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Resource-Backed Investment Finance in Least Developed Countries

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The global financial crisis and shrinking aid flows have led to decreased availability of long-term debt finance for Least Developed Countries (LDCs), particularly for infrastructure. On the other hand, resource-related foreign direct investment (FDI) in those countries has remained substantial. This note presents two models in which the natural resource wealth of LDCs has been used as a means to overcome the dearth of finance sources necessary for non-resource-related investments, and outlines country-specific factors that could tilt the balance between risks and opportunities to the latter.

Mind the Investment Finance Gap

The global financial crisis has dramatically strained the sources of traditional private long-term finance available to developing countries, particularly for infrastructure. In parallel, aid flows have been diminishing. Although bond issuance has surged since the crisis, this has been geographically concentrated outside the LDCs (Chelsky, Morel, and Kabir 2013).¹ The Federal Reserve's and other major central bank's expected eventual tightening of monetary policy is likely to further reduce the availability of long-term finance in countries with the largest infrastructure deficit.

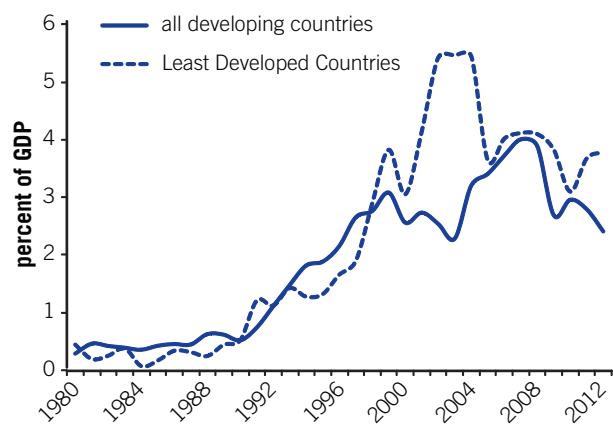
Many of the LDCs that lack access to international capital markets, and where domestic capital markets are underdeveloped, are also rich in natural resources (Canuto and Cavalari 2012). For investors, they represent an enticing but challenging mix of potential high returns on investments in the extractives sector, with high political, macroeconomic, and project risk associated with poor policy climate and weak institutional capacity. To an important extent, governments' limited access to capital is a reflection of this perceived risk. In the extractives sector, nevertheless, expected returns have,

over the last decade, been high enough to compensate private companies, many of them global multinationals, for the hurdles of operating in very adverse investment climates.

Though the recent softening mineral commodity prices rules out more marginal mining projects, billion-dollar investments continue to pour into the sector, even under the most difficult geographical and political circumstances, particularly in Africa. As a result, the LDCs have in fact been receiving more FDI—as a share of gross domestic product (GDP)—than other more advanced developing countries (figure 1; Brahmehatt and Canuto 2013), and FDI to Africa has quintupled since the turn of the millennium, from US\$10 billion in 2000 to US\$50 billion in 2012 (UNCTAD 2013).

So, one may ask, what kind of financing opportunities could result from the combination of weak governance environments, governments' lack of capital market access, and natural resource abundance? Well, as it turns out, quite a few. Investors with a stomach for risk have invented financing models that provide them with a competitive edge in this type of circumstance. Additionally, developing country governments are seeking to become more proac-

Figure 1. FDI Inflows, 1980–2012



Source: Brahmbhatt and Canuto (2013).

tive with regard to productive investment of rents generated from extractives.

This note considers dominant trends in resource-backed financing for infrastructure. First, there is the continuum from oil-backed lending, through resources for infrastructure (RfI) deals, to possible options for government bonds backed by future resource revenues. Next is another recent but growing trend in several resource-rich developing countries, the use of their newly established sovereign wealth funds (SWFs), not only for stabilization and inter-generational saving through investment in foreign currency-denominated assets, but also for domestic investment, mainly in infrastructure.

Resource-Backed Financing

In Africa, the financing opportunities provided by high-risk, institutionally challenging, and resource-rich contexts were first identified by Standard Chartered Bank in response to the Angolan government's demand for revenue to fund its war against Jonas Savimbi's UNITA rebels. In the absence of a credible sovereign guarantee, given the Angolan government's low creditworthiness at the time, Standard Chartered offered an arrangement whereby its lending was to be guaranteed by future oil revenues. Other Western banks soon followed suit, including BNP Paribas of France, Commerzbank of Germany and others, and by the end of the war in 2002, the Angolan government had taken out 48 oil-backed loans (Brautigam 2011). According to Alves (2013), oil-backed lending remains a common format for several banks that do business in Africa, a recent example being the Brazilian National Development Bank's (BNDES) loans to Angola.²

Following the initial wave of resource-backed financing, China Exim Bank in 2004³ started offering so-called RfI

deals, also pioneered in Angola and later to become a main vehicle for financing that country's postwar reconstruction. This financing model was later used in several other African countries, predominantly by Chinese banks, including China Development Bank, but recently also by Korea Exim Bank for the Musoshi mine project in the Democratic Republic of Congo (DRC). According to Korea Exim Bank (2011), "the [Korean version of the RfI] model was strategically developed to increase Korea's competitiveness against countries which have already advanced into the promising market of Africa. This agreement is the first application of the model." Back-of-the-envelope estimates based on publicly available information indicate the value of signed RfI contracts in Africa to be at least US\$40 billion, most likely higher, although it is unclear how many of these contracts have been fully implemented. Types of infrastructure projects have included railways, power plants, hospitals, and roads. Close to US\$10 billion worth of contracts were reportedly signed in 2011 and 2012 alone, with at least US\$6 billion in contract value under negotiation in 2013.⁴

RfI deals, not to be confused with "packaged" resource-infrastructure deals—where the infrastructure is primarily ancillary to the mine, such as rail mine-to-port links for ore transport—have been described as "swaps" or "barter" arrangements. However, RfI is better understood in terms of basic and familiar concepts from investment finance. Under an RfI arrangement, a loan for current infrastructure construction is securitized against the net present value of a future revenue stream from oil or mineral extraction, adjusted for risk. Loan disbursements for infrastructure construction usually start shortly after signing of the joint infrastructure–resource extraction contract, and are paid directly to the construction company to cover construction costs. The revenues for down payments on the loan, which are disbursed directly from the oil or mining company to the financing institution, often come on stream a decade or more later, after initial capital investments for the extractive project have been paid down.

The grace period for the infrastructure loan hence depends on how long it takes to build the mine or develop the offshore oil field (for onshore oil fields, the time line would be significantly longer if new pipelines have to be built), on the size of the initial investment, and on its rate of return. Large extractives projects can cost US\$3–US\$15 billion and take 10 years or more from discovery to commercial operation. Given the consequently long grace period for the infrastructure loan, getting the discount rate right, appropriately adjusted for risk, is essential. With the investor taking a significant share of operational, economic and political risk, this is a nonrecourse loan, and an element of official or semiofficial

concessional finance to reduce investor risk has so far been a standard component of RfI deals.

A “third generation” model of resource-backed finance, not yet developed, could consist of commodity-backed securities (Songwe 2013). In this case, the resource-rich country would raise funds in international markets through the issuance of a bond denominated in one of the reserve currencies. Payment obligations would be secured by future resource revenues, payable by the resource company into an offshore escrow account, from which transfers to bondholders would be made, subject to appropriate investment guarantees.

Mobilizing Sovereign Wealth Funds for Long-Term Development Finance

Resource-rich developing countries were, until recently, encouraged to invest resource revenues according to some version of the permanent income hypothesis (PIH).⁵ Most of the revenues would by this criterion be invested abroad in foreign currency-denominated assets, so as to provide an even future revenue flow as subsoil reserves were depleted. Given the potentially large economic and social externalities from domestic investments in infrastructure, as well as potentially higher financial rates of return from domestic investment than that from long-term foreign assets, leading academics (Berg et al. 2012; Collier et al. 2009; van der Ploeg and Venables 2010) have recently argued that, in countries with a large infrastructure deficit, it may instead be justified to front-load investments. The International Monetary Fund has also moved away from strict adherence to the PIH toward more investment-focused policies.

In a parallel development, SWFs based in high-income countries have, over the last decade, increasingly been looking to diversify into emerging markets. For example, funds from the Gulf countries have been estimated to hold 22 percent of their assets in Asia, North Africa, and the Middle East (Santiso 2008). Over the same period and earlier, a number of SWFs in high- and middle-income countries implemented policies that included domestic investment. Funds where domestic assets account for a significant share of total investment include Singapore’s Temasek, New Zealand’s Superannuation Fund, Kazakhstan’s Samruk-Kazyna, and Malaysia’s Kazanah. Gelb et al. (forthcoming) list 14 SWFs that invest domestically.

Recognizing the need for macroeconomic and fiscal buffers against highly volatile resource revenue flows, several resource-rich developing countries have recently established, or are in the process of establishing, SWFs funded from oil, gas, or mining revenues. Motivated by the trends discussed above, respectively of investing in emerging markets and investing domestically, several of these new extractives-based SWFs have defined or are considering mandates that go beyond stabilization and intergenerational savings to

include strategic domestic investment. Examples include the newly established Nigeria Sovereign Investment Authority, and its Nigeria Infrastructure Fund, as well as the Fundo Soberano de Angola. Others are in the process of being created or are under discussion in Colombia, Morocco, Tanzania, Uganda, Mozambique, and Sierra Leone (Gelb et al. forthcoming).

Risks and Opportunities of Resource-Backed Finance

A common trait of the types of resource-backed investment finance described above is the very high risk if implemented without due regard to the establishment of institutional and procedural safeguards. Before discussing these risks, however, a proper consideration is warranted of the characteristics that have made such arrangements attractive to host country governments, and hence are generating demand.

A major benefit of resource-backed financing models to democratically elected governments, or even nondemocratic ones that need some sort of popular legitimacy, is that they allow these governments to provide a return to citizens while in office, and long before the extractive project is generating revenue or turning a profit. Additionally, in weak governance contexts, RfI contracts can provide what Collier (2010) has called a “new commitment technology,” whereby extracted resources are with certainty offset by the accumulation of a productive capital asset. As Wells (2013) points out, this contrasts with the frequent use of signing bonuses and royalties to fuel increased consumption, including higher public sector salaries. Hence “a wise Finance Minister may reasonably decide that this is much safer than letting the revenues flow transparently into the budget and then hoping to emerge triumphant from the subsequent political contest for spending” (Collier 2010). RfI deals also reduce the risk of capital flight, by resource rents being transferred abroad (Lin and Wang forthcoming), as has frequently happened where resource abundance and weak governance combine. Finally, in African contexts, the challenges of taxing and spending resource revenues efficiently may be “so daunting that governments find it more advantageous to receive payments in kind” (Collier 2013).

The risks of resource-backed financing are nevertheless substantial. Resource-backed loans and bond structures may, in weak governance contexts, mortgage the nation’s subsoil wealth without much productive investment to show for it, thereby constraining future options for financing development. There also may be implementation challenges. To attract investors, resource-backed bonds are likely to need a structure that isolates them from revenue variations arising from highly volatile resource prices. Additionally, reflecting risks of sharp drops in resource prices, some sort of backstop will likely be necessary to provide the confidence needed by

investors that the government will not default on payment obligations if resource revenues fall. If the country has a low sovereign credit rating, it may be difficult to establish a backstop credible enough to ensure bond ratings are higher than the sovereign rating.⁶

RfI deals, on the other hand, face challenges in terms of ensuring a proper valuation of the exchange, including appropriate discount rates and pricing of risk, and ensuring the quality of the built infrastructure during the construction phase and after, as well as setting up proper operation and maintenance structures in a low-capacity environment. To address valuation and risk issues, assessment of the RfI option would need to start with estimates that compare infrastructure costs with those that would arise from implementation by conventional fiscal and investment models, whereby resource revenues would go into the budget and construction would be financed by the public spending supported by these revenues. Collier (2010) has suggested that proper valuation should take place through open competition for the bundled contracts—although it is not yet clear how the frequently significant role of concessional finance would be accounted for by an auction mechanism. The day of open competition for RfI contracts may be arriving, but so far most proposals have originated from firms seeking opportunities either on the extractives or the infrastructure sides, and then partnering with other firms and a financing institution through an RfI to build a bankable deal to offer the government (Wells 2013). Ways of introducing competition could be based on processes established in some countries to channel unsolicited infrastructure proposals into public competitive processes, thereby encouraging the private sector to propose potentially beneficial project concepts while maintaining the benefits of open tendering. Chile and the Republic of Korea, for example, use a “bonus system,” where a 5 to 10 percent bonus is credited to the original proponent’s bid in an open bidding round for the tender resulting from the unsolicited project proposal (Hodges and Delachá 2007).

Other relevant questions include: Is there an appropriate system in place to manage revenues generated after the infrastructure investment has been paid down? Have proper measures have been taken to appraise, select, monitor, and evaluate the infrastructure projects, technically and financially? Since RfI substitutes infrastructure for fiscal flows, how will this affect debt sustainability? Have fiscal and macroeconomic stability issues been properly considered? As the loan component of RfI deals has been predominantly in the form of export credit, with labor and intermediary goods imported from the funding country, potential problems around macroeconomic absorption have been reduced. However, the extensive use of imports raises other issues such as local employment, national value added, and

contribution to economic diversification. Finally, as has often been the case with more standard types of contracts and licenses in the extractives sector, RfI deals have frequently been nontransparent, thereby increasing the risk of insufficient public oversight and, for investors, the risk of future government demands to renegotiate the contract. This risk to investors is significant since, after the infrastructure has been built, the government has an incentive to renege on the payment obligations associated with continued extraction rights.

When it comes to domestic investment by SWFs, the main risks arise from the double role of the government as the owner of the fund as well as ultimately being responsible for its investments. This double role can undermine the quality of investments as well as the wealth objectives of the fund, in addition to potentially destabilizing macroeconomic management (Gelb et al. forthcoming). In low-capacity environments—with weak governance, public investment systems and regulatory frameworks, and where coordination among public entities is lacking—such risk is magnified, and many resource-exporting countries have implemented massive investment programs to little effect. Publicly owned wealth funds that invest domestically are nothing new, and public pension funds tend to have a significant proportion of their capital invested within the home country. However, when a fund receives its capital from resource revenues, as is the case with the “new” SWFs in developing countries, accountability is reduced since the fund essentially has “zero cost of capital” resulting from the continuous stream of oil, gas, or mineral revenues. It does not need to raise capital in domestic or foreign capital markets, and is not accountable to a group of interested stakeholders such as pension contributors. In addition to this agency risk, there is risk arising from investment mandates that go beyond financial return to include social and economic externalities, and greatly complicate accountability because fund performance can no longer be benchmarked on financial returns.

These risks can be managed, but not completely eliminated. Domestic investments need to be screened primarily on the basis of financial returns, with allowance for home bias where there is market or close-to-market returns, and crowding in rather than displacing private investors. Partnerships with foreign SWFs or investment funds, with the home SWF as a minority investor, would serve to reduce moral hazard problems, in addition to opening up investment decisions to external evaluation and adding to the expertise at the fund’s disposal. Furthermore, meeting accepted international standards for corporate governance, transparency, and audits is fundamental to ensuring fund independence and integrity (Gelb et al. forthcoming). In countries where a well-managed development bank with a solid track record exists, invest-

ments with a home bias would benefit from being channeled through the development bank rather than fragmenting investment decisions by setting up a separate structure. The maximum domestic investment envelope, as well as home bias parameters such as a maximum allowable mark-down from the international benchmark rate of return, needs to be subject to parliamentary approval through the budget process. Where no home bias is defined, the challenge is to ensure the integrity of a process where domestic investments compete on equal terms with foreign assets, based purely on financial return criterions.

Notwithstanding the very substantial risks, potential advantages do exist. Taking advantage of its long-term horizon, the domestic SWF is in a position to offer a range of instruments to share risk and make potentially attractive projects commercially bankable. In some circumstances, and assuming that any home bias in the SWFs mandate can be clearly defined, the SWF could accept a somewhat below-market return on domestic investments with large economic externalities (Gelb et al. forthcoming). For example, instead of an external rate of return of, say, 4 percent in real terms over an investment horizon of 10 years, it could stipulate a real return of 2 percent over a horizon of 20 years.

Conclusion

Although prices of most minerals and fuels have fallen since peaking in 2008 (crude) and 2011 (metals and minerals [World Bank 2013]), they are likely to remain far above historical averages due to increased demand from emerging markets, primarily China and India. Resource-backed finance models are, in this context, likely to maintain or increase their share of infrastructure finance.

Several financing options are available and will be deployed according to the particular country and governance context. Allowing domestic investment by SWFs carries very significant risks, and precedents indicate that unless very strong safeguards exist, failure is the likely result. There are huge moral hazard issues that may be impossible to efficiently address in a weak governance environment. In the best case, however, such investment may crowd in private sector investors to borderline investments that would not be independently bankable without some sharing of risk. By letting potentially attractive domestic investments compete with foreign assets for investable funds, based on expected returns, competition for resource allocations based on market principles, managed by capable investment managers, replaces competition for resources through the budget process.

If there is a perception that a SWF is likely to be raided by the next government in power, the current government may prefer the earmarking of funds to investment implicit in RfI, rather than saving in a SWF beyond what is necessary for stabilization (Gelb forthcoming). On the other hand, RfI

can only bring full benefits if the government has the will and capacity to establish the necessary procedural safeguards for assessing, selecting, monitoring and maintaining the infrastructure projects, as well as the competencies to credibly and forcefully negotiate the RfI contract based on a proper valuation and a more competitive tendering process, and if all parties are willing to commit to transparency. Failure to build capacity on the government side, and implement transparency, will likely result in low-quality, high-cost, badly selected, and poorly maintained infrastructure projects.

Since existing RfI deals have been underpinned mainly by export finance, procurement options for infrastructure construction have been limited to firms from the funding country. Oil-backed loans or bond issuance, on the other hand, provide the government with discretion in contracting with oil, mining, and construction companies freely, allowing for competitive tendering of infrastructure as well as extractive projects, but may represent an incentive for increased consumption rather than investment if a strong commitment to investment does not exist. Furthermore, bonds may be a feasible option only if the country has sufficient creditworthiness to provide a credible backstop in the case of a shortfall in resource revenues, or appropriate credit guarantees can otherwise be provided.

There could also be combinations of the different financing options. For example, a SWF portfolio allocation invested abroad in foreign currency-denominated liquid assets could be used to generate the backstop necessary to credibly issue resource-backed bonds. Returning to the original point of this note, the success and failure of much debated resource-backed financing models will be determined not on the basis of categorical assessments of each model as “good” or “bad” for development outcomes, but on their deployment as it plays out in different country and institutional contexts, and on the institutional and procedural safeguards established to ensure proper governance. This is consistent with the current consensus among economists, that whether natural resource abundance proves to be a “curse” or a “blessing” mostly depends on circumstances and policies (Brahmbhatt, Canuto and Vostroknutova 2010; Ledermann and Maloney 2007; Canuto and Cavallari 2012). In the end, it all depends!

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Notes

1. "The Least Developed Countries (LDCs) are 48 countries flagged by the United Nations Economic and Social Council as meeting certain thresholds for small population, low per capita income, weak human development and high economic vulnerability to shocks... About two thirds are in Sub-Saharan Africa with the rest mostly in the Asia and Pacific region" (Brahmbhatt and Canuto 2013).
2. Oil had already been used as collateral in a previous agreement between Angola and Brazil for partial debt relief.
3. Although the Rfi model had been used by China Exim Bank on two occasions previously, in the Republic of the Congo (2001, US\$280 million) and Sudan (2001, US\$128 million [Foster et al. 2008]), Rfi is generally considered to have been pioneered through the far larger contract in Angola, and has also been dubbed the "Angola mode" of contracting.
4. For an overview of Rfi projects in Africa, see Alves (2013) and Foster et al. (2008).
5. "A commonly used benchmark for fiscal policy in a natural resource-rich economy is the permanent income rule. Under this rule the country should save all resource revenues over and above a certain permanently sustainable increase in the level of consumption, which is equal to the annuity value of the country's natural resource wealth." (Brahmbhatt, Canuto, and Vostroknutova 2010, 115).
6. Xavier Cledan Mandri-Perrott, comments on Songwe (2013).

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