Key findings

Can a New Model of Infrastructure Financing Mitigate Credit Rationing in Poorly Governed Countries.

Economic Modelling 95: 111-120.

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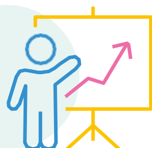
This overview is published in the framework of the third edition of the Finance in Common Summit in Abidjan "Green and Just transition for a sustainable recovery".

We explore why resource-financed infrastructure—whereby developing countries pledge future resource revenues to repay infrastructure loans—mitigates credit rationing in poorly governed countries. Using a novel project-level database, we find that the loan sizes for resource-financed infrastructure are much larger than those determined by the traditional government infrastructure purchasing model especially in poorly governed countries. We use the credit rationing model to explain these empirical patterns.
The traditional government infrastructure purchasing model suffers from two limitations: the borrowing government may steal infrastructure funds, or fail to make a credible commitment to using taxation to repay its sovereign infrastructure loans.
The new financing model solves such problems by allocating loans directly from the lender to the contractor minimizing government corruption, and channeling resource revenues into an independent escrow account to repay infrastructure loans. Our findings highlight that this new infrastructure financing model can alleviate credit rationing in poorly governed, resource-rich countries.



Objectives and research questions

Against this background, the China Development Bank (CDB) and the Export–Import Bank of China (China Exim Bank) have become important players in financing infrastructure in Africa, Latin America, and other developing regions since the early 2000s. One salient infrastructure financing model deployed by the CDB and China Exim Bank is known as resource-financed infrastructure (RFI), which is a financing model whereby a government pledges future revenues from a resource-development project to repay an existing construction loan. This paper explains why RFI is able to fill the infrastructure financing gap in poorly governed developing countries.

Methods

Our paper builds on classical credit-rationing theory in corporate finance by applying our analytical framework to sovereign infrastructure financing. We make an analogy between nations and corporations. Although highly reductive, consolidating all of a nation's agents into a single representative decision-maker has the advantage of clarifying that nation's economic objectives and constraints. We adapt the agency problem in the classical credit-rationing model: Borrowers may deliberately reduce the success probability of an investment to enjoy private benefits. We go beyond a general discussion of how poor governance impedes infrastructure financing by analysing two dimensions of poor governance: using infrastructure loans for private benefit and a limited commitment to honoring them.

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Results

Using a comprehensive and hand-collected project-level data set, we discover two robust empirical patterns. First, RFI loans are much larger than conventional sovereign loans, averaging USD 1.9 billion compared with USD 188 million for non-RFI loans. Second, countries with RFI loans are more corrupt than those without. Even though conventional wisdom holds that poor country-level governance exacerbates credit rationing, RFI alleviates this problem.

Based on interviews with key stakeholders, we identify two channels through which RFI protects itself against corruption and limited commitment while mitigating credit rationing in poorly governed, resource-rich developing countries. RFI enjoys two significant advantages over the traditional government infrastructure purchasing model. First, Chinese policy banks allocate funding directly to construction companies rather than to borrowing governments, which reduces the risk of corruption. Second, the resource revenue goes directly to an independent escrow account established to service the debt of infrastructure loans rather than flowing conventionally into the coffers of resource-rich governments. In sum, these two mechanisms reassure creditors that loans will finance infrastructure and that sufficient revenues from separate resource-extraction projects will be secured to repay infrastructure loans.

Recommendations

Our study has practical implications for the problem of infrastructure deficits in developing countries. First, it goes beyond general discussion of the adverse effects of poor governance on infrastructure financing to explain how two specific dimensions of poor governance exacerbate credit rationing. One limitation is that a borrowing country's government officials may siphon infrastructure funds into their own pockets. The other is that a borrowing country's government may fail to honor its commitment to repay infrastructure loans. Delving deeper into these two limitations helps us better grasp the nature of the problem of infrastructure deficits in poorly governed countries.

Second, our study illuminates the specific mechanisms by which RFI can outperform the traditional government infrastructure purchasing model. Despite its real-world significance given the sheer size of RFI deals, this nascent infrastructure financing model deserves to be better understood by economists. As a result, the practice has run ahead of the theory. The lack of rigorous academic research has left us with polarized debates on the role of RFI. On one hand, the opaque nature of RFI deals has drawn criticism and suspicion from the media and the international development community. On the other hand, the Chinese government and the borrowing country's government regard RFI as a "win-win" deal by bartering or swapping commodities for infrastructure. Yet little is known about the specific mechanisms that enable RFI to achieve a much larger loan size in poorly governed countries. Our research highlights the importance of monitoring and commitment technologies, which may be used to innovate financing models and resolve credit rationing in other fields.

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