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Trade Cost Reduction and Foreign Direct Investment in a Vertical Structure

Abstract

Although empirical evidence shows that a lower trade cost and higher FDI may go hand in hand, the well-known “proximity-concentration” hypothesis does not support this view. We provide a simple explanation for this phenomenon. We show that a lower trade cost on the intermediate goods (with or without a trade cost reduction on the final goods) increases the incentive for FDI in the final goods market. In this respect, we show the roles played by the production technologies of the firms.

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Trade cost reduction and foreign direct investment in a vertical structure

1. Introduction

Two important developments in recent decades are the growth of foreign direct investment (FDI) and trade cost reduction, where trade costs consist of transportation costs as well as trade-policy barriers, such as tariff.[1] For example, UNCTAD (2004) reports that trade reforms in developing countries over the past 10-15 years are reflected in the general decline in protection in these countries, often under World Bank/IMF programs. Chinese import tariffs, for example, dropped from 34.8% in 1992 to 12.4% in 2001, and Indian tariffs fell from 70.5% in 1990 to 28.0% in 2001. On the other hand, UNCTAD (2002) shows that FDI inflows to China and India increased almost twofold and four times respectively between 1990 (annual average between 1990 and 1995) and 2001.

Considering trade between the USA and Canada, Feinberg et al. (1998) and Feinberg and Keane (2001) report a negative relationship between tariff reduction and FDI, where they examine the effects of USA-Canada tariff reduction on the behaviour of multinationals and their affiliates. Although empirical evidence suggests that higher amounts of FDI can be consistent with a lower trade cost, this does not satisfy the prediction of the well-known proximity-concentration theory, which shows that *ceteris paribus*, a lower trade cost reduces horizontal FDI (Markusen, 2002).[2] An explanation for this apparent puzzle of lowering trade cost and increasing FDI is that, along with lower trade costs, the host-country's policies are facilitating investments from abroad by reducing the cost of undertaking FDI (Markusen and

[1] See Anderson and Wincoop (2004) for an estimate of international trade costs.
[2] The proximity-concentration tradeoff can also be explained as follows. Firms prefer to invest abroad if they gain more by avoiding transport costs compare to the costs of producing in different markets.

Venables, 1998). Although the host-country's policies are creating a more congenial environment for investment, and thus reducing the cost of FDI, significant costs of FDI remain. These costs may arise simply because the multinationals need to set up their plants and the distribution channels in the host countries. There may also be a significant amount of transaction costs related to FDI, which may arise due to poor infrastructural facilities and so-called "administrative barriers" such as corruption and policy discrepancy (Hines, 1995 and Bhuiyan, 2003).

In this paper, we provide a simple explanation for the negative relation between trade cost and FDI. We show that even if the cost of FDI is unaffected, a lower trade cost and higher amount of FDI can go hand-in-hand in the presence of trade in intermediate goods,[3] which is quite common in the real world.[4] We show that a trade cost reduction on the intermediate goods (with or without a trade cost reduction on the final goods) increases the incentive for FDI in the final goods market. We first show this result in Section 2 by considering a monopolist foreign final goods producer. The result depends on the production technology of the foreign monopolist if the trade cost reduction occurs on the intermediate goods as well as on the final goods. We extend the analysis in Section 3 by considering competition between the foreign final goods producer and a domestic final goods producer, and show the implications of the technological difference between these firms in creating the negative relationship between trade cost and FDI.[5]

There are some studies that aim to explain the empirical findings we mentioned above.

[3] Kleinert (2003) estimates that imports of intermediate goods have accounted for half of the total imports of developed countries since the 1980s. Campa and Goldberg (1997) and Hummels et al. (1998) show the increase in trade in intermediate goods in recent years. See Pontes (2004 and 2007) for theoretical works on vertical FDI in the presence of trade in intermediate goods.

[4] See Saggi (2002) for a survey on the works on FDI.

[5] Recently, Amiti and Davis (2008), Liu and Mukherjee (2013) and Yu (2015) considered the implications of trade cost reduction on intermediate goods as well as final goods in different contexts.

Smith (1987), for instance, shows that the presence of scale economies, which affect the entry decision of the host-country firms, may create a negative relationship between trade cost and FDI. Lommerud et al. (2003), Neary (2009) and Mukherjee and Suetrong (2012) show respectively the implications of a unionized labour market, export-platform FDI and cross border merger, and exporting back to the home country of the foreign firm, for the negative relationship between trade cost and FDI. In contrast, we show the role of the trade in intermediate goods in creating this negative relation.

Ethier and Markusen (1996) show that a non-monotonic relationship between trade cost and FDI may occur if FDI reduces the value of the multinational firm's knowledge. In contrast, we consider no loss of the multinational firm's knowledge under FDI. Rather, a lower trade cost on the intermediate goods is responsible for the negative relationship between trade cost and FDI in our analysis.

The remainder of the paper is organized as follows. Section 2 shows the relationship between trade cost and FDI under a foreign monopolist final goods producer. Section 3 shows the implications of competition between the foreign final goods producer and a domestic final goods producer. Section 4 concludes.

2. Monopolist foreign final goods producer

Assume that there are two countries, called foreign and domestic. There is a firm, called firm 1, in the foreign country, which sells its product in the domestic country. Firm 1 can sell its product in the domestic country either by producing it in the foreign country and exporting to the domestic country or by undertaking FDI, i.e., by producing and selling the product in the domestic country.

Assume that the inverse demand function in the domestic country is

$$P = a - Q, \tag{1}$$

where P is price and Q is the total output.

Production requires a critical intermediate good, which needs to be purchased from the foreign country (or rest of the world). For simplicity, we consider that only this intermediate good is required for production. The competitive price of the intermediate good is $p^i > 0$. We assume for simplicity that firm 1 does not need to incur any trade cost for purchasing the intermediate goods if it produces the final goods in the foreign country and exports the final goods to the domestic country. Since we are interested to see the effects of a lower cost of exporting to the domestic country on FDI to that country, a constant positive trade cost for purchasing the intermediate goods under exporting from the foreign country will not affect our analysis. However, firm 1 needs to incur a trade cost $t > 0$ for purchasing the intermediate goods if it undertakes FDI, i.e., producing the final goods in the domestic country. Hence, the costs to firm 1 per-unit of the intermediate goods are p^i if it exports to the domestic country and $(p^i + t)$ if it undertakes FDI.

Assume that firm 1 needs λ units of the intermediate good to produce one unit of the final good. Hence, the productivity of firm 1 is $\frac{1}{\lambda}$. We also assume that if firm 1 exports the final goods to the domestic country, it needs to incur a per-unit trade cost, $T > 0$, on the final goods, and it needs to incur a fixed cost, F, if it undertakes FDI.

We assume that $T > \lambda t$, which is necessary for creating the incentive for FDI. If this assumption is not satisfied, export is always profitable to firm 1 compared to FDI.

We consider the following game. At stage 1, firm 1 decides whether to export or to undertake FDI. At stage 2, firm 1 determines the output and the profit is realized. We solve the game through backward induction.

2.1. Decision on FDI and export

First, consider the situation under export by firm 1. If firm 1 exports, it maximizes the following expression to determine its output:

$$\underset{q_1^X}{Max}(a-q_1^X-\lambda p^i-T)q_1^X, \tag{2}$$

where the superscript X stands for export by firm 1. The equilibrium output of firm 1 can be found as $q_1^X=\frac{a-(\lambda p^i+T)}{2}$. The equilibrium output of firm 1 under export is positive for $a>(\lambda p^i+T)$, which is assumed to hold.

The equilibrium profit of firm 1 under export is

$$\pi_1^X=\frac{[a-(\lambda p^i+T)]^2}{4}. \tag{3}$$

Now consider the situation under FDI by firm 1. In that case, firm 1 maximizes the following expression to determine its output:

$$\underset{q_1^F}{Max}(a-q_1^F-\lambda(p^i+t))q_1^F-F, \tag{4}$$

where the superscript F stands for FDI by firm 1. The equilibrium output of firm 1 can be found as $q_1^F=\frac{a-\lambda(p^i+t)}{2}$. The equilibrium output of firm 1 under FDI is positive due to our assumptions of $a>(\lambda p^i+T)$ and $T>\lambda t$.

The equilibrium profit of firm 1 under FDI is

$$\pi_1^F=\frac{[a-\lambda(p^i+t)]^2}{4}-F. \tag{5}$$

Proposition 1: *Firm 1 undertakes FDI for* $F < \overline{F}$*, where* $\overline{F} = \frac{(T - \lambda t)(2a - \lambda(2p^i + t) - T)}{4}$.

Proof: The comparison of (3) and (5) proves the result.[6] ■

The expression $\overline{F}$ shows firm 1's maximum willingness to invest for FDI, thus showing the incentive for undertaking FDI. Since FDI helps firm 1 to save the trade cost related to exporting the final goods, it undertakes FDI if the cost of FDI, *F*, is not very high.

2.1.1. The effects of a lower trade cost on the incentive for FDI

In this subsection, we will consider the effects of a lower trade cost on the final goods and a lower trade cost on the intermediate goods. First, we consider the effect of a lower trade cost on the final goods on the incentive for FDI.

Proposition 2: *The incentive for FDI decreases with a lower trade cost on the final goods.*

Proof: We find that $\frac{d\overline{F}}{dT} = \frac{(a - T - \lambda p^i)}{2} > 0$, which proves the result. ■

The above result is due to the well-known "tariff jumping" argument, which suggests that a trade cost reduction on the final good reduces the incentive for FDI by firm 1 by increasing its profit from export while keeping its profit from FDI unchanged.

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[6] Since $a > (\lambda p^i + T) > \lambda(p^i + t)$ due to the requirement for positive outputs, it implies that $\overline{F} = \frac{(T - \lambda t)(2a - \lambda(2p^i + t) - T)}{4} > 0$ since $T > \lambda t$ and $[a - (\lambda p^i + T) + a - \lambda(p^i + t)] > 0$.

Now consider the effects of a lower trade cost on the intermediate goods on the incentive for FDI.

Proposition 3: *The incentive for FDI increases with a lower trade cost on the intermediate goods.*

Proof: We find that $\frac{d\overline{F}}{dT} = -\frac{\lambda}{2}[a - \lambda(p^i + t)] < 0$, which proves the result. ■

If only t reduces, it reduces the cost of production in the domestic country, thus increasing firm 1's profit from FDI while keeping its profit from export unchanged. Hence, a lower t increases firm 1's incentive for FDI.

The next result will show the effects of lower trade costs on the intermediate goods as well as on the final goods.

Proposition 4: *(a) If the trade costs on the intermediate goods and on the final goods reduce by the same amount (i.e., $dt = dT$), the incentive for FDI increases (reduces), i.e., $\left.\frac{d\overline{F}}{dt}\right|_{dT=dt} < (>) 0$, for $\lambda > (<) \lambda^*$, where $\lambda^* \in (0,1)$.*

(b) If the trade costs on the intermediate goods and on the final goods reduce by the same percentage (i.e., $\frac{dt}{t} = \frac{dT}{T}$), the incentive for FDI increases (reduces), i.e., $\left.\frac{d\overline{F}}{dt}\right|_{\frac{dt}{t}=\frac{dT}{T}} < (>) 0$, for $\lambda > (<) \frac{a-T}{p^i + t}$.

Proof: (a) Taking total differential of $\overline{F}$ with respect to t and T, and using dt=dT, we get that

$$\left.\frac{d\overline{F}}{dt}\right|_{dT=dt} = \frac{(a-\lambda p^i - T) - \lambda(a - \lambda(p^i + t))}{2}.$$

If $\lambda \geq 1$, we get that $(a-\lambda p^i - T) < (a - \lambda(p^i + t)) \leq \lambda(a - \lambda(p^i + t))$, since $T > \lambda t$ and $[a - \lambda(p^i + t)] > 0$. Hence $\left.\frac{d\overline{F}}{dt}\right|_{dT=dt} < 0$ for $\lambda \geq 1$.

If $\lambda \leq 1$, we get that $[(a-\lambda p^i - T) - \lambda(a - \lambda(p^i + t))]$ is positive at $\lambda = 0$, negative at $\lambda = 1$ and convex with respect to λ. Hence, there exists $\lambda = \lambda^*$ such that $\left.\frac{d\overline{F}}{dt}\right|_{dT=dt} < (>) 0$ for $\lambda > (<) \lambda^*$, where $\lambda^* \in (0,1)$.

(b) Taking the total differential of $\bar{F}$ with respect to t and T, and using $\frac{dt}{t} = \frac{dT}{T}$, we obtain

$$\left.\frac{d\overline{F}}{dt}\right|_{\frac{dt}{t}=\frac{dT}{T}} = \frac{(T-\lambda t)(a - \lambda(p^i + t) - T)}{2t} \gtreqless 0 \text{ for } \lambda \gtreqless \frac{a-T}{p^i + t}. \blacksquare$$

The intuition for the above results is as follows. A lower trade cost on the final goods saves the cost of exporting, thus decreasing the incentive for FDI. However, a trade cost reduction on the intermediate goods saves the cost of production under FDI, thus increasing the incentive for FDI. Further, the increment in the incentive for FDI following a lower trade cost on the intermediate goods will be more (less) as the requirement of the intermediate goods per-unit of the final goods increases (decreases) (i.e., as λ increases (decreases)). This happens since a large (small) λ creates a large (small) cost saving under FDI. Hence, if the trade costs on the intermediate goods and on the final goods reduce by the same amount or by the same percentage, the incentive for FDI increases (deceases) if the requirement of the intermediate goods per-unit of the final goods is large (small).

3. Competition between the foreign firm and a domestic firm

In the previous section, we have considered the case of a foreign monopoly and have shown the implications of the foreign firm's production technology in determining the effects of lower trade costs on the incentive for FDI. Now we want to see the implications of competition between the foreign firm and a domestic firm. In particular, we want to see how the technological differences between the foreign and the domestic firms affect the incentive for FDI by the foreign firm following lower trade costs.

We assume in this section that there is a firm in each country: firm 1 in the foreign country and firm 2 in the domestic country. Firms 1 and 2 produce homogeneous products and compete in the domestic country like Cournot duopolists. Firm 1 can sell the product in the domestic country either by producing in the foreign country and exporting to the domestic country or by undertaking FDI, i.e., by producing and selling the product in the domestic country. The inverse demand function in the domestic country is given by equation (1).

Production requires a critical intermediate good, which needs to be imported from the foreign country (or rest of the world). As in the previous section, the competitive price of the intermediate good is $p^i > 0$, and firm 1 (the foreign firm) does not need to incur any trade cost for purchasing the intermediate goods if it exports to the domestic country but it incurs a trade cost $t > 0$ for purchasing the intermediate goods if it undertakes FDI. We assume that firm 2 (the domestic firm) also needs to incur a trade cost t for purchasing intermediate input. Hence, the per-unit costs of the intermediate goods to firm 1 are p^i if it exports to the domestic country and $(p^i + t)$ if it undertakes FDI, and the per-unit cost of the intermediate good to firm 2 is

$(p^i + t)$. As in the previous section, firm 1 incurs a fixed cost, *F*, if it undertakes FDI and it incurs a per-unit trade cost, *T*, on the final goods if it exports.

We assume that firm 1 needs λ units of the intermediate good to produce one unit of the final good, whereas firm 2 needs $\beta(\geq \lambda)$ units of the intermediate good to produce one unit of the final good. Hence, the technology of firm 2 is not better than the technology of firm 1. This assumption is reasonable if we view firm 1 as a developed-country firm, and firm 2 as a developing-country firm. Since our purpose is to show the implications of the technological differences between the foreign and the domestic firms, we normalize λ equals to 1 for simplicity. Hence, we consider that $\beta \geq 1$.

We assume that:

A1: $T > t$

A2: $\frac{a + (p^i + t)}{2(p^i + t)} \equiv \beta^{\max} > \beta > \beta^{\min} \equiv \frac{2(p^i + T) - a}{(p^i + t)}$.

Assumption A1 is necessary to provide firm 1 the incentive for FDI. If A1 is not satisfied, export is always profitable to firm 1 compared to FDI.

The first part of A2 ensures that firm 2's equilibrium output is positive under FDI by firm 1, while the second part ensures positive output of firm 1 when it exports. If assumption A2 is satisfied, the equilibrium outputs of the firms are always positive irrespective of export or FDI by firm 1.

We consider the following game. At stage 1, firm 1 decides whether to export or to undertake FDI. At stage 2, the firms compete like Cournot duopolists and the profits are realized. We solve the game through backward induction.

3.1. Decision on FDI and export

If firm 1 exports, firms 1 and 2 maximize the following expressions respectively to maximize their own profits:

$$\underset{q_1^X}{Max}(a - q - p^i - T)q_1^X \tag{6}$$

$$\underset{q_2^X}{Max}(a - q - \beta(p^i + t))q_2^X\,, \tag{7}$$

where the superscript X stands for export by firm 1. The equilibrium outputs of firms 1 and 2 can be found as $q_1^X = \frac{(a - 2(p^i + T) + \beta(p^i + t))}{3}$ and $q_2^X = \frac{(a - 2\beta(p^i + t) + (p^i + T))}{3}$ respectively.

The respective equilibrium profits of firms 1 and 2 can be found as

$$\pi_1^X = \frac{(a - 2(p^i + T) + \beta(p^i + t))^2}{9} \tag{8}$$

$$\pi_2^X = \frac{(a - 2\beta(p^i + t) + (p^i + T))^2}{9}\,. \tag{9}$$

Now, consider the situation under FDI by firm 1. In that case, firms 1 and 2 maximize the following expressions respectively to maximize their own profits:

$$\underset{q_1^F}{Max}(a - q - (p^i + t))q_1^F - F \tag{10}$$

$$\underset{q_2^F}{Max}(a - q - \beta(p^i + t))q_2^F\,, \tag{11}$$

where the superscript F stands for FDI by firm 1. The equilibrium outputs of firms 1 and 2 can be found as $q_1^F = \frac{(a-2(p^i+t)+\beta(p^i+t))}{3}$ and $q_2^F = \frac{(a-2\beta(p^i+t)+(p^i+t))}{3}$ respectively.

The respective equilibrium profits of firms 1 and 2 can be found as:

$$\pi_1^F = \frac{(a-2(p^i+t)+\beta(p^i+t))^2}{9} - F \tag{12}$$

$$\pi_2^F = \frac{(a-2\beta(p^i+t)+(p^i+t))^2}{9}. \tag{13}$$

Proposition 5: *If* $(a-(2p^i+t+T)+\beta(p^i+t))>0$*, firm 1 undertakes FDI for* $F<\hat{F}$*, where* $\hat{F} = \frac{4(T-t)(a-(2p^i+t+T)+\beta(p^i+t))}{9}$.

Proof: If $(a-(2p^i+t+T)+\beta(p^i+t))>0$, the comparison of (8) and (12) proves the result. ■

3.1.1. The effects of a lower trade cost on the incentive for FDI

In this subsection, we will consider the effects of trade cost reduction on FDI.

Proposition 6: *Firm 1's incentive for FDI decreases if the trade cost on its final goods reduces.*

Proof: We obtain that $\frac{d\hat{F}}{dT} = \frac{4}{9}[(a-2(p^i+T)+\beta(p^i+t))]>0$, which proves the result. ■

The above result is due to the well-known "tariff jumping" argument, which suggests that a trade cost reduction on the final goods reduces the incentive for FDI by firm 1 by increasing its profit from export while keeping its profit from FDI unchanged.

Now consider the effects of a lower trade cost on the intermediate goods.

Proposition 7: *Firm 1's incentive for FDI increases with a lower trade cost on the intermediate goods.*

Proof: We find that:

$$\frac{d\hat{F}}{dt} = \frac{4}{9}[-(a-(2p^i+t+T)+\beta(p^i+t))+(T-t)(\beta-1)]. \qquad (14)$$

FDI can be the equilibrium strategy for $(a-(2p^i+t+T)+\beta(p^i+t))>0$. Hence, we consider that $(a-(2p^i+t+T)+\beta(p^i+t))>0$, which implies that $\frac{d\hat{F}}{dt}<0$ for $\beta=1$.

Since $(a-(2p^i+t+T)+\beta(p^i+t))>0$ and $T>t$, we get two possible scenario for $\beta>1$. First, we get that $\frac{d\hat{F}}{dt}$ reduces with β for $(T-t)<(p^i+t)$, since $\frac{d(\frac{d\hat{F}}{dt})}{d\beta}=[(T-t)-(p^i+t)]$ is negative for $(T-t)<(p^i+t)$. Hence, $\frac{d\hat{F}}{dt}<0$ for $\beta>1$ if $(T-t)<(p^i+t)$.

Next, consider $(T-t)\geq(p^i+t)$. Here, $\frac{d\hat{F}}{dt}$ increases with β. However, we find that $\frac{d\hat{F}}{dt}<0$ at the maximum feasible value of β shown in A2, i.e., at $\beta^{\max}=\frac{a+(p^i+t)}{2(p^i+t)}$.

The above discussion proves that $\frac{d\hat{F}}{dt}<0$ for $\beta\geq 1$. ■

If t reduces, it reduces the cost of production in the domestic country. Hence, if firm 1 exports to the domestic country, a lower t makes only firm 2 more cost efficient and it reduces firm 1's profit from export. On the other hand, if firm 1 undertakes FDI, a lower t reduces firm 1's cost as well as firm 2's cost, and the effect of a lower t on firm 1's profit depends on the relative cost reduction in these firms. If a lower t increases firm 1's profit under FDI, it follows that a lower t increases firm 1's incentive for FDI since it also reduces firm 1's profit under export. Even if firm 1's profit under FDI reduces with a lower t, firm 1's loss from a lower t is higher under export compared to FDI, due to the higher distortion created by the trade cost on firm 1's final goods, thus increasing the incentive for FDI with a lower t.[7]

Now consider the situation where trade cost reduction occurs on the intermediate goods as well as on the final goods.

Proposition 8: (a) *If the trade costs on the intermediate goods and on the final goods reduce by the same amount (i.e., $dt = dT$), firm 1's incentive for FDI increases (decreases) for $\beta < (>) 2$.*

(b) If t > 0 and the trade costs on the intermediate goods and on the final goods reduce by the same percentage (i.e., $\frac{dt}{t} = \frac{dT}{T}$), firm 1's incentive for FDI increases (decreases) for $\beta < \overline{\beta}$, where $\overline{\beta} = 2 - \frac{a - 2T + 2t}{p^i + 2t} < 2$.

[7] We have written Proposition 7 under the assumption that $\beta \geq 1$. Since $(a - (2p^i + t + T) + \beta(p^i + t)) > 0$ and $T > t$, it is immediate from (14) that Proposition 7 holds for $\beta < 1$, which may be the case if the foreign firm is from a developing country and the domestic country is a relatively developed country.

Proof: (a) Taking total differential of $\widehat{F}$ with respect to t and T, and using $dt = dT$, we obtain that:

$$\left.\frac{d\hat{F}}{dt}\right|_{dT=dt} = \frac{4(T-t)-(\beta-2)}{9}. \quad (15)$$

Since $T > t$, $\left.\frac{d\hat{F}}{dt}\right|_{dT=dt} \gtreqless 0$ if $\beta \gtreqless 2$, which proves the result. ■

(b) Taking total differentiation of $\hat{F}$ with respect to t and T, and using $\frac{dt}{t} = \frac{dT}{T}$, we obtain:

$$\left.\frac{d\hat{F}}{dt}\right|_{\frac{dt}{t}=\frac{dT}{T}} = \frac{4(T-t)[a-2(p^i+T)+\beta(p^i+t)+t(\beta-2)]}{9t}. \quad (16)$$

Since $T > t$, we obtain $\left.\frac{d\hat{F}}{dt}\right|_{\frac{dt}{t}=\frac{dT}{T}} \gtreqless 0$ for $\beta \gtreqless 2 - \frac{a-2T+2t}{p^i+2t} \equiv \overline{\beta}$, which proves the result. ■

Proposition 8 shows that if the trade costs on the intermediate goods as well as on the final goods fall, the incentive for FDI by the foreign final goods producer can increase if the domestic firm is not very technologically inefficient than the foreign firm. If the domestic firm is not very inefficient than the foreign firm, a trade cost reduction on the intermediate goods does not reduce the domestic firm's marginal cost significantly compared to the foreign firm's marginal cost reduction under FDI. In this situation, the benefit from a trade cost reduction on the intermediate good increases the foreign firm's incentive for FDI. However, if the domestic firm is sufficiently inefficient than the foreign firm, a trade cost reduction on the intermediate good reduces the cost of the domestic firm is significantly more than the foreign firm, thus reducing the foreign firm's incentive for costly FDI. In other words, these results prove that our main results are robust to competition in the domestic market if the domestic firm is not very technically inefficient compared to the foreign firm.

4. Conclusion

Although empirical evidence shows that a lower trade cost and higher FDI may go hand-in-hand, the well-known "proximity-concentration" hypothesis does not support this view. In this paper, we provide a simple explanation for this phenomenon and show that a lower trade cost may increase the incentive for FDI in the presence of trade in intermediate goods. A trade cost reduction on the intermediate goods (with or without a trade cost reduction on the final goods) increases the incentive for FDI in the final goods market. In this respect, we show the implications of the production technologies of the firms.

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