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Fiscal decentralization, endogenous policies, and foreign direct investment: Theory and evidence from China and India☆

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ABSTRACT

A political-economy model is developed to explain why fiscal decentralization may have a non-monotonic effect on FDI inflows through endogenous policies. Too much fiscal decentralization hurts central government incentives, whereas too little fiscal decentralization renders the local governments vulnerable to capture by the protectionist special interest groups. Moreover, the local government's preference for FDI can be endogenously polarized; therefore, a small change in fiscal decentralization across certain threshold values may lead to a dramatic difference in equilibrium FDI inflows. Empirical investigations support the idea that the difference in fiscal decentralization is an important reason for the nine-fold difference in FDI per capita between China and India. Cross-country regression results also support the inverted-U relationship.

1. Introduction

Foreign direct investment (FDI) helps facilitate economic growth in developing countries because it not only brings more physical capital but also embodies better foreign technology.[1] However, in reality, government policies toward FDI vary tremendously across countries. For example, China's central government encourages FDI inflows by authorizing long tax holidays and tariff reductions on imported inputs to foreign-invested firms. Meanwhile, local governments in China compete aggressively for FDI by offering favorable policies, including simplifying license application, charging low fees for land use, building facilitating infrastructure, etc. In contrast, we did not see such enthusiasm for FDI at the central or the local level of the Indian government until very recently. For instance, the corporate income tax rate on foreign-invested firms was 41% in India but well below 33% in China in 2004.[2] The de facto institutional barriers to FDI are also much higher in India. It takes almost 50% longer to obtain a license and it is five times more costly (relative to its own per capita income) to start a business in India than China, according to the World Bank (2005). India's infrastructure is also significantly inferior to China's (Bosworth and Collins, 2007; Singh, 2005).

In 2005, China's aggregate FDI inflow was more than US$ 72 billion, approximately twelve times that of India, and China's per capita FDI was nine times greater according to UNCTAD (2008). Bosworth and Collins (2007) find that such a significant difference in FDI is surprising because it cannot be explained by the countries' differences in economic fundamentals. Srinivasan (2006) notes, "Although India has attracted far less FDI [than China], it is not because of the lack of potential opportunities in India, but largely because of policy hurdles and other constraints

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[1] Javorcik (2004), McGrattan and Prescott (2009), and Rodriguez-Clare (1996)all provide supporting evidence for this positive effect, the magnitude of which is often conditional on characteristics such as human capital and financial development of the host country (Alfaro et al., 2010; Borensztein et al., 1998; Doucouliagos et al., 2010).

[2] Based on PricewaterhouseCoopers (2006). The de facto difference is much larger when the entire tax package is taken into consideration. The special economic zones and the open cities in China enjoy a much lower corporate income tax rate (15% to 20%) (see Cheng and Kwan (2000) and Prasad and Wei (2005) for more discussion).

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on investment." Panagariya (2006) emphasizes that India's underperformance, FDI included, is the result of "stupid domestic policies" such as not improving the national infrastructure. Rodrik and Subramanian (2005) also argue that India's policy toward FDI largely reflects the reluctant "attitude" of the government.

The China–India example suggests that it is important to understand why government attitudes and policies toward FDI can be so different, which in turn may lead to striking differences in FDI inflows. Therefore, the first goal of this paper is to shed light on this question theoretically.[3] The second goal is to explain why the effect of fiscal decentralization on FDI can be non-monotonic. Fiscal decentralization is a leading explanation in the literature for why local governments have been competing ferociously for FDI in China, the largest FDI recipient among all the developing countries (Cheng and Kwan, 2000; Qian and Roland, 1998; Xu, forthcoming). The main argument is the "Tiebout effect," namely, more decentralization fosters more intensive regional competition for mobile factors. However, this conventional wisdom does not seem to square well with the fact that the governmental "attitude" toward FDI and the related policies are much less friendly in India than in China, although India is more fiscally decentralized than China.[4] In fact, there exists no clear cross-country empirical evidence supporting a positive relationship between fiscal decentralization and FDI inflows (Bardhan and Mookherjee, 2006; Jensen, 2005, 2006). Instead, we find that there exists a robust inverted-U relationship between fiscal decentralization and FDI in the cross-country regression analysis.[5] What is the underlying mechanism for this non-monotonicity?

This paper attempts to simultaneously achieve these two goals by constructing a formal political-economy model of FDI and fiscal decentralization. We show that the degree of fiscal decentralization asymmetrically affects the incentives of different government levels, which in turn determines the policy choices at different government levels, resulting in a non-monotonic effect of fiscal decentralization on FDI. More specifically, too much fiscal decentralization hurts the incentive of the central government to attract FDI; hence, the central government would choose a tariff rate and profit tax rate profile to induce local governments to block FDI. In contrast, too little fiscal decentralization would render the local government captured by protectionist special interest groups. Therefore, the policies toward FDI are sufficiently favorable only when fiscal decentralization is in some endogenous medium range. Moreover, the equilibrium amount of FDI might polarize and, in some cases, it depends sensitively on fiscal decentralization. That is, a small change in fiscal decentralization might *sometimes* lead to policy changes that trigger a switch from the no-FDI equilibrium to the high-FDI equilibrium or vice versa. The amplification is the result of the fact that the preference for FDI can be endogenously polarized at the local government level, indicating that fiscal decentralization moving across certain endogenous cutoff values, albeit a small change, would lead to a diametrical attitude shift and policy change at the local government level. However, such a swing in equilibrium does not occur if fiscal decentralization changes within the "inaction region." The logic of the model is general and applicable to economies beyond China and India.

In the model, the FDI-relevant policies are endogenously determined through the political game between the central and local governments, which are sequentially lobbied by a special interest group, and standard economic activities are coordinated by the market-clearing prices. The interaction between the political and market sectors determines the political equilibrium, which is characterized by backward induction. First, we show how the decreasing negative pecuniary externality of FDI can lead to the attitudinal polarization of a local government toward FDI, which translates into sharply different policies and an equilibrium FDI outcome: either zero or full FDI (i.e., all investors choose FDI). Two competing forces determine the local government's "attitude" toward FDI. One is the tax-base expansion effect, i.e., more FDI implies more foreign firms from which to collect taxes. The other is the profit-reduction effect; i.e., more FDI implies more intensive competition and hence lower average profit tax revenue from each firm. In turn, which effect dominates is determined by the profit tax rate and the tariff rate, both chosen by the central government. These policy variables also affect the standard proximity-concentration trade-off for potential foreign investors' decisions regarding FDI versus export. Therefore, both demand and supply for FDI change when fiscal decentralization varies. In particular, a small deviation in fiscal decentralization can sometimes be amplified into a stark difference in equilibrium FDI inflow. Second, we show how the central government, which is also lobbied by the special interest group and foresees the bimodal outcome of FDI attributable to local government behavior, implements its favorable equilibrium by selecting an incentive-compatible policy profile to induce the local government(s) to either compete for or block FDI. The full-FDI equilibrium is implemented only when the degree of fiscal decentralization provides sufficient incentives at both levels of government and overcomes lobbying by the special interest group. The balance of interests for these different political players generates the non-monotonicity result. We also show that the two main results (i.e., the non-monotonic effect of fiscal decentralization on FDI and the endogenous polarization of local government FDI policy) remain valid regardless of the number of horizontal subnational localities.

The contribution of this paper is primarily theoretical, but some simple quantitative investigations are conducted to substantiate the theoretical findings. First, we follow the standard macroeconomic methodology to calibrate the model using real data on China and India. The simulation results turn out to closely match China's and India's macro and policy data, such as GDP, FDI, labor allocation across different sectors, profits in each sector and the tariff rates and profit tax rates. Counterfactual experiments suggest that these countries' difference in fiscal decentralization can help explain their differences in several key policy variables and why China's FDI per capita is nine times larger than that of India. We show that China's fiscal decentralization falls onto the endogenous "medium range" for China, whereas its Indian counterpart is too fiscally decentralized when controlling for the other relevant factors. In addition, regression analyses are undertaken with a larger cross-country sample. Again, we find that the inverted-U-shaped relationship between fiscal decentralization and FDI is significantly and robustly supported by the data with or without controlling for various factors such as the economic and institutional variables.

The paper is organized as follows. The next section highlights the relation and contribution of this paper to the pertinent literature. Section 3 presents the theoretical model. The quantitative exploration is provided in Section 4. The last section concludes with discussions about possible avenues for future research.

2. Relation to the literature

This paper is most closely related to the endogenous tariff determination models of trade and FDI in Grossman and Helpman (1994, 1996). Our model extends their framework in several important ways. First, we extend their single-layer government setting into one with a hierarchical government structure, which enables us to explore both the vertical interaction between the two layers of government and the horizontal interaction between different local governments. These interactions, especially the vertical interaction, are crucial for understanding FDI polarization, the non-monotonic effect

[3] At a deeper level, differences in economic fundamentals may also be the result, at least partly, of the policy or institutional differences.

[4] In 2004, the Chinese central government received 60% of total tax revenue whereas its Indian counterpart received 38%.

[5] A more detailed discussion on this empirical finding is deferred until Subsection 4.2. The hump-shaped relationship is also found in Kessing et al. (2007).