On the Welfare Effects of Domestic Mergers and Cross-Border Acquisitions

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Abstract

This paper uses a simple oligopoly model to examine welfare implications of domestic mergers and foreign acquisitions. It considers synergies in domestic mergers and shows that (i) an increase in foreign competition leads to "defensive mergers" between domestic firms and (ii) such mergers could improve the domestic welfare. This paper also examines a foreign firm's choice on the entry mode to the domestic market to examine which entry mode is the most beneficial for the domestic country. The foreign firm can choose exporting, acquisitions, and greenfield investment. It shows that restricting the foreign acquisition could improve the domestic welfare by inducing the foreign firm to choose greenfield investment, but such a restriction policy could reduce the welfare when the foreign firm chooses exporting to the domestic market.

Keywords: domestic mergers, cross-border acquisitions, greenfield investment, trade costs, welfare

JEL Classification: F12, L13

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1 Introduction

Mergers and acquisitions are one of the important features in the global economy.[1] This increasing importance of mergers and acquisitions seems to be related to recent waves of trade liberalization and market interaction (e.g. Neary (2007b)). Does a decline in trade costs make mergers and acquisitions more profitable? Do domestic mergers improve the social welfare in the presence of foreign competition? Is a foreign acquisition of a domestic firm beneficial for the domestic country? In this paper, we use a simple oligopoly model to examine these issues.

Two domestic firms compete with a foreign firm exporting to the domestic market. In response to increasing foreign competition, two domestic firms can be merged into one firm. Such a domestic merger can improve the competitiveness of the domestic firm due to synergies. First, we show that a decline in a trade cost raises the possibility of the domestic merger and such a merger can improve the domestic welfare since the synergy effect benefits domestic consumers by reducing the price.

Second, we extend the analysis to a case with cross-border acquisitions. Investment liberalization allows the foreign firm to acquire one of the home firms. As compared to exporting, such a foreign acquisition is profitable because of a saving in the trade cost and a reduction in the level of competition. We show that the foreign acquisition can benefit the domestic country due to technology transfer. Also, we introduce greenfield investment as a alternative to exporting and acquisitions, and examine the welfare implications of a foreign acquisition restriction policy. We show that restricting the foreign acquisition improves the domestic welfare by inducing the foreign firm to choose greenfield FDI but it can be welfare reducing when the foreign firm chooses exporting to the domestic market.

There is growing literature on trade theory related to mergers and acquisitions. For the effects of trade barriers on merger incentives, see Long and Vousden (1995), Gaudet and Kanouni (2004), and Benchekroun and Chaudhuri (2006). Head and Ries (1997), Falvey (1998), Kabiraj and Chaudhuri (1999), Huck and Konrad (2004), and Neary (2007) examine the welfare implications of domestic and/or cross border mergers. A recent work explicitly examining the choices on cross-border M&A

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[1] Barba Navaretti and Venables (2004) states that cross border mergers and acquisitions account for the dominant share of FDI flows.

vs. Greenfield FDI includes Gorg (2000), Matoo, Olarreaga, and Saggi (2004), Bjorvatn (2004), Nocke and Yeaple (2007), Norback and Persson (2007).

The rest of this paper is organized as follows: Section 2 develops a simple oligopoly model. Section 3 examines the profitability of a domestic merger with synergies and the effect of a decline in the trade cost on the welfare gain from the domestic merger. Section 4 extends the analysis to a case with the foreign firm's acquisition of one of the home firms. Section 5 introduces greenfield FDI as an alternative to exporting and acquisitions. Section 6 analyzes the foreign firm's choice on exporting, acquisitions, greenfield investment, and examines the welfare effect of a foreign acquisition restriction policy. Section 7 summarizes main results.

2 A Simple Model

Let us consider a simple oligopoly model with three firms, two home firms and one foreign firm, competing to supply a homogeneous good to the home market. The (inverse) demand for this good in the home market is given by

$$p(X) = a - bX, \ (a, b > 0),$$

where p is the price and X is the industry output. The home firms produce according to the cost function,

$$C(x) = cx, \ (c > 0),$$

where x is the output of each firm. Let superscript * denote variables and parameters associated with the foreign country. The foreign firm's cost function is given by

$$C^*(x^*) = c^* x^*, \ (c^* > 0),$$

where x^* is the output. The profit of each home firm is

$$\pi = p(X)x - C(x).$$

If the foreign firm exports the good X to the home market, it incurs a transport cost, t (> 0), per unit of the output. The foreign firm's profit from exporting to the home market is

$$\pi^* = p(X)x^* - C^*(x^*) - tx^*.$$

2.1 Equilibrium

Firms behave in the Cournot fashion. The profit maximization conditions lead to the firms' equilibrium outputs:

$$x_e = \frac{1}{4b}[a - 2c + (c^* + t)],$$
$$x_e^* = \frac{1}{4b}[a + 2c - 3(c^* + t)].$$

The equilibrium industry output and the equilibrium price are

$$X_e = \frac{1}{4b}\left[3a - 2c - (c^* + t)\right],$$
$$p_e = \frac{1}{4}\left(a + 2c + c^* + t\right).$$

The equilibrium profits of the home and foreign firms can be derived as

$$\pi_e = bx_e^2,$$
$$\pi_e^* = bx_e^{*2}.$$

3 Domestic Mergers

Suppose that two home firms are merged into one firm. The cost function for the merged firm is

$$C_m(x) = \lambda cx, \ \ (0 \le \lambda \le 1),$$

where λ is a parameter for synergies. Obviously, if $\lambda = 1$, then there are no synergies. The profit for the merged firm is

$$\pi = p(X)x - C_m(x).$$

If the foreign firm continues to export to the home market, the merged firm and the foreign firm compete in the home market a la Cournot. The profit maximization lead to the firms' equilibrium outputs:

$$x_m = \frac{1}{3b}\left[a - 2\lambda c + (c^* + t)\right],$$

$$x_m^* = \frac{1}{3b}\left[a - 2(c^* + t) + \lambda c\right],$$

where x_m is the output of the merged home firm and x_m^* is the output of the foreign firm. The equilibrium industry output and the equilibrium price are

$$X_m = \frac{1}{3b}\left[2a - \lambda c - (c^* + t)\right],$$

$$p_m = \frac{1}{3}\left[a + (c^* + t) + \lambda c\right].$$

The equilibrium profits of the home merged firm and the foreign firm are respectively given by

$$\pi_m = bx_m^2,$$

$$\pi_m^* = bx_m^{*2}.$$

3.1 The Profitability of the Domestic Merger

Let g denote the gain from the domestic merger:

$$g(\lambda, t) = \pi_m - 2\pi_e$$

$$= \frac{1}{9b}\left[a - 2\lambda c + c^* + t\right]^2 - \frac{1}{8b}\left[a - 2c + c^* + t\right]^2.$$

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This surplus must be strictly positive for the merger to occur. It is easy to see that $g(1,t) < 0$, i.e., the merger does not occur if there are no synergies. We can show that the merger can be profitable if the synergy effect is sufficiently large. In order to show this result, we first derive the following lemma:

Lemma 1 *Suppose the following conditions hold:*

1. $c^* + t < \frac{a}{2}$

2. $c \in \left(\frac{1}{6}(3 - 2\sqrt{2})(a + c^* + t), \frac{1}{2}(a + c^* + t) \right).$

Then, the merger is profitable if the synergy effect is the largest:

$$g(0,t) > 0.$$

Lemma 1 suggests that there exists a critical level of λ that determines whether the merger is profitable or not. We have the following result:

Lemma 2 *There exists a critical $\lambda_\pi \in (0,1)$ such that $g(\lambda_\pi, t) = 0$,*

$$\lambda_\pi = \frac{3\sqrt{2}}{4} - \frac{1}{8c}\left(3\sqrt{2} - 4\right)(a + c^* + t).$$

The domestic merger is profitable if $\lambda < \lambda_\pi$ (See Figure 1).

The formula of λ_π shows that there is a positive relation between t and λ_π. This implies that a reduction in the transport cost t enlarges the range of λ in which the domestic merger is profitable. We can state this result in the following Proposition.

Proposition 1 *A reduction in trade costs enlarges the range of the synergy-effect parameter λ that makes the domestic merger profitable.*

Proposition 1 suggests that an increase in foreign competition facilitates the merger between domestic firms.
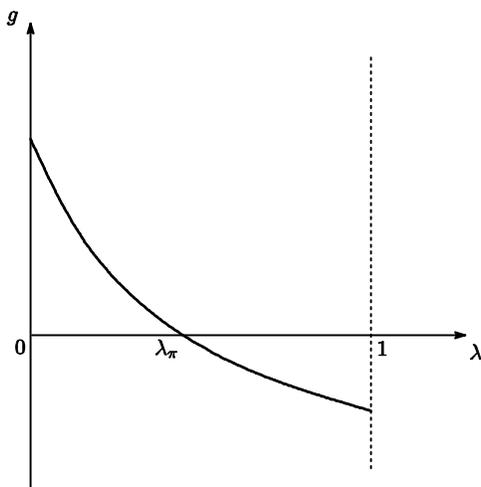
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Figure 1: The profitability of the domestic merger

3.2 Welfare Effects of the Domestic Merger

Now, we can examine the price effect of the domestic merger. The price change is directly derived by taking a difference in the equilibrium prices:

$$\Delta p = p_m - p_e$$
$$= \frac{1}{3}\left[a + (c^* + t) + \lambda c\right] - \frac{1}{4}\left(a + 2c + c^* + t\right).$$

The merger reduces the level of competition and raises the equilibrium price when there are no synergies, i.e., $\Delta p > 0$ if $\lambda = 1$. If the synergy effect is sufficiently large, then the merger can reduce the price due to an increase in the productivity of the merged firm. We can state this result in the following lemma.

Lemma 3 *Suppose that* $c > \frac{a+c^*+t}{6}$ *holds. Then, there exists a critical* λ_p *such that* $\Delta p = 0$, *and the domestic merger reduces the equilibrium price if* $\lambda < \lambda_p$.

The profitable domestic merger does not necessarily benefits domestic consumers. The direct calculation leads to $\lambda_\pi > \lambda_p$, which implies that there exists a range of the synergy-effect parameter λ in which the domestic merger is profitable but raises the equilibrium price.

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	$\lambda < \lambda_p$	$\lambda_p < \lambda < \lambda_\pi$	$\lambda < \lambda_\pi$
g	+	+	-
Δp	-	+	+
$\Delta \pi^*$	-	+	+

Table 1: Welfare effects of the domestic mergers

Also, the price effect of the domestic merger is closely related the effects on the profit of the foreign firm. The effect of the domestic merger on the profit of the foreign firm is given by

$$\Delta \pi^* = \pi_m^* - \pi_e^*.$$

We can easily show that

$$\Delta \pi^* < 0 \Leftrightarrow \Delta p < 0.$$

That is, if the synergy effect is sufficiently large and the equilibrium price falls, then the foreign firm loses from the merger between the domestic firms.

We can summarize the welfare effects of the domestic merger in Table 1. Table 1 suggests the possibility of the merger which benefits domestic consumers as well as merging firms. However, such a domestic merger generates the negative externality to the foreign firm. We can summarize the results as follows:

Proposition 2 *If the synergy effect is sufficiently great, i.e., $\lambda < \lambda_p$, then the profitable domestic merger reduces the equilibrium price and improves the domestic welfare. However, the merger hurts the foreign firm exporting to the domestic market.*

4   Cross-Border Acquisitions

Next, let us turn to the case with a cross-border acquisition. The basic model is the same as in the previous section. Suppose that one of the home firms is taken over by the foreign firm. Then, the profit for foreign acquiring firm is

$$\pi^* = p(X) - C^*(x^*).$$

The foreign firm can save the transport cost by acquiring a home firm and transfer its superior technology to the home firm without incurring any additional costs. The acquiring foreign firm and the home firm compete in the home market a la Cournot. The profit maximization leads to equilibrium outputs:

$$x_a^* = \frac{1}{3b}\left(a - 2c^* + c\right),$$
$$x_a = \frac{1}{3b}\left(a - 2c + c^*\right).$$

The industry output and the price are

$$X_a = \frac{1}{3b}\left(2a - c^* - c\right),$$
$$p_a = \frac{1}{3}\left(a + c^* + c\right).$$

The profits of the foreign acquiring firm and the home firm are

$$\pi_a^* = b x_a^{*2},$$
$$\pi_a = b x_a^2.$$

4.1   The Profitability of the Cross-Border Acquisition

The gain from a cross-border acquisition can be derived as

$$g^*(t) = \pi_a^* - \pi_e - \pi_e^*$$
$$= \frac{1}{9b}\left[a - 2c^* + c\right]^2 - \frac{1}{16b}\left[a - 2c + (c^* + t)\right]^2 - \frac{1}{16b}\left[a - 3(c^* + t) + 2c\right]^2.$$

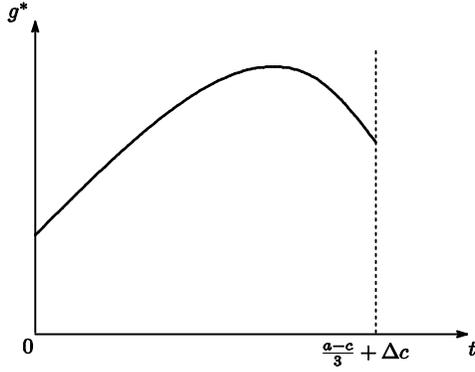The following lemma guarantees that the merger gain is positive under some conditions on the cost difference.

Figure 2: The profitability of a cross-border acquisition

Lemma 4 *Suppose that $c - c^* = \Delta c \in \left(\frac{a-c^*}{14}, \frac{a-c^*}{2} \right)$. Then,*

$$g^*(0) > 0.$$

The direct calculation shows that

$$g^*(\bar{t}) > g^*(0),$$

where $\bar{t} = \frac{a-c}{3} + \Delta c$, the prohibitive level of the transport cost, i.e., the foreign firm does not export to the home market if $t \geq \bar{t}$. If the foreign firm is more efficient than the home firm, then the cross-border merger is profitable in the range $[0, \bar{t}]$.

Let us examine the effect of the trade cost on the acquisition incentives. Taking the derivative of g with respect to t, we have

$$g(t)^{*\prime} = -\frac{\partial \pi_e}{\partial t} - \frac{\partial \pi_e^*}{\partial t}.$$

The first term $\frac{\partial \pi_e}{\partial t}$ is positive because an increase in the transport cost raises the profit of the home firm in the exporting regime. This means that the greater transport cost leads to the higher price of the home firm, and reducing the profitability of the foreign acquisition. The second term $\frac{\partial \pi_e^*}{\partial t}$ is negative since the higher transport cost leads to the lower profit of the foreign firm in the exporting regime. This implies that an increase in the transport cost raises the merger incentive for the foreign firm.

Figure 2 shows the relation between trade costs and the profitability of the cross-border merger. When the trade cost is highest, i.e., the prohibitive level, the first effect dominates and thus an increase in the transport cost makes the cross-border merger less profitable. If the transport cost is lowest, i.e., zero, the second effect overwhelms the first effect. Then, the cross border merger is more profitable as the trade cost is higher.

The price change due to the cross border merger is derived as

$$\Delta p_a(t) = p_a - p_e.$$

We can easily show that $\Delta p_a(0) > 0$ and $\Delta p_a(\bar{t}) < 0$. That is, the cross border merger benefits consumers by reducing the price if the transport cost is prohibitively high. However, if the transport cost is zero, the merger hurts consumers due to a price increase. Since an increase in t raises p_e, $\Delta p_a(t)$ is negatively related to t.

4.2 The Welfare Effects of the Cross-Border Acquisition

The effect of the cross-border merger and acquisition on the welfare of the home country can be derived as

$$\Delta W_a(t) = W_a - W_e = \Delta CS_a(t) + \Delta \pi_a(t).$$

The welfare change consists of the two effects: the effect on the home consumer surplus and the effect on the profit of the remaining home firm. Let us examine each of them. The price change due to the cross border merger is derived as

$$\Delta p_a(t) = p_a - p_e.$$

We can easily show that $\Delta p_a(0) > 0$ and $\Delta p_a(\bar{t}) < 0$. That is, the cross border merger benefits consumers by reducing the price if the transport cost is prohibitively high. However, if the transport cost is zero, the merger hurts consumers due to a price increase. Since $\Delta p_a(t)$ is negatively related to t, we have $\Delta CS_a(t)' > 0$. The consumers' gains (losses) from the foreign acquisition are positively

(negatively) related to the transport cost.

The cross border merger also affects the profit of the independent home firm.

$$\Delta\pi_a(t) = \pi_a - \pi_e$$
$$= \frac{1}{9b}\left[a - 2c + c^*\right]^2 - \frac{1}{16b}\left[a - 2c + (c^* + t)\right]^2.$$

It is easy to show that $\Delta\pi_a(0) > 0$ and $\Delta\pi_a(\bar{t}) < 0$. The independent home firm benefits from the foreign acquisition of the rival firm when the transport cost is zero. However, the acquisition hurts the home firm if the transport cost is prohibitively high. Obviously, $\Delta\pi_a(t)' < 0$, i.e., an increase in the transport cost reduces the benefits from the cross border merger for the remaining home firm.

We are ready to examine the welfare effect of the cross border M&A. We can easily show that

$$\Delta W(t)' = \frac{1}{4}(X_e - 2x_e) > 0.$$

As we have shown, the welfare changes can be decomposed into two effects: changes in consumer and producer surpluses. The consumers' gains (losses) from the foreign acquisition are positively (negatively) related to the transport cost. However, the home firm's gains (losses) are decreasing (increasing) with the transport cost. The the effect on consumer surplus overwhelms the effect on the home firm's profit, and thus the welfare gains (losses) from the foreign acquisition are positively (negatively) related to the transport cost. We can also show that

$$\Delta W_a(0) < 0,$$
$$\Delta W_a\left(\bar{t}\right) > 0.$$

When the transport cost is zero, the cross border acquisition is welfare reducing. However, if the transport cost is prohibitively high, the foreign acquisition benefits the home country. These results implies that there exists a critical level of the transport cost which determines whether the cross-border M&A benefits the home country or not (see Figure 3).
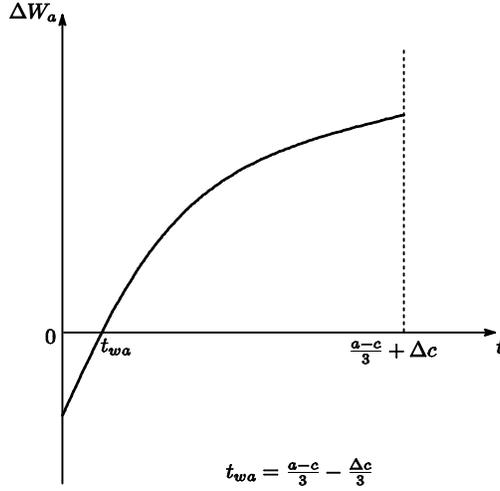
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Figure 3: The welfare effect of cross border M&A

Lemma 5 *There exists t_{wa} such that $\Delta W_a(t_{wa}) = 0$.*

1. If $t \in [0, t_{wa})$, then $\Delta CS_a(t) > 0$, $\Delta\pi_a(t) < 0$ and $\Delta W(t) < 0$.

2. If $t \in (t_{wa}, \overline{t}]$, then $\Delta CS_a(t) < 0$, $\Delta\pi_a(t) > 0$ and $\Delta W(t) > 0$.

When the transport cost is greater than the critical level, the foreign acquisition benefits the home country since the consumer gains overwhelms the home firm's losses. If the transport cost is lower than the critical level, the home firm gains from the foreign acquisition of the rival firm. However, the anti-competitive effect raises the price in the home market so that consumer losses are greater than producer gains and the home country loses from the foreign acquisition of the home firm.

5 Greenfield FDI

Let us consider a possibility of greenfield FDI by the foreign firm. The foreign firm can choose to make a direct investment as an alternative to exporting to the home market or acquiring a home firm. The FDI profit of the foreign firm is

$$\pi_g^* = p(X) - C(x^*) - f,$$

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where f (> 0) is the fixed cost. As before, the home and foreign firms behave in the Cournot fashion. In the FDI equilibrium, the outputs of the home and foreign firms are,

$$x_g = \frac{1}{4b}\left(a + c^* - 2c\right),$$
$$x_g^* = \frac{1}{4b}\left(a + 2c - 3c^*\right).$$

The total output and the price of good X are

$$X_g = \frac{1}{4b}\left(3a - 2c - c^*\right),$$
$$p_g = \frac{1}{4}(a + c^* + 2c).$$

The equilibrium profits of the home and foreign firms are

$$\pi_g = bx_g^2,$$
$$\pi_g^* = bx_g^{*2} - f.$$

5.1 The Profitability of Greenfield FDI

Let us examine the profitability of greenfield FDI as an alternative to exporting to the home market. The gain from greenfield FDI can be derived as

$$k^*(t) = \pi_g^* - \pi_e^*$$
$$= \frac{1}{16b}\left(a + 2c - 3c^*\right)^2 - f - \frac{1}{16b}\left[a - 3(c^* + t) + 2c\right]^2.$$

It is easy to show that $k^*(0) = -f$, i.e., the FDI can be profitable due to the saving in the transport cost. Also, if the transport cost is prohibitively high, then the foreign firm benefits from FDI, i.e., the fixed cost is smaller than a variable profit, $k^*(\bar{t}) > 0$. Since the higher transport cost leads to the larger gain from the greenfield FDI, there exits a critical level of transport cost which determines the profitability of the direct investment (see Figure 3).
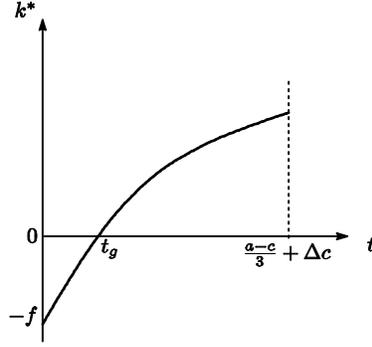
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Figure 4: The profitability of greenfield FDI

Lemma 6 *There exists a critical level of the transport cost* t_g *such that* $k^*(t_g) = 0$.

1. If $t \in (0, t_g]$, then $k^*(t) < 0$, i.e., the foreign firm prefers exporting to greenfield FDI.

2. If $t \in (t_g, \bar{t}]$, then $k^*(t) > 0$, i.e., the foreign firm prefers greenfield FDI to exporting.

6 Exporting, Cross-Border Acquisitions, and Greenfield FDI

Now let us examine the best entry mode for the foreign firm. As we have shown in Lemma, the foreign firm prefers greenfield FDI to exporting when $t \in (t_g, \bar{t}]$. In this range of the transport cost, foreign acquisition is more profitable than greenfield FDI because

$$\pi_a^* - \pi_g^* - \pi_g$$
$$= g^*(0) + f > 0.$$

The second equality holds since $\pi_e^* = \pi_g^* + f$ and $\pi_e = \pi_g$ when $t = 0$. Also, if the transport cost is smaller than t_g, then the foreign firm would choose exporting rather than greenfield FDI. However, in this case, the foreign firm would prefer foreign acquisition instead of exporting. This is because acquiring a home firm is more profitable than exporting to the home market.

For the foreign firm, the first best entry mode is acquiring a home firm regardless of the transport cost. The second best depends on the transport cost. If the transport cost is smaller than t_g, the
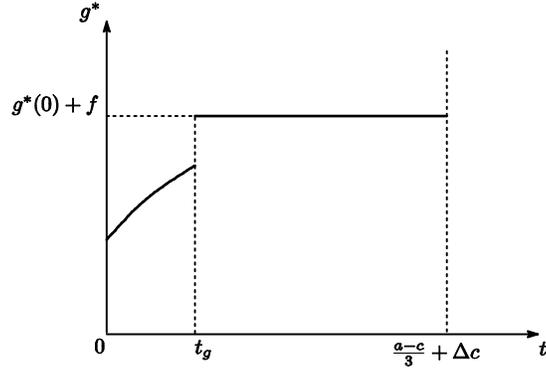
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Figure 5: The gain from a cross-border acquisition as compared with the second best entry mode

foreign firm would prefer exporting to greenfield FDI. However, if the transport cost is greater than t_g, then the second best is greenfield direct investment. We can summarize the result as follows:

Proposition 3 *A cross-border acquisition is the most profitable entry mode for the foreign firm. The second best entry mode depends on the transport cost in the following manner:*

1. If $t \in (0, t_g]$, then the second best is exporting to the home market.

2. If $t \in (t_g, \bar{t}]$, then the second best is greenfield FDI.

Figure shows the foreign firm's gain from acquisition of the home firm as compared to the second best entry mode. When the transport cost equals t_g, we have

$$\pi_a^* - \pi_g^* - \pi_g = \pi_a^* - \pi_e^* - \pi_g$$
$$> \pi_a^* - \pi_e^* - \pi_e,$$

where the second inequality holds because $\pi_g < \pi_e$. Comparing with the alternative entry modes, the foreign firm's gain from acquisition is greater in the greenfield FDI than in exporting. In Figure, this fact is shown as a jump in the graph of the foreign firm's gain at t_g.
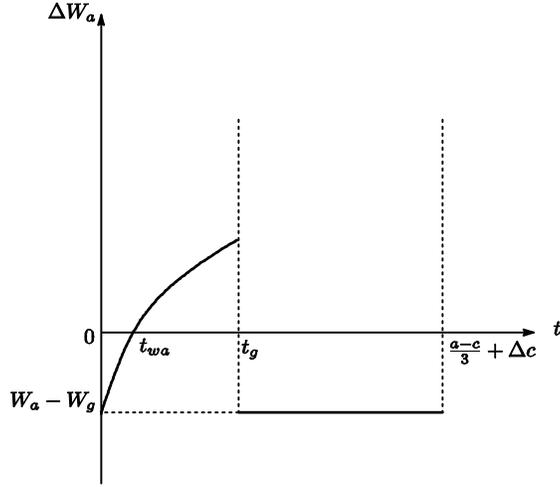
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Figure 6: The welfare effect of cross border M&A when the foreign firm can choose greenfield FDI as well as exporting.

6.1   Welfare Effects of Restricting the Foreign Acquisition

In the previous section, we have shown that the foreign acquisition is the first best entry mode for the foreign firm. However, does the foreign acquisition benefit the home country as compared to other entry modes? In this section, we shall examine the welfare implications of restricting the foreign acquisition.

For the home country, the greenfield FDI is more beneficial than cross border M&A,

$$W_g - W_a = -\Delta W_a(0) > 0,$$

where the equality holds because $W_e = W_g$ at $t = 0$. Thus, the acquisition restriction policy would improve the welfare of the home country if it induces the foreign firm to choose greenfield FDI. However, if the foreign firm chooses exporting instead of direct investment, then such a policy does not necessarily benefit the home country. In fact, this result arises if t_g is greater than t_{wa}. When $t \in [t_{wa}, t_g)$, the restriction of the foreign acquisition results in exporting to the home market, but it is welfare reducing since foreign acquisition is more beneficial for the home country as compared to exporting. Figure shows the welfare effect of cross border M&A when the foreign firm can choose

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	$t \in (0, t_{wa})$	$t \in (t_{wa}, t_g)$	$t \in (t_g, \bar{t})$
Foreign firm's entry mode	Export	Export	Greenfield FDI
The welfare effects	+	-	+

Table 2: The effects of the policy restricting foreign acquisition

greenfield FDI as well as exporting. Clearly, when $t \in (t_{wa}, t_g)$, the home country benefits from cross border M&A without restricting any entry mode for the foreign firm.

Proposition 4 *Suppose that t_g is greater than t_{wa}. If $t \in (t_{wa}, t_g)$, then the policy restricting a foreign acquisition reduces the welfare of the home country.*

For such a restriction policy to improve the home welfare, the transport cost must be sufficiently small. In fact, if $t \in [0, t_{wa})$, the restriction policy would induce exporting and improve the home welfare. Also, if the transport cost is sufficiently large, the foreign firm would prefer greenfield FDI to exporting. In such a case, the restriction of the foreign acquisition necessarily benefits the home country. We can summarize the results in Table 2.

Proposition 4 is more likely to hold as the fixed cost f is larger.[2] The greater fixed cost makes greenfield FDI less profitable. Thus, restricting acquisition of the home firm is more likely to result in exporting by the foreign firm. However, for the home country, exporting might be welfare reducing as compared to foreign acquisition.

If the fixed cost f is sufficiently small, then t_{wa} can be greater than t_g, and as a result, the range (t_{wa}, t_g) may vanish. In this case, restricting foreign acquisition necessarily benefits the home country.

7   Conclusion

Using a simple oligopoly model with three firms, we examine the welfare implications of mergers. First, we consider a case with mergers between domestic firms competing with a foreign rival in the home market. We have shown that an increase in foreign competition may lead to "defensive mergers" between domestic firms. Such mergers do not necessarily reduce the domestic welfare if

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[2]This is because a rise in f increases t_g and expands the range of the transport cost (t_{wa}, t_g).

the synergies effects are sufficiently large. The foreign government may disapprove such domestic mergers due to the negative externality to the foreign firm.

Second, we extend the analysis to a case with cross border mergers. A cross border acquisition by the exporting firm could improve the domestic welfare due to (i) technology transfer and (ii) trade-cost savings. If trade costs are small, the cross-border acquisition could reduce the domestic welfare due to an increase in the market power. Also, restricting foreign acquisitions may improve the domestic welfare by inducing the foreign firm to make a greenfield investment. Such a restriction policy could fail to raise the welfare if the foreign firm chooses exporting to the domestic market.

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