

The Involvement of Private Equity Fund into Chinese Mining Industry Investment

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Abstract

Diversification of Chinese mining assets capital market financing structure is achieved through the establishment of private equity financing platform and private equity fund with the introduction of private or international capital into the mining sector. These measures solve the core problem of difficulties in mining industry financing. For China state-owned mining enterprises, these measures accelerate the reformation and progress of operating mechanism and optimize the equity structure. This paper focused on analysis and discussion of private equity financing involvement in Chinese mining industry investment. The operation model, organization structure and strategy in mining industry investment of the private equity fund were analyzed. Lastly, advice on private equity fund investment to mining sector was given.

Keywords

Private Equity Fund, Mining Industry Investment, State-Owned Mining Corporation

1. Introduction

Mining sector financing indicates the raise and application of fund during mineral resource exploration, exploitation and processing stage. For a long time, financing in Chinese mining industry relies mostly on bank loan and initial public offering (IPO) (Deng, 2021). This practice results in high financial cost and higher pressure on the capital for the firm. Therefore, Chinese mining industry is in urgent need of broadening its financing means, increasing its ratio of direct financing and optimizing its equity structure to take precautions against possible financial risk.

Private equity financing is a new form of equity fund that differs from public

equity financing, resulted from evolution and innovation of the financial market. Its investee expands toward the mining sector and involves in large scale in enterprises merge and reorganization. At present, Chinese mining private equity fund remains in the exploration stage in aspects such as organization form, investment strategy, financing methods and incentive mechanism. Policies and laws environment, social credibility and regulatory system are imperfect with lack of exit strategies and professionals (Li, 2021). However, with deepening of the “going-global” Chinese resources strategy, more and more private equity fund investments are drawn into the mining sector.

Some researches have been carried out on the theory and practical operation of private equity funds in China (Deng, 2021; Li, 2021; Pang & Zeng, 2022; Yu, Sha, & Cui, 2015; Hu, Yu, & Zhao, 2015). Some scholars (Li, 2021; Pang & Zeng, 2022; Yu, Sha, & Cui, 2015) pointed out that private equity funds have two broad and narrow definitions. In the broad sense, private equity funds include not only venture capital funds and growth capital, M & A funds and Bridge investment funds; private equity funds in the narrow sense are mainly different from venture capital funds and growth capital funds because of the different development stages of the invested enterprises. Venture capital funds and growth capital funds mainly invest in enterprises in the seed stage or the budding stage, while private equity funds in the narrow sense usually invest in enterprises in the growth stage or mature stage by direct injection or acquisition. However, private equity funds in both broad and narrow sense raise funds through non-public fundraising, then make equity investment in enterprises, and finally realize capital withdrawal and appreciation through public listing, management buyback or liquidation. There are also some scholars (Yu & Cui, 2015; Shang, 2014; Wu, 2014) who study a specific kind of private equity investment.

2. Externalities of Private Equity Fund’s Development in the Mining Sector

2.1. Investment Opportunities

From a global perspective, resource sector of Toronto, New York and London stock exchange are centered on mining industry development. Mining capital market system has been divided into a multi-layer system, based on slack capital market rules. In the venture financing sector, high ratio has been given to financing of venture preliminary mining resources explorations.

Chinese mining financing has a flow path of “fund allocation from the government-enterprise loan-financing from the stock market as a listed company” (Deng, 2021). In period before 2000, the main capital for mining exploration and exploitation came from government allocation, some small amount of bank loan and self-raised fund (Deng, 2021). Main sources of fund after 2000 are financing by listing, firm self-raised fund, government subvention and bank loan (Pang & Zeng, 2022). At present, mining industry capital has become an important con-

stituent of Chinese capital market. As of May 2022, market value of mining industries in Chinese A-share market has reached 3.4 trillion Yuan, representing 11.38% of the A-share market (Pang & Zeng, 2022). Predominant sectors within the mining capital are non-ferrous, ferrous metals and coal, as shown in **Figure 1**.

In mainland China, at present there is no listed company with mining geological exploration as the primary sector of activity; furthermore, there is no venture geological financing block specialized in preliminary exploration (Yu, Sha, & Cui, 2015). Mining resource exploration demands large investment sum, it has a high risk and a long period of investment return. Venture mining exploration is generally small scale during the initial stage and is hardly profitable. For these reasons they cannot receive financial by listing through IPO. Chinese venture mining exploration companies rely excessively on its own capital. Lack of investment results in low mining resources discovery rate and usage ratio.

The huge demand for capital from mining exploration companies and the continuous improvement of exit channels in the domestic capital market have brought opportunities for private equity investment in the mining industry. As a class of equity investment funds specializing in the exploration, development and operation of mineral resources, mining private equity funds have only begun to be established and developed in China in recent years. These funds have different positioning and investment focus, and their investment scope includes domestic and foreign mineral resources exploration, development, regional mining industry integration, new energy development and application, and venture exploration, etc. Private equity investment in the field of mineral resources exploration and development can improve the situation of a single means of financing in China's mineral exploration capital market and provide capital security for exploration enterprises to acquire mining resources.

2.2. Policy and Law Environment

With increasing activities of Chinese private equity financing market in the past few years, the government has realized the important of developing the market

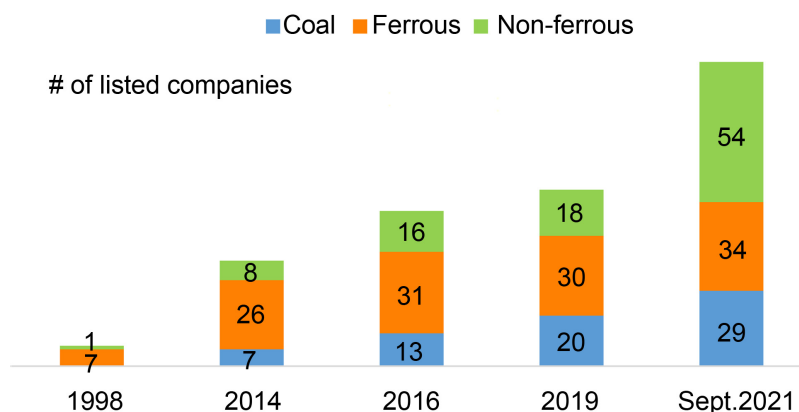


Figure 1. Progress of mining industries on Chinese A-share market [1].

and starts to introduce regulations to support and promote standardized development of private equity funds. Chinese “Corporate Law” offers legal support for corporate type private equity fund governance system. This has established the basis of the incentive system that governs the participation of the private equity fund managements to the surplus value allocation. Chinese “regulation to trust plan of trust company collective fund” establishes the legal status of private equity investment by trusteeship. Chinese “Partnership Corporate Law” establishes the legal status of limited partnership type private equity fund. It removes the obstacle of capital source for partnership fund such as pension fund and insurance fund. Other Chinese regulation includes “interim measures for venture capital enterprise management” and China Banking Regulatory Committee (CBRC)’s “guideline to risk management of acquisition loan to commercial bank”¹. At the same time, regional authorities made corresponding local regulations for private equity fund.

Chinese law and regulations on private equity fund has some groundwork, but lacks in corresponding implemental details. In operation, many private equity funds do not adhere completely according to above-mentioned laws and regulations (Pang & Zeng, 2022). China also lacks supervising regulations and regulatory bodies. Chinese private equity fund operation standards mainly originate from company regulations, partnership agreement and self-discipline and mutual supervision of all participating corporates. This method requires a very high degree of social credibility (Hu, Yu, & Zhao, 2015).

2.3. Investment Opportunities

Large demand for capital by mining resource exploration companies and the lack of Chinese venture mining exploration financing market bring investment opportunities in the mining industry for private equity funds. Firstly, China has become aware that lack of capital is the predominant problem in mining industry development and now actively supports involvement of social capital in geological exploration and mine exploitation (Yu, Sha, & Cui, 2015). Secondly, China has placed great importance in mineral resources protection and strongly encourages Chinese financial institutions and mining corporations to invest and exploit mining resources abroad. Furthermore, industrialization and urbanization aggravate the need for mineral resources, which increases opportunities and returns for private equity fund investment on domestic and overseas mining project (Yu & Cui, 2015). With establishment of multi-level mining property trading platform and setup of regional trading platforms, centers and blocks for mining right, a series of private equity fund with mining investment as main area of activity has surfaced. **Figure 2** shows the development of private equity fund in China and the distribution of the area of investment.

¹“Guideline to risk management of acquisition loan to commercial bank” proposes that commercial bank can offer acquisition loan to equity investment. This provides a legal financing channel to leveraged buyout fund (Li, 2021).

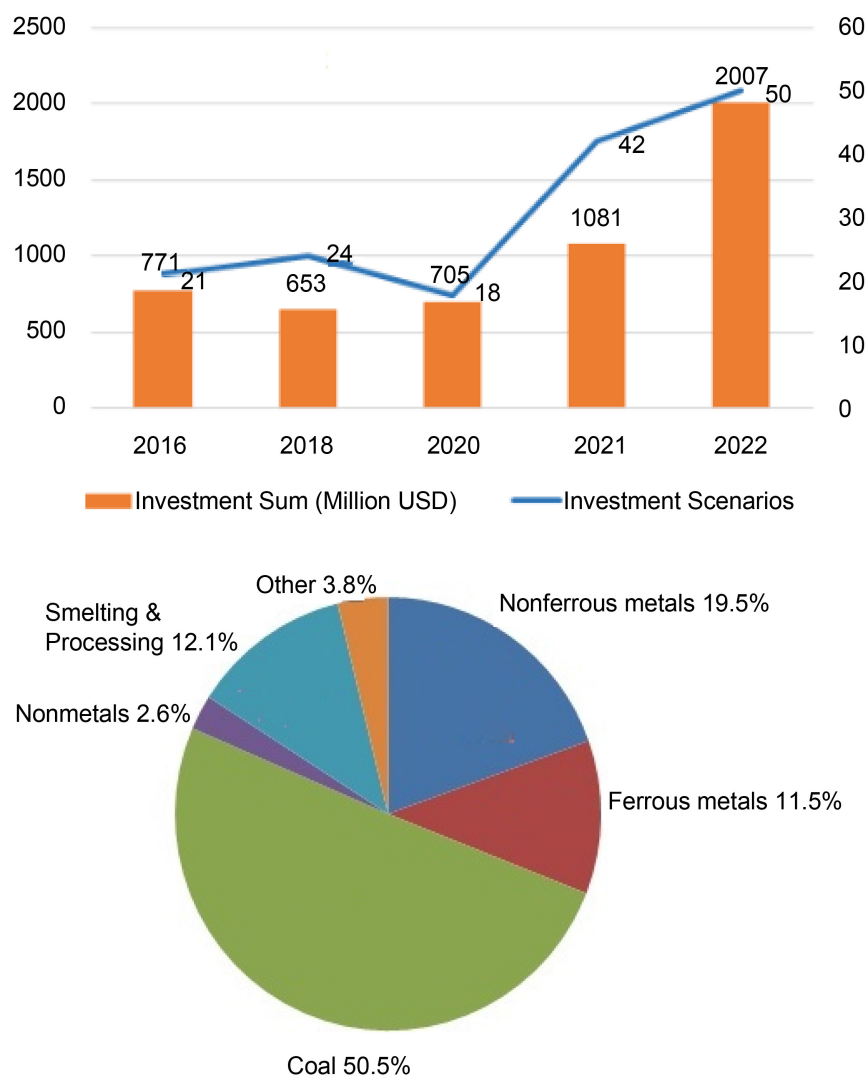


Figure 2. Recent distribution of Chinese mining private equity fund and investment amount.

3. Analysis of Mining Industry's Private Equity Fund Operations

3.1. Structures

3.1.1. Three Structures of Private Equity Fund Organization

There are three structures of private equity fund organization in the world: the corporate structure, the limited partnership and trusteeship (Pang & Zeng, 2022).

In a corporate structure, as shown in Figure 3, various investors contribute a portion of the capital and form a business entity with right of an independent entity (Hu, Yu, & Zhao, 2015). Investors, as shareholder, are limitedly liable for its portion of capital contribution in the corporation debts and liabilities. Board of directors exercises the ownership of juridical person, employs a professional fund management company or person to be responsible for investment management of the fund.

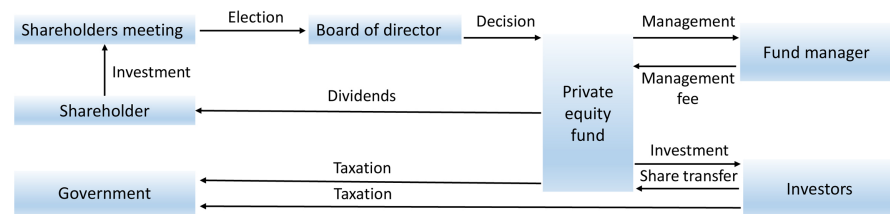


Figure 3. Corporate private equity fund organization structure.

Private equity fund with limited partnership structure is established according to the law of partnership business (Yu & Cui, 2015). As shown in **Figure 4**, the partnership is divided between regular partnership and limited partnership. Professional investment organization or entity act as a regular partner and is responsible of managing fund operation and liable to unlimited joint liability. Limited partner is not directly involved in the business management, and its capital contribution assumes only a limited liability to the enterprise. Regular partner has low amount of contribution, but with a high return (Shang, 2014).

The financing of private equity fund as trusteeship is based on the issuance of collective investment trust scheme to investors by trust company (Pang & Zeng, 2022). Investors transfer the right of management and *jus disponendi* of fund assets to the trustee company according to the trust deed. The trustee company has various civil rights over the assets and assumes all corresponding obligations and responsibilities. The investor does not interfere with the management of the fund but has the right over the profit of the fund assets and pays management and custodian fees to the trustee, as shown in **Figure 5**.

3.1.2. Comparison between Three Organization Structures

Because of the difference in law and cultural background, different countries have different organization structures of private equity fund. US adopts limited partnership, UK adopts trusteeship while Germany and Japan focus the corporate structure (Wu, 2014). **Table 1** compares these 3 different types of organization structures.

At this moment, most private equity funds established by various regional government level in China or state-owned business adopt a combined trusteeship and partnership organization structure. Private equity funds collecting private capital mainly adopt limited partnership form while investment companies mostly adopt the corporate structure (Wu, 2014).

In the current trend, in order to lower the commission cost, limited partnership is the development direction undertaken by Chinese private equity funds. However, problems such as lack of complete credit system, imperfect laws and regulations, light enforcement of existing laws need to be addressed (Yue, 2014). In corporate structured private equity fund, administrative intervention from the enterprise side is a common problem among Chinese large state-owned mining enterprise due to Chinese style industry characteristics (Yu & Cui, 2015). Innovative solutions to this problem could take into consideration a new responsibility system, type of funding, distribution agreement, or management

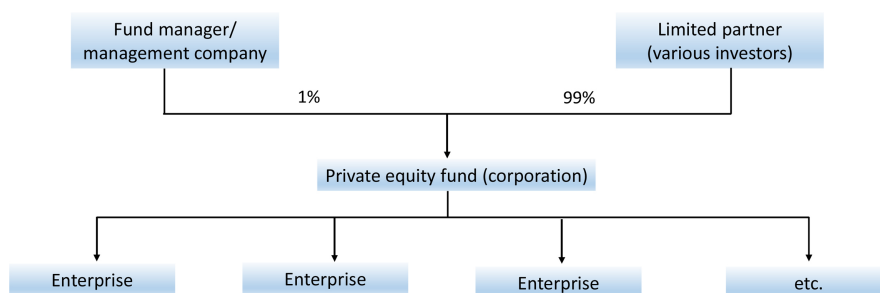


Figure 4. Limited partnership private equity fund organization structure.

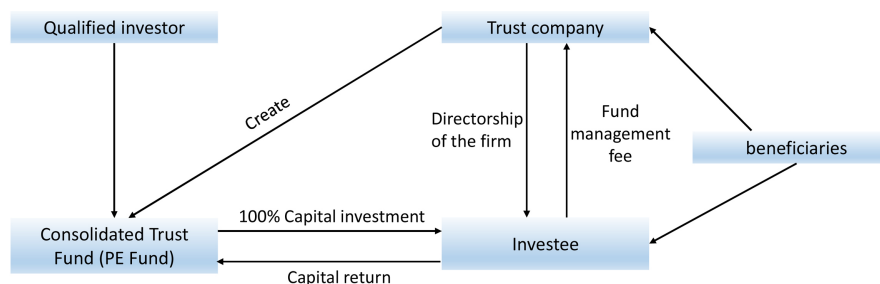


Figure 5. The organization structure of the financing of private equity fund as trusteeship.

Table 1. Comparison between three structures of private equity fund.

	Corporate	Limited Partnership	Trusteeship
Legal Basis	Complete set of regulations, high operability	Build on the basis of “law of partnership enterprise”, lack of implementation details	Non-legal entity, restrain by CBRC’s “management method to Trust companies’ collective fund trust plan”
Commission Cost	Fund manager not responsible on loss, lack of restriction on fund manager, relatively high supervision cost	Unlimited responsibility and residual claim right, enhance incentive and restriction to fund manager, increased motivation	Long management chain, limited responsibility by the fund manager, insufficient restriction on fund manager, high supervision cost
Managerial Structure	Divided and balanced power, fund manager faces many hindrances during decision making	Partners are fund managers and have autonomous decision making power	Trustee manage fund properties by itself or entrust to other professional team, no outside intervention, high efficiency
Tax Level	Double taxation, both corporal income tax and shareholders personal income tax	Taxable to partners, but not to partnership companies	Temporarily non-taxable for investment income from trust

system.

From the perspective of transforming Chinese enterprise management system, establishing operation responsibilities, and improving incentive and restriction mechanism, limited partnership structured fund is more advantageous (Mi, 2012). This model contributes to the introduction of private capital into mining investment of state-owned enterprises. This will also alleviate the Chinese political background when acquiring oversea mining resources which ultimately results in a higher success rate of merger and acquisition.

3.2. Investment Strategies

A mining project is generally divided into five stages as follow: preliminary venture geological exploration, pre-feasibility study, feasibility study, mine construction and production and operation (Yue, 2014). Investment risks and performance report of each stage are different, making investment strategies an important aspect to consider. A management team with backgrounds in financial investment, geological exploration and engineering production is needed to select the corresponding investment tools, to determine the appropriate profit model and exit strategy. Details are described in Table 2.

The preliminary exploration phase is suitable for a private equity fund specializing in venture exploration. Pre-feasibility and feasibility studies phases are more suited for venture capital oriented mining private equity fund. Private equity fund that favors growing enterprise could chose to invest during the mine construction phase. Production and operation phase are suited for private equity fund involved in buyout investment.

Table 2. Characteristics of different stages in a mining project.

Stage	Main Tasks	Goals	Risk Factors
Preliminary exploration	Field study, physical and chemical exploration, sampling and charting, pre and general exploration	Screen target drilling zone	High risks, investment returns and contingency
Pre-feasibility Study	Sampling study of ore body layout and scale, pattern of mineralization, finalize geology, environment and mining conditions	Define ore body scale and grade, estimate reserve and select mining plan	High risk and investment return, uncontrollable future economic benefit
Feasibility Study	Economical assessment, resources evaluation, infrastructure planning, market forecast	Detailed mining planning, investment and return estimate	Average risk, gradual confirmation of the resource quantity
Mine Construction	Capital construction, construction observation	Infrastructure construction and equipment installation	Low risk, high capital demand
Production and Operation	Mine commissioning, daily operation management	Obtain cash flow, routine management	Low investment risk, main risks arise from management, economic trend and political changes

From investor's perspective, for mining exploration projects, private equity fund could begin the investment during the early preliminary venture exploration phase and withdraw the investment through transfer of stock ownership or through the capital market (IPO) during the later phase. In mine construction and operation phase, in order to withdraw investment through public offering, the project would require a management team over finance, project management and mineral processing.

Over the choice of different investment tools, payment by instalment or options are more fitted for venture exploration project, where resources value are constantly updated and confirmed over the course of investment. In later phases, investment can be done over stock right to bring profit through product sales.

As an exit strategy, equity fund with preliminary exploration projects could exit by going public (IPO) in international capital market such as Toronto stock exchange. For growing project, equity fund can chose to go public in H-share in Hong Kong stock exchange or A-share in Shanghai stock exchange. Those unsuited for going public could withdraw capital by transfer of stock ownership.

Furthermore, when investing for mining project, private equity fund should make reasonable allocation on capital structure and portfolio. The proportion could be lower during the preliminary exploration phase but would take significant increase during the later feasibility study and construction phase (Hu, Yu, & Zhao, 2015). Serious considerations over Chinese state politics on industry and resources, as well as joining with governmental non-profit exploration and resources integration should be taken during the investment.

4. Suggestions over Mining Private Equity Fund Development

4.1. Operating Model

Chinese private equity fund has a late start compared to international counterpart. Significant gap exists in term of capital scale, management experience or human resources (Li, 2012). International mining sector private equity fund, compares to Chinese private equity fund, is more mature in organizational structure, operating method, investment strategy, operation management, incentive program, etc.

Chinese mining private equity funds should work actively on establishing venture mining exploration financing platform in Shanghai stock exchange or Shenzhen stock exchange and to promote closer connection between mining value rating system and the capital market. Formations of more through regulatory measures such as project management regulations, governance structure, information disclosure, exit channel must also be speeded up.

4.2. Market Structure

International stock market has financing platform specially designed for venture exploration that offers lesser requirements to become public listed. It is also eas-

ier to withdraw investment as a public listed company (Shang, 2014). Withdraw of investment in preliminary mining exploration in China is mostly performed through transfer of stocks, merging acquisition. These measures lack of restraint from public market (Hu, Yu, & Zhao, 2015).

Private equity fund has to conduct mining investment based professionalism and market to satisfy financing needs of mining industries from different stages of development. This proves to investors its control over the investment. At the same time, China needs to create new financing platform services, to open industry policies, to simplify approval procedures for administrative license and to create an environment for fair market competition.

4.3. Professionalism Level

A successful operation of private equity fund requires a high professional level with personnel of versatile talent and strong expertise in investment. In order to decrease the risk of investment and professional level for private equity fund in Chinese mining industry. Firstly, a system of professional independent geologist aimed at serving the capital market needs to be put in place; as well as regulations and standards concerning the establishment of mineral resources exploration report. Secondly, developing financing broker and service organizations for mining industry private equity fund to provide investment consultation services. Furthermore, to accelerate the training of talents that are expert in mineral resources exploration and investment management. The Chinese government should establish geological exploration fund, to assume part of the investment risk and to offer subventions to oversea resources exploration.

4.4. State-Owned Backgrounds

Any state-owned mining corporation in China involving in a private equity fund will give the fund some degree of state-owned background. Deficiency in incentive and restraint system will affect efficiency of the equity fund. The present salary incentive measure lacks in appeal to attract international talents. Alternatively, mining private equity fund mainly focuses on investment of non-mature project while the large state-owned mining corporation is more interested in buyout of mature project with known deposit or with low risk of resource exploration, a better cooperation between the two can be achieved. For instance, with regard to overseas mineral resources investment projects, private equity funds could become involved during early phases and transfer to large state-owned corporation when the project becomes mature, to facilitate buyout of mineral resources abroad.

Conflicts of Interest

The author declares no conflict of interest.

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