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Overseas Investment of Chinese Enterprises: Discovery and discussion based on site research

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Abstract

In this study, we administered surveys to 47 Chinese enterprises in six industries related to their overseas investments and operations. The results indicate that a number of them have established overseas networks, expanded markets, and upgraded their technological capabilities through internationalization. Although respondents from all sampled enterprises expressed an intention to increase investments abroad in a general sense, some indicated a specific intention to do so on the basis of new manufacturing capacities. Most of the surveyed enterprises' intentions to invest abroad are due to their desire to gain technological capabilities. Firms in the energy and material industries also expressed a desire to gain access to resources. In terms of the extent to which the surveyed enterprises had an international presence, most were in the preliminary stages of their transnational operations, with a few having progressed to the point of currently engaging in preliminary internationalization and globalization. Survey results also demonstrate multiple ways in which these enterprises develop overseas, but show that they all share an emphasis on improving the degree of competitiveness and promoting transnational operations and development through increased integration of the global value chain. In addition to the survey, we also developed an analytic model to explore the relationship between the overseas operations' income and strength, overseas development strategies, and the overseas experiences of Chinese enterprises. Through this model, a positive correlation between the overseas operations' income and the three outcome variables is revealed. Accordingly, we believe that as the Chinese enterprises strengthen, overseas investment among them will continue to rise.

Keywords: Overseas investment, Overseas network, Strategy mode
JEL classification: F00, M00, M21

† Within the report, we first introduce the research background, objectives, and current statuses of the surveyed enterprises. Following this, we present the main findings of the research with a particular emphasis on the overseas investment activities of three electronic IT enterprises (including Huawei Company). Finally, we discuss a few basic questions related to Chinese enterprises' overseas investments in the context of existing research.
Note: The first three authors are staff members of the Development Research Center of the State Council of China. Cai Xiaoping, an associate professor at Gansu Administrative College who is now visiting scholar of Development Research Center of the State Council, performed data collection and arranged for the investigation of the enterprise cases. This research is supported by RIETI.

In this paper, we first introduce the background and objectives of our research, and the current statuses of the enterprises we surveyed. Following this introduction, we present the main findings of our research placing a particular emphasis on the overseas investment activities of three electronic IT enterprises. Lastly, we discuss a few basic questions concerning Chinese enterprises' overseas investments referring to earlier literature.

I. Research Background, Objectives and Sample Enterprises

1. Research background and objectives

There are two primary motivations behind our research. First, Chinese enterprises' foreign investments have exercised important and growing effects on the economic development of China and the rest of the world.[1] Given this importance of Chinese enterprises' foreign investment, it is critical for people not only in China but also in the rest of the world to empirically explore overseas investment and the development of Chinese enterprises.

Second, despite the rapid growth of Chinese enterprises and their overseas investments, there have been few systematic investigations of their overseas investment activities based on site research. Published researches related to Chinese enterprises' overseas investments are typically divided into three categories by the authors: (a) analysis and research based on site surveys of relatively few enterprises and the public information available on enterprises[2]; (b) analysis and research by international consulting and research companies[3]; and (c) analysis and research by professional organizations in China, including the China Council for the Promotion of International Trade (CCPIT).[4]

Ongoing research performed by the CCPIT has been valuable for understanding the nature of overseas investment by Chinese enterprises after 2007. Specifically, the CCPIT's research into 400 enterprises in 2012 has shown that the chief purpose of overseas investment on the part of Chinese enterprises is to expand their respective foreign markets. According to this research, Chinese enterprises prioritize greenfield investments supplemented by various mergers and acquisitions. They make investment in all kinds of countries, particularly in non-developed countries. The financial results of these investments have not been so good, thus far.

We conducted surveys of 47 Chinese enterprises from February to May and September to November in 2012. In addition, we held a workshop in August of the same year, discussing these enterprises' overseas investment with their principals. Both the surveys and discussion were focused on three principal issues concerning an enterprise: overseas investment activities including the situations of their operations and the factors influencing them, future plans, and evaluations related to the domestic and foreign investment environment and policies. Site research is appropriate for offering a deeper understanding related to the issues addressed in the questionnaire. Further, direct access to corporate executives may proliferate knowledge based on first-hand accounts.

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[1] As reported in the *2011 Foreign Direct Investment Statistical Bulletin in China* produced by the Chinese Ministry of Commerce, Chinese enterprises' overseas investment equaled $2.7 billion in 2002, and over $74 billion in 2011, demonstrating an annual compound growth rate of 26.9%.

[2] Headed by the author, The Study Group carried out site investigations related to overseas investment activities of Chinese enterprises in the information industry in 2005.

[3] For example, the Boston Consulting Group (BCG) (2012).

[4] See *Report on Overseas Investment and Business Circumstance Investigation of Chinese Enterprises in 2012,* which was prepared by the China Council for the Promotion of International Trade (2012).

There are two characteristics of this research that are important to consider. First, the enterprises are distributed across various industries,and most of the enterprises have made overseas investment. These features can facilitate an understanding of Chinese enterprises that actively invest overseas. Second, the research team is comprised of the experts of the State Council Development Research Center, based on the knowledge support of experts[5]from the Research Institute of Economy, Trade and Industry.

2. Enterprise profiles

This brief section offers some descriptive details of the 47 enterprises that provided data for this research. First, the enterprises are distributed across six industries: electrical and electronics, textiles, machinery, energy/materials, automobiles, medicine/chemicals. Second, the enterprises' sales volumes are relatively large. They range from ￥2,550,000,000,000 to ￥300,000,000 with the average of ￥160,800,000,000 in 2011. Third, 46.8% of the enterprises are state-owned; 44.7% of the enterprises are privately owned; and 8.5% are subject to mixed ownership. 61.7% of the companies we surveyed are listed companies. Finally, the surveyed enterprises are distributed across the coastal provinces. Thirteen enterprises are in Guangdong; 12 enterprises are in Shandong; and Beijing, Shanghai, Liaoning, Zhejiang, Hunan, and other provinces contain between 2 and 5 surveyed enterprises. Details of the surveyed enterprises are summarized in Table 1.

Table 1
Total Number of Enterprises Based on Industries and Income

Industries / sales volume (￥100,000,000)	Electrical and electronics	Textiles and garment	Machinery	Energy/Materials	Auto	Medicine/Chemical	Total
<100	2	2	6	1	1	5	17
100-300		1	5	1	1		8
300-1000	4	2	3	1	2		12
>1000	4			3	3		10
Total	10	5	14	6	7	5	47

Note: The industries listed in Table 1 are based on 4 digits level industrial classification and several of them are the results of merging some industries in 4 digits level industrial classification. Electrical and electronics comprises consumer electronics, household appliances, computers, and communication equipment; textiles and garment includes textiles and clothing; machinery includes general and special machinery; energy/materials includes oil, iron and steel, nonferrous metals, and building materials; and automobiles include automobiles and automotive parts.

II. Main Research Findings

1. Overseas sales volume[6] and proportion

[5] Wakasugi, Ito, Yashiro and other experts in RIETI have given support for research topic, questionnaire design, and analytical discussion.

[6] We found that for most Chinese enterprises, sales data and export data are essentially equivalent. This not only provides information related to the enterprises' internal management practices, but also indicates that the overseas operating activities of

Among the surveyed firms, overseas sales volumes range from ￥620,000,000,000 to ￥6,000,000, with an average value of ￥40,900,000,000. In general, the average sales volume of enterprises within the energy/materials (￥209,200,000,000), electrical and electronics (￥40,100,000,000), and automobiles (￥18,900,000,000) (if Gleely Automobile's sales volume is excluded, ￥2,000,000,000) tend to be larger, while the average sales volume is smallest within the medicine/chemical industry (￥600,000,000). Across all industries, 14 enterprises generated an overseas sales volume of more than ￥10,000,000,000. Details associated with each industry's sales volume are shown in Table 2.

Table 2
Overseas Sales and Industries of Enterprises

Industries Overseas income (￥100,000,000)	Electrical and Electronics		Textiles and garment		Machinery		Energy/Materials		Automobiles		Medicine/Chemical	
	Number of Enterprises	Average Scale	Number of Enterprises	Average Scale	Number of Enterprises	Average Scale	Number of Enterprises	Average Scale	Number of Enterprises	Average Scale	Number of Enterprises	Average Scale
<5	1	3	2	1.1	3	3.2			2	2.7	1	5
5～10					4	8			1	8.7	4	6.67
10～30					5	20.4	1	13	2	26.5		
30～100	3	55	2	40.3			1	63	1	50		
〉100	6	655.8	1	283	2	155	4	3119	1	1197		
Total	10	401.3	5	73.2	14	32.4	6	2092	7	188.7	5	6.34

The average ratio of the sampled enterprises' overseas sales volume to total sales volume ranges from 0.1% to 100%, with an average of 28.5%. Specifically, the average ratios of overseas sales volume to total sales volume in the electrical and electronics, machinery, textiles, energy/materials, automobiles, and medicine/chemical industries are 48%, 30%, 28%, 25%, 16% and 5.3% respectively. For all industries except the medicine/chemical industry, there are some enterprises whose overseas sales volume to total sales volume ratio exceeds 50%.

Table 3
Industry Distribution of Firms in Terms of Overseas Sales Volume to Total Sales Volume Ratio

Industries Proportion of Overseas Scale	Electrical and Electronics		Textiles and garment		Machinery		Energy /Materials		Automobiles		Medicine/Chemical	
	Number of Enterprises	Average Proportion	Number of Enterprises	Average Proportion	Number of Enterprises	Average Proportion	Number of Enterprises	Average Proportion	Number of Enterprises	Average Proportion	Number of Enterprises	Average Proportion
<10%	1	9	1	5	6	5	1	7	5	3	2	7
10-30%	3	22	3	16	4	16			1	17	3	18
30-50%	1	37					3	26				
>50%	5	73	1	89	4	76	2	32	1	80		
Total	10	48	5	28	14	30	6	25	7	16	5	12

most Chinese enterprises prioritize sales services and simple assembly.

2. Overseas investment duration and overseas employees

The average of the duration of overseas investments is 8.6 years. However, for 29.8% of enterprises, overseas investments lasted more than 10 years. For 38.3% of enterprises, overseas investments lasted between 5 and 10 years, and 31.9% of enterprises had investments that lasted less than 5 years. Firms in the electrical and electronics industry had the longest investments on average, lasting 10.6 years. Investments in the medicine/chemical industry were of the shortest duration, on average (3.4 years)

Table 4

Overseas Investment Duration and Industries

Investment Duration	Electrical/Electronics	Textiles	Machinery	Energy	Automobiles	Medicine/Chemical	Subtotal
〈3 years				1	1	1	3
3～5 years	1		7	1	1	2	12
3～5 years	3	3	5	1	4	2	18
〉10 years	6	2	2	3	1		14
Subtotal	10	5	14	6	7	5	47

Overseas investment duration is related to overseas sales volume—longer investments require a greater investment value. As such, all firms that generate overseas income greater than ￥10 billion have more than 5 years' experience in overseas investments.

Table 5

Overseas Investment Duration and Overseas Income

Overseas Investment Duration / Overseas Income	< 3 years		3-5 years		5-10 years		> 10 years	
	Number of Enterprises	Average Scale (￥100,000,000)	Number of Enterprises	Average Scale (￥100,000,000)	Number of Enterprises	Average Scale (￥100,000,000)	Number of Enterprises	Average Scale (￥100,000,000)
< 500,000,000	2	0.38	3	4.15	2	1.5	2	1.94
500,000,000 ～ 1,000,000,000	2	6.6	3	22.4	4	7.9		
1,000,000,000～ 3,000,000,000	1	13	2	16	2	21.5	3	26.7
3,000,000,000～ 10,000,000,000	1	34.6	1	63	4	57.4	1	31.5
More than 10,000,000,000					6	543	9	1868
Total	6	10.3	9	14.4	18	198.1	14	1075.7

Generally, the size of an enterprise's overseas staff is related to its overseas sales volume

and overseas network structure. The size of the overseas staff of the surveyed firms in the electrical and electronics, energy/materials, and machinery industries is relatively large and they consist primarily of local employees. The difference in the composition of overseas staff hinges primarily on the industry in which the firm operates and the firm's stage of development. The proportion of Chinese staff is higher at the networks where the local technical staff is less but overseas technical services are earnestly needed, or a few small-scale functions (sales, technical services and gathering information) are coexisting.

3. Overseas networks: Scale, function, and layout.

Overseas networks refer to a collection of foreign institutions that are controlled by a given enterprise and have specific operating functions. Overseas networks are an important part of every enterprise's organizational system and a major source of an enterprise's operational power. The institutions that comprise a firm's overseas network may include investment companies, offices, or long-term facilitating agencies. The scale of these networks can be illustrated in terms of the number of institutions that comprise them, and their function structures can be derived from the various business functions performed by those institutions.

Overseas network scale

Among the enterprises surveyed, overseas networks ranged from one to 380 foreign institutions. On average, overseas networks were comprised of 40 foreign institutions. Overseas networks in the electrical and electronic industry were the largest among all the industries, with an average of 57 foreign institutions. On average, the textile industry had the smallest overseas networks, consisting of only six foreign institutions. Data related to the sizes of the enterprises' overseas networks are summarized in Table 6.

Table 6
Scales of Overseas Network(s) by Industry

Industry	Number of Network								Average Network of Industry
	< 20		20-50		50-100		100 <		
	Number of Enterprises	Average Network	Number of Enterprises	Average Network	Number of Enterprises	Average Network	Number of Enterprises	Average Network	
Electrical	2	4	3	36	3	67	2	128	57
Textiles	5	6							6
Machinery	9	8	3	29	1	82	1	321	40
Energy	3	11	1	36	2	78			38
Automobiles	4	9	2	27			1	380	67
Medicine/ Chemical	5	7							7
Total	28	7.6	9	31.7	6	73.2	4	239.3	

The size of an overseas network is related to overseas sales volume, overseas investment duration, and the degree to which a firm engages in mergers and acquisitions. Specifically, larger overseas networks are positively related to overseas sales volume. For enterprises that have overseas sales volumes that exceed ￥10 billion, overseas networks consist of an average of 79 institutions. In contrast, firms with an average overseas sales volume of less than￥500,000,000

have overseas networks comprised of fewer than four institutions, on average (see Figure 1). In addition, enterprises' overseas investment duration is positively related to the size of their overseas networks (see Table 7). Finally, more than half of the 10 enterprises that have overseas networks consisting of more than 50 institutions engage in substantial M&A overseas.

Figure 1: Overseas Sales Volume and Number of Overseas Networks

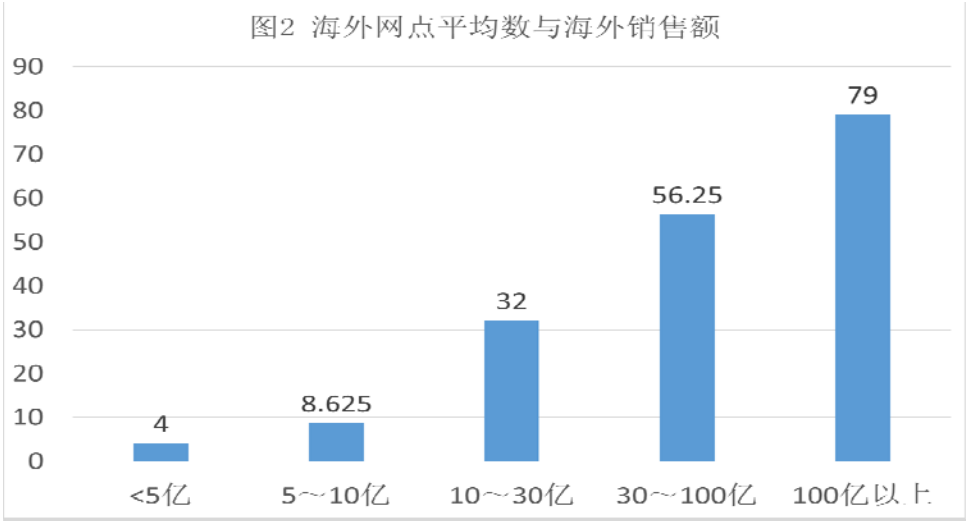

Table 7
Overseas Network Number and Overseas Investment Duration

Overseas Investment Duration	Number of Network							
	< 20		20-50		50-100		100 <	
	Number of Enterprises	Average Network	Number of Enterprises	Average Network	Number of Enterprises	Average Network	Number of Enterprises	Average Network
Less than 3 years	3	8						
3-5 years	7	6	1	20				
5-10 years	11	10	4	36	1	60	1	380
More than 10 years	5	7	4	30	5	75	3	192
Total	26	8.1	9	31.6	6	72.5	4	239

Overseas network functions

The functions of overseas networks can be classified into one of six categories: sales (including related technical services), production (including assembly), research and development, design, the collection of natural resources, and others (e.g., financial financing, technical service, delivery, logistics, warehouse, and training). Table 8 demonstrates that the sales function accounts for roughly 72% of an overseas network's activity in relation to a parent enterprise. Production assembly accounts for 9% of that activity; the collection of natural resources accounts for 6%; research and development and design collectively account for 4%;

and financing accounts for only 1%.

The association between a network's function distribution and its size reflects that the development strategy or layout of overseas networks will constantly shift. As demonstrated by Table 8, as networks grow in size the proportion of that network that is dedicated to sales fluctuates. However, the proportion of the network that engages in finance-related activities falls as the overseas network grows in size.

Table 8
Number and Functional Distribution (%) of Overseas Networks

Overseas Network Number	Sales	Production and Assembly	R & D and Design	Others	Total	Number of Enterprises
< 20	56	13	8	23	100	28
20-50	61	15	7	17	100	9
50-100	49	14	5	32	100	6
〉100	88	5	2	5	100	4
Weighted average	72	9	4	15	100	

Although Table 8 demonstrates the proportions of various functions served by overseas entities, these proportions vary across industries. Data in Table 9 suggest that overseas entities primarily perform sales functions in all industries except the energy/materials industry. Predictably, the collection of natural resources represents the most substantial function (55%) served by overseas institutions in the energy industry.

Table 9
The Network Function Proportion by Industry (%)

	Sales	Production and Assembly	R & D and Design	Natural Resources	Financing	Others	Total
Electricity & electronics	67	13	6	0.2	1.2	13	100
Textile	53	27	7	7	4	1.4	100
Machinery	79	6	3	1	6	1	100
Energy/materials	30	9	1	55	1.7	3	100
Automobile	88	5	3		0.7	4	100
Medicine/chemical	49	3	23	9	3	14	100

Overseas network geographic distribution

Data in Table 10 indicate that 70.4% of entities that comprise Chinese enterprises' overseas networks are distributed across developing countries. 34.6% of these entities are located in Asia (with the exception of Japan and Republic of Korea, which contain 5.7%); 10.4% are located in North America; and 13.5% are located in Western Europe.

The key regions in which Chinese enterprises' overseas networks engage in financing activities are Hong Kong and North America; the procurement of natural resources is performed primarily in the Association of Southeast Asian Nations (ASEAN), the Middle East, Central and South Asia, Australia, Africa and the Americas.

Table 10
Overseas Network Function and Geographical Distribution

Network Function Structure						Number of Enterprises With Network	
Area	Sales	Production/ Assembly	R & D and Design	Natural Resources	Others	Number	Enterprises invested in the area/all enterprises (%)
Japan and Republic of Korea	79	8	10		3	21	45
Hong Kong, Macao and Taiwan	61	2	1		40	33	70
ASEAN	72	12	1	5	10	31	66
Middle East	88	5		7		14	30
South and Central Asia	71	14	1	9	6	30	64
Australia	65	7	5	16	7	20	43
Eastern Europe (including Russia)	75	11	6	2	6	27	57
Western Europe	74	9	10		8	32	68
Africa	76	7		11	6	28	60
North America	62	12	15	5	7	37	79
South America	70	10		8	12	31	66
Total	72	9	4	6	9	47	100

According to the data in Table 11, the proportions of the overseas networks dedicated to sales in the electrical/electronics, energy/materials, and medicine/chemicals industries are substantial. Within the electrical/electronics industry, production-related activities are concentrated in developing countries, and R&D is concentrated in developed countries. Within the energy/materials industry, R&D networks are primarily based in North America and Western Europe. Furthermore, the energy industry is characterized by large resource networks that are distributed across North America, Australia and other developing countries. Finally, the medicine/chemical industry has fewer production networks, but focuses its R&D efforts in developed countries.

Table 11
Distribution of Overseas Networks (Electronics, Energy, Chemical Industries)

	Electricity/Electronics			Energy/Materials				Medicine/Chemical		
	Sales	Production	R&D	Sales	Production	R&D	Natural Resources	Sales	Production	R&D
Japan and Republic of Korea	63	8	25	50	50			67		33
Western Europe	79	4	9	64	18	9		33		33
North America	52	15	26	43	7	7	36	20		50
Hong Kong, Macao and Taiwan	50	2	2	44	11			67		
ASEAN	73	17	2	37	7		37	67		

Middle East	6			69	6		25			
Asia, and other areas	69	23	1		5		95	50		
Australia	70						100	100		
Eastern Europe, Russia	68	15	12	33			67	50		50
Africa	75	14		13	13		75	75		
South America	56	21	2	21	4		75	50		
Total across all industries	65	13	6	29	9	1.2	54	55	0	26

According to the data in Table 12, each enterprise's network includes entities from 17 different countries, on average. Twenty-two enterprises (46.8%) have overseas networks that include entities from more than 10 countries. Enterprises in the electrical/electronics industry have networks of the largest geographic breadth, encompassing 31 nations, on average. In contrast, the textiles industry is marked by overseas networks with the smallest geographic breadth (i.e., four countries, on average). Survey results also indicate that geographic breadth is positively associated with overseas M&A.

Table 12 Overseas Network Breadth and Industry

Industries The Number of Countries Covered	Electricity & Electronics		Textiles		Machinery		Energy/Materials		Automobiles		Medicine/Chemicals	
	Number of Enterprises	# Countries	Number of Enterprises	# Countries	Number of Enterprises	# Countries	Number of Enterprises	# Countries	Number of Enterprises	# Countries	Number of Enterprises	# Countries
<5	2	2.5	4	2.2	5	2.8	1	4	2	1.5	3	2.7
5-10					3	7.7	2	7	2	6	1	6
10-30	3	24	1	12	4	15.8	3	25	2	17	1	12
30-50	4	37			1	40						
>50	1	85			1	56			1	118		
Total	10		5		14		6		7		5	

4. Overseas business mode

Overseas operations are typically divided into two basic operating modes. The first of these, referred to as equity control, is further divided into holding, equity participation, and sole proprietorship. The other basic mode of operation, non-equity investment, is a type of contract control based on strategic cooperation and long-term commission.

According to the data presented in Table 13, production and assembly networks are primarily governed by holding strategies, though some enterprises implement equity participation strategies as well. Non-controlling modes of overseas operations strategies have also grown increasingly important as some foreign countries possess existing production assembly enterprises. Our research suggests that Chinese enterprises value long-term cooperation, particularly with local enterprises. In addition, Chinese enterprises have developed a number of strategic, indirect capital relationships.

Table 13
Shape and Industry of Overseas Production and Assembly Network

Industries	Enterprise(s) Within Production Network	Proportion of Enterprises with Given Form				Number of Enterprises
		Holding	Equity participation	Sole proprietorship	Contract	
Electricity	9	56	44	33	44	10
Textiles	1		100			5
Machinery	9	56		44		14
Energy	5	60	60	40		6
Automobiles	6	50	50	17		7
Medicine/Chemical	2	50	50			5

Sales networks prioritize holding strategies, but smaller enterprises may engage in equity participation strategies or contract with small, professional corporations or merchants. Similar to sales networks, R&D and design networks tend to prioritize holding strategies, but do so primarily in two basic scenarios: when a subsidiary is established through investment or acquisition, or when a joint venture is established between holding enterprises and local experts. Typically, there is significant contract cooperation in terms of R&D and design among professional technical institutions or universities, as well as individual experts. Natural resource projects generally integrate holding and contract cooperation strategies in association with the laws of the host countries.

5. Green Space Investment and M&A

Generally speaking, green space investment has been given more emphasis at overseas investment, so M&A have grown increasingly important.

In accordance with this general tendency, the 47 enterprises surveyed for this study engage in green space investment (including joint venture investment). We found that 26 enterprises (55.3% of the total sample) have engaged in overseas M&A. The tendency to engage in overseas M&A is particularly pronounced in the electricity and electronics (70% of firms), machinery (57%), automobile (57%), and energy (83%) industries. Similarly, the proportion of enterprises that engage in M&A is higher among large enterprises; 10 of 11 enterprises whose annual income is higher than ￥100,000,000,000 have performed overseas M&A.

Survey results have also revealed general tendencies with respect to acquisitions. Enterprises in the electrical and electronics and machinery industries primarily focus on acquiring enterprises or assets with advanced technologies, sales channels, or established brand in Europe or the United States. Enterprises in the automobile industry seek to acquire parts manufacturers in Europe and the United States. Within the energy/materials industry, enterprises generally attempt to acquire companies or projects with access to abundant natural resources. Similarly, in the textile industry, enterprises target companies with their own established brand and raw material assets (e.g., cotton farm, ranch). Finally, enterprises in the medicine/chemical industry often seek to merge with or acquire R&D institutions and organizations with access to raw materials. Although M&As typically occur in developed countries across all industries, some M&As take

place in developing countries. In the case of the latter, enterprises generally seek to associate with other enterprises on resource projects.

Typically, merged enterprises are operated with a holding strategy, as managers tend to believe that such a strategy is conducive to exchanging technology and commanding a sales network. In those industries aming at access to resources, enterprises usually carry out M&A through equity participation, which is associated with the limitation of the local policy prioritizing the procurement of resources.

6. Overseas investment effect

In addition to the implications of the findings outlined above, this research is also focused on assessing the effect of overseas investment on sales, technology, production, and other relevant outcomes. To this end, 45 enterprises provided data related to the relationship between overseas investment and sales development of foreign and domestic market.[7] According to their responses, 96% of enterprises have increased their overseas sales and market share, about 30% of enterprises have increased their domestic sales, and 51% of enterprises have improved their international reputation.

Survey results also indicate that overseas investment is associated with improvements in an enterprise's technological ability, including R&D capacity. 51% of enterprises have claimed that overseas investment has increased their capability to perform research and development. In this vein, roughly 89% of enterprises have situated their R&D epicenters in Europe and the United States, and 73% of enterprises have engaged in international M&A. In addition, 9% of the enterprises surveyed have been able to engage in low-cost production activities as a result of their overseas investments.

7. Factors that drive overseas investment and M&A among Chinese enterprises

One of the key goals of this research is to identify the primary drivers of overseas investment and M&A among Chinese enterprises. To explore this issue, we allowed survey respondents to select various factors that have affected their overseas investment. Then, we discussed these factors with them to provide a more nuanced understanding.

Specifically, we provided survey respondents with 13 factors that may have affected their decisions related to overseas investment.[8] Among these factors, five seem to have been most influential in promoting overseas investment for Chinese enterprises. First, the majority of surveyed enterprises (81%) claimed that the potential to secure market share in foreign markets was a key determinant of their overseas investment. Second, a large number of enterprises (57%) argued that the availability of skilled technical staff drove their decision to invest overseas. Third, many (53%) Chinese enterprises seem to have been motivated to invest overseas by the degree to which organizations in the targeted investment region possess enough sufficient technical knowledge needed. Fourth, 21% of enterprises expressed that the policy effects of the investment

[7] Two enterprises had just begun their overseas investment practices, which made their provision of data related to them impossible.

[8] These factors included: (1) Current or future local demand, (2) Current or future demand of neighboring countries, (3) the availability of high-quality, low-cost labor, (4) the availability of skilled technicians or researchers; (5) the availability of parts and raw materials in the local area, (6) inexpensive land and other local capital, (7) local enterprises have competent technical knowledge, (8) product quality and price advantage are conducive to buy back to China, (9) local infrastructure and social capital meets necessary standards, (10) a history of success for other Chinese enterprises, (11) preferential measures on taxation and the availability of financing incentives, (12) direct exports should be changed into local production to avoid restrictive trade measures implemented by the local government, (13) other.

nations or regions (i.e., enable trade restrictions if higher tariff occurs) incited them to invest overseas. Finally, local taxation was a key determinant of overseas investment among several Chinese enterprises (17%).

Across most industries, the availability of foreign markets was the most important predictor of foreign investment. However, firms from various industries associated varying degrees of importance to the other factors outlined above. For example, enterprises in electrical and electronics, machinery, energy/materials, and medicine/chemical industry argued that the availability of skilled technical staff and the technical knowledge of the local region were principal drivers of foreign investment. Enterprises in electrical and electronics, machinery, and automobile industries attributed a significant amount of importance to the policy-related factors that may influence their business operations. Finally, enterprises in electrical and electronics and automobile industries were most concerned with local taxation when making overseas investment decisions. Generally, larger enterprises attributed greater importance to the policies and taxation laws of the local region when determining whether to invest in a particular area.

Similar to our method for identifying key factors that drive overseas investment, we also provided survey respondents with nine options that may drive overseas M&A.[9] We identified five key factors that promote overseas M&A among Chinese enterprises. These factors include technology research and development ability (73% of enterprises indicated that this was an important factor), brand (58%), complementarity with China's domestic business contents (42%), sales channels (38%), and collecting channels for parts (27%). Enterprises in the electrical and electronics, machinery, and automobile industries are most concerned with the target organization's complementarity with China's domestic business contents, and enterprises in the machinery and automobile industries primarily consider the availability of sales channels in making decisions related to overseas M&A. Generally, there is a direct and positive relationship between an enterprise's size and the importance it attributes to factors related to matching domestic and overseas operations, integrating markets, securing parts for production

Differences in international environments, enterprise strategies, and enterprise strength significantly influence M&A decisions on the part of Chinese enterprises. For example, both TCL and Lenovo have large overall overseas M&A. In contrast, Huawei does not engage in large-scale overseas acquisition, but has instead focused on acquiring smaller technology companies. Although all three enterprises are similar in terms of their financial condition, market, and the enterprises they target for acquisition, Huawei has a certain international competitiveness that TCL and Lenovo lack. Therefore, Huawei's primary market remains in developing countries for a number of reasons. Most notably, they face difficulties in acquiring enterprises in developed countries, as they lack viable acquisition targets. This will be discussed in greater detail in Section III.

8. Future plans

All surveyed enterprises expressed an intention to expand their overseas investment activities in the next 3-5 years. The majority of enterprises claimed that they would specifically

[9] These options include: (1) Technical knowledge, research and development capabilities, intellectual property, experience, (2) Brand, awareness, (3) financing channels network for parts, raw materials, (4) distribution channels network, (5) operational state (e.g., market share, yield rate), (6) complementarity with China's domestic business contents, (7) capital financing capacity, (8) social and political influence, (9) other.

expand their investment in their overseas manufacturing, sales, R&D, and design networks. Despite these intentions, five larger enterprises expressed an intention to shift their investment focus away from overseas manufacturing bases, and should instead attempt to utilize their existing manufacturing bases or join in cooperative agreements to facilitate their manufacturing operations.

9. Views on the barriers to investment in the host countries

To explore the enterprises' perspectives on barriers to investment in the host countries, we asked survey respondents to choose which factors were the most significant barriers to investment among 21 options.[10] From these 21 options, enterprises indicated that four are particularly strong barriers to investment. These four restrictions include exchange restrictions (36% of enterprises indicated it serves as a barrier to foreign investment), restrictions on visa issuance (36%), political instability (26%), and restrictions on employing foreigners (19%). Generally, there was a positive relationship between an enterprise's size and the degree to which these factors affect foreign investment. Enterprises in electrical and electronics and energy/materials industry generally claimed to be most affected by these factors. Enterprises in the machinery industry claimed to be most significantly affected by restrictions on visa issuance. Most of the enterprises in the textile and medicine/chemical industries did not respond to the question, not because these factors are unimportant, but because the enterprises in these two industries have lower degree of internationalization. This restricts their ability to properly evaluate the factors' respective influences on their overseas investment.

10. Evaluation of China's relevant policies

In addition to the above, surveyed enterprises were also asked to evaluate the nine policies related to foreign investment implemented by the Chinese government. As a result of the government's relaxation of controls on foreign investment in 2004, most Chinese enterprises positively evaluated the current government policy. Still, the various types of enterprises evaluate China's policies differently. For example, state-owned enterprises wished for improvements to a number of policies. Specifically, they expressed a greater need to streamline approval procedures, emphasize a market-oriented approach for leaving the country of the person in charge of state-owned enterprises, and salary adjustments for individuals in offshore companies. In addition, enterprises with large-scale M&A and resources investment demands argued that the national policy and financial support could be made to be more convenient.

III. Cases of Overseas Investment among China's Electronics IT Enterprises: Lenovo, TCL, Huawei[11]

1. Lenovo

[10] These factors included: (1) local localization rate, (2) restrictions on exports,(3) domestic sales restrictions, (4) technology transfer restrictions, (5) contribution ratio restrictions, (6) exchange rate restrictions, (7) remittance restrictions, (8) restrictions on employing foreigners, (9) restrictions on issuing visas, (10) increasing tax policy, (11) customs duty rates and differential treatment, (12) personnel entry and exit, (13) import and export management practices and procedures, (14) transfer pricing tax system, (15) political stability, (16) insufficient information, (17) inadequate infrastructure, (18) incomplete service, (19) labor force difficulties, (20) difficulty coordinating with local partners, (21) other (please list specifically).

[11] The information in this section is based on the enterprises' annual reports and other public information.

Lenovo Group Limited (hereafter, Lenovo) is a Hong Kong listed company held under Legend Holdings Ltd. (hereafter, Legend Holdings). Lenovo is a leading company in the global PC industry, producing personal computers, servers, workstations, and smartphones. The company was formerly known only as the Computer Division of Legend Holdings. Legend Holdings owns 33.58% of Lenovo, and 57.81% of the company is comprised of public shareholdings. Legend Holdings is owned by a number of entities. These include the Chinese Academy of Sciences (36% ownership), employee shareholdings (24%), two private Chinese enterprises (28.9%), and Liu Chuanzhi (3.4%). Other shareholdings account for 7.7% of the firm's ownership.[12]

Table 14
Financial Data for Lenovo Group

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Operating Income (￥100,000,000)	27	28	28	127	146	164	149	166	216	296
Overseas operations income percentage (%)	39			64	64	63	57	52	54	58
Net profit (￥100,000,000)	1.40	1.24	1.34	0.27	1.61	4.85	-2.26	1.29	2.73	4.75

Data Source: Lenovo annual report

Note: There are no overseas operations income percentages for 2004 and 2005 due to missing data. Data prior to 2008 are associated with areas outside Greater China. Data from 2009 onward refer to those outside Mainland China.

Though the company was incorporated in Hong Kong in 1988, the Lenovo brand emerged only in 2004, and expanded overseas shortly thereafter. Legend began its multinational operations on April 1, 2004, when the company acquired the former Personal Computer Division of IBM for $1,750,000,000. Immediately following its acquisition, Lenovo became the world's third-largest PC manufacturer. Despite its fast growth, the years following its acquisition by Legend were very difficult. The general slowdown of the PC market, the company's lack of experience with multinational operations, and the high cost associated with securing talented employees made it difficult for Lenovo to be completely successful in its early years. Given this, Lenovo did not operate smoothly until 2010.

Generally speaking, the development of Lenovo's multinational operation has had the following characteristics:

- Substantial growth after acquiring IBM's PC business in 2005, followed by a small drop and a steady climb thereafter. By 2011, Lenovo accounted for two-thirds of mature markets and one-third of emerging markets overseas.
- A relatively high degree of internationalization of stock equity and governance structure. Four of eight directors are foreign, and the CEO is Chinese.
- A greater emphasis on acquisition and joint development, which have resulted in substantial growth (e.g., the acquisition of IBM's PC business, three other

[12] According to 2011 Lenovo Annual Report.

acquisitions of American, Brazilian, and German companies in 2011-2012; joint venture with NEC assets in Japan).

- A greater emphasis on technology, management, culture, and globalization. Following the acquisition of Lenovo, information systems, management processes, and global corporate modes were integrated. Tolerance and respect of other cultures has been advocated.
- Assumption of responsibility on the part of Chinese executives. The transition from an American to Chinese management incited rapid development, thus turning a financial loss into a profit.

In 2011, Lenovo's net income equaled $29.57 billion with a net profit of $480 million. Lenovo's networks span the globe, though it boasts two main operation centers (Beijing and Raleigh) and 11 manufacturing bases. In addition, Lenovo conducts R&D at institutions across three continents: Europe, Asia, and the Americas. In total, Lenovo operates in over 160 nations, has branches in 64 key countries and regions, and employs more than 19,000 people around the world.

2. TCL

TCL was founded in 1982 and entered into the color TV industry in 1992. At present, TCL engages in business related to the color television, the LCD panel, and communications terminals. In 2011, TCL's net income was ￥60.83 billion, with a net profit of ￥1.67 billion. In 2012, TCL produced and sold 15.78 million color televisions (the third most in the world) and 42.6 million mobile phones. When founded, TCL was a state-owned enterprise. Later, however, it became a listed company of which only 9.8% of shares are state-owned shares. Relevant details associated with TCL's multinational operations are summarized in Table 15.

Table 15
Financial Data for TCL Group

	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total operating income (￥100,000,000)	283	403	517	469	381	384	429	519	608
Overseas operating income percentage (%)	12	40	54	57	44	45	39	39	38
Net profit (￥100,000,000)	5.7	2.45	-3.2	-19.3	3.96	5.01	4.70	4.33	16.71

Originally, TCL engaged exclusively in exporting. In the 1980s, the company exported telephone equipment, and in the 1990s, it expanded such that it began exporting televisions as well. Its first overseas factory was opened in Vietnam in 1999, after which Lenovo products were produced and sold in Singapore, Indonesia, Russia, and other countries. The company's first multinational acquisition occurred in 2002, when TCL acquired Germany's Schneider Electric's household appliance division for 8.2 million Euros. The following year, Lenovo acquired Gao Weida companies in the United States. In 2005, the company acquired Thomson TV and Alcatel mobile.

As the company has grown and developed, it has shown an increasing emphasis on

international cooperation. Though TCL's parent company is listed in Hong Kong, it has a number of foreign investors, and is engaged in long-term cooperative joint ventures with companies in Japan, Europe, the United States, and South Korea.

Through these investments, acquisitions, and cooperative relationships, TCL has formed a global business network that is comprised of seven global R&D institutions, 20 production facilities, and customers for its TV products in more than 40 countries.

Despite its growth and success, it has proven very difficult for the firm to smoothly integrate following its acquisitions. For example, it took TCL nearly three years to turn a financial loss into a gain after acquiring Thomson in early 2005. The key reasons for this delay include the relatively quick flattening of color televisions and structural changes in the mobile phone market, a lack of salient experience and strength, and a gap in financing investments in the LCD sector. TCL was able to survive these problems by adjusting and integrating their strategies and product structures, selling PCs and other assets to provide monetary resources for financing, taking regular cash flow and profit assessments; and strengthening management practices.

3. Huawei Group

Huawei was founded in 1988 and specializes in communications systems, business systems, terminal development, manufacturing, and related services. Since its inception, Huawei has become the world's largest provider of telecom network solutions, the 2nd largest provider of telecom equipment, and the fifth-largest firm in terminal development. In 2011, Huawei's annual income was ￥203.9 billion with a net profit of ￥11.6 billion, making it the world's most profitable telecom enterprise. Huawei is an unlisted company; its current CEO, Ren Zhengfei, owns 1.42% of the company's shares, and the others are shared by its 60,000 employees. Huawei is a technologically strong enterprise, owning 2,751 invention patents by the end of 2011. Financial data related to Huawei's multinational operations are summarized in Table 16:

Table 16
Data of Huawei Group

	2000	2005	2006	2007	2008	2009	2010	2011
Total Operating Income (￥100,000,000)	233	483	664	938	1252	1490	1852	2039
Overseas operating income percentage (%)	3	58	65	72	75	63	65	68
Net profit (￥100,000,000)		55.19	39. 99	75.58	78.48	182.7	247.16	116.5

The development of these markets was largely based on pricing advantages, technical strength, and various methods of international cooperation with other entities. For example, Huawei established long-term cooperative relationships with Motorola in 2002 and Siemens in 2004. Moreover, Huawei has engaged in various cooperative R&D and marketing activities with Infineon, TI, MS, Intel, 3Com, Qualcomm, NEC, Panasonic, IBM, and other companies.

Huawei's attempts to engage in international M&A have not always been successful. Though Huawei has successfully acquired a number of smaller technology companies successfully, its acquisitions (3COM Corporation, 2Wire, 3Leaf technology, and Moto's mobile network) and procurements (Sprint, Verizon, and AT&T) have failed as a result of rejection or

interference on the part of the American government. It would be extremely difficult for Huawei to engage in M&A in the United States as many American institutions have recommended against cooperating with the company.

Despite these setbacks, Huawei has nevertheless established a corporate global business network. Its products and services have been sold to 45 of the top 50 carriers in more than 140 countries around the world. Furthermore, Huawei boasts more than 10 global R&D institutions, and has built institutes in Dallas and San Diego (United States), Bangalore (India), Stockholm (Sweden), Moscow (Russia), and a number of other cities. Finally, the company has employed more than 130,000 employees, about one-fourth of which have been overseas.

4. Summary

The experiences of Lenovo, TCL, and Huawei have shown that prior to China's accession into the WTO, exporting their goods (followed by investment and large-scale M&A) represented a first step for Chinese enterprises attempting to engage in international development. Despite this, the development and implementation of multinational strategies are not identical for all three enterprises. For example, whereas the multinational M&A of Lenovo and TCL contributed to corporate globalization, Huawei relied primarily on its own capabilities reveal opportunities in international markets. Variation in the internal and external factors of Chinese enterprises suggests that the road to international development will vary from enterprise to enterprise.

IV. Relevant Discussion: Development, Stage, Strategic Mode, and Driving Factors

1. Chinese enterprises strive to expand their markets by accessing technology and resources through foreign investment.

Our findings related to this are in accordance with those contained in the Tian Zhilong (2005) report and the report of Council for the Promotion of International Trade (2012).

Low-cost production is achieved by utilizing cheap labor in host countries. However, it is somewhat unorthodox to use the host countries as an overseas production base. The availability of low-cost local production, though enticing, is not the most frequently cited motivation for engaging in overseas investment in “low-cost regions” such as India, Southeast Asia, and Africa. Rather, local policies, including those related to tariffs and quotas are the primary determinants of overseas investment. Generally, Chinese enterprises will engage in heavier overseas investment to establish production bases, reduce production costs in China, and contribute to the gradual integrity of the industry chain in host countries. Some developed countries (e.g., Germany) have been used (through investment or acquisition) by other developed countries as bases from which to export their products.

2. Multinational operation phase

In accordance with the scale of an enterprise’s overseas sales[13] and the layout and operation of overseas networks, the enterprise’s international operation can be divided into three stages based on the enterprise’s system and culture (the concept and management capabilities of global operations) standard of overseas investment.[14] During the first stage, preliminary international operations, the enterprise begins to export its products. During preliminary international

[13] Includes two indicators: overseas sales proportion and absolute amount.

[14] Stopford & Wells (1972) have discussed the problem on international operation development; the paper classified the stage by referring the comprehensive study between Chapter I of Nakamura Hisato (2002).

operations, the firm may have a few foreign customers and assembly sites. The second stage, during which the enterprise becomes a multinational operation (which can be further divided into preliminary multinational operations and overall multinational operations), represents the time frame during which an enterprise's overseas revenue reaches a relatively high level. During the multinational operation stage, the firm is likely to have multiple functional sites in several countries. The final stage, referred to as global operation (which can be further divided into preliminary global operation and overall global operation), refers to a time frame in which an enterprise's overseas operations account for a significant portion of its overall activities. When an enterprise reaches the global operation level, it possesses an expansive, worldwide network in which operational integration is fully realized and management practices are efficient and effective.

The majority of enterprises are in the preliminary multinational operations stage; fewer are in the preliminary international operation stage; and fewer still can be considered global operations.[15] These conclusions differ from those offered by Tian Zhilong (2005).[16] These discrepancies may result from the fact that although most Chinese enterprises are adept at overseas development, they largely began engaging in international operations in 2005, when overseas operations and corresponding networks may not have been fully developed.

In addition to the analyses described above, we also investigated the management and organizational model of the enterprises' international business activities. We found that most enterprises manage their international business (i.e., trade and investment) activities through International Departments (or international companies), Division Departments (or companies) or a Matrix Management Mode. Most enterprises manage their international business through International Departments, enterprises with a greater proportion of overseas operations typically manage their international business through Division Departments, and only a few enterprises utilize the Matrix Management Mode to oversee their international business activities.

These findings suggest that any managerial mode can affect an enterprise's coordination of domestic and international resources. Still, all modes of management are not only related to an enterprise's stage of international development and overarching strategy, but also to its overall organizational structure.

A few leading Chinese enterprises in the IT electronics industry have entered into the globalization stage. In addition, some enterprises in the energy/materials and electrical industries have begun multinational operations. Still, the vast majority of Chinese enterprises remain in the preliminary international operation and preliminary multinational operation stage. The different international operation stages of Chinese enterprises cannot live without the international competitiveness. Though Chinese enterprises have some international competitiveness on the aspect of manufacturing capacity and cost, their overall operational capability, R&D design, and branding capabilitiesare still in the initial stage of the internationalization.

[15] Some enterprises have engaged in large-scale transnational M&A, so they have a higher proportion of overseas operations and more substantial global networks. Nevertheless, we believe that these enterprises may still be in the transnational operation phase, because their global network and resource integration operation capacity remain relatively weak. For example, some enterprises are unable to coordinate and integrate their technological capabilities, leading to under-development of foreign and domestic technological capacity.

[16] Tian Zhilong (2005) claimed that the degree to which Chinese enterprises are internationalized remains preliminary. Although traditional exporting activities are part of Chinese enterprises' internationalization strategies, overseas manufacturing and M&A remain relatively rare.

Table 17
Stage of Overseas Investment among Chinese Enterprises

Stage	Industries
Preliminary internationalization	Pharmaceuticals and textile
Multinational operations	Energy/materials, electrical and electronics, IT, and a few automobile enterprises
Globalization	Part of enterprises in IT electronics industry

3. Overseas development strategies among Chinese enterprises

Chen Xiaohong and Wang Jicheng (2010) have investigated some enterprises in terms of their ability to engage in overseas investment capability. On the basis of their research, the authors identified three models that dictate the development of overseas markets. These categories include the technology model, the value chain integration model, and the comprehensive strength model. Similarly, in accordance with enterprises' investment objectives, capabilities, and competitiveness (Dunning, 1993; see Table 18), we classified Chinese enterprises' overseas development strategies into four categories. What distinguishes this classification system those proposed by previous research is its consideration of both investment objectives and operational capabilities.

Table 18
Chinese Enterprises' Overseas Development Strategies

Strategic Target Market	International Investment and Competitiveness source	Key Point of Overseas Investment	Industries	Enterprises
Emphasis on Global Market	a. Certain technological competitiveness b. Strong technological competitiveness	Market, technology	IT, electronics	Huawei Lenovo
Emphasis on domestic market Increase emphasis on overseas market	Value chain integration strength Have a certain technical strength at the same time	Technology	Electro-mechanics IT electron, textiles	Shanghai Electrics Sany Heavy Industry
Prioritize domestic market; Emphasis on overseas resources	Comprehensive strength (Value chain + financial capability)	Natural resources and others	Natural resources and energy	PetroChina
Prioritize	Value chain ability	Technology	Medicine/	

domestic market and overseas technology	Technological competitiveness		chemicals	

The first strategy of overseas development relates to leveraging technical advantages within the global market. This strategy can be divided into two categories of enterprise: enterprises with strong capabilities for R&D, design, and manufacturing technology (e.g., enterprises within the telecommunications industry), and Chinese enterprises with relatively stable technology and basic R&D (e.g., consumer electronics and some mechanical and electrical industries). Multinational investment enterprises that implement this strategy should possess a technical advantage over competitors.

The second strategy related to overseas development concerns the prioritization of the domestic market, the increasing importance of foreign markets, and a reliance on the enterprise value chain to integrate overseas resources. Chinese enterprises that adhere to this strategy acquire foreign companies with significant technical expertise to enhance their technical capacity through value chain integration and technology absorption. This, in turn, promotes their domestic market advantages and extends their overseas market. Enterprises that engage in this strategy differ from those that engage in the first strategy because the former's medium- and low-end markets are internationally competitive. Further, adherents to the second strategy, though initially weak in technical ability, can support their overseas development opportunities for M&A.

The third strategy for overseas development involves prioritizing the domestic market, recognizing the significance of overseas resources, and relying on the overall strength of large enterprises (e.g., large companies rich in energy resources and raw materials). Because this strategy is largely contingent on the possession of significant capital and a viable domestic market, it is useful for recovering investments.

The fourth strategy involves the prioritization of the domestic market coupled with an emphasis on the effective leveraging of overseas technology. In addition, this strategy hinges on the ability of the value chain to enhance the enterprise's technological competitiveness. Enterprises that implement this strategy often seek to procure technical resources through multinational investment to upgrade their technological capacities. Relative to enterprises that implement the second strategy (outlined above), these enterprises typically hold a smaller share of the domestic market.

Although these four strategies differ in a number of ways, they are similar in that their respective implementations can all enhance an enterprise's international competitiveness.[17] This may be particularly salient in scenarios in which an enterprise possesses a relatively weak R&D capability and within the large domestic market in China. This may explain why some Chinese enterprises dedicate significant time and resources to invest in technology and network distribution in foreign markets.

4. Factors driving the development of external investment enterprises

DLI theory (Dunning, 1993) stipulates that advantages related to ownership are important

[17] The value chain competition theory (raised by Porter in the late 1970s) stipulates that an enterprise's competitive advantages are related to various aspects of that enterprise's value chain and the internal and external environments.

determinants of enterprises' foreign investment practices.[18] According to our investigation, an enterprise's strategy, strength, and experiences will influence their overseas development. Stated differently, corporate behavior influences international investment. Specifically, we used the data generated from the survey to explore the respective influences of ownership-related advantages on Chinese enterprises' corporate strategies related to overseas investment.

Research Hypothesis

First, overall corporate competitiveness is significantly related to overseas competitiveness. Competitiveness is reflected by enterprises' overall sales income (comprehensive strength) and investments in R&D (technical strength). Second, an enterprise's overseas strategy (and its implementation) substantially affects the degree to which enterprises' overseas investments are successful. The size of an enterprise's overseas network can reflect their strategy for developing that network, their investments, and other overseas activities. Third, experience and learning can improve an enterprise's overseas competitiveness. Specifically, more nuanced overseas operational experience renders an enterprise more competitive. Finally, there exists a positive relationship between an enterprise's overseas income and the degree to which it is competitive.

Given these assertions, we propose the following hypotheses:

Hypothesis 1a: There exists a positive relationship between overseas sales volume and overseas competitiveness.

Hypothesis 1b: There exists a positive relationship between investment in overseas R&D and overseas competitiveness.

Hypothesis 2: There exists a positive relationship between the size of an enterprise's overseas network and its overseas competitiveness.

Hypothesis 3: There exists a positive relationship between experience and overseas competitiveness.

R&D and Design

Overseas sales volume can serve as an indicator of an enterprise's competitiveness. We intend to (a) measure enterprises' overall competitiveness on the basis of their respective sales incomes and R&D investments, identify the enterprises' development strategies and investments on the basis of the total number of all overseas branches, and (c) estimate each enterprise's overseas experience on the basis of the number of years they have engaged in foreign investment. These indicators will serve as outcome measures. An industry characteristic of enterprises is controlled by per capita sales volume, and the enterprise's ownership structure (i.e., state-owned or not) is indicated by two dummy variables. Table 19 summarizes the methods by which salient variables will be estimated and/or measured.

Table 19

Variable Measuring Table

Variable Name	Measuring Method
Overseas competitiveness	Overseas sales income
Sales income	Total sales income

[18] DLI theory was developed by Dunning in the late 1970s, but was updated in the 1990s (see Dunning, 1993).

R&D investment	R & D expense
Overseas network number	The sum of all overseas branches number
Overseas experience	The years on foreign investment until 2012
For state-owned enterprises	1 for state-owned enterprises, otherwise is 0
For listed companies	1 for listed companies, otherwise is 0

To explore the issues outlined above, we performed a linear regression that incorporated each of these variables. Data for the regression model were drawn from the survey responses collected from the 47 enterprises described earlier in the paper. The regression model was constructed as follows:

Overseas competitiveness = β0 + (β1 × sales income) + (β2 × R&D investment) + (β3 × number of overseas network entities) + (β4 × overseas experience) + (β5 × per capita sales volume) + (β6 × for state-owned enterprises) + (β7 × for listed companies)

Sales income and overseas sales income were strongly correlated (r = .97), but the average data expansion factor (VIF) for measuring mode is 1.48 (max = 2.25). Given these results, it was reasonable to assume that issues related to multicollinearity were non-existent.[19]

Analysis Results and Research Conclusions

Results of the regression analysis are shown in Table 20. Results demonstrate that the sales income, R&D investment, the number of entities in an enterprise's overseas network, and overseas experience are positive related to an enterprise's overseas competitiveness. This provides support for all hypotheses. As such, Chinese foreign investment should be increased to further increase revenues and strengthen Chinese enterprises in the global marketplace.

Table 20
Influencing Factors on Overseas Competitiveness

Variable Name	Mode 1	Mode 2	Mode 3	Mode 4	Mode 5
Sales income	0.25***				0.23***
R&D investment		17.49***			2.00**
Overseas network number			3.66		1.03**
Overseas experience				97.52***	1.97
For state-owned enterprises	-150.31**	274.67	484.26	161.83	-118.41*
For listed companies	-6.47	308.28	271.65	304.17	-37.28
Constant term	114.14*	-330.51	-114.44	-692.09*	32.26
Adjusted R-squared	0.9628	0.4444	0.0197	0.1687	0.9709

Note: ***p < .01, **p < .05, *p < .10

[19] We use corporate internal revenue as the variable for representing enterprises' comprehensive strength so as to reduce the effect of multicollinearity. Analysing by regression method,the conclusion is still valid with the same assumption.

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