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Effects of the corporate tax rates on firms' location selections through the trasfer pricing system

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Effects of the corporation tax rates on firms’ location selections through the transfer pricing system

1 Introduction

Many manufacturing firms have been exposed to large-scale competition in highly-globalized economy. The competition has attained to the various activities of the firms from research and development to pricing. The influence of the price competition on the firm’s production activity is as follows: As an economic activity broadens, the competition among firms becomes international, and firms are exposed to intense price competition which induces cost cutter competition. In order to reduce production costs a firm subdivides a production process. Since subdividing a production process makes contents of work of a process simple and clear, a firm enables extensive employment of the laborer of low wages. For advance employment of a cheap laborer, a firm distributes production processes to a domestic rural area and the cities in developing countries where a social infrastructure is equipped.\(^1\)

When the fragmented processes are distributed on the large geographical area, the movement of materials and intermediate goods between these processes arise, and the related movement of money and exchange of information are incurred inevitably. These movements and exchange are implemented on the basis of the social infrastructure equipped in cites. Since the social infrastructure are built and sustained by funds of the country and regional governments, the firms which use the infrastructure bear its costs through paying taxes in the country.

As a country imposes a corporation tax to the factory, the country should know the level of factory’s profits. If the country cannot grasp the profits of the factory, the corporation tax which should be collected cannot be determined appropriately. Thus, referring to a transfer price, a country grasps the profits of a factory, and determines the corporation tax to the factory. Since the location of a factory is directly concerned with the employment in a region, the location policy of the government which usually comprises the corporation tax and the transfer pricing system increases importance in regional development policy.

While, a firm compares the corporation tax rates of countries, based on the comparison of them, the firm chooses the country in which its factory should be located. Moreover, a firm changes the level of its transfer price in consideration of the tax rates. In the time which firm’s factories distribute across the countries, a corporation tax rate and a transfer price become an important factor which influences the factory’s location.

This paper tries to analyze about spatial distribution of a firm’s production processes under the following frameworks: A firm divides production process into two different countries and adopts a

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\(^1\) Fragmentation of production process and the location of them is explained by Ishikawa (2010).
transfer price system\(^2\) to transport the intermediate goods between them. Each country imposes the corporation tax on the firm’s factory.

This paper is organized as follows: In the next section, the assumptions for the analysis are introduced and the firm’s profit function is derived. The analysis shows how a factory’s location and the transfer price are determined in a large geographical area. In the section 3, using the firm’s profit function, it is shown how the corporation tax rates of two countries affect the factory’s location, the transfer price, and the firm’s profits. Section 4 summarizes the results of the analysis and makes concluding remarks.

2 Determination of a firm’s location and transfer price in a large geographical area

(1) Derivation of the profit function of a firm

The following assumptions are placed and the framework for the analysis. A firm produces goods by using two production processes, the first process the second process. The factory 1 which is assigned to the first process manufactures intermediate goods, \(m_4\), in home country. The intermediate goods produced at factory 1 are transported to the factory 2 by the transfer price \(m_{p_4}\), which locates at a market place in a foreign country. The factory 2 uses one unit of the intermediate goods to produce one unit of the final goods. And the factory 2 sells the finished goods by the price \(p\) to the market and determines the quantity of the final goods \(t\) in order to maximize the profits of the factory 2. While the factory 1 decides the transfer price in order to maximize the total profits of the firm. The tax rates of home and foreign country are represented by \(t\) and \(t^*\), respectively.

The profits of the factory 1 is given by equation (1)

\[
Y_1 = (1 - t) [ m_{p_4} m_q - C(m_q) - F_1 ]
\]

(1)

where \(m_q\) is quantity of the finished goods, \(C(m_q)\) is the cost function and \(F_1\) is fixed costs. The cost function \(C(m_q)\) of the factory 1 is derived on the basis of the following assumptions: The factory 1 uses two different kinds of materials \(m_1\), \(m_2\) to produce the final goods \(m_q\). And the factory uses lubricating oil \(m_3\) to operate machines. The materials \(m_1\), \(m_2\) and oil \(m_3\) are produced at points \(M_1\), \(M_2\) and \(M_3\) which are identified by coordinates \((x_1, y_1)\), \((x_2, y_2)\), \((x_3, y_3)\), respectively, on a large plain space. These materials are transported to the factory 1 at point \(L\) indicated by \((x, y)\). Freight rates of the materials \(m_1\), \(m_2\) are denoted by \(t_m\), and the rate of the oil \(m_3\) is given by \(t_e\). Mill prices of these

\(^2\)Bond (1980), Cook, Jr. (1955), Dean (1955), Horst (1971), and Zhao(2000) analyzed the usage of the transfer pricing system.
are shown by \( p_1, p_2, \) and \( p_3, \) and these prices are given. The intermediate goods are transported from the factory 1 to the factory 2 which locates at the market at point \( M_4 (x_4, y_4). \) The freight rate of the intermediate goods \( m_q \) is \( t_g. \) Figure 1 illustrates the geographical relationship between the factory 1, the factory 2, the market and the points of the three materials.

The production function of the factory 1 is represented by equation (2):

\[
m_q = A m_1^\alpha m_2^\beta \tag{2}
\]

where \( A, \alpha \) and \( \beta \) are parameters and they are defined as \( A>0, \ 0<(\alpha+\beta)<1. \)

![Figure 1 Location figure of the factory 1](image)

The distances between the material places, \( M_i \ (i=1, 2, 3) \) and the factory 1, \( L(x, y) \) are represented by \( d_1, d_2, d_3, \) respectively:

\[
d_1 = ((x-x_1)^2 + (y+y_1)^2)^{0.5}, \quad (3a)
\]
\[
d_2 = ((x+x_2)^2 + (y+y_2)^2)^{0.5}, \quad (3b)
\]
\[
d_3 = (x^2 + (y+y_3)^2)^{0.5}. \quad (3c)
\]

The distance between the factory 1 and the factory 2 which locates at the finished market \( M_4 \) is given by \( d_4: \)
\[ d_4 = (x^2 + (y - y_4)^2)^{0.5} \]  

(3d)

If the profits of the factory 1, \( Y_1 \), is given by equation (4),

\[ Y_1 = (1-t)[mq((mp_4 - t_4d_4) - (p_3 + t_3d_3) - (p_1 + t_md_1)m_1 - (p_2 + t_md_2)m_2) - F_1]. \]  

(4)

Making use of the law of equi-marginal productivity, that is, the ratio between the productivities of the two intermediate goods should be equal to the ratio between the delivered prices of them, quantities of these goods are derived as equations (5a) and (5b): (For simplicity, \( \alpha \) and \( \beta \) are assumed \( \alpha = \beta = 0.4 \)):

\[ m_1 = A^{-1.25} mq^{1.25} \frac{(p_2 + t_md_2)}{(p_1 + t_md_1)}^{0.5}. \]  

(5a)

\[ m_2 = A^{-1.25} mq^{1.25} \frac{(p_1 + t_md_1)}{(p_2 + t_md_2)}^{0.5}. \]  

(5b)

Since quantity of oil \( m_3 \) is assumed to be a linear function of amount of the final goods, it is simply given by (5c),

\[ m_3 = mq. \]  

(5c)

From the above equations, the cost \( C(qm) \) of the factory 1 is obtained as equation (6),

\[ C(qm) = 2A^{-1.25}mq^{1.25} (p_1 + t_md_1)^{0.5} (p_2 + t_md_2)^{0.5} + mq(p_3 + t_3d_3) + F_1. \]  

(6)

Thus, the profit function of the factory 1 is rewritten as equation (7):

\[ Y_1 = (1-t)[mq((mp_4 - t_4d_4) - (p_3 + t_3d_3)) - 2mq^{1.25} A^{-1.25} (p_1 + t_md_1)^{0.5} (p_2 + t_md_2)^{0.5} - F_1]. \]  

(7)

The factory 1 determines the transfer price and its location in order to maximize the firm's total profits by using equation (7).

Let us derive the profits of the factory 2, \( Y_2 \). The profits are obtained under the following
assumptions: The factory 2 uses one unite of intermediate goods to produce one final goods, thus, the quantity of the final goods $Q$ is equal to the intermediate goods $m_q$ (that is, $Q=m_q$). The market price of the finished goods is shown by $p$ which is determined by the market demand function given by equation (9).

$$Y_2 = (1 - t^*)[(p - mp_4)Q - C(Q) - F_2]$$ (8)

$$p = a - Q$$ (9)

where $F_2$ is the fixed cost, and $C(Q)$ is the costs of assembling the intermediate goods to the finished goods, $C(Q)$ is given by equation (10), and $a$ is assumed 600 for simplicity of calculation.

$$C(Q) = b Q(g + Q)^2/h$$ (10)

where parameter $b$, $g$ and $h$ are assumed 1.5, 2, and 200 for simplicity of calculation, respectively.

Since the factory 2 determines the quantity supplied at the market to maximize its profits, the quantity supplied to the market is derived by using equation (8), (9),and (10), it is shown by equation (11),

$$Q = 0.22(-206 + (582409 - 900mp_4)^{0.5})$$ (11)

Since the supply quantity $Q$ is a function of the transfer price $mp_4$, the total profits of the firm can be rewritten as a function of the transfer price as equation (12),

$$Y = (1 - t)[(0.22(-206 + (582409 - 900mp_4)^{0.5}))(mp_4 - t_4d_4) - (p_2 + t_4d_3) - 2(0.22(-206 + (582409 - 900mp_4)^{0.5}))^{1.25} A^{-1.25}(p_1 + t_3d_3)^{0.5}(p_2 + t_3d_2)^{0.5} - F_1] + (1-t^*) [600 - (0.22(-206 + (582409 - 900mp_4)^{0.5})) - mp_4(0.22(-206 + (582409 - 900mp_4)^{0.5})) - F_2].$$ (12)

(2) Derivation of the optimal transfer price and the factory’s location

Let us derive the optimal transfer price $mp_4$ and the location $(X,Y)$ of the factory1 by using equation (12). To derive the optimal values of the transfer price and the location of the factory 1, the Gradient dynamics is used. The essence of this method is that first, an initial value set is given to $x_n$, $y_n$, and $mp_{4n}$ in the following equations (13a,b, and c) as a temporal solution, and obtain the values of $x_{n+1}$, $y_{n+1}$, and $mp_{4n+1}$ by calculations indicated by the three equations (13a,b,and c). And then, the same calculation is iterated until a given tentative solution can be approximately judged as the solution.
the values of \((x_{n+1}, y_{n+1}, m_{p4n+1})\) in equations (13a, b, and c) become approximately the same as those of \((x_n, y_n, m_{p4n})\), the values can be admitted as the solution.

\[
\begin{align*}
x_{n+1} &= x_n + j^* \frac{\partial Y}{\partial x}, \quad (13a) \\
y_{n+1} &= y_n + j^* \frac{\partial Y}{\partial y}, \quad (13b) \\
m_{p4n+1} &= m_{p4n} + j^* \frac{\partial Y}{\partial m_{p4}}, \quad (13c)
\end{align*}
\]

where \(j\) is the width of a step and \(n\) shows the number of the calculation. And \(\frac{\partial Y}{\partial x}\), \(\frac{\partial Y}{\partial y}\), and \(\frac{\partial Y}{\partial m_{p4}}\) are given by equations (14a, b, and c). In addition, the tax rates are assumed to be the same in home and foreign country, \(t=t*=0.082\). Other parameters’ value are assumed as follows:

\((x_1=3, y_1=-0.5),\quad (x_2=-3, y_2=-0.5),\quad (x_3=0, y_3=-1.5),\quad (x_4=0, y_4=1),\quad A=1, \quad p_1=0.25, \quad p_2=2,\quad p_3=0.2, \quad t_m=0.11, \quad t_e=0.01, \quad t_g=0.225, \quad F_1=5000, \quad F_2=2500,\)

\[
\begin{align*}
\frac{\partial Y}{\partial x} &= 0.18[-A^{-1.25}Q^{1.25} \frac{p_2+t_m d_2^{0.5} (p_1+t_m d_1)^{0.5}}{(p_1+t_m d_1)^{0.5}} (x-x_1)/d_1 + \]
+ \{(p_1+t_m d_1)^{0.5} (p_2+t_m d_2)^{0.5} (x+x_2)/d_2-tg x Q/d_4 + \]
+ Q (-t_g(x/d_4) - t_e(x/d_3))] = 0 \quad (14a) \\
\frac{\partial Y}{\partial y} &= 0.18[-A^{-1.25}Q^{1.25} \frac{p_2+t_m d_2^{0.5} (p_1+t_m d_1)^{0.5}}{(p_1+t_m d_1)^{0.5}} (y+y_1)/d_1 + \]
+ \{(p_1+t_m d_1)^{0.5} (p_2+t_m d_2)^{0.5} (y+y_2)/d_2-tg (y-1)Q/d_4 + \]
+ Q (-t_g((y-y_4)/d_4)-t_e((y-y_3)/d_3)) = 0 \quad (14b) \\
\frac{\partial Y}{\partial m_{p4}} &= 0.18[(Q - 99m_{p4}/(582409-900m_{p4})^{0.5}) \]
+ (99m_{p4}/(582409-900m_{p4})^{0.5}) t_e(x/d_4) + \quad (99m_{p4}/(582409-900m_{p4})^{0.5}) t_e(x/d_3) \]
+ \quad 2.5*0.5A^{-1.25} (p_2+t_m d_2^{0.5} (p_1+t_m d_1)^{0.5} Q^{0.25}) - \]
\[
0.18[-Q-99(600-Q))/(582409-900*mp)^{0.5} +
+(0.7425(2+Q)^2)/(582409-900*mp)^{0.5} +
(21.78Q)/(582409-900*mp)^{0.5} +
+(0.3267(2+Q)*(-206+(582409-900*mp4)^{0.5})/(582409-900*mp4)^{0.5} +
+99mp/(582409-900mp4)^{0.5}])=0. 
\]

(14c)

The calculation result derived from the Gradient dynamics using equation (14a, b, and c) shows the figure illustrated in Figure 2. Figure 2 indicates that the optimal transfer price is approximately 442, and although the optimal location of the factory 1 is not clearly specified, its best location can be belonging to the area where a chaotic phenomenon appears.

Figure 2 shows the following interesting thing: Since a chaos phenomenon arises in the surrounding area of point M₁, the firm cannot know the optimal located point of the factory 1 even in the first stage of the location planning. Hence, what the firm can do in this planning phase is to set up the location expected area near point M₁ and decides that the transfer price is about 442. Because the optimal location of the factory 1 belongs to the area where a chaotic phenomenon appears, the firm’s profits do not decrease from the maximum level when the firm locates the factory in the location expected area. If the factory locates in the location expected area near point M₁, price of goods and quantity of production and profits are derived, they are shown in the 1st row of Table 1. In the 1st row of Table 1 tax revenue of each country are indicated. In the assumed situation in this analysis, tax revenue of home country is much higher than that of foreign country. The next step the firm will take is to select a country in the location expected area which may be called as a prospective area³.

Figure 2  The optimal transfer price and location expected area

³ The chaos and chaotic phenomenon in location determination are analyzed Puu (1998) and Ishikawa (2009).
Then, let us assume that the corporation tax rates of the two countries are reduced to 0.27, \( t = t^* = 0.27 \). In this situation, in order to derive the location of factory 1 and firm’s profits, production volume, the same techniques can be applied. The prospective area in this case appears at the same sphere that was shown Figure 2. Then, the transfer price and factory’s location are the same. Therefore, the price of goods and production volume are also remained at the same level. While the firm’s profits are increased due to the tax reduction, the tax revenues of the two counties decrease. These results are indicated in the third row in Table 1. It is interesting that if there is no difference in the tax rates of both countries, the reduction of the tax rates of both countries does not change the transfer price level.

| Table 1 Changes of price, production quantity and profits of the firm by reduction of tax rates |
|---------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Location   | \( t = t^* = 0.82 \) | \( t = t^* = 0.82 \) | \( t = t^* = 0.27 \) | \( t = t^* = 0.27 \) |
| Location (3, -0.5) | (0, 1) | (3, -0.5) | (0, 1) |
| Transfer price | 442 | 442 | 442 | 442 |
| Price p | 551 | 551 | 551 | 551 |
| Quantity Q | 49 | 49 | 49 | 49 |
3 **Effects of corporation tax and agglomeration economies on factory’s location**

(1) **Locational influence of agglomeration economy**

Let us assume that if the production processes 1 and 2 coexist at the market, a certain agglomeration economy arises. By this economy the fixed cost $F_1$ of the factory 1 are reduced. And the tax rates of the two countries are assumed to be 0.82. Under these assumptions, the amount of a fall of the fixed cost to be needed to for the two factories to locate at the market is analyzed.

In the case in which the factory 1 locates at point $M_1$, the firm’s transfer price, price of the goods, and the quantity of production are shown by the 1st row of Table 1. When keeping these values the same, and shifting the factory 1 to a market place $(0, 1)$, the total profits of the firm become 3296 as shown in the second row of Table 1. This shifting the factory to the market reduces the profits by 12. It is, thus, inferred that if the fixed costs $F_1$ decreases by 152 due to the agglomeration economy, the factories 1 and 2 will coexist at a market. On the contrary, if accumulation economy does not reduce the fixed costs by 152, two factories are located in the home country and a foreign country, respectively.

Then, it is supposed that the tax rates of the two countries are reduced to 0.27. In this case, the firm’s transfer price, price of the goods, and the quantity of production are shown by the third row of Table 1. When keeping these values the same, and shifting the factory 1 to a market place $(0, 1)$, the total profits of the firm decrease from 13415 to 13370, as shown in the fourth row of Table 1. The shifting the factory 1 to the market reduces the profits by 45. Thus, if the fixed costs $F_1$ decreases by 153 by agglomeration economy, the factories 1 and 2 will coexist at the market. It can be said that even if the corporation tax rates become low, the power of agglomeration economy to attract factory to a place remains almost same level.

(2) **The influence of the reduction tax rates in home country to firm’s profits and tax revenues**

Corporation tax rates of the two countries are changed as follows: the corporation tax rate of the home country is 0.7, $t= 0.70$ and that of the foreign country is 0.82, $t^*= 0.82$. The transfer price and location in this case can be derived by the same technique as the former. Figure 3 shows that the location expected area is setup at near point $M_1$ and the transfer price is determined about 417.

---

<table>
<thead>
<tr>
<th>Profits $Y$</th>
<th>3308</th>
<th>3296</th>
<th>13417</th>
<th>13370</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profits $Y_1$</td>
<td>2969</td>
<td>2957</td>
<td>12040</td>
<td>11993</td>
</tr>
<tr>
<td>Profits $Y_2$</td>
<td>339</td>
<td>339</td>
<td>1377</td>
<td>1377</td>
</tr>
<tr>
<td>Tax revenue $T_1$</td>
<td>13525</td>
<td>0</td>
<td>4453</td>
<td>0</td>
</tr>
<tr>
<td>Tax revenue $T_2$</td>
<td>1544</td>
<td>15015</td>
<td>509</td>
<td>4945</td>
</tr>
</tbody>
</table>

---

Figure 3  Influence of the reduction of tax rate on the transfer price

Table 2 Change of the firm’s profits due to the reduction of tax rate

<table>
<thead>
<tr>
<th>Location</th>
<th>t=0.70, t*=0.82</th>
<th>t=0.15, t*=0.27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer price</td>
<td>417</td>
<td>434</td>
</tr>
<tr>
<td>Price p</td>
<td>545</td>
<td>549</td>
</tr>
<tr>
<td>Quantity Q</td>
<td>55</td>
<td>51</td>
</tr>
<tr>
<td>Profits Y</td>
<td>5869</td>
<td>16009</td>
</tr>
<tr>
<td>Profit Y₁</td>
<td>5293</td>
<td>14337</td>
</tr>
<tr>
<td>Profit Y₂</td>
<td>576</td>
<td>1672</td>
</tr>
<tr>
<td>Tax revenue T₁</td>
<td>12350</td>
<td>2530</td>
</tr>
<tr>
<td>Tax revenue T₂</td>
<td>2624</td>
<td>618</td>
</tr>
</tbody>
</table>

The firm’s total profits and production quantity are shown by the first row of Table 2. It is known from comparison of the first rows in Table 1 and 2 that although the decline in the corporation tax rate of the home country does not change the location expected areas, it makes the profits and the quantity of production of a firm increase, and it makes a transfer price and a product price decrease.

It would be inferred that if the corporation tax rate of the home country becomes lower than that of the foreign country, the transfer price becomes higher. In this situation, however, the transfer price charged by the factory 1 decreases. It is very interesting fact for the analysis of the transfer pricing.
Referring to the tax revenue of each country when the tax rate of the home country reduces from 0.82 to 0.70, the tax revenue of the home country $T_1$ is decreased from 13525 to 12350 and that of the foreign country of the tax revenues $T_2$ is increased from 1544 to 2624. It is also interesting that the reduction of the corporation tax rate of the home increases tax revenues of the foreign country.

Then, let us assume that the corporation tax rate of the home country is 0.15, $t=0.15$ and that of the foreign country is 0.27, $t^*=0.27$. In this case, the transfer price and location can be derived by the same methods. The chaotic phenomenon emerges at higher sphere than that was shown in Figure 3. Thus, the firm's location is determined around the point $M_1$, the transfer price is determined at 434. The price and quantity of goods, the profit of firm, and revenues of the countries are listed in the second row in Table 2.

By comparison of Table 1 and Table 2, it is known that 1) As far as the corporation tax rates are the same between two countries, the transfer price does not change even if the corporation tax rates change. That is, the transfer price varies when the corporation tax rates are different between countries. 2) The corporation tax rate of the home country reduces, the tax revenues of the foreign country increases through the working of the transfer price.

(3) New location factors in a prospective area

This subsection explains the locational meanings of chaotic phenomenon shown in Figure 2, 3: The phenomenon can be interpreted as follow: If the firm decides the location of the factory and price of the intermediate goods in the range of the chaotic phenomenon, the firm's profits may not so decrease from the maximum level because the optimal solution is contained in this sphere. It can be, therefore, considered that the range indicates a prospective area for a possible factory's location. The firm can determine the search area in a large location space into a small range for the factory's location; they can reduce significantly the searching costs. Chaotic phenomena may provide the firm with useful information, especially in the case firms do not have adequate information about several countries and many regions in a large space.

It is also considered that even if the firm could identify the optimal site for the factory, it may not establish a factory at that site by some reasons. For instance, the place has been occupied by another firm, or land is too weak to build a factory. In this case, the firm has to search the second best sites around the optimal place. In this searching, chaotic phenomenon can be used for squeezing the spatial range to be searched. The firm can easily find out the second best sites around the best point in a relatively short period. Chaotic phenomena is useful for alleviating the firms' location problem.

The prospective area generates new location factors to firms: When a firm decides the factory's location in the prospective area, the firm becomes to consider the location issue in a broader perspective. Besides the tax rates and industrial feature of each country, the firm can incorporation
many location factors such as education, culture, housing, safety, and welfare in the area into its decision-making. Considering of the locational effects of these new location factors, the firm decides the location of factory in the prospective area. That is, new location factors such as education, culture, housing, safety, and welfare play important role in the determination of factory’s site in the prospective area.

4 Summary and conclusions

Responding to the decreasing transportation costs, the production and sales activity of the firms enlarge to cover the whole world. The production lines of firms are fragmented into small processes, and these processes are scattered across countries’ borders. All factories of a firm are connected by each other to produce the finished goods which are sold at the markets in the whole world. Every factory sets the transfer price of its manufactured goods when they are conveyed to the next factories. By this price, the profits of the factory and the firm are calculated. And then, on the basis of the obtained profits, the government charges the tax on the factory. Since the level of the transfer price important for the firms and the governments, they play attention to the transfer pricing: When a firm selects the country in which its factory locates, it checks the country’s tax rates and adjusts the level of transfer price to maximize the profits. While, in order to attract factories to the country the government charges the tax on the factories considering the freight rates in the country which are affected by its social infrastructure. If a government fails to appropriately charge the tax rates of the factories, many of the factories leave the country so that the government loses the tax revenues from the manufacturing industry.

Although in these days the freight rates of various goods reduce greatly, the logistic costs including information and insurance costs cannot be negligible in manufacturing industry. For many international manufacturing firms the transportation costs of intermediate goods are still important location factor to their factories as well as the country’s tax rates. This paper, combining the transfer price with the countries’ tax rates and the freight rates, analyses the transfer price and the location of a divided factory of a transnational firm.

The results derived the analysis are summarized as follows: 1) In the early stage of location determination process, the factory’s location is not easily specified. But the prospective area can be set in which the factory’s location is allowed in terms of the profits level. 2) Government’s lowering tax rates has a certain influence to attract and retain factories in the country. 3) Based on this analysis, when the corporation tax rate of a country becomes lower than that of the foreign country, the transfer price becomes lower. 4) As far as the tax rates are the same between countries, the power of agglomeration economy to attract factory to a place remains the same level.

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