Infrastructure	Oil	10,000 bpd	LIBOR + 1.25%	15	5	3.1%
Infrastructure	Oil					2.8%
Housing	Oil	10,000 bpd -30,000 bpd, increases over time		8		3.0%
Infrastructure + Oil sector	Oil			12		12.9%
Oil sector	Oil	150-200,000 bpd	LIBOR + 2.80%	10		0.6%
Oil sector	Oil			10		0.2%
Oil sector	Oil			10		0.1%
Budget support and debt rollover	Oil	100,000 bpd		10		0.3%
Oil sector	Oil	100,000 bpd		10		0.2%
Budget support and debt rollover	Oil	Royalty oil (with cap)	7.5% (renegotiated)	8 (renegotiated)		4.6%
Oil sector	Oil	Badoit equity oil (up to 100 percent)	7.5% (renegotiated)	8 (renegotiated)		9.7%
Infrastructure	Copper and cobalt	Profits of the copper and cobalt mine	LIBOR + 1%	25		15.7%
Infrastructure	Copper	Musoshi copper mine revenues				2.0%
Infrastructure	Oil		6%	4		1.4%
Infrastructure	Oil		6.90%	8		2.5%
Budget support and debt rollover	Oil	39,000 bpd			2-3 year grace period	2.3%
Infrastructure	Oil			30		5.3%
Infrastructure	Oil					1.5%
Infrastructure	Oil		7.25%	8	2	1.5%
Budget support and debt rollover	Oil		6.87%	8	2	0.5%

## RESOURCE-BACKED LOANS: PITFALLS AND POTENTIAL

Agmt year	Loan value (\$M)	Borrowing country	Borrower entity	Lending country	Lender entity	Associated project
2007	306	Ghana	Government	China	Eximbank	Bui Hydropower Project (concessional loan portion)
2007	292	Ghana	Government	China	Eximbank	Bui Hydropower Project (commercial loan portion)
2011	1,500	Ghana	Government	China	CDB	Multisector infrastructure
2011	1,500	Ghana	Government	China	CDB	Multisector infrastructure
2018	2,000	Ghana	Ghana Integrated Aluminium Development Corporation (GIADEC)	China	Sinohydro	Multisector infrastructure including roads, bridges, interchanges, hospitals, affordable housing
2017	20,000	Guinea	Government	China	Consortium of Chinese companies: China Henan International Cooperation Group, Chalco, China Power Investment Corp	Multisector infrastructure including Coyah-Dabola road, Conakry road network and sanitation, university building
2013	1,000	Niger	Government	China	Eximbank	SORAZ oil refinery (replacing an earlier loan)
2006	1,600	Republic of Congo	Government	China	Eximbank	Multisector infrastructure
2012	1,000	Republic of Congo	Government	China	Eximbank	Multisector infrastructure
2015	1,000	Republic of Congo	SNPC	International	Trafigura	Advances on oil cargo
2015	850	Republic of Congo	SNPC	International	Glencore	Advances on 48 oil cargoes
2010?	625	Republic of Congo	SNPC	International	Gunvor	Dedicated for oil infrastructure. Advances on oil cargo; 125M and 500M
2010	30	São Tomé and Príncipe	Government	Nigeria	Government	Spent on administering Joint Development Zone with Nigeria
2015	75	South Sudan	Government	International	Trafigura	Budget support, agricultural project (?)
2015	1,000	South Sudan	Government	China	CNPC	Advances on oil sale
2016	169	South Sudan	Government	China	Eximbank	Nadapal-Torit-Juba and Juba-Rumbek-Wau roads
2007	3,000	Sudan	Government	China	Eximbank	Multisector infrastructure
2006	6,500	Venezuela	PDVSA, Government	Russia	Rosneft	Partial earmarking to oil sector, military equipments
2007	4,000	Venezuela	BANDES and PDVSA	China	CDB	Multisector infrastructure (Joint Fund Tranche A)
2009	4,000	Venezuela	BANDES and PDVSA	China	CDB	Multisector infrastructure (Joint Fund Tranche B)
2010	20,255	Venezuela	Government	China	CDB	Funding infrastructure: electricity, heavy industry, housing, agriculture projects, \$6 billion at Venezuela's discretion; tied with freeway and power plants construction
2011	4,000	Venezuela	BANDES and PDVSA	China	CDB	Multisector infrastructure (Joint Fund Renewal - Tranche A)
2013	4,000	Venezuela	PDVSA	China	CDB	Increase Sinovensa production in Orinoco
2013	5,000	Venezuela	Government	China	CDB	Multisector infrastructure (Joint Fund - Tranche C)
2014	4,000	Venezuela	Government	China	Eximbank	Multisector infrastructure (Joint Fund Renewal - Tranche A)
2015	5,000	Venezuela	Government	China	CDB	Multisector infrastructure (Joint Fund Renewal - Tranche B w increase)
2016	2,200	Venezuela	PDVSA	China	CDB	Oil sector development
2004	110	Zimbabwe	Zimbabwe Electricity Supply Authority Holding Ltd.- Rural Electrification Agency (ZESA REA)	China	CATIC	Purchase of REA equipment
2006	200	Zimbabwe	Government	China	Eximbank	Purchase of agricultural equipment
2011	98	Zimbabwe	Government	China	Eximbank	Construction of the National Defense College

## RESOURCE-BACKED LOANS: PITFALLS AND POTENTIAL

Project sector	Resource	Resource payments	Interest rate	Maturity (years)	Grace period	Loan as % of GDP
Power	Cocoa	Cocoa sales for up to 40 000 Mt.	2%	20	5	0.9%
Power	Cocoa	Cocoa sales for up to 40 000 Mt.	CIRR + 1.075% (6.13%)	17	5	0.9%
Infrastructure	Oil		LIBOR 6M + 2.95%	15	5	2.8%
Infrastructure	Oil		LIBOR 6M + 2.95%	15	5	2.8%
Multisector infrastructure projects	Bauxite	?	LIBOR + 2.80%	15	3	3.1%
Multisector infrastructure projects	Bauxite	?		20		192.3%
Oil sector	Oil	Niger's share of oil revenues from Agadem permit	2%	25	8	13.0%
Infrastructure	Oil		0.25%	20	5	20.7%
Infrastructure	Oil			20	5	7.3%
Unknown	Oil					11.7%
Unknown	Oil			5		9.9%
Oil sector	Oil					5.1%
Oil sector	Oil					15.2%
Unknown	Oil					0.6%
Budget support and debt rollover	Oil					8.0%
Road	Oil	30,000 bpd				5.7%
Infrastructure	Oil					5.0%
Infrastructure	Oil					3.7%
Infrastructure	Oil	100,000 bpd		3		1.8%
Infrastructure	Oil	107-153,000 bpd depending on market price		6		1.7%
Infrastructure	Oil	200,000 bpd - 300,000 bpd, increases over time				6.9%
Infrastructure + Oil sector	Oil	230,000 bpd		3		1.2%
Oil sector	Oil			8		1.7%
Infrastructure	Oil	100,000 bpd		3		2.1%
Infrastructure	Oil	100,000 bpd				1.9%
Infrastructure	Oil			5		1.5%
Oil sector	Oil					0.8%
Power	Tobacco					1.2%
Agriculture	Platinum					2.5%
Education	Diamond		2%	20	7	0.7%

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