center for
ENERGY STUDIES
Rice University's Baker Institute for Public Policy

Working Paper in

THE ROLE OF FOREIGN DIRECT INVESTMENT IN RESOURCE-RICH REGIONS

Confronting the Resource Curse: Advice for Investors and Partners

David Goldwyn, JD, MPA
President, Goldwyn Global Strategies, LLC

Andrea Clabough, MA
Associate, Goldwyn Global Strategies, LLC

February 2020

David Goldwyn and Andrea Clabough
"Confronting the Resource Curse: Advice for Investors and Partners"

Introduction

Developing countries which experience major foreign investment and revenue flows from natural resource development have struggled long and mostly unsuccessfully to manage the economic, political and social impacts of this newfound wealth. These problems, often called the "natural resource curse" or "paradox of plenty", have been extensively researched in recent decades, but avoiding the "curse" remains a challenge. While every nation that anticipates the income from a major discovery of oil, gas or minerals hopes to convert this wealth into sustainable development and long-term prosperity, most often the results are just the opposite. Public accountability declines, authoritarianism rises, currencies are distorted and non-extractive industries atrophy. Borrowing rises in anticipation of income and monies are not spent wisely. Expectations of newly-invested private companies fluctuate from cautious optimism for taking on the initial investment risk, to excitement when discoveries are made, to resentment at the length of time it takes for projects to mature and repay costs. Indeed, within governments (and the new investors themselves) divisions emerge over whether these companies should be the new providers of major social services or simply be law abiding and silent guests. These internal debates are heightened when expectations meet reality, and promises of the benefits from resource development disappoint an eager public. The reasons for these failures in macroeconomic management and political accountability are several, but they result from largely from weak governance. Disappointed expectations are also aggravated by the deep misalignment between political cycles and investment cycles.

The questions of whether countries can avoid the resource curse, and what role investing companies should play, are highly salient today. The world will continue to use significant quantities of oil and gas and minerals for decades to come, even in low carbon and decarbonizing outlook scenarios.[1] Moreover, we see major discoveries and resource development underway in emerging and less diversified economies that are unfamiliar with significant, high-value resource wealth such as Guyana, Senegal, Mauritania, Mozambique and potentially the Gambia, Suriname, and Tanzania.

In recent decades we have seen the growth of numerous national, multi-stakeholder and multilateral efforts to help new resource producing countries manage revenues wisely and improve standards of conduct for foreign investors. Many countries have worked hard at drafting new laws to prioritize transparency in granting exploration rights and monitoring financial flows. Bottom up efforts like the Extractive Industries Transparency Initiative (EITI) have promoted citizen empowerment and transparency in revenues, contractual terms, and beneficial ownership. International Financial Institutions (IFIs) have leveraged their assistance for policy reform while nations like the United States, United Kingdom and Norway have ramped up capacity building efforts. Companies have agreed to higher standards for investment and conduct by joining the United Nations (UN) Global Compact, promoting the UN Sustainable Development Goals (SDGs), implementing the Equator Principles, and by joining multi-

stakeholder efforts such as EITI and the Voluntary Principles on Security and Human Rights. Major funds and even private equity firms have insisted on Environmental, Social and Governance (ESG) standards to facilitate responsible investment. At the grassroots level, social media now shines a global and immediate spotlight on corporate conduct everywhere.

Yet, for all these efforts, we have seen little progress in governance or human development in many resource dependent economies. Alarmingly, we already see warning signs in the new slate of countries embarking on new resource development. While responsibility for national development lies first with host governments, who have the sovereign rights and responsibility to determine how extraction will be conducted and how revenues will be managed, investing companies need to know how to comport themselves both to secure their investments and maintain their social license to operate (SLO) but also to be at least helpful to government efforts to avoid the resource curse rather than aggravate them.

In this chapter we briefly review the nature of the so-called resource curse, examine the motivations of companies and governments and where they do and do not align, and assess what we have learned from these recent decades of experimentation. We conclude by offering some modest suggestions specific to each of these stakeholders to help avert the resource curse in the future. Enlightened leadership can go a very long way toward avoiding the mistakes of others who mismanaged their resource inheritance. We are optimistic that foreign investors, as well as international institutions and external governments, can better tailor their efforts to support new resource producers and ensure that resource wealth is indeed a blessing, not a curse.

Understanding the Natural Resource Curse

Why is it that the advent of resource wealth so often impairs economic growth rather than enhances it? This phenomenon, the natural resource "curse" has been the focus of intense debate among academics spanning multiple disciplines.[2] Since the early 1990s, a wealth of literature has emerged showing the correlations between resource abundance and profoundly negative economic, political, social and human development consequences. Today, entire international and nonprofit organizations exist with the goal of avoiding or mitigating the resource curse in new or emerging resource producers.

The core elements of the "curse" are the overvaluation of the national currency and atrophy of other sectors (the "Dutch Disease") and political atrophy due to the dominance of a "rent" rather than a tax based government income (the "rentier" state).[3] The phenomenon of weak economic growth despite resource wealth has been coined as the "Dutch disease", where the discovery of a high-value export product (crude oil, gemstones, cobalt, etc.) leads to a dramatic increase in a country's national wealth from an influx of foreign currency. The influx can result in an inflated exchange rate, which weakens and shrinks the country's other export sectors ("spending effect"[4]) while

money and resources are shifted en masse ("resource movement effect") to support the new commodity sector at the expense of the rest of the economy.[5] Dutch disease refers to the Dutch experience following the discovery of the Groningen gas field in 1959.[6] The phenomenon – repeated in the UK following its North Sea discoveries - is also called the "paradox of plenty"[7] because the advent of plenty in the form of resource wealth paradoxically had led to economic decline rather than prosperity.

More recently, an OECD study of 24 oil exporters between 1982 and 2012 found that "[o]il dependence has a negative effect on the long run GDP per capita…[a] 10-percentage point increase in the oil export share is associated with a 7% lower GDP per capita in the long run", confirming "robust evidence" of the economic realities of the resource curse but adding that "empirical evidence on the drivers of the resource curse" remains scarce.[10]

Equally concerning are associations of the resource curse with political atrophy in the form of weakened institutions, corruption, and fragile civil societies.

> ***The Resource Curse: Nauru***
>
> The unfortunate example of Nauru is a notorious case in point. The small island nation enjoyed a phosphate mining boom that made one of the least developed nations in the world among the richest, second only to Saudi Arabia, almost overnight in the mid-1970s. [8]
>
> A myopic fiscal policy (e.g. taking on a massive overseas real estate portfolio, offering nearly all public goods and services tax free, squandering revenues on the massive and underutilized "Air Nauru" fleet) left the small nation crippled with debts when the phosphate boom turned to bust. In a grim irony, by 2007 Nauru was once again among the poorest countries in the world with next to nothing to show for its brief flirtation with resource wealth. [9]

Many governments new to resource development have weak institutions to begin with, either as legacy of colonial mismanagement or civil society underdevelopment. Too often, the pace of economic development on the back of resource development is much faster than that of the political development required to manage it. As the government is the resource owner (the case in nearly every country other than the United States), national income comes from external sources rather than citizens. The taxpayer becomes less politically important.[11] Governments have great discretion as to how to spend these revenues. This can create enormous temptations, from sharing revenues only with politically supportive constituencies, to directing contracts to friends of the ruling authority in a corrupt fashion, to waging war. The connection between authoritarianism specifically and natural resource wealth has been studied since the 1970s when academics first suggested that Middle Eastern governments' access to "rents" via prolific oil income removed the need for taxation (and therefore the urgency for democratic representation).[12] Governments, unmoored from public accountability, can operate as they please without the guardrails of a traditional social contract. More recent research into "Rentier State Theory" (RST) has supported the case for causal links between natural resource wealth and anemic or

nonexistent democracy, originally used to understand Middle Eastern autocracies but today applied to regimes worldwide.[13]

Where institutions are not up to par, corruption can quickly seep into a nascent resource development industry and prove tough to expunge. Nigeria has been an unfortunate and recurring case in point. Since the 1950s, much of Nigeria's national wealth has come from oil and gas concessions, managed by private foreign companies or (later in the 1970s) joint ventures between private companies and the new Nigeria National Petroleum Corporation (NNPC).[14] From its earliest days, Nigeria's oil sector was plagued with allegations of corrupt behavior and disappearing funds intended for public use.[15] One mistake in Nigeria was the merger of the Nigerian National Oil Company with the Petroleum Ministry in 1977, creating the Nigerian National Petroleum Corporation (NNPC) and combining producer and regulator under a single roof.[16] It quickly became a hotbed of nepotism, patronage and fraud allegations which resisted efforts at reform. The situation did not improve with time: in 1996, Transparency International's Corruption Perception Index ranked Nigeria as the lowest among 54 analyzed countries.[17] In response, and under intense pressure from the International Monetary Fund (IMF), President Obasanjo's administration launched an anti-corruption initiative creating an Independent Corrupt Practices Commission in 1999 and the Economic and Financial Crimes Commission in 2003 – well intended but belated efforts at institution-building.[18] Nigeria EITI (NEITI) led a famous audit of Nigeria's oil and gas sector from 1999–2004, which "raise[d] some serious questions over companies' accounting practices and production calculations, and over the quality of tax assessment and regulation by Nigerian authorities, and expose[d] mismanagement and opportunities for corruption in refining and products."[19] It concluded "Nigeria's oil and gas sector remains opaque and vulnerable to corruption."[20] Years later, Nigeria's government continues to debate various petroleum industry bills that would create independent regulatory authorities and diminish the discretion of the oil minister of the day – notably the stalled 2018 Petroleum Industry Bill (PIB) backed by the country's reformers.[21] They are fighting against entrenched elites who enjoy patronage benefits by controlling the sector – from condoning oil theft to directing the oil exploration contracts. These interests are so powerful that Nigeria's legislature has struggled to muster a consensus for change. Historically, opposition to attempts at reform has come from all corners – legislators from the oil-producing Niger Delta states, foreign private industry investors, and recently President Buhari himself and his internal advisors. As bill after bill languishes in the National Assembly, the country's critical institutions – the Ministries of Energy and Finance, the inland revenue service – remain weak while corruption remains endemic. One recent analysis of the Nigerian political scene laments that corruption "has become institutionalized at almost every level of government."[22]

Finally, researchers have noted correlations between a country's economic dependence on resource wealth and fragile civil societies. Some have argued that natural resources are an accessible, appealing form of financing for civil insurgencies while others have

argued that civil institutions within resource-dependent countries tend to be especially vulnerable to low-level conflict.[23] Similarly, Isham, et. al. describe "point source natural resource", or scenarios where resources are drawn from small geographic or economic bases, and argue that countries dependent on them are "predisposed to heightened economic and social divisions and weakened institutional capacity."[24] The causal role (if any) of natural resources in exacerbating social tensions and driving civil conflict is hotly debated, but troubling correlations are apparent in a range of countries, notably Iraq, Libya, Chad, Nigeria, Burma and Sierra Leone. The ongoing civil violence in, and eventual partition, of Sudan and South Sudan is a recent case study. A Carnegie analysis noted "[o]il has long been one of the central drivers of conflict between the two Sudans" incentivizing a fundamental conflict between Northern officials and Southern rebels which was little helped by partition in 2011.[25]

Who Is Responsible for Avoiding the Resource Curse?

Importantly, many countries that enjoy resource wealth do not suffer from the vagaries of the resource curse. Norway, Botswana, Chile, and Canada all successfully developed high-value resources while largely avoiding the numerous pitfalls described in the literature. This raises two important questions, 1) what distinguished these few successes from the more numerous failures, and 2) which stakeholders have responsibility for enabling countries to avoid the resource curse and achieve more sustainable, just and equitable development?

In an ideal world, countries which discover high-value natural resources would be equipped in advance with the tools these success stories enjoyed. They would have robust, publicly-accountable governmental institutions and oversight mechanisms. The relevant, sector-specific agencies would be prepared with the legal and regulatory frameworks to manage extraction processes and new revenues before development commences. The central government administration, planning for revenues from properly designed contracts, would make socially-conscious investment decisions in public employment, growth-oriented infrastructure investments (power generation, telecommunications, transportation) and the general welfare (health services, education). The bounty from natural resource wealth would result in broad-based prosperity across socio-economic and gender strata, with visible social improvements throughout a country.

But in reality, countries with new resource wealth are almost never prepared (legally, institutionally, or otherwise) to manage it on their own. Governments rarely have the tools to manage large scale procurement, or such capacity is found in institutions which are inherently conflicted, such as National Oil Companies (NOCs) or institutions that are unqualified to lead competitive economic frameworks (such as the national military), if such capacity is available at all.

Key factors distinguished the countries that successfully managed their resource wealth. Broadly, their governments have consistently practiced sound macroeconomic

management and either had effective political and regulatory institutions before they accessed resource wealth or successfully developed them later. Norway, for example, was a mature and industrialized democracy well before its initial forays into offshore oil exploration in the 1960s. Norway's strategic decision to pursue long-term investments with its revenues instead of short-term economic growth prevented the onset of Dutch disease and today has resulted in a nearly $1 trillion sovereign wealth fund belonging to all Norwegians.[26] Chile, the world's top copper producer and home to large deposits of precious and critical earth metals, pursued international trade and export diversification outside the mining sector throughout the 20th century; at home, the Chilean government established a Copper Stabilization Fund in 1985 to prevent exchange rate fluctuations.[27] Successive governments in Botswana, a major diamond producer, have codified transparency into that country's mineral development strategy from the outset, firmly guided by rule of law and respect for private property in line with the country's tribal traditions.[28] Likewise, Botswana's leadership has made sound human capital and infrastructure investments and prioritized savings through the Public Service Debt Management Fund and the Revenue Stabilization Fund.[29] Botswana is a rare example of a country which managed resource wealth well without significant administrative and bureaucratic capacity in advance. Put simply, the resource curse is not a preordained conclusion for new and emerging resource producers.

So, who is responsible for avoiding or mitigating the curse and fostering development? With respect to macroeconomic management and political accountability, in our view, responsibility rests solely on the national government as an issue of sovereignty. Unfortunately, this does not entirely solve the problem and leads us to another question: who should help governments address and manage the development impacts of resource development, when governments lack capacity and external organizations lack authority? Here it is logical to ask if some responsibility should go to the private sector, or rather the companies and investors engaged in resource development throughout the value chain who actively profit from the resources. This approach can be especially tempting for host governments, who may see the private sector as the ideal "subcontractor" for delivering infrastructure, enhanced public goods and new wealth simultaneously. It is easy to see why: international companies have deep project management experience, many boast higher profits in a given year than the GDP of their host countries, and investing companies have a "vested" interest in stable and productive working environments in their host countries. In addition, the private sector is often perceived as more efficient than government, and governments believe the pursuit of self-interest in the form of profit should induce the private sector to support sustainable development.

We argue, however, that the role of the foreign direct investor in this space should be circumscribed, for the good of the country, its citizens and the investor. Governments and investors have different motivations, different time horizons, and different stakeholders. These differences can produce important misalignments. Understanding

these differences should inform the degree to which investors can or should take on social and human development responsibilities.

The Host Country Perspective

Motivations

Governments are interested in maintaining political support and developing resources to generate revenue and produce new wealth. When resource development benefits are perceived as outweighing costs and in the national interest, a host country will seek available expertise to develop it.[30] For governments which rely on popular support (votes or otherwise), there is political benefit to economic development which can improve the standard of living for constituents, create new jobs in the extractive industry itself, surge employment in existing but underutilized sectors adjacent to development, and potentially make investments with immediate and ideally broad benefits (new scholarship funds, new highways, subsidies for previously expensive fuels, etc.). In short, host country governments want results, but quickly. A government with its country's long horizon interests in mind would pursue initiatives which prioritize sustainable economic growth and human development, but immediate term motivations can easily (and often do) overwhelm multi-generational considerations.

Challenges

The major challenge posed by government motivations is timing. Democratic governments operate on political cycles (e.g. 4 or 5 year terms) and even authoritarian regimes retain authority by managing public expectations. Resource discovery, in contrast, is a long term process. The time period from licensing or contracting, to assessment and exploration, and then to development and production, can take anywhere from a few months to years for onshore development, 4-10 years for offshore development and often 10 years or longer for an LNG export project.[31] Depending on the fiscal arrangements for repaying the investor's costs, government revenue will not arrive until production begins and its share may be limited during the cost recovery period.[32] In the case of Guyana, initial oil explorations (led by ExxonMobil and Hess) began in 2008 and were followed by the first major find in May 2015 with first production scheduled to begin in 2020. Guyana will begin receiving revenues after production begins in early 2020 but officials estimate a relatively modest (compared to anticipated future revenues) $100 million will be added to the 2020 state budget (out of total government revenues ranging from $200 - $300 million in the first year) during this initial cost recovery phase.[33] Over the long-term, some estimates project an annual government take of $5 billion starting in 2025 – but that plentiful future remains over a half decade away.[34]

This timing disparity is highly problematic for governments for several reasons.

First, public expectations rise on the announcement of a contract and the government of the day often fails to educate the public on the timing of new revenue. This is understandable, as governments must take credit for success but manage expectations

simultaneously. They want to extol the value and potential of a resource, but ensuing excitement can leave that country's government talking about "old news" discoveries for years with few tangible results. Guyana, again, offers a case in point. Three years after the first major oil discovery, even Guyana's wise and prudent Natural Resources Minister Raphael Trotman was famously quoted in an aspirational statement that every citizen would be a "U.S.-dollar millionaire, or worth that, in a few years" – a problematic bar to set for the country's 800,000 low-income nationals.[35]

Second, governments' capacities to manage the "business" of resource development often lags behind the opportunity. Developing economies cannot instantly develop internal expertise, nor often afford to hire it before revenues are available. The same is true for the development of regulatory capacity for licensing or safety. It can be overwhelming for a government to deal the complexity of working with large multinational businesses, as well as the avalanche of experts and organizations offering advice. All the while they must be wary of the risk of corruption and criticism of their decisions by the political opposition. Among the hard questions to answer are: how to manage taxation, royalties and concessions, how to design production sharing and services agreements, if auctions are preferable to private negotiations, if a sovereign fund should be instituted and if a new national resource company is necessary? Each decision is consequential, and the right choice is rarely obvious.

A third challenge is the timing of the commodity cycle. A government may strike a deal when commodity prices are low, but see exploration begin when prices are rising. This can lead government to question whether they previously struck a "good deal" and perhaps submit to political pressure to change the fiscal framework to be sure they are getting their fair share. In many cases, this confusing situation arises from the shift from the time when there were no discoveries or discoveries were untested (and the investor bore all risk) to the post discovery period that can lead stakeholders to revisit these terms.

The Company Perspective

Motivations

Investing companies invest to earn a competitive return. The decision to risk capital, especially in a new or frontier area where there is significant geological risk, is tied to the reward offered. Oil and gas development is a long term business – projects are expected to have a 20-30 year life span at minimum – and project economics are calculated for that time period based on the terms offered in the contract. Investors expect to weather commodity cycles and take their risk based on expected long term prices and host government fiscal terms. Predictability and stability are essential to profitability.

This setup can have advantages for countries, including: a long term partner, a steady stream of investment and revenue, a predictable value chain of commerce and a foreseeable source of skilled labor demand. But not all investors are alike. In the resource extraction sector, companies roughly fit into one of three categories:

explorationists, developers, and service providers. Explorationists, as the title suggests, hunt for new resource finds and often operate on short time horizons. These companies often locate a new area to develop, demonstrate viability and scalability (i.e. long-term profitability and value), and (after investing tens or hundreds of millions of dollars) then sell all or part of a "find" to a developer. The Triton company famously discovered oil offshore of Equatorial Guinea and sold it to the Hess Corporation. In 2010, Anadarko Petroleum made a major gas find in the deepwater Rovuma Basin offshore of Mozambique and eventually brought in Mitsui, ONGC, ENH, BPRL Ventures and PTTEP as co-ventures in Mozambique Area 1 development and two LNG export trains.[36] Developers usually operate on much longer time horizons, sometimes decades. They invest billions of dollars in their chosen projects and require a stable future return on investment. Finally, service providers are effectively operational supporters; they do not produce a resource themselves, but they assist in a range of supportive tasks including drilling, well completion, equipment transport and maintenance, well/mine maintenance (logging, fracturing, cementing) and on-site construction where needed. They are typically employed by a developer, not a host country, although they may work directly with NOCs.

These varying roles and time horizons result in different sets of priorities. Creating and sustaining SLO is a key motivator for explorationists, but just for the time period of exploration. Developers have the long term time horizon, and often seek to grow a "preferred partner" relationship to potentially expand their opportunities in country, especially if they are the first developer in-country. For long-horizon investors, the potentially generational relationship demands a stable rapport with a host country's people and government – preferably in the form of binding contracts, operational safety, and a consistent regulatory environment.

Challenges

The major challenges faced by investing companies are timing and national policy on revenue sharing.

First, companies must manage the challenges of their investment cycle. Companies are nearly always in "spend" mode for the first 5-8 years of any given major project. If they are in the exploration phase, firms may be uncertain whether a project will ever see profit or prove commercially viable. However much a company values a stable working environment, it cannot justify large expenditures at this stage outside of investing directly in bringing the resource online.

In this respect, the respective timelines of host country leaders and new private sector companies investing in resource extraction are fundamentally unaligned. The governments of emerging resource producers want their new investors to help ensure that their domestic constituencies will see benefits during their political terms – in democracies, typically a few years. Country desires can range from jobs to infrastructure to new public services (e.g. electricity generation, telecommunications). Few companies, even extremely well-financed ones, can justify these immediate

expenditures in early development stages. This is particularly true for very high cost investments such as deepwater hydrocarbons, liquefied natural gas (LNG) infrastructure, and some types of conventional oil development.

Second, companies must manage the timing of the political cycle. The administration that signs their contract may well be different from the one in power during exploration, production and expansion. When the resource development project is the largest economic factor in a country it will be the subject of political attention that may put the contract that led to development under question and challenge. The political cycle can challenge investors in many ways. One form is to question the legitimacy or terms of the contract itself. In Mexico, despite a process of constitutional reform, unprecedented transparency in contracting and revenue management, and supervision of independent regulators, President Lopez Obrador challenged the integrity of the contracts won at public auction when he was elected in 2018. These contracts are still mostly in the assessment or early exploration phase. Throughout 2019 the upstream contracts have remained under review but otherwise left intact; however, plans for future auctions have been

Challenges in Misalignments: Tanzania LNG

A recent example of this misalignment is the ongoing saga of Tanzania's proposed LNG terminal. Tanzania has recently enjoyed significant gas finds (estimated at 55 trillion cubic feet) such that its government has pursued investors for a $30 billion LNG export project.[37] The administration of President Jakaya Kikwete (2005 – 2015) was extremely supportive of new gas development in the hope of "transform[ing] our country into [a] paradise" and developed a regulatory framework designed to facilitate rapid production of the new resource - despite public protests over perceived unfair revenue sharing.[38] President John Magufuli's successor administration has been far less amenable. Nicknamed "The Bulldozer", Magufuli is seen as a reformer and has sought to exert greater control over the country's resources and its foreign investors. His administration pressed for two new laws in 2017 which gave the government new rights to renegotiate contracts and take larger shares of revenues than previously agreed.[39] He has reportedly blamed international partners (Shell, Ophir, Pavilion, Equinor and ExxonMobil) for difficult and delayed negotiations on a commercial framework agreement for the LNG project, accusing them of demanding a too high percentage of revenues while sequestering the country's gas wealth for their own benefit.[40] Detailed plans and even a firm location for a $30 billion LNG terminal have been in process since 2016, but a consortium of major international companies has struggled to finalize terms with the current Tanzanian government.[41] The delays reportedly center on the government's dissatisfaction with a very long time horizon for the project and the need for semi-permanent contracts to protect the investment – blocking an obligatory host government agreement (HGA) for all parties involved. An Equinor spokesperson recently noted that this type of complex deepwater LNG facility "requires large upfront investments. To ensure that all parties benefit…a stable and predictable framework for more than 30 years of the plant is essential".[42] After years of stalling and with negotiations still ongoing, Tanzania's Energy Minister has now said the project will come online no sooner than 2028.[43]

frozen.[44] In Guyana, similarly, the opposition party seeking to regain control of the government in 2020 has challenged the current government's 2016 agreement with ExxonMobil, with first oil expected to come online in 2020.[45] The opposition PPP has said that while it will not seek to change Exxon's operating terms, it would renegotiate those with other companies.[46] Outcry was strong enough that in November 2018 following an unfavorable IMF assessment of the contract terms that the government opted to suspend upstream licensing until 2020 to improve future contracts. The political scene grew so tumultuous that the government eventually faced a no-confidence vote in December of that year which has roiled the country's governance, and delayed the important promulgation of a petroleum law, as all sides try to chart a path forward.[47]

Third, investors must also manage the commodity cycle. As commodity prices rise countries may feel they should enjoy a greater share of the economic rent. When prices fall, companies may seek to slow production, delay exploration or cut costs. When companies are in spend mode –before production begins – or in a low price cycle they may be resistant to taking on spending for social projects or any need not directly related to sustaining production.

Fourth, while national governments may enjoy the benefits of resource development, their policies on sharing revenues with the actual resource producing areas, also known as "derivation" can produce frictions. Producing areas are inevitably disproportionately impacted by exploration and production in the form of rising rents, demands on local power, water supplies, roads, emergency rooms and police forces, and concerns about environmental impacts may be resistant. These impacts have been problematic for Fort MacMurray in the Alberta oil sands of Canada, as well as in North Dakota and Pennsylvania as they developed unconventional oil and gas.[48] National governments often take a hands off approach to local reactions, even when the national government has itself licensed development. A center-right government in France, for example, attempted to license shale gas development in the Paris basin but quickly bowed to local opposition.[49] More recently, Mexico's Comisión Federal de Electricidad (CFE), under pressure from the populist AMLO administration, has begun deferring to local communities to decide if they wanted the construction of gas pipelines that have already been tendered.[50] Some governments give a share (sometimes substantial) to a producing region to address these impacts to incentivize local support for industry investment. Argentina, Nigeria and Canada all give large shares on of resource rents directly back to the regions. Others, like Mexico or the UK, offer only nominal shares.

It is in this area, local impact, that companies have a direct interest in sustaining SLO by providing some local benefit in the early phases of their work, especially where national governments do not.

Misalignments

With these differing sets of motivations and challenges in mind, the opportunities for misalignment (particularly for new resource-producing countries) become clearer, and illustrate how risky it can be to expect foreign direct investors to take on major development roles.

In industrialized resource producing countries, where resource development tends not to dominate the economy, companies and host countries typically enjoy cooperative relationships. As long as the companies pay their taxes and royalties, operate safely and comply with the law and appropriate regulations, host countries do not expect them to do more than be good neighbors where they operate. Other than changes which affect the economy at large (such as corporate tax rates) countries do not change the economics on which an investment is made by dramatic shifts in policy, and misalignments tend to be rare and manageable. Notable examples include Canada, Brazil, Chile, Qatar, and (to a lesser extent of late) Mexico. These host countries do not expect their investors to promote economic development outside of their narrow lane, and do not seek or welcome their advice on macroeconomic management. Where disputes occur, they are usually the result of unusual situations where one party feels cheated or manipulated.

Challenges in Misalignments: Iraq

Exxon's recent experiences in Iraq reveal some of these risks. To boost Iraqi oil production in the wake of the country's civil war, in 2010 ExxonMobil and the Iraqi government began collaborating on a multi-billion dollar seawater injection project designed to boost production from the oilfields in the country's south. The project would have facilitated expanded production from declining fields without using scarce and critically important freshwater supplies.[51] The Common Seawater Supply Project (CSSP), today integrated into the larger umbrella Southern Iraq Integrated Project (SIIP), was quickly tied up in disputes over cost and contract terms.

ExxonMobil attempted to restart conversations on the project in 2015 with China's CNPC as a joint partner to manage risk, but in 2018 the Iraqi government announced that it was considering tendering the project to another company if the dispute could not be resolved. The government's hopes in the early 2010s to raise its oil production capacity to 12 mbpd by 2018 were dashed; it now hopes to reach 6.5 million bpd by 2022 although experts suggest that going much higher may prove impossible without the CSSP.[52] As of August 2019, the Iraqi government and Exxon are still in negotiations.[53] Recent reports have suggested that Exxon is anxious about proceeding on a project of this scale without firm legal security in an environment where corruption is a serious business risk.[54] Even in a case where the company stands to directly benefit from a proposed infrastructure project, it has proved difficult to overcome the risks inherent to a competency misalignment.

For these companies, disputes tend to center on major shifts to taxes or royalties (or other terms) in a way that alters their profit margins and initial terms of investment. Usually these countries have clear standards for the rule of law and such disputes can be resolved through judicial mechanisms. Rarely, a situation occurs where a

government strong-arms its will onto companies and ultimately pushes them out of country. The most recent example is the slow-motion catastrophe of Venezuela's oil sector, which then-President Hugo Chavez accelerated throughout the 2000s by demanding more revenues from the IOCs which had invested in developing the country's more complex oil reserves. As oil prices climbed in 2007, Chavez demanded changes to existing country's NOC PDVSA majority control of projects, which resulted in the expropriation of ExxonMobil and ConocoPhillips' assets when they refused.[60] Importantly, the Venezuela case is the exception, not the norm, in mature producer-company relations.

The risk of misalignment is greatest in developing economies. Opportunities for misalignments are far likelier when host countries assert their economic and social development priorities onto their new private sector partners. The potential misalignments roughly fall under three general categories: timing, competencies and economic priorities. The disparity in time horizons has been addressed above. We focus briefly on competency and priorities next.

Government Priorities: Argentina

The experience of private investors in the Argentine oil and gas sector is illustrative. During a period of liberal economic reforms in the 1990s, Argentina's national oil company YPF was restructured and privatized, which led to a near doubling in oil and gas production between 1990 and 1997 and Argentina becoming a net gas exporter.[55] Following a serious recession that began in 2001, the populist Kirchner-Fernández administrations intensified energy sector subsidies in the late 2000s (previously undertaken as emergency measures in a free-falling economy).[56] Foreign investment crumbled in all sectors. Natural gas production, the primary fuel for power generation in Argentina, was choked by a misguided combination of domestic price controls, export taxes and new quantitative export limits in 2011 – an unprofitable situation which forced private companies to cut investments in Argentina and ultimately sank production.[57]

Upon entering office in 2015, the reformist Macri government sought to increase production quickly by creating a national price floor for hydrocarbon products well above global commodity prices (e.g. the domestic price of light crude oil was fixed at $67/barrel although they ranged elsewhere from $35–$45/bbl in 2016). His administration has also loosened subsidies to encourage production growth especially in the lucrative Vaca Muerte shale play; his government, however, has endured public outcry at fuel price shocks and economic headwinds as it has pursued tough reforms.[58] The Macri government has lately sought bailouts from the IMF and occasionally stalled or reversed course on the reforms to preserve stability.

Despite the chaos, private sector investors have returned to the country's oil and gas sector on the back of the reforms as supermajors Exxon, Chevron, Shell, and Total are all developing their new acreage in the Vaca Muerte formation and natural gas production and even LNG exports have finally accelerated after years of decline.[59] Anticipating defeat in the October 2019 elections, Macri reintroduced a cap on diesel and gasoline prices in order to re-prioritize domestic supply. Despite his efforts to stabilize the economy, he ultimately lost the election handily. His Peronist successor, Alberto Fernández, may double down on similar policies, throwing the future of Argentina's hydrocarbons industry into doubt.

Competency

Many developing economies have very weak capacities for procurement and regulation, while companies have deep abilities in this area. In some cases, a host country will want a new investor to address a major capacity problem in the provision of public goods, such as building roads, a power plant or telecommunications capability. Some companies do so voluntarily as part of efforts to bolster social license. In other cases, a private sector partner may be expected to support social goods through tacit or explicit backing of major infrastructure projects – public buildings, electricity transmission and distribution, water purification, etc. Host countries, and even the international community, can see these companies as ideal project managers. Recently, for example, the United Nations Development Programme (UNDP) and Repsol collaborated on a Community Benefit Program in Colombia including the construction of two micro-aqueducts and maintenance of four water reservoirs to provide 1,600 people from 18 communities with improved drinking water access.[61] However, building infrastructure outside the primary functions of the sector may exceed a company's core competencies. Where a host government or external actors see an effective contractor, a company may only see heightened risk. If firms agree to act as procurement agents, for example, they may be challenged later if there has been no public process or competitive auction to determine by whom and for how much a project will be completed. Likewise, even if a company and host government are aligned on the value of an infrastructure project, the company may offer terms in line with project risks that the host government finds unacceptable.

Economic Priorities

Finally, host governments may want a company to provide products or services to support its priority local or national economic agenda, particularly if those products can be used to show immediate benefits to the public at large. Unlike capacity building, these products usually sit well within a company's area of expertise – e.g. the provision of cheap or free gasoline or fuel oil, or electricity. Typically, however, a host government will expect these products to be given as part of its "share" or as a domestic supply obligation or otherwise cost-reduced. The host government may also cap prices for commodity products in-country, limit exports or raise taxes and fees after exploration has begun (but before a project can become profitable). All of this may be undertaken with the finest motives – resolving macroeconomic challenges and jumpstarting the economy – but prove out of sync with sensible business practices. Below market pricing distorts demand, creates an unstable basis for development of other industries that rely on energy and aggravate poverty alleviation by effectively subsidizing those who can pay and undercutting monies which could be targeted for the poor.

These misalignments have led host governments, supporting governments, IFIs and investors to seek new strategies, practices and standards to both ameliorate the negative

impacts of resource development and improve governance and development outcomes. We turn next to review this robust experimentation and assess what we have learned.

Efforts to Exorcise the "Curse"

National governments and private sector companies have employed a variety of tools to overcome the "paradox of plenty". The results have been, at best, mixed. A review of what host governments and companies have tried, and what has been successful, is instructive.

Government Strategies

Savings Funds

The tendency of new resource discoveries to result in high rents and overspending has made fiscal policy a focus for host governments seeking to avoid the resource curse. One popular tool is a savings funds, or sovereign wealth funds (SWFs), where a national government sets aside funds for designated purposes, usually related to macroeconomic fiscal and investment goals. In some cases, these are development funds that sequester monies for funding pensions, education, or infrastructure. Saudi Arabia's Public Investment Fund, for example, has been recently earmarked by Crown Prince Mohammed bin Salman to fund the construction of an ultra-modern city, Neom, on the country's northern coastline.[62] Some are for fiscal smoothing (more below), or to provide a "rainy day fund" which ensures budget support during low price commodity cycles. Still other funds, such as reserve funds, seek to diversify income outside the country and beyond the energy sector. SWFs in Norway, Saudi Arabia, Kuwait and others have been valuable investment tools for risk diversification for their respective economies – all made possible through natural resource development. In theory, a properly managed savings account should prevent overspending and encourage multi-decade planning. In reality, these funds can be also be abused or manipulated to serve vested interests. They are only as effective as the rules which guard their usage.[63]

Transparent Legal and Fiscal Regimes

Host governments have often sought to adapt legal and fiscal frameworks as resource revenues begin rolling in, writing new transparency rules which emphasize revenue and payment disclosures among companies, local communities, regions and states. Petroleum laws, for example, can establish regimes for holding public auctions for sales of acreage or put requirements on ex parte communications with regulators. These are necessary, but often not sufficient, elements of a sustainable investment climate. Theoretically, institutionalized best practices should deter unscrupulous behavior or provide clear avenues for justice should illegal behavior occur.

Ghana's 21st century experience provides a recent example. After the 2007 discovery of the Jubilee Field in Ghana's offshore waters, its government began work on renovating its outdated 1984 petroleum laws to facilitate sustainable development of promising new hydrocarbon resources.[67] These efforts resulted in the Petroleum Revenue Management Act (PRMA) of 2011, amended in 2015, which provides for transparent and accountable collection of petroleum revenues overseen by a Public Interest and Accountability Committee, led by Ghanaian citizens.[68]

Unfortunately, as with sovereign and savings funds, the tools are only as good as the rules - or rather, the willingness of the state to implement and enforce them. Implementation of the laws is a challenge, especially as governments are in the process of building up institutional capacity. Mongolia, for example, is both a minerals and petroleum producer, with a long history of opaque and corrupt development. Steps in a different direction came with new laws governing disclosure of local impacts from resource development passed in 2006, followed by a 2014 Minerals Policy requiring publication of local cooperation agreements.[69] Importantly, the government signed onto a National Action Plan for Open Government Partnership for 2016-18, where it promised to develop "[t]ransparent and responsible processes for contracts" and develop a publicly accessible database for resource development contracts by June 2018.[70] Unfortunately, a recent NGRI analysis noted that the government failed to publish these contracts for publicly owned resources within the agreed timeframe.[71] The Mongolian government has endeavored to keep forward momentum with the public release of over 150 new contracts - including 25 petroleum production sharing agreements - in April 2019, but some of these were heavily redacted or missing crucial information, while many important contracts remain out of the public eye.[72] Progress in transparency has come in fits and starts. Clear and independently enforceable rules are hugely impactful to a resource producer's trajectory, but developing and implementing them is usually far easier said than done.

Government Strategies: Nigeria

In Nigeria, efforts to prioritize savings from oil extraction resulted in the creation of sovereign funds and an Excess Crude Account (ECA), the latter meant to be a step towards better revenue-management and a more stable economy during inevitable oil price drops. However, a recent NGRI report on Sub-Saharan Africa described Nigeria's ECA as "most poorly governed sovereign wealth fund assessed by the index".[64]

NGRI has noted that the ECA is opaquely managed, with no clarity on how the government handles deposits, withdrawals or investments.[65] Various Nigerian presidential administrations have pulled funds from the ECA to meet immediate budgetary or political needs – nearly $1.5 billion, for example, reportedly used by President Buhari on defense spending and the fight against Boko Haram, raising accusations of unconstitutional illegal spending.[66] SWFs and other savings mechanisms can be effective and powerful tools of diversification, but not if every day is a "rainy" day.

Independent Regulators

Independent regulation, in the permitting, safety and auditing stages of resource development, is an essential component of a sustainable investment climate. Separating industry supervision from the national oil or mining company can help avoid conflicts. Much progress has been made in improving the integrity of the resource development process by establishing independent regulators. In theory, having an independent regulator monitoring development creates an additional layer of public accountability and scrutiny; backroom deals become less likely, and critical processes such as contract writing, licensing, and procurement become less vulnerable to political influence. Separating entities responsible for revenue collection from those responsible for policy frameworks is another way to create space and mitigate collusive behavior; in the same vein, instituting competitive, open auctions in place of "private" agreements sheds light and clarity on the licensing process for the benefit of all stakeholders, private industry included. These and related policies should ensure that the proverbial fox is not guarding the henhouse.

Government Strategies: Independent Regulation

Indonesia's oil and gas regulator SKK Migas offers an unfortunate recent example of how even an established independent regulator can be manipulated and co-opted by external forces. In 2014 the former chairman of SKK Migas, Rudi Rubiandini, was convicted in a massive bribery scandal involving the owner of Kernel Oil Pte. Ltd., a Singaporean company, which had sought a contract with the Indonesian government. The former chairman was found guilty of accepting over $1 million in "payments" and sentenced to seven years imprisonment.[73]

Ironically, Rubiandini passed the blame along to parliamentary officials responsible for oil and gas oversight who he said had demanded "holiday bonuses".[74] Independent regulation should produce virtuous cycles of transparency, but the cycle is only as virtuous as the regulators themselves. In this case, an independent judiciary upheld the rule of law to enforce consequences on a corrupted regulator; such is not always the case in new resource producers.

Indeed, some recent efforts towards independent regulation have borne fruit. The 2013 Mexican Energy Reform is an exemplar. While most observers lauded the reforms for allowing private oil and gas investment in Mexico for the first time, a key achievement was the creation of new independent regulators such as the National Center for Natural Gas Control (CENAGAS), an improved Energy Regulatory Commission (CRE), and a newly empowered National Hydrocarbons Commission (CNH) – the latter formerly "a weak subsidiary" of Mexico's Energy Secretariat (SENER).[75] The Mexican reforms also implemented a system of public, transparent and even televised and web-cast auctions for deepwater, unconventional, heavy oil and shallow water acreage – newly opened to private and overseas companies for exploration.[76] The auctions proved a resounding success with over $150 billion in estimated investments between 2014 – 2018 in a major boon to the country's ailing hydrocarbons sector.[77] However, as with other transparency tools, independent regulation can be quickly converted into a fig leaf or be

outright manipulated by corrupt officials in the wrong conditions. Mexico's new government under the AMLO administration forced out the head of its two major regulators, CNH and CRE, before their terms expired and has replaced experienced commissioners with reportedly unqualified appointees who were twice rejected by the Mexican Senate (in which the President's party holds a majority) before being directed into their new positions.[78]

Revenue Management

Improved revenue management is an indispensable practice for governments seeking to mitigate or overcome the resource curse. Resource revenues are notoriously fickle: commodity prices fluctuate wildly, can end up geographically concentrated or benefit only small segments of a country's population, and often fail to meet high public expectations for prosperity.[79] Resource producers have tried a range of mechanisms to address these problems, primarily fiscal rules. The IMF notes "fiscal rules should support—or at least not impede—the capacity of fiscal policy to fulfil its three main functions: smoothing the economic cycle, fostering long-term growth, and promoting inclusiveness."[80] Fiscal rules governing resource rich economies come in many varieties but have two key roles: managing price volatility for commodity exports and ensuring long-term fiscal stability against resource depletion and expected future revenues.[81] Budget balance rules, for example, are common procyclical mechanisms which forces governments to budget spending in line with revenues.[82] Debt rules set limits on public debt as percentage of GDP or other metric.[83] Expenditure rules set limits on government spending or spending growth rates, while revenue rules set floors for revenue collection and can mandate the division of revenues into domestic spending, investment and savings funds.[84] Resource producers will usually have multiple fiscal rules with unique variations at play; none can work effectively as singular mechanisms, but can be effective where backed and enforced by strong rule of law and institutions.

In addition to robust fiscal regimes to manage revenues, many resource producers have tried subnational distribution and direct payments to equitably redistribute resource wealth. Subnational distribution, implemented in some form in 30 countries, refers to a federal government sharing resource wealth with subnational or local governments, usually on a percentage basis.[85] The subnational distribution approach has been characterized by mixed results. In theory, subnational resource distribution should alleviate socio-political tensions over concentration of revenues and "grow the pie" for all of a country's citizens. In reality, subnational distribution can have mixed outcomes. In Peru, for example, subnational revenue distribution was formally instituted in 2002. The legal framework not only increased the amount of revenues dispersed to subnational governments (regional and local) but also enshrined the central-to-local transfer processes and decentralized some government spending to lower levels of government.[86] Although $3.8 billion was transferred to subnational governments between 2013 and 2017, there are troubling indications of poverty rate increases especially in producing areas – possibly due to a national tax policy which allows private companies to claim more and more tax refunds as their profits grow.[87]

The newer concept of direct payments involves giving revenues directly to individual citizens in the form of cash transfers.[88] The direct payment mechanism broadens the stakeholder base by giving citizens money to invest and enhances political accountability by taking some of the revenues away from the government – ensuring that the government cannot fully rely on resource rents to operate. Direct payments are relatively untested. Alaska has pioneered one such system, the "Permanent Fund Dividend", an annual dividend paid to full-year Alaska residents from investment earnings off of resource development. The Alaska Oil and Gas Associated recorded in 2018 that every qualified Alaskan received $1,600, and the fund dispersed a total of over $1 billion.[89] The Fund has operated successfully since the early 1980s but works on a relatively modest scale compared to the population sizes of many resource-producing countries. The scalability of this model to other contexts is, for now, uncertain. An IMF analysis suggests that there is potential for direct payment models to work in other contexts, but cautions "it is difficult to argue that [the Alaska model] provides lessons for large resource dividend payments in countries that have a weak institutional setting".[90] Rather, pilot programs for direct payments in other resource producers should be couched within a well-designed overarching fiscal framework and should keep dividends relatively modest to prevent serious economic distortions.[91]

Company Practices

Private sector operators are not political scientists. While strategic leaders within companies might be well-versed in the issues surrounding the resource curse, mitigating or reversing it is not their area of expertise or priority. Stable relationships with local communities and host countries, however, are paramount to retaining social license to operate over the extent of possibly multi-generational investments. Social license to operate (SLO) refers to the "ongoing acceptance of the project by the surrounding community", or put simply: being a good houseguest.[92] So while a company may not set out to end the natural resource curse – a macro and microeconomic policy challenge — they do want to make a positive impact on the country, maintain good relations at the local and national level and support a stable legal and fiscal environment. Companies are aware that, if resource development becomes linked to a country's ails, economic or otherwise, then they themselves become linked to the "problem". In short order, a company's image can become toxic in-country and worldwide if the host country is perceived as the latest victim of the resource curse. To avoid that scenario and maintain SLO, companies want their role to be benefactor and solution creator, not exploiter.

Company approaches vary considerably and have evolved considerably over time. Some of the variation is the result of context, corporate vision and existing expertise at a given company. In some cases, the evolution has come from painful (and expensive) trial and error.

Development Partnerships

Recognizing the pitfalls of the DIY buildout approach, some companies have found it more practical to team up with local and international development organizations already at work in their new countries of operation. These organizations are usually fluent in local development challenges already, which facilitates company engagement without having to re-invent the wheel. Chevron's long-running social responsibility programs in healthcare and education in Angola have often reflected this approach. In 2010, Chevron partnered with United Nations Industrial Development Organization (UNIDO) and the Angolan Ministry of Education to support a new entrepreneurship training program in the country's secondary schools.[93] Chevron's $1 million donation supported a rollout of the UNIDO program throughout Angola, growing the program from a few thousand to as many as half a million students. Chevron's healthcare initiatives have mirrored this approach; the company's support of the Cabinda Blood Bank to support safe local blood services has been ongoing for over two decades, while Chevron has partnered with the Baylor College of Medicine International Pediatric AIDS Initiative (BIPAI) to support pediatric healthcare in Latin America and Africa.[94] In Angola, the BIPAI partnership manifested in the country's first comprehensive sickle cell screening and treatment program in 2011 with 230,525 screenings for newborns and 1,500 new healthcare professionals.[95] However, development partnerships are only as effective as the commitment behind them. The durability of a development relationship could be variable with the company's public relations or budgetary needs or may be discontinued if perceived as ineffective in supporting social license. Moreover, partner organizations (nonprofits, IGOs, academic institutions) can have their own internal politics, mixed motivations and limitations akin to any other organization – good intentions or no. Partnerships with existing, permanent organizations may seem like a step in the right direction towards sustainable development, but the problems do not disappear merely with the inclusion of more vested parties.

Shared Value

Another approach by companies is that of creating shared value to foster positive corporate-community linkages. Shared value refers to a business strategy in which creating economic value also addresses social development challenges.[96] In the extractive industries, this approach is in some aspects the opposite of the development partnership model. Whereas the latter effectively outsources development expertise to those who are already experts, the shared value strategy considers what an operator is already an expert at and how that expertise can benefit a host country or community. Eni S.p.A.'s work in the Republic of Congo is an example of this model. Eni has pursued multiple engagement strategies in Congo, but its shared value strategy around electricity generation has arguably been among its most successful. Eni acquired the M'Boundi onshore field in 2007, and opted to use gas from the field to fuel two power plants – including the Congo Power Station (CEC) Eni constructed in 2010 – as part of a broader power access strategy.[97] Eni reports "[t]he project has allowed supply to be extended to cover an area inhabited by some 350,000 people, i.e. 40% of [Pointe Noire's]

population, and has enabled the installation of more than 6,500 street lamps, thus improving urban security."[98] Sending gas to these plants makes Eni's hydrocarbons production more efficient, reduces wasteful gas flaring, and has created a durable domestic market for power with clear economic and social benefits for locals.

The straightforward logic and business sense of the shared value model is appealing, but the model relies on some key assumptions and a unique context. In this particular case, Eni's existing expertise dovetailed with a critical local need for expanded electricity access. But shared value projects have their own challenges and limits. The Shared Value Initiative[99] has described some of these specific to extractive companies which may be considering this approach: the difficulty of necessary collaboration with external and local partners, materiality challenges where full costs and benefits of sharing value are not properly understood, possible lack of government support (regulatory and otherwise) for an enabling environment, and often limited replicability of successful projects in other contexts.[100] In short, a shared value model may not work in all operating environments and companies must carefully calibrate any value creation approach to actually meet its own and stakeholders' needs.

Sector-Specific Development

The sectoral approach to development could be framed as "inch-wide, mile-deep" and refers to a company or operator taking on a single major challenge within a specific sector, such as education or healthcare. The sector-specific design theoretically enables deep, lasting impacts within specific issue areas, as opposed to sporadic, expansive development programs with limited or localized efficacy. These approaches have worked best when they build capacity rather than simply deliver services. ExxonMobil's Malaria Initiative is one example, and has been a core element of the company's corporate responsibility efforts for nearly two decades. As a major investor in African oil and gas producers, the fight against a preventable disease which kills nearly half a million people each year is gravely important to many of Exxon's host countries. Historically, with local workers and families in high-risk regions, malaria has also posed a very palpable threat to the company's operations.[101] Since 2000, Exxon has invested $170 million in anti-malaria programs and nonprofits battling the disease, with efforts focused on Angola, Cameroon, Nigeria, Tanzania and others.[102] The ExxonMobil Global Health Scholars program is an education pillar of the broader initiative, and allows students from developing countries to pursue master's degrees at Oxford University with a focus on disease and epidemiology.[103]

The sector-specific approach carries the benefit of concerted, focused effort but retains many of the limitations inherent to a range of other development approaches. These approaches can inadvertently make a company the de facto manager of a particular public good, perhaps in place of local governance and institutions – a commitment that a company may be unwilling to shoulder for the long haul. Considering the ExxonMobil Malaria programs specifically, observers have questioned if Exxon can commit to fighting malaria over multiple decades if the geography of its operations

change and African projects are no longer high priority (Exxon has said publicly that its commitment will not waver).[104] More broadly, companies considering sector-specific approaches should avoid inadvertently displacing local goods and services providers (e.g. would importing mosquito nets put local net manufacturers out of business in a given community?). Importantly, development challenges are often interwoven: even malaria, a seemingly clear-cut mosquito-caused illness, has connections to public healthcare infrastructure and the societal impacts of HIV/AIDS, environmental management and/or degradation, and changing weather patterns as a result of climate change. To their credit, reports from Cameroon suggest that ExxonMobil representatives leading the malaria programs have shown a willingness to listen to local feedback on how to improve public health access and expand the program's resources to combat other dangerous diseases, such as diarrhea and pneumonia.[105] For other, more complex development challenges, there are likely to be more and deeper interconnections with systemic problems. A sector-specific approach must be sure to recognize other interconnections among development challenges to avoid or risk being knee-capped and ineffectual, producing little in the way of clear public benefits.

Anti-Corruption Efforts

The resource curse is strongly correlated with corruption and graft, or rather incentive structures which make these outcomes more likely.[106] Anti-corruption efforts are hardly new: in 1977, the US's Foreign Corrupt Practices Act (FCPA) set federal extraterritorial anti-bribery laws and accounting standards which applied to all US persons and companies with US-listed securities.[107] Later, the OECD adopted the similar Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, which is described as "first and only international anti-corruption instrument focused on the 'supply side' of the bribery transaction."[108] These standards have covered, and been endorsed by, many of the most powerful international extractive companies for years. Corruption throughout the value chain and levels of governance is a major risk as government actors may seek to leverage public resources for private gain and, over time, some companies have been accomplices in these efforts to gain access to a business opportunity. To the extent that the allocation of a country's natural resource assets can be done in a visible way, such as competitive auctions or a transparent bidding process, then the allocation of that asset can withstand scrutiny. When transactions are private, they are far more open to corruption and (eventually) public challenge.

Senegal's recent gas concessions scandal reveals how corruption can seep into an operating environment in spite of good official intentions, and undermine the public perception of successive companies and the industry as a whole thereafter. With growing excitement in the early 2010s that Senegal could be a major hydrocarbons producer (major finds materialized in 2015), its government seemed to make the right decisions to put Senegal on the right track. Notably, Senegal has been a member of EITI since 2013, President Macky Sall established the Comité d'orientation Stratégique du pétrole et du gaz (COS-PETROGAZ) to conduct oversight and enforce transparent

sector operations, and the government began to publicly disclose some contracts online in October 2016.[109] Despite the positive steps, in June 2019 reports of a corrupt bargain involving the President's brother surfaced alleging that the latter had received payments in return for allowing a little known company to retain two gas concessions in 2012.[110] Later, the concessions were sold to owned by BP and Kosmos Energy, with BP paying as much as $12 billion in royalties for its stakes.[111] The government has been forced to face down a summer of intense public pressure (including political blowback from opposition parties and street protests), with the government first denying the allegations followed by the President's brother resignation from his role as the manager of a state savings fund a few weeks later.[112] Although the government has resisted pressure to change any gas contracts, including those at the center of the scandal, the situation has had profoundly negative consequences for all stakeholders. The Senegalese public and civil society organizations are mistrustful of the country's new investors, are questioning their own government's capacity and integrity to manage new development, while companies interested in Senegal (who had nothing to do with the 2012 deal) will find themselves under a microscope going forward.

Clearly, companies in this industry have growing vested interests in transparent and accountable working environments in their host countries. Multinational companies especially are increasingly (and vocally) supportive of anti-corruption programs to protect corporate reputation, host country social license and their own business security in an era of unprecedented scrutiny at all levels of society. The greatest amount of recent progress in this area has been in the disclosure, publication and verification of payments made to governments. In 2002, the nonprofit Publish What You Pay (PWYP) campaign was founded to address corruption and mismanagement in resource producing countries, and British Prime Minister Tony Blair officially launched the EITI at the World Summit on Sustainable Development.[113] Both organizations have been committed to global transparency on public reporting of private sector payments to governments in support of equitable and sustainable resource development. Notably, the global rise of the EITI standard would have been impossible if not for engagement of multiple industry players – especially early supporters Total, Kosmos Energy, Tullow Oil and other international majors later on (BP, Equinor, Chevron, Shell, etc.). Today, over 50 private companies in the extractive industries officially endorse the EITI standard. EITI requires "supporting companies" to make financial contributions (based on company size) to the work of the EITI, to publicly support the standards internationally and wherever a company operates, and to publicly disclose taxes and payments (or justify cases in which they do not).[114]

For various reasons, companies do not always support transparency efforts. Although companies have historically cited business competition as their reasoning against fully public contracts, there has been industry resistance to requiring other disclosures such as beneficial ownership, publishing even major terms of contracts, and (in the US) to publishing taxes and other payments made to governments. When there is little evidence of competitive harm from these now normal standards, such attitudes can

erode public trust.[115] At minimum, when countries new to development are establishing framework legislation and practices, companies should look to being supportive, and (if they cannot) remain silent. Where transparency is the cost of entry of maintaining social license, industry tends to cooperate. When production is already underway, as in the United States and Europe, they can be more resistant.[116]

Revenue Generation

Despite this growing menu of strategies and programs, the most substantial contribution a foreign direct investor makes is producing the oil, gas, minerals or product which they have contracted to produce. Revenue generation can come in many forms: taxation on a company's use of land, operations or profits, in-kind payments of extracted resources (often oil and gas), and participation in joint ventures or cooperative agreements with host governments themselves or with the NOC if one exists. This is the investor's primary duty: produce revenue in an honest and efficient manner and adhere to the host country's laws and regulations. To the extent an investor can create revenue and let the host country decide how to manage it, both sides gain and can avoid the moral hazards of the more hands-on development strategies.

However, relying on revenue generation to maintain social license creates its own vulnerabilities. For companies, a government's corruption or misuse of revenue can be reflected back at them if (fairly or not) the company itself becomes linked to mismanagement of a country's resource wealth. A company in these circumstances may find itself the subject of public backlash as resource development produces few public goods when poor governance is the core problem. Likewise, public expectations for resource revenues can often be inflated and disregard the multi-year development process – leaving host governments and their constituents underwhelmed and frustrated.

The recent historic victory of Andrés Manuel López Obrador (AMLO) in the 2018 Mexican presidential election is a prime example. A key pillar of his platform was nationalist opposition to the 2013 Mexican energy reforms, which he argued had sold out Mexico's native resource wealth to foreign, private companies with few benefits even years later for the Mexican people.[117] The reality is that Mexico in the post-reform period was still largely in the appraisal and exploration phase of development and would remain so for a few years. At the time of the 2018 election, it was unrealistic to expect the fruits of the reform to restore production and increase revenues so quickly (beyond the $124 million paid to the government in bonuses in Round 3 just months before AMLO's election).[118] AMLO's successful presidential bid and subsequent challenging policy decisions for industry points to a related risk for companies: political winds of change can blow fast and hard, resulting in new demands on operators even overnight. Unfavorable changes to tax codes, higher royalties, sudden regulatory shifts, demands for direct payouts or bribes can materialize quickly. In short, revenue generation is a straightforward approach but provides little insulation against political realities on the ground which can quickly alter the public and host country relationship.

External Partners

Today, there is no shortage of well-intended advice for new producers to avoid the pitfalls of the resource curse. The World Bank and IMF have dedicated tools and programs to support natural resource producers. The growing EITI, as we have noted, includes a range of government, private sector and nonprofit organizations and promotes a robust standard of transparency and revenue management best practices based on decades of accumulated expertise and lessons learned from this sector. Today, the global EITI covers 52 implementing countries and a combined total of $2.5 trillion in disclosures of resource revenues.[119] A range of nonprofit groups such as the Natural Resource Governance Institute, Publish What You Pay, and Transparency International advocate globally, nationally and locally for improved resource management with respect to the environment, labor and human rights. Some bilateral programs, such as Norway's Norwegian Agency for Development Cooperation (NORAD) and the US Energy Governance Capacity Initiative (EGCI), have considerable experience equipping new resource producers worldwide especially in the hydrocarbons (oil and gas) sector. A more recent development is the rise of private sector organizations in this space, such as B Team, which seeks "concerted, positive action that will ensure business becomes a driving force for social, environmental and economic benefit".[120]

Generally speaking, external organizations support resource producers through capacity building, technical assistance, and third-party oversight of new sectors.

Capacity Building

We have described how ill-prepared many governments are for the onset of resource development, and how lack of capacity to manage the regulatory, legal, and fiscal impacts often leaves a country vulnerable to the resource curse. In recent years, external partners have sought to remedy this problem by providing robust capacity assistance and supporting the necessary institutions from the ground up. The World Bank effort in Ghana is a recent example. After the discovery of significant oil and gas plays in 2007, the World Bank Board approved a $38 million loan to Ghana's government for an "Oil and Gas Capacity Building Project".[121] The World Bank's efforts were specifically targeted at the Ministry of Energy, the Ghana National Petroleum Company, the Environmental Protection Agency and a future petroleum regulatory body, empowering each to support government oversight, coordination, policy planning, implementation, monitoring and evaluation roles.[122] Key activities were grouped into human capacity building (e.g. professional development for new employees) and physical capacity (e.g. equipment purchases).[123]

Technical Assistance

In addition to building capacity, external partners are often active in technical training and filling major experience and knowledge gaps which may hamper new resource producers in their management of new production. The EITI is one of the key global providers of technical assistance with respect to contract writing and transparency, and often partners with other organizations (including NGRI and the World Bank) to

facilitate training in other key competencies. The EITI offers traditional and virtual workshops throughout the year, some country- or region-specific (e.g. a 2017 workshop in Lebanon on EITI implementation, co-organized by Publish What You Pay and the Norwegian Embassy) and others open to all members (e.g. a 2016 Beneficial Ownership workshop). Technical assistance, as the term suggests, tends towards the nuts and bolts of "how" a government manages resources development and can be blended into, or follow, broader capacity building efforts.

Oversight

Although new resource producers should develop some independent monitoring capacity, external organizations can offer valuable oversight support on formal or informal bases. Nonprofit and grassroots organizations can be particularly well-suited the task, often already having "boots on the ground" in new producer countries; the World Bank, for example, offers its clients in-country support specifically for local finance organizations, central banks, regulatory authorities, deposit-insurance authorities, and a country's Finance Ministries.[125] Other groups take specific aim at corruption and rights abuses in various places around the world, seeking to exert considerable social pressure by leveraging tools such as social media, drone and satellite technology, advanced computing, data analysis and artificial intelligence. At the national level, civil society groups (the development of which is a core component of EITI candidacy) are a more formal and regular form of oversight, and can be recruited and trained by external partners to review, monitor and interpret findings as a new sector is in development.

Maintaining the Relationship: Angola

Chevron's operations in Angola show how an investor relationship can persist in spite of tremendous national upheaval. Chevron's history in Angola began with marketing products in the 1930s, followed by onshore and later offshore oil exploration and drilling in the 1960s and 70s; it grew to include a natural gas relationship with the building of the country's first LNG plant in 2000.[124] The relationship continued to deepen and expand despite extended periods of civil conflict in-country throughout the 20th century, episodes of violent civil repression, a national revolution and multiple changes in Angola's government.

Lessons Learned: What's Worked?

Given this extensive practice, what have we learned?

1. Success is in the eye of the beholder. Success for a company is maintaining social license and continuing their regular operations. Many countries have sustained operations, profited and maintained their social license to operate through civil war, upheaval and even forms of nationalization. Chevron in Angola, BP in Russia and Anadarko in Algeria, to note a few among many examples, have all thrived despite various adversities which might have wrecked the producer-company relationship. Failure for the company is when the commercial bargain on which investment is made does not materialize or value is destroyed (e.g. through expropriation, civil violence, etc.).

Examples include Venezuela today, Argentina's expropriation of YPF in 2012, and the exit of US companies from Sudan in the 1980s due to war and violence. For countries success is revenue generation and in enlightened countries, broad based prosperity. Norway, Chile, and Botswana are examples of countries with successful development. Angola, Nigeria, Algeria, Kazakhstan and Azerbaijan are countries happy with their investors, but which don't enjoy successful economic development.

2. *Framework Matters*. A stable investment framework is a marker for stability and success. Nations like Norway, the United States, post war Iraq, post Qaddafi Libya, Algeria, Brazil and post reform Mexico that have public auctions and standardized bid terms have both succeeded in attracting investment and surviving political cycles.

3. *Expectations must be managed*. Citizens are certain to be disappointed if they are not accurately informed of the pace of development and the timing of surplus revenues. Companies don't like to contradict government officials, but they can at least be transparent about reasonable timeframes and the broad, unpredictable nature of future revenues. This is where a transparent framework helps companies avoid confidentiality restrictions on disclosing terms.

4. *Sound macroeconomic management can ameliorate the economic impacts of the resource curse*. Fiscal rules, savings funds, sovereign wealth funds and attention to national investment can result in positive GDP growth, effective exchange rate management and preservation or development of non-energy tradeable goods sectors. Norway, Botswana, and Chile each demonstrate that policy management works when the will to exercise it is present.

5. *Enlightened governance is needed to avoid the political atrophy associated with the resource curse*. The efficacy of any options to prevent or mitigate the resource curse largely depends on the strength of institutions and governance, as well as robust public accountability. The hardest challenge for countries that are new to resource development is mustering the capacity and the will to manage the business of development wisely and fairly. Outsiders can help and must be prepared to do more if invited, but ultimately the sovereign government will make the key decisions. Even high-quality technical support and capacity building can prove ineffectual if host governments are unable or unwilling to enforce best practice policies. Where these "rules of the road" were in place already or developed later, governments have made in-roads against the resource curse.

6. *Companies have made great strides* in refining their contributions to economic development, beyond the primary contribution of fulfilling their contracts, when they support social investment in a fashion that builds national capacity to sustain their investment, or is at least loosely tied to their business.

7. *Transparency is a necessary but not sufficient contribution to improved governance*. Measures which oblige companies and governments to disclose payments, beneficial owners, and major contract terms are essential enablers of good governance. Citizens must have the information they need to hold government accountable, governments

need the antiseptic of sunlight to build trust, and verification is needed to establish accountability. But these elements cannot yet be said to have produced improved governance or development outcomes significantly. Transparency efforts, and especially the robust standards we see approved among the IFIs and NGOs, need to be further expanded to become "the only game in town". In other words, the highest standards of anticorruption should be standardized and backed by the full force of law and (where applicable) constitutional authority; reasonable contract transparency and payment disclosure should be a floor, not a ceiling; and public oversight, third-party auditing and verification should be expected at all levels of governance. It is increasingly clear that these are the foundations for any strategy to overcome the resource curse.

Recommendations

Having reviewed the resource curse itself, its manifestations, various host country and company approaches to resolving or mitigating it and resulting misalignments, a fundamental question lingers: should companies be responsible for addressing the resource curse at all?

We argue that the divergent motivations of host countries and their private sector partners makes investors ill-suited to enhancing national or local governance – the issue at the heart of the resource curse - beyond embracing high standards of integrity in company operations. Realistically, private companies cannot (and should not) govern a country's natural resource industry as a bulwark against the resource curse even assuming the best possible intent.

There are, however, important steps that companies, host governments and supporting governments can take to help.

Companies

Companies can, however, stabilize and add value to their own investment (and the perception of their industry as a whole) in several ways.

1. Strike Fair Bargains.

This is the most visible and public manifestation of company's presence in a host country, and consequently the most important aspect of good citizenship, is a fair allocation of the returns on the resource. This is most important in contract design and revenue allocation, especially with new producers who may have few or no legal frameworks governing revenue sharing. There must be an appropriate balance of risk and reward, especially where geology is uncertain and the cost of failure (e.g. a dry hole) is high, just to attract first round investment. But attention must be paid to how the government benefits during the cost recovery period and how windfall earnings are allocated.

Some mature producers (such as Mexico) have flexible royalties that ensure that windfall rents are shared based on fluctuating commodity prices. Windfall rent scenarios are very common. It may be tempting for companies to reach for immediate high profits, especially in high risk scenarios, especially if a long-term relationship is not a guarantee. Lopsided contracts are unstable. Host governments, likewise, should understand that private sector early entrants (e.g. pre-discovery, and with highest risk) earn higher rewards than companies that come in later rounds or far lower risk contexts (e.g. proven geology).

2. *Don't Tolerate or Practice Corruption.*

Corrupt behavior has dogged the resource extraction industries for decades. For all stakeholders, sunlight remains the best disinfectant. Corruption destroys trust; transparency engenders trust. Companies must say no to inappropriate requests and practice scrupulous due diligence in evaluating local partners who offer access to acreage.

3. *Support Transparency – In Word and Deed.*

If companies hope to sustain national support across political cycles it is in their interest to be transparent about what the host government earns, when and through which mechanisms they will earn it, and why (e.g. why one year's returns may differ from another). This includes support for and participation in standard setting groups like EITI, support for international efforts like the IMF's Article IV assessments, and support for transparency in the leasing process. Auctions are often the most transparent approach as they require public bidding but they are not always possible (or desirable in the earliest phases), and companies need not assume that every contract term needs to be published. But the US, Norway, Mexico, and now even Iraq have visible tax and royalty terms, and published forms of contracts which are publicized through public auction systems. Companies should support these trends vocally, and follow through on them in word and deed throughout their global operations.

4. *Share Some Value.*

As we have seen, there is a tension between companies staying in their own operational lanes as private investors and demonstrating their value to host governments as soon as possible. Companies should focus on sharing value in the early stages in ways which are directly connected to job at hand. This can come in the form of making infrastructure needed for operations (roads, railways, telecommunications) available to the wider, nearby community as soon as the company is using them. This approach is relatively low cost, efficiently uses resources already invested, and enhances the company's reputation as a "good neighbor". In later phases, companies might pursue more in-depth value-add options, such as establishing vocational training for project workers or technical institutes to support the new industry and train students for careers in the host country or elsewhere. In rarer cases, where a government needs help with a major project and wants an investor to build it (and, theoretically, repay itself from project funds), companies should be open-minded but approach with care. Where

possible, they should seek broad political or community endorsement of their approach, and ideally neutral and third-party assistance and validation (e.g. a development bank feasibility study). Where much more is on the line, do not risk going it alone.

5. Support Bilateral and IFI capacity building programs.

As we have seen, the resource curse is fundamentally a problem of early capacity deficits which external partners are already experienced and active in addressing. Rather than attempt to duplicate these efforts, private sector investors should earnestly support the engagement of IFIs, nonprofit organizations and supporting governments if a host country seeks help – even if these more neutral observers make challenging demands of the private sector. None of these types of organizations can be reasonably expected to plug all existing gaps; IFIs, for example, offer deep (but perhaps not wide) expertise in financial sector management but may be far less equipped to support regulatory and operational education. Likewise, a massive global institution, available resources notwithstanding, may in fact be less well-suited to a particular context than a smaller, regional one. Industry should remember that where numerous and significant gaps exist, it takes a village.

6. Don't take sides in political disputes.

Any government will have some form of opposition, institutionalized or otherwise. Investing companies should assume that, sooner or later, that opposition will have substantial political power. Companies should endeavor to be as neutral as possible in policy debates, especially where their own interests are concerned. Political maneuvering which lands a company firmly on one side of "us versus them" could backfire when their perceived "side" is out of power. Companies should be open and available to perspectives on all sides of a host country's political scene, and show a willingness to work with everyone.

7. Stay in your lane.

Where host governments have nonexistent or very limited capacity, it may be tempting for a new investor to "fill in" in order to move development forward or to offer "copy and paste" solutions from other contexts. Likewise, the legitimate goal of building early and strong social license may induce private investors to push ahead with social and human development opportunities which may be ineffective or counterproductive. Private investors, especially in the early stages of development, should focus on their core competencies and the reason they are in-country to begin with. Where a private investor seeks to take on a bigger role beyond their operations, they should do so in robust consultation with their hosts and ideally at invitation.

Host Governments

1. Create independent regulatory bodies.

Independent regulation is not, by itself, a panacea; good regulation depends on functioning institutions with accountable leaders and an established rule of law.

Although independent regulators are not a "sufficient" condition to prevent corrupt behavior, they are almost certainty a "necessary" one. Moreover, there exists a wealth of expertise and financial support to create an independent regulatory body and train new professionals to staff it. Developing independent regulators should be a top priority for host countries as soon as commercial interest from outside investors in resource development percolates.

2. Establish a clear, equitable fiscal regime.

As with independent regulators, fiscal rules do not exist in a vacuum and must interact with the overarching economic conditions in a given country. Likewise, a strong fiscal regime works best when established early on well before a country is dealing with windfall rents and competing agendas for spending it. Developing and enforcing a sound fiscal policy can insulate a country from economic atrophy and make the benefits of resource development clearer and more accessible to wider constituencies. A nation-wide revenue sharing mechanism may not be appropriate or necessary given the context, but at a minimum local areas which bear the highest costs of extraction should see a noticeably higher proportion of benefits from development.

3. Create savings funds.

Savings funds should go hand in hand with a robust fiscal regime; fortunately, there are now ample examples of various types of savings funds employed by resource producers and models on hand for comparison throughout the world. Host countries should accept early on that resource production is an inherently finite venture, and lay the groundwork for the future at the outset of resource development and not as an afterthought.

4. Practice Transparency.

Host governments should sincerely, actively pursue anticorruption policies and enforcement tools as a prerequisite to resource development. Host countries cannot expect to reasonably hold their investors to higher standards than they themselves abide by; indeed, host governments should lead by example. EITI candidacy is an excellent starting point, as is empowering and educating civil society and stakeholders at all levels in advance of development. As we have seen, corrupt behavior can creep into resource development at all stages, prove politically explosive and be difficult to extricate or improve after the fact. Where corrupt behavior is uncovered years later, as happened in Senegal, it should be swiftly addressed and to the fullest extent the law allows. Public trust can take years to build and be destroyed in seconds; genuine transparency keeps governments accountable, and can prevent serious problems later.

External Partners

1. Move early and at scale.

Emerging producers need the most concerted, in-depth assistance at the earliest stages of resource development. Ideally, host countries will ask for help at these stages, and

not after serious mistakes have had negative repercussions. External partners should monitor resource industry developments and new discoveries and anticipate where capacity and technical assistance may be needed next. The time lag between early exploration and major discoveries is an excellent time to lay good foundations; external partners should be able to quickly respond to new developments and offer a comprehensive menu of options and services to governments which may be overwhelmed and at their most open-minded.

2. Advise, Don't Dictate.

Advisors, such as EITI and NRGI, cannot usurp sovereignty and must always present choices – not prescriptions - for host governments to review when making the best choices for their own unique national context (e.g. infrastructure investment choices which may be highly politically sensitive, Western systems with hundreds of regulators may be inappropriate to a small developing country). Governments will rarely face easy trade-offs and these organizations should not add to already intense pressure. External partners should walk alongside new producer governments as an ally, not ahead as an instructor.

3. Stay in the Game.

IFIs (the World Bank, the IMF, the Inter-American Development Bank among others) are increasingly conflicted as to whether they should be promoting many forms of resource development at all, much less training governments how to do it. The mounting climate crisis and surging activism on environmental sustainability has already pushed international and private financiers away from coal investments; financing throughout the value chain of the entire fossil fuels industry is increasingly under a microscope for the same reasons. IFIs, especially in the OECD, are visibly anxious over the potential moral hazards of supporting further, new fossil fuels development and mining operations in a rapidly warming world. They should, in any case, remain the capacity building business to assure that countries which seek to develop various resources, and are likely to proceed in any case, can do so in the most prudent way possible.

4. No Strings, Please.

External governments often have their own agendas at play and may be far from neutral observers. The Belt and Road Initiative (BRI) is a case study in development support as "policy by other means": governments throughout Central and Southeast Asia and Africa have sounded the alarm over the costs of easy loans and procurement support coming from China in recent years. There are often many strings attached, from long-term and possibly ruinous public debt to technology and infrastructure lock-in (e.g. multi-decade commitments to coal-fired power generation, signing on for Huawei 5G technology instead of Western providers) with very mixed social and economic outcomes for the receiving country. The history of the United States' interventionism in Latin America, meanwhile, hardly positions the US as a neutral party in that region's affairs (least of all in the eyes of its governments and citizens). The hazards and mixed

motives behind great power competition, clearly alive and well, is another troublesome layer on top of all these issues. Given these limitations, empowering and encouraging IFIs and nonprofits in this space is the fairest and most effective course. IFIs are especially well suited to support early capacity-building and training for government and regulatory officials. Some existing national models, such as Norway's NORAD and the United States' USAID, Commerce Commercial Law Development Program and State Energy and Governance Capacity Initiative have valuable experience and expertise, but cannot be scaled or impartial to the extent that will be needed for meeting capacity requirements going forward. If governments are not inclined to adopt appropriate fiscal practices, the external adviser should withdraw support and move on to a more willing partner.

5. Support Creative Approaches to Infrastructure and Debt Financing.

We have noted that new resource producers often lack capacity to meaningfully support development of a new project, especially in the form of infrastructure. To fill the gap, they have looked to new developers, private investors or otherwise. A better alternative would be to develop more effective and equitable options to financing the infrastructure that is desperately needed at the earliest stages of resource development. Resource extraction and adjacent infrastructure is characterized by very high upfront costs (e.g. liquefaction terminals which can run into the billions), can cross sensitive national borders and jurisdictions (e.g. a long-distance natural gas pipeline) and face long time horizons for return on investment or profitability. In other words, these types of projects do not necessarily fit comfortably within the traditional development frameworks of short and medium-term loans and grants. To better support these new producers, and steer them away from riskier financing options, the IFIs need longer-term and ideally more flexible debt instruments to help countries bridge the gap from build out to repayment. Other reforms which have been proposed, such as enabling MDBs to work outside of a country-centric grant model, supporting institutional development alongside infrastructure buildout, and scaling up newer tools such as multi-donor trust funds (MDTFs) could also even the playing field for new resource developers.[126] Even in a decarbonizing world, IFIs will be critically important to new resource producers and must continue to evolve and adapt their instruments to meet the challenge.

The recent passage of the Better Utilization of Investments Leading to Development (BUILD) Act in October 2018 heralds a new era for US development financing with the creation of the new United States International Development Finance Corporation (USIDFC). The USIDFC, and similar new initiatives such as Asia Enhancing Development and Growth through Energy (EDGE), are likely a response to the growing clout of other international infrastructure financing initiatives (notably the Belt and Road Initiative) which arguably do not align with US goals and interests. Geopolitics aside, they aim to fill important gaps in the US development financing architecture. With an initial $60 billion in funding, the USIDFC will empower the US government to offer new and expanded financing options including loans, political-risk insurance and

equity and a broader range of private-sector expertise to facilitate economic growth than available to previous development programs.[127] Outside these US efforts, the World Bank, the International Finance Corporation (IFC), Asian Development Bank (ADB), IADB and others are active in this space.

Unfortunately, these efforts are nowhere close to meeting the scale of demand coming from new and emerging resource producers and may not always be able to offer tools which suit their specific needs.

Conclusion

However, tempting, it is problematic to rely on the private sector to prevent or mitigate the numerous manifestations of the resource curse. Easy solutions and one-size-fits-all policies for new resource producers are still elusive despite decades of global experience with resource development and many attempts by host governments and private investors alike to address this question within the bounds of their unique interests. Too many aspects of the problem come back to central questions of economic development, governance and institutional growth for the private sector to have any chance of changing a single country's trajectory. However, the private sector can and should do more than it has historically on this front. Alongside and in conjunction with multilateral institutions and supportive external partners, private investors can make important (if difficult) choices which are ultimately in the best interest of their hosts and the long-term viability of their businesses. These institutions and partners should back investors when they are taking the right steps, and offer oversight and constructive critiques when appropriate. Capable governments and the international donor community should not abandon resource development in emerging producers, but rather should continue advising and amend their toolkits to be the most effective facilitators possible. Put simply, the private sector cannot and should not go it alone. With far too much at stake on all sides, new producers deserve the best possible chance to get this right.

Endnotes

[1] The International Energy Agency (IEA), for example, publishes an analysis of a "Sustainable Development Scenario" (SDS) in its annual World Energy Outlook which assumes carbon emissions reductions in line with global goals on temperature increases. Its 2018 edition shows natural gas demand growing 10% to 2040 (3,400 mtoe demand) while oil demand decreases just 29% over the same period (3,100 mtoe demand). Both fossil fuels remain prominent in the global energy mix. See: International Energy Agency, "Energy and the Sustainable Development Goals", *World Energy Outlook 2019*, IEA/OECD 2018, pg. 92.

[2] The term "resource curse" stems from the research of Richard Auty and his seminal book *Sustaining Development in Mineral Economies: The Resource Curse Thesis* (New York: Routledge, 1993), among the first to show the negative economic distortions which can result from an abundance of natural resources.

[3] The International Monetary Fund (IMF) notes, "Natural resource endowments…constitute a textbook example of a source of rents, since they can typically be sold at a price that far exceeds their cost of extraction and their sale is usually subject to stringent government regulation, to which corrupt officials can turn a blind eye." See: Paolo Mauro, "Why Worry About Corruption?", the International Monetary Fund, 1997, https://www.imf.org/external/pubs/ft/issues6/index.htm.

[4] More broadly, researchers have argued that resource wealth can crowd out domestic manufacturing sectors which have more potential for sustained economic growth in favor of extracting commodities for export - subject to the vagaries and price fluctuations of global markets. See also: Jeffrey A. Frankel, "The Natural Resource Curse: A Survey", National Bureau of Economic Research, Working Paper No. 15836, March 2010, https://www.nber.org/papers/w15836.pdf.

[5] Christine Ebrahimzadeh, "Dutch Disease: Wealth Managed Unwisely", International Monetary Fund, last updated December 18, 2018, https://www.imf.org/external/pubs/ft/fandd/basics/dutch.htm.

[6] In brief, subsequent investment to develop the Groningen gas field drove up the value of the Dutch guilder. Wages rose, along with house rents and the price of other goods. Money flowed into the capital-intensive energy sector while the labor-intensive agriculture declined. In rapid succession, unemployment rose and GDP declined.

[7] This term derives from Terry Lynn Karl's seminal 1997 book "The Paradox of Plenty: Oil Booms and Petro-States", University of California Press, Berkeley and Los Angeles, California, 1997.

[8] Anna Watanabe, "Nauru: From economic goldmine to refugee 'hell'", September 16, 2018, Kyodo News, https://english.kyodonews.net/news/2018/09/0fdc626a0cdb-feature-nauru-from-economic-goldmine-to-refugee-hell.html.

[9] Natural Resource Governance Institute, "Managing and Spending Natural Resource Revenues", Parliamentary Briefing, January 2015, pg. 3, https://resourcegovernance.org/sites/default/files/nrgi_ResourceRevenue_20150311.pdf.

[10] Evgeny Kakanov, Hansjörg Blöchliger and Lilas Demmou, "Resource Curse in Oil Exporting Countries", October 22, 2018, Organisation for Economic Co-operation and Development, Economics Department Working Papers No. 1511, http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ECO/WKP(2018)59&docLanguage=En

[11] When taxpayers do not bear the burden of the cost of a policy, they tend not to protest or at least obtaining their support is not required. Political competition revolves around access to the resource revenues and the incentive to strengthen institutions that might expose unequal distribution.

[12] See Hussein Mahdavy, "Patterns and Problems of Economic Development in Rentier States: The Case of Iran," in Studies in Economic History of the Middle East, ed. M. A. Cook (Oxford: Oxford University Press, 1970), 428-467, among others

[13] Michael L. Ross, "Does Oil Hinder Democracy?", World Politics, Vol. 53, No. 3 (Apr., 2001), pp. 325-361, https://scholar.harvard.edu/files/levitsky/files/ross_world_politics.pdf

[14] Adam Vaughan, "Oil in Nigeria: a history of spills, fines and fights for rights", The Guardian, August 4, 2011, https://www.theguardian.com/environment/2011/aug/04/oil-nigeria-spills-fines-fights.

[15] Ibid.

[16] Somine Dolo and Martin Odendaal, "Nigeria: National capacity—Building capacity in the oil sector through "indigenization" policies (Case Study)", IGF Guidance for Governments: Leveraging Local Content Decisions for Sustainable Development, 2018, https://www.iisd.org/sites/default/files/publications/case-study-nigeria-national-capacity.pdf.

[17] Dr. Johann Graf Lambsdorff, "TI Corruption Perception Index 1996", Transparency International, accessed August 7, 2019, https://www.transparency.org/files/content/tool/1996_CPI_EN.pdf.

[18] Paul Adams and Toye Olori, "Is Nigeria's Anti-Corruption Crusade for Real?", South African Institute of International Affairs (SAIIA), April 25, 2008, https://saiia.org.za/research/is-nigerias-anti-corruption-crusade-for-real/.

[19] Nigeria Extractive Industries Transparency Initiative, "Audit of the Period 1999–2004 (Popular version)", https://resourcegovernance.org/sites/default/files/PopularVersionof1stAudit%201999-2004.pdf, pg. 9.

[20] Ibid.

[21] Christina Katsouris, "Buhari's Second Chance at Oil and Gas Reform in Nigeria", Chatham House, April 4, 2019, https://www.chathamhouse.org/expert/comment/buhari-s-second-chance-oil-and-gas-reform-nigeria.

[22] John Campbell, "Nigeria Is Oil Dependent, not Oil Rich", Council on Foreign Relations, February 13, 2019, https://www.cfr.org/blog/nigeria-oil-dependent-not-oil-rich.

[23] See Collier and Hoeffler, "Greed and Grievance in Civil War" (2000) and James D. Fearon, "Primary Commodity Exports and Civil War" (2005).

[24] Isham, Jonathan & Pritchett, Lant & Woolcock, Michael & Busby, Gwen, "The Varieties of Resource Experience: Natural Resource Export Structures and the Political Economy of Economic Growth" World Bank Economic Review, 2005, 19, 141-174.

[25] Marina Ottaway and Mai El-Sadany, "Sudan: From Conflict to Conflict", Carnegie Endowment for International Peace, May 16, 2012, https://carnegieendowment.org/2012/05/16/sudan-from-conflict-to-conflict-pub-48140.

[26] "The assets of Norway's sovereign-wealth fund fall below $1trn", March 6, 2019, The Economist, https://www.economist.com/graphic-detail/2019/03/06/the-assets-of-norways-sovereign-wealth-fund-fall-below-1trn.

[27] Paweł Wieprzowski, "Copper in Chile – when the resource "curse" becomes a blessing", International Journal of Management and Economics (Zeszyty Naukowe KGŚ) No. 40, October–December 2013, pgs. 146 – 150, https://www.degruyter.com/downloadpdf/j/ijme.2013.40.issue-1/ijme-2014-0032/ijme-2014-0032.pdf and World Bank Staff, Note on Stabilization and Sovereign Wealth Funds: A Case Study Analysis, April 2018, The World Bank, pg. 5, http://documents.worldbank.org/curated/en/908941526042996775/pdf/125967-OUO-9-Note-on-stabilization-funds-04-13-2018-FINAL-for-Print.pdf.

[28] Michael Lewin, "Botswana's Success: Good Governance, Good Policies, and Good Luck", Chapter 4, *Yes, Africa Can: Success Stories From a Dynamic Continent*, edited by Punam Chuhan-Pole and Manka Angwafo, The World Bank, Washington DC, 2011, pgs. 82 – 86, http://siteresources.worldbank.org/AFRICAEXT/Resources/258643-1271798012256/Botswana-success.pdf.

[29] Ibid.

[30] When governments have declined to develop otherwise prospective resources it is because of a direct or indirect figurative cost considered too high to bear. The government of Norway, for example, has opted to not develop hydrocarbons in the Lofoten offshore region due to environmental concerns, but it has allowed enormous investment in other areas. Likewise, Colombia has licensed unconventional on shore development in the Magdalena basin, but delayed exploration while it addresses environmental impact concerns of local communities. Colombia also has extensive on- and offshore energy development.

[31] Importantly, development timelines vary considerably due to project type, geology, national regulations and legal requirements, technical complexity and many other factors. These ranges are general, not necessarily descriptive of unique development situations. See also: Staff Report, "An Offshore Timeline", Coastal Review Online, June 10, 2015, https://www.coastalreview.org/2015/06/an-offshore-timeline/ and Nate Richards, "What is Onshore Drilling versus Offshore Drilling?", Entrance Consulting, accessed August 9, 2019, https://www.entranceconsulting.com/2013/10/23/onshore-versus-offshore-drilling/ and PriceWaterhouseCooper, "The progression of an LNG project", https://www.pwc.com/gx/en/mining/publications/assets/pwc-lng-progression-canada.pdf.

[32] The realities of resource extraction timeframes are often exacerbated by standard "cost recovery" clauses usually found in Production Sharing Agreements (PSA) which protect the investor in the early stages of development. These are arrangements where an investor will take a greater share of revenues in order to recover its upfront costs, which may change once fully recovered to a more equitable sharing arrangement. The investor is repaid in kind using "cost oil", while "profit oil" is shared between the investor and its host government. While normal operating procedure, these sorts of terms can cause confusion and suspicion within a host government, national media and among their constituents if not well explained to the public. See also: Natural Resource Governance Institute, "Precept 4: Taxation", accessed August 9, 2019, https://resourcegovernance.org/approach/natural-resource-charter/precept-4-taxation.

[33] Once investors' costs are fully recovered, Guyanese officials expect royalties and 12.5% of profit oil. See: "Guyana likely to get US$200M in first oil year – Jordan", Starbroek News, August 6, 2019, https://www.stabroeknews.com/2019/news/guyana/08/06/guyana-likely-to-get-us200m-in-first-oil-year-jordan/.

[34] Kevin Crowley, "The World's Newest Petrostate Isn't Ready For A Tsunami Of Cash", Bloomberg, August 13, 2019, https://www.bloomberg.com/news/features/2019-08-13/guyana-isn-t-ready-for-its-pending-oil-riches-but-exxon-is?srnd=markets-magazine-v2

[35] Kejal Vyas, "Eureka! Giant Oil Find Set to Bring Guyana Startling Riches—Maybe", The Wall Street Journal, June 21, 2018, https://www.wsj.com/articles/eureka-giant-oil-find-set-to-bring-guyana-startling-riches-maybe-1529578800.

[36] Shem Oirere, "Mozambique's Offshore Plans Gain Vigor", Offshore Engineer, February 28, 2019, https://www.oedigital.com/news/463414-mozambique-s-offshore-plans-gain-vigor

[37] Katharine Houreld, "Final investment decision on Tanzania LNG plant still 5 yrs away -Statoil", Reuters, November 16, 2016, https://www.reuters.com/article/tanzania-gas-idUSL4N1DH4D6.

[38] "Tanzania wants energy firms to speed up gas production", Reuters UK, July 8, 2013, https://uk.reuters.com/article/tanzania-energy/tanzania-wants-energy-firms-to-speed-up-gas-production-idUKL6N0FE3FF20130708.

[39] Ian Lewis. "Tanzania playing catch up on LNG project", Petroleum Economist, May 10, 2018, https://www.petroleum-economist.com/articles/politics-economics/africa/2018/tanzania-playing-catch-up-on-lng-project.

[40] Erick Kabendera, "Tanzania's Magufuli on warpath with oil companies," The East African, September 8, 2018, https://www.theeastafrican.co.ke/business/Magufuli-on-warpath-with-oil-companies/2560-4750068-9qxqcjz/index.html.

[41]David Rowlands, "No FID to be made on Tanzania LNG project for at least five years," LNG Industry, November 17, 2016, https://www.lngindustry.com/liquefaction/17112016/no-fid-to-be-made-on-tanzania-lng-project-for-at-least-five-years/.

[42] Paraskova, ibid.

[43] Global Construction Review Staff, "Tanzania names start date for $30bn LNG project", Global Construction Review, June 6, 2019, http://www.globalconstructionreview.com/news/tanzania-names-start-date-30bn-lng-project/.

[44] Sergio Chapa, "Mexico's new president takes nationalist tone on energy during first 100 days in office", Houston Chronicle, March 21, 2019, https://www.houstonchronicle.com/business/article/Mexico-s-AMLO-takes-nationalist-tone-on-energy-13704506.php.

[45] Offshore Energy Today Staff, "Guyana to publicly release all oil contracts", Offshore Energy Today, January 26, 2018, https://www.offshoreenergytoday.com/265043-2/.

[46] "Guyana politics could upend oil contract terms", Argus Media Group, May 9. 2019, https://www.argusmedia.com/en/news/1899732-guyana-politics-could-upend-oil-contract-terms.

[47] Ibid.

[48] In some instances, these concerns are legitimate and well-founded. See, for example, a 2015 study which showed that low-income communities in Pennsylvania were more likely to face exposure to pollutants from unconventional hydraulic fracturing wells: Yelena Ogneva-Himmelberger and Liyao Huang, "Spatial distribution of unconventional gas wells and human populations in the Marcellus Shale in the United States: Vulnerability analysis", Applied Geography, Volume 60, June 2015, pgs. 165-174, https://www.sciencedirect.com/science/article/abs/pii/S0143622815000776?via%3Dihub.

[49] John T.S. Keeler, "The Politics of Shale Gas and Anti-fracking Movements in France and the United Kingdom", *The Global Impact of Unconventional Shale Gas Development: Economics, Policy and Interdependence,*eds. Yongsheng Wang and William E. Hefley, New York and Heidelberg: Springer, 2015, http://sggc.gspia.pitt.edu/Portals/33/PDFs/The%20Politics%20of%20Shale%20Gas%20and%20Anti-fracking%20Movements%20in%20France%20and%20the%20....pdf?ver=2016-02-11-150922-617.

[50] Mexico now protests paying under the "take or pay" contracts that require CFE to pay for gas committed to be shipped if it was unable to take the gas. "CFE moves to renegotiate 7 natural gas pipeline contracts", Mexico News Daily, July 2, 2019, https://mexiconewsdaily.com/news/cfe-moves-to-renegotiate-7-pipeline-contracts/.

[51] Rania El Gamal, "Iraq's oil output revival at stake for want of water", Reuters, September 17, 2014, https://www.reuters.com/article/iraq-oil-water/iraqs-oil-output-revival-at-stake-for-want-of-water-idUSL6N0RI28H20140917.

[52] Ahmad Ghaddar and Aref Mohammed, "Exxon faces setback in Iraq as oil and water mix", Reuters, April 19, 2018, https://www.reuters.com/article/us-iraq-oil-exxon-mobil/exxon-faces-setback-in-iraq-as-oil-and-water-mix-idUSKBN1HQ0M4.

[53] "UPDATE 1 – Iraq Says Eni, BP Deal Doesn't Mean Exxon Excluded From Southern Mega-Project", Reuters, August 10, 2019, https://af.reuters.com/article/energyOilNews/idAFL8N25605I

[54] Simon Watkins, "The Real Reason Why ExxonMobil Won't Go Ahead With $53 Billion Iraqi megaproject", July 3, 2019, https://oilprice.com/Energy/Energy-General/The-Real-Reason-Why-ExxonMobil-Wont-Go-Ahead-With-Iraqi-Megaproject.html

[55] Deloitte, "Exploration and production snapshots: Argentina", accessed August 10, 2019, https://www2.deloitte.com/us/en/pages/energy-and-resources/articles/exploration-and-production-in-argentina.html.

[56] Patricia I. Vásquez, "Argentina's Oil and Gas Sector: Coordinated Federalism and The Rule of Law", the Wilson Center, May 2016, pgs. 5 – 7, https://www.wilsoncenter.org/sites/default/files/argentinasoilgas.vasquez.pdf .

[57] Ibid, 8.

[58] "Argentina plans to free fuel prices starting in August", MercoPress, July 3, 2018, https://en.mercopress.com/2018/07/03/argentina-plans-to-free-fuel-prices-starting-in-august.

[59] Tsvetana Paraskova, "Is Argentina's Shale Boom Finally Taking Off?", OilPrice.com, June 26, 2019, https://oilprice.com/Energy/Energy-General/Is-Argentinas-Shale-Boom-Finally-Taking-Off.html.

[60] Robert Rapier, "How Venezuela Ruined Its Oil Industry", Forbes, May 7, 2017, https://www.forbes.com/sites/rrapier/2017/05/07/how-venezuela-ruined-its-oil-industry/#2d6320867399.

[61] UNDP, "Mapping the Oil and Gas industry to the Sustainable Development Goals: An Atlas", July 19, 2017, pg. 34, https://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/mapping-the-oil-and-gas-industry-to-the-sdgs--an-atlas.html.

[62] Simeon Kerr, "Saudi sovereign wealth fund nears $10bn loan", Financial Times, July 11, 2019, https://www.ft.com/content/50df766e-a3de-11e9-974c-ad1c6ab5efd1.

[63] For further information on the advantages and challenges associated with savings and sovereign wealth funds, the authors recommend the 2010 IMF publication "Economics of Sovereign Wealth FundsIssues for Policymakers", eds. Udaibir S. Das, Adnan Mazarei, and Han van der Hoorn, Washington, D.C., International Monetary Fund, 2010, https://www.imf.org/external/pubs/nft/books/2010/swfext.pdf.

[64] Natural Resource Governance Institute, "Resource Governance Index: From Legal Reform to Implementation in Sub-Saharan Africa", April 15, 2019, https://resourcegovernance.org/sites/default/files/documents/rgi-from-legal-reform-to-implementation-sub-saharan-africa.pdf.

[65] Angola News Staff, "Nigeria's crude account one of world's least transparent – NRGI", Angola News via Reuters, June 28, 2017, https://af.reuters.com/article/idAFL8N1JP34T.

[66] Dayo Oketola, "Nigeria mismanaging Excess Crude Account – IMF", The Punch Nigeria, April 13, 2019, https://punchng.com/nigeria-mismanaging-excess-crude-account-imf/.

[67] US International Trade Administration, "Ghana - Oil and Gas", updated December 3, 2018, https://www.export.gov/article?id=Ghana-Oil-and-Gas.

[68] "Simplified Guide to Petroleum Revenue Management in Ghana", Public Interest and Accountability Committee, Republic of Ghana, June 2017, http://www.piacghana.org/portal/files/downloads/simplified_guide_to_ghana%27s_petroleum.pdf.

[69] Robert Pitman, "Mongolia's Missing Oil, Gas and Mining Contracts", Natural Resource Governance Institute, January 2019, https://resourcegovernance.org/sites/default/files/documents/mongolias-missing-oil-gas-and-mining-contracts.pdf.

[70] Government of Mongolia, Open Government Partnership National Action Plan II 2016-2018, 7 June 2016, pp. 22-23. www.opengovpartnership.org/sites/default/files/Mongolia-NAP2-Final-Eng_0.pdf

[71] Pitman, ibid.

[72] Rob Pitman and Dorjdari Namkhaijantsan, "Mongolia Reaffirms Commitment to Publish Mining, Petroleum Contracts" May 3, 2019, Natural Resource Governance Institute, https://resourcegovernance.org/blog/mongolia-reaffirms-commitment-publish-mining-petroleum-contracts.

[73] I Made Sentana and Deden Sudrajat, "Further Corruption Probe Seen for Indonesian Oil and Gas Regulator", The Wall Street Journal, April 30, 2014, https://www.wsj.com/articles/further-corruption-probe-seen-for-indonesian-oil-and-gas-regulator-1398874226.

[74] Ibid.

[75] David L. Goldwyn, Neil R. Brown, and Megan Reilly Cayten, "Mexico's Energy Reform: Ready to Launch", The Atlantic Council, August 25, 2014, https://www.atlanticcouncil.org/publications/reports/mexico-s-energy-reform-ready-to-launch.

[76] Ibid, pgs. 3 – 4.

[77] David Alire Garcia, Marianna Parraga, "Shell sweeps nine of 19 blocks awarded in Mexico oil auction", Reuters, January 31, 2018, https://www.reuters.com/article/us-mexico-oil/shell-sweeps-nine-of-19-blocks-awarded-in-mexico-oil-auction-idUSKBN1FK278.

[78] A recent analysis of the regulatory environment in Mexico notes: "Three of seven CNH commissioners and four of seven CRE commissioners have resigned ahead of schedule since last November [2018], which for two months brought the latter below quorum and unable to award permits. The Senate hearings of AMLO's nominees for CRE commissioners were at times been contentious, and the Senate rejected the same nominees twice before AMLO appointed them himself." See: Nate Graham, "Regulators and Companies Still Central to Mexico's Energy Sector", The Inter-American Dialogue, April 10, 2019, https://www.thedialogue.org/analysis/regulators-and-companies-still-central-to-mexicos-energy-sector/. In February 2019, AMLO went so far as to personally target Guillermo Garcia Alcocer, a critic and head of Mexico's CRE, with public demands that he resign under accusations of conflicts of interest. This level of political pressure on an independent regulator bodes ill for Mexico's hydrocarbons sector.

[79] Natural Resource Governance Institute, "Revenue Management and Distribution: Addressing the Special Challenges of Resource Revenues To Generate Lasting Benefits", March 2015, https://resourcegovernance.org/sites/default/files/documents/nrgi_primer_revenue-management.pdf.

[80] Luc Eyraud, Victor Duarte Lledo, Paolo Dudine, and Adrian Peralta Alva, "How to select fiscal rules : a primer." International Monetary Fund, 2018, https://www.imf.org/~/media/Files/Publications/HowToNotes/HowToNote1809.ashx.

[81] Natural Resources Governance Institute, ibid.

[82] David Mihalyi and Liliana Fernández, "How Did Fiscal Rules Hold Up in the Commodity Price Crash?", Natural Resource Governance Institute, June 2018, pg. 9, https://resourcegovernance.org/sites/default/files/documents/fiscal-rules-commodity-crash.pdf

[83] Luc Eyraud, et. al, ibid, pg. 3.

[84] Mihalyi and Fernández, pg. 11.

[85] Natural Resources Governance Institute, pg. 6.

[86] Isabel Munilla, "People, power, and pipelines

Lessons from Peru in the governance of gas production revenues", World Resources Institute, June 2010, pg. 11, https://wriorg.s3.amazonaws.com/s3fs-public/pdf/people_power_and_pipelines.pdf.

[87] Daniel Mulé, "The Peruvian paradox: surging mineral production, lagging tax revenues", Oxfam America, August 2, 2018, https://politicsofpoverty.oxfamamerica.org/2018/08/the-peruvian-paradox-surging-mineral-production-lagging-tax-revenues/.

[88] Natural Resources Governance Institute, pg. 7

[89] "Permanent Fund Dividend", Alaska Oil and Gas Association, 2019, accessed June 13, 2019, https://www.aoga.org/facts-and-figures/permanent-fund-dividend.

[90] Sanjeev Gupta, Alex Segura-Ubiergo and Enrique Flores, "Direct Distribution of Resource Revenues: Worth Considering?", IMF Staff Discussion Note, June 2014, pg. 13, https://www.imf.org/external/pubs/ft/sdn/2014/sdn1405.pdf.

[91] Ibid, pg. 20 – 22.

[92] Natural Resource Governance Institute, "Natural Resource Governance Glossary: Social License to Operate", pg. 12, accessed June 17, 2019, https://resourcegovernance.org/sites/default/files/documents/natural-resource-governance-glossary.pdf.

[93] United Nations Industrial Development Organization (UNIDO), "Chevron gives USD 1 million for UNIDO project on entrepreneurship curriculum in Angola schools", October 29, 2010, https://www.unido.org/news/chevron-gives-usd-1-million-unido-project-entrepreneurship-curriculum-angola-schools.

[94] Chevron Corporation, "Partnering to build healthy communities around the world", August 2018, https://www.chevron.com/stories/partnering-to-build-healthy-communities-around-the-world.

[95] Baylor College of Medicine International Pediatric AIDS Initiative at Texas Children's Hospital, "Angola", accessed June 18, 2019, https://bipai.org/Angola.

[96] The concept of creating shared value (CSV) stems from a foundational 2011 Harvard Business Review article by Michael E. Porter and Mark R. Kramer, which dealt with questions of weakened social trust in business and the role of private business enterprise in managing issues of public concerns.

[97] Eni, "Sustainability in Congo", pg. 14, https://www.eni.com/docs/en_IT/enipedia/international-presence/congo/eni-sost-congo-2015-eng-09.pdf.

[98] Eni, ibid.

[99] The Shared Value Initiative is a part of Foundation Strategy Group (FSB), a global firm dedicated to social impact, created by Professors Michael E. Porter and Mark Kramer (the founders of the modern shared value concept).

[100] Alexandra Geertz. "The 5 Challenges Extractives Companies Face in Creating Shared Value", Shared Value Initiative, January 28, 2014, https://www.sharedvalue.org/groups/5-challenges-extractives-companies-face-creating-shared-value.

[101] ExxonMobil claims that, due in part to its activism in malaria awareness and prevention, none of its workers have died from malaria since 2007.

[102] ExxonMobil Corporation, "Our partners are dedicated to reducing malaria's threat", August 30, 2018, accessed June 24, 2019, https://corporate.exxonmobil.com/Community-engagement/The-fight-against-malaria/Our-partners-are-dedicated-to-reducing-malarias-threat.

[103] ExxonMobil Corporation, "Driving progress against malaria with ExxonMobil Global Health Scholars at Oxford University", August 6, 2018, accessed June 24, 2019,

https://corporate.exxonmobil.com/en/Community-engagement/The-fight-against-malaria/Driving-progress-against-malaria-with-ExxonMobil-Global-Health-Scholars-at-Oxford-University.

[104] Joanne Silberner, "ExxonMobil fights malaria in Cameroon against backdrop of climate change", The Ground Truth Project, September 29, 2014, http://thegroundtruthproject.org/exxonmobil-fights-malaria-in-cameroon-against-backdrop-of-climate-change/.

[105] Ibid.

[106] Paolo Mauro, ibid.

[107] United States Department of Justice, "Foreign Corrupt Practices Act", updated February 3, 2017, https://www.justice.gov/criminal-fraud/foreign-corrupt-practices-act.

[108] Organization for Economic Cooperation and Development, "OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions", accessed June 24, 2019, http://www.oecd.org/corruption/oecdantibriberyconvention.htm.

[109] "Senegal", The Extractive Industries Transparency Initiative, last updated July 9, 2019, https://eiti.org/senegal.

[110] Manon Laplace, "Senegal searches for crisis communication strategy after Petro-Tim exposé", The Africa Report, July 11, 2019, https://www.theafricareport.com/15108/senegal-searches-for-crisis-communication-strategy-after-petro-tim-expose/.

[111] "Senegal rules out changing gas contracts amid corruption claims", World Oil, July 30, 2019, https://www.worldoil.com/news/2019/7/30/senegal-rules-out-changing-gas-contracts-amid-corruption-claims.

[112] "Aliou Sall, Senegal president's brother, resigns post amid corruption claim", BBC, June 25, 2019, https://www.bbc.com/news/world-africa-48753099.

[113] Publish What You Pay, "Who we are", accessed August 13, 2019, https://www.pwyp.org/about/.

[114] EITI Secretariat, "Company support of the EITI", accessed June 24, 2019, https://eiti.org/company-support-of-eiti

[115] A recent NGRI analysis notes that, in addition to the IFIs, "[t]he private sector increasingly recognizes the value of contract transparency. A recent survey of 40 major petroleum and mining companies showed that 18 have made public statements supporting some form of contract transparency. This includes Total, Statoil, BP and Shell who all have significant operations in Nigeria… Many of the large international oil companies (IOCs) that operate in Nigeria have allowed contract disclosure in other countries where they work, including BP (Azerbaijan), Chevron (Liberia), ENI (Mozambique), ExxonMobil (São Tomé and Príncipe), Shell (Philippines) and Total (Mauritania)." They add that commercially sensitive information is not typically found in contracts. See: Rob Pitman and Anne Chinweze, "The Case for Publishing Petroleum Contracts in Nigeria", Natural Resource Governance Institute, March 2018, pgs. 5 – 6, https://resourcegovernance.org/sites/default/files/documents/the-case-for-publishing-petroleum-contracts-in-nigeria.pdf.

[116] We note, for example, how US oil companies opposed tax disclosure via US implementation of EITI in the U.S. ExxonMobil and Chevron have opposed project-level payment disclosure via Section 1504 of the Dodd-Frank Act in the US for years, and are reported to have successfully lobbied to have the Securities Exchange Commission rule repealed in early 2017 under the friendly auspices of the Trump administration. That November, the US withdrew from EITI altogether. In May 2018, both companies were publicly criticized by the EITI Chairman for failing to disclose US tax payments in the spirit of EITI following a US civil society group complaint to the Secretariat. Both companies remain on EITI's international Board.

[117] Nacha Cattan and Eric Martin, "Mexico's AMLO Takes Office With Attack on Energy Overhaul", Bloomberg News, December 1, 2018, https://www.bloomberg.com/news/articles/2018-12-01/lopez-obrador-takes-the-reins-in-mexico-vowing-a-transformation.

[118] "Results of Mexico's Shallow Water Auction – Round 3.1", Oil and Gas 360, March 27, 2018, https://www.oilandgas360.com/16-contracts-awarded-to-12-bidders-in-mexicos-shallow-water-auction-round-3-1/.

[119] EITI International Secretariat, "Global Factsheet September 2019", September 2019, https://eiti.org/sites/default/files/documents/eiti_factsheet_en_09.2019.pdf.

[120] The B Team, "About: Global Business Leaders Need to Come Together," accessed June 7, 2019, http://www.bteam.org/about/.

[121] The World Bank, "Building Capacity to Manage Ghana's Oil - World Bank Assists with US$38 Million", December 20, 2010, http://web.worldbank.org/external/default/main?pagePK=34370&piPK=34424&theSitePK=4607&menuPK=34463&contentMDK=22794423.

[122] The World Bank, "Ghana - Oil and Gas Capacity Building Project", October 4, 2018, http://documents.worldbank.org/curated/en/903091538661929826/Ghana-Oil-and-Gas-Capacity-Building-Project.

[123] Ibid, pg. 7.

[124] Chevron Corporation, "Our History In Angola", accessed June 26, 2019, https://angola.chevron.com/en/about/our-history-in-angola.

[125] The World Bank, "Financial Stability", accessed August 23, 2019, https://www.worldbank.org/en/topic/financialstability.

[126] These, and more recommendations for MDB reforms, are discussed in greater detail in the essay series "Six recommendations for reforming multilateral development banks", Overseas Development Institute, December 2017, https://www.odi.org/sites/odi.org.uk/files/resource-documents/11908.pdf.

[127] US Agency for International Development (USAID) Office of Public Relations, "U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT ADMINISTRATOR MARK GREEN ON THE CREATION OF THE U.S. INTERNATIONAL DEVELOPMENT FINANCE CORPORATION (USIDFC)", October 3, 2018, https://www.usaid.gov/news-information/press-releases/oct-3-2018-administrator-green-statement-creation-usidfc.