Does foreign aid mitigate the adverse effect of expropriation risk on foreign direct investment?∗☆

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Abstract

We construct a model of FDI, risk and aid, where a country loses access to FDI and aid if the country expropriates FDI. We show that: (i) the threat of expropriation leads to under-investment; (ii) the optimal level of FDI decreases as the risk of expropriation rises; and (iii) aid mitigates the adverse effect of expropriation risk on FDI. The empirical analysis employs data for 35 low-income countries and 28 countries in Sub-Saharan Africa, over the period 1983–2004. We find that risk has a negative effect on FDI and that aid mitigates but cannot eliminate the adverse effect of risk.

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1. Introduction

When a multinational corporation (MNC) sets up a subsidiary abroad, the MNC faces the risk that its investments may be expropriated by the host country or at least be subject to unpredictable changes in rules and regulations. One of the reasons for the existence of these types of risk is that there is no supranational entity that enforces contracts across borders. In addition, the sovereignty status of countries limits the extent to which governments can be “punished” for violations of contractual agreements. Although acts of complete expropriation of foreign capital are now rare,2 changes in laws, regulations and contractual agreements (which we consider as partial expropriation) are quite pervasive, especially in developing countries. For example, about 60% of the firms that participated in the World Business Economic Survey reported that they often had to deal with “unpredictable changes in rules and regulations” which affected their business.3 A recent example of a breach of contract between governments and foreign-owned firms is the case of Venezuela. In the early 1990s, Venezuela liberalized its oil industry and signed service agreements with 22 foreign oil companies. Under these contracts, foreign companies managed the oil fields, and Petróleos de Venezuela S.A. (PDVSA), a state-owned firm, purchased the produced oil from the foreign firms at the market rate. However, in February 2006, the government signed a decree that beginning May 2006, PDVSA will have at least 60% ownership in the oil production projects managed by foreign oil firms.4 The government also retroactively raised corporate income tax on foreign oil companies from 30% to 50% and increased royalties from as low as 1% to 33%. Interestingly, the government of Bolivia adopted a similar policy in April 2006. Clearly, country risk that stems from government actions such as a breach of contractual agreements, changes in laws and regulations or the outright nationalization of foreign-owned property has an adverse effect on foreign investment. In addition, these types of risk have a more profound effect on foreign direct investment (FDI) than other types of private foreign investment (e.g., portfolio investment). One reason is that

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2 Minor (1984) shows that the nationalization of foreign enterprises has declined over time.
4 Twenty six foreign oil companies agreed to convert their operations into joint ventures with PDVSA, with PDVSA holding majority shares. Two European firms (Total of France and Eni S.p.A of Italy) refused to operate as a joint venture and hence were expelled. See the April 23, 2006 issue of the Washington Post for more information.
FDI is partially irreversible — much of the costs associated with FDI are sunk and therefore cannot be recouped if disinvestment occurs. Indeed, one of the reasons why many poor countries, in particular, countries in Sub-Saharan Africa (SSA) have received very little FDI is that the region is perceived as risky. The lack of FDI in poor countries is troubling because FDI offers many potential advantages to host countries: it is a source of capital, creates employment, boosts wages, enhances the productivity of domestic firms and workers, and promotes economic growth. Many international development agencies, in particular, the World Bank, consider FDI as one of the effective tools in the global fight against poverty. For example, the key function of the World Bank’s Multilateral Investment Guarantees Agency (MIGA) is to facilitate FDI to poor countries by mitigating investor risk. MIGA provides insurance against expropriation, breach of contract, currency transfer restrictions and political risk. MIGA also provides dispute resolution services to foreign investors and member countries. Furthermore, MIGA offers loan guarantees to foreign investors and it provides technical assistance for MIGA guaranteed projects. The role of MIGA as a foreign investment risk mitigator is described in these very terms at the agency’s website:

MIGA gives private (foreign direct) investors the confidence and comfort they need to make sustainable investments in developing countries. We act as a potent deterrent against government actions that may adversely affect investments. And even if disputes do arise, our leverage with host governments frequently enables us to resolve differences to the mutual satisfaction of all parties. MIGA’s relationship with shareholder governments provides additional leverage in protecting investments, by deterring harmful actions by governments. Helping investors overcome their concerns about potential political risks is precisely why MIGA exists.

MIGA also notes at its website that “harmful actions by governments” include the expropriation of property and changes in contractual agreements. Thus, to the extent that the services provided by MIGA can be characterized as foreign aid, the pronouncements by MIGA suggest that multilateral aid, specifically deters expropriation acts by governments, and in general, reduces the risk faced by foreign direct investors. With regard to bilateral aid, Kimura and Todo (2007) assert that aid serves as a quasi government guarantee for investments in the recipient country that originate from the donor country. As a consequence, aid reduces the level of risk perceived by MNCs from the donor country.

This paper examines the link between FDI, aid and expropriation risk. In a seminal paper, Eaton and Gersovitz (1984) showed that the threat of expropriation has a negative effect on FDI. We extend their analysis to determine whether foreign aid can ameliorate this adverse effect. Specifically, we construct a model where a country loses access to FDI and aid if the country expropriates FDI. We derive three main results: (i) the threat of expropriation leads to under-investment; (ii) the optimal level of FDI decreases as the risk of expropriation rises; and (iii) under certain conditions, aid mitigates the adverse effect of expropriation risk on FDI. For the empirical analysis, we consider a panel of two country groups. The first group comprises of 35 low-income countries and the second group consists of 28 countries in SSA. We consider three measures of aid: bilateral, multilateral and aggregate aid, and our analysis covers the period 1983–2004. We run separate regressions for bilateral and multilateral aid because the two types of aid may be driven by different factors (e.g., Maizels and Nissanke, 1984). We answer three questions: (i) Does expropriation risk have an adverse effect on FDI? (ii) Can aid ameliorate the adverse effect of risk on FDI? and (iii) Can aid completely neutralize the negative effect of risk on FDI? These questions have important policy implications. For example, if aid can completely overcome the adverse effect of risk, then one may advocate for an increase in aid to developing countries.

As a benchmark, we estimate a reduced form FDI equation. Here, we employ two estimation procedures — the dynamic panel "difference" General Method of Moments (GMM) estimator proposed by Arellano and Bond (1991) and the "system" GMM estimator proposed by Blundell and Bond (1998). We find that risk has a negative and significant effect on FDI, aid mitigates the adverse effect of risk, and that bilateral and multilateral aid are roughly equivalent at achieving these results. We also provide an estimate of the level of aid that would eliminate the negative effect of expropriation risk, and find that for low-income countries, the amount of aid would need to at least double in order for aid to completely offset the effect of risk. These results hold for both sample groups, the three measures of aid as well as the two estimation procedures. We next take into account the possibility that FDI and aid are jointly determined. Here, we extend the theoretical model to consider the case where aid and FDI are jointly determined and estimate by three-stage least squares (3SLS) the structural equations that determine FDI and aid. We find that the results for the 3SLS regressions are qualitatively similar to the GMM estimation results.

This paper is related to two strands of the empirical literature. The first strand of studies focus on the direct effect of risk on FDI — i.e., \( \partial \text{FDI}/\partial \text{Risk} \), and the second strand of studies focus on the effect of aid on FDI — i.e., \( \partial \text{FDI}/\partial \text{Aid} \). We take a different approach in that we are interested in analyzing whether aid can ameliorate the adverse effect of risk on FDI, i.e., whether aid reduces \( \partial \text{FDI}/\partial \text{Risk} \). Thus, we are interested in the sign and significance of \( \frac{\partial}{\partial \text{Risk}} (\partial \text{FDI}/\partial \text{Aid}) \).

We end this section by providing a rationale for running separate regressions for countries in SSA. First, FDI and aid are crucial for poverty reduction in SSA. Second, aid to SSA has increased substantially since 2002, and this trend is expected to continue in the near future. The average aid per capita increased from about $20.82 over the period 1998–2001 to about $35.07 over the period 2002–2005. It is therefore important to analyze the effectiveness of aid to the region. The third reason is that SSA has an “image” problem: the region is perceived as very risky. For example, about 56% of the firms that participated in a survey conducted by the United Nations Conference on Trade and Development (UNCTAD) reported that the actual business environment in SSA was better than the continent’s image would suggest (UNCTAD, 2000). Thus to the extent that risk deters FDI and that FDI is crucial for poverty alleviation, analyzing whether aid can mitigate the adverse effect of risk has important policy implications. Another reason for focusing on SSA is that as reported by Asiedu (2002), the determinants of FDI to SSA may be different from the determinants of FDI to other regions. Furthermore, the aid-growth literature suggests that aid may be less effective in countries that are located in the tropics (e.g., Dalgaard et al., 2004). About 92% of SSA’s territories lie within the tropics (compared with about 3% for OECD, 8% for North Africa and 60% for East Asia), suggesting that the effects of foreign aid in SSA may be different from that in other regions. If the factors that drive FDI to SSA are different from the factors that determine FDI to other regions, or the effect of aid on FDI varies systematically across SSA and non-SSA countries, then estimations that employ a pooled sample of SSA and non-SSA countries will produce misleading results. Finally, there is a widespread notion among policymakers in the region that the conclusions based on studies of countries outside SSA are not applicable to SSA because countries in the African region are so different. Therefore, the findings from studies that are based solely on SSA will have more credibility with policymakers in the region.

2. A simple model of FDI, Risk and Aid

The synopsis of the model is as follows. The economy consists of two agents: a poor host country and a foreign firm. The firm engages in FDI by setting up a subsidiary in the poor country and the country receives a fraction of the output from the FDI project. In addition, the poor country receives aid from abroad. Each period, the country may choose to expropriate foreign capital by taking the entire FDI output. If expropriation occurs, the country loses access to aid and FDI in future periods.\(^5\)

\(^5\) Our model builds on Asiedu and Villamil (2002) where the authors analyzed how foreign aid and default risk affect sovereign lending.
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