

The Role of Country-of-Origin Characteristics for Foreign Direct Investment and Technical Cooperation in Post-Reform India

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Summary. — The decisions of foreign investors on technical cooperation versus equity engagements and on the degree of ownership in FDI projects are likely to depend on their relative bargaining position vis-à-vis the host country. We perform negative binomial regressions by making use of a unique dataset on about 24,500 technical cooperation and FDI projects in India by investors from 45 countries of origin over the 1991–2004 period. We find that relative market size, relative financial market development, relative risk, relative endowment of human capital, and previous international experience significantly affect the type of engagement by foreign investors in post-reform India.

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1. INTRODUCTION

India hosted a stock of US\$ 164 billion in Foreign Direct Investment (FDI) at the end of 2009, compared to less than US\$ 2 billion prior to the major reform program in 1991 (UNCTAD, 2010a). The country has become one of the most attractive locations among developing economies for multinational corporations from various countries of origin. The opening up of its economy to world markets is widely credited as a major pull factor of booming FDI (e.g., Balasubramanyam & Mahambare, 2003). Push factors have received only scant attention. This is surprising as country-of-origin characteristics are likely to have an important say on the type and form in which multinational corporations engage in India. The decisions of foreign investors on financial engagements versus purely technical cooperation, as well as the degree of ownership in FDI projects, in turn, may affect the macroeconomic benefits of host countries such as India.

India provides an interesting case for analyzing the interplay between country-of-origin characteristics and host-country characteristics and their effects on ownership decisions by foreign investors. The bargaining position of the latter depends on their technical, managerial, and financial capabilities acquired at home. Companies based in economies at the technological frontier may insist on full ownership control, for example, to prevent leakage and protect intellectual property. India is particularly interested in gaining access to superior technologies, and has therefore increasingly relaxed FDI-related regulations that had traditionally constrained ownership

choices for foreign companies (Kumar, 2006; Singh, 2005). Yet the process of opening up may also have strengthened India's bargaining position, for instance by offering more dynamic local markets.

We make use of a unique dataset on about 24,500 approved cases of technical cooperation and FDI during the 1991–2004 period in order to assess the impact of country-of-origin and host-country characteristics on the number of projects involving companies based in 45 countries of origin. The dataset allows us to distinguish between purely technical cooperation (without any foreign equity engagement) and FDI with different degrees of foreign ownership. Performing negative binomial regressions, we find that relative market size, relative financial market development, relative risk, relative endowment of human capital, and previous international experience significantly affect the type of engagement by foreign investors in post-reform India.

2. ANALYTICAL BACKGROUND

Similar to most empirical studies on the determinants of FDI in developing host countries, the recent literature on the driving forces of the FDI boom in India almost exclusively

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focuses on pull factors in the host country. For instance, [Sury \(2008\)](#) employs an OLS regression analysis on quarterly data over the 1991–2003 period and finds that FDI flows to India are determined by national income, the tax rate, openness to trade, and labor costs. [Choi \(2007\)](#) derives similar results through vector error correction estimations, using annual data dating back to the 1970s. [Joshi and Dadibhavi \(2008\)](#) consider various location factors to construct an investment climate index for 19 Indian states; the correlation between this index and approved FDI at the state level during the post-reform era turns out to be high and positive. [Palit and Nawani \(2007\)](#) stress the role of local technological capabilities and supporting infrastructure as increasingly important for host countries such as India to lure multinational corporations.

All these studies assume, at least implicitly, that the host-country characteristics considered are equally important for all foreign investors and for the different types of FDI, ranging from Joint Ventures (JVs) with minor foreign equity stakes to wholly foreign-owned subsidiaries. This assumption is unlikely to hold. For instance, political and economic risk in the host country, as well as the reliability of its institutions, should matter more for foreign investors from home countries where entrepreneurs tend to be risk adverse. [Pan \(1994\)](#) argues that in the Chinese context, risk adverse Japanese investors are less likely than US investors to undertake FDI with potentially high sunk costs and to enter into minority owned JVs with local partners. More generally, [Pauly and Reich \(1997, p. 22\)](#) stress “remarkably enduring divergence” in the behavior of multinational corporations based in major OECD countries. Stylized facts presented by these authors point to “stark national differences” in the willingness to transfer new technology to host countries of FDI and to integrate foreign subsidiaries into intra-firm trade. Likewise, [Harzing and Sorge \(2003\)](#) conclude from survey results for 287 subsidiaries of 104 parent companies based in nine OECD countries, that the strategies of multinational corporations are largely explained by their country of origin.

This suggests that analyses of the determinants of FDI should address the interplay between pull and push factors. The decision to engage in technical cooperation or FDI with varying degrees of foreign ownership can be regarded as the result of bargaining between the host country and foreign investors ([Svejnár & Smith, 1984](#)). Host countries such as India tend to be particularly interested in attracting technologically sophisticated FDI projects in order to maximize spillover and growth effects. Host-country governments may also restrict foreign ownership and insist on JVs with local partners, thereby enabling the host country to appropriate a larger share of FDI-related rents ([Asiedu & Esfahani, 2001](#)).¹ In contrast, risk adverse foreign investors originating from leading industrialized countries may be unwilling to transfer state-of-the-art technology unless they have full control and can prevent leakage ([Desai, Foley, & Hines, 2004](#)).

The bargaining framework can be traced back to [Vernon's](#) obsolescing bargain ([Vernon, 1971](#)). The foreign investor “becomes a potential hostage to the host country” ([Bond & Samuelson, 1989, p. 77](#)) since the host country’s attitude toward FDI is subject to a time inconsistency problem ([Eaton & Gersovitz, 1983](#)). The bargaining position of the host country improves once the foreign investor has realized project-related sunk costs. The host country may exploit the improved relative bargaining position by reneging on earlier commitments and appropriating a larger share of project-related gains. In the international economics literature, this has been coined the hold-up problem (e.g., [Schnitzer, 1999, 2002](#)). Apart from outright expropriation and nationalization

of foreign firms, the host country is tempted to change previously agreed rules. Creeping expropriation may result, inter alia, from changes in tax laws and trade regulations. Foreign firms anticipating creeping expropriation may be reluctant to engage in FDI and, instead, prefer licensing and debt instruments ([Schnitzer, 2002](#)).²

The earlier bargaining literature focused on “vertically integrated, extractive investments characterized by risk, sunk costs, government learning and oligopolistic rivalry” ([Kobrin, 1987, p. 610](#)). Obsolescing bargains are less obvious when the degree of risk and sunk costs are minor compared to extractive industries, as appears to be the case in many manufacturing and services industries ([Eden, Lenway, & Schuler, 2005; Kobrin, 1987](#)). All the same, the bargaining framework offers relevant insights into these industries, too. Some types of creeping expropriation appear to be particularly serious in manufacturing industries. The ex-post violation of intellectual property provides a case in point.³ As concerns sunk costs, [Wint \(2005, p. 334\)](#) notes that projects in infrastructure and utilities involve similarly high capital costs as projects in extractive industries.⁴

More generally, the bargaining framework remains relevant even when relative power shifts over time are less obvious and difficult to capture. For instance, [Kobrin \(1987, p. 636\)](#) argues that “a bargaining framework based on the relative demand for resources and constraints on the implementation of power is an accurate model of MNE-host country relationships *in a wide range of sectors*” (emphasis added). Similar to our approach below, [Kobrin \(1987\)](#) evaluates the relative strengths and weaknesses of the source and host countries of FDI as possible determinants of foreign ownership shares in FDI projects. He finds for a sample of 75 large US manufacturing parent firms with subsidiaries in developing host countries that “the level of parent ownership of manufacturing subsidiaries of MNCs is determined by relative bargaining power” ([Kobrin, 1987, p. 632](#)).⁵

In a similar vein, the bargaining framework is clearly affected, though not invalidated, by the changing international investment environment. Recent bargaining models explicitly account for increasing capital mobility and outside options that may shift the power balance in favor of foreign investors (e.g., [Schnitzer, 1999, 2002](#)). However, the threat of relocating FDI projects to other host countries must be credible to have an effect on the relative bargaining position. The credibility of threats depends, inter alia, on the motive underlying FDI. In particular, the threat is unlikely to be credible if FDI is meant to serve large and growing local markets such as in India.⁶

The widespread liberalization of FDI restrictions and the fiercer worldwide competition for FDI imply that foreign investors have more options of where to engage ([Ramamurti, 2001](#)). At the same time, the emergence of an ever growing number of foreign investors and multinational enterprises increases the options available to host countries ([Eden et al., 2005](#)).⁷ Against this backdrop, “bargaining power comes from the ability to withhold resources that the other party wants” ([Eden et al., 2005, p. 264](#)). As a result, host countries such as India may be able to insist on joint ventures with limited foreign ownership shares in FDI projects that mainly aim at penetrating local markets.⁸

[Ramamurti \(2001\)](#) adds another dimension to the bargaining framework that is relevant in the context of our analysis. He proposes a two-tier bargaining model that also accounts for political negotiations between the governments of source and host countries. As noted by [Ramamurti](#), the liberalization of FDI restrictions is partly the result of bi- and multilateral negotiations. The conclusion of Bilateral Investment Treaties

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