The Effect of Financing Constraints on OFDI of China's Enterprise

YONGHUA YANG and LINHUA WANG

ABSTRACT

This paper constructs an OFDI model of heterogeneous enterprises with financing constraints and put forward the hypothesis of financing constraints and outward FDI. Based on the panel data of China's industry enterprises from 2005 to 2014, this paper establishes a panel data model and estimates the hypothesis. The main conclusions are as follows: the larger the financing constraint, the less FDI; Compared with domestic financing constraints, OFDI enterprises are more constrained by external financing constraints; In the process of OFDI the state-owned enterprises are less constrained than the private ones, and the private ones are heavily affected by the financing constraints. Among them, the influence of exogenous financing constraints is the biggest.

KEYWORDS

Financing constraints, OFDI, heterogeneous enterprises.

INTRODUCTION

With the increase of the number of Chinese enterprises participating in OFDI, the financing constraint has become an important factor that affects the going-out of Chinese enterprises. Due to the relatively slow development of China's financial system, many enterprises are facing strong constraints on bank financing (Lin Yifu, and Sun Xifang, 2008; Liu Qing, Cheng Ling, Shao Zhi and Chen Qingping, 2017). The 2014 Global Doing Business Report released by the World Bank also shows that banks in China are ranked 73rd in the world in terms of access to credit facilities. Moreover, compared with enterprises operating locally, enterprises need to pay more transaction costs and information search costs for their OFDI and thus require a large amount of financial support. As the company's own cash reserves are limited, in order to make OFDI enterprises need to obtain exogenous financial support from financing. Therefore, this paper attempts to study the impact of financing constraints on the amount of OFDI made by our enterprises both theoretically and empirically, and puts forward some countermeasures and suggestions on how to solve the financing constraints of OFDI.

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LITERATURE REFERENCES

Fazzari etc (1988) defined financing constraints: In the case of incomplete market, the investment cannot reach the optimal level because the external financing cost is too high namely, the degree of difficulty of obtaining fund. According to heterogeneous trade theory Melitz (2003) suggested that in the process of "going global", in order to obtain market information on overseas exports and overseas investment, consumers' preferences in the market and the establishment of their own production and sales channels, enterprise need to be paid A lot of sunk costs. Guariglia et al. (2005) found that when financing constraints result in firms failing to obtain credit support for external funds or need to spend excessively on external funds, due to the sensitivity of foreign investment to cash flow, enterprises can only make outward investment by relying on the mobilization and flow of internal funds, so the financing constraints of the enterprises affect their OFDI. Buch et al. (2014) established a model of foreign investment decision-making for heterogeneous firms, which included financing constraints, and used the data of German firms to empirically test the Influencing factors of OFDI decisions. Guo Lihong (2009) studied the relationship between financing constraints and investment-cash flow sensitivity by using the dynamic panel data of Shanghai and Shenzhen listed companies. Research shows that compared with private enterprises, state-owned enterprises are more likely to receive financial support and are less affected by financing constraints. Companies that Li Lei et al. (2015) consider the stronger the financing ability are, the more likely it is to outward direct foreign investment and the more likely it is to invest more than once and to invest in several countries. Yan Bing et al. (2016) examined the impact of firm productivity, financing constraints and other factors on enterprises' overseas investment decisions by using enterprise-level data of Jiangsu Province.

THE HYPOTHESIS ABOUT FINANCING CONSTRAINTS AFFECTS FDI OF ENTERPRISES

In the process of OFDI the fixed costs of an enterprise include the purchase of raw materials, the labor force employed to produce the goods, the search for invest decision information, etc. According to the above analysis, when the enterprise pursues the profit maximization under the financing constraint, there is a critical value of the financing constraint. When it is greater than the critical value, corporate profits are positive, enterprises participate in OFDI activities. When it is less than the critical value, the profits derived from the OFDI are not enough to cover the investment costs, and the enterprises will reduce the OFDI.

Hypothesis 1: The greater financial constraints are faced by enterprises, the smaller possibility and scale of OFDI, and the smaller financial constraints are faced by enterprises, the greater the possibility and scale of OFDI.

In the financial market, issues of asymmetric information, imperfect development and etc. result corporate faces complex procedures for borrowing in the process of loaning to financial institutions. And businesses have many constraints, such as higher lending rates, higher mortgage requirements, inadequate loan size, and short repayment periods.
Hypothesis 2: In the process of OFDI, the higher the dependence of enterprises on the exogenous financing in the financial market, the more they are constrained by the exogenous financing.

Empirical literature shows that the effect of degree of financing constraints for different ownership of enterprises has a significant difference, which led to different ownership of enterprises making different invest decisions. Desai et al. (2005) think that under the condition of imperfect financial market, foreign-funded enterprises can obtain steady financial support from their foreign parent companies, thereby overcoming the fixed costs, and foreign-funded enterprises face the relatively low degree of financial constraints. Huang Jiu Li and Sin Guoming (2010) think that the loans of financial institutions in the domestic capital market have the feature of selectively suppressed. State-owned enterprises are more likely to get financial loans. Although the production efficiency of private-owned enterprises is somewhat higher than that of state-owned ones, the degree of exogenous financing constrained is greater than that of state-owned ones. In particular, it is very difficult for small and medium-sized enterprises to obtain credit support from financial institutions.

Hypothesis 3: The order which is about the size of the impact of financing constraints on OFDI of enterprises, in descending order, is private enterprises, foreign-funded ones, state-owned ones.

AN EMPIRICAL ANALYSIS ABOUT THE IMPACT OF FINANCING CONSTRAINTS ON OFDI

In order to test the effect of financing constraints on the OFDI of Chinese enterprises based on the above analysis we build the model as follows:

$$\ln OFDI_t = \beta_0 + \beta_1 \ln PROBIT_t + \beta_2 \ln RA_t + \beta_3 \ln IE_t + u_t, \quad (1)$$

Interpreted variable OFDI is the amount of OFDI in the enterprise. Explanatory variables include total profit PROBIT, which measures endogenous financing constraints, commercial credit accounts receivable RA, interest payment IE which is the index of exogenous financing pages.

The variables included in the model are the OFDI of the explained variable, the corporate profit, accounts receivable, interest expense of explanatory variables and the scale of enterprise of control variables. First of all, take the logarithm of the original data, making the data stable.

Using the time-series data of 2005-1914 with the financing constraints of corporate and OFDI, according to model (1), this paper uses Eviews6.0 to get the empirical results as shown in the table. Credit constraints on loan receivables have a greater impact on OFDI in enterprises and are significant at 1%. The coefficient of 0.421 means that for every unit increase in loan receivables, the OFDI of enterprises will increase by 0.421 units. In addition, the coefficient of the effect of Interest payment which measures exogenous financing constraints on the amount of OFDI is 0.412, which is significant at 1% level. It means that for every unit increase in interest payment, the amount of OFDI increases by 0.412 units. The coefficient of total profit which measures the firm's internal financing constraint is 0.321, which is significant at the 5% level. Empirical analysis shows that the explanatory variable financing constraints have a significant positive impact on the explained
variable the amount of outward FDI. This is consistent with the theoretical hypothesis 1 proposed in this paper: the smaller the financing constraint, the greater the amount of outward direct investment in enterprises. Similarly, by comparing the coefficients of OFDI affected by each financing constraint variables, we can obtain the financing constraint indicators which affect OFDI: corporate loans receivables, the interest payments and the total profits in decreasing order of decreasing. Among them, the interest payments which measures exogenous financing constraints, have the greatest impact coefficient on OFDI. This verifies the theoretical hypothesis 2 proposed in this paper: the more they depend on the exogenous financing in the financial markets in the process of OFDI, the more severe the exogenous financing constraints.

Note: Values in parentheses are t-statistic, * represents affect is significant at 10% level, ** represents affect is significant at 5% level and *** represents affect is significant at 1% level.

THE IMPACT OF FINANCING CONSTRAINT ON THE OFDI OF DIFFERENT OWNERSHIP ENTERPRISES

Constructing empirical measurement model

In the study of the impact of financing constraints on the OFDI enterprises, we adopt the same explanatory variables, including the total corporate profits, loan receivables and interest payments to measure the financing constraints faced by enterprises. The explained variables of the model become the OFDI of enterprises OFDI, and logarithm of the data of the variables makes the empirical results of the regression more significant.

\[ \ln OFDI = \beta_0 + \beta_1 \ln PROBIT + \beta_2 \ln RA + \beta_3 \ln IE + \beta_4 \ln KL + \mu \]  

Empirical results and analysis

The data mainly include the OFDI of industrial enterprises from 2005 to 2014 as explained variables. In the model, the explanation variables which measures enterprises' financing constraints indicators are mainly the total profit (PROBIT), accounts receivable (RA), interest expense (IE). According to the formula (2), regression results are as table 2:

The results obtained from the enterprise panel data model show that the financing constraints have different degrees of impact on different types of enterprises in the process of OFDI. The overall impact of the endogenous financing constraints of enterprises which measured by the total profit on all the enterprises is not obvious. The impact of internal capital supply of enterprises on OFDI of different enterprises is different. The impact of endogenous financing constraints of corporate on the investment of state-owned and private enterprises is insignificant.
TABLE 2. THE EMPIRICAL RESULTS OF FINANCING CONSTRAINTS AFFECT OUTWARD FDI

<table>
<thead>
<tr>
<th>Dependent variable lnOFDI</th>
<th>All enterprise</th>
<th>State-owned enterprises</th>
<th>Private enterprise</th>
<th>Foreign enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total profit logarithm</td>
<td>lnPROBIT</td>
<td>-0.001</td>
<td>0.096</td>
<td>0.881</td>
</tr>
<tr>
<td>Interest expense logarithm</td>
<td>lnIE</td>
<td>0.834* **</td>
<td>1.082*</td>
<td>-0.178</td>
</tr>
<tr>
<td>Enterprise size</td>
<td>lnL</td>
<td>1.687* **</td>
<td>1.691* **</td>
<td>-2.914</td>
</tr>
<tr>
<td>Capital density</td>
<td>KL</td>
<td>0.259* **</td>
<td>0.066*</td>
<td>0.496</td>
</tr>
<tr>
<td>R-squared</td>
<td></td>
<td>0.982</td>
<td>0.968</td>
<td>0.987</td>
</tr>
</tbody>
</table>

Compared with foreign-funded enterprises, the influence level of the total profit for the OFDI of state-owned enterprises and private-owned enterprises is more significant. In addition, the commercial credit constraints which measured by accounts receivable have a significant effect on OFDI for all enterprises. The estimated coefficient obtained from the econometric model analysis is -2.103, which is significant at the 5% level. Finally, the external financing constraints which included in the financing constraints are measured by the corporate interest expense. This paper finds that exogenous financing constraints have a significant effect on OFDI of all enterprises. The estimated coefficient of the model is 0.834, which is significant at 5% level.

Note: Values in parentheses are t statistic, * stands for significance at 10% level, ** stands for significance at 5% level and *** stands for significance at 1% level.

The estimated coefficient of the scale of enterprises which is included in control coefficient contains for OFDI of all enterprises is 1.687, which is significant at 1% level, so the size of the enterprise has positive impact on outward FDI. Second, state-owned enterprises which are divided by the ownership of enterprises have a significant effect for OFDI. The coefficient estimated from the panel model was 1.169, which is significant at the 5% level. Compared with state-owned enterprises, the impact of firm size on OFDI of private enterprises and foreign-funded enterprises is insignificant. The capital intensity of enterprises has a significant promotion effect on the overall OFDI of all enterprises. The panel model has an estimated coefficient of 0.259, which is significant at the 1% level. The OFDI of state-owned enterprises, private-owned enterprises and foreign-funded enterprises classified by the enterprise ownership system are affected by the capital intensity. That is, the theoretical hypothesis 3 is verified: the impact of financing constraints on the OFDI from big to small in turn is private enterprises, foreign-funded enterprises, state-owned enterprises.

CONCLUSION AND COUNTERMEASURES

The financing constraints of enterprises have an important impact on their outward FDI. The improvement of corporate financing environment can effectively help enterprises overcome the fixed costs and smoothly enter the international market. At the same time, this paper divides the enterprises into state-owned enterprises, private-owned enterprises and foreign-funded enterprises according to the ownership structure and studies the impact of their own financing constraints on their outward FDI. The study found that compared with the private-owned
enterprises, state-owned enterprises are facing a relatively low degree of financial constraints. The OFDI of private-owned enterprises is heavily influenced by the financing constraints, of which the exogenous financing constraints are the most. Compared with state-owned enterprises and private-owned enterprises, the impact of financing constraints on the OFDI of foreign-funded enterprises is not significant.

The empirical results in this paper show that there is a positive correlation between the size of OFDI and the profits and retained earnings created by the enterprises themselves. Therefore, when enterprises ease the financing constraints of export, from the perspective of enterprises themselves, it is most important to enhance the competitiveness of enterprises and continuously strengthen their own profitability, and obtain sufficient funds to ease the problem of endogenous financing constraints of enterprises. In addition, by increasing their asset value in the market, continuously improving the credit rating of enterprises, reducing the degree of asymmetric information directly with the bank, and improving the credit rating of financial institutions, enterprises can obtain loans at a lower cost from financial institutions such as banks. Finally, perfecting and promoting the deepening reform of China's financial system can enable enterprises to have more ways and channels for financing, ease the constraints and costs of corporate financing constraints, and promote the OFDI.

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REFERENCES