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Theoretical Modeling of the Impact of Political Ties on China's Economic Expansion

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ABSTRACT

Until recently, attracting FDI was officially a key priority of Chinese economic policy, but there has been a gradual shift in the focus on outward foreign direct investment (OFDI) from China. China's OFDI is characterized by several features, due to the specifics of the economic model of this country. Thus, the economic expansion of China and other emerging countries requires the development of a new theoretical model that would analyze the characteristics of foreign direct investment in a specific financial and institutional environment. The theoretical model was developed based on the study of Helpman (2004) focused on the influence of enterprise political relations on OFDI decisions and the relationship between political relations and productivity in management decisions. Several hypotheses follow from the theory: (a) the thresholds for political ties and productivity required for FDI increase as the recipient country's investment climate deteriorates; (b) the growth of political ties and productivity growth increases the likelihood of OFDI.

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1. Introduction

Since China launched reforms and the openness policy in 1979, the country has undergone a gradual process of economic change that has led to a significant transformation of the domestic economy changing the lives of its residents while making it an extremely influential player in the world economy. Until recently, attracting FDI was officially a key priority of Chinese economic policy, but there has been a gradual shift in the focus on outward foreign direct investment (FDI) from China. China's economic expansion is characterized by several features, due to the specifics of the economic model of this country. To understand and theoretically substantiate the phenomenon of China's economic expansion, you should take into account the specific relationships that have developed in the Chinese economy, namely the impact of state regulation on enterprises regarding the volume and direction of international economic expansion, in particular regarding FDI. This influence is carried not only through administrative regulation or economic policy instruments but also through such a China-specific channel as the merging of authorities and business.

Thus, the economic expansion of China and other emerging countries requires the development of a new theoretical model that would analyze the characteristics of foreign direct investment in a specific financial and institutional environment.

2. Literature Review

The available empirical evidence proves that political connections play an important role in the company's activities. Some researchers, including Roberts (1990), and Fisman (2001) use the event study approach and show that the weight of political ties can be displayed through the reaction of the stock exchange to unpredictable political events. Other researchers, such as H. Li et al. (2006) found that political connections positively reflected the performance of the company, such as profitability and sales growth.

Some studies focus on measuring political relationships and examining how a company's stock prices respond to external shocks or unforeseen events. Johnson and Mitton (2003) proved that political connections might affect the expected future value of a Malaysian enterprise under the conditions of capital controls and financial crisis (1997-1998). Fisman (2001) studied how the Indonesian stock price of the company responded to rumors about the health of President Suharto and found that the market value of the company depends heavily on its political connections. In general, empirical studies show that political connections are important for the company, not only in developing countries, with weak institutions but also in developed countries such as the UK (Faccio et al., 2006) and the US (Roberts, 1990; Goldman et al., 2009). Even in countries like the United States, strong political ties can help a company to obtain preferential terms from the government. Roberts (1990) investigated the change in value stocks of US companies that were considered close to Senator Henry Jackson and firms that were close to his successor. He found that the senator's sudden death significantly

lowered the market value of companies close to him, while the value of companies close to his successor increased significantly. Goldman et al. (2009) studied the reaction of stock prices of US companies on the announcement of the appointment as director of a person with political experience and found a positive relationship. In addition, when the Republicans won the presidential election, the stock of companies close to the party rose, while the stock of companies close to the Democratic Party fell.

3. Methodology

The model of Helpman et al. (2004) was one of the first to take into account the heterogeneity of enterprises in specifying the determinants of FDI. With the help of this model, we will try to reflect the features of enterprises from developing countries with underdeveloped capital markets. To this end, the model includes restrictions on the liquidity of the enterprise, as well as reflects another aspect of the heterogeneity of enterprises through the introduction of the indicator of political ties. Political ties, as an internal asset of a firm, can weaken the liquidity constraints, and therefore, there are differences between enterprises in the level of liquidity constraints. Then it is necessary to analyze the interaction of the indicator of political ties of the enterprise with the differences in the productivity of enterprises and to investigate their impact on FDI.

4. Analysis

Suppose there are N countries in the world and the only factor of production used in all countries is labor. According to the terms of the model, the existence of symmetry between countries is assumed, so in our analysis, we will focus on the domestic market of country 1. Employment in the domestic country – L, wages – w. No indices are used for the domestic country; the index f is used for the foreign country.

Each country has two sectors of the economy. Sector 1 is perfectly competitive and produces a homogeneous product (commodity 1), which is trading with no restrictions. The homogeneous product of Sector 1 is used as the price scale in the model. The technology of production of commodity 1 has a constant return on a scale and the salary in the country is equal to the amount of commodity produced by one unit of labor. In Sector 2, there is monopolistic competition and several differentiated goods v are produced. Each enterprise (s) in sector 2 produces one variety (v_i) of differentiated goods 2 and faces a downward demand curve in each country.

Let's focus on the sector with monopolistic competition. The enterprises of sector 2 differ in two indicators, represented by two random variables ϕ and θ. First, enterprises have different levels of political ties ϕ, which is determined by the integral distribution function $Z(\phi)$. The value ϕ is set when the company appears on the market. Second, enterprises differ in production efficiency, which is denoted by productivity θ and measured after the firm enters the market.

Defining the costs is crucial for this model. Potentially there are four types of fixed costs for companies from Sector 2, which include the initial costs of entry f_P , internal fixed overhead costs f_B , additional fixed costs for export f_E , and additional fixed costs for foreign investment f_I. For simplicity, let's assume that all these fixed costs f_P , f_B, f_E, f_I

are the same for all companies entering the market, exporting, or investing in the same foreign country.

The initial costs of entry f_P include all investments needed to start a business – such as the purchase of equipment and property, R&D – measured in units of labor. After the company incurs the initial costs, it receives a level of its productivity θ_i, which is randomly selected from the integral distribution function $F(\theta)$. Heterogeneity of productivity means different variable costs per unit of output in enterprises. It is assumed that θ_i does not change with the level of production or the location of production.

After determining the level of productivity of the enterprise i, it decides whether to stay in the market or leave. If the company remains in the market, it pays fixed overheads f_B for the entire period of its activity. In addition to domestic production, the company may also decide to enter one or more foreign markets through exports or foreign investment. To do this the company must attract additional cash flow, as there are two types of additional fixed costs associated with foreign economic activity. Fixed costs for export to some foreign country - f_E. These mainly include the cost of foreign distribution and network maintenance and the cost of adapting the product to the requirements of the foreign market. On the other hand, the company may decide to make foreign direct investment and serve the market of a foreign country by establishing a subsidiary in it. Additional FDI costs - f_I - include large-scale investments to open a plant abroad and overhead fixed costs, as well as for domestic production.

In the numerous empirical and theoretical types of research such as Chaney (2013); Hericourt and Poncet (2007); Manova (2013), additional fixed costs of servicing foreign markets along with underdeveloped domestic capital markets restrict the ability of some companies to export products or invest in foreign countries, even if it is profitable.

This feature is reflected in the model by introducing liquidity constraints while maximizing the company's profits. We assume that after determining the level of productivity, companies first decide to stay in the market and maximize their profits in the domestic market at a given demand curve for their product. The company then decides to export its product or invest in foreign countries, depending on the potential profit with given liquidity constraints. Note that for simplification, this model does not take into account motives for foreign investment other than profit maximization.

We also assume that not all companies have enough funds for internal financing of fixed costs, while all variable costs are covered by business operations. This assumption can be replaced by a reflection in the model of heterogeneous dependence on external financing, but this will greatly complicate the model, while not being the scope of our study. Thus, we assume that all firms in the domestic country suffer from liquidity constraints in production in the domestic market, in exports, or FDI.

These liquidity constraints arise from the previously fixed costs f_P , f_B, f_E, f_I that the company at first cannot cover from its internal cash flows, but can cover after receiving an income in the domestic or foreign markets. We base on the model of Helpman, whereby enterprise solutions in each period are independent and the loan of external resources are paid at the end of each period. Therefore, companies borrow funds from

external sources to finance f_P , f_B, f_E, f_I and at the end of each period pay the primary loan and interests to its creditors.

We assume that political ties are exogenous and affect the net interest rate paid by enterprises. The possibility that a company purposefully increases its political ties to obtain a lower interest rate is not considered in this model.

When an enterprise is forced to seek external financing, in the case of developing countries, it turns to domestic financial institutions. Political ties play an important role in attracting financing from domestic creditors. As we have seen in many pieces of research (Khwaja and Mian, 2005; Mian and Khwaja, 2008; Claessens et al., 2008; Charumilind et al., 2006), political ties weaken liquidity constraints by lowering interest rates and gaining easier access to funds. According to several empirical studies, companies from developing countries rely mainly on domestic financing and are less likely to borrow abroad for two main reasons. First, they generally have a low credit rating and lack experience in obtaining foreign loans. Second, due to the underdevelopment of the financial market and weak institutions in their countries, it is difficult for foreign creditors to enforce contracts with companies in developing countries.

To reflect this characteristic in the model, we include the indicator $g(\phi)$, which means the advantages of proximity to authorities under conditions of limited liquidity. Thus, the net interest rate that the company pays for external financing is equal to $r - g(\phi)$, where r is the market interest rate on loans to enterprises in the domestic economy.

The heterogeneity of political relations of enterprises leads to different costs of funding from external sources when the company lacks internal working capital. The model is abstracted from those cases when the company has enough internal funds to finance foreign investment.

Suppose that $g(\phi)$ is a monotonically increasing concave function from political relations ϕ, where $g'(\phi) > 0$, $g''(\phi) < 0$ and $g(\phi) \to r$, $\phi \to \infty$. Accordingly, $g(\phi)$ represents the benefit of political ties and acts as a reduction in the interest rate that the company pays for external loans. When the political ties of the enterprise are extremely strong, i.e. it is very close to the government, the enterprise can attract funding almost free of charge, i.e. $g(\phi)$ is equal to the interest rate r. The lower limit $g(\phi)$ depends on the level of development of the domestic financial market. In extremis, when the domestic economy is characterized by extremely weak financial market development and imperfect institutions, companies without ties to the government will be forced to pay a rate higher than the market, in other words, $g(\phi) \to \underline{g}^c$, $\phi \to 0$, where the lower limit $\underline{g}^c$ for this country will fluctuate in the interval $[-\infty; 0]$ and depends on the development of the financial market and the quality of the institutional environment of the country c. The more developed the financial market and institutional environment in the country, the higher is $\underline{g}^c$.

Accordingly, even if an enterprise without political ties finds exports or FDI potentially attractive, the inability to finance additional fixed costs at its own expense and the high cost of external financing may hinder the company's entry into foreign markets. For every dollar of investment that the company should make, you will need to

pay $1+ r – g(\phi)$. Denote this expression as $G(\phi) = 1+ r – g(\phi)$, then $G'(\phi) < 0$, $G''(\phi) > 0$ and $G(\phi) \to 1$, $\phi \to \infty$. $G(\phi)$ is the amount of money that a firm must repay from each dollar borrowed, so fixed costs multiplied by $G(\phi)$ represent the total cost of the required investment, taking into account the cost of raising financing.

There is a high probability that political ties will be more important in financing domestic business than in export or FDI, and the impact of political ties will depend on how to enter foreign markets. Therefore, a set of coefficients η, μ, ρ for domestic production, exports, and FDI was used to reflect the differences in the influence of political ties. All coefficients η, μ, ρ are greater than zero and less than or equal to one. These coefficients of influence are factors up to $G(\phi)$, respectively, the smaller the coefficient, the more significant the political ties for the enterprise. In this case, η, according to our assumptions, is less than μ and ρ.

As a result, companies face different levels of liquidity constraints at different levels of proximity to the government. It is assumed that no enterprise has enough domestic funds to cover fixed costs for domestic production, exports, or FDI. Thus, all companies face liquidity constraints, regardless of whether they operate only in the domestic market or go abroad. Given the underdeveloped financial market and weak institutions in the home country, differences in political ties determine the degree of financial constraints.

As in Helpman's model, it is assumed that consumers have the same tastes with a common utility function in any country:

$$U = x^{1-a}\left(\int_{v=1}^{n} y(v)^{\gamma} dv\right)^{\frac{a}{\gamma}}$$

where x is the consumption of homogeneous goods produced in sector 1, and $y(v)$ is the consumption of differentiated goods produced in sector 2 in n varieties.

As in the standard model of monopolistic competition, tastes for commodity varieties have a constant elasticity of substitution (CES), with the elasticity of substitution equal to σ, where $\sigma = \frac{1}{1-\gamma} > 1$. The share of income spent on homogeneous goods is exogenously defined as $1– a$, i.e., a is the share of income spent on differentiated goods of sector 2.

If the tastes are the same and homogeneous, then the demand in each country is homogeneous, i.e. the relative consumer demand depends only on relative prices, not on the level of income. Accordingly, in each country, the prices are the same and there is a demand for the same number of products.

Thus, the demand for varieties v can be derived by solving a typical equation for maximizing consumer utility.

First, we linearize the utility function and define $V = \log(U)$ as a utility measure, then the transformed utility function will look like this:

$$V = (1 - a) \cdot \log x + \frac{a}{\gamma} \cdot \log\left(\int_{v=1}^{n} y(v)^{\gamma} dv\right)$$

The consumer maximizes *V* according to the budget constraint $p_x \cdot x + \int_{v=1}^{n_c} p(v) \cdot y(v)dv \leq E$, where p_x is the price of the product of sector 1, and *p(v)* is the price of varieties *v*, *n* is the number of varieties available in this country, *E* is the total expenditures of the country.

The division of first-order conditions concerning two varieties v_i and v_j gives $\frac{y(v_i)}{y(v_j)} = \left(\frac{p(v_i)}{p(v_j)}\right)^{-\sigma}$,what is equivalent to $\frac{p(v_i)\cdot y(v_i)}{p(v_j)\cdot y(v_j)} = \left(\frac{p(v_i)}{p(v_j)}\right)^{1-\sigma}$ for any *i* and *j*. Taking the inverse function from the above equation and summing by *j*, we obtain the demand for the variety *i*:

$$y(v_i) = \frac{\int_{v=1}^{n} p(v) \cdot y(v)dv}{\int_{v=1}^{n} p(v)^{1-\sigma}dv} \cdot p_{v_i}^{-\sigma}$$

Since the share of income spent on the set of differentiated goods of sector 2 is exogenously given by the utility function as *a*, then $\int_{v=1}^{n} p(v) \cdot y(v)dv = a \cdot E$. Now the ratio $\frac{a \cdot E}{\int_{v=1}^{n} p(v)^{1-\sigma}dv}$ is denoted as *B*. Accordingly, the individual producer in sector 2 considers *B* given, which simplifies the demand formula for varieties *v* in a given country to $y(v) = B \cdot p(v)^{-\sigma}$, where σ> 1 is the elasticity of substitution of varieties of goods.

Now, on the stated theoretical bases, it is possible to define the prices and volumes of manufacture at which profit is maximized, to define potential profits and decisions of firms concerning manufacture.

For any enterprise *i* in sector 2 maximization of its domestic profit $\pi_B = p(v_i)y(v_i) - \frac{y(v_i)\cdot w}{\theta_i} - \eta f_B G(\phi)$, provided that the market demand for its brand is $y(v_i) = B \cdot p(v_i)^{-\sigma}$. The price of profit maximization is $p_B^* = \frac{w}{\theta_i} \cdot \frac{1}{\gamma}$, and the volume of production while profit maximization is $y_B^* = B\left(\frac{w}{\theta}\right)^{-\sigma} \gamma^{\sigma}$. Therefore, at the equilibrium point of domestic profit of the enterprise *i* is:

$$\pi_B = A\theta_i^{\sigma-1} - \eta f_B G(\phi), \text{ where } A = B(w)^{1-\sigma}\frac{1-\gamma}{\gamma^{1-\sigma}}. \quad (1)$$

Enterprise *i* may decide to export their products to get more revenue. Assume that trade costs in foreign trade take the form of "iceberg" transport costs, when τ > 1, in other words, to export a unit of product to a foreign country, the company ships *τ* units from their country and *τ*-1 units go to pay for transportation. The longer the distance between countries, the greater the value of *τ* is. Since we have assumed the same structure of markets in all countries, the demand for goods in a foreign country is determined by the same principle as domestic demand. Profit from exports for the enterprise *i* is $\pi_E = p(v_i)y(v_i) - \frac{\tau w}{\theta_i} y(v_i) - \mu f_E G(\phi)$. Demand in the foreign market for the products of the enterprise *i* is $y(v_i) = B^f \cdot p(v_i)^{-\sigma}$, where the index *f* denotes the foreign market. Accordingly, the export price while maximizing profits will be equal

$p_E^* = \frac{\tau w}{\theta_i} \cdot \frac{1}{\gamma}$, and the volume of production for export while maximizing profits is $y_E^* = B^f \left(\frac{\tau w}{\theta_i}\right)^{-\sigma} \gamma^\sigma$. At the equilibrium point, the potential additional profit from exports for the enterprise and is expressed by the formula

$\pi_E^* = A^f \tau^{1-\sigma} \theta^{\sigma-1} - \mu f_E G(\phi)$, where $A^f = B^f (w)^{1-\sigma} \frac{1-\gamma}{\gamma^{1-\sigma}}$. (2)

An alternative way of entering foreign markets is the FDI, which entails constant expenditure f_I. f_I, as a rule, are higher than f_E, as they include not only the costs of setting up the distribution and service network but also a large amount of initial investment in new production abroad. As mentioned above, political ties help a company to loosen liquidity constraints. Accordingly, the profit potential of FDI for the company *i* will be $\pi_I = p(v_i) y(v_i) - \frac{w^f}{\theta_i} y(v_i) - \rho f_I G(\phi)$, where we assume that the company *i* abroad maintains the same level of productivity and the index *f* denotes wages in foreign countries.

Faced with foreign demand $y(v_i) = B^f \cdot p(v_i)^{-\sigma}$, the company maximizes return on FDI at the equilibrium price $p_I^* = \frac{w^f}{\theta_i} \cdot \frac{1}{\gamma}$. We anticipate that production abroad aimed only at foreign markets and not sent back to the mother country. Then the additional profit from production abroad will be equal to:

$\pi_I^* = A^{f\prime} \theta^{\sigma-1} - \rho f_I G(\phi)$, where $A^{f\prime} = B^f (w^f)^{1-\sigma} \frac{1-\gamma}{\gamma^{1-\sigma}}$. (3)

Enterprise decisions on production are based on potential profits, expressed through performance, political connections, various types of fixed costs, and other characteristics of the country, given in Equations (1), (2), and (3). If the figure π_{B}^* is not negative, the firm will continue to produce domestically; otherwise, it will stop production and exit the market. Next, if π_{E}^* is not negative and greater than π_{I}^*, the company will export its products, but if π_{E}^* is less than zero, the company will sell its products only in the domestic market. If π_{I}^* greater than π_{E}^* and not negative, the company invests in foreign countries to get more extra profit. Accordingly, the conditions for domestic production, exports, and FDI can be expressed through several variables that depend on a particular country and a particular enterprise, based on the equilibrium profit in Equations (1), (2), and (3). Assuming that the level of demand in all countries is the same, a homogeneous good is produced by a single technology and there is freedom of trade, the level of wages in different countries is equalized, and therefore, $A = A^f = A^{f'}$.

For domestic production to exist: $\pi_{\text{B}} = A\theta_I^{\sigma-1} - \eta f_B G(\phi) \geq 0$. For enterprise *i* to export its product: $\pi_E^* = A\tau^{1-\sigma}\theta^{\sigma-1} - \mu f_E G(\phi) \geq 0$ and $\pi_E^* > \pi_I^*$. For enterprise *i* to invest abroad in addition to domestic production: $\pi_I^* = A\theta^{\sigma-1} - \rho f_I G(\phi)$ and $\pi_I^* > \pi_E^*$.

The above conditions determine the individual choice of the enterprise. Recall that σ is the elasticity of substitution that is greater than 1, respectively, $\theta^{\sigma-1}$ increases

productivity and can act as a productivity index. The higher the index $\theta^{\sigma-1}$, the higher the productivity of the enterprise is. $G(\phi)$ is greater than 1 and, as ϕ approaches perpetuity, $G(\phi)$ approaches 1. Then, following the above conditions of production, the market structure of sector 2 in the form of monopolistic competition can be described as follows[1]:

The company leaves the market if it is the least efficient, i.e. $\theta^{\sigma-1} < \frac{\eta f_B G(\phi)}{A}$.

An enterprise produces and sells only in the domestic market if its productivity satisfies inequality:

$$\frac{\eta f_B G(\phi)}{A} \leq \theta^{\sigma-1} < \frac{\mu f_E G(\phi)}{A\tau^{1-\sigma}}$$

The company produces and sells in the domestic market and also exports products abroad when

$$\frac{\mu f_E G(\phi)}{A\tau^{1-\sigma}} \leq \theta^{\sigma-1} < \frac{(\rho f_I - \mu f_E)G(\phi)}{A - A\tau^{1-\sigma}}$$

Finally, the company prefers FDI rather than export when:

$$\theta^{\sigma-1} \geq \frac{(\rho f_I - \mu f_E)G(\phi)}{A - A\tau^{1-\sigma}}$$

Obviously, under other stable conditions, the least efficient enterprises with the lowest level of productivity cannot make a profit and are therefore forced to leave the market. The most efficient enterprises with the highest level of productivity will carry out FDI, along with domestic production, and receive the highest profit. For firms with average productivity, there is an additional export limit. Firms with productivity below this limit operate only on the domestic market, and firms with productivity above this limit export their product and receive additional profit.

Thus, we can define three marginal levels of productivity θ_B, θ_E, θ_I as functions of political ties and other characteristics. θ_B is the value of productivity at which the profit on the domestic market is equal to zero, respectively, enterprises with political ties ϕ and productivity lower than θ_B leave the market. θ_E is the level of productivity at which the profit from exports is zero, and θ_I is the level of productivity at which the profit from exports and the profit from FDI are equal at a given value of political ties. Thus, the threshold levels of productivity for domestic production, exports and FDI for an enterprise with political ties ϕ are θ_B, θ_E, θ_I, respectively, and they are all functions of political ties ϕ.

$$\theta_B^{\sigma-1} = \frac{\eta f_B G(\phi)}{A} \quad (4)$$

$$\theta_E^{\sigma-1} = \frac{\mu f_E G(\phi)}{A\tau^{1-\sigma}} \quad (5)$$

$$\theta_I^{\sigma-1} = \frac{(\rho f_I - \mu f_E)G(\phi)}{A - A\tau^{1-\sigma}} \quad (6)$$

1. Given the assumption of symmetry between the economy, to meet the three conditions sufficient are $\eta fB < \mu fE\ \tau\sigma - 1 < \rho fI$.

It follows from the above that an enterprise with political ties ϕ and productivity in the interval between θ_B and θ_E produces goods only for the domestic market; an enterprise with political ties ϕ and productivity in the interval between θ_E and θ_I exports its products in addition to domestic production; an enterprise with political ties ϕ and productivity higher than θ_I in addition to domestic production still makes a foreign investment.

To build a model of general equilibrium and derive verifiable assumptions, trade expenditures τ must be considered symmetric, i.e. the same, between any two countries. To simplify, recall the assumption that political ties do not affect input costs, in addition, the integral functions of the distribution of political ties and productivity - $Z(\phi)$ and $F(\theta)$- are assumed to be independent of each other. Thus, it is possible to derive the condition of free entry into the market for an enterprise with political ties ϕ, which requires that the expected profit is equal to the input costs.

$$f_{\Pi} = \int_{\theta_B}^{\infty} (A\theta^{\sigma-1} - \eta G(\phi) f_B) dF(\theta) + (N - 1) \left\{ \int_{\theta_E}^{\theta_I} \left[A \left(\frac{\theta}{\tau} \right)^{\sigma-1} - \mu G(\phi) f_E \right] dF(\theta) + \int_{\theta_I}^{\infty} (A\theta_I^{\sigma-1} - \rho G(\phi) f_I) dF(\theta) \right\}$$

Note that companies know about the level of their political ties ϕ before they pay the entry costs, respectively, in the above equation ϕ is considered constant. It will also be recalled that the company learns the value of its productivity after the payment of input costs; therefore, the profit in the right part of the equation is expressed as a forecast value. Potential profit is divided into the expected domestic profit with the productivity of the enterprise higher than θ_B with political ties equal ϕ, the expected profit from exports to *N-1* foreign countries, when productivity will be from θ_E to θ_I and the expected profit from FDI in *N-1* foreign country if productivity is higher than θ_I.

To further simplify the equation of the free entry condition for an enterprise with political ties ϕ , we denote $V(\theta) = \int_{\theta}^{\infty} x^{\sigma-1} dF(x)$. Since $F(\theta)$ is an integral function of productivity distribution and $\sigma > 1$, $V(\theta)$ can be interpreted as the average value of enterprise productivity within a given group.

Then the condition of free market entry for enterprises with political ties ϕ can be simplified in the following way.

$$f_{II} = AV(\theta_B) + \eta G(\phi) f_B F(\theta_B) - \eta G(\phi) f_B + (N-1) \{A\tau^{1-\sigma}[V(\theta_E) - V(\theta_I)] + AV(\theta_I) + (\rho f_I - \mu f_E) G(\phi) F(\theta_I) + \mu G(\phi) f_E F(\theta_E) - \rho G(\phi) f_I\}$$

Obviously, after assessing the significance of his political ties ϕ firm decides to enter the market and pay input costs only when they are covered with the expected profits. The right part of the equation is the expected profits from domestic production, exports, and FDI minus the corresponding costs.

Now, we integrate the above equation over political ties:

$$f_{\Pi} = \int_0^{\infty} \begin{Bmatrix} AV(\theta_B) + \eta G(\phi) f_B F(\theta_B) - \eta G(\phi) f_B \\ +(N-1)\{A\tau^{1-\sigma}[V(\theta_E) - V(\theta_I)] + AV(\theta_I) \\ +(\rho f_I - \mu f_E) G(\phi) F(\theta_I) + \mu G(\phi) f_E F(\theta_E) - \rho G(\phi) f_I\} \end{Bmatrix} dZ(\phi) \quad (7)$$

Accordingly, for such functions of distribution of political ties and productivity and functional form *G (ϕ)*, three types of fixed costs, three efficiency parameters η, μ, ρ, and coefficients τ and σ, we can derive A using Equation (4), (5), (6), and (7). Then you can find three productivity thresholds, i.e. θ_B, θ_E, θ_I, for a firm with political ties ϕ. An additional assumption should be made about the financial development of different countries so that *A* is the same in all countries, because, as noted, the upper limit of *G(ϕ)* when ϕ goes to zero depends on the financial development and quality of the institutional environment of each country. The higher the development of the financial market and institutions, the lower the limit *G(ϕ)* is, which reflects the net interest rate that the firm pays for external financing. Therefore, for simplicity, assume that the development of the financial market and institutions in all countries is the same.

Note that θ_B, θ_E, θ_I are functions of political ties, so they can be integrated over political ties ϕ to obtain the expected productivity thresholds in the country for given functions of distribution of political ties and values of other parameters. Let's define expected performance thresholds as θ_B^o, θ_E^o, θ_I^o, which are independent of political ties and set by *A* and other parameters defined by Equations (4), (5), (6), and (7).

The last step of building a model of general equilibrium is to determine the number of players in the market of each country. As noted, for each country *c* it is determined $B^c = \frac{a \cdot E^c}{\int_{v=1}^{n_c} p(v)^{1-\sigma} dv}$, where n_c is the number of differentiated goods available to consumers in country *c*, produced by domestic enterprises, imported from other countries, or produced by subsidiaries of foreign MNEs in country *c* ; *p(v)* is the equilibrium price for the set of varieties *v* (where it means the consolidated wage) and E^c is the total expenditure in the country *c*.

In equilibrium, the total costs equal total income, respectively, $E^c = L^c$ for every *c*, *c* = 1,2 ...*N*. It will also be recalled that $A = B^c \cdot (\overline{w})^{1-\sigma} \cdot \frac{1-\gamma}{\gamma^{1-\sigma}}$, where $\overline{w}$ is the country-wide wage determined by the productivity of sector 1 (which is used as the price scale in the model), and set exogenously. Therefore, since *A* is derived from the system of Equations (4), (5), (6), and (7), *B* can also be deduced from them, respectively, *B* is the same for all countries. The number of available varieties of differentiated goods n_c depends on the size of the country and the distribution of productivity and political ties.

Assuming that θ is independently and evenly distributed among enterprises, we obtain:

$$\int_{v=1}^{n_c} p(v)^{1-\sigma} dv = n_E^c \int_{\theta_B^o}^{\infty} B\left(\frac{\overline{w}}{\gamma\theta}\right)^{1-\sigma} dF(\theta) + \sum_{j \neq c} n_E^j \left[\int_{\theta_E^o}^{\theta_I^o} B\left(\frac{\tau\overline{w}}{\gamma\theta}\right)^{1-\sigma} dF(\theta) + \int_{\theta_I^o}^{\infty} B\left(\frac{\overline{w}}{\gamma\theta}\right)^{1-\sigma} dF(\theta)\right]$$

In this equation n_E^c is the number of domestic players in the market of country *c*, and n_E^j is the number of players from country *c* in the market of country *j*, and $j \neq c$. θ_B^o, θ_E^o and θ_I^o are the expected productivity thresholds for domestic production, exports, and FDI that are independent of political ties. The left part of the equation is the total cost of

a differentiated product in this country, and the right part is the disaggregated expected value of total revenue for a given independent and evenly distributed θ. The equation can be simplified to the following form:

$$\int_{v=1}^{n_c} p(v)^{1-\sigma} dv = B\left(\frac{\gamma}{\overline{w}}\right)^{\sigma-1} n_E^c \cdot V(\theta_B^o) + B\left(\frac{\gamma}{\overline{w}}\right)^{\sigma-1} \sum_{j \neq c} n_E^j \{V(\theta_I^o) + \tau^{1-\sigma}[V(\theta_E^o) - V(\theta_I^o)]\}$$

As noted, in the equilibrium the total soaring is equal to the total income and *a* is the share of income spent on the consumption of a differentiated product, i.e. $\int_{v=1}^{n_c} p(v)^{1-\sigma} dv = B\, aL^c$. For any country *c*, where *c* = 1,2…*N*, the above equation can be written as follows:

$$V(\theta_B^o) \cdot n_E^c + \sum_{j \neq c} n_E^j \{V(\theta_I^o) + \tau^{1-\sigma}[V(\theta_E^o) - V(\theta_I^o)]\} = \left(\frac{\overline{w}}{\gamma}\right)^{\sigma-1} \cdot aL^c$$

We denote the expression $V(\theta_I^o) + \tau^{1-\sigma}[V(\theta_E^o) - V(\theta_I^o)]$ as V_{IE}^o, and the expression $V(\theta_B^o)$ as V_B^o, then n_E^c, *c* = 1,2,… *N* are the solutions of a linear system.

$$\begin{bmatrix} V_B^o & V_{IE}^o & \cdots & V_{IE}^o \\ V_{IE}^o & V_B^o & \ddots & \vdots \\ \vdots & \ddots & \ddots & V_{IE}^o \\ V_{IE}^o & \cdots & V_{IE}^o & V_B^o \end{bmatrix} \cdot \begin{bmatrix} n_E^1 \\ n_E^2 \\ \vdots \\ n_E^N \end{bmatrix} = \left(\frac{\overline{w}}{\gamma}\right)^{\sigma-1} \cdot a \cdot \begin{bmatrix} L^1 \\ L^2 \\ \vdots \\ L^N \end{bmatrix}$$

Let $\begin{bmatrix} V_B^o & V_{IE}^o & \cdots & V_{IE}^o \\ V_{IE}^o & V_B^o & \ddots & \vdots \\ \vdots & \ddots & \ddots & V_{IE}^o \\ V_{IE}^o & \cdots & V_{IE}^o & V_B^o \end{bmatrix} = V_{N\times N}$, which is a square matrix.

Then the inverse matrix will be

$$V^{-1} = \frac{1}{(V_B^o - V_{IE}^o)[V_B^o + (N-1)V_{IE}^0]} \cdot \begin{bmatrix} V_B^o + (N-2)V_{IE}^o & -V_{IE}^o & \cdots & -V_{IE}^o \\ -V_{IE}^o & V_B^o + (N-2)V_{IE}^o & \ddots & \vdots \\ & \vdots & \ddots & \ddots & V_{IE}^o \\ -V_{IE}^o & \ldots & -V_{IE}^o & V_B^o + (N-2)V_{IE}^o \end{bmatrix}$$

As noted $V(\theta) = \int_\theta^\infty x^{\sigma-1} dF(x)$, so $V'(\theta) = -\theta^{\sigma-1} < 0$, and $V''(\theta) = -(\sigma-1)\,\theta^{\sigma-2} < 0$. Accordingly, $V(\theta)$ is descending and strictly concave. Then if $\theta_B^o < \theta_E^o < \theta_I^o$ for strictly concave function the terms $(1-\tau^{1-\sigma})V(\theta_I^o) + \tau^{1-\sigma}V(\theta_E^o) < V[(1-\tau^{1-\sigma})\theta_I^o + \tau^{1-\sigma}\theta_E^o] < V(\theta_B^o)$. should be adhered. Accordingly $V_B^o > V_{IE}^o$, so N × N matrix V is nondegenerate. So, the system has a single solution.

Hence, for any country *c*, the number of players in the market is equal.

$$n_E^c = \frac{a\overline{w}^{\sigma-1}}{(V_B^o - V_{IE}^o)[V_B^o + (N-1)V_{IE}^o] \cdot \gamma^{\sigma-1}} \cdot \left\{ [V_B^o + (N-2)V_{IE}^o] \cdot L^c - V_{IE}^o \cdot \sum_{j \neq c} L^j \right\}$$

Since $V_B^o > V_{IE}^o > 0$ i $0 < \gamma < 1$, $\overline{w} > 0$, a > 0, for the number of players in the country to be greater than zero, a condition $[V_B^o + (N-2)V_{IE}^o] \cdot L^c > V_{IE}^o \cdot \sum_{j \neq c} L^j$ has to be met which can also be expressed as $\frac{L^c}{\sum_{j \neq c} L^j} > \frac{V_{IE}^o}{V_B^o + (N-2)V_{IE}^o}$. The right side of the inequality is less than $\frac{1}{N-1}$, when the workload is the same, or approximate in all countries, this condition is met and all countries have their domestic enterprises.

From Equations (4), (5), and (6) it is possible to take derivatives on political ties of three threshold productivities (in an exponential form). Since $G(\phi)$ is supposed to be monotonically decreasing in political ties, the sign of all three derivatives will be uniquely negative.

$$\frac{\partial \theta_B^{\sigma-1}}{\partial \phi} = \frac{\eta f_B}{A} \cdot G'(\phi) < 0 \quad (8)$$

$$\frac{\partial \theta_E^{\sigma-1}}{\partial \phi} = \frac{\mu f_E \cdot \tau^{\sigma-1}}{A} \cdot G'(\phi) < 0 \quad (9)$$

$$\frac{\partial \theta_I^{\sigma-1}}{\partial \phi} = \frac{\rho f_I - \mu f_E}{A(1-\tau^{1-\sigma})} \cdot G'(\phi) < 0, \text{ as } \rho f_I > \mu f_E \text{ and } \tau > 1, \sigma > 1 \quad (10)$$

Thus, all three productivity thresholds are descending by political ties, which means that productivity and political ties work as complementary elements in their impact on the overall performance of the enterprise and decision-making on both domestic production and penetration. to foreign markets. An enterprise with good political connections remains in the market even if its productivity is lower than that of its competitors, while an enterprise with bad political connections in such a situation goes bankrupt. Similarly, a company close to the government will be more likely to export or invest in foreign countries than companies without political contacts.

In general, political ties improve the company's performance (measured by profits) both in the domestic market and abroad by increasing the company's productivity advantage. An enterprise close to the government makes more profit than other firms with the same level of productivity. Accordingly, for further empirical proof, the following statement can be made: companies with stronger political ties are more likely to invest in foreign countries.

Next, from Equation (6) we can deduce a few more statements about the differences in threshold performance in different countries. Equation (11) is a log-linearized form of Equation (6), where A can be an indicator of demand in a potential foreign market, τ is an indicator of trade costs, f_I is an indicator of input costs for FDI.

$$\ln \theta_I = \frac{1}{\sigma-1}\left[\ln\left(G(\phi)\right) + \ln(\rho f_I - \mu f_E) - \ln A - \ln(1-\tau^{1-\sigma})\right] \quad (11)$$

Based on Equation (11), we derive the following hypothesis: the productivity margin for FDI is declining in potential market demand of the recipient country, increasing in input costs for FDI in the host country, and declining in trading costs.

Moreover, if we define a specific functional form for the distribution of performance as offered by Chen and Moore (2010), we can expect that the distribution function for the performance of the MNEs in the countries with the worst investment climate (expressed in terms of lower market demand, higher entry costs or lower trading costs) will stochastically dominate the productivity distribution function in countries with a more favorable investment climate. Hence the hypothesis: companies with higher productivity are more likely to implement FDI and are more likely to invest in countries with poorer investment conditions, such as a small market, high market entry costs, and lower trading costs.

The hypothesis about the marginal value of political ties can be derived similarly to the previous case. The above analysis of the production decision showed that companies will prefer FDI to export if FDI profits are higher than export profits. This condition can be expressed as follows:

$$A\theta^{\sigma-1} - \rho f_I G(\phi) \geq A\tau^{\sigma-1}\theta^{\sigma-1} - \mu f_E G(\phi)$$

Accordingly, in FDI, the marginal value of political ties ϕ_I must satisfy the following equation:

$$G(\phi_I) = \frac{A\theta^{\sigma-1}(1-\tau^{1-\sigma})}{\rho f_I - \mu f_E} \quad (12)$$

Enterprise *i* chooses FDI rather than exports, if $G(\phi_i) \leq G(\phi_I)$, ceteris paribus. Recall that $G(\phi)$ drop-down for ϕ, therefore, a necessary condition for FDI is $\phi_i \geq \phi_I$.

Equation (12) allows us to derive another hypothesis. The derivative of the marginal value of political ties, taking into account the characteristics of the country is as follows:

$$\frac{\partial \phi_I}{\partial A} = \frac{\partial \phi_I}{\partial G(\phi_I)} \cdot \frac{\partial G(\phi_I)}{\partial A} = \frac{1}{G'(\phi_I)} \cdot \frac{\theta^{\sigma-1}(1-\tau^{1-\sigma})}{\rho f_I - \mu f_E} < 0$$

$$\frac{\partial \phi_I}{\partial f_I} = \frac{\partial \phi_I}{\partial G(\phi_I)} \cdot \frac{\partial G(\phi_I)}{\partial f_I} = \frac{1}{G'(\phi_I)} \cdot \frac{A\theta^{\sigma-1}(1-\tau^{1-\sigma})}{(\rho f_I - \mu f_E)^2} > 0$$

$$\frac{\partial \phi_I}{\partial \tau} = \frac{\partial \phi_I}{\partial G(\phi_I)} \cdot \frac{\partial G(\phi_I)}{\partial \tau} = \frac{1}{G'(\phi_I)} \cdot \frac{A\theta^{\sigma-1}\tau^{-\sigma}(\sigma-1)}{\rho f_I - \mu f_E} < 0$$

It should be noted that $\tau > 1$, $\sigma > 1$, and $1 - \tau^{1-\sigma} > 0$.

Based on the above inequalities, the hypothesis of the impact of country characteristics on the threshold of political ties is as follows: the threshold of political ties for FDI is declining in potential demand of the recipient country, increasing in terms of market entry costs, and declining in trade costs.

We now apply the comparative statics of the number of players in the market to analyze how the impact of political ties changes depending on the development of the financial sector in different countries. As noted by a given distribution and expected performance limiting values, the number of players on the market in country *c* is defined by a supply of labor. However, different countries may have different distributions of political ties ϕ, which leads to changes in expected productivity limits, even though the integral distribution function ϕ is considered given and identical in different countries with general equilibrium.

To analyze the impact of political ties in different countries with different levels of financial sector development, we abstract from the differences in political ties between enterprises and use the average value of political ties in Equations (4), (5), and (6). Assume also that countries differ in this average level of political ties. As shown in Equations (8), (9), and (10) the three thresholds of performance $\overline{\theta_B}$, $\overline{\theta_E}$, $\overline{\theta_I}$ is decreasing $\bar{\phi}$, accordingly under equilibrium conditions may affect the number of players in any country, and therefore affect the number of domestic varieties of goods in this country.

Now let's replace the expected productivity thresholds in n_E^C with $\overline{\theta_B}$, $\overline{\theta_E}$, and $\overline{\theta_I}$, then n_E^C depend on the average level of political ties $\bar{\phi}$ in the country. Before taking a partial derivative n_E^C by $\bar{\phi}$, one should take a derivative of $V(\overline{\theta_B})$, $V(\overline{\theta_E})$ and $V(\overline{\theta_I})$ by $\bar{\phi}$. Let mark $V(\overline{\theta_B})$, $V(\overline{\theta_E})$ and $V(\overline{\theta_I})$ as $\overline{V_B}$, $\overline{V_E}$, $\overline{V_I}$ in these equations. From Equations (4), (5), (6) and the definition of *V (θ)* we obtain:

$$\frac{\partial \overline{V_B}}{\partial \bar{\phi}} = \frac{-\eta f_B \cdot G'(\bar{\phi}) \cdot \overline{\theta_B}}{A(\sigma-1)} > 0$$

$$\frac{\partial \overline{V_E}}{\partial \bar{\phi}} = \frac{-\mu f_E \cdot G'(\bar{\phi}) \cdot \overline{\theta_E}}{A(\sigma-1)\tau^{1-\sigma}} > 0$$

$$\frac{\partial \overline{V_I}}{\partial \bar{\phi}} = \frac{-(\rho f_I - \mu f_E) \cdot G'(\bar{\phi}) \cdot \overline{\theta_I}}{A(\sigma-1)(1-\tau^{1-\sigma})} > 0$$

From the results of the general equilibrium, the number of players in the market can be defined as:

$$n_E^c = \frac{a\bar{w}^{\sigma-1}}{\gamma^{\sigma-1}} \cdot \frac{[\bar{V}_B + (N-2)\bar{V}_{IE}] \cdot L^c - \bar{V}_{IE} \cdot \sum_{j \neq c} L^j}{(\bar{V}_B - \bar{V}_{IE})[\bar{V}_B + (N-1)\bar{V}_{IE}]} = W \cdot \frac{Y^c}{Z}$$

where:

$W = \frac{a\bar{w}^{\sigma-1}}{\gamma^{\sigma-1}} > 0$, $Y^c = [\bar{V}_B + (N-2)\bar{V}_{IE}] \cdot L^c - \bar{V}_{IE} \cdot \sum_{j \neq c} L^j$,

$Z=(\bar{V}_B - \bar{V}_{IE})[\bar{V}_B + (N-1)\bar{V}_{IE}]$, while $\bar{V}_{IE} = \bar{V}_I + \tau^{1-\sigma}(\bar{V}_E - \bar{V}_I)$.

Accordingly, $\frac{\partial n_E^c}{\partial \bar{\phi}} = W \cdot \frac{\frac{\partial Y^c}{\partial \bar{\phi}} Z - \frac{\partial Z}{\partial \bar{\phi}} Y^c}{Z^2}$. The sign $\frac{\partial n_E^c}{\partial \phi}$ depends on $\frac{\partial Y^c}{\partial \bar{\phi}} Z - \frac{\partial Z}{\partial \bar{\phi}} Y^c$. As noted, Z> 0, because $\bar{V}_B > \bar{V}_{IE} > 0$. And it was also noted that according to the assumptions, the difference in employment is small, ie countries have similar employment, so $Y^c > 0$ for any *c*, *c* = 1,2,… N, therefore, any country has a positive number of players in the market.

$$\frac{\partial Y^c}{\partial \bar{\phi}} = L^c[\bar{V}_B' + (N-2)\bar{V}_I' + \tau^{1-\sigma}(N-2)(\bar{V}_E' - \bar{V}_I')] - [\bar{V}_I' + \tau^{1-\sigma}(\bar{V}_E' - \bar{V}_I')] \sum_{j \neq c} L^j$$

$$= -L^c \frac{(N-2)[(\rho f_I - \mu f_E)G'(\bar{\phi})\bar{\theta}_I + \mu f_E G'(\bar{\phi})\bar{\theta}_E] + \eta f_B G'(\bar{\phi})\bar{\theta}_B}{A(\sigma-1)}$$

$$+ \frac{(\rho f_I - \mu f_E)G'(\bar{\phi})\bar{\theta}_I + \mu f_E G'(\bar{\phi})\bar{\theta}_E}{A(\sigma-1)} \sum_{j \neq c} L^j$$

$$\frac{\partial Z}{\partial \bar{\phi}} = 2\bar{V}_B\bar{V}_B' + (N-2)\bar{V}_B[\bar{V}_I' + \tau^{1-\sigma}(\bar{V}_E' - \bar{V}_I')] + (N-2)\bar{V}_B'[\bar{V}_I + \tau^{1-\sigma}(\bar{V}_E - \bar{V}_I)]$$

$$- 2(N-1)[\bar{V}_I' + \tau^{1-\sigma}(\bar{V}_E' - \bar{V}_I')][\bar{V}_I + \tau^{1-\sigma}(\bar{V}_E - \bar{V}_I)]$$

$$= \frac{-G'(\phi)}{A(\sigma-1)}\{[2\bar{V}_B + (N-2)\bar{V}_{IE}]\eta f_B\bar{\theta}_B + [(\rho f_I - \mu f_E)\bar{\theta}_I + \mu f_E\bar{\theta}_E][(N-2)\bar{V}_B - 2(N$$

$$- 1)\bar{V}_{IE}\}$$

A sufficient condition for $\frac{\partial Z}{\partial \bar{\phi}} > 0$ is $(N-2)\bar{V}_B \geq 2(N-1)\bar{V}_{IE}$, therefore, the curvature of the function V(θ) satisfies $\frac{\bar{V}_B - \bar{V}_{IE}}{\bar{V}_{IE}} \geq \frac{N}{N-2} > 1$.

If we continue to assume that countries have the same employment, i.e. $L^c = \bar{L}$ for any country c, c = 1,2,… N, then

$$\frac{\partial Y^c}{\partial \bar{\phi}} = \bar{L} \cdot G'(\bar{\phi})[(\rho f_I - \mu f_E)\bar{\theta}_I + (\bar{\theta}_E - \bar{\theta}_B)\eta f_B] < 0$$

Accordingly $\frac{\partial n_E^c}{\partial \bar{\phi}} < 0$, when countries have the same employment and the curvature of the function V(θ) satisfies $\frac{\nabla_B - \nabla_{IE}}{\nabla_{IE}} > 1$.

The negative impact of the average level of political ties in the country on the number of domestic players in the market shows that the number of varieties of goods produced by domestic producers in different countries will be different. In countries with underdeveloped financial sectors and weak institutions, political ties are more important than in countries with better financial and institutional environments. Accordingly, the overall political ties of enterprises from developing countries should be greater than those in developed countries, due to the widespread political rent and the active efforts of enterprises in establishing political ties. It follows that the model assumes less diversity of domestic production in countries with underdeveloped financial sectors and weak institutions, where political ties mean more.

The negative impact of political ties on the number of domestic enterprises is important in policymaking. While a country's financial sector is largely underdeveloped and government policies lack transparency and fairness, the average $\bar{\phi}$ is generally higher. In other words, political ties are typical of enterprises in these countries, as they can survive and participate in international economic activity only with the help of "allies" in government (Ukrainets, 2014). In this situation, fewer companies appear on the domestic market, and accordingly, for consumers, there are fewer varieties of goods from domestic producers. If the government's goal is to support domestic production, then it is worth trying to increase the transparency of government and competition in the financial market, which should become more profit-oriented and less politically engaged. Reforms of some political and financial institutions aimed at eliminating or minimizing the search for "political rent" will also be useful, and thus reduce the efficiency and desirability of political ties, which in turn will reduce the average level and increase the number of domestic producers.

5. Conclusion

We have developed a theoretical model based on the study of Helpman, which focuses on the influence of the political relations of the enterprise on FDI decisions and the relationship between political relations and productivity in management decisions.

To take into account the peculiarities of enterprises with poorly developed financial structures and institutional environments, the theory included liquidity constraints at the enterprise level and added (along with productivity) another characteristic of enterprises - political ties. Political ties are a specific asset of an enterprise that can weaken liquidity constraints and thus, depending on the proximity to the government, each enterprise has its level of financial constraints.

Several hypotheses follow from the theory that requires empirical testing. First, the growth of political ties and productivity growth increases the likelihood of FDI. In addition, the thresholds for political ties and productivity required for FDI increase as the investment climate deteriorates of the recipient country (expressed in terms of three indicators: lower demand, higher entry costs, and lower trade costs).

The hypothesis about the role of political ties is consistent with studies of MNEs from developing countries in that political ties contribute to the investment activities of the enterprise. With an underdeveloped financial market and weak institutions, political rents are prevalent in China. In the absence of political ties, manufacturing companies that could enter foreign markets are unable to find the necessary financing to cover additional start-up costs and lose the opportunity to increase their profits through international economic activity. On the other hand, companies with strong political connections easily compensate for their lower efficiency and invest in foreign countries. After all, foreign subsidiaries run by less efficient companies are unprofitable instead of profitable. This situation with China's inefficient subsidiaries in foreign countries is not uncommon. Therefore, the results of the developed theoretical model provide important conclusions on the development of the financial sector and the improvement of the institutional environment of the country. Healthy and developed financial markets and strong institutions can help increase the efficiency of foreign subsidiaries and increase the country's competitiveness in general.

Hypotheses derived from the developed theory are based on the assumption that the purpose of the enterprise is to maximize profits. The results of the general equilibrium may be different if the purpose of the enterprise does not include profit maximization.

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