Does foreign direct investment promote business performance? -- From the perspective of executive compensation incentive and promotion incentive

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Abstract: Based on the data of Chinese listed companies from 2015-2020, the impact of foreign direct investment on the business performance of Chinese listed companies is explored from the perspective of executive compensation incentives and promotion incentives. The study finds that FDI has a catalytic effect on the business performance of firms. With regard to the mechanism of action, FDI promotes the improvement of business performance by enhancing executive incentives, and the findings of this paper have practical implications for guiding foreign investment to play the role of corporate governance and improve business performance.

1.Introduction

With the increasing level of China's opening up to the outside world, foreign investors have been accelerating their investment in China's market. Although affected by the epidemic, China successfully responded to the serious impact of the epidemic, and in the context of a significant decline in global cross-border direct investment, China's actual use of foreign investment in 2020 still showed a growth trend, the scale of foreign investment introduced to a record high. Among them, high-tech industries and high-tech services grew by 11.4% and 28.5% respectively. In the process of foreign direct investment, the executive resources in the enterprise are paid more and more attention, it is the lubricant for the effective operation of the enterprise, its position in the company is particularly important, the entry of foreign capital requires the managers of the enterprise itself to have the ability to understand and reasonably use the quality resources and strategic assets of each country. Also the entry of foreign capital into the invested company will take the form of executive incentives in order to match the personal goals of the executives with the investment goals of the foreign capital. Through this study, we investigate whether the entry of foreign capital can change the intensity of executive incentives in the invested company and thus improve the business performance of the company. Through the research related to this issue, it can provide feasible ways for the next step of how to better guide foreign invested enterprises to do a rational job of executive motivation and how the government can create a better executive management market.

2. Review of relevant research literature

In recent decades, there have been abundant literatures on FDI, among which the academic circles at home and abroad have conducted extensive and in-depth studies on the mechanism of FDI affecting business performance. Some scholars found that FDI significantly promoted the performance of listed companies in the region (Zong Jiafeng and Li Ning, 2014) [1]. Tang Yihong et al. (2019)[2] found that foreign direct investment can bring innovation spillover to domestic enterprises . Jiang Zhangsheng (2017) [3]studied technology spillover and correlation effect and found that foreign direct investment can effectively promote the improvement of total factor productivity of domestic manufacturing industry . Some scholars conducted research on competition effect and human capital effect and found that foreign direct investment has a negative impact on enterprise performance (Liu Dexue and Gao Qi, 2018)[4] . In general, FDI mainly affects the business performance of local enterprises through the following four channels. In the industry, the main channels of spillover effect are demonstration effect (Kugler,2006)[5] , competition effect (Jiang Dianchun and Xia Liangke, 2005) [6]and personnel flow effect (Han Yan and Wu Laping, 2020)[7] . It is mainly correlation effect and personnel flow effect. Some scholars study foreign direct investment from different angles.

Possible innovations in this paper include: Based on the existing literature, in-depth research on foreign direct investment and enterprise performance is conducted, and it is found that few scholars analyze its influence path from the perspective of executives. This paper provides a complete chain of "foreign direct investment -- executive incentive -- business performance". This paper discusses the influence of foreign direct investment on enterprise business performance from the perspective of executive compensation incentive and promotion incentive. It has broadened the research perspective and further enriched the research in this field.

3.Theoretical analysis and research hypothesis

3.1 Foreign direct investment and business performance

Combing through the existing studies, it is found that the impact of foreign direct investment on the business performance of enterprises mainly includes two aspects: first, the entry of foreign investment can alleviate the capital problems of enterprises. Since the reform and opening up, the eastern coastal provinces have attracted a large number of foreign capital inflows by means of cheap labor and the country's open policy. The inflow of foreign capital has brought a large amount of capital injection to enterprises, provided a large amount of funds for the future development of enterprises, alleviated the financial constraints of enterprises, and thus improved the production mode of enterprises and upgraded production equipment. And then promote the improvement of business performance. Bao Dun (2020)[8] found that FDI promotes corporate innovation by easing corporate financing constraints . Guariglia and Poncet (2008) [9]and Hericourt and Poncet (2009)[10] respectively confirmed the above views from the provincial level and the enterprise level . Xian Guoming and Cui Xijun (2010)[11] studied products and financial markets and found that FDI could ease the financing constraints of private enterprises . The second is to improve the business performance of enterprises by learning advanced technology and management experience brought by foreign direct investment. Zheng Shanshan (2018) [12]found that foreign direct investment has a positive spillover effect on technological progress in China's eastern and central regions . Liu Jianjiang and Jiang Zhuqing (2021) [13]found that foreign direct investment significantly promoted the technological progress of producer services in China . Yue Li et al. (2022) [14]found that the introduction of FDI attracts a large number of innovation factors and optimizes regional innovation potential . Chen Bo and Zhang Chengcheng (2022) [15]believe that FDI promotes enterprise innovation by introducing advanced foreign knowledge, technology and management experience.

H1:Foreign direct investment can promote the improvement of business performance.

3.2 Foreign direct investment, executive incentive and business performance

The participation of foreign capital can effectively improve the implementation of the executive incentive plan of the invested enterprises. On the one hand, the entry of foreign capital can supervise and manage the enterprises by sending directors to the invested enterprises. Reduce the value conflict caused by information asymmetry. At the same time, it will bring a large amount of capital, professional strategic consulting and advanced technology to the enterprise. On the other hand, foreign-funded enterprises will establish a more reasonable incentive mechanism for the invested enterprises. Foreign-funded enterprises will establish an interest association mechanism with the senior executives through compensation contracts, so as to match the personal goals of the senior executives with the investment goals of foreign enterprises. Giving incentives to senior executives is the best choice to ease the conflict between corporate shareholders and executive agency, and its core idea is to combine executive compensation with corporate performance and enhance the performance sensitivity of executive compensation (Liu Guanchen et al., 2022)[16]. Xue Qiuzhi and Li Qian (2012) [17]found that the higher the internationalization level of an enterprise, the higher the compensation level of its executives. Enterprises will attract high-quality management talents by means of public salary and high salary (Wade, 1997)[18]. Taking incentive measures for senior executives, on the one hand, can attract high-quality management talents, on the other hand, link executive compensation with corporate performance, and encourage senior executives to improve their personal economic returns by improving corporate performance (Xiao Jianhua and Wang Ruofan, 2022)[19]. Further improve business performance (Guo Xuemeng et al. (2019)[20], Jensen and Murphy (1990)[21], Hartzell and Starks (2003)[22]). Among them, executive compensation incentives are highly likely to promote the implementation of innovative projects and the transformation of innovative results, thus promoting the improvement of business performance of enterprises (Zhang Jing et al., 2022)[23]. The implementation of promotion incentive can motivate employees to work more diligently for the enterprise in order to get promotion at work, thus promoting the improvement of business performance of the enterprise.

H2：Foreign enterprises promote the improvement of business performance through the incentive means of executive compensation incentive and promotion incentive.

4.Research design

4.1 Variable definition

4.1.1 Explanatory variable

Foreign direct investment. If the capital stock structure of the listed company contains overseas sponsor shares, B shares, H shares or other overseas shares, the enterprise is foreign-funded, and the value is 1; otherwise, the value is 0.

4.1.2 Explained variable

Business performance of the enterprise. Rate of return on total assets (Roa) is the ratio of net profit to the average balance of total assets.

4.1.3 Mediating variable

Mediating variable selection. Executive compensation incentive (Lnpay), expressed as logarithm of the total compensation of the top three executives. Executive promotion Incentives (Lngap). The difference between the average salary of the top three executives and the average salary of other executives is adopted and expressed by logarithm.

4.1.4 Control variable

With reference to relevant studies, the control variables are selected as follows. (1) Enterprise Size (Size) is measured by the number of employees and logarithm. Enterprises of different sizes have different performance levels. (2) The Age of the enterprise is measured by the logarithm of the year of operation minus the date of establishment of the enterprise. (3) Asset structure (FA), measured by the proportion of net fixed assets to total assets. (4) Ratio of intangible assets (IA), expressed by the proportion of net intangible assets to total assets. At the same time, this paper also fixed the individual, industry and year.

4.2 Model design

Based on hypothesis H1, the following model is established to explore the impact of foreign direct investment on business performance:

$$Roa_{ij}=\beta_0+\beta_1 Fdi_{ij}+\beta_2 IA_{ij}+\beta_3 FA_{ij}+\beta_4 Age_{ij}+\beta_5 Size_{ij}+\vartheta_i+\mu_j+\gamma_t+\varepsilon_{ij} \quad (1)$$

Based on hypothesis H2, the following model is established to explore the impact of executive compensation incentive and promotion incentive on the business performance of foreign-funded enterprises.

$$Lnpay_{ij}=\beta_0+\beta_1 Fdi_{ij}+\beta_2 IA_{ij}+\beta_3 FA_{ij}+\beta_4 Age_{ij}+\beta_5 Size_{ij}+\vartheta_i+\mu_j+\gamma_t+\varepsilon_{ij} \quad (2)$$

$$Roa_{ij}=\beta_0+\beta_1 Fdi_{ij}+\beta_2 Lnpay_{ij}+\beta_3 IA_{ij}+\beta_4 FA_{ij}+\beta_5 Age_{ij}+\beta_6 Size_{ij}+\vartheta_i+\mu_j+\gamma_t+\varepsilon_{ij} \quad (3)$$

$$Lngap_{ij}=\beta_0+\beta_1 Fdi_{ij}+\beta_2 IA_{ij}+\beta_3 FA_{ij}+\beta_4 Age_{ij}+\beta_5 Size_{ij}+\vartheta_i+\mu_j+\gamma_t+\varepsilon_{ij} \quad (4)$$

$$Roa_{ij}=\beta_0+\beta_1 Fdi_{ij}+\beta_2 Lngap_{ij}+\beta_3 IA_{ij}+\beta_4 FA_{ij}+\beta_5 Age_{ij}+\beta_6 Size_{ij}+\vartheta_i+\mu_j+\gamma_t+\varepsilon_{ij} \quad (5)$$

Among them,ϑ_i、μ_j、γ_t represents firm, year and industry fixed effect respectively，ε_{ij} is the random disturbance term. In order to ensure the robustness of the conclusion, the standard errors are clustered to the enterprise level.

4.3 Data sources and descriptive statistical analysis

In this paper, Chinese listed companies from 2015 to 2020 are selected as the initial samples and screened according to the following conditions: (1) Samples of financial companies are excluded. (2) Company samples with seriously missing variables are eliminated. (3) Remove samples of ST (special treatment) and *ST (delisting warning) companies. (4) The main continuous variables were reduced by 1% and outliers were removed. A total of 12054 research samples were obtained according to the screening criteria. In the above sample data, the data of foreign direct investment, executive compensation incentive, executive promotion incentive, enterprise performance and control variables come from the CSMAR database.

Table 1 Descriptive statistics

Variable	N	mean	sd	min	max
Fdi	12054	0.077	0.266	0	1
Roa	12054	0.036	0.07	-0.288	0.213
Lnpay	12024	14.604	0.67	13.107	16.54
Size	12054	7.871	1.178	5.338	11.142
Age	12054	2.874	0.302	2.079	3.466
FA	12054	0.208	0.145	0.004	0.664
IA	12054	0.047	0.045	0.001	0.293
Lngap	12023	13.161	0.729	11.538	15.234

5.Empirical analysis

5.1 Baseline regression analysis

Control variables are added in turn in this paper, and the regression results show that the regression coefficient of Fdi in the test is 0.0115 and significantly positive, indicating that foreign direct investment can promote the improvement of enterprise business performance. This is mainly due to the following reasons: firstly, foreign direct investment brings a large amount of funds to enterprises, which makes up the capital gap of enterprises and relieves financing constraints. Enterprises that receive foreign direct investment at the same time will usually attract the attention of outside investors and enhance their borrowing and financing ability. Second, foreign direct investment brings advanced management experience to enterprises and improves their management ability. Third, foreign direct investment brings advanced technology to enterprises and further improves their management capacity. The regression coefficient of Size is 0.0067 and significantly positive, indicating that the larger the enterprise scale, the higher the level of business performance. The main reason is that the strength of larger enterprises is generally stronger.

Table 2 Basic regression result

Variable	(1) Roa	(2) Roa	(3) Roa	(4) Roa	(5) Roa
Fdi	0.0152***	0.0146***	0.0122***	0.0120***	0.0115**
	(3.36)	(3.20)	(2.70)	(2.68)	(2.55)
IA		-0.2612***	-0.2126***	-0.2136***	-0.2178***
		(-6.15)	(-5.35)	(-5.38)	(-5.46)
FA			-0.1650***	-0.1638***	-0.1642***
			(-11.07)	(-11.00)	(-11.13)
Age				-0.0471**	-0.0519***
				(-2.38)	(-2.62)
Size					0.0067***
					(2.60)
Year	YES	YES	YES	YES	YES
Firm	YES	YES	YES	YES	YES
Industry	YES	YES	YES	YES	YES
Cons	0.0358*	0.0475**	0.0802***	0.2075***	0.1688***
	(1.85)	(2.42)	(3.76)	(3.56)	(2.81)
N	12054	12054	12054	12054	12054
R^2	0.055	0.063	0.086	0.086	0.087

5.2 Intermediate test

(1), (2) and (3) are listed as executive compensation as an intermediary effect test. As can be seen from column (1), the coefficient of FDI is 0.0115 and significant; as can be seen from column (2), the coefficient of FDI is significant at the level of 5%. In the third step, both FDI and executive compensation are included in the model for testing. The results are shown in Column (3). The coefficient of FDI decreases from 0.0115 to 0.0105 and is significant. It indicates that after the introduction of foreign capital or the entry of foreign firms, firms will increase the degree of executive compensation incentives in order to obtain higher executive human capital, which in turn will promote the business performance of the firm.

(1), (4) and (5) are listed as the mediating effect test of promotion incentive. As can be seen from column (1), FDI is significant. As can be seen from column (4), FDI is significant. In the third step, both foreign direct investment and executive promotion incentive are included in the model for testing. The results are shown in column (5). The coefficient of FDI decreases from 0.0115 to 0.0106 and is significant. This indicates that after the introduction of foreign capital or the entry of foreign capital enterprises, enterprises will strengthen the incentive mode of senior executives in order to better link the goals of enterprises and the goals of senior executives, so as to promote business performance.

Generally speaking, foreign direct investment brings technology and advanced management experience to the invested subjects. In order to better promote technology and improve enterprise management experience, enterprises will hire professional managers who understand both advanced foreign management concepts and complex domestic market conditions to manage enterprises and improve their production capacity. On the other hand, increasing the incentive degree of senior executives can not only attract high-quality management talents to integrate advanced technologies brought by foreign investment, but also enable internal executives to generate reasonable competition effect and make better contributions to the enterprise.

Table 3 Intermediate test result

Variable	(1) Roa	(2) Lnpay	(3) Roa	(4) Lngap	(5) Roa
Fdi	0.0115**	0.0628**	0.0105**	0.0753**	0.0106**
	(2.55)	(2.10)	(2.33)	(2.23)	(2.36)
Lnpay			0.0194***		
			(7.98)		
lngap					0.0147***
					(7.06)
IA	-0.2178***	-0.7417***	-0.2027***	-0.7884***	-0.2056***
	(-5.46)	(-2.82)	(-5.05)	(-2.71)	(-5.14)
FA	-0.1642***	-0.3233***	-0.1590***	-0.3479***	-0.1598***
	(-11.13)	(-4.06)	(-10.69)	(-3.96)	(-10.74)
Age	-0.0519***	0.2129	-0.0553***	0.3847**	-0.0569***
	(-2.62)	(1.59)	(-2.79)	(2.55)	(-2.86)
Size	0.0067***	0.1564***	0.0036	0.1493***	0.0045*
	(2.60)	(8.55)	(1.40)	(7.57)	(1.74)
Year	YES	YES	YES	YES	YES

Firm	YES	YES	YES	YES	YES
Industry	YES	YES	YES	YES	YES
Cons	0.1688***	12.8684***	-0.0841	11.0429***	0.0026
	(2.81)	(31.97)	(-1.28)	(24.52)	(0.04)
N	12054	12024	12024	12023	12023
R^2	0.087	0.350	0.098	0.321	0.096

6.Conclusion and suggestion

Based on the data of listed companies in China from 2015 to 2020, this paper explores the impact of foreign direct investment on the operating performance of listed companies in China from the perspective of executive compensation incentive and promotion incentive. The research findings are as follows: (1) Foreign direct investment improves the business performance of enterprises on the whole by alleviating financing constraints and bringing new technologies. (2) In terms of mechanism, foreign direct investment promotes the improvement of business performance through executive compensation and promotion incentives.

The research of this paper has important theoretical and policy implications. In terms of theory, this paper demonstrates the relationship between foreign direct investment and business performance of enterprises, and examines the influence mechanism behind it from the perspective of different executive incentives to expand relevant research. In terms of policy enlightenment, the research conclusion of this paper shows that foreign direct investment can significantly promote the improvement of business performance of enterprises, which suggests that the government should improve the level of opening to the outside world, and pay attention to both the quantity and quality of foreign investment for the reasonable introduction of foreign investment in different industries and regions. On the other hand, after the investment of foreign capital, we should pay attention to the establishment of a more reasonable incentive system for senior executives, so as to realize the improvement of enterprise value and investment returns. At the same time, in the face of the entry of foreign capital, we should make reasonable adjustment and arrangement, which requires the government to improve the relevant laws and regulations on senior executives incentive as soon as possible, rationally allocate resources, and ensure the healthy and sustainable development of senior executives capital market.

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