

# *Research on Corporate Social Responsibility and Foreign Direct Investment in China*

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**Abstract:** Under the background of the new development pattern of the new normal, the domestic cycle as the main body and the domestic and international cycles, the internationalization behavior of enterprises has been promoted to strategic significance. Based on this paper, the data of China's Shanghai and Shenzhen A-share listed enterprises in 2009-2019 are selected to study the impact of corporate social responsibility on the probability and scale of enterprises' external direct investment. It is found that the CSR promotes the probability and scale of OFDI, but the influence of shareholder liability on the scale; the benchmark regression results are heterogeneous. Compared with private enterprises and non-sensitive industries, CSR has a stronger positive impact on the probability and scale of sensitive industries. Further discussing the mechanism reveals a negative impact on the scale of enterprises, by reducing the level of corporate leverage and financing constraints. From the perspective of corporate social responsibility, this paper expands the theoretical application scope of stakeholders, and provides relevant suggestions for enterprises to "go out".

## **1. Introduction**

In 2020, China proposed for the first time to continue to deepen supply-side reform, give full play to the advantages of China's super-large market and the potential of domestic demand, and build a new development pattern in which the domestic cycle is the main body and the domestic and international cycles reinforce each other. However, it is not a smooth way for enterprises to "go global". Chinese enterprises face many constraints in carrying out international activities such as OFDI, such as weak awareness of environmental protection, incomplete disclosure, religious and cultural conflicts, labor and capital distribution and protection of investors' equity, which will seriously affect enterprises' OFDI decisions.

How to establish a benign relationship with the stakeholders of the host country, obtain the recognition and support of the stakeholders, alleviate the "legitimacy deficit", resolve various risks in the process of "going out", and enhance the enterprise value of enterprises has become the focus of international activities. With the deepening of the concept of sustainable development, the performance of "corporate social responsibility" has gradually become a global consensus.

Existing studies on corporate internationalization rarely involve the impact of CSR activities on its internationalization, but focus on the impact of financial performance, and its research objects are mostly developed countries and emerging economies. Few articles study the impact of the

performance of corporate social responsibility on corporate foreign direct investment. There is no doubt that corporate social responsibility has a significant impact on its international investment activities, but the existing articles discuss its problems and mechanism of action. Therefore, this paper will further discuss whether the probability and scale of OFDI? Is there any difference between the sample results of SOEs and non-SOEs? Is there any difference in the sample results of sensitive enterprises and non-sensitive enterprises? What is the specific impact mechanism? Therefore, this paper is based on the panel data of OFDI of Chinese Shanghai and Shenzhen A-share listed enterprises in 2010-2019, in order to provide theoretical suggestions for enterprises to better "go global".

## **2. Literature Review**

### **2.1. Research on OFDI of Enterprises**

In the research on foreign direct investment of enterprises, the existing literature is mostly conducted from the perspectives of unilateral or bilateral institutional conditions, facility endowment and financial development level differences between the host country and the parent country. Globerman [1] (2002) Through BERI, DRI, HDI and other index data, the institutional infrastructure, such as public institutions and policies formulated by the government, will not only attract capital but also create conditions for domestic multinational company investment. Many scholars also conduct research from the perspectives of enterprise productivity, corporate governance level, financing constraints, innovation level, and executive characteristics. Yan [2]'s research found that productivity and financing constraints will significantly affect the probability of whether Chinese enterprises to make foreign direct investment, but the impact on the investment amount is uncertain, among which private enterprises are more affected by financing constraints. Ye [3] (2022) found that the higher the level of technological innovation of enterprises, the higher the possibility of contrarian investment in OFDI and developed countries. The study by Zhang [4] (2015) shows that senior executives with overseas background have a strong effect on promoting the OFDI of enterprises and improve the performance of overseas investment.

### **2.2. Research on Corporate Social Responsibility and Internationalization**

Sheldon (1924) first put forward the concept of corporate social responsibility, he said the enterprise should be associated with the other stakeholders and social environment, enterprises need to meet the internal and external demand, should not be just the pursuit of economic benefit maximization, should also be moral factors, social interests on enterprise fundamental interests, to carry out the corporate social responsibility strategy.

As for corporate social responsibility and corporate internationalization, the existing research mainly focuses on the internationalization of corporate social responsibility to export, mergers and acquisitions, and foreign direct investment. Costa [5] (2015) Research shows that CSR, as an intermediary variable, will strengthen the positive impact of exploratory innovation on export performance, but has no significant impact on development innovation on export performance. Deng [6] et al. (2018) found that although the performance of corporate social responsibility can meet the needs of stakeholders and enhance the value of enterprises, it will also aggravate agency conflicts and increase administrative costs. However, the research conclusion of Qiao [7] (2019) is contrary. His research found that the higher the corporate social responsibility of the merger party, the higher the success rate of cross-border M & A, the better the completion degree and the less time it takes. Odia [8] et al. (2016) found through the sample of listed companies in 44 countries that the performance of corporate social responsibility promoted the external direct investment of enterprises, and enterprises with international investment experience had a stronger promotion effect. Yu [9] (2020)

found that good corporate social responsibility can directly affect the OFDI performance of enterprises, and can indirectly adjust the negative impact of international investment protection on investment performance.

### 3. Theoretical Analysis and Research Hypotheses

Based on the stakeholder theory, an enterprise can be regarded as a collection of all relationships including shareholders, employees, consumers, suppliers, government, society and other stakeholders. Enterprises can reflect their competitive advantages and reduce resource constraints by means of complementary advantages and external cooperation [8]. Based on information theory, when an enterprise discloses high-quality social responsibility information, the external stakeholders of the host country will reduce the cost of mastering the internal investment decision status of the enterprise, and improve the internal and external information transparency [10], thus forming a more lasting and reliable relationship. According to the reputation communication theory, good social responsibility can help enterprises to establish a responsible and reliable image, improve the perceived value of the enterprise, and achieve the purpose of increasing the good visibility of the enterprise and forming a good reputation.

In addition, an important issue facing the internationalization of enterprises in the host country is the legitimacy issue, which is a "legitimacy deficit" in the host country market [11]. Accordingly, the following research hypotheses are proposed:

Hypothesis H1: CSR has a positive impact on the probability and scale of OFDI. That is, the higher the level of corporate social responsibility fulfillment, the greater the probability and scale of corporate outward direct investment.

Financing constraints have always been an important factor influencing Chinese enterprises' foreign direct investment. Research by many scholars shows that a good level of corporate social responsibility helps to ease the financing constraints faced by enterprises [12-14]. On the one hand, enterprises build a bridge between enterprises, banks and financial institutions through good social responsibility, make up for information asymmetry, financial statement defects and other problems, and strive for more credit funds for enterprises' external direct investment to make up for the lack of external financing [15]. For example, social responsibility increases the credit issuance of financial institutions to enterprises through politically related intermediaries [16]. On the other hand, the enterprise performs good social responsibility to convey healthy financial results and standardized business and investment behavior to the international market market of the host country. It enhances the core competitiveness of the enterprise, so as to reduce the concern of the host investors about the uncertainty of international investment and operation, enhance the investment willingness of foreign investors, reduce the cost of equity capital, and ease the financing constraints through the internal financing of the enterprise. Accordingly, the following research hypotheses are proposed:

Hypothesis H2: Corporate social responsibility can significantly adjust the negative impact of corporate leverage ratio and financing constraints on the probability and scale of corporate outward direct investment.

## 4. Research Design

### 4.1. Samples and Data

This paper screens and sorts out the relevant data of foreign direct investment of Chinese Shanghai and Shenzhen A-share listed companies from the related party transaction database of Guotaian listed companies. Where the related party is registered other than China. The proportion of control rights of the superior company exceeds 10% and the associated type is "subsidiary of listed company", "joint

venture of listed company" and "joint venture of listed company", determined that the listed company had made foreign direct investment in that year. The investment amount is converted into RMB according to the World Bank's annual exchange rate, to reduce the effect of extreme outliers. In this paper, the continuous variable was treated with 1% for tail reduction. Finally, 24,482 observation samples of Chinese Shanghai and Shenzhen A-share listed companies from 2010 to 2019 were obtained.

## 4.2. Variable Definition

1) Explained variables. The explained variable 1 is the outward direct investment (OFDI) of the listed company, the variable is the virtual variable, and the value is 1 when the company has an outward direct investment, otherwise it is 0; the explained variable 2 is obtained by the shareholding ratio multiplied by the registered capital.

2) The explanatory variables. The explanatory variable is social responsibility (Csr), which measures the comprehensive score of social responsibility of Chinese listed companies, including the comprehensive score of five aspects, shareholder responsibility, employee responsibility, supplier, customer and consumer rights and interests responsibility, environmental responsibility and public responsibility, which reflects the performance of corporate social responsibility in a comprehensive and objective way.

3) Control variables. Company size (Size), the total assets scale of the enterprise; Debt to-asset ratio (Lev), the ratio of total assets to total assets; enterprise; Net return on total assets (ROA), the ratio of net profit to total assets; Number of executives (Board). The natural log of the number of directors; Company Listing Age (Age), to measure the number of listing. The calculation formula is  $\ln(\text{year of the year-year of the company} + 1)$ ; The largest shareholder holding ratio (Top1). The ratio of the number of shares held by the largest shareholder to the total number of shares; Organization redundancy (Slack), the ratio of the owner's equity to the total liabilities; Whether a state-owned enterprise (SOE), dummy variable. When the enterprise is a state-owned enterprise, the value is 1, the other way around is 0.

4) Adjustment variable: Financing constraint (SA), this paper selects financing constraint (SA) as the intermediary variable, and expresses the log value of the absolute value of SA index of Hadlock & Pierce (2010). The smaller the value of SA, the less likely the enterprise is constrained by financing.

## 4.3. Model Specification

In this paper, the Logit binary selection model (equation (1)) and the panel fixed effect model (equation (2)) are constructed to investigate the influence of CSR on the probability and scale of OFDI:

$$OFDI_{it} = \alpha_0 + \alpha_1 Csr_{it} + \sum \gamma X_{it} + \sum Industry + \sum Year + \varepsilon_{it} \quad (1)$$

$$Value_{it} = \beta_0 + \beta_1 Csr_{it} + \sum \gamma X_{it} + \sum Industry + \sum Year + \varepsilon_{it} \quad (2)$$

The explained variables in the equation (1) and the equation (2) represent the probability variables  $OFDI_{it}$  and  $Value_{it}$  the scale variables of the outward direct investment of the enterprise  $i$  in year  $t$ . The explanatory variables are the  $Csr_{it}$ , and the intercept item  $\alpha_0$  and  $\beta_0$ , and  $\alpha_1$  and  $\beta_1$  are the estimated coefficient for the CSR variable of the listed company, and  $X_{it}$  are the control variables, and the industry and year control variables for the listed company is *Industry and Year*.  $\varepsilon_{it}$  is the random interference term.

## 5. Empirical Analysis Research Design

### 5.1. Descriptive Statistics

Table 1 reports the results of the descriptive statistics.

Table 1: Descriptive Statistics

Variable name	sample capacity	mean	median	standard deviation	least value	crest value
<i>OFDI</i>	24482	0.232	0	0.422	0	1
<i>Vaule</i>	24482	1.458	0	6.584	0	5.293
<i>Csr</i>	24482	24.96	22.28	15.85	-18.45	90.87
<i>Size</i>	24482	22.12	21.94	1.277	19.89	25.95
<i>Lev</i>	24482	0.417	0.408	0.206	0.0550	0.877
<i>ROA</i>	24482	0.0470	0.0430	0.0550	-0.166	0.206
<i>Board</i>	24456	2.135	2.197	0.198	1.609	2.708
<i>Age</i>	24482	2.812	2.890	0.361	1.609	3.434
<i>Top1</i>	24482	0.353	0.335	0.149	0.0900	0.732
<i>Slack</i>	24482	2.563	1.449	3.091	0.140	17.02

### 5.2. Regression Analysis

Table 2: Benchmark Regression Results

	(1) <i>OFDI</i>	(2) <i>Margin</i>	(3) <i>OFDI</i>	(4) <i>Margin</i>	(5) <i>Value</i>	(6) <i>Value</i>
<i>Csr</i>	0.012*** (12.44)	0.002*** (12.56)	0.005*** (4.35)	0.001*** (4.36)	0.020*** (7.61)	0.019*** (6.49)
<i>Size</i>			0.358*** (20.79)	0.060*** (21.34)		0.261*** (2.95)
<i>Lev</i>			-0.439*** (-2.95)	-0.073*** (-2.96)		1.226*** (2.66)
<i>ROA</i>			0.237 (0.67)	0.0400 (0.67)		4.251*** (4.77)
<i>Board</i>			-0.258*** (-3.07)	-0.043*** (-3.08)		0.382 (1.14)
<i>Age</i>			-0.322*** (-6.50)	-0.054*** (-6.52)		-2.315*** (-8.44)
<i>Top1</i>			-0.369*** (-3.30)	-0.061*** (-3.30)		-0.696 (-1.15)
<i>Slack</i>			-0.021** (-2.55)	-0.004** (-2.55)		-0.072*** (-3.12)
cons	-2.013*** (-11.69)		-7.816*** (-19.37)		3.273*** (45.18)	3.338* (1.95)
<i>Industry</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>R<sup>2</sup></i>	0.0380		0.0600		0.0087	0.0228
<i>N</i>	24456	24456	24456	24456	24456	24456

Note: brackets is a robust standard error for clustering at the enterprise level.\*\*\*,\*\*,\* Represents the estimated results are significant at the 1%, 5%, and 10% levels, respectively similarly hereinafter.

The benchmark regression results for the control time effect and industry effect are shown in Table 2. Column (1) indicates the regression results with only the explanatory variable *Csr* with (1), and

column (3) includes the other control variables. Columns (2) and (4) in Table 2 represent the mean marginal effects corresponding to columns (1) and (3). The results showed that *Csr* significantly increased the probability of outbound investment at 1%. The corresponding marginal effect is also significantly positive. Table 2 column (5) represents the results of regression by substituting only the explanatory variable *Csr* in equation (2), column (6) indicates the inclusion of other control variables, and the coefficient of *Csr* are 0.02 and 0.019, respectively, significantly positive at the 1% confidence level. It shows that the higher the CSR score will significantly increase the scale of corporate outward direct investment, from which the hypothesis H1 is proved.

The regression results show that the enterprise size (*Size*), the larger the total asset net profit ratio (*ROA*), will significantly increase the opportunities for enterprises to obtain external financing and internal financing through asset mortgage and profit accumulation, and enterprises will be more inclined to increase the probability and scale of outward direct investment. The higher the asset-liability ratio (*Lev*) is, the higher the enterprise itself has a large risk of capital interruption, and the more the capital turnover pressure and financing constraints will significantly reduce the probability of overseas investment. However, the high debt ratio also shows that the enterprise has a strong ability to obtain external financing, and the enterprise obtains more funds through external financing, which significantly improves the scale of the enterprise's foreign investment. The period of establishment of an enterprise (*Age*) has a significant negative impact on the probability and scale of the enterprise's overseas investment, indicating that emerging high-tech enterprises such as those established too late are more willing to bear the risk of choosing foreign direct investment. The number of senior executives (*Board*) and the shareholding ratio of the largest shareholder (*Top1*) have a significant negative impact on the probability of outward direct investment. Neither the positive nor negative effects on the scale of OFDI were significant. It indicates that the high degree of equity concentration will weaken the function of enterprise capital accumulation, limit the check and balance mechanism of corporate governance, and the shareholders may abuse the control of the company's assets, funds, transfer corporate profits, and reduce the behavior of foreign direct investment. Organizational redundancy (*Slack*) will significantly reduce the scale and probability of enterprise outward direct investment. This shows that the organizational redundancy has an efficiency loss effect, which further affects the business activities of enterprises.

Table 3: Subdivided the Regression Results of the Explanatory Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	<i>OFDI</i>	<i>OFDI</i>	<i>OFDI</i>	<i>OFDI</i>	<i>OFDI</i>	<i>Value</i>	<i>Value</i>	<i>Value</i>	<i>Value</i>	<i>Value</i>
<i>stknumber</i>	0.019*** (7.30)					0 (0.05)				
<i>lootchip</i>		0.069*** (14.28)					0.120*** (8.60)			
<i>scramble</i>			0.035*** (10.43)					0.068*** (7.83)		
<i>rscramble</i>				0.026*** (8.77)					0.059*** (7.35)	
<i>strongstk</i>					0.017*** (4.01)					0.046*** (4.50)
<i>cons</i>	1.924*** (11.16)	1.933*** (11.30)	1.856*** (10.84)	1.805*** (10.59)	1.769*** (10.38)	3.767*** (33.47)	3.452*** (71.71)	3.664*** (109.34)	3.675*** (110.44)	3.556*** (62.35)
<i>R<sup>2</sup></i>	0.0340	0.0400	0.0360	0.0350	0.0330	0.0022	0.0136	0.0080	0.0090	0.0001
<i>N</i>	24456	24456	24456	24456	24456	24456	24456	24456	24456	24456

Note: Each regression in this table controls the control variables, enterprise and time fixed effects, so it will not be reported similarly hereinafter.

Table 3 from columns (1) to (8) shows the impact of each sub-dimension of CSR on the probability

and scale of OFDI respectively. The results showed that except for the shareholder responsibility score variable (stknumber) affecting the scale significantly (0), the regression variables of employee responsibility score (lootchip), supplier, customer, and consumer responsibility score (scramble), environmental responsibility score (rscramble), social responsibility score (strongstk) were significantly positive. It shows that enterprises can promote OFDI by fulfilling multi-dimensional social responsibilities, and the benchmark regression conclusion has a certain robustness.

### 5.3. Heterogeneity Test

#### 5.3.1. Classification According to the Equity Nature of the Enterprise

To explore the influence of property rights, this paper, the sample is divided into two groups of state-owned enterprises and non-state-owned enterprises, and regression, regression results as shown in Table 4, table 4 (1) (2) and (3) report the regression of non-state-owned enterprises and state-owned enterprises, the results show that the estimated coefficient of Csr is significantly positive, and passed the significance of 1% level test. This indicates that the social responsibility variables had a positive impact on the probability and scale of OFDI between the two groups. However, state-owned enterprises have a greater impact, because due to their large economic size, state-owned enterprises are more able to withstand the high risks faced in the process of OFDI compared with private enterprises. Therefore, the improvement of social responsibility of SOEs is more conducive to their OFDI.

Table 4: Nature of property rights, Corporate Social Responsibility and Foreign Direct Investment

	(1) <i>OFDI</i>	(2) <i>Value</i>	(3) <i>OFDI</i>	(4) <i>Value</i>
	Non-state-owned enterprises		state-owned enterprises	
<i>Csr</i>	0.011*** (7.90)	0.013*** (3.20)	0.017*** (11.43)	0.027*** (8.13)
cons	-2.314*** (-9.49)	3.794*** (36.94)	-1.577*** (-6.39)	2.455*** (23.89)
$R^2$	0.0330	0.0500	0.0590	0.0220
N	16000	16000	8872	8872

#### 5.3.2. According to the Nature of the Industry

According to the 2012 edition of "Industry Classification Guidelines of Listed Companies" issued by the Regulatory Commission, this paper divides the industries of the whole sample enterprises into two types: social responsibility sensitive industries and non-social responsibility sensitive industries, and conducts group regression. Table 5 column (1) (2) and (3) (4) respectively report the regression of sensitive and sensitive industry enterprise results, the results show that Csr sensitive and sensitive industry enterprise estimation coefficient are positive, and at the 1% level by significance test, that the social responsibility variables between the two groups have a positive impact on the probability and scale of foreign direct investment. But sensitive industries have a greater impact. This is because is not in line with moral expectations of sensitive industry enterprises usually face greater legitimacy challenges, by the public attention and the expectations are higher, have stronger willingness to fulfill social responsibility, sensitive industry enterprise its social responsibility activities strategy accepted by stakeholders, will further promote the sensitive industry enterprises to carry out business, investment activities, and improve enterprise performance.

Table 5: Industry, Corporate Social Responsibility and OFDI

	(1) <i>OFDI</i>	(2) <i>Value</i>	(3) <i>OFDI</i>	(4) <i>Value</i>
	Sensitive industries		Non-sensitive industries	
<i>Csr</i>	0.013*** (7.14)	0.024*** (5.82)	0.012*** (10.14)	0.018*** (5.21)
cons	-1.826*** (-9.35)	2.173*** (17.85)	-1.186*** (-9.86)	3.819*** (42.56)
$R^2$	0.0361	0.0421	0.0245	0.0231
N	8091	8091	16000	16000

## 6. Robustness and Endogeneity Test

### 6.1. Robustness Test

Table 6: The Robustness Test

	(1) <i>OFDI</i>	(2) <i>Value</i>	(3) <i>OFDI</i>	(4) <i>Value</i>	(5) <i>OFDI</i>	(6) <i>Value</i>
<i>L.Csr_w</i>	0.087*** (3.03)	0.412*** (5.88)				
<i>Csr</i>			0.005*** (5.87)	0.077*** (5.90)	0.010*** (2.59)	0.030*** (3.15)
<i>Csr_Csr</i>					0 (-1.41)	0 (-1.19)
cons	-8.121*** (-20.61)	2.344 (1.36)	-3.478*** (-13.71)	-67.105*** (-16.09)	-7.852*** (-19.42)	3.454** (2.02)
$R^2$	0.0600	0.0180	0.0110	0.0600	0.0250	0.0580
N	24000	24000	24000	24000	24000	24000

1) Change of the explained variable. In this paper, based on the social responsibility level of listed enterprises published by the network A, B, C, D, E, 5,4,3,2,1 respectively, the resulting variables are recorded as *Csr\_w*, and the regression with the lag phase of *Csr\_w*. The results are shown in column (1) (2) of Table 6, and the estimated coefficients of *Csr\_w* are 0.087 and 0.412 and are significant at the 1% confidence level, indicating the good stability of the present findings.

2) Model transformation. Since more listed enterprises in the whole sample did not make outward direct investment every year, and there are many  $OFDI_{it}$  and  $Value_{it}$  nulls, Tobit model is used for test, and the conclusion remains unchanged (Table 6 columns (3) and (4)).

3) Nonlinear test. Table 6 columns (5) and (6) show the regression results of the explanatory variable *Csr\_Csr* in the model, and the regression results show that the coefficient of the square term is not significant, indicating that there is no "U" or "inverted U" relationship between CSR and its probability and scale of OFDI. Moreover, the *Csr* regression coefficient is significantly positive, and the conclusion is still robust.

### 6.2. Endogeneity Test

1) The Heckman-test of No. In order to further explore whether the whole sample of outward direct investment exists, the Heckman-test is conducted. Since the previous overseas investment experience of the enterprise will provide experience and reference for whether to participate in the overseas investment activities, but it has no obvious impact on the scale of outward direct investment, this paper introduces the number of listed enterprises in the Heckman stage regression. The self-selection-



biased IMR was obtained from the first-stage regression, and the resulting IMR was replaced into the Heckman two-stage regression. As shown in the results of Table 7 in column (2), the conclusion of this paper remains unchanged.

$$OFDI_{it} = \delta Z_{it-1} + u_{it} \quad (3)$$

Table 7: Endogeneity test

	(1) <i>OFDI</i>	(2) <i>Value</i>	(3) <i>Csr</i>	(4) <i>OFDI</i>	(5) <i>Csr</i>	(6) <i>Value</i>
<i>IMR</i>		-10.33*** (-16.72)				
<i>Csr</i>	0.00733*** (5.26)	0.0412*** (10.50)		0.00479*** (3.43)		0.0317*** (4.53)
<i>L.Csr</i>			0.481*** (0.0053)		0.481*** (0.0053)	
<i>Csr_mean</i>			0.276*** (0.0373)		0.276*** (0.0373)	
cons	3.066*** (7.01)	-12.26*** (-10.69)	-4.283*** (-12.56)	-4.280*** (-15.35)	.2-131*** (-10.56)	-18.21*** (-14.14)
N	4993	3881	20910	20910	20910	20910
<i>R</i> <sup>2</sup>	0.217	0.0730	0.5479	0.0731	0.5479	0.0735
F			683.51		473.81	
Wald chi2				1284.01		1701.47

2) Instrument variable test. To further analyze the problem of possible reverse causality between the CSR and the probability and scale of OFDI, in this paper the endogeneity of the model is tested by introducing instrumental variables. Reasonable tool variables should have two characteristics: one is the correlation with the endogenous variables, and the other is that it does not directly affect the explained variables. Therefore, choosing two tool variables: one is the average (*Csr\_mean*) in the industry where the enterprise is in that year, and the other is the lag phase of corporate social responsibility (*L.Csr*).

Table 7, columns (3) (5) and (4) (6) are the regression results for stage 1 and stage 2, respectively. As can be seen from the first (3) (5) of Table 7, the average value of other CSR (*Csr\_mean*) and the lag of the first period (*L.Csr*) is positively correlated with the probability of outward direct investment (*OFDI*) and scale variable (*Value*) at 1% level, indicating that they have a good interpretation of *OFDI*. Further tests find that F statistics are 683.51 and 473.81 respectively, and the P value of F statistics is 0.0000 and adjusted 0.5479, so there is no weak instrumental variable. At the same time, it shows that the influence of corporate social responsibility on the probability of *OFDI* does have some endogenous nature. As can be seen from column (4) (6) of Table 7, *Csr* is significantly and positively correlated with corporate *OFDI* at the 1% level, which is consistent with the conclusion of the previous study.

## 7. Mechanism of Action Test

In the process of external direct investment, problems such as capital turnover pressure, insufficient internal and external financing and financing constraints will prevent enterprises from being "going global" smoothly. This paper establishes the following interaction term model to examine the impact of the interaction of CSR with its leverage ratio (*Lev*) and financing constraints (*SA*) on its *OFDI*:

$$OFDI_{it} = \theta_0 + \theta_1 Csr_{it} + \theta_2 Lev_{it} + \theta_3 sd1_{it} + \sum \gamma X_{it} + \sum Industry + \sum Year + \varepsilon_{it} \quad (4)$$

$$Value_{it} = \theta_0 + \theta_1 Csr_{it} + \theta_2 Lev_{it} + \theta_3 sd1_{it} + \sum \gamma X_{it} + \sum Industry + \sum Year + \varepsilon_{it} \quad (5)$$

$$OFDI_{it} = \theta_0 + \theta_1 Csr_{it} + \theta_2 SA_{it} + \theta_3 sd2_{it} + \sum \gamma X_{it} + \sum Industry + \sum Year + \varepsilon_{it} \quad (6)$$

$$Value_{it} = \theta_0 + \theta_1 Csr_{it} + \theta_2 Lev_{it} + \theta_3 sd1_{it} + \sum \gamma X_{it} + \sum Industry + \sum Year + \varepsilon_{it} \quad (7)$$

In model (4) and model (5), sd1 represents the interaction term of CSR and leverage ratio (leverage ratio (Lev) has been removed from the model control variables, and sd2 in model (6) and model (7) represents the interaction term of CSR and financing constraints.

Table 8: Analysis of the mechanism tests

	(1) <i>OFDI</i>	(2) <i>Value</i>	(3) <i>OFDI</i>	(4) <i>Value</i>
<i>sd1</i>	0.020*** (4.091)	0.072*** (5.859)		
<i>Lev</i>	-0.876*** (-4.768)	-0.514 (-0.988)		
<i>sd2</i>			0.00100 (0.286)	0.033*** (3.148)
<i>SA</i>			-0.245 (-1.379)	-3.772*** (-5.215)
<i>Csr</i>	-0.005* (-1.729)	-0.021*** (-3.071)	0.00900 (0.641)	0.134*** (3.459)
cons	-7.524*** (-18.357)	-1.318 (-0.463)	-8.503*** (-12.839)	-15.987*** (-4.296)
$R^2$	0.0610	0.0350	0.0600	0.0217
N	24000	24000	24000	24000

According to the results shown in table 8, the coefficient of the interaction are significantly positive (except column (3) coefficient is not significant), shows that the enterprise by strengthening their own corporate social responsibility, increased the liquidity of the enterprise, reduce the loan and capital turnover and other financial leverage pressure (column 8 (1) (1) (2)), alleviate the financing constraints (column table 8 (4) (3) and), (3) conclusion proved that corporate social responsibility can reduce the financing constraints on enterprise OFDI investment probability negative impact, but not significant. In addition, the other interaction term coefficients were significantly positive, indicating that CSR significantly adjusted the negative impact of leverage level and financing constraints on the probability and scale of corporate OFDI. Accordingly, the hypothesis H2 is proof.

## 8. Conclusion and Revelation

Based on the theory of stakeholders, information theory and reputation communication theory, this paper selects the data of China's Shanghai and Shenzhen A-share listed enterprises in 2009-2019 to study the impact of corporate social responsibility on the probability and scale of enterprises' external direct investment. The main research results are as follows: 1. CSR has a significant promotion effect on the probability and scale of OFDI. 2. heterogeneity of benchmark regression results.3. Further explore the mechanism and found that CSR significantly adjusted the negative impact on the probability and scale of OFDI by reducing the corporate leverage level and financing constraints. Based on the above basic research, the following suggestions are made.

1) Enterprises should carry out corporate social responsibility strategy, safeguard the needs and interests of host stakeholders, to prevent rebound risk, subdivided all levels of social responsibility

system, efforts to improve enterprise management system such as the system to improve the environment, improve employee welfare, participate in social welfare activities, etc., help enterprises to establish legitimacy, weaken the legitimacy "deficit", efforts to build a good trustworthy corporate image, improve corporate reputation.

2) We will optimize the external financing environment and internal governance structure of enterprises, and smooth the role mechanism and communication mechanism of social responsibilities. High leverage and financing constraints have always been the two major obstacles to restrict enterprises to "go global", and financing implementation and guarantee of capital liquidity have become the key to enterprises to "go global" smoothly. Therefore, on the one hand, enterprises should strive to build a bridge with banks and financial institutions to make up for the information asymmetry, financial statement defects and other problems. On the other hand, the government should encourage and guide financial institutions to use the existing self-run loans, improve export buyers' credit services, preferential foreign aid loans and other financial businesses, and support enterprises to carry out international activities by improving financial openness, innovating financial products and improving financial service platforms,

3) Enterprises can through with the host country government departments, non-governmental organizations and related international cooperation organization exchanges and cooperation, through the home country related industry association for help, understand the host country enterprise industry access conditions and support policy, peer personnel to strengthen learning communication and information sharing, coordination with the international community, before the implementation of foreign direct investment internationalization decision risk measurement. According to the specific characteristics of the host country's policies and regulations, market development differences, cultural environment and basic social conditions, the customs and concepts of the local people, and combined with its own strategic goals and development needs, formulate the social responsibility standards in line with the characteristics of the enterprise industry, and implement the corporate social responsibility strategy that matches the institutional conditions of the host country.

## References

- [1] Gliberman S, Shapiro D. *Global Foreign Direct Investment Flows: The Role of Governance Infrastructure*. *World development*.2002, 30 (11): 1899-1919.
- [2] Yan Bing, Zhang Yu, *Productivity, financing constraints and foreign direct investment*. *International Investment*, 2016 (09): 86-97
- [3] Ye Jun. *The choice of enterprise technology innovation and outward direct investment — is based on the research of listed manufacturing companies in China*. *Industrial technology and Economy*, 2022,41 (09): 106-114.
- [4] Zhang Rao. *Whether the overseas background of senior executives helps enterprises to make foreign direct investment*. *Macroeconomic Research*, 2015 (06): 107-116
- [5] Costa C, Lages L F, Hortinha P.*The bright and dark side of Csr in export markets: Its impact on innovation and performance*.*International Business Review*.2015, 24 (5): 749-757.
- [6] Deng Xiuyuan, Fu Chao, Fu Daiguo. *Empirical study on the impact of corporate social responsibility on overseas mergers and acquisitions*. *Chinese soft science*. 2018 (01): 110-126.
- [7] Wu Jianfeng, Qiao Lu. *The Relationship between Corporate Social Responsibility and Cross-border M&A: A Review and Prospects*. *Economic and Management*. 2018, 40 (11): 191-208.
- [8] Odia James Osabuohien. *“Foreign Direct Investments, Corporate Social Responsibility, and Economic Development: Exploring the Relationship and Mitigating the Expectation Gaps.”* 2016 (06): 73-74
- [9] Yu Guansheng. *Will international investment protection lead to the obstruction of foreign direct investment of Chinese enterprises?: Typical facts and empirical test*. *World economic research*. 2020 (09): 75-88.
- [10] Joanna Tochman Campbell, Lorraine Eden, Stewart R Miller. *Multinationals and corporate social responsibility in host countries: Does distance matter?* *Journal of International Business Studies*, 2012, 43 (1).
- [11] John M Mezas. *How to identify liabilities of foreignness and assess their effects on multinational corporations*. *Journal of International Management*, 2002, 8 (3).
- [12] Claudia M. Buch, Iris Kesternich, Alexander Lipponer, Monika Schnitzer. *Financial constraints and foreign direct*

- investment: firm-level evidence. Review of world economics: Weltwirtschaftliches Archiv, 2014, 150 (2)*
- [13] *Ran Rong, Wang Ding, Xie Yi. Non-governmental organization association, continuity of responsibility strategy and financing constraints . Nankai Management Review, 2016,19 (03): 178-192.*
- [14] *Wang Zhongcheng, Xue Xinhong, Zhang Jianmin. Financing constraints, financing channels and foreign direct investment of enterprises . Research of Financial Economics, 2017,32 (01): 60-72.*
- [15] *Barry A.Goss ,S.Gulay Avsar. Liquidity and realized volatility in short-term interest rate futures in 2008 crisis. High Frequency, 2018, 1 (1).*
- [16] *Li Shu, Xiao Qiuping. Corporate social responsibility, investor behavior, and stock liquidity . Research on Financial issues, 2012 (03): 24-31.*