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Governance, Foreign Direct Investment and Domestic Welfare
By

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Abstract:

The issue of economic governance is highly discussed pertaining to the question of industrialisation of a country, but the literature on trade and foreign direct investment (FDI) hardly pays attention to this aspect. We develop a simple model to show how better governance affects inward FDI and domestic welfare. We find that whether better governance in the domestic country attracts inward FDI depends on the way it affects the costs of the firms. The effect of better governance is ambiguous on domestic welfare and depends on the marginal cost difference between the firms, transportation cost and the extent of cost reduction through better governance. Our analysis reveals a strategic reason for poor governance in the presence of foreign competition.

Key words: Foreign direct investment; Governance; Welfare

JEL Code: F12; F23; H0; O16; L13

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Better economic governance for improving the investment climate is an important objective of many developing countries, and is getting significant attention in both academic and policy circles. The implications of economic governance are getting more attention in the economics literature, yet the literature on international trade and foreign direct investment (FDI) did not pay much attention to this aspect. Due to the favourable effects of governance on the investment climate, a natural question is to ask the effects of better governance on inward FDI and the host country welfare, which concern many developing countries. We take up this issue in this paper.

Using a simple model of international oligopoly with asymmetric costs, where a foreign firm can decide on export and FDI, we show the effects of better governance on inward FDI and the host country welfare. We show that whether better governance increases the incentive for inward FDI is ambiguous and depends on how better governance affects the marginal costs of production of the firms. Considering two components of the marginal costs of production – one, which is related to the labour productivity, and the other, which is independent of the labour productivity, we show that better governance increases the incentive for FDI if it reduces the component of the marginal costs that is not related to the labour productivity by a certain amount. However, if better governance increases labour productivity by a certain amount, thus reducing the marginal costs of the firms by the same proportion, it may reduce the incentive for FDI.

We further show that, irrespective of the way better governance affects the marginal costs of the firms, the effects on the host country welfare are ambiguous, and depend on the factors such as the marginal cost difference between the firms, transportation cost and the extent of cost reduction through better governance.

1. Introduction

Better economic governance¹ for improving the investment climate is an important objective of many developing countries, and is getting significant attention in both academic and policy circles. As mentioned in the World Development Report (2005), “A good investment climate provides opportunities and incentives for firms – from microenterprises to multinationals – to invest productively, create jobs, and expand.” There are several factors such as policy uncertainty, macro instability, corruption, cost and access to finance, crime, regulation and tax administration, courts and legal system, electricity, labour regulations, transportation, access to land and telecommunications affecting investment climates (World Development Report, 2005), many (if not all) of which can be influenced by the quality of economic governance.

The implications of economic governance are getting more attention in the economics literature (see, Kaufmann and Kraay, 2003, Dixit, 2007 and Rodrik, 2008), yet the literature on international trade and foreign direct investment (FDI) did not pay much attention to this aspect. Due to the favourable effects of governance on the investment climate, a natural question is to ask the effects of better governance on inward FDI and the host country welfare, which concern many developing countries. We take up this issue in this paper. Although some efforts have been made to show the relationship between governance and FDI empirically, the theoretical literature did

¹ According to the World Bank, there are six indicators of governance - voice and accountability, political stability and the absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption. The World Bank report (2010) on *Doing Business* considers 10 indicators – starting a business, dealing with construction permits, employing workers, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and closing a business. The interpretation of governance by the UK’s Department for International Development (DFID) broadens and suggests that: “Good governance requires three things: State capability – the extent to which leaders and governments are able to get things done. Responsiveness – whether public policies and institutions respond to the needs of citizens and uphold their rights. Accountability – the ability of citizens, civil society and the private sector to scrutinise public institutions and governments and hold them to account” (DFID, 2006).

not pay much attention to this aspect. To the best of our knowledge, this is the first paper conducting a theoretical analysis on governance and inward FDI.

There are some evidences which support a positive relationship between governance and FDI (Sin and Leung, 2001, Globerman and Shapiro, 2002, Gani, 2007 and Fan et al., 2007). However, the opposite view also prevails in the literature. Chang (2007) points out that the performances of some countries with weak governance are better than their counterparts with strong governance. Weller and Ulmer (2008) mention that "... China has attracted significant foreign investment despite notoriously persistent corruption". Hence, the effects of governance on trade, investment and welfare may not be trivial, and it is due to the fact that real-world economies operate in a second-best environment because of multiple distortions of reform policies (Rodrik, 2008).

In a different strand of literature, a number of studies are establishing the relationship between FDI and economic development (see, Reiter and Steensma, 2010 and the references therein), both theoretically and empirically, but no unanimous result has been emerged. However, it has been found that a more selective approach towards FDI, which attracts FDI in certain sectors but in all sectors, has a more positive influence on human development compared to a situation where FDI comes to all sectors (Reiter and Steensma, 2010). Thus, it justifies the relevance of strategic and discriminatory policies towards FDI.

Using a simple model of international oligopoly with asymmetric costs, where a foreign firm can decide on export and FDI, we show the effects of better governance on inward FDI and the host country welfare. We show that whether better governance increases the incentive for inward FDI is ambiguous and depends on how better governance affects the marginal costs of production of the firms. Considering two components of the marginal costs of production – one, which is related to the labour

productivity, and the other, which is independent of the labour productivity, we show that better governance increases the incentive for FDI if it reduces the component of the marginal costs that is not related to the labour productivity by a certain amount. In this situation, better governance reduces the marginal costs of the firms by the same amount. However, if better governance increases labour productivity by a certain amount, thus reducing the marginal costs of the firms by the same proportion, it may reduce the incentive for FDI.

We further show that, irrespective of the way better governance affects the marginal costs of the firms, the effects on the host country welfare are ambiguous, and depend on the factors such as the marginal cost difference between the firms, transportation cost and the extent of cost reduction through better governance.²

In sum, if better governance reduces the marginal costs of the foreign firm and the host country firm in the similar ways, our analysis provides the following insights:

- (i) In line with the usual perception, better governance can increase the host country welfare by attracting FDI. It is true if the marginal cost difference between the firms is sufficiently large compared to the international transportation cost.
- (ii) If the marginal cost difference between the firms is sufficiently small compared to the international transportation cost, better governance may reduce the host country welfare by attracting FDI. This happens since the benefit of better governance may be taken away by the foreign firm. This provides a rationale for poor governance. Alternatively, it suggests that a government may need to complement better economic governance with other

² Mukherjee and Sinha (2007) show the effects of marginal cost reduction in the host country firm, either due to innovation or knowledge spill-over, on inward FDI and the host country welfare. Unlike that paper, better governance in the current paper reduces the marginal costs of both the host country firm and the foreign firm, and makes the type of cost reduction important.

policies, such as tax policies, to extract rents from the foreign investors in order to increase both inward FDI and welfare.

(iii) If the marginal cost difference between the firms is sufficiently large compared to the international transportation cost, and the host country firm is sufficiently (marginal) cost inefficient than the foreign firm, better governance reduces the host country welfare, while FDI could increase the host country welfare compared to export by the foreign firm. This result provides another rationale for poor governance and may justify the Chinese situation. It suggests that poor governance may help to increase Chinese welfare by making the Chinese firms less efficient and the foreign firm more efficient, thus attracting FDI.

(iv) If the marginal cost difference between the firms is sufficiently small compared to the international transportation cost, but the host country firm has sufficiently (marginal) cost inefficient than the foreign firm, better governance may increase welfare by preventing FDI. This result suggests that a country with poor governance may attract more FDI by making the host country firms more inefficient, but that may not be good for their welfare. Alternatively, it suggests that a country may need complementary FDI policies along with better governance in order to maintain FDI flows and higher welfare.

The above-mentioned implications (i) and (ii) hold irrespective of the way governance reduces the marginal costs of the firms, i.e., whether governance affects the component of the marginal costs that is related or unrelated to the labour productivity. However, the implications (iii) and (iv) can be found only if governance affects the component of the marginal cost that is related to the labour productivity.

In an interesting work, Banerjee (1997) argues why government bureaucracies are often associated with red tape, corruption, and lack of incentives. He shows that the presence of asymmetric information may create the rationale for mis-governance by a benevolent government. In contrast, we provide a new reason for poor governance and show that the presence of foreign competition may create strategic reasons for underinvestment in economic governance.

The remainder of the paper is organized as follows. Section 2 shows the model and derives the results. Section 3 concludes.

2. The model and the results

Assume that there are two countries, called domestic country and foreign country. There is a firm in each country. Assume that firm 1 is in the foreign country and firm 2 is in the domestic country. These firms compete in the domestic country with a homogeneous good. However, firm 1 can serve the domestic country either by export or by FDI. If firm 1 exports to the domestic country, it incurs a per-unit international transportation cost, z . But, if firm 1 undertakes FDI, it needs to set up its production plant in the domestic country, and therefore, needs to incur a fixed investment cost F .

We consider in the following analysis that governance does not affect the production activities but it affects non-production activities such as marketing and distribution. This is to ensure that better governance in the domestic country benefits both firms in a similar way, irrespective of the export and FDI decision of firm 1. It is trivial that if better governance improves the production activities, firm 1 will be benefitted more under FDI than under export, since firm 1 produces in the domestic country under FDI. Hence, if better governance benefits firm 1 more under FDI than under export, it increases firm 1's incentive for FDI more compared to a situation where better governance benefits firm 1 in the same way under export and FDI. To

eliminate this bias, we consider that governance does not affect the production activities. However, it should be noted that our focus on non-production activities, such as, marketing and distribution, can be supported by the importance of these activities in affecting a firm's decision on foreign market entry (Nocke and Yeaple, 2007, Qiu, 2009 and Ishikawa, et al. 2010).

To economize the notations, we normalize the production costs of the firms to zero and assume that both firms need to incur positive non-production costs, such as, the costs of distribution and sales in the host country. Assume that, if there is a minimum (or no governance), to sell one unit of the output, firm 1 requires λ_1 sales person, each of them working for h hours. Inverse of the working hours of the sales persons shows their productivities. A lower h implies that the productivity of a sales person has increased. Under minimum governance, firm 1 also incurs a domestic transaction (or trade) cost, t . Hence, if the competitive wage of a sales person is w , firm 1's marginal cost is $\lambda_1 hw + t = c_1 + t > 0$.

Under minimum or no governance, to sell one unit of the output, firm 2 requires λ_2 sales persons, each of them is working for h hours, where $\lambda_2 > \lambda_1$. Like firm 1, under minimum governance, firm 2 also incurs a domestic transaction or trade cost, t . Hence, given the competitive wage of a sales person as w , firm 2's marginal cost is $\lambda_2 hw + t = c_2 + t > 0$. Our formulation shows that firm 1 has a better distribution technology.

We will consider two situations in the following analysis: (i) where governance reduces the domestic trade cost, t , and (ii) where governance increases the productivities of the sales persons, i.e., reducing h .

The first situation may be appropriate for the condition where governance improves the transportation service, say, by creating a better road and transaction

facilities. The second situation may represent a case where better governance increases the productivities of the sales persons, say, by increasing political stability, thus reducing labour unrest, or by providing a better power service or a powerful internet service, which help the sales persons to operate their computing systems more efficiently, thus reducing the time required to finish each sales deal.³

Two remarks deserve attention at this point. First, we treat the effects of better governance on domestic transaction cost and the productivities of the sales persons for understanding their effects clearly. Since the implications of the joint effects follow easily from our analysis, we ignore this issue.

Second, we have considered that better governance reduces the marginal costs of the firms, which may not be an unreasonable assumption. However, better governance may also reduce the investment cost⁴ associated with FDI, i.e., F . If that is the case, better governance provides firm 1 more benefit under FDI than under export. Hence, as mentioned above, if better governance benefits firm 1 more under FDI than under export, it increases firm 1's incentive for FDI more compared to a situation where better governance benefits firm 1 in the same way under FDI and export.

Now consider the effects of better governance on the marginal costs of the firms. If better governance reduces the domestic transaction cost by e , it reduces the marginal costs of firms 1 and 2 respectively to $\lambda_1 hw + t - e = c_1 + t - e \geq 0$ and $\lambda_2 hw + t - e = c_2 + t - e \geq 0$. Hence, in this situation, better governance reduces the marginal costs of both firms by the same amount e .

However, if better governance increases the productivities of the sales persons by e , i.e., reducing the hours of work by e , it reduces the marginal costs of firms 1 and

³ As mentioned in the World Development Report (2005) India's problem in the power sector is legendary.

⁴ World Development Report (2010) on Doing Business illustrates various such costs.

2 respectively to $\lambda_1(h-e)w+t=c_1g_p+t \geq 0$ and $\lambda_2(h-e)w+t=c_2g_p+t \geq 0$, where

$g_p = \frac{h-e}{h}$. In this situation, better governance reduces the marginal costs of both

firms by the same proportion $g_p = \frac{h-e}{h}$.

We assume that the inverse demand function in the domestic country is:

$$P = a - q, \quad (1)$$

where P is price and q is the total output produced by both firms.

We consider the following game. Given the level of governance, which determines the firms' marginal costs, at stage 1, firm 1 decides whether to undertake FDI or to export. At stage 2, the firms compete like Cournot duopolists, and the profits are realized. We solve the game through backward induction.

2.1. If governance reduces domestic transaction cost

We start with the case where better governance reduces domestic transaction cost, thus reducing the marginal costs by the same amount e .

For a given level of governance, if firm 1 exports to the domestic country, firms 1 and 2 maximize the following expressions respectively to determine their outputs:

$$\underset{q_1}{\text{Max}}(a - q - c_1 - t + e - z)q_1 \quad (2a)$$

$$\underset{q_2}{\text{Max}}(a - q - c_2 - t + e)q_2. \quad (2b)$$

The equilibrium outputs of firms 1 and 2 can be found as $q_1^x = \frac{a - 2c_1 - t + e - 2z + c_2}{3}$

and $q_2^x = \frac{a - 2c_2 - t + e + c_1 + z}{3}$, respectively. The equilibrium profits of firms 1 and 2

are respectively

$$\pi_1^x = \frac{(a - 2c_1 - t + e - 2z + c_2)^2}{9} \quad \text{and} \quad \pi_2^x = \frac{(a - 2c_2 - t + e + c_1 + z)^2}{9}. \quad (3)$$

Now consider the case where firm 1 undertakes FDI. In this situation, for a given level of governance, firms 1 and 2 maximize the following expressions respectively to determine their outputs:

$$\underset{q_1}{\text{Max}}(a - q - c_1 - t + e)q_1 - F \quad (4a)$$

$$\underset{q_2}{\text{Max}}(a - q - c_2 - t + e)q_2. \quad (4b)$$

The equilibrium outputs of firms 1 and 2 can be found as $q_1^f = \frac{a - 2c_1 - t + e + c_2}{3}$ and $q_2^f = \frac{a - 2c_2 - t + e + c_1}{3}$, respectively. The equilibrium profits of firms 1 and 2 are respectively

$$\pi_1^f = \frac{(a - 2c_1 - t + e + c_2)^2}{9} - F \quad \text{and} \quad \pi_2^f = \frac{(a - 2c_2 - t + e + c_1)^2}{9}. \quad (5)$$

The comparison of the profits of firm 1 under export and under FDI (see (3) and (5)) shows that firm 1 prefers to undertake FDI if

$$e > \frac{9F}{4z} - (a - 2c_1 - t - z + c_2) \equiv e_a' \quad (6)$$

It shows that for a given fixed cost of FDI, better governance increases firm 1's incentive for FDI.

The following result is immediate from (6).

Proposition 1: *If better governance reduces domestic transaction cost by e , thus reducing the marginal costs of both firms 1 and 2 by the same amount e , it increases the possibility of undertaking FDI by firm 1.*

The reason for the above result is as follows. Better governance reduces the marginal cost of both firms by the same amount, thus increasing firm 1's profit under both FDI and exporting. However, since the transportation cost creates a distortion in firm 1's profit under export, firm 1's gain from better governance is higher under FDI than under export. Hence, better governance increases firm 1's incentive for FDI.

Now consider the implications of better governance on domestic welfare, which is the sum of consumer surplus and profit of firm 2. If we have considered z as the tariff imposed by the domestic country, instead of an international transportation cost, Domestic welfare needs to consider the tariff revenue as well. The absence of tariff may be motivated by appealing to the empirical evidences. Milner (2005) shows that even if the tariff barriers have been reduced in recent years, international transportation costs are still significant and create sufficiently large trading costs. Similar conclusion can be found in Hummels (1991), according to whom international transport cost often represents a greater barrier to international trade than tariffs. The inclusion of a tariff barrier will not affect our qualitative results relating to firm 1's decision on FDI and export, but it provides a higher domestic welfare under export by firm 1 than shown in our analysis.

If firm 1 exports, domestic welfare is

$$W^x = \frac{2(a - 2c_2 - t + e + c_1 + z)^2 + (2a - 2t + 2e - c_1 - c_2 - z)^2}{18}. \quad (7)$$

However, if firm 1 undertakes FDI, domestic welfare is

$$W^f = \frac{2(a - 2c_2 - t + e + c_1)^2 + (2a - 2t + 2e - c_1 - c_2)^2}{18}. \quad (8)$$

We get from (7) and (8) that $\frac{\partial W^x}{\partial e} = \frac{\partial W^f}{\partial e} > 0$. However, $W^f \stackrel{\geq}{<} W^x$ for $(c_2 - c_1) \stackrel{\geq}{<} \frac{z}{2}$.

Figure 1(a) and 1(b) shows domestic welfare under export and FDI by firm 1 for $(c_2 - c_1) > \frac{z}{2}$ and $(c_2 - c_1) < \frac{z}{2}$ respectively.⁵

Insert Figures 1(a) and 1(b)

It follows from (6) that firm 1 undertakes FDI if $e > e'_a$. Hence, it follows from Figure 1(a) that the relevant welfare function is W_x for $e < e'_a$ and W_f for $e > e'_a$. It is then immediate that better governance increases domestic welfare, irrespective of its effect on firm 1's production strategy.

However, Figure 1(b) shows the possibility of a lower domestic welfare following better governance, if better governance induces firm 1 to undertake FDI. Since firm 1 undertakes FDI for $e > e'_a$, the relevant welfare function is W_x for $e < e'_a$ and W_f for $e > e'_a$. However, if the level of governance increases from a level between K and e'_a , say from e_k to a level between e'_a and L , say to e_l , better governance reduces domestic welfare.

The following proposition is immediate from the above discussion.

Proposition 2: *If better governance reduces domestic transportation cost, thus reducing the marginal costs of both firms by the same amount e , it increases domestic welfare if $(c_2 - c_1) > \frac{z}{2}$, but it may reduce domestic welfare for $(c_2 - c_1) < \frac{z}{2}$ by inducing FDI.*

⁵ For simplicity, we draw the welfare functions as straight lines.

The reason for the above result is as follows. Better governance reduces the costs of both firms and helps to increase domestic welfare, under both export and FDI by the foreign firm. However, since FDI allows the foreign firm to save the international transportation cost, for a given level of governance, on the one hand, FDI helps to increase the total outputs of the firms and therefore, the consumer surplus in the domestic country, but, on the other hand, it reduces the profits of the domestic firm. If the transportation cost is very small, the former effect dominates the later effect and creates higher domestic welfare under FDI than under export, for a given governance level. However, if the transportation cost increases, the latter effect gets stronger and for a sufficiently large international transportation cost, the latter effect dominates the former effect and creates higher domestic welfare under export by the foreign firm than under FDI by the foreign firm.

Propositions 1 and 2 prove the following points. If the marginal cost difference between the firms is relatively large compared to the international transportation cost, i.e., $(c_2 - c_1) > \frac{z}{2}$, better governance attracts FDI and also increases domestic welfare.

If the marginal cost difference between the firms is relatively small compared to the international transportation cost, i.e., $(c_2 - c_1) < \frac{z}{2}$, better governance reduces domestic welfare by attracting FDI, unless the marginal cost reducing effects of governance are very strong. Thus, the welfare reducing effect of FDI may give a strategic reason for poor governance. Alternatively, it suggests that the domestic government may need to complement better economic governance along with other policies, such as hiking tax, to extract rents from the foreign investors in order to increase both inward FDI and domestic welfare following better governance.

As a remark, it is important to note that our qualitative results of this section will not change even if we consider that better governance reduces the domestic transportation cost to te , instead of $(t - e)$.

2.2. If governance increases productivity of the sales person

Now consider the situation where governance increases productivities of the sales persons by e . In this situation, the marginal cost of each firm reduces by the same proportion $g_p = \frac{h-e}{h}$.

For a given governance level, if firm 1 exports, firms 1 and 2 maximize the following expressions respectively to determine their outputs:

$$\underset{q_1}{Max}(a - q - c_1 g_p - t - z)q_1 \quad (9a)$$

$$\underset{q_2}{Max}(a - q - c_2 g_p - t)q_2. \quad (9b)$$

The equilibrium outputs of firms 1 and 2 can be found as

$$q_1^x = \frac{a - 2c_1 g_p - t - 2z + c_2 g_p}{3} \quad \text{and} \quad q_2^x = \frac{a - 2c_2 g_p - t + c_1 g_p + z}{3}, \quad \text{respectively.}$$

The equilibrium profits of firms 1 and 2 are respectively

$$\pi_1^x = \frac{(a - 2c_1 g_p - t - 2z + c_2 g_p)^2}{9} \quad \text{and} \quad \pi_2^x = \frac{(a - 2c_2 g_p - t + c_1 g_p + z)^2}{9}. \quad (10)$$

Now consider the case where firm 1 undertakes FDI. In this situation, firms 1 and 2 maximize the following expressions respectively to determine their outputs:

$$\underset{q_1}{Max}(a - q - c_1 g_p - t)q_1 - F \quad (11a)$$

$$\underset{q_2}{Max}(a - q - c_2 g_p - t)q_2. \quad (11b)$$

The equilibrium outputs of firms 1 and 2 can be found as $q_1^f = \frac{a - 2c_1g_p - t + c_2g_p}{3}$

and $q_2^f = \frac{a - 2c_2g_p - t + c_1g_p}{3}$, respectively. The equilibrium profits of firms 1 and 2

are respectively

$$\pi_1^f = \frac{(a - 2c_1g_p - t + c_2g_p)^2}{9} - F \quad \text{and} \quad \pi_2^f = \frac{(a - 2c_2g_p - t + c_1g_p)^2}{9}. \quad (12)$$

The comparison of the profits of firm 1 under export and under FDI (see (10) and (12)) shows that firm 1 prefers to undertake FDI if

$$e < h \left[1 - \frac{\frac{9F}{c_2 - 2c_1} - (a - t - z)}{c_2 - 2c_1} \right] \equiv e_p', \quad \text{for } c_2 > 2c_1 \quad (13a)$$

$$e > h \left[1 - \frac{\frac{9F}{c_2 - 2c_1} - (a - t - z)}{c_2 - 2c_1} \right] \equiv e_p', \quad \text{for } c_2 < 2c_1. \quad (13b)$$

The following result follows immediately from (13a) and (13b).

Proposition 3: *If better governance increases productivities of the sales persons, thus*

reducing the marginal costs of both firms 1 and 2 by the same proportion $g_p = \frac{h - e}{h}$,

better (poor) governance increases the possibility of FDI by firm 1 if $c_2 < (>) 2c_1$.

The reason for Proposition 3 is as follows. If better governance reduces the marginal costs of both firms by the same proportion, the absolute marginal cost reduction is higher in the domestic firm than in the foreign firm, since the former firm has a higher initial marginal cost. As a result, the effective benefit from governance is higher to the domestic firm than the foreign firm. If the marginal cost difference between the firms is very high, i.e., $c_2 > 2c_1$, the effective benefit from better

governance is significantly higher to the domestic firm compared to the foreign firm. The relative benefit to the domestic firm reduces the foreign firm's incentive for FDI.

If the initial marginal cost difference between the firms is not very large, i.e., $c_2 < 2c_1$, although better governance benefits the domestic firm more than the foreign firm, it increases the foreign firm's incentive for FDI by reducing its marginal cost.

Now consider the implications of better governance on domestic welfare. If firm 1 exports, domestic welfare is

$$W^x = \frac{2(a - 2c_2g_p - t + c_1g_p + z)^2 + (2a - c_1g_p - c_2g_p - 2t - z)^2}{18}. \quad (14)$$

If firm 1 undertakes FDI, domestic welfare is

$$W^f = \frac{2(a - 2c_2g_p - t + c_1g_p)^2 + (2a - c_1g_p - c_2g_p - 2t)^2}{18}. \quad (15)$$

We get from (14) and (15) that $\frac{\partial W^x}{\partial e} > \frac{\partial W^f}{\partial e} > 0$. However, $W^f \begin{matrix} \geq \\ < \end{matrix} W^x$ for

$(c_2 - c_1) \begin{matrix} \geq \\ < \end{matrix} \frac{z}{2g_p} = \frac{zh}{2(h-e)}$. Figure 2(a) and 2(b) shows domestic welfare under export

and under FDI by firm 1 for $(c_2 - c_1) < \frac{z}{2g_p}$ and $(c_2 - c_1) > \frac{z}{2g_p}$ respectively.

Although we draw these figures separately to show the welfare implications clearly,

one can have single diagram with $(c_2 - c_1) \begin{matrix} \geq \\ < \end{matrix} \frac{z}{2g_p} = \frac{zh}{2(h-e)}$ depending on e .

Insert Figures 2(a) and 2(b)

Figure 2(a) considers the situation where $(c_2 - c_1) < \frac{z}{2g_p}$, which implies that

$W^f < W^x$. If we also have that $c_2 > 2c_1$ or $c_1 < c_2 - c_1$, it implies that firm 1

undertakes FDI for lower level of governance. Hence, in Figure 2(a), given the cost of

FDI, firm 1 undertakes FDI for $e < e'_p$ if $c_1 < c_2 - c_1$. Hence, the relevant welfare

function is W_f for $e < e_p'$ and W_x for $e > e_p'$. In this situation, better governance increases domestic welfare irrespective of the production strategies of the foreign firm.

Now consider the situation where $(c_2 - c_1) < \frac{z}{2g_p}$ but $c_2 < 2c_1$ or $c_2 - c_1 < c_1$.

In this situation, $W^f < W^x$ but firm 1 undertakes FDI for $e > e_p'$. Hence, the relevant welfare function is W_x for $e < e_p'$ and W_f for $e > e_p'$. This situation is similar to Figure 1(b) and suggests that there are situations where better governance reduces domestic welfare.

Now consider Figure 2(b) where $(c_2 - c_1) > \frac{z}{2g_p}$, which implies that $W^f > W^x$.

In this situation, if better governance induces FDI, i.e., $c_2 - c_1 < c_1$, the relevant welfare function is W_x for $e < e_p'$ and W_f for $e > e_p'$, and better governance increases domestic welfare, irrespective of the foreign firm's production strategy. However, if $c_1 < c_2 - c_1$, firm 1 undertakes FDI for $e < e_p'$. In this situation, the relevant welfare function is W_f for $e < e_p'$ and W_x for $e > e_p'$. Hence, there are situations where better governance reduces domestic welfare.

The above discussion gives the following result.

Proposition 4: *If better governance increases productivities of the sales persons, thus*

reducing the marginal costs of both firms by the same proportion $g_p = \frac{h-e}{h}$, it

increases domestic welfare if either $c_1 < c_2 - c_1 < \frac{zh}{2(h-e)}$ or $c_1 > c_2 - c_1 > \frac{zh}{2(h-e)}$.

Otherwise, better governance may reduce domestic welfare.

The reason for the above result is similar to the trade off mentioned in Proposition 2. The trade-off between a gain in consumer surplus and a loss of domestic profit under FDI compared to export by firm 1 is the reason for this result.

Like subsection 2.1, Propositions 3 and 4 show that the usual perception, i.e., better governance attracts FDI and also increases domestic welfare, occurs if

$c_1 > c_2 - c_1 > \frac{zh}{2(h-e)}$, which shows that the marginal cost difference between the

firms is sufficiently large compared to the international transportation cost.

Propositions 3 and 4 also show that better governance reduces domestic welfare by attracting FDI, unless the marginal cost reducing effects of governance are very strong.

This happens if $c_1 > c_2 - c_1$ and $c_2 - c_1 < \frac{zh}{2(h-e)}$, which shows that the marginal cost

difference between the firms is sufficiently small compared to the international

transportation cost. Thus, the welfare reducing effect of FDI may give a strategic

reason for poor governance. Alternatively, the domestic government may need to

complement better economic governance with other policies, such as tax policies, to

extract rents from the foreign investors in order to increase both inward FDI and

domestic welfare following better governance.

Propositions 3 and 4 provide further implications, which are absent in subsection 2.1.

Interestingly, we get another strategic reason for poor governance. If $c_2 - c_1 > c_1$, which implies that better governance reduces the incentive for FDI, and

$(c_2 - c_1) > \frac{zh}{2(h-e)}$, which implies that FDI by the foreign firm provides higher

domestic welfare compared to export by the foreign firm, better governance may

prevent FDI by making the domestic firms more efficient, while FDI could increase

domestic welfare compared to export by the foreign firm. Thus, it may justify the Chinese situation. If the Chinese firms are sufficiently cost inefficient than the foreign firms, better governance in China, even if it makes the Chinese firms more efficient, can reduce Chinese welfare by reducing inward FDI. Therefore, poor governance may help Chinese economy by attracting more FDI.

Finally, Propositions 3 and 4 show that better governance may increase domestic welfare by preventing FDI, and this happens if $c_1 < c_2 - c_1 < \frac{zh}{2(h-e)}$. This result provides a caution. It suggests that a country with poor governance may attract more FDI by making the domestic firms more inefficient, but that may not be good for domestic welfare. Hence, if $c_1 < c_2 - c_1 < \frac{zh}{2(h-e)}$, a country may need complementary FDI policies along with better governance in order to maintain FDI flows and higher welfare.

3. Conclusion

It is a general consensus that better economic governance encourages the firms – from microenterprises to multinationals – to invest by improving the investment climate. While the other branches of economics widely discuss the implications governance for the development of a country, the literature on international trade and FDI did not pay much attention to this aspect.

We examine the implications of better governance in a domestic country, which reduces the costs of both the foreign and the domestic firms in the similar fashion, on the incentive for inward FDI and domestic welfare. We show that the effects on FDI depend on the way governance affects the marginal costs of the firms. Further, whether better governance increases domestic welfare is ambiguous and depends on

the factors such as the marginal cost difference between the firms, transportation cost and the extent of cost reduction through better governance. Thus, our analysis shows that the usual perception, i.e., better governance attracts FDI and also increases domestic welfare, is not immediate, and there are strategic reasons for poor economic governance. Alternatively, it suggests that better economic governance may need to be complemented with other policies in order to increase both inward FDI and domestic welfare.

It may be useful to discuss the implications of market structure on our results. We have considered a given market structure for our analysis. However, better governance may encourage some domestic firms to enter the market by reducing their marginal costs, thus increasing product-market competition in the domestic country. It is then immediate that, entry by domestic firms will reduce the foreign firm's incentive for costly FDI, and this intuition follows from Mukherjee and Sinha (2007). Hence, if better governance encourages entry by domestic firms, it may reduce the foreign firm's incentive for FDI even if better governance reduces the marginal costs of the firms by the same amount. Further, higher competition due to the entry of domestic firms increases the possibility of domestic welfare under better governance.

Whether better governance affects the marginal costs by the same amount or by the same proportion is important for our results. It is worth pointing out that this type of effects will prevail in other aspects of the economic analysis with asymmetric cost firms. For example, whether the governments impose unit tax/subsidies, which affect the marginal costs by the same amount, or they impose ad-valorem tax/subsidies, which affect the marginal costs by the same proportion, may have significant implications for trade and industrial policies. Hence, the basic mechanism of our analysis has broader applicability than the context of this paper.

References

- Banerjee, A.V., 1997, 'A theory of misgovernance', *Quarterly Journal of Economics*, 112: 1289-1332.
- Chang, H.-J., 2007, *Bad samaritans: rich nations, poor policies and the threat to the developing world*, Random House.
- DFID, 2006, *Making governance work for the poor*, White paper.
- Dixit, A., 2007, *Governance, institutions and development*, Princeton University.
- Fan, P.H., R. Morck, L.C. Xu and Y. Lien, 2007, 'Does good government draw foreign capital? Explaining China's exceptional foreign direct investment inflow', *World Bank Policy Research Working Paper 4206*.
- Globerman, S. and D. Shapiro, 2002, 'Global foreign direct investment flows: the role of governance infrastructure', *World Development*, 30: 1898-1919.
- Hummels, D., 1991, 'Have international transaction costs declined?' *Mimeo*, University of Chicago.
- Ishikawa, J., H. Morita and H. Mukunoki, 2010, 'FDI in post-production services and product market competition', *Journal of International Economics*, 82: 73-84.
- Milner, C., 2005, 'Protection by tariff barriers and international transaction costs', *Scottish Journal of Political Economy*, 52: 105 – 21.
- Mukherjee, A. and U.B. Sinha, 2007, 'Welfare reducing domestic cost-reduction', *Review of International Economics*, 15: 294-301.
- Nocke, V. and S. Yeaple, 2007, 'Cross-border mergers and acquisitions versus greenfield foreign direct investment: the role of firm heterogeneity', *Journal of International Economics*, 72: 336-65.
- Qiu, L.D., 2009, 'Cross-border mergers and strategic alliances', *European Economic Review*, Forthcoming.

- Reiter, S.L. and H.K. Steensma, 2010, 'Human development and foreign direct investment in developing countries: the influence of FDI policy and corruption', *World Development* (forthcoming).
- Rodrik, D., 2008, 'Second best institutions', *American Economic Review: Papers and Proceedings*, 98: 100-04.
- Sin, C. and W. Leung, 2001, 'Impact of FDI liberalization on investment inflows', *Applied Economics Letters*, 8: 253-56.
- Weller, C. and K. Ulmer, 2008, 'Trade and governance: does governance matter for trade?', APRODEV, *Background Paper*.
- World Development Report, 2005, 'A better investment climate for everyone', *World Bank*.
- World Bank Report (2010), *Doing business – measuring business regulations*, <http://www.doingbusiness.org/MethodologySurveys/MethodologyNote.aspx>

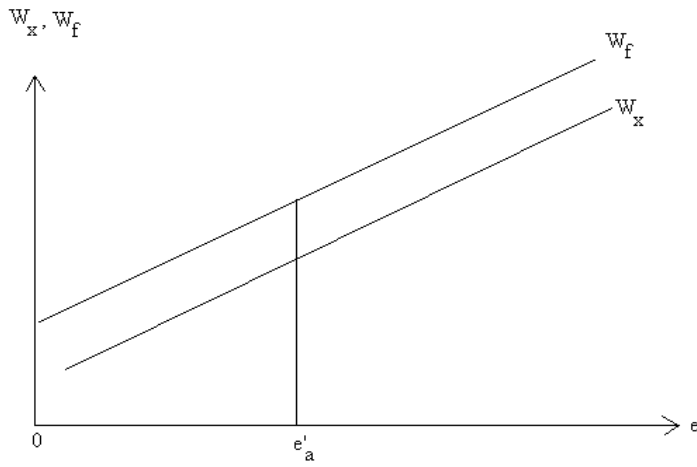


Figure 1(a): The effect of governance on host country welfare when $(c_2 - c_1) > \frac{z}{2}$.

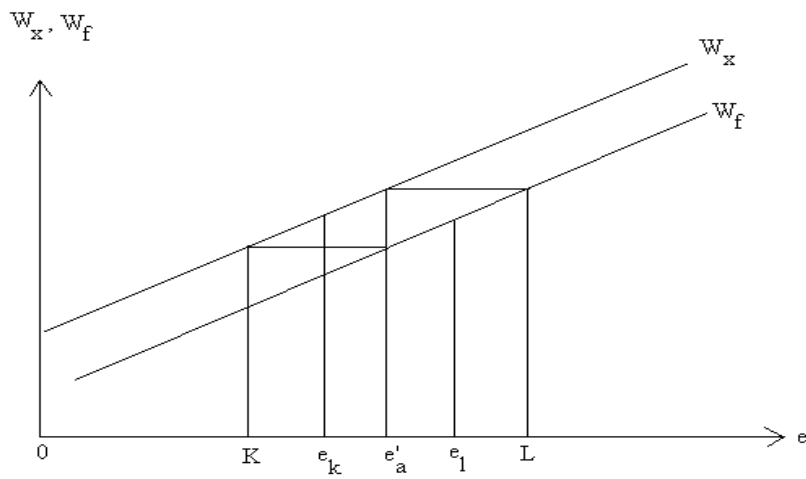


Figure 1(b): The effect of governance on host country welfare when $(c_2 - c_1) < \frac{z}{2}$.

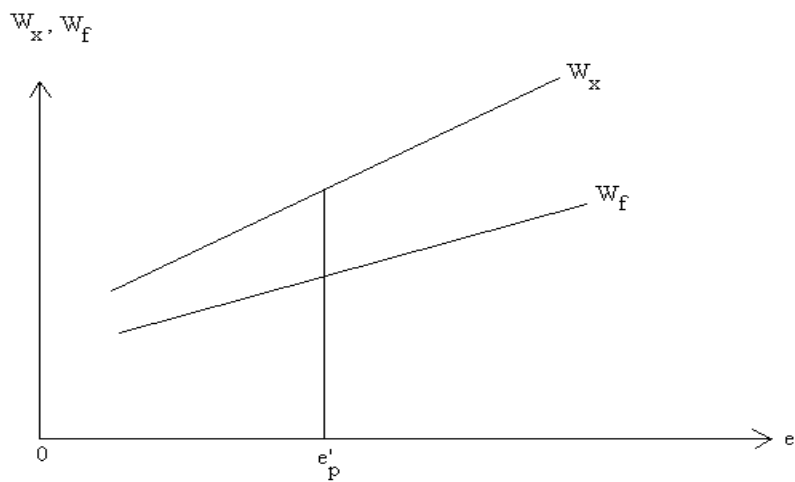


Figure 2(a): The effect of governance on host country welfare when

$$(c_2 - c_1) < \frac{zh}{2(h - e)}.$$

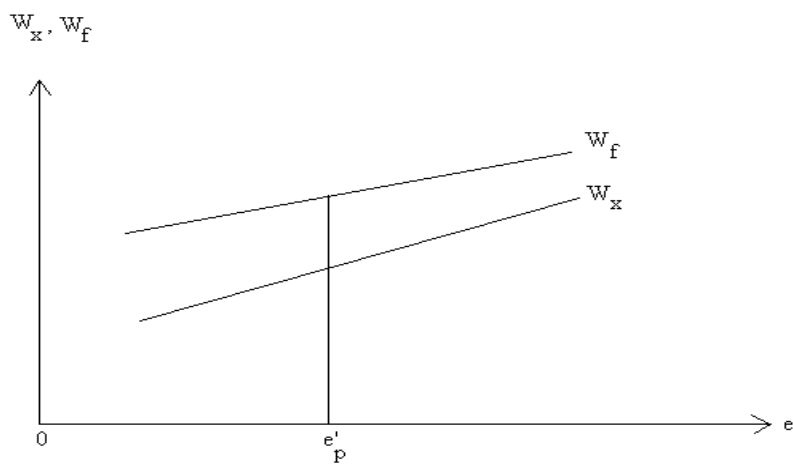


Figure 2(b): The effect of governance on host country welfare when

$$(c_2 - c_1) > \frac{zh}{2(h - e)}.$$